STATE	PROJECT NO.	PCN	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	20326	1	1

JOB # 3
NORTH DAKOTA
DEPARTMENT OF TRANSPORTATION

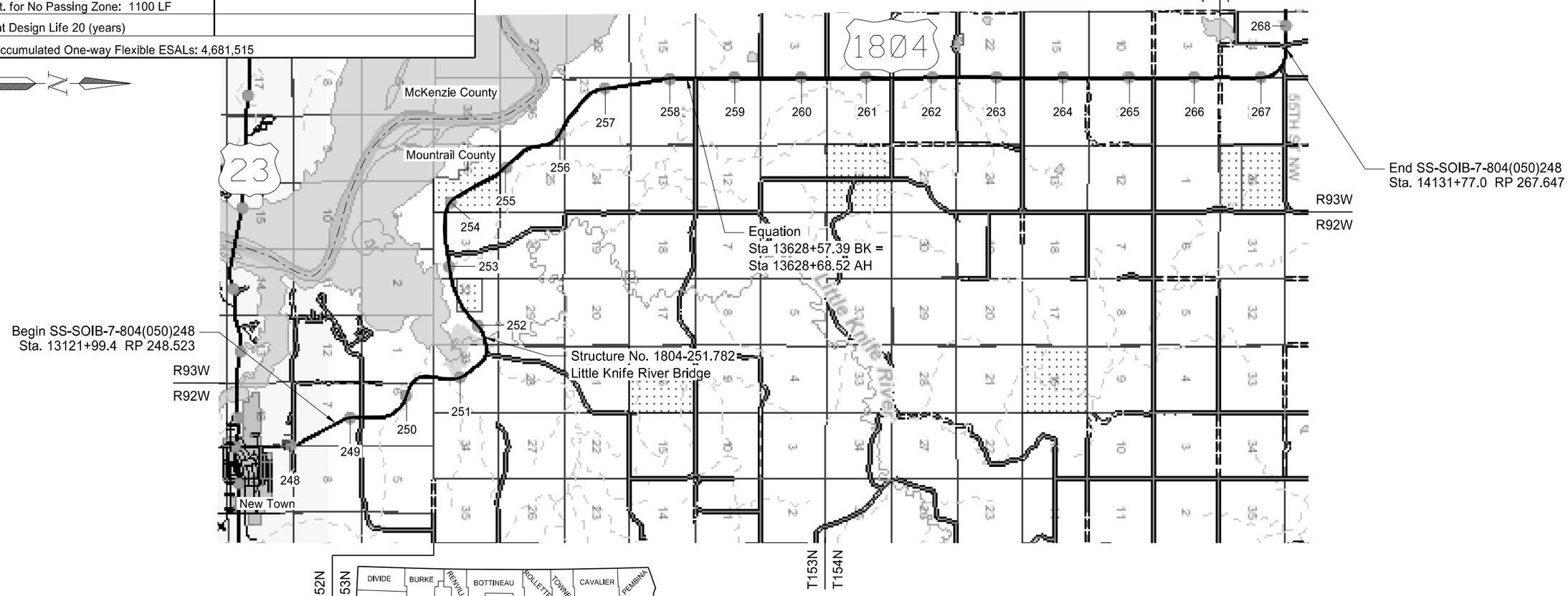
SS-SOIB-7-804(050)248

Mountrail County
ND Hwy 1804
Truck Reliever Route to 16 Mi E Jct Tioga
Grading, HMA, Aggregate Base, Signing
Guardrail, Box Culvert, and Incidentals

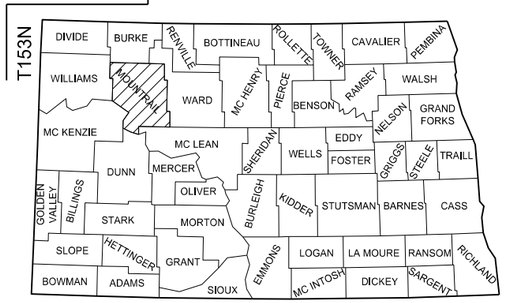
GOVERNING SPECIFICATIONS:
2014 Standard Specifications adopted by the North Dakota Department of Transportation and the Supplemental Specifications effective on the date the project is advertised.

PROJECT NUMBER \ DESCRIPTION	NET MILES	GROSS MILES
SS-SOIB-7-804(050)248	19.122	19.122

DESIGN DATA				
Traffic	Average Daily RP 247.145 to RP 248.391			Max. Hr.
Current 2016	Pass: 2585	Trucks: 2135	Total: 4720	475
Forecast 2036	Pass: 3155	Trucks: 2605	Total: 5760	580
Traffic	Average Daily RP 248.391 to RP 249.17			Max. Hr.
Current 2016	Pass: 1975	Trucks: 1610	Total: 3585	360
Forecast 2036	Pass: 2410	Trucks: 1965	Total: 4375	440
Traffic	Average Daily RP 249.17 to RP 267.00			Max. Hr.
Current 2016	Pass: 1080	Trucks: 1570	Total: 2650	265
Forecast 2036	Pass: 1320	Trucks: 1915	Total: 3235	325
Clear Zone Distance: 4:1 - 42 ft		Design Speed: 65 mph		
Minimum Sight Dist. for Stopping: 645 LF		Bridges: 1804-251.782 HL-93		
Sight Dist. for No Passing Zone: 1100 LF				
Pavement Design Life 20 (years)				
Design Accumulated One-way Flexible ESALs: 4,681,515				



T152N
T153N



STATE COUNTY MAP

DESIGNERS

Adam J. Schoenherr, PE

Josh Kueber, PE — Kory Kleinknecht, EIT

Thomas J. Fakler, EIT — Paul Deutsch, EIT

Jon Iserman, EIT — Travis Berends, EIT

Alex Ranz — Stacy Flaten, PE

DISTRICT REVIEW

Joel M. Wilt /s/
WILLISTON DISTRICT

APPROVED DATE 08/24/2016

Robert Fode /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 08/03/16

Adam J. Schoenherr /s/
ULTEIG ENGINEERS, INC.

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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SP 0003(14)	Temporary Erosion and Sediment Best Management Practices
SP 0004(14)	Federal Migratory Bird Treaty Act
SP 5032(14)	Permits and Environmental Considerations
SP 0345(14)	Temporary Water Diversion
SP 0384(14)	Winter Suspension

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D-203-6	Standard 90 Degree Flared Intersections
D-203-7	Recovery Approaches at T-Intersections
D-203-8	Standard Rural Approaches
D-255-2	Erosion and Siltation Control - Erosion Control Blanket Installation
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
D-704-5	Construction Sign Detail
D-704-7	Breakaway Systems for Construction Zone Signs - Perforated Tube
D-704-8	Breakaway Systems for Construction Zone Signs - U-Channel Post
D-704-9	Construction Sign Details - Terminal and Guide Signs
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D-704-14	Construction Sign Punching and Mounting Details
D-704-15	Road Closure Layouts
D-704-19	Road Closure and Lane Closure on a Two Way Road Layouts
D-704-20	Terminal and Seal Coat Sign Layouts
D-704-22	Construction Truck and Temporary Detour Layouts
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D-706-1	Bituminous Laboratory
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D-752-4	Concrete Cattle & Stockpass Fencing Standard
D-754-19	(Conventional Use) Reference Markers
D-754-21	Reflectorized Delineators
D-754-23	Perforated Tube Assembly Details
D-754-24, 25	Mounting Details Perforated Tube
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D-754-26, 27, 28, 29	Sign Punching, Stringer and Support Location Details Regulatory, Warning, and Guide Signs
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D-760-3	Rumble Strips Undivided Highways (Shoulders 4' or Greater)
D-762-1	Pavement Marking Message Details
D-762-4	Pavement Marking
D-762-5	Pavement Marking for Standard 90 Degree Flared Intersection-(No Center Left Turn Lane on Major Road)
D-762-11	Short-Term Pavement Marking
D-766-1	Mailbox Location Details

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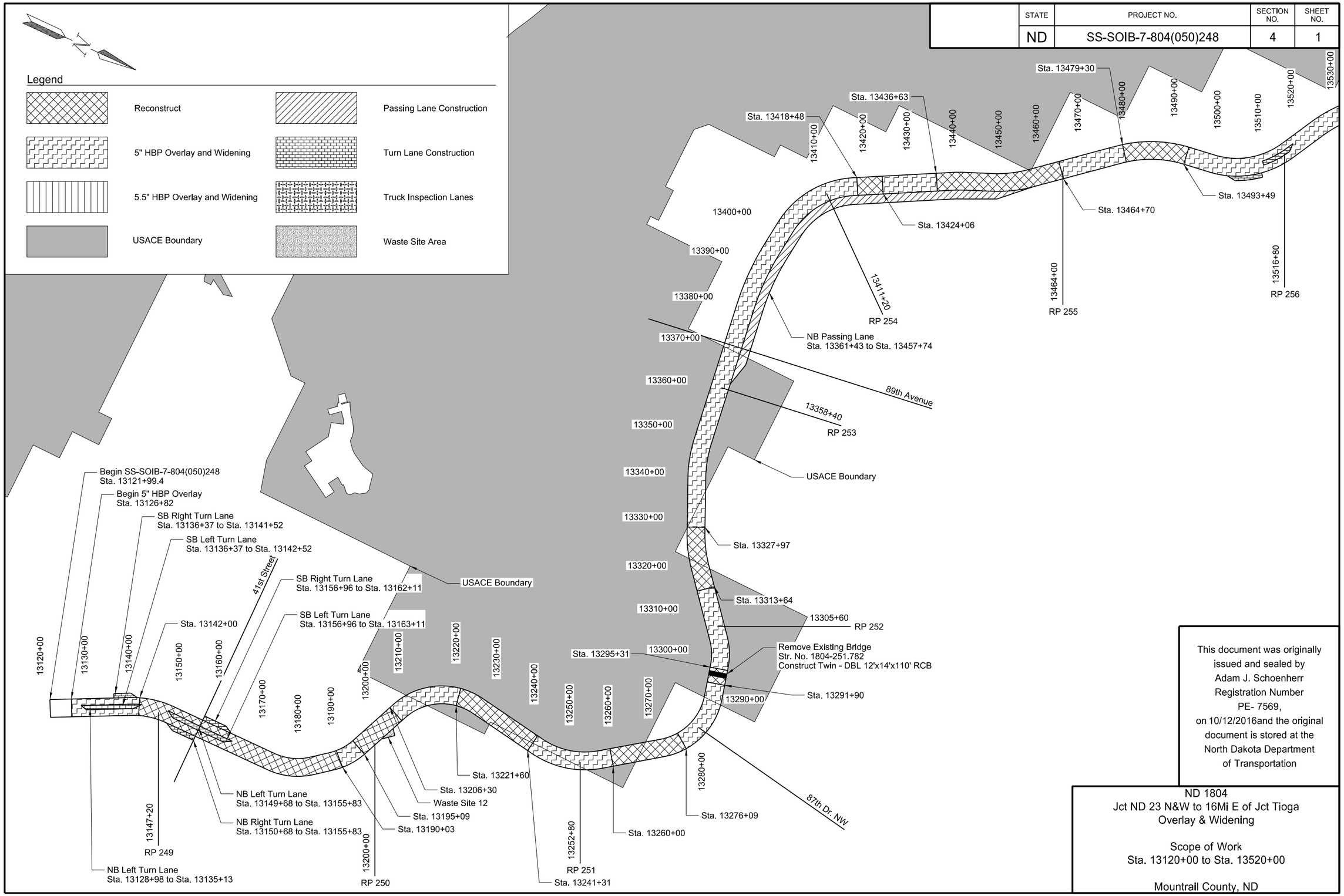

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Scope of Work
Sta. 13120+00 to Sta. 13520+00

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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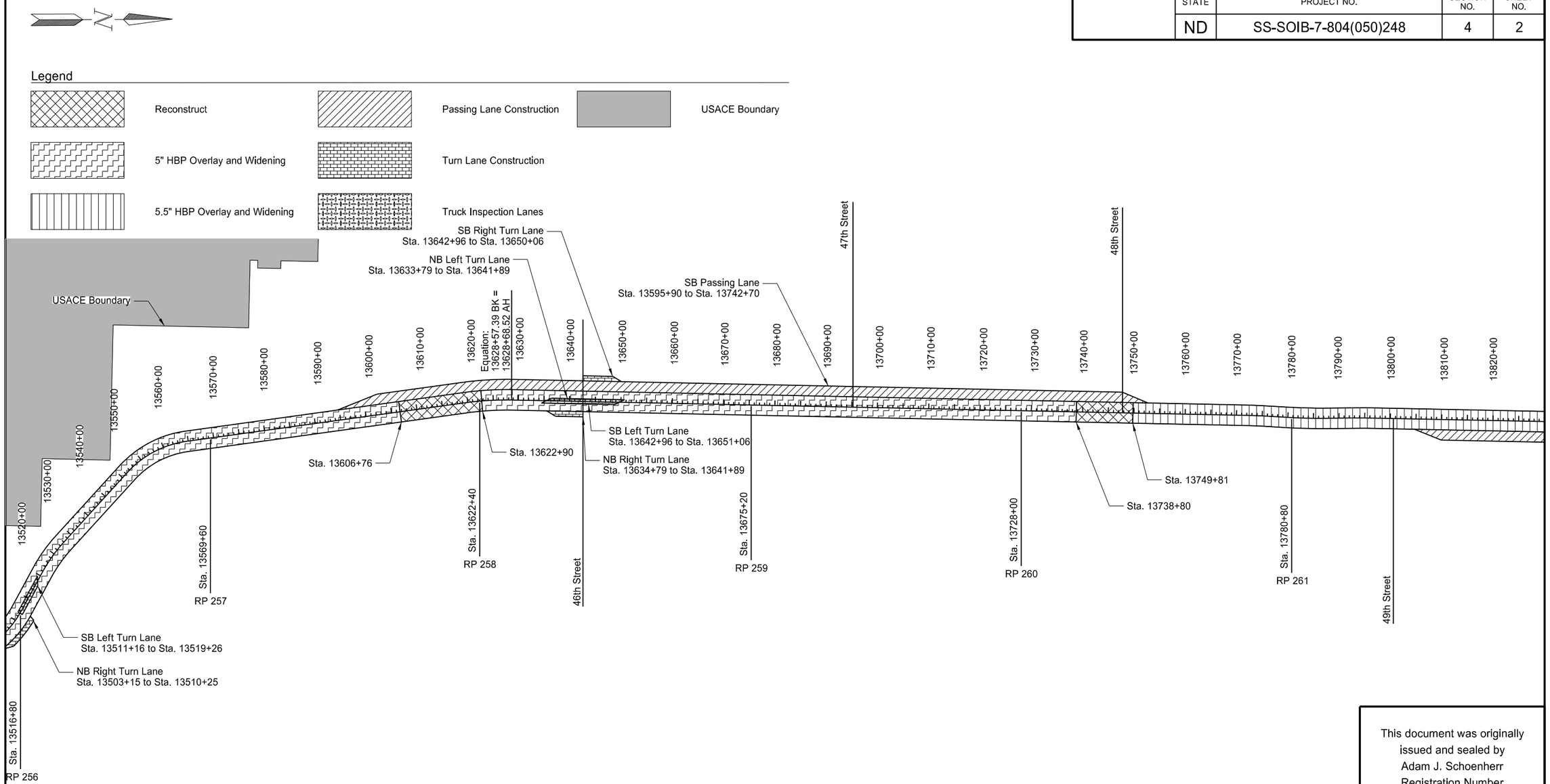

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Scope of Work
Sta. 13520+00 to Sta. 13820+00

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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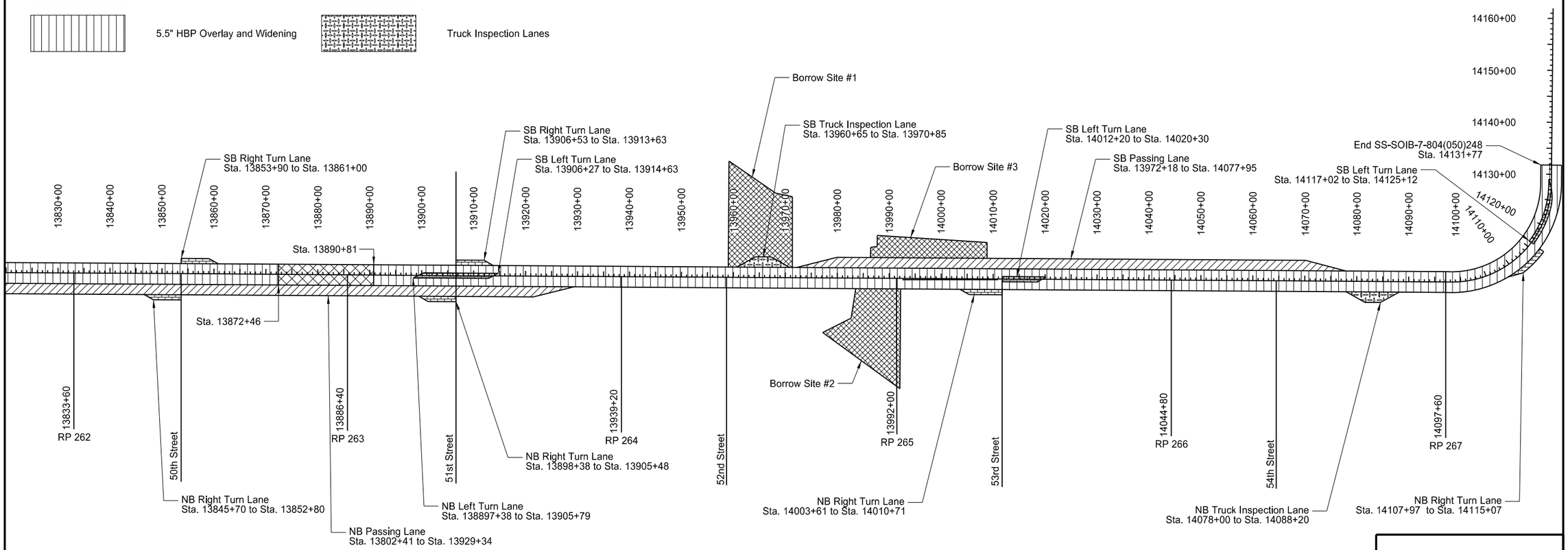
Legend

- Reconstruct
- Passing Lane Construction
- 5" HBP Overlay and Widening
- Turn Lane Construction
- 5.5" HBP Overlay and Widening
- Truck Inspection Lanes



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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Scope of Work
Sta. 13820+00 to Sta. 14132+07.2

Mountrail County, ND

NOTES

100-P01 FENCE REMOVAL: Adjacent landowners will remove existing fences unless otherwise noted in the plans. Give a written 30 day notice to landowners, with a copy to the engineer, prior to working in these areas.

105-200 UTILITY COORDINATION: A utility coordination meeting is required.

105-P01 UTILITY RELOCATION: Work directly with Mountrail-Williams Electric Company (MWEC) to coordinate the relocation of the power poles. Complete excavation of material in areas where poles are to be moved once MWEC has relocated the poles.

107-100 LAWS TO BE OBSERVED: A portion of this project lies within the exterior boundaries of an Indian Reservation. Review laws and ordinances pertaining to the work contained within the boundaries of the reservation.

107-710 HAUL ROAD RESTRICTIONS: 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”.

107-900 THREE AFFILIATED TRIBES BIA COORDINATION: Coordinate work on lands in trust by the Bureau of Indian Affairs (BIA), allotted and tribally owned trust land, through the Environmental/Compliance Officer.

Contact:
Jeff Desjarlais
Environmental/Compliance Officer, Ft. Berthold
(701) 627-4707, ext 244

Coordinate work regarding materials sources, staging areas, office locations, and other activities that are not expressly detailed in the contract documents.

107-P01 USACE BOUNDARY: At no time should hazardous materials be stored within the boundary of the USACE. Keep all chemicals, fuels, oils, etc., at a location not within the boundary. At the end of each working day, park all equipment in a location not within the boundary. Park any equipment sitting idle not being used out of this boundary. Provide a containment area for equipment that remains in place.

107-P02 ROAD RESTRICTIONS: North Dakota Hwy 1804 is currently restricted to 8 Ton load restrictions. Contractor is responsible for maintenance of existing and temporary roadways during construction.

107-P03 TEMPORARY BYPASS: Construct, operate, and remove temporary bypass to prevent soil/water interaction.

Strip and stockpile topsoil from areas where the temporary bypass will be constructed and installed. Do not place stockpiles within the USACE boundary. Stabilize stockpiles within 24 hours of construction of the stockpile. Construction of the temporary bypass has been quantified and is shown in the Basis of Estimate.

108-021 WEEKLY PLANNING MEETING/REPORTING MEETING: A weekly planning and reporting meeting is required.

202-P01 REMOVAL OF TEMPORARY BYPASS: All disturbed areas outside of NDDOT Right of Way will be restored to pre-disturbed condition. Include costs of additional excavation, embankment, and removal of Pipe Conduit 66IN, erosion control, geosynthetic material, aggregate base, and commercial grade hot mix asphalt in the contract unit price for “REMOVAL OF TEMPORARY BYPASS”.

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

203-P01 REMOVAL OF TEMPORARY WIDENING: Additional widening for traffic control as shown in Section 100 of the plans is considered temporary and will be removed and used in phases 3A and 3B. Excess material from the removal of the temporary widening will be measured via cross section prior to its removal. The excess material has been tabulated and is included the quantity for “COMMON EXCAVATION – TYPE A.” All excess material from the temporary widenings will be reused and incorporated into permanent mainline widening. Locations where temporary widening is being constructed in deep fill areas and to remain in place are:

STA 13196+50 to STA 13199+00
STA 13259+50 to STA 13262+00

230-P01 SUBGRADE PREPARATION: Perform Subgrade Preparation – Type A at the following locations. Include all costs for materials, labor, and performing the preparation in the price bid for “Subgrade Preparation Type – A.”

Sta. 13160+40 to Sta. 13172+20	Sta. 13200+60 to Sta. 13205+00
Sta. 13222+20 to Sta. 13239+80	Sta. 13260+80 to Sta. 13274+60
Sta. 13318+60 to Sta. 13326+40	Sta. 13437+60 to Sta. 13447+40
Sta. 13455+40 to Sta. 13463+80	Sta. 13608+40 to Sta. 13621+60
Sta. 13739+80 to Sta. 13748+20	Sta. 13873+60 to Sta. 13889+40

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NOTES

251-P01 SEEDING CLASS III: All disturbed areas along and within the USACE property is to be stabilized with seed and mulch. All costs for seeding the areas to be included in the unit price bid for "SEEDING CLASS III."

SPECIES	RELEASE	COMMON NAME	% OF MIX	DRILLED ACTUAL PLS (lbs/ac)
Grasses Cool Season:				
Pascopyrum Smithii Nasella	Rodan	Western Wheatgrass	40%	4.0
Viridula	Lodorm	Green Needlegrass	30%	3.0
Grasses Warm Season				
Calamovilfa Longifoia	Goshen	Prairie sandreed	30%	3.0
Cover Crop 1:	Oats, Barley, or Canada Wild Rye (Mandan Release)			4.0

261-P01 FIBER ROLLS: An additional 26,800 LF of fiber rolls were included for use at the three borrow site locations. Include all costs associated with installation and removal of the fiber rolls in the price bid for "Fiber Rolls 12IN" and "Remove Fiber Rolls 12IN."

302-P01 TEMPORARY WEDGE FOR PAVEMENT DROP OFF: Where pavement is removed and there is a two inch or greater drop off, construct a temporary wedge at locations where the traffic is maintained. Construct the temporary wedge using aggregate and have a cross slope of 4:1 or flatter. Include all costs for materials and constructing the temporary wedge in the price bid for "Aggregate Base Course CL5."

430-P01 CROSS SLOPE CORRECTION: An additional 6,866 Ton of FAA 45 has been provided in the quantities to provide cross slope correction on the bottom lift of pavement.

704-100 TRAFFIC CONTROL SUPERVISOR: Provide a traffic control supervisor for this project.

704-200 PRECAST CONCRETE MEDIAN BARRIERS – STATE FURNISHED: Obtain 122 barriers from the NDDOT Stanley yard. Return barriers to NDDOT Stanley yard.

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

704-255 TRAFFIC CONTROL FOR SHOULDER DROP-OFF: If the shoulder and adjacent driving lane are not even at the end of the day, the following criteria will apply:

Place the following sign assembly 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.

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).

If the difference in elevation between the shoulder and the driving lane is 2" or greater, construct a slough on the driving lane that is 4:1 or flatter.

If the difference in elevation between the shoulder and driving lane is less than 2", no slough is required.

Sign assemblies will be measured and paid for according to Section 704 "Traffic Control Signs".

704-P01 TRAFFIC CONTROL: The traffic control devices list has been developed using the following layouts on the Standard Drawings for traffic control:

D-704-2 Traffic Control for Coring of Hot Bituminous Pavement
D-704-5 Construction Sign Detail
D-704-7, 8, 9, 10, 11, Are applicable
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-704-19 Road Closure and Lane Closure on a Two Way Road Layouts
D-704-20 Terminal and Seal Coat Sign Layouts
D-704-22 Construction Truck and Temporary Detour Layouts
D-704-24 Shoulder Closures and Bridge Painting Layouts
D-704-26 Miscellaneous Sign Layouts
D-704-27 Traffic Control Plan for Moving Operations
D-704-30 Windrow Marking
D-704-50 Portable Sign Support Assembly
D-704-51 Portable Precast Concrete Median Barrier (Temporary Usage)
D-704-56 Mobile Operation – Grinding Shoulder Rumble Strips

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NOTES

704-P02 PROJECT PHASING:

Phase 1: Reduce speeds in both directions on existing roadway surface to 45 mph where work is being performed. Follow standard drawing D-704-24 Type U and Work Zone Traffic Control Section (WZTC Section 100) for shoulder closure. Perform necessary earthwork and culvert installations, and construct temporary widening.

Phase 2: Roadway widening areas may remain under shoulder closure according to standard drawing D-704-24 Type U and WZTC Section 100. In reconstruction areas, move two-way traffic to temporary widening constructed in Phase 1 with speeds remaining at 45 mph. Follow standard drawing D-704-15 Type B and WZTC Section 100 for temporary widening. Aggregate surfaced temporary widenings will require tubular markers in lieu of short term striping to separate traffic. Perform necessary reconstruction of existing highway 1804, constructing highway up to top of proposed base with a minimum driving surface width of 28 feet to ensure two-way traffic for Phase 3.

Phase 3: Roadway widening areas may remain under shoulder closure according to drawing D-704-24 Type U. Move two-way traffic from temporary widening to highway as constructed in phase 2 with speeds remaining at 45 mph. In reconstruction areas, follow WZTC Section 100 and standard drawing D704-15 Type C for any necessary lane shifts. Remove temporary widening and finish reconstruction of highway 1804 up to top of proposed base at full width. Perform any necessary earthwork and culvert installations.

Phase 4: Perform paving one lane at a time according to standard drawing D-704-15 Type A. Maintain one lane traffic with the use of flaggers and a pilot car.
Phase 5: Place one Type III Barricade at the beginning of the passing lane and one at every entrance and intersection to keep the newly constructed lane closed. Move the traffic to the mainline lanes with speeds reduced to 45 mph. Place stackable vertical panels at the edge of the through lanes at ‘2S’ spacing until all signing is in place and all work within clear zone has been completed including seeding and mulching. Complete the topsoil, seeding, and erosion control. Open the newly constructed passing lanes when all passing lane signing and markings are in place.

714-P01 TEMPORARY PIPE: Install temporary pipe extensions on all centerline pipes as needed to accommodate the temporary widening. Pipe material and connection will not be specified. The connection to the existing pipe to be water tight. Include all costs for piping and pipe connections in the unit price bid for “Pipe Conduit XXIN.”

714-P02 SILTED PIPES: If a silted-in pipe is encountered at a location where the pipe is to be extended, the silt material will be removed from the pipe before extending it. See Section 10 Sheet 1 for a known list of silted pipes. The cost of removing the silt shall be included in the price bid for “PIPE CLEANOUT.”

752-P01 TEMPORARY FENCE: Place temporary/permanent fencing prior to removing existing fencing. Place temporary fencing around temporary construction easements where existing fence is removed until permanent fencing is in place. Field fit temporary fencing in areas of deep draws or wooded areas, with the approval of the Engineer. Verify the need for temporary fence with the landowner. The cost to install and remove temporary fencing is included in the price bid for “Fence Temporary Install & Remove.”

754-P01 PRIVATE SIGN: Contact owner of the private sign located at Sta. 13145+00 prior to construction to allow the owner to remove the sign.

754-P02 REMOVE SIGN: Remove the “Axle Weight Limit 8 Tons” sign at Sta. 14118+18 and deliver to the NDDOT New Town yard.

754-P03 PANEL SIGN: Alter sign at Sta. 13127+51 LT to reflect new state route markers. Place retroreflective sticker with new state route sign on top of old one. The sticker places must meet current retroreflectivity standards. Include all costs for materials and installation in the price bid for other items.

762-050 PAVEMENT MARKING: If the Engineer and Contractor agree, plan quantity will be used as the measurement for payment for pavement marking items.

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ENVIRONMENTAL NOTES

ENVIRONMENTAL NOTES (EN): The North Dakota Department of Transportation have made environmental commitments to secure approval of this project. The following environmental notes are requirements to comply with these commitments.

EN-1 TEMPORARY WETLAND IMPACT: Temporary impact areas within wetlands and or other waters are incorporated into the plans for this project. Remove temporary fill placed and sedimentation in wetlands or other waters. Restore these wetlands to preconstruction contours.

EN-2 WETLAND MITIGATION: Wetland mitigation is required for unavoidable permanent wetland impacts. The wetland mitigation plan is incorporated into the plans for this project.

EN-3 TREE MITIGATION: All impacted riparian trees within the project right-of-way and easements must be mitigated for as directed by resource agencies.
ACTION REQUIRED /TAKEN: 59 trees and shrubs greater than or equal to 2 inches diameter at breast height and 16,117 square feet of trees and shrubs less than 2 inches diameter at breast height will be removed, of which 4,356 square feet will be mitigated at a ratio in the impacted riparian corridor, as shown in Section 6 of the plans.

EN-4 SPAWNING RESTRICTION: Do not work within the Little Knife River from April 15 to June 1.

EN-5 AVOIDANCE AREAS: The Project Engineer will contact Jeani Borchert of the Environmental and Transportation Services Division to coordinate any meetings needed to identify the limits of the avoidance area. The site are at:
32MN209 approximate Sta. 13286+58 to 13289+00 Lt and Rt
32MN214 approximate Sta. 13551+88 to 13563+26 Lt
32MN1209 approximate Sta13988+85 to 13989+22 Rt
32MN1210 approximate Sta 13869+73 to 13870+13 Lt
32MN1211 approximate Sta 13735+56 to 13736+31 Lt
32MN1212 approximate Sta 13622+02 to 13622+61 Lt
32MN1213 approximate Sta. 13171+84 to 13172+62 Lt
These avoidance areas within the right-of-way must not be disturbed and will be fenced prior to commencement of any construction. Provide the fence and fence posts, install the fence in the location designated in the plans, maintain the fence, and remove the fence upon completion of the project. A quantity of 2082 LF of Temporary Safety Fence has been included for this purpose. All costs to provide, place, maintain, and remove the fence shall be included in the price bid for “Temporary Safety Fence.”

If cultural resources are discovered during construction or operation, work would immediately be stopped, the affected site secured, and the NDDOT and SHPO notified. Work would not resume near the discovery until written authorization to proceed was received from NDDOT. All project workers would be prohibited from collecting artifacts or disturbing cultural resources in any area under any circumstances. If cultural resources are discovered on USACE lands, the USACE would also be contacted.

EN-6 WHOOPING CRANE: The project is located within the migration corridor of the endangered whooping crane, and suitable stopover habitat for the whooping crane is present. The migration periods of the whooping crane are April 1st to May 15th and September 10 to October 31.

Stop all construction activities and notify the Engineer immediately in the event a whooping crane is identified within one mile of the project location. The Engineer will then coordinate with the USFWS, FHWA and NDDOT. Do not resume work within the avoidance area until the Engineer has confirmed that the bird has left the area.

Approximately 7 overhead utility poles will be adjusted between RP 250 and RP 254. The poles will remain in the same general location. In areas where above ground utility lines are raised within one mile of suitable whooping crane stopover habitat, utility companies will install bird diverters.

EN-7 AQUATIC NUISANCE SPECIES (ANS): Notify the North Dakota Game and Fish Department (NDGFD) at least 72 hours prior to any vehicles, vessels, pumps and equipment entering the water, to allow the NDGFD sufficient time to inspect any and all such equipment for ANS. Contact the NDGFD ANS Coordinator, Jessica Howell, by phone (701)368-8368 or e-mail jmhowell@nd.gov for equipment inspections, or any additional information regarding ANS prevention protocol. Supply the inspection report to the engineer prior to work taking place in the water.

EN-8 CONSTRUCTION REQUIREMENTS: A golden eagle nest exists at STA 13537+00 – 565’ LT (approx.). No construction activities, other than hand activities and hauling of materials, will be permitted from February 1 to July 15 near the nest. If work in the area takes place, a qualified biologist will conduct a pre-construction survey to determine if the nest is still active. If active, no work will occur adjacent to the nest until the eagles have fledged.

EN-9 STORMWATER POLLUTION PREVENTION PLAN: A copy of the Stormwater Pollution Prevention Plan (SWPPP) for the work occurring on USACE property shall be provided to the USACE Garrison Project Office and the USACE District Office.

NOTIFICATIONS TO BE FILED BY CONTRACTOR:
North Dakota Department of Health SFN 17987 Asbestos Notification of Demolition and Renovation for bridges and boxes.

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ENVIRONMENTAL NOTES

USACE Tree Mitigation

Trees/Shrubs – Diameter at breast height > 2”

SPECIES	2" ≤ DBH ≤ 4"		4" < DBH ≤ 8"		8" < DBH ≤ 12"		Total Removals by Species	Total Mitigation by Species
	Removals	Mitigation Ratio (2:1)	Removals	Mitigation Ratio (2:1)	Removals	Mitigation Ratio (4:1)		
Green Ash *Fraxinus pennsylvanica*	24	48	18	54	14	56	56	158
Buffalo Berry *Shepherdia argentea*	0	0	0	0	0	0	0	0
American Elm *Ulmus americana*	1	2	2	6	0	0	3	8

Trees – Diameter at breast height < 2”

SPECIES	Removals (SF)	Tree Count (1 Tree/SF)	Mitigation Ratio (4:1)
Russian Olive *Elaeagnus angustifolia*	669	669	2,677
Green Ash *Fraxinus pennsylvanica*	910	910	3,641
American Elm *Ulmus americana*	70	70	280

Shrubs – Diameter at breast height < 2”

SPECIES	Removals (SF)	Shrub Count (1 Shrub/SF)	Mitigation Ratio (4:1)
Chokecherry *Prunus virginiana*	261	261	1,044
Buffalo Berry *Shepherdia argentea*	2,364	2,364	9,457

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	8	1

SPEC	CODE	DESCRIPTION	UNIT	TOTAL QUANTITY
103	0100	CONTRACT BOND	LSUM	1
103	0200	ESCROW OF BID DOCUMENTATION	LSUM	1
201	0352	REMOVAL OF TREES & BRUSH	LSUM	1
202	0021	REMOVE AGGREGATE BASE & SURFACING	TON	44545
202	0105	REMOVAL OF STRUCTURE	L SUM	1
202	0114	REMOVAL OF CONCRETE PAVEMENT	SY	124
202	0169	REMOVAL OF END SECTIONS - ALL TYPES AND SIZES	EA	8
202	0174	REMOVAL OF PIPE - ALL TYPES AND SIZES	LF	1278
202	0312	REMOVE EXISTING FENCE	LF	50154
202	0350	REMOVAL OF TEMPORARY BYPASS	EA	1
203	0101	COMMON EXCAVATION - TYPE A	CY	635390
203	0109	TOPSOIL	CY	218018
203	0121	TOPSOIL - WETLAND	CY	1523
203	0122	TOPSOIL - DEPT OPTION BORROW AREA	CY	104383
203	0140	BORROW - EXCAVATION	CY	246587
210	0050	BOX CULVERT EXCAVATION	EA	1
210	0210	FOUNDATION FILL	CY	1280
210	0405	FOUNDATION PREPARATION-BOX CULVERT	EA	1
216	0100	WATER	MGAL	14128
230	0300	SUBGRADE PREPARATION-TYPE A	STA	11.1
251	0200	SEEDING CLASS II	ACRE	304.62
251	0300	SEEDING CLASS III	ACRE	30.4
251	1000	WETLAND SEED	ACRE	2.060
251	2000	TEMPORARY COVER CROP	ACRE	317.40
253	0101	STRAW MULCH	ACRE	612.34
255	0101	ECB - TYPE 1	SY	201893
255	0103	ECB - TYPE 3	SY	4276
256	0200	RIPRAP GRADE II	CY	211
260	0200	SILT FENCE SUPPORTED	LF	9078
260	0201	REMOVE SILT FENCE SUPPORTED	LF	9078
261	0112	FIBER ROLLS 12IN	LF	195755
261	0113	REMOVE FIBER ROLLS 12IN	LF	28725
261	0120	FIBER ROLLS 20IN	LF	121207
261	0121	REMOVE FIBER ROLLS 20IN	LF	121167
262	0100	FLOTATION SILT CURTAIN	LF	807
262	0101	REMOVE FLOTATION SILT CURTAIN	LF	807
265	0100	STABILIZED CONSTRUCTION ACCESS	EA	5
265	0101	REMOVE STABILIZED CONSTRUCTION ACCESS	EA	5
302	0115	AGGREGATE BASE COURSE CL4	TON	20,078
302	0120	AGGREGATE BASE COURSE CL5	TON	333,544
401	0050	TACK COAT	GAL	66,471
401	0060	PRIME COAT	GAL	56,813
401	0160	BLOTTER MATERIAL CL 44	TON	5,921
411	0105	MILLING PAVEMENT SURFACE	SY	397
430	0045	SUPERPAVE FAA 45	TON	160,086
430	0500	COMMERCIAL GRADE HOT MIX ASPHALT	TON	871
430	1000	CORED SAMPLE	EA	740
430	5828	PG 58-28 ASPHALT CEMENT	TON	4,309
430	6428	PG 64-28 ASPHALT CEMENT	TON	4,969
702	0100	MOBILIZATION	LSUM	1
704	0100	FLAGGING	MHR	5448
704	1000	TRAFFIC CONTROL SIGNS	UNIT	12909
704	1052	TYPE III BARRICADE	EA	114
704	1060	DELINEATOR DRUMS	EA	529
704	1067	TUBULAR MARKERS	EA	2,407
704	1081	VERTICAL PANELS - BACK TO BACK	EA	1444
704	1185	PILOT CAR	HR	1998
704	1500	OBLITERATION OF PVMT MK	SF	2,182
704	3510	PRECAST CONCRETE MED BARRIER - STATE FURNISHED	EA	122

SPEC	CODE	DESCRIPTION	UNIT	TOTAL QUANTITY
706	0500	AGGREGATE LABORATORY	EA	1
706	0550	BITUMINOUS LABORATORY	EA	1
706	0600	CONTRACTOR'S LABORATORY	EA	1
709	0100	GEOSYNTHETIC MATERIAL - TYPE G	SY	915
709	0151	GEOSYNTHETIC MATERIAL TYPE R1	SY	735
709	0155	GEOSYNTHETIC MATERIAL TYPE RR	SY	633
714	0615	PIPE CONC REINF 24IN CL III	LF	728
714	0820	PIPE CONC REINF 30IN CL III	LF	34
714	0905	PIPE CONC REINF 36IN CL III	LF	96
714	1005	PIPE CONC REINF 42IN CL III	LF	78
714	1310	PIPE CONC REINF 60IN CL III	LF	44
714	1710	PIPE CONC REINF 84IN CL III	LF	100
714	3020	END SECT-CONC REINF 24IN	EA	34
714	3023	END SECT-TRAVERSABLE REINF. CONC.24IN	EA	30
714	3030	END SECT-CONC REINF 30IN	EA	1
714	3033	END SECT-TRAVERSABLE REINF. CONC.30IN	EA	1
714	3036	END SECT-TRAVERSABLE REINF. CONC.36IN	EA	8
714	3040	END SECT-CONC REINF 42IN	EA	4
714	3055	END SECT-CONC REINF 60IN	EA	2
714	3075	END SECT-CONC REINF 84IN	EA	4
714	4099	PIPE CONDUIT 18IN-APPROACH	LF	196
714	4105	PIPE CONDUIT 24IN	LF	186
714	4106	PIPE CONDUIT 24IN-APPROACH	LF	1326
714	4113	PIPE CONDUIT 30IN-APPROACH	LF	277
714	4115	PIPE CONDUIT 36IN	LF	152
714	4116	PIPE CONDUIT 36IN-APPROACH	LF	45
714	4120	PIPE CONDUIT 42IN	LF	55
714	4140	PIPE CONDUIT 66IN	LF	160
714	4155	PIPE CONDUIT 84IN	LF	48
714	5015	PIPE CORR STEEL .064IN 18IN	LF	590
714	5035	PIPE CORR STEEL .064IN 24IN	LF	212
714	5810	END SECT CORR STEEL .064IN 18IN	EA	8
714	5820	END SECT CORR STEEL .064IN 24IN	EA	4
714	6501	END SECT-TRAVERSABLE METAL 18IN	EA	24
714	6506	END SECT-TRAVERSABLE METAL 24IN	EA	8
714	9200	CATTLE PASS CONC INTERMED SECTION	LF	146
714	9350	END SECTION CONC CATTLE PASS	EA	10
720	0110	RIGHT OF WAY MARKERS	EA	789
720	0125	ALIGNMENT MONUMENTS	EA	105
720	0130	IRON PIN R/W MONUMENTS	EA	702
720	0135	IRON PIN REFERENCE MONUMENTS	EA	87
752	0300	FENCE BARBED WIRE 4 STRAND-WOOD POST	LF	277
752	0320	FENCE BARBED WIRE 4 STRAND-STEEL POST	LF	53189
752	0900	FENCE TEMPORARY INSTALL & REMOVE	LF	13749
752	0911	TEMPORARY SAFETY FENCE	LF	2082
752	2100	VEHICLE GATE	EA	4
752	2110	RESET VEHICLE GATE	EA	15
752	2120	REMOVE VEHICLE GATE	EA	15
752	3150	CORNER ASSEMBLY BARBED WIRE-WOOD POST	EA	277
752	4140	DOUBLE BRACE ASSEMBLY BARBED WIRE-WOOD POST	EA	261
754	0110	FLAT SHEET FOR SIGNS-TYPE XI REFL SHEETING	SF	309
754	0112	FLAT SHEET FOR SIGNS-TYPE IV REFL SHEETING	SF	245
754	0195	DIAMOND GRADE DELINEATORS-TYPE A	EA	32
754	0206	STEEL GALV POSTS-TELESCOPING PERFORATED TUBE	LF	1757
754	0563	REFERENCE MARKER - TYPE C	EA	19
754	0592	RESET SIGN PANEL	EA	40
754	0805	OBJECT MARKERS - CULVERTS	EA	190
760	0005	RUMBLE STRIPS - ASPHALT SHOULDER	MILE	38.24
760	0007	RUMBLE STRIPS - ASPHALT CENTERLINE	MILE	19.12

SPEC	CODE	DESCRIPTION	UNIT	TOTAL QUANTITY
762	0110	EPOXY PVMT MK 4IN LINE-GROOVED	LF	3053
762	0112	EPOXY PVMT MK MESSAGE	SF	1,488
762	0113	EPOXY PVMT MK 4IN LINE	LF	363,806
762	0115	EPOXY PVMT MK 8IN LINE	LF	12,258
762	0117	EPOXY PVMT MK 24IN LINE	LF	24
762	0430	SHORT TERM 4IN LINE - TYPE NR	LF	639,959
766	0100	MAILBOX - ALL TYPES	EA	9
900	1000	TEMPORARY STREAM DIVERSION	EA	1
970	2280	AMERICAN PLUM	EA	6,764
970	2285	SHUBERT CHOKECHERRY	EA	10,501
980	0170	CATTLE GUARD RESET	EA	1
980	0171	REMOVE CATTLE GUARD	EA	1
990	0400	PIPE CLEANOUT	EA	22

Alternate A - CAST-IN-PLACE BOX CULVERT

SPEC	CODE	DESCRIPTION	UNIT	TOTAL QUANTITY
602	1131	CLASS AE-3 CONCRETE-BOX CULVERT	CY	920.8
612	0114	REINFORCING STEEL-GRADE 60-BOX CULVERT	LBS	121136

Alternate B - PRECAST BOX CULVERT

SPEC	CODE	DESCRIPTION	UNIT	TOTAL QUANTITY
606	3412	DBL 14FT X 12FT PRECAST RCB CULVERT	LF	220
606	7412	DBL 14FT X 12FT PRECAST RCB END SECTION	EA	2

BASIS OF ESTIMATE

Rumble Strips – Asphalt Shoulder
STA 13121+99 to STA 14131+77 = 100,978 LF = 19.12 Miles x 2 Lanes = 38.24 Miles

Rumble Strips – Centerline
STA 13121+99 to STA 14131+77 = 100,978 LF = 19.12 Miles

Remove Aggregate Base & Surfacing
Bituminous @ 2 Tons/CY
Aggregate Base @ 1.875 Tons/CY

Aggregate
Aggregate CL 5 @ 1.875 Tons/CY
Aggregate CL 4 @ 1.875 Tons/CY
Riprap – Grade 1 @ 1.70 Tons/CY

Hot Bituminous Pavement
Superpave FAA 45 @ 2.0 Tons/CY
Commercial Grade Hot Mix Asphalt @ 2.0 Tons/CY

Water
25 MGal/Mile for Dust Palliative
20 Gal/Ton for Aggregates
10 Gal/CY for Embankment

Mailboxes

Station	Type	Work
13149+53 – RT	Triple	Replace
13152+05 – RT	Single	Replace
13283+86 – LT	Single	Replace
13490+91 – RT	Single	Replace
13542+82 – LT	Single	Replace
13578+78 – LT	Single	Replace
13614+54 – LT	Single	Replace
13774+22 – LT	Single	Replace
13783+56 – LT	Single	Replace

Coring Quantities

HBP Cores Samples							
	A	B	C	D			
Specification Section	Distance (FT) / 2000	Lanes	Lifts	Sublots (A x B x C)	Quantity (D x 2)	Quantity (1 per mile)	Unit
430.04 I.2.b(1) "General" Mainline	50	2	3	300	600	N/A	EA
430.04 I.2.b(1) "General" Passing Lane	18	1	4	70	140	N/A	EA

Short Term 4IN Line - Type NR		
Location	**Basis**	**Quantity**
Centerline Top of 1st Lift (Yellow)	Centerline Skips/Barrier Stripe	151,453 LF
Passing Lanes Centerline Top of 1st Lift (White)	Centerline Skips	9,349 LF
Centerline Top of 2nd Lift (Yellow)	Centerline Skips/Barrier Stripe	151,453 LF
Passing Lanes Centerline Top of 2nd Lift (White)	Centerline Skips	9,349 LF
Centerline Top of 3rd Lift (Yellow)	Centerline Skips/Barrier Stripe	151,453 LF
Passing Lanes Centerline Top of 3rd Lift (White)	Centerline Skips	9,349 LF
Centerline Rumble Stips (Yellow)	Centerline Skips/Barrier Stripe	151,453 LF
Bridge Bypass	Centerline DBL Barrier 3,050 LF Barrier Stripe 3,050 LF	6,100 LF
Total		**639,959 LF**

Silted Pipes

Station
13156+05 – 95' Rt to 13156+69 – 86' Rt
13296+78 – 47' Lt to 13297+36 – 49' Lt
13296+89 – 50' Rt to 13297+34 – 49' Rt
13357+13
13432+01
13450+82 – 41' Rt to 13450+95 – 49' Lt
13581+72 – 57' Lt to 13581+77 – 58' Rt
13592+77 – 42' Rt to 13592+82 – 32' Lt
13628+82 – 30' Rt to 13628+83 – 42' Lt
13639+67 – 53' Lt to 13640+15 – 52' Lt
13643+71
13713+01 – 46' Rt to 13714+31 – 50' Rt
13773+80 – 48' Lt to 13774+34 – 48' Lt
13773+75 – 47' Rt to 13774+30 – 49' Rt
13853+10 – 47' Lt to 13853+64 – 47' Lt
13894+90
13899+53 – 48' Lt to 13900+14 – 47' Lt
13939+45
13958+43 – 64' Lt to 13959+04 – 63' Lt
13978+27 – 56' Lt to 13978+39 – 59' Rt
13995+59 – 48' Rt to 13996+19 – 49' Rt
14038+76 – 49' Rt to 14039+31 – 48' Rt

Temporary Stream Diversion

Common Excavation – Type A = 9,420 CY
Pipe Conduit 66IN = 213 LF
Geosynthetic Type RR = 4,800 SY
Fiber Rolls 12IN = 795 LF
Riprap Grade I = 1,334 TON

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	10	2

BASIS OF ESTIMATE

Paving Quantities

	LF	Aggregate CL 5	Aggregate CL 4	Prime Coat	BLOTTER MATERIAL CL 44	Tack Coat Bottom Lift	Tack Coat Middle Lift	Tack Coat Top Lift	SUPERPAVE FAA 45 Bottom Lift(s)	SUPERPAVE FAA 45 Middle Lift	SUPERPAVE FAA 45 Top Lift	PG 58-28 ASPHALT CEMENT	PG 64-28 ASPHALT CEMENT
		TON	TON	GAL	TON	GAL	GAL	GAL	TON	TON	TON	TON	TON
Rate		1.875 Ton/CY	1.875 Ton/CY	0.25 Gal/SY	15 LB/SY	0.05 Gal/SY	0.05 Gal/SY	0.05 Gal/SY	2 Ton/CY	2 Ton/CY	2 Ton/CY	6.00%	6.00%
Typical Section 1													
Typical Section Quantity		13.15 SF	0.00 SF	0 LF	0 LF	0.00 LF	0 LF	0 LF	0 SF	0 SF	0.00 SF	0.00 SF	0.00 SF
Quantity Per Foot		0.91 TON	0.00 TON	0.00 GAL	0 TON	0.000 GAL	0.000 GAL	0.000 GAL	0 TON	0 TON	0.00 TON	0.000 TON	0.000 TON
13121+99.00 to 13127+13.00	514	468	0	0	0	0	0	0	0	0	0	0	0
Typical Section 2													
Typical Section Quantity		39.40 SF	5.00 SF	15.64 LF	15.64 LF	43.55 LF	42.13 LF	41.07 LF	13.16 SF	6.95 SF	6.82 SF	13.16 SF	13.77 SF
Quantity Per Foot		2.74 TON	0.35 TON	0.43 GAL	1.74 TON	0.242 GAL	0.234 GAL	0.228 GAL	0.97 TON	0.51 TON	0.51 TON	0.058 TON	0.061 TON
13127+13.00 to 13135+75.00	862	2,362	302	371	1,500	209	202	197	836	440	440	50	53
13516+70.00 to 13523+16.00	646	1,770	226	278	1,124	156	151	147	627	329	329	38	40
Typical Section 3													
Typical Section Quantity		50.72 SF	2.50 SF	29.55 LF	29.55 LF	57.55 LF	56.13 LF	55.07 LF	13.2 SF	6.95 SF	6.82 SF	13.20 SF	13.77 SF
Quantity Per Foot		3.52 TON	0.17 TON	0.82 GAL	3.28 TON	0.320 GAL	0.312 GAL	0.306 GAL	0.98 TON	0.51 TON	0.51 TON	0.059 TON	0.061 TON
13135+75.00 to 13141+52.00	577	2,031	98	473	1,893	185	180	177	565	294	294	34	35
Typical Section 4													
Typical Section Quantity		94.18 SF	2.67 SF	50.74 LF	50.74 LF	0.00 LF	48.92 LF	47.46 LF	9.13 SF	7.03 SF	6.79 SF	9.13 SF	13.82 SF
Quantity Per Foot		6.54 TON	0.19 TON	1.41 GAL	0.0423 TON	0.000 GAL	0.272 GAL	0.264 GAL	0.68 TON	0.52 TON	0.50 TON	0.041 TON	0.061 TON
13148+46.00 to 13150+68.00	222	1,452	42	313	9	0	60	59	151	115	111	9	14

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BASIS OF ESTIMATE

Paving Quantities (cont'd)

	LF	Aggregate CL 5	Aggregate CL 4	Prime Coat	BLOTTER MATERIAL CL 44	Tack Coat Bottom Lift	Tack Coat Middle Lift	Tack Coat Top Lift	SUPERPAVE FAA 45 Bottom Lift(s)	SUPERPAVE FAA 45 Middle Lift	SUPERPAVE FAA 45 Top Lift	PG 58-28 ASPHALT CEMENT	PG 64-28 ASPHALT CEMENT
		TON	TON	GAL	TON	GAL	GAL	GAL	TON	TON	TON	TON	TON
Rate		1.875 Ton/CY	1.875 Ton/CY	0.25 Gal/SY	15 LB/SY	0.05 Gal/SY	0.05 Gal/SY	0.05 Gal/SY	2 Ton/CY	2 Ton/CY	2 Ton/CY	6.00%	6.00%
Typical Section 5 & 6													
Typical Section Quantity		106.18 SF	2.67 SF	58.75 LF	58.75 LF	0.00 LF	56.93 LF	55.47 LF	12.05 SF	9.36 SF	9.12 SF	12.05 SF	18.48 SF
Quantity Per Foot		7.37 TON	0.19 TON	1.63 GAL	0.0490 TON	0.000 GAL	0.316 GAL	0.308 GAL	0.89 TON	0.69 TON	0.68 TON	0.053 TON	0.082 TON
13150+68.00 to 13156+38.00	570	4,201	108	930	28	0	180	176	507	393	388	30	47
13156+38.00 to 13166+41.00	1,003	7,392	191	1,637	49	0	317	309	893	692	682	54	82
Typical Section 7													
Typical Section Quantity		75.15 SF	5.34 SF	32.74 LF	32.74 LF	0.00 LF	30.92 LF	29.46 LF	6.63 SF	5.03 SF	4.79 SF	6.63 SF	9.82 SF
Quantity Per Foot		5.22 TON	0.37 TON	0.91 GAL	0.0273 TON	0.000 GAL	0.172 GAL	0.164 GAL	0.49 TON	0.37 TON	0.35 TON	0.029 TON	0.044 TON
13166+41.00 to 13174+93.00	852	4,447	315	775	23	0	147	140	417	315	298	25	37
13183+03.00 to 13188+79.00	576	3,007	213	524	16	0	99	94	282	213	202	17	25
13195+09.00 to 13206+30.00	1,121	5,852	415	1,019	31	0	193	184	549	415	392	33	49
13225+68.00 to 13241+31.00	1,563	8,159	578	1,421	43	0	269	256	766	578	547	46	68
13260+00.00 to 13272+37.00	1,237	6,457	458	1,125	34	0	213	203	606	458	433	36	54
13291+90.00 to 13295+31.00	341	1,780	126	310	9	0	59	56	167	126	119	10	15
13313+64.00 to 13319+44.00	580	3,028	215	527	16	0	100	95	284	215	203	17	25
13325+98.00 to 13327+97.00	199	1,039	74	181	5	0	34	33	98	74	70	6	9
13457+74.00 to 13464+70.00	696	3,633	258	633	19	0	120	114	341	258	244	20	30
13492+78.00 to 13493+49.00	71	371	26	65	2	0	12	12	35	26	25	2	3
13742+70.00 to 13749+81.00	711	3,711	263	647	19	0	122	117	348	263	249	21	31

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BASIS OF ESTIMATE

Paving Quantities (cont'd)

	LF	Aggregate CL 5	Aggregate CL 4	Prime Coat	BLOTTER MATERIAL CL 44	Tack Coat Bottom Lift	Tack Coat Middle Lift	Tack Coat Top Lift	SUPERPAVE FAA 45 Bottom Lift(s)	SUPERPAVE FAA 45 Middle Lift	SUPERPAVE FAA 45 Top Lift	PG 58-28 ASPHALT CEMENT	PG 64-28 ASPHALT CEMENT
		TON	TON	GAL	TON	GAL	GAL	GAL	TON	TON	TON	TON	TON
Rate		1.875 Ton/CY	1.875 Ton/CY	0.25 Gal/SY	15 LB/SY	0.05 Gal/SY	0.05 Gal/SY	0.05 Gal/SY	2 Ton/CY	2 Ton/CY	2 Ton/CY	6.00%	6.00%
Typical Section 8													
Typical Section Quantity		13.66 SF	3.66 SF	0 LF	0 LF	31.55 LF	30.13 LF	29.07 LF	5.14 SF	3.70 SF	3.57 SF	5.14 SF	7.27 SF
Quantity Per Foot		0.95 TON	0.25 TON	0.00 GAL	0.0000 TON	0.175 GAL	0.167 GAL	0.162 GAL	0.38 TON	0.27 TON	0.26 TON	0.023 TON	0.032 TON
13190+03.00 to 13195+09.00	506	481	127	0	0	89	85	82	192	137	132	12	16
13206+30.00 to 13221+60.00	1,530	1,454	383	0	0	268	256	248	581	413	398	35	50
13241+31.00 to 13260+00.00	1,869	1,776	467	0	0	327	312	303	710	505	486	43	61
13276+09.00 to 13291+90.00	1,581	1,502	395	0	0	277	264	256	601	427	411	36	51
13295+31.00 to 13313+64.00	1,833	1,741	458	0	0	321	306	297	697	495	477	42	59
13327+97.00 to 13339+48.00	1,151	1,093	288	0	0	201	192	186	437	311	299	26	37
13346+73.00 to 13361+43.00	1,470	1,397	368	0	0	257	245	238	559	397	382	34	48
13464+70.00 to 13479+30.00	1,460	1,387	365	0	0	256	244	237	555	394	380	33	47
13493+49.00 to 13501+01.00	752	714	188	0	0	132	126	122	286	203	196	17	24
13523+16.00 to 13526+48.00	332	315	83	0	0	58	55	54	126	90	86	8	11
13532+24.00 to 13552+02.00	1,978	1,879	495	0	0	346	330	320	752	534	514	45	64
13563+96.00 to 13595+90.00	3,194	3,034	799	0	0	559	533	517	1,214	862	830	73	103
Typical Section 9													
Typical Section Quantity		30.49 SF	1.83 SF	15.77 LF	15.77 LF	45.55 LF	44.13 LF	43.07 LF	9.44 SF	5.45 SF	5.32 SF	9.44 SF	10.77 SF
Quantity Per Foot		2.12 TON	0.13 TON	0.44 GAL	0.0131 TON	0.253 GAL	0.245 GAL	0.239 GAL	0.7 TON	0.4 TON	0.39 TON	0.042 TON	0.048 TON
13361+43.00 to 13418+48.00	5,705	12,095	742	2,499	75	1,443	1,398	1,363	3,994	2,282	2,225	240	274
13424+06.00 to 13436+63.00	1,257	2,665	163	551	16	318	308	300	880	503	490	53	60

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BASIS OF ESTIMATE

Paving Quantities (cont'd)

	LF	Aggregate CL 5	Aggregate CL 4	Prime Coat	BLOTTER MATERIAL CL 44	Tack Coat Bottom Lift	Tack Coat Middle Lift	Tack Coat Top Lift	SUPERPAVE FAA 45 Bottom Lift(s)	SUPERPAVE FAA 45 Middle Lift	SUPERPAVE FAA 45 Top Lift	PG 58-28 ASPHALT CEMENT	PG 64-28 ASPHALT CEMENT
		TON	TON	GAL	TON	GAL	GAL	GAL	TON	TON	TON	TON	TON
Rate		1.875 Ton/CY	1.875 Ton/CY	0.25 Gal/SY	15 LB/SY	0.05 Gal/SY	0.05 Gal/SY	0.05 Gal/SY	2 Ton/CY	2 Ton/CY	2 Ton/CY	6.00%	6.00%
Typical Section 10													
Typical Section Quantity		88.18 SF	2.67 SF	46.74 LF	46.74 LF	0.00 LF	44.92 LF	43.47 LF	9.55 SF	7.36 SF	7.12 SF	9.55 SF	14.48 SF
Quantity Per Foot		6.12 TON	0.19 TON	1.30 GAL	0.0390 TON	0.000 GAL	0.250 GAL	0.242 GAL	0.71 TON	0.55 TON	0.53 TON	0.043 TON	0.064 TON
13418+48.00 to 13424+06.00	558	3,415	106	724	22	0	140	135	396	307	296	24	36
13436+63.00 to 13438+57.00	194	1,187	37	252	8	0	49	47	138	107	103	8	12
13443+31.00 to 13449+49.00	618	3,782	117	802	24	0	155	150	439	340	328	26	40
13457+04.00 to 13457+74.00	70	428	13	91	3	0	18	17	50	39	37	3	4
13872+46.00 to 13890+81.00	1,835	11,230	349	2,382	72	0	459	444	1,303	1,009	973	78	118
Typical Section 11													
Typical Section Quantity		55.20 SF	3.25 SF	30.85 LF	30.85 LF	85.60 LF	56.22 LF	55.16 LF	18.57 SF	6.95 SF	6.82 SF	18.57 SF	13.77 SF
Quantity Per Foot		3.83 TON	0.23 TON	0.86 GAL	0.0257 TON	0.476 GAL	0.312 GAL	0.306 GAL	1.38 TON	0.51 TON	0.51 TON	0.083 TON	0.061 TON
13503+15.00 to 13510+71.00	756	2,895	174	648	19	360	236	231	1,043	386	386	63	46
Typical Section 12													
Typical Section Quantity		30.50 SF	1.83 SF	15.76 LF	15.76 LF	45.55 LF	44.03 LF	43.07 LF	9.44 SF	5.45 SF	5.32 SF	9.44 SF	10.77 SF
Quantity Per Foot		2.12 TON	0.13 TON	0.44 GAL	0.0131 TON	0.253 GAL	0.245 GAL	0.239 GAL	0.7 TON	0.4 TON	0.39 TON	0.042 TON	0.048 TON
13595+90.00 to 13606+76.00	1,086	2,302	141	475	14	275	266	260	760	434	424	46	52
13622+90.00 to 13629+89.00	699	1,482	91	306	9	177	171	167	489	280	273	29	34
13654+96.00 to 13738+80.00	8,384	17,774	1,090	3,671	110	2,121	2,054	2,004	5,869	3,354	3,270	352	402

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Paving Quantities (cont'd)

	LF	Aggregate CL 5	Aggregate CL 4	Prime Coat	BLOTTER MATERIAL CL 44	Tack Coat Bottom Lift	Tack Coat Middle Lift	Tack Coat Top Lift	SUPERPAVE FAA 45 Bottom Lift(s)	SUPERPAVE FAA 45 Middle Lift	SUPERPAVE FAA 45 Top Lift	PG 58-28 ASPHALT CEMENT	PG 64-28 ASPHALT CEMENT
		TON	TON	GAL	TON	GAL	GAL	GAL	TON	TON	TON	TON	TON
Rate		1.875 Ton/CY	1.875 Ton/CY	0.25 Gal/SY	15 LB/SY	0.05 Gal/SY	0.05 Gal/SY	0.05 Gal/SY	2 Ton/CY	2 Ton/CY	2 Ton/CY	6.00%	6.00%
Typical Section 13													
Typical Section Quantity		88.13 SF	2.67 SF	46.75 LF	46.75 LF	0.00 LF	44.92 LF	43.47 LF	9.55 SF	7.36 SF	7.12 SF	9.55 SF	14.48 SF
Quantity Per Foot		6.12 TON	0.19 TON	1.30 GAL	0.0390 TON	0.000 GAL	0.250 GAL	0.242 GAL	0.71 TON	0.55 TON	0.53 TON	0.043 TON	0.064 TON
13606+76.00 to 13619+94.00	1,318	8,066	250	1,712	51	0	330	319	936	725	699	56	85
13738+80.00 to 13742+70.00	390	2,387	74	506	15	0	98	94	277	215	207	17	25
Typical Section 14													
Typical Section Quantity		65.32 SF	0.00 SF	43.56 LF	43.56 LF	71.55 LF	70.14 LF	69.07 LF	17.24 SF	8.70 SF	8.57 SF	17.24 SF	17.27 SF
Quantity Per Foot		4.54 TON	0.00 TON	1.21 GAL	0.0363 TON	0.398 GAL	0.390 GAL	0.384 GAL	1.28 TON	0.64 TON	0.63 TON	0.077 TON	0.077 TON
13629+89.00 to 13642+43.00	1,254	5,693	0	1,517	46	499	489	482	1,605	803	790	96	96
Typical Section 15													
Typical Section Quantity		52.36 SF	2.50 SF	29.55 LF	29.55 LF	69.55 LF	68.14 LF	67.07 LF	15.16 SF	8.45 SF	8.32 SF	15.16 SF	16.77 SF
Quantity Per Foot		3.64 TON	0.17 TON	0.82 GAL	0.0246 TON	0.386 GAL	0.379 GAL	0.373 GAL	1.12 TON	0.63 TON	0.62 TON	0.067 TON	0.074 TON
13642+43.00 to 13654+96.00	1,253	4,561	213	1,028	31	484	475	467	1,403	789	777	84	93

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Paving Quantities (cont'd)

	LF	Aggregate CL 5	Aggregate CL 4	Prime Coat	BLOTTER MATERIAL CL 44	Tack Coat Bottom Lift	Tack Coat Middle Lift	Tack Coat Top Lift	SUPERPAVE FAA 45 Bottom Lift(s)	SUPERPAVE FAA 45 Middle Lift	SUPERPAVE FAA 45 Top Lift	PG 58-28 ASPHALT CEMENT	PG 64-28 ASPHALT CEMENT
		TON	TON	GAL	TON	GAL	GAL	GAL	TON	TON	TON	TON	TON
Rate		1.875 Ton/CY	1.875 Ton/CY	0.25 Gal/SY	15 LB/SY	0.05 Gal/SY	0.05 Gal/SY	0.05 Gal/SY	2 Ton/CY	2 Ton/CY	2 Ton/CY	6.00%	6.00%
Typical Section 16													
Typical Section Quantity		10.96 SF	4.12 SF	0 LF	0 LF	31.90 LF	30.13 LF	29.07 LF	6.46 SF	3.70 SF	3.57 SF	6.46 SF	7.27 SF
Quantity Per Foot		0.76 TON	0.29 TON	0.00 GAL	0.0000 TON	0.177 GAL	0.167 GAL	0.162 GAL	0.48 TON	0.27 TON	0.26 TON	0.029 TON	0.032 TON
13749+81.00 to 13772+40.00	2,259	1,717	655	0	0	400	377	366	1,084	610	587	65	73
13776+04.00 to 13780+41.00	437	332	127	0	0	77	73	71	210	118	114	13	14
13788+14.00 to 13792+60.00	446	339	129	0	0	79	74	72	214	120	116	13	14
13796+21.00 13802+41.00	620	471	180	0	0	110	104	100	298	167	161	18	20
13929+34.00 13960+65.00	3,131	2,380	908	0	0	554	523	507	1,503	845	814	90	101
14088+20.00 14109+77.00	2,157	1,639	626	0	0	382	360	349	1,035	582	561	62	70
14129+02.00 to 14131+77.00	275	209	80	0	0	49	46	45	132	74	72	8	9
Typical Section 17													
Typical Section Quantity		29.40 SF	2.06 SF	15.95 LF	15.95 LF	45.73 LF	44.13 LF	43.07 LF	10.71 SF	6.15 SF	5.32 SF	10.71 SF	11.47 SF
Quantity Per Foot		2.04 TON	0.14 TON	0.44 GAL	0.0133 TON	0.254 GAL	0.245 GAL	0.239 GAL	0.79 TON	0.46 TON	0.39 TON	0.047 TON	0.051 TON
13802+41.00 to 13845+70.00	4,329	8,831	606	1,918	58	1,100	1,061	1,035	3,420	1,991	1,688	205	221
13861+00.00 to 13872+46.00	1,146	2,338	160	508	15	291	281	274	905	527	447	54	58
13890+81.00 to 13893+48.00	267	545	37	118	4	68	65	64	211	123	104	13	14
13918+53.00 to 13929+34.00	1,081	2,205	151	479	14	275	265	258	854	497	422	51	55
Typical Section 18													
Typical Section Quantity		47.40 SF	2.06 SF	27.95 LF	27.95 LF	57.72 LF	56.13 LF	55.07 LF	14.21 SF	6.95 SF	6.82 SF	14.21 SF	13.77 SF
Quantity Per Foot		3.29 TON	0.14 TON	0.78 GAL	0.0233 TON	0.321 GAL	0.312 GAL	0.306 GAL	1.05 TON	0.51 TON	0.51 TON	0.063 TON	0.061 TON
13845+70.00 to 13853+36.00	766	2,520	107	595	18	246	239	234	804	391	391	48	47

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Paving Quantities (cont'd)

	LF	Aggregate CL 5	Aggregate CL 4	Prime Coat	BLOTTER MATERIAL CL 44	Tack Coat Bottom Lift	Tack Coat Middle Lift	Tack Coat Top Lift	SUPERPAVE FAA 45 Bottom Lift(s)	SUPERPAVE FAA 45 Middle Lift	SUPERPAVE FAA 45 Top Lift	PG 58-28 ASPHALT CEMENT	PG 64-28 ASPHALT CEMENT
		TON	TON	GAL	TON	GAL	GAL	GAL	TON	TON	TON	TON	TON
Rate		1.875 Ton/CY	1.875 Ton/CY	0.25 Gal/SY	15 LB/SY	0.05 Gal/SY	0.05 Gal/SY	0.05 Gal/SY	2 Ton/CY	2 Ton/CY	2 Ton/CY	6.00%	6.00%
Typical Section 19													
Typical Section Quantity		47.84 SF	0.00 SF	31.90 LF	31.90 LF	59.54 LF	58.13 LF	57.07 LF	14.95 SF	7.20 SF	7.07 SF	14.95 SF	14.27 SF
Quantity Per Foot		3.32 TON	0.00 TON	0.89 GAL	0.0266 TON	0.331 GAL	0.323 GAL	0.317 GAL	1.11 TON	0.53 TON	0.52 TON	0.067 TON	0.064 TON
13853+36.00 to 13861+00.00	764	2,536	0	677	20	253	247	242	848	405	397	51	49
14003+61.00 to 14006+81.00	320	1,062	0	284	9	106	103	101	355	170	166	21	20
Typical Section 20													
Typical Section Quantity		70.81 SF	2.50 SF	41.90 LF	41.90 LF	69.54 LF	68.14 LF	67.07 LF	17.87 SF	8.45 SF	8.32 SF	17.87 SF	16.77 SF
Quantity Per Foot		4.92 TON	0.17 TON	1.16 GAL	0.0349 TON	0.386 GAL	0.379 GAL	0.373 GAL	1.32 TON	0.63 TON	0.62 TON	0.079 TON	0.074 TON
13893+48.00 to 13906+03.00	1,255	6,175	213	1,461	44	484	476	468	1,657	791	778	99	93
Typical Section 21													
Typical Section Quantity		65.86 SF	0.00 SF	43.90 LF	43.90 LF	71.54 LF	70.14 LF	69.07 LF	18.45 SF	8.70 SF	8.57 SF	18.45 SF	17.27 SF
Quantity Per Foot		4.57 TON	0.00 TON	1.22 GAL	0.0366 TON	0.397 GAL	0.390 GAL	0.384 GAL	1.37 TON	0.64 TON	0.63 TON	0.082 TON	0.077 TON
13906+03.00 to 13918+53.00	1,250	5,713	0	1,524	46	496	488	480	1,713	800	788	103	96
14006+81.00 to 14011+53.00	472	2,157	0	576	17	187	184	181	647	302	297	39	36
Typical Section 22													
Typical Section Quantity		47.40 SF	2.06 SF	27.94 LF	27.94 LF	57.72 LF	56.13 LF	55.07 LF	14.21 SF	6.95 SF	6.82 SF	14.21 SF	13.77 SF
Quantity Per Foot		3.29 TON	0.14 TON	0.78 GAL	0.0233 TON	0.321 GAL	0.312 GAL	0.306 GAL	1.05 TON	0.51 TON	0.51 TON	0.063 TON	0.061 TON
13960+65.00 to 13970+85.00	1,020	3,356	143	792	24	327	318	312	1,071	520	520	64	62

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Paving Quantities (cont'd)

	LF	Aggregate CL 5	Aggregate CL 4	Prime Coat	BLOTTER MATERIAL CL 44	Tack Coat Bottom Lift	Tack Coat Middle Lift	Tack Coat Top Lift	SUPERPAVE FAA 45 Bottom Lift(s)	SUPERPAVE FAA 45 Middle Lift	SUPERPAVE FAA 45 Top Lift	PG 58-28 ASPHALT CEMENT	PG 64-28 ASPHALT CEMENT
		TON	TON	GAL	TON	GAL	GAL	GAL	TON	TON	TON	TON	TON
Rate		1.875 Ton/CY	1.875 Ton/CY	0.25 Gal/SY	15 LB/SY	0.05 Gal/SY	0.05 Gal/SY	0.05 Gal/SY	2 Ton/CY	2 Ton/CY	2 Ton/CY	6.00%	6.00%
Typical Section 23													
Typical Section Quantity		17.40 SF	2.06 SF	7.95 LF	7.95 LF	37.72 LF	36.13 LF	35.07 LF	8.38 SF	4.45 SF	4.32 SF	8.38 SF	8.77 SF
Quantity Per Foot		1.21 TON	0.14 TON	0.22 GAL	0.0066 TON	0.210 GAL	0.201 GAL	0.195 GAL	0.62 TON	0.33 TON	0.32 TON	0.037 TON	0.039 TON
13970+85.00 to 13972+18.00	133	161	19	29	1	28	27	26	82	44	43	5	5
Typical Section 24													
Typical Section Quantity		29.40 SF	2.06 SF	15.95 LF	15.95 LF	45.72 LF	44.13 LF	43.07 LF	10.71 SF	5.45 SF	5.32 SF	10.71 SF	10.77 SF
Quantity Per Foot		2.04 TON	0.14 TON	0.44 GAL	0.0133 TON	0.254 GAL	0.245 GAL	0.239 GAL	0.79 TON	0.4 TON	0.39 TON	0.047 TON	0.048 TON
13972+18.00 to 14003+61.00	3,143	6,412	440	1,393	42	798	770	751	2,483	1,257	1,226	149	151
14024+20.00 to 14078+00.00	5,380	10,975	753	2,384	72	1,367	1,318	1,286	4,250	2,152	2,098	255	258
Typical Section 25													
Typical Section Quantity		52.90 SF	2.50 SF	29.90 LF	29.90 LF	57.54 LF	56.13 LF	55.07 LF	14.37 SF	6.95 SF	6.82 SF	14.37 SF	13.77 SF
Quantity Per Foot		3.67 TON	0.17 TON	0.83 GAL	0.0249 TON	0.320 GAL	0.312 GAL	0.306 GAL	1.06 TON	0.51 TON	0.51 TON	0.064 TON	0.061 TON
14011+53.00 to 14024+20.00	1,267	4,650	215	1,052	32	405	395	388	1,343	646	646	81	78
Typical Section 26													
Typical Section Quantity		47.40 SF	2.06 SF	27.95 LF	27.95 LF	57.72 LF	56.13 LF	55.07 LF	14.21 SF	6.95 SF	6.82 SF	14.21 SF	13.77 SF
Quantity Per Foot		3.29 TON	0.14 TON	0.78 GAL	0.0233 TON	0.321 GAL	0.312 GAL	0.306 GAL	1.05 TON	0.51 TON	0.51 TON	0.063 TON	0.061 TON
14078+00.00 to 14088+20.00	1,020	3,356	143	792	24	327	318	312	1,071	520	520	64	62

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Paving Quantities (cont'd)

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		TON	TON	GAL	TON	GAL	GAL	GAL	TON	TON	TON	TON	TON
Rate		1.875 Ton/CY	1.875 Ton/CY	0.25 Gal/SY	15 LB/SY	0.05 Gal/SY	0.05 Gal/SY	0.05 Gal/SY	2 Ton/CY	2 Ton/CY	2 Ton/CY	6.00%	6.00%
Typical Section 27													
Typical Section Quantity		52.90 SF	2.50 SF	29.90 LF	29.90 LF	57.54 LF	56.13 LF	55.07 LF	14.37 SF	6.95 SF	6.82 SF	14.37 SF	13.77 SF
Quantity Per Foot		3.67 TON	0.17 TON	0.83 GAL	0.0249 TON	0.320 GAL	0.312 GAL	0.306 GAL	1.06 TON	0.51 TON	0.51 TON	0.064 TON	0.061 TON
14109+77.00 to 14116+03.00	626	2,297	106	520	16	200	195	192	664	319	319	40	38
Typical Section 28													
Typical Section Quantity		40.90 SF	2.50 SF	21.90 LF	21.90 LF	49.54 LF	48.13 LF	47.07 LF	12.04 SF	5.95 SF	5.82 SF	12.04 SF	11.77 SF
Quantity Per Foot		2.84 TON	0.17 TON	0.61 GAL	0.0183 TON	0.275 GAL	0.267 GAL	0.262 GAL	0.89 TON	0.44 TON	0.43 TON	0.053 TON	0.052 TON
14116+03.00 to 14129+02.00	1,299	3,689	221	790	24	357	347	340	1,156	572	559	69	68
Typical Section 29													
Typical Section Quantity		94.16 SF	3.25 SF	50.57 LF	50.57 LF	0.00 LF	48.84 LF	47.45 LF	10.33 SF	8.01 SF	7.78 SF	10.33 SF	15.79 SF
Quantity Per Foot		6.54 TON	0.23 TON	1.40 GAL	0.0421 TON	0.000 GAL	0.271 GAL	0.264 GAL	0.77 TON	0.59 TON	0.58 TON	0.046 TON	0.070 TON
13142+00.00 to 13148+46.00	646	4,225	149	907	27	0	175	171	497	381	375	30	45
Typical Section 30													
Typical Section Quantity		76.45 SF	3.25 SF	38.67 LF	38.67 LF	0.00 LF	36.9 LF	35.48 LF	7.86 SF	6.02 SF	5.78 SF	7.86 SF	11.80 SF
Quantity Per Foot		5.31 TON	0.23 TON	1.07 GAL	0.0322 TON	0.000 GAL	0.205 GAL	0.197 GAL	0.58 TON	0.45 TON	0.43 TON	0.035 TON	0.052 TON
13174+93.00 to 13183+03.00	810	4,301	186	870	26	0	166	160	470	365	348	28	42
13188+79.00 to 13190+03.00	124	658	29	133	4	0	25	24	72	56	53	4	6
13272+37.00 to 13276+09.00	372	1,975	86	400	12	0	76	73	216	167	160	13	19

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Paving Quantities (cont'd)

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		TON	TON	GAL	TON	GAL	GAL	GAL	TON	TON	TON	TON	TON
Rate		1.875 Ton/CY	1.875 Ton/CY	0.25 Gal/SY	15 LB/SY	0.05 Gal/SY	0.05 Gal/SY	0.05 Gal/SY	2 Ton/CY	2 Ton/CY	2 Ton/CY	6.00%	6.00%
Typical Section 31													
Typical Section Quantity		76.45 SF	3.25 SF	38.67 LF	38.67 LF	0.00 LF	36.9 LF	35.48 LF	7.86 SF	6.02 SF	5.78 SF	7.86 SF	11.80 SF
Quantity Per Foot		5.31 TON	0.23 TON	1.07 GAL	0.0322 TON	0.000 GAL	0.205 GAL	0.197 GAL	0.58 TON	0.45 TON	0.43 TON	0.035 TON	0.052 TON
13221+60.00 to 13225+68.00	408	2,166	94	438	13	0	84	80	237	184	175	14	21
13479+30.00 to 13492+78.00	1,348	7,158	310	1,448	43	0	276	266	782	607	580	47	70
Typical Section 32													
Typical Section Quantity		76.16 SF	3.25 SF	38.56 LF	38.56 LF	0.00 LF	36.83 LF	35.43 LF	7.84 SF	6.01 SF	5.78 SF	7.84 SF	11.79 SF
Quantity Per Foot		5.29 TON	0.23 TON	1.07 GAL	0.0321 TON	0.000 GAL	0.205 GAL	0.197 GAL	0.58 TON	0.45 TON	0.43 TON	0.035 TON	0.052 TON
13449+49.00 to 13457+04.00	755	3,994	174	809	24	0	155	149	438	340	325	26	39
Typical Section 33													
Typical Section Quantity		20.01 SF	2.50 SF	8.47 LF	8.47 LF	63.43 LF	36.13 LF	35.09 LF	11.53 SF	4.45 SF	4.32 SF	11.53 SF	8.77 SF
Quantity Per Foot		1.39 TON	0.17 TON	0.24 GAL	0.0071 TON	0.352 GAL	0.201 GAL	0.195 GAL	0.85 TON	0.33 TON	0.32 TON	0.051 TON	0.039 TON
13339+48.00 to 13346+73.00	725	1,008	123	171	5	255	146	141	616	239	232	37	28
Typical Section 34													
Typical Section Quantity		87.77 SF	0.00 SF	52.50 LF	52.50 LF	0.00 LF	50.5 LF	49.40 LF	10.74 SF	8.34 SF	8.11 SF	10.74 SF	16.45 SF
Quantity Per Foot		6.10 TON	0.00 TON	1.46 GAL	0.0438 TON	0.000 GAL	0.281 GAL	0.274 GAL	0.8 TON	0.62 TON	0.60 TON	0.048 TON	0.073 TON
13438+57.00 to 13443+31.00	474	2,891	0	691	21	0	133	130	379	294	284	23	35

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		TON	TON	GAL	TON	GAL	GAL	GAL	TON	TON	TON	TON	TON
Rate		1.875 Ton/CY	1.875 Ton/CY	0.25 Gal/SY	15 LB/SY	0.05 Gal/SY	0.05 Gal/SY	0.05 Gal/SY	2 Ton/CY	2 Ton/CY	2 Ton/CY	6.00%	6.00%
Typical Section 35													
Typical Section Quantity		88.17 SF	3.25 SF	46.57 LF	46.57 LF	0.00 LF	44.84 LF	43.44 LF	9.50 SF	7.35 SF	7.12 SF	9.50 SF	14.47 SF
Quantity Per Foot		6.12 TON	0.23 TON	1.29 GAL	0.0388 TON	0.000 GAL	0.249 GAL	0.241 GAL	0.7 TON	0.54 TON	0.53 TON	0.042 TON	0.064 TON
13449+49.00 to 13457+04.00	755	4,621	174	977	29	0	188	182	529	408	400	32	48
Typical Section 36													
Typical Section Quantity		20.41 SF	2.50 SF	8.81 LF	8.81 LF	63.41 LF	36.19 LF	35.13 LF	13.19 SF	4.45 SF	4.32 SF	13.19 SF	8.77 SF
Quantity Per Foot		1.42 TON	0.17 TON	0.24 GAL	0.0073 TON	0.352 GAL	0.201 GAL	0.195 GAL	0.98 TON	0.33 TON	0.32 TON	0.059 TON	0.039 TON
13478+82.00 to 13479+30.00	48	68	8	12	0.4	17	10	9	47	16	15	3	2
Typical Section 37													
Typical Section Quantity		8.37 SF	2.50 SF	8.62 LF	8.62 LF	65.61 LF	36.19 LF	35.13 LF	12.46 SF	4.45 SF	4.32 SF	12.46 SF	8.77 SF
Quantity Per Foot		0.58 TON	0.17 TON	0.24 GAL	0.0072 TON	0.365 GAL	0.201 GAL	0.195 GAL	0.92 TON	0.33 TON	0.32 TON	0.055 TON	0.039 TON
13501+01.00 to 13503+15.00	214	124	36	51	2	78	43	42	197	71	68	12	8
Typical Section 38													
Typical Section Quantity		43.20 SF	3.25 SF	22.85 LF	22.85 LF	77.63 LF	48.21 LF	47.15 LF	14.40 SF	5.95 SF	5.82 SF	14.40 SF	11.77 SF
Quantity Per Foot		3.00 TON	0.23 TON	0.63 GAL	0.0190 TON	0.431 GAL	0.268 GAL	0.262 GAL	1.07 TON	0.44 TON	0.43 TON	0.064 TON	0.052 TON
13510+71.00 to 13516+70.00	599	1,797	138	380	11	258	161	157	641	264	258	38	31

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BASIS OF ESTIMATE

Paving Quantities (cont'd)

	LF	Aggregate CL 5	Aggregate CL 4	Prime Coat	BLOTTER MATERIAL CL 44	Tack Coat Bottom Lift	Tack Coat Middle Lift	Tack Coat Top Lift	SUPERPAVE FAA 45 Bottom Lift(s)	SUPERPAVE FAA 45 Middle Lift	SUPERPAVE FAA 45 Top Lift	PG 58-28 ASPHALT CEMENT	PG 64-28 ASPHALT CEMENT
		TON	TON	GAL	TON	GAL	GAL	GAL	TON	TON	TON	TON	TON
Rate		1.875 Ton/CY	1.875 Ton/CY	0.25 Gal/SY	15 LB/SY	0.05 Gal/SY	0.05 Gal/SY	0.05 Gal/SY	2 Ton/CY	2 Ton/CY	2 Ton/CY	6.00%	6.00%
Typical Section 39													
Typical Section Quantity		19.54 SF	2.50 SF	8.05 LF	8.05 LF	65.52 LF	36.13 LF	35.09 LF	9.82 SF	4.45 SF	4.32 SF	9.82 SF	8.77 SF
Quantity Per Foot		1.36 TON	0.17 TON	0.22 GAL	0.0067 TON	0.364 GAL	0.201 GAL	0.195 GAL	0.73 TON	0.33 TON	0.32 TON	0.044 TON	0.039 TON
13526+48.00 to 13532+24.00	576	783	98	129	4	210	116	112	420	190	184	25	22
Typical Section 40													
Typical Section Quantity		20.00 SF	2.50 SF	8.44 LF	8.44 LF	65.61 LF	36.19 LF	35.12 LF	11.71 SF	4.45 SF	4.32 SF	11.71 SF	8.77 SF
Quantity Per Foot		1.39 TON	0.17 TON	0.23 GAL	0.0070 TON	0.365 GAL	0.201 GAL	0.195 GAL	0.87 TON	0.33 TON	0.32 TON	0.052 TON	0.039 TON
13552+02.00 to 13563+96.00	1,194	1,660	203	280	8	436	240	233	1,039	394	382	62	47
Typical Section 41													
Typical Section Quantity		87.77 SF	3.25 SF	46.42 LF	46.42 LF	0.00 LF	44.5 LF	43.37 LF	9.49 SF	7.34 SF	7.11 SF	9.49 SF	14.45 SF
Quantity Per Foot		6.10 TON	0.23 TON	1.29 GAL	0.0387 TON	0.000 GAL	0.247 GAL	0.241 GAL	0.7 TON	0.54 TON	0.53 TON	0.042 TON	0.064 TON
13619+94.00 to 13622+90.00	296	1,806	68	382	11	0	73	71	207	160	157	12	19

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BASIS OF ESTIMATE

Paving Quantities (cont'd)

	LF	Aggregate CL 5	Aggregate CL 4	Prime Coat	BLOTTER MATERIAL CL 44	Tack Coat Bottom Lift	Tack Coat Middle Lift	Tack Coat Top Lift	SUPERPAVE FAA 45 Bottom Lift(s)	SUPERPAVE FAA 45 Middle Lift	SUPERPAVE FAA 45 Top Lift	PG 58-28 ASPHALT CEMENT	PG 64-28 ASPHALT CEMENT
		TON	TON	GAL	TON	GAL	GAL	GAL	TON	TON	TON	TON	TON
Rate		1.875 Ton/CY	1.875 Ton/CY	0.25 Gal/SY	15 LB/SY	0.05 Gal/SY	0.05 Gal/SY	0.05 Gal/SY	2 Ton/CY	2 Ton/CY	2 Ton/CY	6.00%	6.00%
Typical Section 42													
Typical Section Quantity		20.79 SF	2.75 SF	9.86 LF	9.86 LF	65.55 LF	36.02 LF	35.01 LF	11.54 SF	4.44 SF	4.31 SF	11.54 SF	8.75 SF
Quantity Per Foot		1.44 TON	0.19 TON	0.27 GAL	0.0082 TON	0.364 GAL	0.200 GAL	0.195 GAL	0.85 TON	0.33 TON	0.32 TON	0.051 TON	0.039 TON
13772+40.00 to 13776+05.00	365	526	69	100	3	133	73	71	310	120	117	19	14
13780+41.00 to 13788+14.00	773	1,113	147	212	6	281	155	151	657	255	247	39	30
13792+60.00 to 13796+21.00	361	520	69	99	3	131	72	70	307	119	116	18	14
Typical Section 43													
Typical Section Quantity		53.21 SF	3.25 SF	29.51 LF	29.51 LF	57.54 LF	56.15 LF	55.11 LF	13.14 SF	6.95 SF	6.82 SF	13.14 SF	13.77 SF
Quantity Per Foot		3.70 TON	0.23 TON	0.82 GAL	0.0246 TON	0.320 GAL	0.312 GAL	0.306 GAL	0.97 TON	0.51 TON	0.51 TON	0.058 TON	0.061 TON
13140+70.00 to 13142+00.00	130	481	30	107	3	42	41	40	126	66	66	8	8

	TON	TON	GAL	TON	GAL	GAL	GAL	TON	TON	TON	TON	TON
TOTALS	275,547	20,078	52,812	5,800	20,098	23,088	22,469	69,881	40,740	39,226	4,193	4,830

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BASIS OF ESTIMATE

Paving Quantities (cont'd)

	LF	Aggregate CL 5	Prime Coat	BLOTTER MATERIAL CL 44	Tack Coat Bottom Lift	Tack Coat Middle Lift	Tack Coat Top Lift	Commercial Grade Hot Mix Asphalt	Commercial Grade Hot Mix Asphalt	Commercial Grade Hot Mix Asphalt	PG 58-28 ASPHALT CEMENT	PG 64-28 ASPHALT CEMENT
		TON	GAL	TON	GAL	GAL	GAL	TON	TON	TON	TON	TON
Rate		1.875 Ton/CY	0.25 Gal/SY	15 LB/SY	0.05 Gal/SY	0.05 Gal/SY	0.05 Gal/SY	2 Ton/CY	2 Ton/CY	2 Ton/CY	6.00%	6.00%
Typical Section Bridge Bypass 1												
Typical Section Quantity		23.03 SF	31.65 LF	31.65 LF	29.83 LF	0 LF	0 LF	6.40 SF	0 SF	6.02 SF	6.40 SF	6.02 SF
Quantity Per Foot		1.60 TON	0.88 GAL	0.0264 TON	0.166 GAL	0.000 GAL	0.000 GAL	0.47 TON	0 TON	0.45 TON	0.028 TON	0.027 TON
3200+00.00 to 3203+05.00	305	488	268	8	51	0	0	143	0	137	9	8
3210+20.00 to 3215+25.00	505	808	444	13	84	0	0	237	0	227	14	14
Typical Section Bridge Bypass 2												
Typical Section Quantity		25.42 SF	36.75 LF	36.75 LF	35.88 LF	0 LF	0 LF	7.56 SF	0 SF	7.38 SF	7.56 SF	7.38 SF
Quantity Per Foot		1.77 TON	1.02 GAL	0.0306 TON	0.199 GAL	0.000 GAL	0.000 GAL	0.56 TON	0 TON	0.55 TON	0.034 TON	0.033 TON
3206+05.00 to 3207+20.00	115	204	101	4	23	0	0	64	0	63	4	4

	TON	GAL	TON	GAL	GAL	GAL	TON	TON	TON	TON	TON
TOTALS	1,500	813	25	158	0	0	445	0	428	27	26

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BASIS OF ESTIMATE

Paving Quantities (cont'd)

	LF	Aggregate CL 5	Prime Coat	BLOTTER MATERIAL CL 44	Tack Coat Bottom Lift	Tack Coat Middle Lift	Tack Coat Top Lift	Commercial Grade Hot Mix Asphalt	Commercial Grade Hot Mix Asphalt	Commercial Grade Hot Mix Asphalt	PG 58-28 ASPHALT CEMENT	PG 64-28 ASPHALT CEMENT
		TON	GAL	TON	GAL	GAL	GAL	TON	TON	TON	TON	TON
Rate		1.875 Ton/CY	0.25 Gal/SY	15 LB/SY	0.05 Gal/SY	0.05 Gal/SY	0.05 Gal/SY	2 Ton/CY	2 Ton/CY	2 Ton/CY	6.00%	6.00%
Temporary Widening												
Typical Section Quantity		20.47 SF	0 LF	0 LF	0.00 LF	0 LF	0 LF	0.00 SF	0 SF	0.00 SF	0.00 SF	0.00 SF
Quantity Per Foot		1.42 TON	0.00 GAL	0.0000 TON	0.000 GAL	0.000 GAL	0.000 GAL	0 TON	0 TON	0.00 TON	0.000 TON	0.000 TON
3000+00.00 to 3073+73.00	7,373	10,470	0	0	0	0	0	0	0	0	0	0
3100+00.00 to 3177+99.00	7,799	11,075	0	0	0	0	0	0	0	0	0	0
3300+00.00 to 3321+94.00	2,194	3,115	0	0	0	0	0	0	0	0	0	0
3400+00.00 to 3455+14.00	5,514	7,830	0	0	0	0	0	0	0	0	0	0
3500+00.00 to 3525+12.00	2,512	3,567	0	0	0	0	0	0	0	0	0	0
3600+00.00 to 3619+10.00	1,910	2,712	0	0	0	0	0	0	0	0	0	0
3700+00.00 to 3727+08.00	2,708	3,845	0	0	0	0	0	0	0	0	0	0

	TON	GAL	TON	GAL	GAL	GAL	TON	TON	TON	TON	TON
TOTALS	42,614	0	0	0	0	0	0	0	0	0	0

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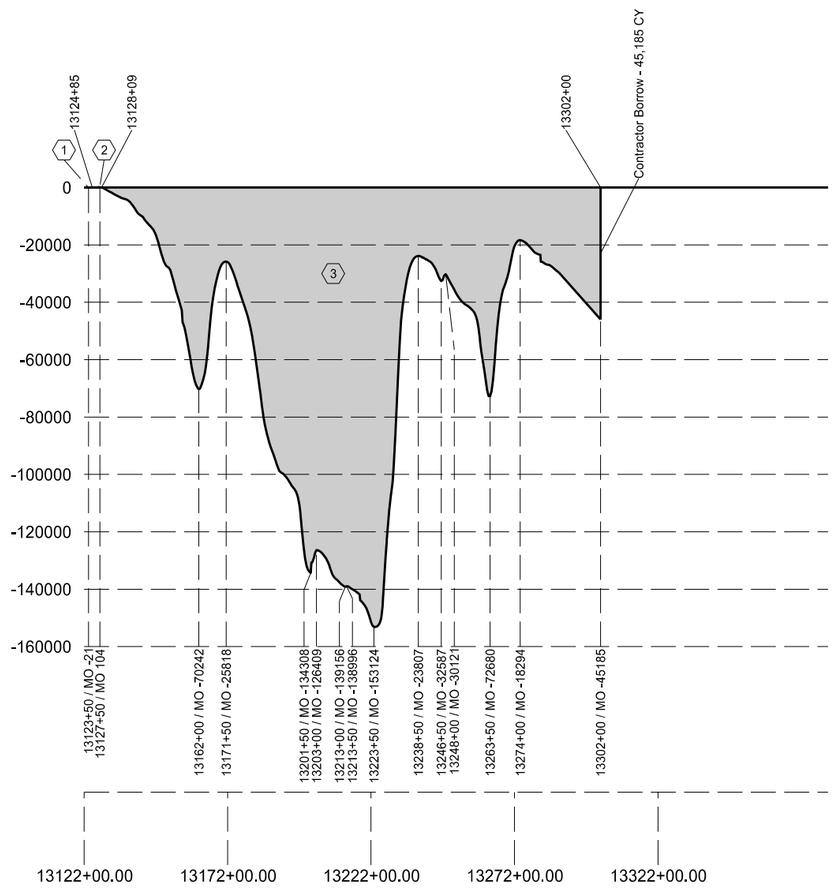
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	1



Phase 1 & 2
Construct Temporary Road Widening and Bypass
Partial Mainline Construction

Balance #	Haul	Average Haul Distance	Common Excavation	Embankment	Topsoil	Borrow
	CY*Sta	Sta	CY	CY	CY	CY
1	38	1.7	51	51	125	-
2	134	1.3	187	187	332	-
3	10,015,159	35.2	270,481	315,666	44,371	45,185
4	382	1.5	338	338	315	-
5	2,581	4.6	2,095	2,095	1,127	-
6	31,477	6.0	10,064	10,064	3,073	-
7	37,102,058	152.2	310,257	310,257	111,890	-
8	6,247,881	38.6	35,735	173,554	36,190	137,819
9	9,124	6.4	506	3,587	1,154	3,081
10	4,100,735	66	5,676	66,178	19,441	60,502
Project Total	57,509,569	75.7	635,390	881,977	218,018	246,587

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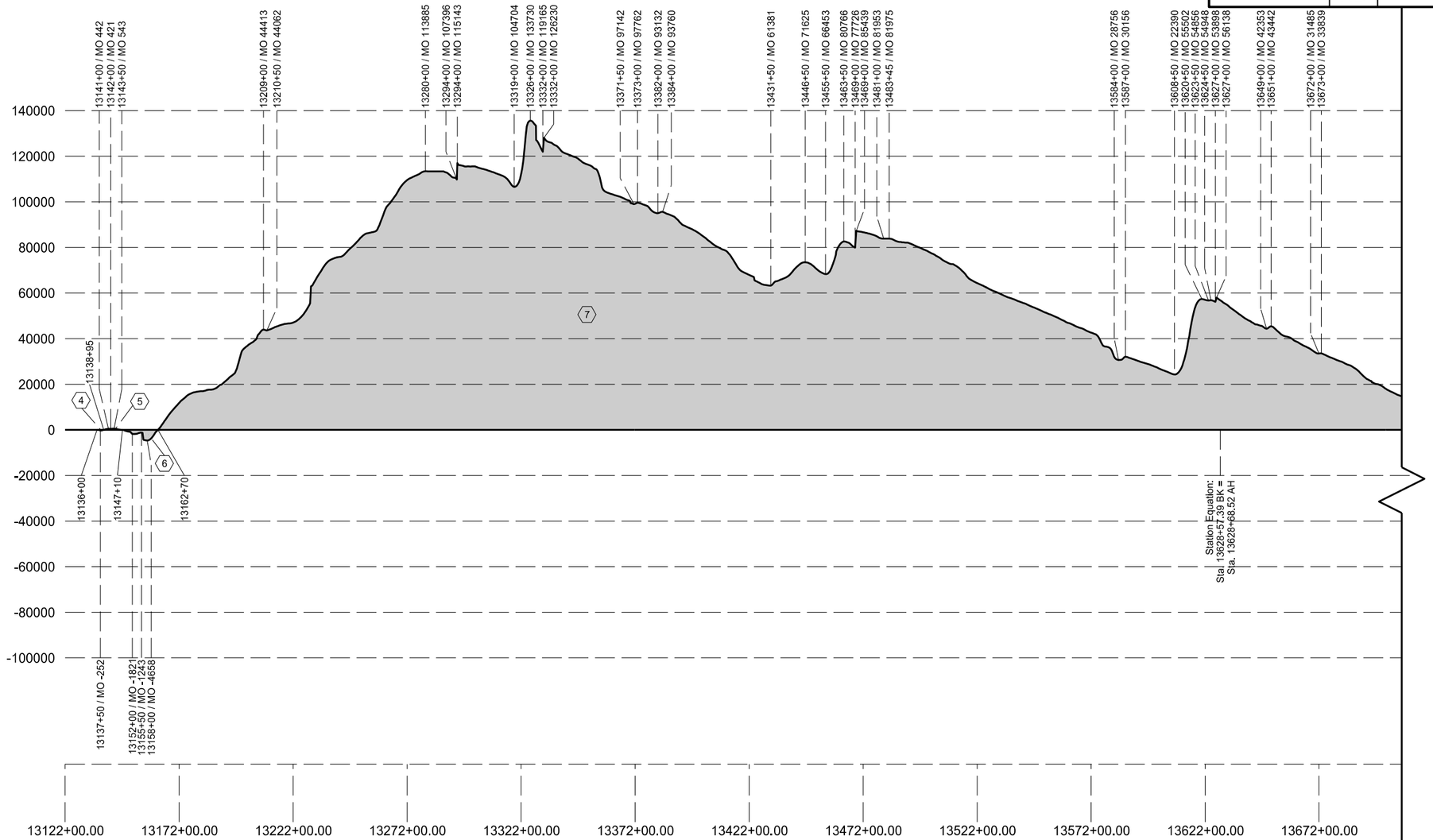
ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mass Diagram

Mountrail County, ND

Note: Temporary Road Widening Cross Sections (Section 200 Sheets 1079 to 1260); Bypass Cross Sections (Section 200 Sheets 1066 to 1078)

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	2



Balance #	Haul	Average Haul Distance	Common Excavation	Embankment	Topsoil	Borrow
	CY*Sta	Sta	CY	CY	CY	CY
1	38	1.7	51	51	125	-
2	134	1.3	187	187	332	-
3	10,015,159	35.2	270,481	315,666	44,371	45,185
4	382	1.5	338	338	315	-
5	2,581	4.6	2,095	2,095	1,127	-
6	31,477	6.0	10,064	10,064	3,073	-
7	37,102,058	152.2	310,257	310,257	111,890	-
8	6,247,881	38.6	35,735	173,554	36,190	137,819
9	9,124	6.4	506	3,587	1,154	3,081
10	4,100,735	66	5,676	66,178	19,441	60,502
Project Total	57,509,569	75.7	635,390	881,977	218,018	246,587

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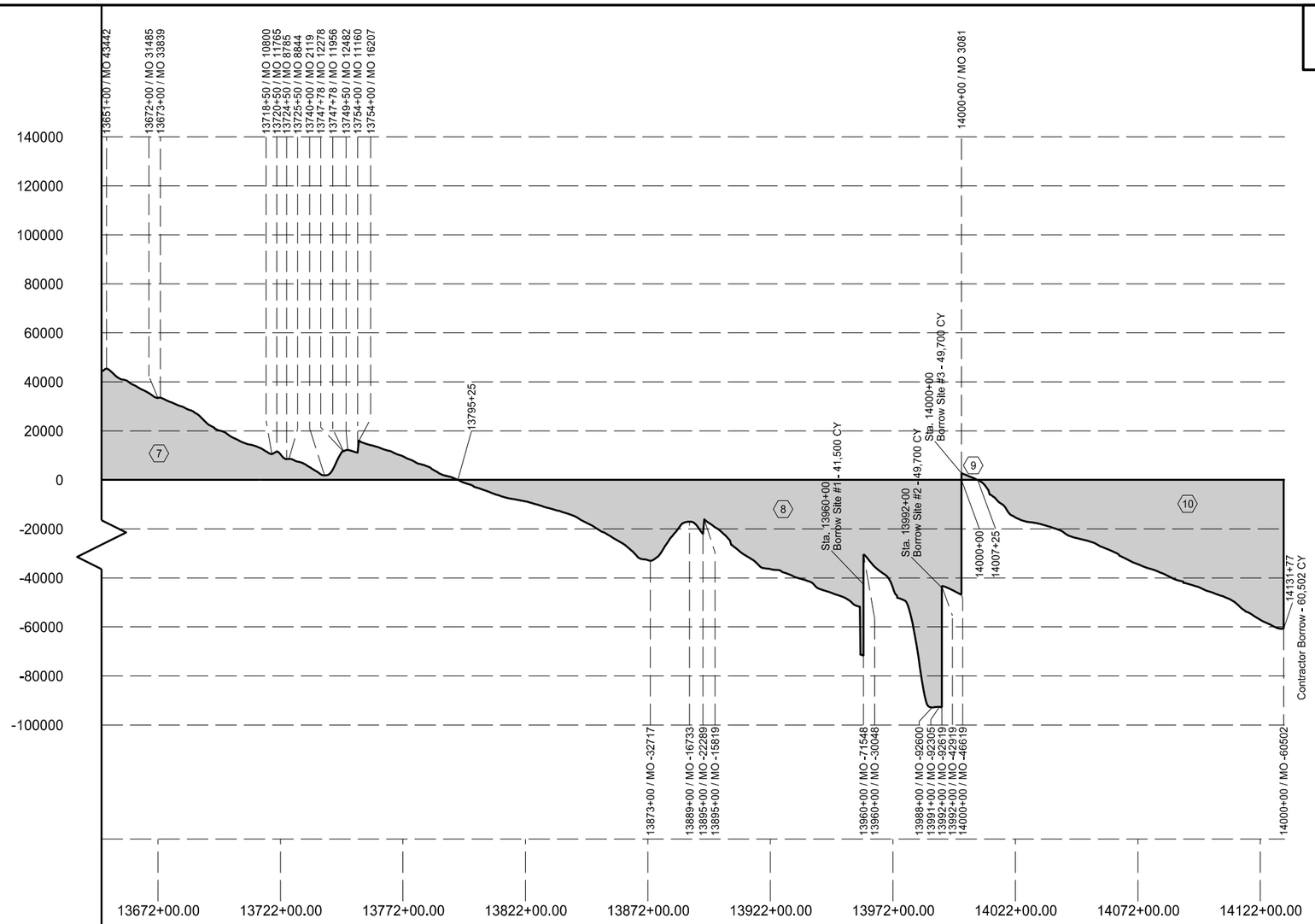
ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mass Diagram

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	3



Balance #	Haul	Average Haul Distance	Common Excavation	Embankment	Topsoil	Borrow
	CY*Sta	Sta	CY	CY	CY	CY
1	38	1.7	51	51	125	-
2	134	1.3	187	187	332	-
3	10,015,159	35.2	270,481	315,666	44,371	45,185
4	382	1.5	338	338	315	-
5	2,581	4.6	2,095	2,095	1,127	-
6	31,477	6.0	10,064	10,064	3,073	-
7	37,102,058	152.2	310,257	310,257	111,890	-
8	6,247,881	38.6	35,735	173,554	36,190	137,819
9	9,124	6.4	506	3,587	1,154	3,081
10	4,100,735	66	5,676	66,178	19,441	60,502
Project Total	57,509,569	75.7	635,390	881,977	218,018	246,587

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mass Diagram

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	4

Mass Haul	Location	Topsoil - Excavation	Topsoil - Embankment	Common Excavation - Type A	Embankment*	Borrow Excavation
		CY	CY	CY	CY	CY
		A	B	C	D	E=D-C
Section 11 Sheet 1	Mainline ND 1804	41,935	28,722	264,768	289,869	25,101
	41st St NW (East)	243	219	0	3,676	3,676
	Sta. 13201+25 Field Drive	383	309	4,346	780	-3,566
	Sta. 13218+18 Field Drive	204	156	0	1,996	1,996
	Bypass Sta. 13287+50 to 13302+00	2,063	2,063	1,605	19,583	17,978
	Sub-Total	44,828	31,469	270,719	315,904	45,185
Section 11 Sheets 2 & 3	Mainline ND 1804 **	151,622	131,755	308,949	443,047	134,098
	41st St NW (West)	344	318	223	3,129	2,906
	Sta. 13229+85 Field Drive	746	601	7,927	825	-7,102
	87th St NW	336	306	11	2,357	2,346
	Little Knife River Channel	0	0	11,294	3,547	-7,747
	Sta. 13328+58 Field Drive	525	372	0	6,229	6,229
	89th St NW	222	187	111	1,115	1,004
	Sta. 13424+45 Field Drive	230	150	0	1,400	1,400
	Sta. 13460+18 Private Drive	301	260	1,455	449	-1,006
	Sta. 13614+62 Private Drive	284	238	1,370	464	-906
	46th St NW	158	138	97	449	352
	47th St NW	168	131	64	622	558
	48th St NW	197	129	267	589	322
	Sta. 13781+22 Private Drive	70	49	30	176	146
	49th St NW	94	78	26	202	176
	50th St NW	97	82	69	221	152
	51st St NW	262	227	79	1,636	1,557
	52nd St NW	1,088	26	25	19,594	19,569
	Sta. 13973+71 Field Drive	155	132	0	1,020	1,020
	53rd St NW	206	158	56	1,412	1,356
	53rd St NW - Field Drive	38	25	0	171	171
	54th St NW	180	148	64	667	603
	55th St NW	181	144	40	585	545
	55th St NW Recovery Approach	91	91	0	365	365
	Temporary Road Widening Sta. 13310+00 to 13332+00	3,232	3,232	19,389	15,781	-3,608
	Temporary Road Widening Sta. 13414+00 to 13469+00	6,022	6,022	9,304	27,249	17,945
	Temporary Road Widening Sta. 13602+00 to 13627+00	2,130	2,130	1,183	8,211	7,028
	Temporary Road Widening Sta. 13735+00 to 13754+00	1,441	1,441	318	8,083	7,765
	Temporary Road Widening Sta. 13868+00 to 13895+00	2,770	2,770	2,320	16,478	14,158
	Sub-Total	173,190	151,340	364,671	566,073	201,402
	*Includes 25% for shrinkage.	218,018	182,809	635,390	881,977	246,587

** Quantities that are included in Temporary roadwidening and bypass that overlap mainline earthwork have been subtracted

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Earthwork Summary

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	5

Mainline ND 1804 - Phase 1 & 2 - Mass Diagram Sheet 1

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13122+00.00		13.18		9.54		3.62			5.91			
13122+50.00	50	13.10	24	9.47	18	2.98	6	6	6.65	15	15	-9
13123+00.00	50	13.14	24	9.50	18	4.06	7	13	5.85	14	29	-16
13123+50.00	50	13.40	25	9.76	18	4.42	8	21	5.59	13	42	-21
13124+00.00	50	13.69	25	11.13	19	6.75	10	31	0.74	7	49	-18
13124+50.00	50	15.18	27	11.96	21	8.00	14	45	0.95	2	51	-6
13125+00.00	50	13.98	27	9.91	20	8.34	15	60	0.68	2	53	7
13125+50.00	50	19.31	31	14.44	23	8.98	16	76	2.91	4	57	19
13126+00.00	50	22.07	38	16.47	29	10.57	18	94	4.19	8	65	29
13126+50.00	50	22.27	41	15.90	30	11.95	21	115	4.59	10	75	40
13127+00.00	50	32.59	51	22.35	35	36.50	45	160	6.41	13	88	72
13127+50.00	50	38.95	66	26.43	45	31.90	63	223	20.42	31	119	104
13128+00.00	50	45.36	78	32.97	55	22.39	50	273	82.07	119	238	35
13128+50.00	50	45.92	85	33.55	62	16.47	36	309	102.20	213	451	-142
13129+00.00	50	46.21	85	33.81	62	13.36	28	337	125.55	264	715	-378
13129+50.00	50	51.07	90	38.66	67	12.27	24	361	130.69	297	1,012	-651
13130+00.00	50	50.83	94	38.43	71	10.89	21	382	131.14	303	1,315	-933
13130+50.00	50	50.10	93	37.70	70	9.83	19	401	130.92	303	1,618	-1,217
13131+00.00	50	49.93	93	37.59	70	10.70	19	420	130.91	303	1,921	-1,501
13131+50.00	50	49.09	92	36.92	69	8.30	18	438	135.12	308	2,229	-1,791
13132+00.00	50	48.14	90	35.97	67	7.03	14	452	123.05	299	2,528	-2,076
13132+50.00	50	48.95	90	36.81	67	8.75	15	467	123.68	286	2,814	-2,347
13133+00.00	50	50.11	92	38.01	69	14.01	21	488	124.94	288	3,102	-2,614
13133+50.00	50	50.97	94	38.87	71	17.33	29	517	128.17	293	3,395	-2,878
13134+00.00	50	51.40	95	39.33	72	18.72	33	550	122.06	290	3,685	-3,135
13134+50.00	50	43.66	88	31.52	66	10.23	27	577	124.03	285	3,970	-3,393
13135+00.00	50	39.66	77	27.25	54	5.37	14	591	98.80	258	4,228	-3,637
13135+50.00	50	38.03	72	22.19	46	18.57	22	613	62.55	187	4,415	-3,802
13135+75.00	25	67.58	49	17.68	18	14.98	16	629	88.61	87	4,502	-3,873
13136+00.00	25	22.89	42	17.54	16	0.83	7	636	60.57	86	4,588	-3,952
13136+50.00	50	26.63	46	19.97	35	0.95	2	638	66.05	147	4,735	-4,097
13137+00.00	50	42.90	64	33.11	49	4.44	5	643	116.12	211	4,946	-4,303
13137+50.00	50	46.99	83	34.22	62	4.35	8	651	167.21	328	5,274	-4,623
13138+00.00	50	46.22	86	27.77	57	0.81	5	656	243.88	476	5,750	-5,094
13138+50.00	50	47.87	87	27.32	51	0.89	2	658	274.64	600	6,350	-5,692
13139+00.00	50	49.83	90	29.43	53	0.21	1	659	322.15	691	7,041	-6,382
13139+50.00	50	52.17	94	31.69	57	0.40	1	660	340.85	767	7,808	-7,148
13140+00.00	50	59.76	104	39.20	66	4.52	5	665	334.13	781	8,589	-7,924
13140+50.00	50	59.22	110	14.43	50	0.00	4	669	306.14	741	9,330	-8,661
13141+00.00	50	62.69	113	42.50	53	49.73	46	715	226.83	617	9,947	-9,232
13141+50.00	50	65.64	119	45.07	81	65.59	107	822	188.57	481	10,428	-9,606
13141+95.00	45	66.48	110	45.81	76	67.21	111	933	199.95	405	10,833	-9,900
13142+00.00	5	68.38	12	40.76	8	79.29	14	947	201.62	46	10,879	-9,932
13142+50.00	50	69.39	128	41.47	76	45.01	115	1,062	280.80	558	11,437	-10,375
13143+00.00	50	66.80	126	38.75	74	15.04	56	1,118	353.36	734	12,171	-11,053
13143+50.00	50	59.06	117	30.77	64	3.81	17	1,135	277.60	730	12,901	-11,766
13144+00.00	50	53.38	104	25.59	52	0.64	4	1,139	235.42	594	13,495	-12,356
13144+50.00	50	60.52	105	32.61	54	12.63	12	1,151	242.96	554	14,049	-12,898
13145+00.00	50	67.52	119	40.52	68	52.56	60	1,211	271.11	595	14,644	-13,433
13145+50.00	50	72.58	130	46.76	81	93.64	135	1,346	282.43	641	15,285	-13,939
13146+00.00	50	65.85	128	41.00	81	46.30	130	1,476	328.90	708	15,993	-14,517
13146+50.00	50	59.84	116	33.65	69	0.00	43	1,519	502.91	963	16,956	-15,437
13147+00.00	50	53.16	105	38.15	66	14.71	14	1,533	497.32	1,158	18,114	-16,581
13147+15.00	15	41.42	26	21.37	17	0.00	4	1,537	697.08	415	18,529	-16,992

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	6

Mainline ND 1804 - Phase 1 & 2 - Mass Diagram Sheet 1

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13147+50.00	35	65.97	70	39.99	40	0.00	0	1,537	647.74	1,090	19,619	-18,082
13148+00.00	50	68.45	124	42.69	77	0.00	0	1,537	758.08	1,627	21,246	-19,709
13148+13.50	14	69.12	34	43.07	21	0.00	0	1,537	765.58	476	21,722	-20,185
13148+50.00	37	70.23	94	43.69	59	0.00	0	1,537	784.92	1,310	23,032	-21,495
13149+00.00	50	70.52	130	43.49	81	0.00	0	1,537	792.46	1,826	24,858	-23,321
13149+50.00	50	50.96	112	33.29	71	0.00	0	1,537	565.54	1,572	26,430	-24,893
13149+75.50	26	41.48	44	22.36	26	0.01	0	1,537	650.69	718	27,148	-25,611
13150+00.00	25	81.11	56	52.87	34	68.58	31	1,568	564.35	689	27,837	-26,269
13150+50.00	50	96.55	165	69.72	114	302.78	344	1,912	579.07	1,323	29,160	-27,248
13150+90.00	40	64.15	119	53.46	91	433.83	546	2,458	358.35	868	30,028	-27,570
13151+00.00	10	65.34	24	54.59	20	437.99	161	2,619	361.78	167	30,195	-27,576
13151+48.70	49	106.02	155	75.57	117	414.58	769	3,388	620.21	1,107	31,302	-27,914
13151+50.00	1	105.58	5	75.26	4	413.47	20	3,408	624.35	37	31,339	-27,931
13152+00.00	50	85.89	177	63.44	128	289.98	651	4,059	610.57	1,429	32,768	-28,709
13152+30.00	30	37.47	69	19.75	46	0.00	161	4,220	952.14	1,085	33,853	-29,633
13152+50.00	20	61.34	37	34.29	20	0.00	0	4,220	719.63	774	34,627	-30,407
13153+00.00	50	75.70	127	45.93	74	53.23	49	4,269	870.39	1,840	36,467	-32,198
13153+50.00	50	70.43	135	40.57	80	0.00	49	4,318	797.58	1,931	38,398	-34,080
13154+00.00	50	63.73	124	33.57	69	0.00	0	4,318	720.88	1,757	40,155	-35,837
13154+50.00	50	63.37	118	33.59	62	0.00	0	4,318	714.62	1,661	41,816	-37,498
13155+00.00	50	62.03	116	32.53	61	0.00	0	4,318	735.19	1,678	43,494	-39,176
13155+50.00	50	68.75	121	39.50	67	0.00	0	4,318	821.31	1,802	45,296	-40,978
13156+00.00	50	29.88	91	38.13	72	0.10	0	4,318	643.20	1,695	46,991	-42,673
13156+35.00	35	0.00	19	7.43	30	0.69	1	4,319	242.44	718	47,709	-43,390
13156+35.00			243		219		0	4,319		3,676	51,385	-47,066
13156+50.00	15	0.00	0	17.01	7	0.00	0	4,319	403.43	224	51,609	-47,290
13157+00.00	50	33.32	31	46.65	59	0.00	0	4,319	963.46	1,582	53,191	-48,872
13157+50.00	50	78.36	103	51.43	91	0.00	0	4,319	1,111.75	2,402	55,593	-51,274
13158+00.00	50	81.64	148	55.25	99	0.00	0	4,319	1,206.67	2,683	58,276	-53,957
13158+50.00	50	84.47	154	58.46	105	0.00	0	4,319	1,267.66	2,864	61,140	-56,821
13159+00.00	50	85.63	158	62.96	112	0.00	0	4,319	1,258.99	2,924	64,064	-59,745
13159+50.00	50	85.33	158	62.42	116	0.00	0	4,319	1,169.34	2,811	66,875	-62,556
13160+00.00	50	83.60	156	55.17	109	10.91	10	4,329	1,032.55	2,548	69,423	-65,094
13160+50.00	50	79.59	151	49.18	97	67.06	72	4,401	884.76	2,219	71,642	-67,241
13161+00.00	50	73.62	142	43.11	85	136.16	188	4,589	663.04	1,791	73,433	-68,844
13161+50.00	50	65.96	129	34.64	72	215.88	326	4,915	480.12	1,323	74,756	-69,841
13162+00.00	50	52.24	109	18.76	49	307.87	485	5,400	285.52	886	75,642	-70,242
13162+25.00	25	61.51	53	26.97	21	402.80	329	5,729	177.31	268	75,910	-70,181
13162+50.00	25	70.83	61	35.22	29	589.89	460	6,189	83.69	151	76,061	-69,872
13163+00.00	50	75.03	135	38.60	68	894.47	1,374	7,563	17.35	117	76,178	-68,615
13163+50.00	50	76.36	140	39.90	73	974.62	1,731	9,294	5.44	26	76,204	-66,910
13164+00.00	50	90.87	155	54.77	88	1,173.58	1,989	11,283	3.97	11	76,215	-64,932
13164+35.00	35	102.33	125	66.71	79	1,599.08	1,797	13,080	3.24	6	76,221	-63,141
13164+50.00	15	108.27	59	72.83	39	1,813.72	948	14,028	1.38	2	76,223	-62,195
13165+00.00	50	132.01	222	103.95	164	2,826.84	4,297	18,325	0.10	2	76,225	-57,900
13165+20.00	20	91.81	83	106.03	78	3,189.12	2,228	20,553	0.10	0	76,225	-55,672
13165+50.00	30	136.86	127	102.51	116	3,351.09	3,633	24,186	0.10	0	76,225	-52,039
13166+00.00	50	120.81	239	86.50	175	2,961.65	5,845	30,031	0.39	1	76,226	-46,195
13166+50.00	50	132.40	234	69.54	144	2,170.66	4,752	34,783	0.59	1	76,227	-41,444
13167+00.00	50	88.44	204	54.53	115	1,591.31	3,483	38,266	0.88	2	76,229	-37,963
13167+50.00	50	80.35	156	46.88	94	1,317.82	2,694	40,960	0.63	2	76,231	-35,271
13168+00.00	50	76.73	145	43.48	84	1,189.22	2,321	43,281	1.18	2	76,233	-32,952
13168+50.00	50	77.52	143	44.95	82	1,114.69	2,133	45,414	4.23	6	76,239	-30,825
13169+00.00	50	73.01	139	42.83	81	917.12	1,881	47,295	29.86	39	76,278	-28,983

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	7

Mainline ND 1804 - Phase 1 & 2 - Mass Diagram Sheet 1

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13169+50.00	50	67.20	130	39.12	76	620.88	1,424	48,719	44.81	86	76,364	-27,645
13170+00.00	50	56.88	115	33.13	67	459.34	1,000	49,719	81.65	146	76,510	-26,791
13170+15.00	15	69.04	35	24.38	16	480.79	261	49,980	96.82	62	76,572	-26,592
13170+50.00	35	72.71	92	45.18	45	442.37	598	50,578	147.59	198	76,770	-26,192
13171+00.00	50	72.73	135	44.66	83	350.41	734	51,312	202.97	406	77,176	-25,864
13171+50.00	50	64.64	127	36.04	75	278.84	583	51,895	261.01	537	77,713	-25,818
13171+74.20	24	64.66	58	36.05	32	242.91	234	52,129	274.66	300	78,013	-25,884
13172+00.00	26	63.92	61	35.38	34	202.89	213	52,342	296.50	341	78,354	-26,012
13172+22.00	22	62.21	51	33.61	28	158.01	147	52,489	310.13	309	78,663	-26,174
13172+50.00	28	61.20	64	33.13	35	87.82	127	52,616	352.36	429	79,092	-26,476
13173+00.00	50	52.82	106	25.51	54	1.65	83	52,699	435.95	912	80,004	-27,305
13173+15.00	15	50.78	29	23.48	14	0.00	0	52,699	470.77	315	80,319	-27,620
13173+50.00	35	53.96	68	26.72	33	0.00	0	52,699	531.08	812	81,131	-28,432
13173+62.00	12	54.10	24	26.83	12	0.00	0	52,699	540.04	298	81,429	-28,730
13174+00.00	38	55.09	77	27.82	38	0.00	0	52,699	587.95	992	82,421	-29,722
13174+42.70	43	57.13	89	29.89	46	0.00	0	52,699	643.64	1,217	83,638	-30,939
13174+50.00	7	57.01	15	29.77	8	0.00	0	52,699	647.05	218	83,856	-31,157
13174+93.00	43	57.18	91	29.89	48	0.00	0	52,699	664.17	1,305	85,161	-32,462
13175+00.00	7	57.20	15	29.90	8	0.00	0	52,699	668.99	216	85,377	-32,678
13175+50.00	50	61.96	110	34.72	60	0.87	1	52,700	666.23	1,545	86,922	-34,222
13176+00.00	50	59.69	113	39.26	69	0.24	1	52,701	661.42	1,537	88,459	-35,758
13176+50.00	50	57.21	108	36.45	70	0.69	1	52,702	665.66	1,536	89,995	-37,293
13177+00.00	50	62.33	111	40.24	71	17.01	16	52,718	682.63	1,561	91,556	-38,838
13177+50.00	50	64.71	118	42.17	76	80.20	90	52,808	702.46	1,603	93,159	-40,351
13178+00.00	50	72.89	127	49.63	85	147.81	211	53,019	725.07	1,652	94,811	-41,792
13178+50.00	50	78.79	140	54.93	97	202.78	325	53,344	777.27	1,739	96,550	-43,206
13179+00.00	50	68.20	136	43.62	91	66.12	249	53,593	849.54	1,883	98,433	-44,840
13179+50.00	50	62.01	121	37.15	75	0.00	61	53,654	910.97	2,038	100,471	-46,817
13180+00.00	50	68.99	121	43.51	75	0.92	1	53,655	1,049.39	2,269	102,740	-49,085
13180+50.00	50	80.99	139	54.42	91	52.83	50	53,705	1,213.10	2,619	105,359	-51,654
13181+00.00	50	94.81	163	66.95	112	141.43	180	53,885	1,366.82	2,986	108,345	-54,460
13181+50.00	50	92.12	173	64.04	121	35.85	164	54,049	1,564.25	3,392	111,737	-57,688
13182+00.00	50	83.87	163	57.07	112	2.12	35	54,084	1,626.29	3,693	115,430	-61,346
13182+50.00	50	80.74	152	54.07	103	0.00	2	54,086	1,591.26	3,724	119,154	-65,068
13183+00.00	50	78.86	148	52.43	99	0.00	0	54,086	1,576.78	3,667	122,821	-68,735
13183+03.00	3	78.65	9	52.27	6	0.00	0	54,086	1,576.08	219	123,040	-68,954
13183+50.00	47	77.01	135	50.98	90	0.00	0	54,086	1,599.17	3,455	126,495	-72,409
13183+53.30	3	77.27	9	51.29	6	0.00	0	54,086	1,606.18	245	126,740	-72,654
13184+00.00	47	84.08	140	58.42	95	0.79	1	54,087	1,682.20	3,555	130,295	-76,208
13184+34.00	34	88.90	109	63.81	77	0.00	0	54,087	1,590.38	2,576	132,871	-78,784
13184+50.00	16	87.43	52	62.73	37	0.00	0	54,087	1,466.26	1,132	134,003	-79,916
13185+00.00	50	64.40	141	40.48	96	0.00	0	54,087	1,017.41	2,875	136,878	-82,791
13185+50.00	50	62.48	117	39.21	74	0.00	0	54,087	920.53	2,243	139,121	-85,034
13185+74.00	24	61.15	55	38.29	34	0.00	0	54,087	849.78	984	140,105	-86,018
13186+00.00	26	59.79	58	37.32	36	0.04	0	54,087	788.54	986	141,091	-87,004
13186+08.40	8	66.43	20	44.07	13	2.35	0	54,087	776.10	304	141,395	-87,308
13186+50.00	42	60.45	98	38.83	64	0.00	2	54,089	760.25	1,479	142,874	-88,785
13187+00.00	50	76.91	127	55.96	88	71.09	66	54,155	695.03	1,684	144,558	-90,403
13187+48.40	48	83.58	144	62.48	106	115.21	167	54,322	654.12	1,512	146,070	-91,748
13187+50.00	2	83.86	5	62.77	4	115.72	7	54,329	653.70	48	146,118	-91,789
13188+00.00	50	91.54	162	71.43	124	151.20	247	54,576	691.36	1,557	147,675	-93,099
13188+29.10	29	92.17	99	72.21	77	88.42	129	54,705	758.41	977	148,652	-93,947
13188+50.00	21	88.36	70	68.75	55	72.25	62	54,767	731.74	721	149,373	-94,606
13188+79.40	29	88.09	96	60.21	70	138.83	115	54,882	689.10	967	150,340	-95,458

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Jct ND 23 N&W to 16Mi E of Jct Tioga
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Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	8

Mainline ND 1804 - Phase 1 & 2 - Mass Diagram Sheet 1

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13189+00.00	21	90.43	68	63.65	47	115.41	97	54,979	686.93	656	150,996	-96,017
13189+50.00	50	74.15	152	47.44	103	3.32	110	55,089	629.81	1,524	152,520	-97,431
13190+00.00	50	67.38	131	40.28	81	19.21	21	55,110	518.89	1,330	153,850	-98,740
13190+05.00	5	110.29	16	83.13	11	275.25	27	55,137	509.08	119	153,969	-98,832
13190+50.00	45	113.62	187	86.45	141	416.34	576	55,713	471.07	1,021	154,990	-99,277
13191+00.00	50	104.65	202	76.86	151	335.08	696	56,409	394.23	1,002	155,992	-99,583
13191+50.00	50	87.88	178	59.43	126	279.20	569	56,978	382.97	900	156,892	-99,914
13192+00.00	50	77.19	153	50.07	101	181.13	426	57,404	409.57	917	157,809	-100,405
13192+50.00	50	79.53	145	52.32	95	184.82	339	57,743	391.97	928	158,737	-100,994
13193+00.00	50	56.34	126	29.12	75	23.05	192	57,935	394.26	910	159,647	-101,712
13193+50.00	50	59.36	107	32.12	57	20.90	41	57,976	382.29	899	160,546	-102,570
13194+00.00	50	58.49	109	31.34	59	18.42	36	58,012	362.80	862	161,408	-103,396
13194+50.00	50	63.52	113	36.31	63	36.19	51	58,063	320.21	791	162,199	-104,136
13194+60.70	11	61.97	25	34.66	14	31.96	14	58,077	315.58	157	162,356	-104,279
13195+00.00	39	59.89	89	32.57	49	21.33	39	58,116	287.91	549	162,905	-104,789
13195+11.00	11	58.50	24	31.15	13	33.68	11	58,127	266.98	141	163,046	-104,919
13195+50.00	39	57.58	84	30.06	44	16.19	36	58,163	325.30	535	163,581	-105,418
13195+91.70	42	78.37	105	51.05	63	2.06	14	58,177	519.31	815	164,396	-106,219
13196+00.00	8	79.18	24	51.81	16	1.75	1	58,178	541.24	204	164,600	-106,422
13196+35.00	35	87.76	108	60.59	73	0.30	1	58,179	748.28	1,045	165,645	-107,466
13196+50.00	15	90.76	50	63.51	34	0.07	0	58,179	866.48	561	166,206	-108,027
13197+00.00	50	113.32	189	86.20	139	0.00	0	58,179	1,388.88	2,610	168,816	-110,637
13197+31.70	32	119.02	136	91.89	105	0.00	0	58,179	1,879.30	2,398	171,214	-113,035
13197+50.00	18	122.00	82	94.97	63	0.00	0	58,179	2,160.38	1,711	172,925	-114,746
13197+79.50	30	123.27	134	96.13	104	0.00	0	58,179	2,574.14	3,233	176,158	-117,979
13198+00.00	21	116.59	91	89.46	70	0.00	0	58,179	2,310.50	2,318	178,476	-120,297
13198+50.00	50	109.73	210	82.67	159	0.00	0	58,179	2,002.63	4,992	183,468	-125,289
13199+00.00	50	97.55	192	70.77	142	0.91	1	58,180	1,506.17	4,061	187,529	-129,349
13199+50.00	50	64.85	150	37.87	101	7.50	8	58,188	703.69	2,558	190,087	-131,899
13200+00.00	50	49.63	106	29.31	62	22.00	27	58,215	388.97	1,265	191,352	-133,137
13200+50.00	50	49.76	92	29.90	55	49.62	66	58,281	334.25	837	192,189	-133,908
13201+00.00	50	69.67	111	50.92	75	281.71	307	58,588	267.26	696	192,885	-134,297
13201+25.00	25	69.91	65	50.21	47	330.69	284	58,872	242.16	295	193,180	-134,308
13201+25.00			383		309		4,346	63,218		780	193,960	-130,742
13201+50.00	25	76.76	68	58.15	50	429.10	352	63,570	203.93	258	194,218	-130,648
13202+00.00	50	82.54	148	90.52	138	1,513.14	1,798	65,368	205.72	474	194,692	-129,324
13202+50.00	50	92.78	162	87.16	165	1,186.25	2,499	67,867	192.62	461	195,153	-127,286
13203+00.00	50	61.34	143	40.92	119	224.47	1,306	69,173	177.74	429	195,582	-126,409
13203+50.00	50	51.20	104	30.16	66	126.14	325	69,498	166.98	399	195,981	-126,483
13204+00.00	50	48.18	92	35.45	61	85.77	196	69,694	187.01	410	196,391	-126,697
13204+50.00	50	51.11	92	36.49	67	56.91	132	69,826	236.46	490	196,881	-127,055
13204+85.70	36	53.19	69	37.72	49	43.86	67	69,893	278.23	425	197,306	-127,413
13205+00.00	14	53.26	28	37.51	20	38.15	22	69,915	296.80	190	197,496	-127,581
13205+33.50	34	55.79	68	36.79	46	32.37	44	69,959	268.12	438	197,934	-127,975
13205+45.00	12	46.35	22	39.79	16	29.64	13	69,972	240.85	135	198,069	-128,097
13205+50.00	5	42.57	8	39.02	7	29.27	5	69,977	237.32	55	198,124	-128,147
13206+00.00	50	63.73	98	41.37	74	52.62	76	70,053	387.93	724	198,848	-128,795
13206+25.00	25	67.33	61	46.64	41	70.79	57	70,110	404.13	458	199,306	-129,196
13206+35.00	10	68.89	25	65.95	21	63.34	25	70,135	407.34	188	199,494	-129,359
13206+50.00	15	73.39	40	52.83	33	78.50	39	70,174	450.10	298	199,792	-129,618
13206+73.50	24	72.45	63	55.14	47	60.07	60	70,234	468.32	500	200,292	-130,058
13207+00.00	27	61.24	66	43.02	48	6.96	33	70,267	500.03	594	200,886	-130,619
13207+50.00	50	78.04	129	60.01	95	19.10	24	70,291	643.59	1,324	202,210	-131,919
13207+54.20	4	77.30	12	60.00	9	20.68	3	70,294	631.05	124	202,334	-132,040

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	9

Mainline ND 1804 - Phase 1 & 2 - Mass Diagram Sheet 1

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13208+00.00	46	78.53	132	64.52	106	7.93	24	70,318	672.00	1,381	203,715	-133,397
13208+04.50	5	78.50	13	64.88	11	10.85	2	70,320	661.51	139	203,854	-133,534
13208+50.00	46	81.03	134	71.34	115	60.28	60	70,380	528.73	1,254	205,108	-134,728
13209+00.00	50	62.83	133	56.80	119	12.21	67	70,447	306.43	967	206,075	-135,628
13209+50.00	50	52.53	107	40.36	90	0.16	11	70,458	243.54	637	206,712	-136,254
13210+00.00	50	27.59	74	10.60	47	0.47	1	70,459	127.97	430	207,142	-136,683
13210+50.00	50	53.73	75	32.46	40	0.72	1	70,460	237.19	423	207,565	-137,105
13211+00.00	50	51.22	97	30.59	58	0.08	1	70,461	239.63	552	208,117	-137,656
13211+50.00	50	45.06	89	27.18	53	0.52	1	70,462	182.29	488	208,605	-138,143
13212+00.00	50	48.11	86	30.10	53	0.48	1	70,463	179.52	419	209,024	-138,561
13212+50.00	50	50.44	91	32.45	58	1.39	2	70,465	178.91	415	209,439	-138,974
13213+00.00	50	73.79	115	53.85	80	244.95	228	70,693	175.04	410	209,849	-139,156
13213+50.00	50	73.98	137	54.80	101	358.14	558	71,251	168.78	398	210,247	-138,996
13214+00.00	50	42.48	108	23.52	73	1.04	333	71,584	157.21	377	210,624	-139,040
13214+50.00	50	50.08	86	32.11	52	1.53	2	71,586	156.74	363	210,987	-139,401
13215+00.00	50	43.42	87	25.76	54	3.81	5	71,591	122.48	323	211,310	-139,719
13215+50.00	50	42.43	79	24.94	47	2.45	6	71,597	136.57	300	211,610	-140,013
13216+00.00	50	40.50	77	23.34	45	1.83	4	71,601	126.80	305	211,915	-140,314
13216+50.00	50	41.39	76	24.19	44	0.32	2	71,603	155.04	326	212,241	-140,638
13217+00.00	50	43.70	79	26.41	47	0.63	1	71,604	178.31	386	212,627	-141,023
13217+50.00	50	47.07	84	29.70	52	0.62	1	71,605	202.67	441	213,068	-141,463
13218+00.00	50	33.61	75	20.45	46	0.00	1	71,606	119.11	372	213,440	-141,834
13218+20.00	20	23.93	21	14.95	13	0.05	0	71,606	105.15	104	213,544	-141,938
13218+20.00			204		156		0	71,606		1996	215,540	-143,934
13218+50.00	30	47.87	40	30.83	25	0.90	1	71,607	178.65	197	215,737	-144,130
13219+00.00	50	53.10	93	35.34	61	0.83	2	71,609	249.29	495	216,232	-144,623
13219+50.00	50	56.35	101	38.36	68	0.61	1	71,610	276.34	608	216,840	-145,230
13220+00.00	50	61.06	109	42.81	75	0.62	1	71,611	360.68	737	217,577	-145,966
13220+50.00	50	68.51	120	50.51	86	0.44	1	71,612	489.46	984	218,561	-146,949
13221+00.00	50	74.90	133	57.00	100	0.16	1	71,613	674.31	1,347	219,908	-148,295
13221+50.00	50	76.50	140	58.55	107	0.22	0	71,613	684.54	1,573	221,481	-149,868
13221+55.00	5	76.29	14	58.21	11	0.32	0	71,613	674.88	157	221,638	-150,025
13221+65.00	10	81.41	29	57.75	21	25.21	5	71,618	660.97	309	221,947	-150,329
13222+00.00	35	81.14	105	55.65	74	42.18	44	71,662	656.41	1,067	223,014	-151,352
13222+50.00	50	77.89	147	52.07	100	82.29	115	71,777	494.73	1,332	224,346	-152,569
13223+00.00	50	45.27	114	22.70	69	111.33	179	71,956	136.70	731	225,077	-153,121
13223+50.00	50	54.54	92	31.02	50	205.89	294	72,250	119.66	297	225,374	-153,124
13224+00.00	50	52.60	99	31.14	58	252.70	425	72,675	130.65	290	225,664	-152,989
13224+50.00	50	73.67	117	50.60	76	462.51	662	73,337	111.06	280	225,944	-152,607
13225+00.00	50	79.24	142	51.59	95	570.46	956	74,293	83.45	225	226,169	-151,876
13225+50.00	50	106.02	172	76.66	119	1,265.61	1,700	75,993	39.92	143	226,312	-150,319
13225+67.60	18	46.87	50	86.71	53	1,853.66	1,017	77,010	20.29	25	226,337	-149,327
13226+00.00	32	132.43	108	100.74	112	3,497.82	3,211	80,221	4.89	19	226,356	-146,135
13226+17.90	18	140.44	90	108.22	69	4,531.59	2,662	82,883	0.88	2	226,358	-143,475
13226+50.00	32	159.98	179	127.04	140	5,455.38	5,937	88,820	0.10	1	226,359	-137,539
13227+00.00	50	155.59	292	123.19	232	3,514.19	8,305	97,125	0.10	0	226,359	-129,234
13227+45.00	45	143.48	249	111.01	195	3,470.02	5,820	102,945	0.10	0	226,359	-123,414
13227+50.00	5	143.04	27	110.38	20	3,441.33	640	103,585	0.10	0	226,359	-122,774
13228+00.00	50	137.48	260	101.00	196	3,201.01	6,150	109,735	0.15	0	226,359	-116,624
13228+38.60	39	131.21	192	98.11	142	3,008.08	4,438	114,173	6.53	6	226,365	-112,192
13228+50.00	11	132.26	56	98.71	42	2,806.80	1,228	115,401	5.20	3	226,368	-110,967
13228+86.40	36	147.75	189	111.40	142	2,120.80	3,322	118,723	0.10	4	226,372	-107,649
13229+00.00	14	150.53	75	115.69	57	1,931.70	1,021	119,744	0.05	0	226,372	-106,628
13229+50.00	50	111.68	243	88.24	189	2,425.34	4,034	123,778	0.10	0	226,372	-102,594

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	10

Mainline ND 1804 - Phase 1 & 2 - Mass Diagram Sheet 1

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13229+85.00	35	139.41	163	135.04	145	4,084.98	4,220	127,998	0.10	0	226,372	-98,374
13230+00.00	15	150.76	81	136.84	76	4,800.56	2,468	130,466	0.10	0	226,372	-95,906
13230+50.00	50	164.42	292	133.60	250	5,817.29	9,831	140,297	0.10	0	226,372	-86,075
13231+00.00	50	178.96	318	147.24	260	6,151.35	11,082	151,379	0.05	0	226,372	-74,993
13231+50.00	50	194.68	346	163.11	287	6,151.88	11,392	162,771	0.10	0	226,372	-63,601
13232+00.00	50	181.38	348	149.42	289	4,698.12	10,046	172,817	0.10	0	226,372	-53,555
13232+50.00	50	129.99	288	98.61	230	3,049.13	7,173	179,990	0.10	0	226,372	-46,382
13233+00.00	50	103.76	216	72.17	158	2,137.22	4,802	184,792	0.10	0	226,372	-41,580
13233+50.00	50	103.09	192	70.19	132	1,773.87	3,621	188,413	0.10	0	226,372	-37,959
13234+00.00	50	105.88	193	72.84	132	1,692.33	3,209	191,622	0.10	0	226,372	-34,750
13234+50.00	50	100.10	191	64.11	127	1,418.10	2,880	194,502	0.10	0	226,372	-31,870
13235+00.00	50	86.49	173	50.67	106	1,042.06	2,278	196,780	0.34	1	226,373	-29,593
13235+50.00	50	70.24	145	38.19	82	807.46	1,713	198,493	9.90	12	226,385	-27,892
13236+00.00	50	63.25	124	33.01	66	717.30	1,412	199,905	28.92	45	226,430	-26,525
13236+50.00	50	61.59	116	34.20	62	617.11	1,236	201,141	39.25	79	226,509	-25,368
13237+00.00	50	50.83	104	25.37	55	365.56	910	202,051	73.80	131	226,640	-24,589
13237+50.00	50	55.71	99	31.11	52	280.56	598	202,649	83.74	182	226,822	-24,173
13238+00.00	50	55.06	103	31.21	58	206.74	451	203,100	87.29	198	227,020	-23,920
13238+50.00	50	44.81	92	21.04	48	136.91	318	203,418	89.73	205	227,225	-23,807
13239+00.00	50	47.42	85	23.93	42	88.82	209	203,627	129.28	253	227,478	-23,851
13239+50.00	50	51.07	91	25.16	45	51.81	130	203,757	154.20	328	227,806	-24,049
13239+90.00	40	47.93	73	22.34	35	37.79	66	203,823	145.49	277	228,083	-24,260
13240+00.00	10	48.40	18	22.89	8	36.31	14	203,837	146.45	68	228,151	-24,314
13240+04.20	4	48.53	8	24.80	4	35.86	6	203,843	147.16	29	228,180	-24,337
13240+50.00	46	48.59	82	23.12	41	25.04	52	203,895	146.36	311	228,491	-24,596
13240+52.00	2	48.54	4	23.06	2	24.96	2	203,897	145.56	14	228,505	-24,608
13241+00.00	48	44.64	83	20.25	38	26.62	46	203,943	128.04	304	228,809	-24,866
13241+25.00	25	45.75	42	21.05	19	31.53	27	203,970	118.28	143	228,952	-24,982
13241+30.00	5	45.89	8	21.13	4	32.78	6	203,976	116.02	27	228,979	-25,003
13241+35.00	5	46.49	9	21.64	4	5.07	4	203,980	114.57	27	229,006	-25,026
13241+50.00	15	48.02	26	20.21	12	7.38	3	203,983	139.09	88	229,094	-25,111
13241+92.00	42	47.94	75	20.39	32	10.80	14	203,997	152.25	283	229,377	-25,380
13242+00.00	8	47.70	14	20.21	6	11.38	3	204,000	149.56	56	229,433	-25,433
13242+50.00	50	42.03	83	15.51	33	0.14	11	204,011	150.79	348	229,781	-25,770
13242+72.70	23	47.11	37	20.59	15	2.14	1	204,012	165.61	166	229,947	-25,935
13243+00.00	27	45.30	47	20.82	21	1.10	2	204,014	192.56	226	230,173	-26,159
13243+23.00	23	51.13	41	26.87	20	1.49	1	204,015	246.46	234	230,407	-26,392
13243+50.00	27	57.76	54	34.00	30	0.49	1	204,016	310.76	348	230,755	-26,739
13244+00.00	50	58.00	107	35.36	64	1.96	2	204,018	333.02	745	231,500	-27,482
13244+50.00	50	64.90	114	43.27	73	0.70	2	204,020	441.64	897	232,397	-28,377
13245+00.00	50	68.61	124	47.67	84	0.28	1	204,021	667.20	1,283	233,680	-29,659
13245+50.00	50	61.59	121	41.23	82	0.51	1	204,022	464.73	1,310	234,990	-30,968
13246+00.00	50	61.13	114	41.18	76	0.51	1	204,023	417.40	1,021	236,011	-31,988
13246+50.00	50	91.19	141	71.57	104	256.35	238	204,261	305.69	837	236,848	-32,587
13247+00.00	50	116.61	192	96.28	155	949.35	1,116	205,377	300.78	702	237,550	-32,173
13247+50.00	50	145.16	242	126.33	206	1,422.99	2,197	207,574	313.82	711	238,261	-30,687
13248+00.00	50	44.47	176	26.36	141	1.13	1,319	208,893	336.83	753	239,014	-30,121
13248+50.00	50	49.14	87	31.00	53	0.51	2	208,895	382.77	833	239,847	-30,952
13249+00.00	50	52.26	94	34.33	60	0.69	1	208,896	416.24	925	240,772	-31,876
13249+50.00	50	51.21	96	33.28	63	0.45	1	208,897	410.05	956	241,728	-32,831
13250+00.00	50	49.53	93	31.56	60	0.93	1	208,898	384.92	920	242,648	-33,750
13250+50.00	50	52.05	94	33.74	60	1.25	2	208,900	395.77	904	243,552	-34,652
13251+00.00	50	52.83	97	34.33	63	0.73	2	208,902	413.06	936	244,488	-35,586
13251+50.00	50	51.94	97	33.07	62	0.47	1	208,903	378.94	917	245,405	-36,502

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Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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Mainline ND 1804 - Phase 1 & 2 - Mass Diagram Sheet 1

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13252+00.00	50	50.38	95	31.28	60	0.71	1	208,904	360.38	856	246,261	-37,357
13252+50.00	50	51.52	94	32.12	59	0.87	1	208,905	342.99	814	247,075	-38,170
13253+00.00	50	48.22	92	27.92	56	1.15	2	208,907	291.18	734	247,809	-38,902
13253+50.00	50	48.55	90	27.35	51	1.09	2	208,909	237.18	612	248,421	-39,512
13254+00.00	50	45.13	87	22.96	47	1.10	2	208,911	192.82	498	248,919	-40,008
13254+50.00	50	42.61	81	19.51	39	1.78	3	208,914	166.32	416	249,335	-40,421
13255+00.00	50	41.46	78	17.87	35	2.23	4	208,918	153.27	370	249,705	-40,787
13255+50.00	50	42.21	77	18.24	33	2.68	5	208,923	141.61	341	250,046	-41,123
13256+00.00	50	44.23	80	20.16	36	1.60	4	208,927	161.60	351	250,397	-41,470
13256+50.00	50	49.49	87	25.70	42	1.88	3	208,930	193.53	411	250,808	-41,878
13256+82.20	32	50.71	60	27.15	32	1.84	2	208,932	204.76	297	251,105	-42,173
13257+00.00	18	52.99	34	29.65	19	1.58	1	208,933	212.91	172	251,277	-42,344
13257+32.50	33	54.65	65	31.31	37	1.52	2	208,935	228.38	332	251,609	-42,674
13257+50.00	18	57.10	36	33.65	21	2.05	1	208,936	234.15	187	251,796	-42,860
13258+00.00	50	72.71	120	49.58	77	16.81	17	208,953	367.52	696	252,492	-43,539
13258+13.20	13	75.79	36	52.74	25	15.70	8	208,961	435.78	245	252,737	-43,776
13258+50.00	37	76.14	104	53.03	72	12.15	19	208,980	617.66	897	253,634	-44,654
13258+80.00	30	98.87	97	75.59	71	212.58	125	209,105	900.33	1,054	254,688	-45,583
13259+00.00	20	101.46	74	78.18	57	133.54	128	209,233	1,125.24	938	255,626	-46,393
13259+50.00	50	114.85	200	92.26	158	108.93	225	209,458	1,584.38	3,136	258,762	-49,304
13259+53.20	3	116.25	14	93.68	11	110.71	13	209,471	1,613.34	237	258,999	-49,528
13259+95.00	42	126.44	188	104.43	153	25.62	106	209,577	1,970.97	3,468	262,467	-52,890
13260+00.00	5	128.03	24	106.03	19	36.89	6	209,583	1,971.35	456	262,923	-53,340
13260+01.00	1	127.94	5	105.94	4	36.24	1	209,584	1,971.12	91	263,014	-53,430
13260+15.00	14	128.18	66	106.20	55	35.76	19	209,603	1,924.77	1,263	264,277	-54,674
13260+50.00	35	118.00	160	95.64	131	63.75	64	209,667	1,581.15	2,840	267,117	-57,450
13261+00.00	50	125.55	226	102.85	184	122.43	172	209,839	1,266.23	3,296	270,413	-60,574
13261+50.00	50	128.62	235	105.74	193	180.47	280	210,119	1,793.31	3,541	273,954	-63,835
13262+00.00	50	127.61	237	104.91	195	214.55	366	210,485	1,663.27	4,001	277,955	-67,470
13262+50.00	50	120.11	229	96.89	187	277.83	456	210,941	1,452.60	3,606	281,561	-70,620
13263+00.00	50	106.52	210	81.31	165	392.09	620	211,561	836.30	2,649	284,210	-72,649
13263+50.00	50	65.21	159	34.00	107	641.47	957	212,518	17.35	988	285,198	-72,680
13264+00.00	50	92.21	146	62.15	89	1,285.90	1,785	214,303	0.10	20	285,218	-70,915
13264+50.00	50	129.07	205	96.88	147	2,943.44	3,916	218,219	0.05	0	285,218	-66,999
13265+00.00	50	135.32	245	102.92	185	3,314.16	5,794	224,013	0.10	0	285,218	-61,205
13265+50.00	50	144.21	259	112.73	200	3,435.95	6,250	230,263	0.10	0	285,218	-54,955
13266+00.00	50	142.85	266	111.12	207	3,017.24	5,975	236,238	0.10	0	285,218	-48,980
13266+50.00	50	117.05	241	85.20	182	2,264.17	4,890	241,128	0.10	0	285,218	-44,090
13267+00.00	50	97.31	198	65.38	139	1,736.14	3,704	244,832	0.10	0	285,218	-40,386
13267+50.00	50	78.42	163	45.91	103	1,266.36	2,780	247,612	0.05	0	285,218	-37,606
13268+00.00	50	70.63	138	38.84	78	1,002.31	2,101	249,713	155.85	180	285,398	-35,685
13268+50.00	50	77.68	137	47.29	80	1,020.51	1,873	251,586	272.79	496	285,894	-34,308
13269+00.00	50	68.79	136	38.08	79	924.70	1,801	253,387	93.47	424	286,318	-32,931
13269+17.80	18	73.51	47	41.81	26	931.59	612	253,999	26.87	50	286,368	-32,369
13269+50.00	32	81.76	93	48.53	54	1,013.13	1,160	255,159	0.74	21	286,389	-31,230
13269+65.60	16	78.21	46	45.53	27	1,025.56	589	255,748	0.10	0	286,389	-30,641
13270+00.00	34	80.56	101	48.87	60	1,101.79	1,355	257,103	0.37	0	286,389	-29,286
13270+35.00	35	89.04	110	59.24	70	1,283.68	1,546	258,649	2.02	2	286,391	-27,742
13270+50.00	15	92.21	50	62.73	34	1,359.80	734	259,383	2.63	2	286,393	-27,010
13271+00.00	50	95.78	174	69.42	122	1,449.13	2,601	261,984	8.30	13	286,406	-24,422
13271+05.60	6	95.84	20	69.71	14	1,441.19	300	262,284	9.06	2	286,408	-24,124
13271+50.00	44	90.95	154	64.30	110	1,153.74	2,134	264,418	13.30	23	286,431	-22,013
13271+86.30	36	77.15	113	51.59	78	760.57	1,287	265,705	16.51	25	286,456	-20,751
13272+00.00	14	74.52	38	49.05	26	660.94	361	266,066	17.68	11	286,467	-20,401

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

Mainline ND 1804 - Phase 1 & 2 - Mass Diagram Sheet 1

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13272+36.60	37	73.52	100	49.80	67	507.30	792	266,858	23.89	35	286,502	-19,644
13272+50.00	13	80.13	38	56.44	26	513.19	253	267,111	29.76	17	286,519	-19,408
13273+00.00	50	66.63	136	42.63	92	337.68	788	267,899	45.62	87	286,606	-18,707
13273+50.00	50	57.33	115	33.76	71	189.52	488	268,387	71.35	135	286,741	-18,354
13274+00.00	50	43.39	93	20.61	50	90.34	259	268,646	100.60	199	286,940	-18,294
13274+50.00	50	44.05	81	21.45	39	61.72	141	268,787	118.26	253	287,193	-18,406
13275+00.00	50	46.28	84	24.30	42	46.23	100	268,887	153.19	314	287,507	-18,620
13275+50.00	50	46.53	86	24.89	46	32.82	73	268,960	173.04	378	287,885	-18,925
13276+00.00	50	45.79	85	25.19	46	28.70	57	269,017	194.99	426	288,311	-19,294
13276+05.00	5	45.62	8	25.01	5	28.03	5	269,022	197.70	45	288,356	-19,334
13276+10.00	5	45.56	8	24.93	5	8.82	3	269,025	198.42	46	288,402	-19,377
13276+50.00	40	44.88	67	24.50	37	2.42	8	269,033	227.41	394	288,796	-19,763
13277+00.00	50	40.94	79	21.93	43	1.49	4	269,037	242.65	544	289,340	-20,303
13277+50.00	50	39.34	74	22.16	41	0.70	2	269,039	257.68	579	289,919	-20,880
13278+00.00	50	38.91	72	20.02	39	1.07	2	269,041	250.88	589	290,508	-21,467
13278+50.00	50	37.71	71	22.84	40	0.04	1	269,042	237.57	565	291,073	-22,031
13279+00.00	50	35.38	68	25.15	44	0.17	0	269,042	176.73	480	291,553	-22,511
13279+50.00	50	31.83	62	25.32	47	0.21	0	269,042	126.10	350	291,903	-22,861
13280+00.00	50	28.72	56	25.06	47	0.15	0	269,042	84.37	244	292,147	-23,105
13280+50.00	50	26.04	51	24.13	46	0.49	1	269,043	65.40	173	292,320	-23,277
13281+00.00	50	14.98	38	13.20	35	0.24	1	269,044	49.15	133	292,453	-23,409
13281+20.00	20	14.87	11	13.05	10	0.95	0	269,044	47.90	45	292,498	-23,454
13281+50.00	30	35.81	28	32.15	25	32.91	19	269,063	49.30	68	292,566	-23,503
13282+00.00	50	47.40	77	43.95	70	0.92	31	269,094	155.20	237	292,803	-23,709
13282+50.00	50	47.38	88	44.30	82	0.49	1	269,095	166.49	372	293,175	-24,080
13283+00.00	50	15.46	58	16.20	56	1.38	2	269,097	54.21	255	293,430	-24,333
13283+50.00	50	23.38	36	47.21	59	3.69	5	269,102	76.48	151	293,581	-24,479
13284+00.00	50	4.77	26	9.58	53	1.21	5	269,107	7.56	97	293,678	-24,571
13284+50.00	50	52.18	53	48.17	53	0.97	2	269,109	178.95	216	293,894	-24,785
13285+00.00	50	49.55	94	45.12	86	0.39	1	269,110	180.05	416	294,310	-25,200
13285+50.00	50	48.63	91	43.89	82	0.04	0	269,110	194.98	434	294,744	-25,634
13286+00.00	50	48.56	90	43.71	81	0.13	0	269,110	188.10	443	295,187	-26,077
13286+50.00	50	42.96	85	38.34	76	0.44	1	269,111	160.85	404	295,591	-26,480
13287+00.00	50	48.39	85	43.60	76	0.57	1	269,112	163.69	376	295,967	-26,855
13287+50.00	50	47.14	88	42.65	80	1.24	2	269,114	141.93	354	296,321	-27,207
13302+00.00			2063		2063		1,605	270,719		19,583	315,904	-45,185
		Total=	44,828		31,469		270,719			315,904		

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	13

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13136+00.00		32.22		21.00		13.30			0.22			
13136+50.00	50	37.60	65	27.76	45	7.57	19	19	28.09	33	33	-14
13137+00.00	50	39.72	72	32.99	56	4.39	11	30	82.28	128	161	-131
13137+50.00	50	34.42	69	33.72	62	11.29	15	45	34.93	136	297	-252
13138+00.00	50	27.87	58	29.86	59	45.35	52	97	0.19	41	338	-241
13138+50.00	50	27.41	51	28.04	54	67.78	105	202	0.24	0	338	-136
13139+00.00	50	31.74	55	33.26	57	97.01	153	355	2.32	3	341	14
13139+50.00	50	34.45	61	38.33	66	111.09	193	548	9.78	14	355	193
13140+00.00	50	29.17	59	32.14	65	99.99	195	743	37.44	55	410	333
13140+50.00	50	19.76	45	25.87	54	83.08	170	913	44.30	95	505	408
13141+00.00	50	47.62	62	55.08	75	66.96	139	1,052	46.50	105	610	442
13141+50.00	50	48.77	89	56.53	103	47.87	106	1,158	47.97	109	719	439
13141+95.00	45	48.21	81	56.11	94	51.57	83	1,241	47.72	100	819	422
13142+00.00	5	1.72	5	0.00	5	54.81	10	1,251	43.95	11	830	421
13142+50.00	50	41.52	40	56.51	52	86.13	131	1,382	48.18	107	937	445
13143+00.00	50	38.85	74	53.88	102	109.15	181	1,563	52.35	116	1,053	510
13143+50.00	50	30.87	65	46.17	93	62.74	159	1,722	56.85	126	1,179	543
13144+00.00	50	25.50	52	40.31	80	26.47	83	1,805	66.48	143	1,322	483
13144+50.00	50	33.11	54	47.52	81	30.04	52	1,857	69.41	157	1,479	378
13145+00.00	50	41.10	69	54.49	94	27.98	54	1,911	70.31	162	1,641	270
13145+50.00	50	46.87	81	59.62	106	30.77	54	1,965	72.03	165	1,806	159
13146+00.00	50	40.78	81	52.86	104	42.76	68	2,033	72.46	167	1,973	60
13146+50.00	50	33.76	69	47.18	93	105.88	138	2,171	79.68	176	2,149	22
13147+00.00	50	38.25	67	51.74	92	113.34	203	2,374	102.13	210	2,359	15
13147+15.00	15	24.85	18	38.36	25	91.15	57	2,431	112.07	74	2,433	-2
13147+50.00	35	45.04	45	58.30	63	85.22	114	2,545	119.99	188	2,621	-76
13148+00.00	50	50.05	88	62.99	112	75.46	149	2,694	135.15	295	2,916	-222
13148+13.50	14	50.50	25	63.79	32	70.07	36	2,730	137.85	85	3,001	-271
13148+50.00	37	51.46	69	65.25	87	59.08	87	2,817	147.27	241	3,242	-425
13149+00.00	50	43.59	88	57.10	113	119.42	165	2,982	145.12	338	3,580	-598
13149+50.00	50	33.40	71	46.14	96	125.28	227	3,209	133.05	322	3,902	-693
13149+75.50	26	22.41	26	35.05	38	121.44	117	3,326	125.73	153	4,055	-729
13150+00.00	25	52.97	34	65.26	46	115.33	107	3,433	119.18	139	4,194	-761
13150+50.00	50	69.82	114	82.20	137	96.55	196	3,629	106.29	261	4,455	-826
13150+90.00	40	56.71	94	53.46	100	0.00	72	3,701	306.78	382	4,837	-1,136
13151+00.00	10	58.23	21	54.59	20	0.00	0	3,701	443.15	174	5,011	-1,310
13151+48.70	49	75.74	121	88.75	129	119.57	108	3,809	103.80	617	5,628	-1,819
13151+50.00	1	75.36	4	88.31	4	120.87	6	3,815	104.05	6	5,634	-1,819
13152+00.00	50	63.54	129	75.44	152	139.85	241	4,056	105.85	243	5,877	-1,821
13152+30.00	30	22.29	48	33.50	61	133.38	152	4,208	109.14	149	6,026	-1,818
13152+50.00	20	34.39	21	46.36	30	123.57	95	4,303	105.75	99	6,125	-1,822
13153+50.00	100	51.59	159	63.52	203	199.37	598	4,901	105.35	489	6,614	-1,713
13154+00.00	50	56.39	100	68.29	122	242.51	409	5,310	105.14	244	6,858	-1,548
13154+50.00	50	62.34	110	74.19	132	223.20	431	5,741	104.94	243	7,101	-1,360
13155+00.00	50	60.45	114	72.28	136	144.82	341	6,082	104.75	243	7,344	-1,262
13155+50.00	50	52.03	104	63.90	126	136.66	261	6,343	104.53	242	7,586	-1,243
13156+00.00	50	38.18	84	49.49	105	62.45	184	6,527	120.59	261	7,847	-1,320
13156+35.00	35	4.39	28	0.00	32	0.00	40	6,567	72.79	157	8,004	-1,437
13156+35.00			344		318		223	6,790		3,129	11,133	-4,343
13156+50.00	15	0.00	1	0.00	0	0.00	0	6,790	70.55	50	11,183	-4,393
13157+00.00	50	46.71	43	56.82	53	86.98	81	6,871	125.51	227	11,410	-4,539
13157+50.00	50	51.53	91	61.16	109	112.97	185	7,056	117.83	282	11,692	-4,636
13158+00.00	50	55.35	99	64.63	116	145.07	239	7,295	107.48	261	11,953	-4,658
13158+50.00	50	58.56	105	67.44	122	181.64	303	7,598	93.90	233	12,186	-4,588

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Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	14

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13159+00.00	50	63.06	113	68.70	126	219.22	371	7,969	61.09	179	12,365	-4,396
13159+50.00	50	62.45	116	68.48	127	267.51	451	8,420	26.38	101	12,466	-4,046
13160+00.00	50	55.27	109	66.64	125	325.64	549	8,969	0.14	31	12,497	-3,528
13160+50.00	50	49.28	97	62.71	120	394.43	667	9,636	0.10	0	12,497	-2,861
13161+00.00	50	43.21	86	56.64	111	410.39	745	10,381	0.10	0	12,497	-2,116
13161+50.00	50	34.74	72	49.03	98	386.55	738	11,119	0.10	0	12,497	-1,378
13162+00.00	50	18.86	50	35.35	78	305.69	641	11,760	0.10	0	12,497	-737
13162+25.00	25	27.07	21	44.66	37	260.73	262	12,022	0.10	0	12,497	-475
13162+50.00	25	35.32	29	54.74	46	279.78	250	12,272	0.10	0	12,497	-225
13163+00.00	50	38.65	68	60.60	107	313.14	549	12,821	0.05	0	12,497	324
13163+50.00	50	40.00	73	63.42	115	340.66	605	13,426	0.10	0	12,497	929
13164+00.00	50	54.87	88	78.29	131	357.27	646	14,072	0.10	0	12,497	1,575
13164+35.00	35	66.81	79	90.24	109	366.31	469	14,541	0.10	0	12,497	2,044
13164+50.00	15	72.94	39	96.36	52	368.24	204	14,745	0.16	0	12,497	2,248
13165+00.00	50	104.05	164	127.48	207	375.02	688	15,433	0.10	0	12,497	2,936
13165+20.00	20	134.94	89	86.72	79	492.89	321	15,754	2.56	1	12,498	3,256
13165+50.00	30	102.61	132	126.37	118	376.61	483	16,237	0.10	2	12,500	3,737
13166+00.00	50	86.60	175	110.74	220	380.92	701	16,938	0.10	0	12,500	4,438
13166+50.00	50	69.64	145	94.18	190	381.60	706	17,644	0.10	0	12,500	5,144
13167+00.00	50	54.63	115	79.55	161	378.61	704	18,348	0.10	0	12,500	5,848
13167+50.00	50	46.98	94	72.24	141	372.04	695	19,043	0.10	0	12,500	6,543
13168+00.00	50	43.58	84	68.91	131	361.87	680	19,723	0.10	0	12,500	7,223
13168+50.00	50	45.05	82	69.73	128	329.82	640	20,363	0.52	1	12,501	7,862
13169+00.00	50	42.93	81	66.45	126	309.54	592	20,955	0.56	1	12,502	8,453
13169+50.00	50	39.22	76	60.94	118	295.66	560	21,515	0.51	1	12,503	9,012
13170+00.00	50	33.23	67	54.11	107	295.87	548	22,063	0.10	1	12,504	9,559
13170+15.00	15	24.49	16	45.36	28	298.27	165	22,228	0.48	0	12,504	9,724
13170+50.00	35	45.80	46	66.67	73	305.17	391	22,619	0.10	0	12,504	10,115
13171+00.00	50	45.49	85	66.37	123	313.88	573	23,192	0.10	0	12,504	10,688
13171+50.00	50	37.40	77	58.27	115	311.22	579	23,771	0.10	0	12,504	11,267
13171+74.20	24	37.34	33	58.21	52	305.84	277	24,048	0.10	0	12,504	11,544
13172+00.00	26	36.58	35	57.46	55	297.02	288	24,336	0.10	0	12,504	11,832
13172+22.00	22	34.95	29	55.82	46	287.30	238	24,574	0.10	0	12,504	12,070
13172+50.00	28	33.98	36	54.85	57	271.54	290	24,864	0.24	0	12,504	12,360
13173+00.00	50	25.96	56	46.54	94	238.05	472	25,336	0.10	0	12,504	12,832
13173+15.00	15	23.58	14	44.45	25	227.47	129	25,465	0.10	0	12,504	12,961
13173+50.00	35	26.82	33	47.69	60	232.56	298	25,763	0.10	0	12,504	13,259
13173+62.00	12	26.93	12	47.80	21	230.00	103	25,866	0.10	0	12,504	13,362
13174+00.00	38	27.92	39	48.80	68	229.39	323	26,189	0.10	0	12,504	13,685
13174+42.70	43	29.99	46	50.85	79	234.39	367	26,556	0.10	0	12,504	14,052
13174+50.00	7	29.87	8	50.75	14	234.38	63	26,619	0.10	0	12,504	14,115
13174+93.00	43	29.99	48	50.80	81	241.87	379	26,998	0.10	0	12,504	14,494
13175+00.00	7	30.00	8	50.82	13	243.69	63	27,061	0.10	0	12,504	14,557
13175+50.00	50	34.82	60	55.62	99	220.64	430	27,491	0.10	0	12,504	14,987
13176+00.00	50	39.36	69	53.31	101	182.78	374	27,865	6.32	7	12,511	15,354
13176+50.00	50	36.55	70	51.00	97	143.54	302	28,167	8.37	17	12,528	15,639
13177+00.00	50	40.89	72	51.89	95	144.29	267	28,434	12.55	24	12,552	15,882
13177+50.00	50	42.27	77	53.77	98	133.47	257	28,691	19.18	37	12,589	16,102
13178+00.00	50	49.73	85	61.25	107	111.51	227	28,918	24.19	50	12,639	16,279
13178+50.00	50	54.38	96	66.54	118	107.11	202	29,120	27.85	60	12,699	16,421
13179+00.00	50	43.82	91	55.33	113	102.61	194	29,314	30.20	67	12,766	16,548
13179+50.00	50	37.25	75	48.76	96	96.34	184	29,498	33.20	73	12,839	16,659
13180+00.00	50	42.29	74	55.12	96	92.53	175	29,673	36.20	80	12,919	16,754
13180+50.00	50	54.21	89	66.57	113	85.75	165	29,838	39.19	87	13,006	16,832

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13181+00.00	50	67.23	112	79.62	135	79.20	153	29,991	42.21	94	13,100	16,891
13181+50.00	50	64.94	122	76.73	145	72.61	141	30,132	45.65	102	13,202	16,930
13182+00.00	50	58.02	114	79.04	144	68.95	131	30,263	49.67	110	13,312	16,951
13182+50.00	50	54.09	104	75.03	143	96.33	153	30,416	48.38	113	13,425	16,991
13183+00.00	50	52.21	98	73.13	137	126.55	206	30,622	46.29	110	13,535	17,087
13183+03.00	3	54.62	6	75.53	8	105.33	13	30,635	46.68	6	13,541	17,094
13183+50.00	47	54.36	95	75.11	131	124.99	200	30,835	50.44	106	13,647	17,188
13183+53.30	3	55.39	7	76.13	9	128.84	16	30,851	50.71	8	13,655	17,196
13184+00.00	47	69.10	108	89.62	143	206.87	290	31,141	53.33	112	13,767	17,374
13184+34.00	34	66.74	86	86.61	111	206.89	261	31,402	53.93	84	13,851	17,551
13184+50.00	16	66.74	40	86.61	51	122.38	98	31,500	51.87	39	13,890	17,610
13185+00.00	50	40.24	99	59.07	135	112.00	217	31,717	44.62	112	14,002	17,715
13185+50.00	50	38.91	73	56.69	107	27.23	129	31,846	36.89	94	14,096	17,750
13185+74.00	24	37.91	34	55.19	50	36.24	28	31,874	32.50	39	14,135	17,739
13186+00.00	26	35.13	35	52.17	52	46.54	40	31,914	28.63	37	14,172	17,742
13186+08.40	8	43.29	12	60.34	18	51.13	15	31,929	30.18	11	14,183	17,746
13186+50.00	42	37.45	62	53.99	88	72.93	96	32,025	23.37	52	14,235	17,790
13187+00.00	50	56.06	87	66.65	112	98.73	159	32,184	16.02	46	14,281	17,903
13187+48.40	48	63.42	107	74.01	126	122.95	199	32,383	11.59	31	14,312	18,071
13187+50.00	2	63.72	4	74.32	4	123.87	7	32,390	11.40	1	14,313	18,077
13188+00.00	50	72.25	126	82.96	146	153.54	257	32,647	6.04	20	14,333	18,314
13188+29.10	29	73.51	79	84.29	90	171.61	175	32,822	3.73	7	14,340	18,482
13188+50.00	21	70.28	56	81.16	64	185.45	138	32,960	2.36	3	14,343	18,617
13188+79.40	29	61.50	72	81.33	88	202.40	211	33,171	0.10	2	14,345	18,826
13189+00.00	21	63.76	48	83.78	63	209.98	157	33,328	0.10	0	14,345	18,983
13189+50.00	50	47.52	103	68.33	141	238.38	415	33,743	0.10	0	14,345	19,398
13190+00.00	50	40.38	81	61.19	120	236.58	440	34,183	0.10	0	14,345	19,838
13190+05.00	5	86.55	12	106.79	16	226.07	43	34,226	3.15	0	14,345	19,881
13190+50.00	45	86.55	144	106.79	178	224.82	376	34,602	2.43	6	14,351	20,251
13191+00.00	50	49.56	126	69.87	164	224.59	416	35,018	2.61	6	14,357	20,661
13191+50.00	50	60.82	102	81.03	140	227.09	418	35,436	2.30	6	14,363	21,073
13192+00.00	50	50.13	103	70.44	140	232.78	426	35,862	3.66	7	14,370	21,492
13192+50.00	50	52.42	95	72.61	132	232.81	431	36,293	2.25	7	14,377	21,916
13193+00.00	50	29.22	76	49.34	113	261.52	458	36,751	2.07	5	14,382	22,369
13193+50.00	50	32.22	57	23.89	68	273.39	495	37,246	1.23	4	14,386	22,860
13194+00.00	50	31.44	59	50.63	69	248.32	483	37,729	0.33	2	14,388	23,341
13194+50.00	50	36.40	63	56.11	99	230.39	443	38,172	0.10	0	14,388	23,784
13194+60.70	11	34.77	14	25.91	16	215.12	88	38,260	0.10	0	14,388	23,872
13195+00.00	39	32.67	49	53.53	58	200.74	303	38,563	0.10	0	14,388	24,175
13195+11.00	11	30.16	13	51.04	21	185.29	79	38,642	0.00	0	14,388	24,254
13195+50.00	39	30.16	44	51.04	74	214.44	289	38,931	9.08	8	14,396	24,535
13195+91.70	42	51.15	63	72.01	95	235.38	347	39,278	13.36	22	14,418	24,860
13196+00.00	8	51.91	16	72.80	22	236.61	73	39,351	13.61	5	14,423	24,928
13196+35.00	35	60.69	73	81.56	100	332.74	369	39,720	14.41	23	14,446	25,274
13196+50.00	15	63.61	35	84.48	46	430.55	212	39,932	14.58	10	14,456	25,476
13197+00.00	50	86.30	139	107.17	177	681.81	1,030	40,962	14.47	34	14,490	26,472
13197+31.70	32	91.99	105	112.86	129	824.99	885	41,847	13.83	21	14,511	27,336
13197+50.00	18	95.07	63	115.94	78	903.16	586	42,433	13.28	11	14,522	27,911
13197+79.50	30	96.23	105	117.10	127	989.74	1,034	43,467	12.13	17	14,539	28,928
13198+00.00	21	89.56	71	110.43	86	1,009.90	759	44,226	11.17	11	14,550	29,676
13198+50.00	50	82.75	160	103.62	198	1,031.50	1,890	46,116	8.38	23	14,573	31,543
13199+00.00	50	70.87	142	91.74	181	1,016.93	1,897	48,013	5.43	16	14,589	33,424
13199+50.00	50	37.97	101	58.83	139	509.26	1,413	49,426	3.65	11	14,600	34,826
13200+00.00	50	22.79	56	43.66	95	290.42	740	50,166	0.10	4	14,604	35,562

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13200+50.00	50	30.36	49	43.56	81	258.21	508	50,674	0.10	0	14,604	36,070
13201+00.00	50	51.02	75	63.10	99	239.51	461	51,135	0.59	1	14,605	36,530
13201+25.00	25	34.20	39	46.28	51	235.17	220	51,355	0.05	0	14,605	36,750
13201+50.00	25	58.25	43	70.30	54	228.40	215	51,570	0.10	0	14,605	36,965
13202+00.00	50	91.78	139	104.10	161	222.53	418	51,988	0.10	0	14,605	37,383
13202+50.00	50	87.26	166	100.01	189	195.29	387	52,375	0.10	0	14,605	37,770
13203+00.00	50	41.38	119	54.16	143	171.91	340	52,715	1.44	2	14,607	38,108
13203+50.00	50	30.22	66	44.93	92	161.75	309	53,024	0.10	2	14,609	38,415
13204+00.00	50	26.83	53	42.14	81	165.94	303	53,327	0.10	0	14,609	38,718
13204+50.00	50	28.99	52	45.39	81	208.70	347	53,674	0.10	0	14,609	39,065
13204+85.70	36	31.25	40	47.71	62	233.58	292	53,966	0.10	0	14,609	39,357
13205+00.00	14	32.09	17	48.54	25	244.42	127	54,093	0.10	0	14,609	39,484
13205+33.50	34	30.10	39	46.46	59	251.35	308	54,401	0.10	0	14,609	39,792
13205+45.00	12	56.38	18	18.37	14	54.35	65	54,466	37.92	10	14,619	39,847
13205+50.00	5	56.34	10	18.37	3	56.53	10	54,476	28.60	8	14,627	39,849
13206+00.00	50	73.75	120	90.96	101	646.90	651	55,127	0.10	33	14,660	40,467
13206+25.00	25	82.44	72	97.50	87	910.87	721	55,848	1.81	1	14,661	41,187
13206+35.00	10	75.46	29	90.53	35	781.37	313	56,161	2.88	1	14,662	41,499
13206+50.00	15	75.46	42	90.53	50	589.10	381	56,542	3.89	2	14,664	41,878
13206+73.50	24	54.75	57	67.14	69	255.24	367	56,909	0.49	2	14,666	42,243
13207+00.00	27	42.54	48	55.49	60	288.16	267	57,176	1.45	1	14,667	42,509
13207+50.00	50	58.42	93	68.42	115	374.87	614	57,790	0.36	2	14,669	43,121
13207+54.20	4	58.31	9	69.09	11	359.48	57	57,847	3.88	0	14,669	43,178
13208+00.00	46	63.81	104	72.19	120	355.08	606	58,453	2.40	7	14,676	43,777
13208+04.50	5	63.87	11	71.80	12	340.50	58	58,511	3.48	1	14,677	43,834
13208+50.00	46	70.51	113	74.58	123	177.02	436	58,947	12.37	17	14,694	44,253
13209+00.00	50	54.89	116	55.50	120	16.06	179	59,126	3.87	19	14,713	44,413
13209+50.00	50	39.95	88	39.45	88	3.89	18	59,144	69.92	85	14,798	44,346
13210+00.00	50	39.91	74	48.81	82	90.70	88	59,232	190.46	301	15,099	44,133
13210+50.00	50	32.56	67	48.55	90	76.12	154	59,386	3.99	225	15,324	44,062
13211+00.00	50	30.69	59	42.45	84	84.54	149	59,535	6.97	13	15,337	44,198
13211+50.00	50	30.57	57	43.09	79	110.54	181	59,716	4.91	14	15,351	44,365
13212+00.00	50	33.95	60	46.23	83	113.74	208	59,924	5.67	12	15,363	44,561
13212+50.00	50	35.93	65	48.32	88	125.12	221	60,145	8.34	16	15,379	44,766
13213+00.00	50	59.74	89	72.06	111	127.14	234	60,379	9.92	21	15,400	44,979
13213+50.00	50	60.05	111	68.25	130	167.50	273	60,652	12.04	25	15,425	45,227
13214+00.00	50	28.92	82	42.19	102	111.12	258	60,910	9.36	25	15,450	45,460
13214+50.00	50	36.06	60	48.24	84	121.51	215	61,125	13.11	26	15,476	45,649
13215+00.00	50	29.32	61	41.69	83	116.37	220	61,345	16.46	34	15,510	45,835
13215+50.00	50	29.02	54	41.16	77	113.76	213	61,558	11.91	33	15,543	46,015
13216+00.00	50	27.54	52	39.41	75	117.45	214	61,772	4.05	18	15,561	46,211
13216+50.00	50	28.61	52	40.22	74	94.25	196	61,968	12.37	19	15,580	46,388
13217+00.00	50	31.04	55	42.60	77	96.47	177	62,145	11.62	28	15,608	46,537
13217+50.00	50	32.82	59	45.85	82	96.58	179	62,324	12.77	28	15,636	46,688
13218+00.00	50	24.35	53	36.89	77	82.46	166	62,490	21.81	40	15,676	46,814
13218+20.00	20	12.96	14	20.92	21	73.68	58	62,548	19.87	19	15,695	46,853
13218+50.00	30	35.82	27	43.08	36	67.86	79	62,627	18.23	26	15,721	46,906
13219+00.00	50	40.89	71	47.66	84	62.66	121	62,748	22.69	47	15,768	46,980
13219+50.00	50	44.72	79	50.11	91	67.52	121	62,869	28.75	60	15,828	47,041
13220+00.00	50	48.94	87	61.14	103	57.33	116	62,985	31.31	70	15,898	47,087
13220+50.00	50	56.51	98	68.96	120	66.18	114	63,099	27.87	68	15,966	47,133
13221+00.00	50	62.76	110	75.41	134	80.61	136	63,235	23.49	59	16,025	47,210
13221+50.00	50	63.44	117	76.94	141	81.46	150	63,385	13.35	43	16,068	47,317
13221+55.00	5	63.01	12	76.64	14	84.47	15	63,400	11.23	3	16,071	47,329

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Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	17

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13221+65.00	10	55.01	22	75.82	28	90.37	32	63,432	3.33	3	16,074	47,358
13222+00.00	35	55.01	71	75.82	98	100.49	124	63,556	0.10	3	16,077	47,479
13222+50.00	50	52.16	99	72.98	138	124.79	209	63,765	0.10	0	16,077	47,688
13223+00.00	50	22.80	69	40.02	105	126.00	232	63,997	0.10	0	16,077	47,920
13223+50.00	50	31.12	50	49.16	83	164.08	269	64,266	0.10	0	16,077	48,189
13224+00.00	50	30.41	57	46.80	89	214.74	351	64,617	1.33	2	16,079	48,538
13224+50.00	50	50.65	75	67.58	106	246.07	427	65,044	2.79	5	16,084	48,960
13225+00.00	50	55.77	99	73.75	131	268.30	476	65,520	0.10	3	16,087	49,433
13225+50.00	50	80.55	126	100.05	161	290.73	518	66,038	17.76	21	16,108	49,930
13225+67.60	18	90.11	56	110.73	69	309.79	196	66,234	0.05	7	16,115	50,119
13226+00.00	32	103.33	116	125.53	142	323.58	380	66,614	19.84	15	16,130	50,484
13226+17.90	18	111.53	71	133.40	86	335.45	218	66,832	13.30	14	16,144	50,688
13226+50.00	32	126.75	142	152.19	170	352.55	409	67,241	0.00	10	16,154	51,087
13227+00.00	50	120.93	229	147.44	277	385.57	683	67,924	11.42	13	16,167	51,757
13227+45.00	45	107.93	191	135.59	236	417.28	669	68,593	11.85	24	16,191	52,402
13227+50.00	5	107.40	20	135.18	25	420.80	78	68,671	11.43	3	16,194	52,477
13228+00.00	50	101.10	193	129.91	245	461.59	817	69,488	0.10	13	16,207	53,281
13228+38.60	39	98.71	143	124.85	182	482.28	675	70,163	0.10	0	16,207	53,956
13228+50.00	11	98.81	42	125.47	53	486.57	205	70,368	0.10	0	16,207	54,161
13228+86.40	36	111.50	142	140.94	180	482.88	653	71,021	0.10	0	16,207	54,814
13229+00.00	14	114.36	57	143.89	72	484.84	244	71,265	2.68	1	16,208	55,057
13229+50.00	50	80.20	180	109.93	235	494.68	907	72,172	0.10	3	16,211	55,961
13229+85.00	35	94.35	113	94.30	132	0.00	321	72,493	0.05	0	16,211	56,282
13229+85.00			746		601		7,927	80,420		825	17,036	63,384
13230+00.00	15	96.71	53	96.66	53	0.00	0	80,420	0.05	0	17,036	63,384
13230+50.00	50	128.56	209	158.37	236	496.96	460	80,880	0.10	0	17,036	63,844
13231+00.00	50	143.10	252	172.75	307	490.25	914	81,794	1.74	2	17,038	64,756
13231+50.00	50	158.67	279	188.09	334	478.92	897	82,691	3.14	6	17,044	65,647
13232+00.00	50	145.15	281	174.17	335	463.31	872	83,563	0.05	4	17,048	66,515
13232+50.00	50	93.93	221	122.46	275	445.65	842	84,405	0.10	0	17,048	67,357
13233+00.00	50	67.88	150	96.08	202	432.72	813	85,218	0.10	0	17,048	68,170
13233+50.00	50	66.42	124	94.39	176	425.04	794	86,012	5.05	6	17,054	68,958
13234+00.00	50	70.00	126	97.95	178	422.43	785	86,797	0.10	6	17,060	69,737
13234+50.00	50	64.21	124	92.22	176	425.05	785	87,582	0.10	0	17,060	70,522
13235+00.00	50	49.45	105	77.41	157	424.47	787	88,369	5.53	7	17,067	71,302
13235+50.00	50	35.47	79	62.75	130	404.55	768	89,137	0.20	7	17,074	72,063
13236+00.00	50	30.52	61	56.24	110	378.83	725	89,862	0.10	0	17,074	72,788
13236+50.00	50	30.84	57	54.70	103	321.87	649	90,511	0.10	0	17,074	73,437
13237+00.00	50	22.30	49	44.08	91	259.38	538	91,049	0.10	0	17,074	73,975
13237+50.00	50	28.65	47	50.37	87	198.00	424	91,473	0.10	0	17,074	74,399
13238+00.00	50	28.96	53	49.84	93	169.17	340	91,813	0.10	0	17,074	74,739
13238+50.00	50	21.09	46	39.44	83	138.51	285	92,098	0.05	0	17,074	75,024
13239+00.00	50	23.98	42	42.07	75	118.27	238	92,336	0.05	0	17,074	75,262
13239+50.00	50	25.21	46	45.80	81	123.72	224	92,560	0.38	0	17,074	75,486
13239+90.00	40	21.66	35	42.59	65	107.95	172	92,732	0.05	0	17,074	75,658
13240+00.00	10	22.16	8	43.01	16	106.23	40	92,772	0.10	0	17,074	75,698
13240+04.20	4	22.22	3	43.13	7	105.60	16	92,788	0.05	0	17,074	75,714
13240+50.00	46	22.10	38	43.06	73	97.54	172	92,960	0.05	0	17,074	75,886
13240+52.00	2	22.10	2	43.01	3	97.24	7	92,967	0.10	0	17,074	75,893
13241+00.00	48	19.30	37	39.03	73	80.14	158	93,125	2.24	3	17,077	76,048
13241+25.00	25	20.30	18	40.14	37	77.76	73	93,198	4.62	4	17,081	76,117
13241+30.00	5	20.36	4	40.28	7	77.41	14	93,212	5.30	1	17,082	76,130
13241+35.00	5	22.30	4	36.93	7	77.92	14	93,226	7.33	1	17,083	76,143
13241+50.00	15	22.30	12	36.93	21	73.28	42	93,268	11.31	6	17,089	76,179

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	18

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13241+92.00	42	20.19	33	42.08	61	42.94	90	93,358	19.25	30	17,119	76,239
13242+00.00	8	20.06	6	41.82	12	41.65	13	93,371	20.76	7	17,126	76,245
13242+50.00	50	15.37	33	36.42	72	54.44	89	93,460	11.42	37	17,163	76,297
13242+72.70	23	20.45	15	41.49	33	67.39	51	93,511	15.31	14	17,177	76,334
13243+00.00	27	20.87	21	39.67	41	85.45	77	93,588	20.52	23	17,200	76,388
13243+23.00	23	26.84	20	45.45	36	129.70	92	93,680	20.71	22	17,222	76,458
13243+50.00	27	33.71	30	52.28	49	188.69	159	93,839	20.12	26	17,248	76,591
13244+00.00	50	34.69	63	47.85	93	212.28	371	94,210	15.77	42	17,290	76,920
13244+50.00	50	41.69	71	55.62	96	262.31	439	94,649	12.41	33	17,323	77,326
13245+00.00	50	47.72	83	63.10	110	365.12	581	95,230	8.54	24	17,347	77,883
13245+50.00	50	41.33	82	56.24	111	276.39	594	95,824	4.18	15	17,362	78,462
13246+00.00	50	41.29	77	55.88	104	245.90	484	96,308	2.10	7	17,369	78,939
13246+50.00	50	74.25	107	86.45	132	312.62	517	96,825	1.51	4	17,373	79,452
13247+00.00	50	97.57	159	109.68	182	220.77	494	97,319	1.46	3	17,376	79,943
13247+50.00	50	126.96	208	139.69	231	265.08	450	97,769	3.05	5	17,381	80,388
13248+00.00	50	26.39	142	38.81	165	236.08	464	98,233	2.43	6	17,387	80,846
13248+50.00	50	31.14	53	43.50	76	265.22	464	98,697	2.04	5	17,392	81,305
13249+00.00	50	34.04	60	46.35	83	290.54	515	99,212	1.23	4	17,396	81,816
13249+50.00	50	33.33	62	45.53	85	285.98	534	99,746	1.15	3	17,399	82,347
13250+00.00	50	31.12	60	43.86	83	288.76	532	100,278	0.57	2	17,401	82,877
13250+50.00	50	33.73	60	46.01	83	313.34	558	100,836	1.40	2	17,403	83,433
13251+00.00	50	34.43	63	46.76	86	319.70	586	101,422	0.56	2	17,405	84,017
13251+50.00	50	33.17	63	45.66	86	283.69	559	101,981	1.11	2	17,407	84,574
13252+00.00	50	31.38	60	43.79	83	257.06	501	102,482	1.07	3	17,410	85,072
13252+50.00	50	32.22	59	43.88	81	242.01	462	102,944	2.84	5	17,415	85,529
13253+00.00	50	28.03	56	44.08	81	201.43	411	103,355	3.99	8	17,423	85,932
13253+50.00	50	27.46	51	43.10	81	156.17	331	103,686	6.68	12	17,435	86,251
13254+00.00	50	21.51	45	35.60	73	108.86	245	103,931	11.37	21	17,456	86,475
13254+50.00	50	18.77	37	32.32	63	84.62	179	104,110	13.69	29	17,485	86,625
13255+00.00	50	17.10	33	35.81	63	80.08	153	104,263	16.76	35	17,520	86,743
13255+50.00	50	17.76	32	36.70	67	84.02	152	104,415	15.37	37	17,557	86,858
13256+00.00	50	19.75	35	38.66	70	81.38	153	104,568	16.30	37	17,594	86,974
13256+50.00	50	25.34	42	44.08	77	82.12	151	104,719	19.80	42	17,636	87,083
13256+82.20	32	26.83	31	45.22	53	79.83	97	104,816	23.07	32	17,668	87,148
13257+00.00	18	29.17	18	47.56	31	86.72	55	104,871	21.10	18	17,686	87,185
13257+32.50	33	30.78	36	43.48	55	95.33	110	104,981	21.44	32	17,718	87,263
13257+50.00	18	33.01	21	45.96	29	109.86	66	105,047	19.59	17	17,735	87,312
13258+00.00	50	49.12	76	66.85	104	136.17	228	105,275	25.00	52	17,787	87,488
13258+13.20	13	52.27	25	69.94	33	144.41	69	105,344	26.06	16	17,803	87,541
13258+50.00	37	57.11	75	69.89	95	254.04	272	105,616	19.82	39	17,842	87,774
13258+80.00	30	78.46	75	96.35	92	441.03	386	106,002	15.39	24	17,866	88,136
13259+00.00	20	80.62	59	94.13	71	519.30	356	106,358	11.77	13	17,879	88,479
13259+50.00	50	90.77	159	104.58	184	590.23	1,027	107,385	7.35	22	17,901	89,484
13259+53.20	3	92.12	11	106.37	13	599.64	71	107,456	6.78	1	17,902	89,554
13259+95.00	42	104.53	152	116.93	173	702.25	1,008	108,464	8.09	14	17,916	90,548
13260+00.00	5	106.04	19	122.13	22	706.22	130	108,594	7.93	2	17,918	90,676
13260+01.00	1	106.04	4	122.13	5	708.69	26	108,620	7.94	0	17,918	90,702
13260+15.00	14	106.30	55	122.46	63	741.56	376	108,996	6.23	5	17,923	91,073
13260+50.00	35	95.74	131	112.25	152	714.56	944	109,940	2.22	7	17,930	92,010
13261+00.00	50	102.95	184	119.99	215	713.29	1,322	111,262	0.16	3	17,933	93,329
13261+50.00	50	102.06	190	122.92	225	735.88	1,342	112,604	0.10	0	17,933	94,671
13262+00.00	50	101.11	188	121.97	227	688.68	1,319	113,923	0.10	0	17,933	95,990
13262+50.00	50	96.99	183	114.52	219	646.76	1,237	115,160	0.10	0	17,933	97,227
13263+00.00	50	81.40	165	100.94	200	413.27	982	116,142	0.10	0	17,933	98,209

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	19

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13263+50.00	50	34.38	107	57.21	146	281.33	643	116,785	0.11	0	17,933	98,852
13264+00.00	50	59.91	87	84.06	131	309.14	547	117,332	5.14	6	17,939	99,393
13264+50.00	50	95.04	143	120.46	189	335.81	597	117,929	19.06	28	17,967	99,962
13265+00.00	50	100.80	181	126.98	229	362.96	647	118,576	0.10	22	17,989	100,587
13265+50.00	50	109.83	195	136.27	244	374.35	683	119,259	0.10	0	17,989	101,270
13266+00.00	50	108.55	202	135.18	251	382.68	701	119,960	0.10	0	17,989	101,971
13266+50.00	50	82.50	177	109.27	226	388.31	714	120,674	0.10	0	17,989	102,685
13267+00.00	50	63.01	135	89.84	184	391.17	722	121,396	0.10	0	17,989	103,407
13267+50.00	50	44.09	99	70.92	149	390.45	724	122,120	0.40	1	17,990	104,130
13268+00.00	50	35.89	74	62.65	124	510.11	834	122,954	0.10	1	17,991	104,963
13268+50.00	50	43.28	73	69.90	123	509.64	944	123,898	0.10	0	17,991	105,907
13269+00.00	50	38.18	75	61.02	121	376.11	820	124,718	0.10	0	17,991	106,727
13269+17.80	18	41.92	26	65.78	42	371.11	246	124,964	0.10	0	17,991	106,973
13269+50.00	32	48.55	54	74.31	84	356.41	434	125,398	0.05	0	17,991	107,407
13269+65.60	16	44.55	27	69.81	42	347.92	203	125,601	4.60	2	17,993	107,608
13270+00.00	34	48.97	60	73.28	91	325.57	429	126,030	0.10	4	17,997	108,033
13270+35.00	35	58.91	70	82.17	101	301.29	406	126,436	0.10	0	17,997	108,439
13270+50.00	15	62.37	34	85.17	46	289.20	164	126,600	0.34	0	17,997	108,603
13271+00.00	50	67.33	120	88.55	161	251.23	500	127,100	0.10	1	17,998	109,102
13271+05.60	6	67.59	14	88.63	18	246.47	52	127,152	0.10	0	17,998	109,154
13271+50.00	44	64.55	109	86.76	144	235.90	397	127,549	0.10	0	17,998	109,551
13271+86.30	36	52.63	79	73.82	108	228.64	312	127,861	0.10	0	17,998	109,863
13272+00.00	14	47.98	26	69.02	36	212.33	112	127,973	4.80	2	18,000	109,973
13272+36.60	37	50.19	67	69.22	94	187.09	271	128,244	2.20	6	18,006	110,238
13272+50.00	13	57.22	27	76.18	36	171.77	89	128,333	0.10	1	18,007	110,326
13273+00.00	50	42.73	93	58.48	125	141.90	290	128,623	0.10	0	18,007	110,616
13273+50.00	50	34.01	71	48.67	99	132.99	255	128,878	0.43	1	18,008	110,870
13274+00.00	50	20.95	51	34.57	77	128.59	242	129,120	3.38	4	18,012	111,108
13274+50.00	50	22.15	40	35.38	65	127.97	238	129,358	4.70	9	18,021	111,337
13275+00.00	50	25.21	44	37.86	68	131.28	240	129,598	6.55	13	18,034	111,564
13275+50.00	50	25.69	47	38.04	70	130.13	242	129,840	7.71	17	18,051	111,789
13276+00.00	50	25.29	47	40.88	73	129.12	240	130,080	7.64	18	18,069	112,011
13276+05.00	5	44.16	6	37.33	7	129.19	24	130,104	9.63	2	18,071	112,033
13276+10.00	5	24.60	6	39.81	7	129.82	24	130,128	10.60	2	18,073	112,055
13276+50.00	40	24.60	36	39.81	59	139.80	200	130,328	9.38	19	18,092	112,236
13277+00.00	50	21.56	43	37.65	72	153.98	272	130,600	3.97	15	18,107	112,493
13277+50.00	50	21.63	40	35.61	68	167.08	297	130,897	0.71	5	18,112	112,785
13278+00.00	50	22.93	41	34.91	65	170.96	313	131,210	0.50	1	18,113	113,097
13278+50.00	50	29.84	49	37.67	67	158.07	305	131,515	0.58	1	18,114	113,401
13279+00.00	50	34.30	59	40.04	72	113.70	252	131,767	0.34	1	18,115	113,652
13279+50.00	50	38.57	67	40.73	75	64.42	165	131,932	0.32	1	18,116	113,816
13280+00.00	50	40.08	73	39.68	74	33.65	91	132,023	18.86	22	18,138	113,885
13280+50.00	50	36.07	71	33.82	68	3.42	34	132,057	43.61	72	18,210	113,847
13281+20.00			336		306		11	132,068		2,357	20,567	111,501
13287+99.00	0	40.29		35.78		0.09		132,068	115.84		20,567	111,501
13288+00.00	1	40.28	1	35.76	1	0.09	0	132,068	115.71	5	20,572	111,496
13288+49.30	49	38.93	72	33.89	64	0.38	0	132,068	124.11	274	20,846	111,222
13288+50.00	1	38.86	1	33.81	1	0.42	0	132,068	123.21	4	20,850	111,218
13289+00.00	50	60.52	92	55.11	82	129.42	120	132,188	104.31	263	21,113	111,075
13289+30.00	30	58.13	66	52.69	60	13.90	80	132,268	131.90	164	21,277	110,991
13289+50.00	20	51.63	41	46.47	37	4.32	7	132,275	143.52	128	21,405	110,870
13290+00.00	50	42.97	88	38.08	78	0.98	5	132,280	172.35	366	21,771	110,509
13290+50.00	50	45.97	82	41.17	73	0.92	2	132,282	189.92	419	22,190	110,092

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	20

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13290+70.00	20	45.44	34	40.84	30	0.97	1	132,283	185.41	174	22,364	109,919
13291+00.00	30	45.68	51	41.05	45	0.44	1	132,284	197.03	266	22,630	109,654
13291+17.80	18	45.57	30	40.63	27	0.39	0	132,284	208.35	167	22,797	109,487
13291+35.00	17	45.93	29	40.84	26	0.51	0	132,284	213.75	168	22,965	109,319
13291+50.00	15	46.74	26	41.58	23	0.95	0	132,284	211.79	148	23,113	109,171
13292+00.00	50	26.59	68	21.51	58	29.26	28	132,312	82.13	340	23,453	108,859
13292+50.00	50	26.23	49	21.05	39	35.92	60	132,372	65.90	171	23,624	108,748
13292+65.00	15	26.18	15	20.80	12	38.43	21	132,393	46.02	39	23,663	108,730
13292+70.00	5	26.19	5	20.74	4	38.93	7	132,400	37.69	10	23,673	108,727
13293+00.00	30	42.78	38	37.68	32	39.51	44	132,444	89.62	88	23,761	108,683
13293+20.00	20	44.37	32	38.16	28	36.00	28	132,472	135.60	104	23,865	108,607
13293+35.30	15	46.92	26	40.16	22	35.98	20	132,492	158.30	104	23,969	108,523
13293+50.00	15	47.56	26	40.53	22	33.55	19	132,511	187.05	118	24,087	108,424
13293+83.10	33	0.00	29	64.78	65	18.14	32	132,543	595.94	600	24,687	107,856
13294+00.00	17	5.39	2	67.29	41	4.45	7	132,550	598.16	467	25,154	107,396
13294+00.00			0		0		11,294	143,844		3,547	28,701	115,143
13294+50.00	50	37.27	40	30.39	90	28.60	31	143,875	103.01	812	29,513	114,362
13295+00.00	50	33.36	65	27.74	54	29.14	53	143,928	60.51	189	29,702	114,226
13295+23.10	23	32.83	28	27.42	24	31.51	26	143,954	46.93	57	29,759	114,195
13295+30.00	7	32.13	8	26.75	7	32.78	8	143,962	43.14	14	29,773	114,189
13295+35.00	5	20.83	5	15.49	4	10.50	4	143,966	37.17	9	29,782	114,184
13295+50.00	15	22.00	12	17.33	9	9.45	6	143,972	51.05	31	29,813	114,159
13296+00.00	50	36.12	54	31.26	45	8.03	16	143,988	58.66	127	29,940	114,048
13296+03.80	4	36.19	5	31.23	4	9.17	1	143,989	59.26	10	29,950	114,039
13296+50.00	46	43.54	68	39.30	60	33.24	36	144,025	104.12	175	30,125	113,900
13296+54.10	4	43.55	7	39.39	6	35.13	5	144,030	106.57	20	30,145	113,885
13297+00.00	46	22.75	56	5.17	38	3.44	33	144,063	63.16	180	30,325	113,738
13297+10.00	10	6.48	5	0.00	1	0.99	1	144,064	65.90	30	30,355	113,709
13297+50.00	40	58.47	48	28.27	21	78.44	59	144,123	80.58	136	30,491	113,632
13298+00.00	50	62.09	112	57.15	79	165.12	226	144,349	108.93	219	30,710	113,639
13298+50.00	50	63.22	116	58.04	107	141.54	284	144,633	106.50	249	30,959	113,674
13299+00.00	50	60.34	114	55.39	105	131.18	253	144,886	115.59	257	31,216	113,670
13299+50.00	50	60.90	112	55.87	103	121.09	234	145,120	104.73	255	31,471	113,649
13300+00.00	50	61.41	113	56.34	104	131.51	234	145,354	99.48	236	31,707	113,647
13300+50.00	50	65.99	118	60.65	108	155.90	266	145,620	86.94	216	31,923	113,697
13301+00.00	50	70.41	126	65.16	116	92.53	230	145,850	93.98	209	32,132	113,718
13301+50.00	50	75.96	136	70.85	126	108.93	187	146,037	98.29	223	32,355	113,682
13301+56.90	7	75.76	19	70.67	18	104.13	27	146,064	101.73	32	32,387	113,677
13302+00.00	43	53.67	103	48.83	95	37.22	113	146,177	98.08	199	32,586	113,591
13302+07.20	7	52.30	14	47.37	13	34.64	10	146,187	97.46	33	32,619	113,568
13302+50.00	43	39.15	72	34.09	65	10.88	36	146,223	95.89	192	32,811	113,412
13302+87.90	38	36.98	53	31.81	46	1.97	9	146,232	92.38	165	32,976	113,256
13303+00.00	12	35.93	16	30.81	14	1.00	1	146,233	90.27	51	33,027	113,206
13303+50.00	50	28.36	60	23.20	50	1.37	2	146,235	71.77	188	33,215	113,020
13303+55.00	5	28.12	5	22.93	4	1.53	0	146,235	70.25	16	33,231	113,004
13304+00.00	45	27.50	46	21.97	37	3.55	4	146,239	60.93	137	33,368	112,871
13304+27.90	28	27.42	28	21.81	23	3.66	4	146,243	58.35	77	33,445	112,798
13304+50.00	22	27.36	22	21.73	18	3.64	3	146,246	57.44	59	33,504	112,742
13304+75.70	26	27.44	26	21.77	21	3.57	3	146,249	57.53	68	33,572	112,677
13304+90.00	14	27.35	15	21.69	12	3.33	2	146,251	57.62	38	33,610	112,641
13305+00.00	10	27.32	10	21.66	8	3.20	1	146,252	57.99	27	33,637	112,615
13305+50.00	50	28.02	51	22.37	41	2.13	5	146,257	61.66	138	33,775	112,482
13306+00.00	50	27.80	52	22.16	41	1.47	3	146,260	60.95	142	33,917	112,343
13306+50.00	50	28.16	52	22.51	41	1.50	3	146,263	62.60	143	34,060	112,203

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13307+00.00	50	30.80	55	25.13	44	1.80	3	146,266	74.41	159	34,219	112,047
13307+50.00	50	31.03	57	25.39	47	2.43	4	146,270	72.72	170	34,389	111,881
13308+00.00	50	31.47	58	25.82	47	2.02	4	146,274	79.04	176	34,565	111,709
13308+50.00	50	31.58	58	25.91	48	1.41	3	146,277	78.24	182	34,747	111,530
13309+00.00	50	30.79	58	25.29	47	1.68	3	146,280	66.84	168	34,915	111,365
13309+50.00	50	30.97	57	25.31	47	1.76	3	146,283	72.34	161	35,076	111,207
13310+00.00	50	31.70	58	26.28	48	1.85	3	146,286	90.84	189	35,265	111,021
13310+50.00	50	32.72	60	26.79	49	3.06	5	146,291	83.29	202	35,467	110,824
13311+00.00	50	33.42	61	27.47	50	2.80	5	146,296	86.44	196	35,663	110,633
13311+50.00	50	34.03	62	28.24	52	3.41	6	146,302	84.24	198	35,861	110,441
13312+00.00	50	34.33	63	28.67	53	3.34	6	146,308	84.21	195	36,056	110,252
13312+50.00	50	33.70	63	27.82	52	3.15	6	146,314	81.94	192	36,248	110,066
13313+00.00	50	33.73	62	27.85	52	3.16	6	146,320	79.80	187	36,435	109,885
13313+50.00	50	37.10	66	31.01	55	2.42	5	146,325	95.77	203	36,638	109,687
13313+60.00	10	37.79	14	31.75	12	2.55	1	146,326	96.38	44	36,682	109,644
13313+65.00	5	38.14	7	32.09	6	21.69	2	146,328	96.16	22	36,704	109,624
13314+00.00	35	38.54	50	32.42	42	17.14	25	146,353	108.69	166	36,870	109,483
13314+50.00	50	41.02	74	34.95	62	12.78	28	146,381	135.37	282	37,152	109,229
13315+00.00	50	60.71	94	54.23	83	39.23	48	146,429	180.21	365	37,517	108,912
13315+50.00	50	68.22	119	61.68	107	64.89	96	146,525	244.41	491	38,008	108,517
13316+00.00	50	72.64	130	66.52	119	89.46	143	146,668	307.24	638	38,646	108,022
13316+50.00	50	51.83	115	45.81	104	0.12	83	146,751	301.01	704	39,350	107,401
13316+58.20	8	52.05	16	46.06	14	0.15	0	146,751	299.54	114	39,464	107,287
13317+00.00	42	52.83	81	46.71	72	0.88	1	146,752	303.80	584	40,048	106,704
13317+06.00	6	52.90	12	46.77	10	0.91	0	146,752	305.30	85	40,133	106,619
13317+50.00	44	52.76	86	46.90	76	0.17	1	146,753	315.11	632	40,765	105,988
13317+80.00	30	51.78	58	45.85	52	1.26	1	146,754	277.44	411	41,176	105,578
13318+00.00	20	50.41	38	44.43	33	3.77	2	146,756	249.84	244	41,420	105,336
13318+46.00	46	46.48	83	40.55	72	26.06	25	146,781	175.30	453	41,873	104,908
13318+50.00	4	45.96	7	40.08	6	28.44	4	146,785	166.12	32	41,905	104,880
13319+00.00	50	57.92	96	52.57	86	103.99	123	146,908	92.49	299	42,204	104,704
13319+18.90	19	58.12	41	46.52	35	127.12	81	146,989	76.35	74	42,278	104,711
13319+44.00	25	58.63	54	46.89	43	164.49	136	147,125	62.71	81	42,359	104,766
13319+50.00	6	58.40	13	46.09	10	171.27	37	147,162	58.13	17	42,376	104,786
13320+00.00	50	55.37	105	47.17	86	266.01	405	147,567	14.58	84	42,460	105,107
13320+50.00	50	65.73	112	60.53	100	428.21	643	148,210	0.42	17	42,477	105,733
13321+00.00	50	74.18	130	69.04	120	613.96	965	149,175	1.86	3	42,480	106,695
13321+50.00	50	95.98	158	90.78	148	992.32	1,487	150,662	0.10	2	42,482	108,180
13322+00.00	50	114.85	195	109.84	186	1,211.78	2,041	152,703	0.10	0	42,482	110,221
13322+50.00	50	152.91	248	147.99	239	1,553.39	2,560	155,263	0.10	0	42,482	112,781
13323+00.00	50	172.50	301	167.53	292	2,486.01	3,740	159,003	0.10	0	42,482	116,521
13323+50.00	50	171.86	319	166.83	310	3,227.35	5,290	164,293	0.10	0	42,482	121,811
13324+00.00	50	170.34	317	165.33	308	2,777.67	5,560	169,853	0.10	0	42,482	127,371
13324+50.00	50	135.93	284	128.02	272	1,356.36	3,828	173,681	0.10	0	42,482	131,199
13325+00.00	50	69.70	190	57.71	172	451.74	1,674	175,355	6.46	8	42,490	132,865
13325+50.00	50	39.59	101	28.21	80	236.68	637	175,992	3.66	12	42,502	133,490
13325+98.20	48	49.71	80	37.55	59	119.32	318	176,310	67.99	80	42,582	133,728
13326+00.00	2	50.05	3	37.79	3	115.52	8	176,318	69.94	6	42,588	133,730
13326+23.30	23	46.34	42	40.76	34	64.78	78	176,396	87.80	85	42,673	133,723
13326+50.00	27	47.03	46	41.20	41	45.83	55	176,451	126.69	133	42,806	133,645
13326+96.20	46	45.03	79	39.20	69	31.21	66	176,517	226.53	378	43,184	133,333
13327+00.00	4	45.70	6	39.89	6	30.91	4	176,521	233.90	41	43,225	133,296
13327+50.00	50	53.53	92	47.89	81	25.64	52	176,573	310.81	630	43,855	132,718
13327+95.00	45	55.00	90	49.55	81	24.65	42	176,615	289.28	625	44,480	132,135

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	22

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13328+00.00	5	55.24	10	49.74	9	3.77	3	176,618	291.47	67	44,547	132,071
13328+36.20	36	44.97	67	40.64	61	2.42	4	176,622	197.10	409	44,956	131,666
13328+50.00	14	27.09	18	23.53	16	1.63	1	176,623	172.78	118	45,074	131,549
13328+60.00	10	27.18	10	23.67	9	1.59	1	176,624	175.54	81	45,155	131,469
13328+60.00			525		372		0	176,624		6,229	51,384	125,240
13328+84.00	24	48.53	34	43.74	30	2.10	2	176,626	254.24	239	51,623	125,003
13329+00.00	16	52.93	30	47.16	27	2.26	1	176,627	284.75	200	51,823	124,804
13329+50.00	50	61.72	106	55.69	95	2.07	4	176,631	366.18	753	52,576	124,055
13330+00.00	50	70.09	122	63.99	111	2.46	4	176,635	428.56	920	53,496	123,139
13330+50.00	50	70.65	130	64.51	119	2.38	4	176,639	484.99	1,057	54,553	122,086
13331+00.00	50	67.67	128	61.67	117	2.52	5	176,644	444.16	1,075	55,628	121,016
13331+50.00	50	64.55	122	58.72	111	2.68	5	176,649	406.97	985	56,613	120,036
13332+00.00	50	62.62	118	56.78	107	2.82	5	176,654	350.11	876	57,489	119,165
13332+00.00							7,065	183,719		0	57,489	126,230
13332+50.00	50	56.30	110	50.59	99	4.57	7	183,726	276.00	725	58,214	125,512
13333+00.00	50	49.05	98	43.08	87	4.48	8	183,734	204.73	556	58,770	124,964
13333+50.00	50	40.77	83	34.65	72	5.85	10	183,744	127.08	384	59,154	124,590
13334+00.00	50	28.04	64	22.10	53	5.30	10	183,754	57.71	214	59,368	124,386
13334+50.00	50	27.09	51	20.95	40	4.31	9	183,763	59.89	136	59,504	124,259
13335+00.00	50	27.58	51	21.47	39	3.64	7	183,770	60.94	140	59,644	124,126
13335+50.00	50	28.96	52	22.73	41	3.92	7	183,777	72.98	155	59,799	123,978
13336+00.00	50	74.57	96	10.95	31	2.89	6	183,783	297.16	428	60,227	123,556
13336+50.00	50	29.48	96	23.95	32	3.62	6	183,789	83.12	440	60,667	123,122
13336+62.50	13	39.54	16	33.94	13	19.54	5	183,794	85.58	49	60,716	123,078
13337+00.00	38	35.92	52	30.41	45	4.38	17	183,811	94.08	156	60,872	122,939
13337+10.30	10	37.58	14	32.07	12	6.71	2	183,813	94.63	45	60,917	122,896
13337+50.00	40	42.19	59	36.48	50	3.23	7	183,820	118.44	196	61,113	122,707
13337+80.00	30	49.65	51	43.87	45	9.25	7	183,827	152.14	188	61,301	122,526
13338+00.00	20	52.93	38	47.16	34	6.69	6	183,833	188.24	158	61,459	122,374
13338+50.00	50	64.48	109	58.89	98	4.43	10	183,843	263.95	523	61,982	121,861
13338+50.30	0	55.81	1	50.21	1	2.14	0	183,843	234.92	3	61,985	121,858
13339+00.00	50	60.99	107	55.31	97	2.51	4	183,847	289.38	603	62,588	121,259
13339+23.20	23	60.53	52	54.84	47	2.64	2	183,849	303.75	319	62,907	120,942
13339+48.30	25	57.04	55	51.41	49	3.67	3	183,852	297.40	349	63,256	120,596
13339+50.00	2	56.87	4	51.20	3	3.67	0	183,852	295.05	23	63,279	120,573
13340+00.00	50	45.25	95	39.65	84	4.42	7	183,859	147.96	513	63,792	120,067
13340+50.00	50	30.58	70	25.07	60	3.52	7	183,866	105.20	293	64,085	119,781
13341+00.00	50	29.53	56	24.12	46	3.45	6	183,872	89.66	226	64,311	119,561
13341+50.00	50	29.37	55	24.20	45	2.19	5	183,877	88.05	206	64,517	119,360
13342+00.00	50	28.66	54	23.40	44	3.52	5	183,882	88.60	204	64,721	119,161
13342+50.00	50	30.64	55	24.95	45	4.13	7	183,889	89.15	206	64,927	118,962
13343+00.00	50	28.76	55	25.51	47	3.37	7	183,896	85.83	203	65,130	118,766
13343+50.00	50	29.91	54	24.79	47	2.52	5	183,901	81.70	194	65,324	118,577
13344+00.00	50	29.32	55	24.22	45	2.37	5	183,906	88.09	197	65,521	118,385
13344+50.00	50	28.74	54	23.65	44	2.43	4	183,910	94.05	211	65,732	118,178
13345+00.00	50	26.35	51	23.38	44	2.00	4	183,914	79.93	201	65,933	117,981
13345+25.00	25	13.95	19	10.79	16	0.95	1	183,915	61.60	82	66,015	117,900
13345+50.00	25	26.62	19	23.50	16	1.87	1	183,916	61.55	71	66,086	117,830
13346+00.00	50	30.04	52	24.56	45	2.41	4	183,920	99.31	186	66,272	117,648
13346+50.00	50	34.86	60	29.30	50	2.61	5	183,925	122.30	256	66,528	117,397
13346+72.80	23	39.50	31	33.99	27	2.43	2	183,927	148.36	143	66,671	117,256
13346+97.90	25	43.64	39	38.26	34	1.97	2	183,929	175.78	188	66,859	117,070
13347+00.00	2	44.03	3	38.64	3	1.98	0	183,929	176.59	17	66,876	117,053
13347+50.00	50	45.94	83	40.30	73	1.97	4	183,933	176.57	409	67,285	116,648

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Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	23

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13347+70.80	21	44.22	35	38.47	30	1.87	1	183,934	175.60	170	67,455	116,479
13348+00.00	29	43.64	48	37.87	41	1.56	2	183,936	182.30	242	67,697	116,239
13348+35.00	35	41.76	55	35.94	48	1.85	2	183,938	168.60	284	67,981	115,957
13348+50.00	15	40.73	23	34.97	20	1.84	1	183,939	163.44	115	68,096	115,843
13349+00.00	50	39.87	75	34.15	64	1.83	3	183,942	146.14	358	68,454	115,488
13349+10.80	11	39.42	16	33.65	14	1.98	1	183,943	141.03	72	68,526	115,417
13349+50.00	39	45.79	62	39.92	53	9.34	8	183,951	125.64	242	68,768	115,183
13349+58.60	9	45.28	15	39.39	13	9.54	3	183,954	119.74	49	68,817	115,137
13349+70.00	11	44.80	19	38.90	17	8.63	4	183,958	113.80	62	68,879	115,079
13350+00.00	30	43.66	49	38.12	43	7.38	9	183,967	104.01	151	69,030	114,937
13350+50.00	50	44.87	82	39.02	71	32.06	37	184,004	83.92	218	69,248	114,756
13351+00.00	50	36.90	76	11.49	47	1.78	31	184,035	123.16	240	69,488	114,547
13351+50.00	50	39.72	71	33.85	42	19.22	19	184,054	62.79	215	69,703	114,351
13352+00.00	50	32.21	67	26.20	56	3.78	21	184,075	73.52	158	69,861	114,214
13352+50.00	50	43.88	70	37.94	59	4.01	7	184,082	115.89	219	70,080	114,002
13353+00.00	50	64.01	100	57.99	89	22.38	24	184,106	180.92	344	70,424	113,682
13353+50.00	50	67.96	122	62.04	111	47.29	65	184,171	266.72	518	70,942	113,229
13354+00.00	50	50.36	110	44.35	99	12.10	55	184,226	129.18	458	71,400	112,826
13354+50.00	50	40.74	84	34.78	73	8.85	19	184,245	77.78	240	71,640	112,605
13355+00.00	50	42.84	77	36.89	66	10.28	18	184,263	86.36	190	71,830	112,433
13355+50.00	50	71.71	106	65.91	95	4.94	14	184,277	535.89	720	72,550	111,727
13356+00.00	50	73.80	135	68.10	124	15.17	19	184,296	624.67	1,343	73,893	110,403
13356+50.00	50	80.93	143	75.05	133	2.84	17	184,313	810.46	1,661	75,554	108,759
13357+00.00	50	97.93	166	92.17	155	4.76	7	184,320	1,168.64	2,291	77,845	106,475
13357+50.00	50	82.78	167	77.50	157	4.57	9	184,329	603.01	2,051	79,896	104,433
13358+00.00	50	59.21	131	53.74	122	4.38	8	184,337	269.43	1,010	80,906	103,431
13358+50.00	50	47.13	98	41.67	88	4.53	8	184,345	183.52	524	81,430	102,915
13359+00.00	50	39.16	80	33.79	70	3.84	8	184,353	129.46	362	81,792	102,561
13359+50.00	50	33.15	67	27.82	57	2.62	6	184,359	97.84	263	82,055	102,304
13360+00.00	50	29.57	58	24.22	48	2.48	5	184,364	84.54	211	82,266	102,098
13360+50.00	50	28.38	54	22.94	44	3.09	5	184,369	74.49	184	82,450	101,919
13361+00.00	50	29.04	53	23.21	43	4.09	7	184,376	67.40	164	82,614	101,762
13361+25.00	25	29.12	27	23.34	22	4.09	4	184,380	67.49	78	82,692	101,688
13361+50.00	25	29.30	27	23.66	22	3.70	4	184,384	71.62	81	82,773	101,611
13362+00.00	50	29.82	55	24.14	44	3.31	6	184,390	83.77	180	82,953	101,437
13362+50.00	50	29.80	55	24.18	45	3.04	6	184,396	75.82	185	83,138	101,258
13363+00.00	50	29.10	55	22.99	44	4.92	7	184,403	66.73	165	83,303	101,100
13363+50.00	50	28.86	54	23.02	43	4.42	9	184,412	67.94	156	83,459	100,953
13364+00.00	50	29.31	54	23.46	43	3.84	8	184,420	66.52	156	83,615	100,805
13364+50.00	50	29.18	54	23.44	43	3.28	7	184,427	67.53	155	83,770	100,657
13365+00.00	50	29.62	54	23.57	44	3.02	6	184,433	72.23	162	83,932	100,501
13365+50.00	50	31.58	57	25.20	45	3.02	6	184,439	77.77	174	84,106	100,333
13366+00.00	50	34.52	61	27.90	49	2.84	5	184,444	89.72	194	84,300	100,144
13366+50.00	50	38.02	67	31.00	55	3.85	6	184,450	111.31	233	84,533	99,917
13367+00.00	50	39.47	72	32.02	58	2.29	6	184,456	124.41	273	84,806	99,650
13367+50.00	50	36.34	70	28.37	56	2.37	4	184,460	108.89	270	85,076	99,384
13368+00.00	50	33.33	65	25.11	50	3.50	5	184,465	90.06	230	85,306	99,159
13368+50.00	50	32.46	61	23.65	45	4.67	8	184,473	81.16	198	85,504	98,969
13369+00.00	50	32.29	60	23.81	44	5.39	9	184,482	82.53	189	85,693	98,789
13369+50.00	50	27.80	56	20.02	41	5.56	10	184,492	50.76	154	85,847	98,645
13369+70.00	20	18.89	17	16.65	14	3.35	3	184,495	60.39	51	85,898	98,597
13370+00.00	30	0.00	10	0.00	9	0.00	2	184,497	12.51	51	85,949	98,548
13370+00.00			222		187		111	184,608		1,115	87,064	97,544
13370+35.00	35	26.41	17	19.20	12	4.63	3	184,611	56.14	56	87,120	97,491

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	24

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13370+50.00	15	29.32	15	22.11	11	6.31	3	184,614	69.58	44	87,164	97,450
13371+00.00	50	43.01	67	33.38	51	13.46	18	184,632	106.22	203	87,367	97,265
13371+50.00	50	59.57	95	49.93	77	122.74	126	184,758	108.75	249	87,616	97,142
13372+00.00	50	64.33	115	54.88	97	238.68	335	185,093	104.32	247	87,863	97,230
13372+50.00	50	66.54	121	56.91	104	326.72	524	185,617	88.02	223	88,086	97,531
13373+00.00	50	59.74	117	49.86	99	143.22	435	186,052	88.13	204	88,290	97,762
13373+50.00	50	47.46	99	37.50	81	35.63	166	186,218	91.04	207	88,497	97,721
13374+00.00	50	42.48	83	32.73	65	13.44	45	186,263	87.11	206	88,703	97,560
13374+50.00	50	39.59	76	29.88	58	6.18	18	186,281	92.36	208	88,911	97,370
13375+00.00	50	32.64	67	22.84	49	4.17	10	186,291	88.08	209	89,120	97,171
13375+50.00	50	38.76	66	28.99	48	4.65	8	186,299	90.68	207	89,327	96,972
13376+00.00	50	45.41	78	35.54	60	18.26	21	186,320	93.17	213	89,540	96,780
13376+50.00	50	48.22	87	38.30	68	38.80	53	186,373	94.94	218	89,758	96,615
13376+67.30	17	48.41	31	38.58	25	38.80	25	186,398	97.85	77	89,835	96,563
13377+00.00	33	44.54	56	34.94	45	17.86	34	186,432	102.42	152	89,987	96,445
13377+15.10	15	44.83	25	35.34	20	20.39	11	186,443	106.82	73	90,060	96,383
13377+20.00	5	48.60	8	39.09	7	28.65	4	186,447	111.07	25	90,085	96,362
13377+50.00	30	48.55	54	38.84	43	8.10	20	186,467	154.01	184	90,269	96,198
13378+00.00	50	66.45	106	56.56	88	11.63	18	186,485	300.99	527	90,796	95,689
13378+50.00	50	62.03	119	52.21	101	4.12	15	186,500	247.03	634	91,430	95,070
13379+00.00	50	58.89	112	49.04	94	1.73	5	186,505	217.57	538	91,968	94,537
13379+27.10	27	56.18	58	46.25	48	2.60	2	186,507	196.43	260	92,228	94,279
13379+50.00	23	53.03	46	43.21	38	3.59	3	186,510	176.38	198	92,426	94,084
13379+72.10	22	54.86	44	45.08	36	14.72	7	186,517	173.65	179	92,605	93,912
13380+00.00	28	56.66	58	46.79	47	38.59	28	186,545	168.03	221	92,826	93,719
13380+50.00	50	62.93	111	53.04	92	98.94	127	186,672	168.65	390	93,216	93,456
13381+00.00	50	67.58	121	57.96	103	116.97	200	186,872	173.02	395	93,611	93,261
13381+50.00	50	74.42	131	64.95	114	165.33	261	187,133	159.87	385	93,996	93,137
13382+00.00	50	80.32	143	70.77	126	212.76	350	187,483	146.52	355	94,351	93,132
13382+50.00	50	85.88	154	76.54	136	279.15	455	187,938	140.14	332	94,683	93,255
13383+00.00	50	85.83	159	76.30	142	314.85	550	188,488	134.28	318	95,001	93,487
13383+50.00	50	81.14	155	71.67	137	261.37	534	189,022	136.84	314	95,315	93,707
13384+00.00	50	72.81	143	63.33	125	139.77	371	189,393	138.31	318	95,633	93,760
13384+50.00	50	60.19	123	50.55	105	39.44	166	189,559	138.12	320	95,953	93,606
13385+00.00	50	52.12	104	42.70	86	31.20	65	189,624	139.52	321	96,274	93,350
13385+50.00	50	50.63	95	41.17	78	33.58	60	189,684	136.14	319	96,593	93,091
13386+00.00	50	53.55	96	44.25	79	53.37	81	189,765	132.24	311	96,904	92,861
13386+50.00	50	52.60	98	43.17	81	56.27	102	189,867	109.18	279	97,183	92,684
13387+00.00	50	51.62	97	41.98	79	45.75	94	189,961	113.76	258	97,441	92,520
13387+50.00	50	50.92	95	41.15	77	39.51	79	190,040	121.68	273	97,714	92,326
13388+00.00	50	52.90	96	43.46	78	46.75	80	190,120	115.78	275	97,989	92,131
13388+50.00	50	54.53	99	44.94	82	48.53	88	190,208	134.92	290	98,279	91,929
13389+00.00	50	54.59	101	44.55	83	27.34	70	190,278	161.75	343	98,622	91,656
13389+50.00	50	55.86	102	46.17	84	17.54	42	190,320	180.53	396	99,018	91,302
13390+00.00	50	56.23	104	46.62	86	11.87	27	190,347	205.14	446	99,464	90,883
13390+50.00	50	58.08	106	48.51	88	12.51	23	190,370	214.41	486	99,950	90,420
13390+70.00	20	57.07	43	47.67	36	8.85	8	190,378	210.77	197	100,147	90,231
13391+00.00	30	54.65	62	45.35	52	5.61	8	190,386	301.84	356	100,503	89,883
13391+35.00	35	54.95	71	45.58	59	3.01	6	190,392	256.39	452	100,955	89,437
13391+50.00	15	54.86	31	45.59	25	3.20	2	190,394	244.13	174	101,129	89,265
13392+00.00	50	54.35	101	45.09	84	6.83	9	190,403	218.68	536	101,665	88,738
13392+50.00	50	49.33	96	40.03	79	7.85	14	190,417	176.86	458	102,123	88,294
13392+64.60	15	48.32	26	39.06	21	11.05	5	190,422	164.24	115	102,238	88,184
13393+00.00	35	45.39	61	35.98	49	10.97	14	190,436	138.10	248	102,486	87,950

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13393+09.60	10	45.80	16	36.35	13	14.05	4	190,440	134.80	61	102,547	87,893
13393+50.00	40	46.24	69	36.63	55	20.83	26	190,466	118.19	237	102,784	87,682
13393+80.00	30	46.30	51	36.60	41	24.61	25	190,491	114.08	161	102,945	87,546
13394+00.00	20	46.26	34	36.52	27	25.16	18	190,509	116.15	107	103,052	87,457
13394+50.00	50	45.68	85	36.12	67	22.16	44	190,553	119.93	273	103,325	87,228
13395+00.00	50	44.21	83	34.50	65	15.62	35	190,588	114.72	272	103,597	86,991
13395+21.60	22	43.83	35	34.11	27	15.04	12	190,600	111.55	113	103,710	86,890
13395+50.00	28	43.48	46	33.75	36	14.92	16	190,616	106.13	143	103,853	86,763
13395+69.40	19	43.11	31	33.37	24	14.64	11	190,627	105.82	95	103,948	86,679
13396+00.00	31	43.27	49	33.46	38	14.16	16	190,643	107.74	151	104,099	86,544
13396+05.50	6	43.28	9	33.47	7	14.17	3	190,646	108.01	27	104,126	86,520
13396+50.00	45	43.65	72	33.77	55	14.50	24	190,670	114.43	229	104,355	86,315
13396+53.30	3	43.71	5	33.84	4	14.62	2	190,672	114.70	18	104,373	86,299
13397+00.00	47	43.90	76	33.96	59	14.53	25	190,697	117.60	251	104,624	86,073
13397+50.00	50	44.51	82	34.62	64	13.39	26	190,723	122.14	277	104,901	85,822
13397+75.00	25	45.10	41	35.24	32	12.76	12	190,735	127.12	144	105,045	85,690
13398+00.00	25	45.41	42	35.57	33	12.15	12	190,747	131.11	149	105,194	85,553
13398+13.30	13	45.40	22	35.57	18	11.90	6	190,753	130.90	81	105,275	85,478
13398+50.00	37	45.05	61	35.25	48	8.53	14	190,767	129.31	221	105,496	85,271
13399+00.00	50	42.18	81	32.57	63	3.79	11	190,778	133.82	305	105,801	84,977
13399+50.00	50	45.45	81	36.16	64	3.36	7	190,785	140.41	317	106,118	84,667
13399+59.00	9	45.41	15	36.23	12	3.85	1	190,786	140.44	59	106,177	84,609
13400+00.00	41	49.07	72	39.88	58	14.10	14	190,800	144.51	270	106,447	84,353
13400+09.30	9	48.11	17	38.90	14	3.44	3	190,803	152.39	64	106,511	84,292
13400+50.00	41	51.42	75	41.93	61	10.29	10	190,813	161.49	296	106,807	84,006
13401+00.00	50	51.12	95	41.73	77	8.77	18	190,831	170.94	385	107,192	83,639
13401+50.00	50	51.33	95	41.81	77	8.33	16	190,847	159.96	383	107,575	83,272
13402+00.00	50	53.65	97	44.02	79	12.10	19	190,866	174.94	388	107,963	82,903
13402+50.00	50	54.83	100	45.19	83	14.81	25	190,891	178.83	409	108,372	82,519
13403+00.00	50	53.49	100	44.00	83	5.91	19	190,910	191.82	429	108,801	82,109
13403+50.00	50	50.85	97	41.38	79	3.21	8	190,918	185.62	437	109,238	81,680
13404+00.00	50	51.37	95	42.25	77	4.57	7	190,925	167.27	408	109,646	81,279
13404+50.00	50	44.07	88	34.71	71	0.70	5	190,930	168.16	388	110,034	80,896
13405+00.00	50	45.39	83	36.04	66	1.09	2	190,932	173.64	396	110,430	80,502
13405+50.00	50	44.17	83	34.62	65	0.86	2	190,934	172.37	400	110,830	80,104
13406+00.00	50	43.62	81	33.86	63	0.91	2	190,936	171.21	398	111,228	79,708
13406+50.00	50	40.71	78	31.04	60	1.07	2	190,938	159.80	383	111,611	79,327
13407+00.00	50	37.59	73	28.11	55	2.42	3	190,941	133.46	339	111,950	78,991
13407+50.00	50	36.11	68	26.93	51	0.88	3	190,944	134.51	310	112,260	78,684
13408+00.00	50	33.61	65	24.44	48	0.95	2	190,946	108.95	282	112,542	78,404
13408+50.00	50	32.90	62	23.64	45	1.72	2	190,948	103.94	246	112,788	78,160
13409+00.00	50	46.92	74	37.74	57	14.19	15	190,963	105.31	242	113,030	77,933
13409+50.00	50	46.09	86	36.92	69	1.30	14	190,977	135.26	278	113,308	77,669
13410+00.00	50	37.74	78	28.47	61	2.47	3	190,980	116.59	291	113,599	77,381
13410+50.00	50	28.33	61	19.35	44	2.30	4	190,984	62.18	207	113,806	77,178
13410+70.00	20	17.58	17	10.93	11	4.31	2	190,986	51.97	53	113,859	77,127
13411+00.00	30	32.69	28	23.40	19	3.09	4	190,990	79.21	91	113,950	77,040
13411+50.00	50	34.37	62	24.99	45	2.51	5	190,995	106.93	215	114,165	76,830
13412+00.00	50	35.17	64	25.72	47	2.17	4	190,999	107.71	248	114,413	76,586
13412+50.00	50	73.27	100	16.18	39	5.15	7	191,006	326.34	502	114,915	76,091
13413+00.00	50	45.48	110	36.19	48	1.94	7	191,013	203.00	613	115,528	75,485
13413+50.00	50	53.86	92	44.20	74	1.27	3	191,016	285.16	565	116,093	74,923
13414+00.00	50	56.31	102	47.01	84	1.78	3	191,019	308.00	687	116,780	74,239
13414+50.00	50	58.61	106	49.71	90	1.07	3	191,022	323.16	731	117,511	73,511

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Mountrail County, ND

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	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13415+00.00	50	60.24	110	51.25	93	0.81	2	191,024	352.42	782	118,293	72,731
13415+50.00	50	61.57	113	52.48	96	0.66	1	191,025	377.84	845	119,138	71,887
13416+00.00	50	59.41	112	50.39	95	1.09	2	191,027	366.92	862	120,000	71,027
13416+50.00	50	56.40	107	47.16	90	1.65	3	191,030	341.07	819	120,819	70,211
13416+50.20	0	56.36	0	47.06	0	1.64	0	191,030	347.44	3	120,822	70,208
13417+00.00	50	53.12	101	43.81	84	1.20	3	191,033	314.87	763	121,585	69,448
13417+00.50	1	53.10	1	43.79	1	1.19	0	191,033	314.58	7	121,592	69,441
13417+50.00	50	48.44	93	38.94	76	1.23	2	191,035	265.02	664	122,256	68,779
13418+00.00	50	44.40	86	34.64	68	1.61	3	191,038	207.30	547	122,803	68,235
13418+46.20	46	46.83	78	37.09	61	6.59	7	191,045	170.80	404	123,207	67,838
13418+50.00	4	46.68	7	36.96	5	24.84	2	191,047	160.31	29	123,236	67,811
13418+80.00	30	45.89	51	36.23	41	26.89	29	191,076	143.45	211	123,447	67,629
13419+00.00	20	45.84	34	36.19	27	27.78	20	191,096	142.70	132	123,579	67,517
13419+50.00	50	45.45	85	35.56	66	27.39	51	191,147	128.49	314	123,893	67,254
13420+00.00	50	46.82	85	36.91	67	34.23	57	191,204	121.98	290	124,183	67,021
13420+15.00	15	46.83	26	36.99	21	35.19	19	191,223	120.53	84	124,267	66,956
13420+50.00	35	46.39	60	36.51	48	30.81	43	191,266	116.72	192	124,459	66,807
13420+58.20	8	46.36	14	36.46	11	30.73	9	191,275	116.48	44	124,503	66,772
13421+00.00	42	46.54	72	36.63	57	25.53	44	191,319	128.66	237	124,740	66,579
13421+06.00	6	46.54	10	36.60	8	24.42	6	191,325	130.51	36	124,776	66,549
13421+50.00	44	45.54	75	35.61	59	23.66	39	191,364	127.85	263	125,039	66,325
13422+00.00	50	45.96	85	36.00	66	28.30	48	191,412	120.27	287	125,326	66,086
13422+50.00	50	45.92	85	35.91	67	31.34	55	191,467	119.48	277	125,603	65,864
13423+00.00	50	45.72	85	35.76	66	34.25	61	191,528	127.11	285	125,888	65,640
13423+50.00	50	44.28	83	34.40	65	30.45	60	191,588	120.25	286	126,174	65,414
13424+00.00	50	42.96	81	33.31	63	25.46	52	191,640	112.29	269	126,443	65,197
13424+10.00	10	41.85	16	32.24	12	5.06	6	191,646	117.03	53	126,496	65,150
13424+40.00	30	18.44	33	11.52	24	1.46	4	191,650	70.55	130	126,626	65,024
13424+40.00			230		150		0	191,650		1,400	128,026	63,624
13424+50.00	10	18.39	7	11.45	4	1.34	1	191,651	70.54	33	128,059	63,592
13425+00.00	50	32.51	47	22.98	32	2.26	3	191,654	106.95	205	128,264	63,390
13425+50.00	50	34.41	62	24.77	44	2.09	4	191,658	114.94	257	128,521	63,137
13426+00.00	50	35.10	64	25.61	47	2.09	4	191,662	120.64	273	128,794	62,868
13426+50.00	50	35.35	65	25.62	47	2.06	4	191,666	120.07	279	129,073	62,593
13427+00.00	50	40.79	71	31.13	53	2.20	4	191,670	129.23	289	129,362	62,308
13427+50.00	50	48.93	83	39.26	65	52.66	51	191,721	124.69	294	129,656	62,065
13428+00.00	50	47.52	89	37.91	71	72.26	116	191,837	124.13	288	129,944	61,893
13428+50.00	50	50.62	91	40.78	73	99.20	159	191,996	123.95	287	130,231	61,765
13429+00.00	50	52.91	96	43.14	78	115.35	199	192,195	125.46	289	130,520	61,675
13429+50.00	50	51.85	97	42.29	79	104.60	204	192,399	127.80	293	130,813	61,586
13430+00.00	50	52.11	96	42.36	78	107.13	196	192,595	120.12	287	131,100	61,495
13430+50.00	50	52.88	97	43.29	79	121.25	211	192,806	115.25	272	131,372	61,434
13431+00.00	50	54.17	99	44.71	81	128.66	231	193,037	114.97	266	131,638	61,399
13431+50.00	50	55.32	101	45.70	84	119.19	229	193,266	98.30	247	131,885	61,381
13432+00.00	50	70.22	116	52.65	91	417.03	497	193,763	83.90	211	132,096	61,667
13432+50.00	50	75.28	135	65.85	110	466.09	818	194,581	106.12	220	132,316	62,265
13433+00.00	50	72.07	136	62.61	119	408.43	810	195,391	105.50	245	132,561	62,830
13433+50.00	50	62.31	124	52.68	107	237.34	598	195,989	108.84	248	132,809	63,180
13434+00.00	50	60.74	114	51.35	96	178.08	385	196,374	108.79	252	133,061	63,313
13434+50.00	50	62.72	114	53.15	97	252.62	399	196,773	103.83	246	133,307	63,466
13435+00.00	50	62.26	116	52.52	98	232.57	449	197,222	99.35	235	133,542	63,680
13435+50.00	50	63.94	117	54.33	99	264.07	460	197,682	110.36	243	133,785	63,897
13435+61.10	11	64.54	26	54.93	22	260.51	108	197,790	110.45	57	133,842	63,948
13436+00.00	39	65.53	94	55.91	80	229.05	353	198,143	110.71	199	134,041	64,102

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

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		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13436+08.90	9	65.88	22	56.25	18	224.21	75	198,218	110.49	46	134,087	64,131
13436+50.00	41	66.57	101	56.94	86	237.18	351	198,569	112.00	212	134,299	64,270
13436+60.00	10	66.28	25	56.69	21	233.19	87	198,656	110.39	51	134,350	64,306
13436+65.00	5	66.16	12	56.60	10	248.92	45	198,701	104.95	25	134,375	64,326
13437+00.00	35	65.86	86	56.40	73	252.32	325	199,026	105.15	170	134,545	64,481
13437+50.00	50	62.07	118	52.60	101	231.57	448	199,474	92.25	228	134,773	64,701
13438+00.00	50	54.78	108	45.43	91	210.49	409	199,883	71.30	189	134,962	64,921
13438+20.90	21	51.33	41	42.09	34	203.45	160	200,043	54.18	61	135,023	65,020
13438+50.00	29	47.53	53	30.93	39	192.61	213	200,256	29.07	56	135,079	65,177
13438+65.90	16	45.22	27	29.51	18	187.02	112	200,368	23.47	19	135,098	65,270
13439+00.00	34	49.81	60	34.71	41	196.96	242	200,610	13.91	30	135,128	65,482
13439+50.00	50	52.88	95	38.00	67	262.41	425	201,035	6.49	24	135,152	65,883
13440+00.00	50	52.49	98	38.29	71	288.63	510	201,545	3.80	12	135,164	66,381
13440+50.00	50	53.07	98	38.83	71	322.26	566	202,111	3.18	8	135,172	66,939
13441+00.00	50	52.55	98	39.12	72	341.45	615	202,726	1.74	6	135,178	67,548
13441+50.00	50	50.74	96	37.87	71	328.44	620	203,346	0.36	2	135,180	68,166
13442+00.00	50	48.18	92	35.05	68	284.82	568	203,914	0.32	1	135,181	68,733
13442+50.00	50	46.57	88	32.93	63	263.93	508	204,422	0.89	1	135,182	69,240
13443+00.00	50	46.79	86	33.04	61	256.34	482	204,904	1.35	3	135,185	69,719
13443+21.80	22	47.04	38	33.65	27	247.78	204	205,108	0.99	1	135,186	69,922
13443+50.00	28	47.27	49	33.25	35	234.11	252	205,360	2.97	3	135,189	70,171
13443+66.80	17	46.76	29	32.01	20	226.69	143	205,503	4.78	3	135,192	70,311
13444+00.00	33	48.45	59	33.15	40	225.96	278	205,781	7.44	9	135,201	70,580
13444+40.00	40	48.61	72	33.50	49	210.05	323	206,104	8.92	15	135,216	70,888
13444+50.00	10	48.59	18	33.61	12	195.90	75	206,179	8.15	4	135,220	70,959
13445+00.00	50	11.19	55	0.00	31	150.23	320	206,499	5.00	15	135,235	71,264
13445+50.00	50	50.20	57	40.85	38	140.90	270	206,769	37.61	49	135,284	71,485
13445+78.80	29	50.33	54	40.65	43	117.79	138	206,907	51.35	59	135,343	71,564
13446+00.00	21	50.53	40	40.77	32	107.11	88	206,995	61.28	55	135,398	71,597
13446+26.60	27	46.51	48	36.65	38	102.83	103	207,098	72.18	82	135,480	71,618
13446+50.00	23	47.27	41	37.45	32	106.96	91	207,189	83.81	84	135,564	71,625
13446+63.30	13	47.55	23	37.77	19	106.82	53	207,242	90.00	54	135,618	71,624
13447+00.00	37	48.66	65	38.93	52	91.91	135	207,377	100.42	162	135,780	71,597
13447+11.10	11	49.07	20	39.37	16	90.24	37	207,414	102.15	52	135,832	71,582
13447+50.00	39	47.77	70	38.08	56	69.14	115	207,529	116.31	197	136,029	71,500
13448+00.00	50	45.81	87	36.16	69	50.54	111	207,640	130.34	285	136,314	71,326
13448+50.00	50	45.00	84	35.23	66	43.03	87	207,727	147.78	322	136,636	71,091
13448+51.10	1	45.04	2	35.24	1	43.22	2	207,729	148.03	8	136,644	71,085
13449+00.00	49	45.61	82	35.76	64	43.97	79	207,808	158.42	347	136,991	70,817
13449+24.00	24	45.77	41	35.98	32	35.17	35	207,843	168.29	182	137,173	70,670
13449+49.10	25	45.61	42	35.91	33	31.07	31	207,874	175.51	200	137,373	70,501
13449+50.00	1	45.60	2	35.90	1	30.92	1	207,875	175.63	7	137,380	70,495
13450+00.00	50	46.60	85	36.89	67	19.21	46	207,921	188.49	421	137,801	70,120
13450+50.00	50	48.59	88	39.31	71	6.28	24	207,945	217.62	470	138,271	69,674
13451+00.00	50	45.37	87	36.39	70	1.45	7	207,952	211.58	497	138,768	69,184
13451+50.00	50	43.93	83	35.10	66	0.16	1	207,953	191.48	467	139,235	68,718
13452+00.00	50	42.85	80	34.38	64	0.35	0	207,953	174.19	423	139,658	68,295
13452+50.00	50	35.54	73	27.39	57	0.14	0	207,953	161.97	389	140,047	67,906
13453+00.00	50	34.63	65	26.76	50	1.32	1	207,954	149.70	361	140,408	67,546
13453+50.00	50	34.61	64	27.04	50	4.64	6	207,960	135.36	330	140,738	67,222
13454+00.00	50	34.11	64	26.67	50	8.55	12	207,972	120.80	296	141,034	66,938
13454+50.00	50	33.10	62	25.52	48	20.28	27	207,999	100.80	256	141,290	66,709
13455+00.00	50	30.52	59	23.44	45	34.81	51	208,050	83.13	213	141,503	66,547
13455+50.00	50	35.41	61	28.49	48	46.47	75	208,125	62.94	169	141,672	66,453

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Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13456+00.00	50	42.29	72	35.61	59	87.63	124	208,249	32.93	111	141,783	66,466
13456+50.00	50	55.07	90	48.78	78	206.29	272	208,521	11.59	52	141,835	66,686
13457+00.00	50	61.71	108	55.70	97	330.78	497	209,018	1.68	15	141,850	67,168
13457+04.30	4	62.30	10	56.31	9	345.07	54	209,072	1.05	0	141,850	67,222
13457+29.40	25	65.42	59	58.41	53	415.99	354	209,426	0.10	1	141,851	67,575
13457+50.00	21	68.97	51	63.20	46	474.37	340	209,766	0.10	0	141,851	67,915
13458+00.00	50	77.05	135	71.13	124	641.00	1,033	210,799	0.10	0	141,851	68,948
13458+02.30	2	77.33	7	71.38	6	646.95	55	210,854	0.10	0	141,851	69,003
13458+50.00	48	81.53	140	75.56	130	740.15	1,225	212,079	0.10	0	141,851	70,228
13458+70.00	20	82.36	61	76.41	56	754.69	554	212,633	0.10	0	141,851	70,782
13459+00.00	30	83.82	92	77.85	86	788.67	857	213,490	0.10	0	141,851	71,639
13459+42.30	42	84.98	132	79.09	123	861.45	1,293	214,783	0.10	0	141,851	72,932
13459+50.00	8	84.89	24	79.05	23	863.15	246	215,029	0.10	0	141,851	73,178
13459+85.00	35	89.10	113	33.97	73	956.25	1,179	216,208	0.10	0	141,851	74,357
13459+90.10	5	41.70	12	31.72	6	957.88	181	216,389	0.10	0	141,851	74,538
13460+00.00	10	32.57	14	64.98	18	923.59	345	216,734	0.10	0	141,851	74,883
13460+20.00	20	34.09	25	31.54	36	360.72	476	217,210	0.05	0	141,851	75,359
13460+20.00			301		260		1,455	218,665		449	142,300	76,365
13460+50.00	30	62.40	54	63.72	53	767.76	627	219,292	0.10	0	142,300	76,992
13461+00.00	50	60.07	113	54.24	109	499.65	1,174	220,466	0.10	0	142,300	78,166
13461+50.00	50	56.71	108	50.75	97	402.99	836	221,302	0.10	0	142,300	79,002
13462+00.00	50	56.47	105	50.45	94	335.48	684	221,986	0.10	0	142,300	79,686
13462+50.00	50	57.75	106	44.96	88	250.04	542	222,528	4.07	5	142,305	80,223
13463+00.00	50	55.82	105	42.66	81	172.10	391	222,919	19.12	27	142,332	80,587
13463+50.00	50	54.41	102	48.35	84	93.91	246	223,165	39.10	67	142,399	80,766
13464+00.00	50	43.60	91	37.01	79	46.24	130	223,295	75.66	133	142,532	80,763
13464+50.00	50	45.50	83	38.81	70	33.48	74	223,369	108.70	213	142,745	80,624
13464+65.00	15	45.34	25	38.66	22	28.47	17	223,386	119.65	79	142,824	80,562
13464+75.00	10	51.23	18	44.17	15	37.85	12	223,398	122.93	56	142,880	80,518
13465+00.00	25	52.74	48	45.68	42	46.20	39	223,437	132.04	148	143,028	80,409
13465+50.00	50	53.34	98	46.24	85	51.58	91	223,528	117.73	289	143,317	80,211
13466+00.00	50	59.78	105	52.88	92	58.12	102	223,630	157.11	318	143,635	79,995
13466+50.00	50	78.74	128	71.54	115	49.17	99	223,729	281.88	508	144,143	79,586
13466+65.00	15	78.61	44	71.56	40	64.56	32	223,761	291.82	199	144,342	79,419
13467+00.00	35	80.66	103	73.86	94	119.74	119	223,880	329.96	504	144,846	79,034
13467+30.00	30	77.13	88	70.16	80	102.04	123	224,003	261.19	411	145,257	78,746
13467+50.00	20	75.93	57	68.95	52	113.74	80	224,083	243.32	234	145,491	78,592
13468+00.00	50	70.98	136	64.07	123	96.83	195	224,278	191.65	503	145,994	78,284
13468+50.00	50	63.81	125	57.03	112	47.30	133	224,411	169.19	418	146,412	77,999
13469+00.00	50	63.44	118	57.08	106	32.62	74	224,485	130.83	347	146,759	77,726
13469+00.00							7,713	232,198		0	146,759	85,439
13469+50.00	50	71.12	125	64.63	113	89.16	113	232,311	149.04	324	147,083	85,228
13470+00.00	50	71.88	132	65.67	121	125.70	199	232,510	106.15	295	147,378	85,132
13470+50.00	50	52.36	115	46.20	104	45.82	159	232,669	68.28	202	147,580	85,089
13471+00.00	50	38.51	84	32.38	73	18.69	60	232,729	60.02	148	147,728	85,001
13471+50.00	50	40.54	73	34.57	62	27.86	43	232,772	61.99	141	147,869	84,903
13472+00.00	50	40.88	75	34.95	64	26.22	50	232,822	63.91	146	148,015	84,807
13472+50.00	50	40.67	76	35.05	65	21.64	44	232,866	65.66	150	148,165	84,701
13473+00.00	50	39.28	74	33.54	64	14.25	33	232,899	66.51	153	148,318	84,581
13473+50.00	50	36.56	70	30.65	59	11.26	24	232,923	61.33	148	148,466	84,457
13474+00.00	50	35.50	67	29.61	56	12.78	22	232,945	56.18	136	148,602	84,343
13474+50.00	50	34.78	65	28.85	54	9.21	20	232,965	60.65	135	148,737	84,228
13475+00.00	50	32.66	62	26.64	51	3.37	12	232,977	75.74	158	148,895	84,082
13475+50.00	50	28.26	56	22.19	45	3.51	6	232,983	72.27	171	149,066	83,917

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	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13475+63.20	13	28.45	14	22.36	11	3.62	2	232,985	71.86	44	149,110	83,875
13476+00.00	37	28.46	39	22.37	30	4.01	5	232,990	67.59	119	149,229	83,761
13476+11.00	11	28.39	12	22.32	9	3.48	2	232,992	66.63	34	149,263	83,729
13476+50.00	39	28.03	41	22.19	32	2.65	4	232,996	69.98	123	149,386	83,610
13477+00.00	50	28.93	53	23.22	42	2.22	5	233,001	80.11	174	149,560	83,441
13477+50.00	50	30.34	55	24.42	44	2.40	4	233,005	95.16	203	149,763	83,242
13477+51.00	1	30.35	1	24.46	1	2.39	0	233,005	95.63	4	149,767	83,238
13478+00.00	49	31.39	56	25.66	45	2.23	4	233,009	118.41	243	150,010	82,999
13478+31.70	32	32.00	37	26.26	30	2.82	3	233,012	131.97	184	150,194	82,818
13478+50.00	18	32.26	22	26.48	18	3.00	2	233,014	136.50	114	150,308	82,706
13478+82.00	32	32.15	38	26.39	31	2.19	3	233,017	139.58	205	150,513	82,504
13479+00.00	18	31.51	21	25.90	17	1.72	1	233,018	129.56	112	150,625	82,393
13479+25.00	25	29.62	28	23.97	23	2.63	2	233,020	101.58	134	150,759	82,261
13479+35.00	10	36.88	12	31.18	10	27.37	6	233,026	84.39	43	150,802	82,224
13479+50.00	15	36.75	20	30.97	17	26.35	15	233,041	81.29	58	150,860	82,181
13480+00.00	50	38.26	69	32.64	59	25.09	48	233,089	68.47	173	151,033	82,056
13480+50.00	50	40.54	73	34.84	62	43.77	64	233,153	53.02	141	151,174	81,979
13481+00.00	50	48.58	83	42.80	72	71.02	106	233,259	60.71	132	151,306	81,953
13481+50.00	50	54.45	95	48.78	85	107.96	166	233,425	73.12	155	151,461	81,964
13482+00.00	50	51.76	98	45.93	88	109.58	201	233,626	92.12	191	151,652	81,974
13482+50.00	50	51.10	95	45.39	85	130.98	223	233,849	108.77	233	151,885	81,964
13483+00.00	50	54.27	98	48.68	87	166.10	275	234,124	125.06	271	152,156	81,968
13483+45.00	45	23.90	65	26.59	63	86.50	211	234,335	71.15	204	152,360	81,975
13483+50.00	5	30.86	5	26.54	5	86.33	16	234,351	78.07	17	152,377	81,974
13484+00.00	50	51.07	76	45.65	67	123.39	194	234,545	132.44	244	152,621	81,924
13484+50.00	50	47.17	91	41.70	81	96.92	204	234,749	143.26	319	152,940	81,809
13485+00.00	50	46.51	87	41.09	77	95.98	179	234,928	154.91	345	153,285	81,643
13485+50.00	50	44.29	84	38.76	74	82.82	166	235,094	191.28	401	153,686	81,408
13486+00.00	50	40.40	78	35.13	68	86.95	157	235,251	183.12	433	154,119	81,132
13486+50.00	50	39.67	74	34.59	65	88.66	163	235,414	158.88	396	154,515	80,899
13487+00.00	50	38.62	72	33.15	63	96.52	171	235,585	140.39	346	154,861	80,724
13487+50.00	50	42.19	75	36.68	65	102.75	185	235,770	124.10	306	155,167	80,603
13488+00.00	50	36.42	73	31.00	63	95.13	183	235,953	99.88	259	155,426	80,527
13488+50.00	50	34.79	66	29.04	56	99.45	180	236,133	78.75	207	155,633	80,500
13488+85.00	35	51.75	56	8.27	24	13.22	73	236,206	92.07	138	155,771	80,435
13489+00.00	15	24.60	21	29.27	10	102.09	32	236,238	73.94	58	155,829	80,409
13489+50.00	50	43.68	63	38.36	63	81.76	170	236,408	85.77	185	156,014	80,394
13490+00.00	50	35.09	73	29.72	63	57.45	129	236,537	82.55	195	156,209	80,328
13490+50.00	50	25.88	56	17.67	44	8.88	61	236,598	60.07	165	156,374	80,224
13490+75.00	25	0.00	12	1.80	9	19.50	13	236,611	4.89	38	156,412	80,199
13491+00.00	25	19.95	9	22.10	11	67.93	40	236,651	0.62	3	156,415	80,236
13491+50.00	50	35.36	51	29.88	48	19.35	81	236,732	77.17	90	156,505	80,227
13492+00.00	50	36.97	67	31.50	57	22.19	38	236,770	88.31	192	156,697	80,073
13492+50.00	50	36.80	68	31.08	58	18.42	38	236,808	94.92	212	156,909	79,899
13492+77.60	28	36.72	38	31.02	32	19.55	19	236,827	104.02	127	157,036	79,791
13493+00.00	22	35.78	30	30.31	25	19.93	16	236,843	104.68	108	157,144	79,699
13493+27.90	28	30.72	34	25.24	29	19.41	20	236,863	99.34	132	157,276	79,587
13493+45.00	17	31.22	20	25.68	16	18.60	12	236,875	102.19	80	157,356	79,519
13493+50.00	5	31.40	6	25.86	5	3.43	2	236,877	112.55	25	157,381	79,496
13494+00.00	50	32.82	59	27.15	49	1.73	5	236,882	127.76	278	157,659	79,223
13494+08.60	9	32.63	10	26.93	9	1.77	1	236,883	125.43	50	157,709	79,174
13494+50.00	41	32.02	50	26.30	41	2.35	3	236,886	112.52	228	157,937	78,949
13495+00.00	50	31.15	58	25.54	48	3.18	5	236,891	89.81	234	158,171	78,720
13495+48.60	49	31.16	56	25.32	46	3.05	6	236,897	87.18	199	158,370	78,527

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13495+50.00	1	31.17	2	25.32	1	3.91	0	236,897	87.22	6	158,376	78,521
13495+96.40	46	31.14	54	25.34	44	4.72	7	236,904	88.56	189	158,565	78,339
13496+00.00	4	31.17	4	25.36	3	4.72	1	236,905	88.95	15	158,580	78,325
13496+50.00	50	31.19	58	25.30	47	4.60	9	236,914	94.26	212	158,792	78,122
13497+00.00	50	31.63	58	25.69	47	4.02	8	236,922	97.67	222	159,014	77,908
13497+50.00	50	32.26	59	26.52	48	2.71	6	236,928	102.81	232	159,246	77,682
13497+82.10	32	32.41	38	26.66	32	2.48	3	236,931	99.33	150	159,396	77,535
13498+00.00	18	32.38	21	26.61	18	2.68	2	236,933	97.11	81	159,477	77,456
13498+29.90	30	32.40	36	26.63	29	2.48	3	236,936	95.47	133	159,610	77,326
13498+50.00	20	32.36	24	26.68	20	2.67	2	236,938	94.16	88	159,698	77,240
13499+00.00	50	31.79	59	26.22	49	2.22	5	236,943	85.69	208	159,906	77,037
13499+50.00	50	32.27	59	26.67	49	1.30	3	236,946	98.15	213	160,119	76,827
13499+69.90	20	33.02	24	27.39	20	1.39	1	236,947	100.70	92	160,211	76,736
13500+00.00	30	33.05	37	27.42	31	1.56	2	236,949	106.21	144	160,355	76,594
13500+50.00	50	35.03	63	29.42	53	1.72	3	236,952	125.25	268	160,623	76,329
13500+50.60	1	35.04	1	29.45	1	1.73	0	236,952	125.54	3	160,626	76,326
13501+00.00	49	34.94	64	28.83	53	2.59	4	236,956	120.43	281	160,907	76,049
13501+00.90	1	34.89	1	28.82	1	2.61	0	236,956	119.92	5	160,912	76,044
13501+50.00	49	34.20	63	28.26	52	2.74	5	236,961	108.44	260	161,172	75,789
13502+00.00	50	42.05	71	36.25	60	1.77	4	236,965	108.47	251	161,423	75,542
13502+50.00	50	39.67	76	36.14	67	13.76	14	236,979	85.33	224	161,647	75,332
13502+65.00	15	23.68	18	19.63	15	1.24	4	236,983	112.95	69	161,716	75,267
13503+00.00	35	44.21	44	38.32	38	2.71	3	236,986	145.70	210	161,926	75,060
13503+50.00	50	40.75	79	34.04	67	2.94	5	236,991	109.97	296	162,222	74,769
13503+80.00	30	53.46	52	22.91	32	5.99	5	236,996	178.53	200	162,422	74,574
13504+00.00	20	43.84	36	36.74	22	10.36	6	237,002	104.33	131	162,553	74,449
13504+50.00	50	45.90	83	37.13	68	20.21	28	237,030	133.83	276	162,829	74,201
13505+00.00	50	46.42	85	36.85	69	18.06	35	237,065	149.32	328	163,157	73,908
13505+50.00	50	41.18	81	31.63	63	5.23	22	237,087	151.45	348	163,505	73,582
13506+00.00	50	44.46	79	35.13	62	21.12	24	237,111	157.39	357	163,862	73,249
13506+50.00	50	42.89	81	33.41	63	4.30	24	237,135	158.08	365	164,227	72,908
13507+00.00	50	46.45	83	36.14	64	5.77	9	237,144	172.62	383	164,610	72,534
13507+50.00	50	58.17	97	46.94	77	62.56	63	237,207	167.51	394	165,004	72,203
13508+00.00	50	60.30	110	48.44	88	52.16	106	237,313	160.11	379	165,383	71,930
13508+50.00	50	62.35	114	49.96	91	80.29	123	237,436	171.24	384	165,767	71,669
13509+00.00	50	63.96	117	50.78	93	109.20	175	237,611	182.80	410	166,177	71,434
13509+50.00	50	63.99	118	50.13	93	106.39	200	237,811	192.00	434	166,611	71,200
13510+00.00	50	51.95	107	37.54	81	80.41	173	237,984	161.76	409	167,020	70,964
13510+50.00	50	10.96	58	13.87	48	18.37	91	238,075	21.52	212	167,232	70,843
13510+70.00	20	0.00	4	0.00	5	38.94	21	238,096	9.24	14	167,246	70,850
13511+00.00	30	14.79	8	10.51	6	8.52	26	238,122	18.40	19	167,265	70,857
13511+50.00	50	58.40	68	46.62	53	53.07	57	238,179	146.72	191	167,456	70,723
13512+00.00	50	60.86	110	48.77	88	42.25	88	238,267	148.80	342	167,798	70,469
13512+50.00	50	46.48	99	34.24	77	18.07	56	238,323	143.44	338	168,136	70,187
13513+00.00	50	46.90	86	34.40	64	13.63	29	238,352	151.34	341	168,477	69,875
13513+50.00	50	46.44	86	34.28	64	5.14	17	238,369	169.89	372	168,849	69,520
13514+00.00	50	46.90	86	35.15	64	5.90	10	238,379	177.75	402	169,251	69,128
13514+50.00	50	47.71	88	36.03	66	1.43	7	238,386	199.48	437	169,688	68,698
13515+00.00	50	42.85	84	31.25	62	1.53	3	238,389	199.11	461	170,149	68,240
13515+50.00	50	43.56	80	31.95	59	1.55	3	238,392	205.67	468	170,617	67,775
13516+00.00	50	45.07	82	33.68	61	1.21	3	238,395	222.97	496	171,113	67,282
13516+50.00	50	48.28	86	36.54	65	1.92	3	238,398	252.78	551	171,664	66,734
13516+69.70	20	49.13	36	37.37	27	2.07	1	238,399	270.94	239	171,903	66,496
13517+00.00	30	49.50	55	37.81	42	2.01	2	238,401	282.24	388	172,291	66,110

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Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

		Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			
Location	Distance	Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	Mass Ordinate
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13517+20.00	20	49.87	37	38.26	28	1.96	1	238,402	286.59	263	172,554	65,848
13517+50.00	30	47.79	54	36.30	41	1.48	2	238,404	278.01	392	172,946	65,458
13518+00.00	50	43.95	85	32.87	64	0.93	2	238,406	232.68	591	173,537	64,869
13518+50.00	50	41.02	79	30.15	58	1.12	2	238,408	170.95	467	174,004	64,404
13519+00.00	50	43.28	78	32.45	58	11.55	12	238,420	141.94	362	174,366	64,054
13519+40.70	41	43.41	65	32.98	49	16.73	21	238,441	126.93	253	174,619	63,822
13519+50.00	9	43.45	15	33.09	11	14.54	5	238,446	127.39	55	174,674	63,772
13519+88.50	39	42.77	61	32.81	47	3.43	13	238,459	128.62	228	174,902	63,557
13520+00.00	12	33.85	16	24.05	12	0.84	1	238,460	126.92	68	174,970	63,490
13520+50.00	50	32.93	62	23.86	44	1.32	2	238,462	113.14	278	175,248	63,214
13521+00.00	50	44.15	71	35.84	55	4.96	6	238,468	108.49	257	175,505	62,963
13521+50.00	50	44.04	82	36.33	67	8.46	12	238,480	113.34	257	175,762	62,718
13522+00.00	50	42.17	80	34.98	66	5.94	13	238,493	115.61	265	176,027	62,466
13522+50.00	50	41.44	77	34.92	65	4.07	9	238,502	104.49	255	176,282	62,220
13523+00.00	50	36.28	72	30.24	60	1.37	5	238,507	95.95	232	176,514	61,993
13523+50.00	50	31.20	62	25.40	52	1.10	2	238,509	90.32	216	176,730	61,779
13523+61.90	12	31.20	14	25.40	11	0.99	0	238,509	90.09	50	176,780	61,729
13524+00.00	38	31.28	44	25.48	36	0.58	1	238,510	97.06	165	176,945	61,565
13524+09.70	10	31.29	11	25.50	9	0.62	0	238,510	97.39	44	176,989	61,521
13524+50.00	40	31.55	47	25.77	38	1.02	1	238,511	98.95	183	177,172	61,339
13524+80.00	30	31.96	35	26.10	29	0.89	1	238,512	105.65	142	177,314	61,198
13525+00.00	20	32.30	24	26.54	19	0.65	1	238,513	111.25	100	177,414	61,099
13525+49.70	50	33.28	60	27.75	50	0.51	1	238,514	110.92	256	177,670	60,844
13525+50.00	0	33.29	0	27.77	0	0.52	0	238,514	110.92	2	177,672	60,842
13525+97.40	47	34.17	59	28.66	50	0.98	1	238,515	113.37	246	177,918	60,597
13526+00.00	3	34.18	3	28.68	3	1.01	0	238,515	113.33	14	177,932	60,583
13526+47.70	48	35.04	61	29.47	51	1.73	2	238,517	125.93	264	178,196	60,321
13526+50.00	2	35.04	3	29.49	3	1.59	0	238,517	126.07	13	178,209	60,308
13527+00.00	50	32.96	63	27.52	53	1.09	2	238,519	116.15	280	178,489	60,030
13527+50.00	50	31.53	60	25.80	49	1.33	2	238,521	103.43	254	178,743	59,778
13528+00.00	50	30.85	58	24.97	47	1.30	2	238,523	99.12	234	178,977	59,546
13528+50.00	50	29.79	56	24.20	46	1.63	3	238,526	96.24	226	179,203	59,323
13529+00.00	50	29.41	55	23.71	44	2.24	4	238,530	93.51	220	179,423	59,107
13529+50.00	50	29.46	55	24.00	44	2.46	4	238,534	90.53	213	179,636	58,898
13530+00.00	50	29.34	54	23.71	44	3.64	6	238,540	87.17	206	179,842	58,698
13530+50.00	50	30.21	55	24.53	45	2.55	6	238,546	90.23	205	180,047	58,499
13531+00.00	50	29.73	56	24.18	45	2.46	5	238,551	92.47	211	180,258	58,293
13531+50.00	50	30.18	55	24.62	45	1.39	4	238,555	95.40	217	180,475	58,080
13532+00.00	50	30.99	57	25.44	46	1.59	3	238,558	106.35	234	180,709	57,849
13532+23.50	24	31.37	27	25.90	22	1.53	1	238,559	113.57	120	180,829	57,730
13532+50.00	27	31.63	31	26.01	25	1.06	1	238,560	110.87	138	180,967	57,593
13532+73.80	24	31.77	28	26.02	23	0.87	1	238,561	109.85	122	181,089	57,472
13533+00.00	26	31.27	31	25.38	25	0.67	1	238,562	103.37	129	181,218	57,344
13533+21.50	22	30.97	25	25.09	20	0.88	1	238,563	101.77	102	181,320	57,243
13533+50.00	29	30.91	33	25.11	26	0.84	1	238,564	102.12	135	181,455	57,109
13534+00.00	50	31.10	57	25.30	47	0.94	2	238,566	99.65	234	181,689	56,877
13534+50.00	50	30.74	57	24.79	46	0.89	2	238,568	92.86	223	181,912	56,656
13534+61.50	12	30.77	13	24.82	11	0.64	0	238,568	94.25	50	181,962	56,606
13535+00.00	39	30.19	43	24.19	35	0.95	1	238,569	86.10	161	182,123	56,446
13535+09.30	9	29.95	10	24.00	8	1.08	0	238,569	82.92	36	182,159	56,410
13535+50.00	41	29.13	45	23.23	36	1.24	2	238,571	76.08	150	182,309	56,262
13536+00.00	50	29.03	54	23.09	43	1.25	2	238,573	76.99	177	182,486	56,087
13536+50.00	50	24.88	50	20.76	41	1.04	2	238,575	53.66	151	182,637	55,938
13536+70.00	20	15.24	15	12.25	12	1.09	1	238,576	78.62	61	182,698	55,878

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		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13537+00.00	30	28.80	24	23.35	20	1.29	1	238,577	65.54	100	182,798	55,779
13537+50.00	50	29.94	54	24.26	44	1.42	3	238,580	88.90	179	182,977	55,603
13538+00.00	50	31.53	57	25.68	46	1.96	3	238,583	97.58	216	183,193	55,390
13538+50.00	50	32.11	59	26.15	48	2.32	4	238,587	94.95	223	183,416	55,171
13539+00.00	50	31.15	59	25.19	48	1.85	4	238,591	88.93	213	183,629	54,962
13539+50.00	50	30.77	57	24.80	46	1.38	3	238,594	88.69	206	183,835	54,759
13540+00.00	50	30.23	56	24.02	45	0.89	2	238,596	81.81	197	184,032	54,564
13540+50.00	50	29.06	55	23.04	44	0.77	2	238,598	74.44	181	184,213	54,385
13541+00.00	50	29.07	54	23.12	43	0.46	1	238,599	79.33	178	184,391	54,208
13541+50.00	50	27.81	53	21.73	42	0.67	1	238,600	73.14	176	184,567	54,033
13542+00.00	50	29.27	53	23.37	42	0.20	1	238,601	92.33	192	184,759	53,842
13542+50.00	50	23.95	49	19.73	40	0.35	1	238,602	61.25	178	184,937	53,665
13542+70.00	20	16.02	15	12.84	12	0.23	0	238,602	62.02	57	184,994	53,608
13543+00.00	30	30.28	26	24.33	21	0.82	1	238,603	91.09	106	185,100	53,503
13543+50.00	50	31.17	57	25.15	46	0.89	2	238,605	111.61	235	185,335	53,270
13544+00.00	50	31.67	58	25.52	47	1.67	2	238,607	101.92	247	185,582	53,025
13544+50.00	50	31.50	58	25.40	47	1.60	3	238,610	102.02	236	185,818	52,792
13545+00.00	50	31.03	58	24.96	47	1.54	3	238,613	102.76	237	186,055	52,558
13545+50.00	50	30.68	57	24.52	46	1.36	3	238,616	95.49	229	186,284	52,332
13546+00.00	50	30.24	56	24.14	45	1.79	3	238,619	91.78	217	186,501	52,118
13546+50.00	50	30.55	56	24.54	45	1.95	3	238,622	86.80	207	186,708	51,914
13547+00.00	50	30.12	56	24.08	45	1.97	4	238,626	82.11	195	186,903	51,723
13547+50.00	50	29.98	56	24.05	45	2.65	4	238,630	87.97	197	187,100	51,530
13548+00.00	50	30.65	56	24.64	45	3.04	5	238,635	92.33	209	187,309	51,326
13548+50.00	50	30.81	57	24.82	46	2.28	5	238,640	98.23	221	187,530	51,110
13548+83.50	34	31.00	38	24.97	31	2.66	3	238,643	98.29	152	187,682	50,961
13549+00.00	17	31.51	19	25.46	15	2.72	2	238,645	100.25	76	187,758	50,887
13549+31.30	31	32.30	37	26.31	30	2.28	3	238,648	102.91	147	187,905	50,743
13549+50.00	19	32.41	22	26.56	18	2.11	2	238,650	103.88	90	187,995	50,655
13550+00.00	50	32.72	60	26.99	50	2.32	4	238,654	102.91	239	188,234	50,420
13550+50.00	50	32.00	60	26.52	50	0.34	2	238,656	106.68	243	188,477	50,179
13550+71.30	21	31.63	25	26.33	21	0.31	0	238,656	101.58	103	188,580	50,076
13551+00.00	29	31.06	33	25.84	28	0.61	0	238,656	96.55	132	188,712	49,944
13551+50.00	50	29.77	56	24.60	47	1.29	2	238,658	93.19	220	188,932	49,726
13551+52.00	2	29.80	2	24.56	2	1.34	0	238,658	92.51	9	188,941	49,717
13552+00.00	48	29.68	53	24.35	43	2.11	3	238,661	90.98	204	189,145	49,516
13552+02.30	2	29.70	3	24.36	2	2.12	0	238,661	91.22	10	189,155	49,506
13552+50.00	48	29.48	52	24.35	43	2.06	4	238,665	88.80	199	189,354	49,311
13553+00.00	50	29.86	55	24.72	45	1.63	3	238,668	87.15	204	189,558	49,110
13553+50.00	50	29.78	55	24.71	46	2.41	4	238,672	87.50	202	189,760	48,912
13554+00.00	50	29.91	55	25.07	46	2.70	5	238,677	91.07	207	189,967	48,710
13554+50.00	50	30.27	56	25.25	47	2.00	4	238,681	88.01	207	190,174	48,507
13555+00.00	50	31.92	58	26.40	48	2.39	4	238,685	97.83	215	190,389	48,296
13555+50.00	50	31.94	59	26.68	49	1.13	3	238,688	103.23	233	190,622	48,066
13556+00.00	50	31.53	59	26.21	49	1.57	3	238,691	95.08	230	190,852	47,839
13556+50.00	50	30.70	58	25.32	48	1.02	2	238,693	89.66	214	191,066	47,627
13557+00.00	50	30.70	57	25.40	47	0.58	1	238,694	93.69	212	191,278	47,416
13557+50.00	50	31.72	58	26.36	48	1.17	2	238,696	108.29	234	191,512	47,184
13558+00.00	50	32.03	59	26.61	49	1.21	2	238,698	112.28	255	191,767	46,931
13558+50.00	50	31.82	59	26.30	49	1.04	2	238,700	110.57	258	192,025	46,675
13559+00.00	50	32.40	59	26.96	49	1.39	2	238,702	112.20	258	192,283	46,419
13559+50.00	50	32.48	60	27.37	50	2.29	3	238,705	106.45	253	192,536	46,169
13560+00.00	50	32.67	60	27.52	51	2.99	5	238,710	112.99	254	192,790	45,920
13560+50.00	50	32.25	60	27.14	51	2.56	5	238,715	120.12	270	193,060	45,655

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	33

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13561+00.00	50	31.66	59	26.31	49	2.39	5	238,720	111.27	268	193,328	45,392
13561+50.00	50	30.40	57	25.32	48	1.19	3	238,723	95.61	239	193,567	45,156
13561+80.00	30	8.81	22	0.00	14	0.70	1	238,724	100.24	136	193,703	45,021
13562+00.00	20	14.42	9	8.38	3	1.15	1	238,725	18.59	55	193,758	44,967
13562+50.00	50	42.44	53	37.19	42	8.25	9	238,734	114.00	153	193,911	44,823
13563+00.00	50	42.58	79	37.42	69	15.46	22	238,756	93.32	240	194,151	44,605
13563+50.00	50	44.71	81	39.46	71	15.71	29	238,785	94.49	217	194,368	44,417
13563+96.20	46	48.40	80	42.99	71	12.97	25	238,810	116.98	226	194,594	44,216
13564+00.00	4	47.85	7	42.44	6	11.32	2	238,812	119.77	21	194,615	44,197
13564+46.50	47	36.20	72	31.03	63	2.44	12	238,824	128.52	267	194,882	43,942
13564+50.00	4	36.25	5	31.05	4	2.46	0	238,824	127.62	21	194,903	43,921
13565+00.00	50	34.28	65	28.84	55	2.17	4	238,828	111.97	277	195,180	43,648
13565+27.20	27	32.00	33	26.50	28	2.28	2	238,830	99.60	133	195,313	43,517
13565+50.00	23	31.12	27	25.64	22	1.82	2	238,832	95.15	103	195,416	43,416
13566+00.00	50	30.41	57	24.99	47	2.31	4	238,836	85.18	209	195,625	43,211
13566+50.00	50	28.72	55	23.31	45	2.76	5	238,841	70.79	181	195,806	43,035
13566+67.20	17	28.56	18	23.12	15	2.90	2	238,843	69.20	56	195,862	42,981
13567+00.00	33	28.47	35	22.95	28	3.74	4	238,847	68.67	105	195,967	42,880
13567+15.00	15	28.26	16	22.67	13	3.55	2	238,849	68.39	48	196,015	42,834
13567+30.00	15	28.07	16	22.46	13	3.37	2	238,851	69.05	48	196,063	42,788
13567+50.00	20	28.52	21	22.88	17	3.04	2	238,853	72.06	65	196,128	42,725
13568+00.00	50	29.30	54	23.69	43	1.93	5	238,858	76.23	172	196,300	42,558
13568+50.00	50	34.81	59	29.17	49	1.98	4	238,862	98.78	203	196,503	42,359
13569+00.00	50	37.52	67	31.94	57	3.20	5	238,867	122.64	256	196,759	42,108
13569+50.00	50	38.72	71	33.13	60	2.73	5	238,872	116.66	277	197,036	41,836
13570+00.00	50	40.83	74	35.19	63	2.64	5	238,877	113.25	266	197,302	41,575
13570+50.00	50	36.24	71	30.82	61	2.87	5	238,882	99.65	246	197,548	41,334
13571+00.00	50	35.75	67	30.34	57	2.87	5	238,887	95.37	226	197,774	41,113
13571+50.00	50	32.55	63	27.18	53	3.23	6	238,893	80.55	204	197,978	40,915
13572+00.00	50	30.56	58	25.22	49	2.30	5	238,898	72.93	178	198,156	40,742
13572+50.00	50	29.82	56	24.36	46	1.40	3	238,901	80.12	177	198,333	40,568
13573+00.00	50	30.08	55	24.47	45	1.36	3	238,904	86.05	192	198,525	40,379
13573+50.00	50	29.18	55	23.77	45	1.37	3	238,907	83.09	196	198,721	40,186
13574+00.00	50	30.40	55	24.58	45	0.89	2	238,909	91.79	202	198,923	39,986
13574+50.00	50	41.42	67	35.40	56	1.45	2	238,911	177.94	312	199,235	39,676
13575+00.00	50	50.81	85	44.33	74	1.42	3	238,914	316.21	572	199,807	39,107
13575+50.00	50	55.21	98	48.78	86	1.58	3	238,917	375.97	801	200,608	38,309
13576+00.00	50	75.12	121	68.76	109	12.88	13	238,930	482.74	994	201,602	37,328
13576+45.00	45	79.01	128	72.72	118	4.11	14	238,944	521.13	1,046	202,648	36,296
13576+50.00	5	78.00	15	71.72	13	2.90	1	238,945	507.02	119	202,767	36,178
13577+00.00	50	50.69	119	44.52	108	0.40	3	238,948	270.08	899	203,666	35,282
13577+30.00	30	50.09	56	43.78	49	15.38	9	238,957	177.86	311	203,977	34,980
13577+50.00	20	50.29	37	43.94	32	39.92	20	238,977	156.15	155	204,132	34,845
13578+00.00	50	51.17	94	44.92	82	78.86	110	239,087	117.34	317	204,449	34,638
13578+50.00	50	8.01	55	9.18	50	3.83	77	239,164	1.74	138	204,587	34,577
13578+70.00	20	12.89	8	0.00	3	14.03	7	239,171	38.84	19	204,606	34,565
13579+00.00	30	26.09	22	20.89	12	2.31	9	239,180	61.51	70	204,676	34,504
13579+50.00	50	44.17	65	38.22	55	35.30	35	239,215	94.76	181	204,857	34,358
13580+00.00	50	35.79	74	30.15	63	3.22	36	239,251	121.47	250	205,107	34,144
13580+50.00	50	45.67	75	40.04	65	3.07	6	239,257	224.43	400	205,507	33,750
13581+00.00	50	60.87	99	55.20	88	1.62	4	239,261	434.39	763	206,270	32,991
13581+50.00	50	73.51	124	67.92	114	1.27	3	239,264	711.21	1,326	207,596	31,668
13582+00.00	50	72.91	136	67.30	125	1.84	3	239,267	501.33	1,403	208,999	30,268
13582+50.00	50	59.06	122	53.30	112	1.62	3	239,270	219.84	835	209,834	29,436

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Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13583+00.00	50	44.53	96	38.59	85	1.92	3	239,273	109.69	381	210,215	29,058
13583+50.00	50	43.10	81	37.18	70	20.76	21	239,294	97.16	239	210,454	28,840
13584+00.00	50	65.38	100	59.55	90	134.57	144	239,438	100.05	228	210,682	28,756
13584+50.00	50	66.68	122	60.76	111	153.14	266	239,704	112.01	245	210,927	28,777
13585+00.00	50	68.64	125	62.97	115	161.40	291	239,995	109.66	257	211,184	28,811
13585+50.00	50	79.28	137	73.59	126	265.81	396	240,391	94.37	236	211,420	28,971
13586+00.00	50	88.90	156	83.02	145	440.05	654	241,045	87.70	211	211,631	29,414
13586+50.00	50	82.28	159	76.45	148	340.19	722	241,767	79.14	193	211,824	29,943
13587+00.00	50	52.80	125	47.00	114	87.43	396	242,163	79.10	183	212,007	30,156
13587+50.00	50	46.27	92	40.55	81	37.96	116	242,279	74.69	178	212,185	30,094
13588+00.00	50	39.50	79	33.75	69	6.30	41	242,320	80.19	179	212,364	29,956
13588+50.00	50	31.28	66	25.48	55	2.49	8	242,328	77.57	183	212,547	29,781
13589+00.00	50	30.98	58	25.28	47	2.31	4	242,332	79.96	182	212,729	29,603
13589+50.00	50	28.45	55	22.71	44	2.73	5	242,337	73.59	178	212,907	29,430
13590+00.00	50	38.97	62	33.27	52	9.77	12	242,349	79.62	177	213,084	29,265
13590+50.00	50	41.83	75	36.23	64	15.98	24	242,373	84.32	190	213,274	29,099
13591+00.00	50	39.72	76	34.32	65	9.05	23	242,396	89.43	201	213,475	28,921
13591+50.00	50	38.40	72	32.95	62	7.67	15	242,411	88.42	206	213,681	28,730
13592+00.00	50	37.52	70	31.85	60	3.83	11	242,422	81.36	197	213,878	28,544
13592+50.00	50	40.97	73	35.21	62	8.67	12	242,434	83.66	191	214,069	28,365
13593+00.00	50	31.67	67	25.91	57	2.56	10	242,444	85.59	196	214,265	28,179
13593+50.00	50	29.07	56	23.50	46	1.96	4	242,448	73.64	184	214,449	27,999
13594+00.00	50	28.64	53	23.13	43	2.82	4	242,452	69.23	165	214,614	27,838
13594+50.00	50	28.46	53	23.08	43	3.03	5	242,457	68.93	160	214,774	27,683
13595+00.00	50	28.43	53	22.96	43	2.75	5	242,462	65.65	156	214,930	27,532
13595+50.00	50	27.60	52	22.11	42	2.70	5	242,467	62.99	149	215,079	27,388
13595+90.00	40	27.56	41	21.84	33	3.27	4	242,471	63.14	117	215,196	27,275
13596+00.00	10	27.58	10	21.84	8	3.51	1	242,472	62.38	29	215,225	27,247
13596+50.00	50	27.68	51	21.98	41	2.80	6	242,478	66.24	149	215,374	27,104
13597+00.00	50	28.24	52	22.48	41	2.90	5	242,483	72.82	161	215,535	26,948
13597+50.00	50	29.16	53	23.37	42	2.60	5	242,488	77.59	174	215,709	26,779
13598+00.00	50	30.24	55	24.61	44	2.34	5	242,493	88.49	192	215,901	26,592
13598+50.00	50	30.09	56	24.46	45	2.38	4	242,497	83.53	199	216,100	26,397
13599+00.00	50	30.87	56	25.16	46	2.32	4	242,501	89.37	200	216,300	26,201
13599+50.00	50	29.64	56	23.97	45	1.95	4	242,505	85.31	202	216,502	26,003
13600+00.00	50	30.03	55	24.25	45	1.83	4	242,509	81.33	193	216,695	25,814
13600+50.00	50	50.90	75	44.79	64	8.64	10	242,519	98.58	208	216,903	25,616
13601+00.00	50	49.87	93	43.40	82	12.84	20	242,539	111.38	243	217,146	25,393
13601+50.00	50	50.01	92	43.22	80	15.57	26	242,565	113.99	261	217,407	25,158
13602+00.00	50	49.56	92	42.29	79	17.44	31	242,596	119.93	271	217,678	24,918
13602+50.00	50	49.04	91	41.36	77	18.86	34	242,630	106.55	262	217,940	24,690
13603+00.00	50	49.00	91	41.01	76	21.04	37	242,667	107.42	248	218,188	24,479
13603+50.00	50	50.82	92	42.54	77	31.97	49	242,716	110.08	252	218,440	24,276
13604+00.00	50	52.45	96	43.69	80	47.38	73	242,789	117.05	263	218,703	24,086
13604+50.00	50	47.89	93	38.84	76	62.03	101	242,890	121.15	276	218,979	23,911
13605+00.00	50	46.89	88	37.43	71	53.18	107	242,997	126.03	286	219,265	23,732
13605+50.00	50	45.10	85	35.57	68	34.19	81	243,078	122.57	288	219,553	23,525
13606+00.00	50	43.92	82	34.37	65	35.75	65	243,143	125.71	287	219,840	23,303
13606+50.00	50	41.62	79	32.13	62	22.35	54	243,197	124.38	289	220,129	23,068
13606+75.00	25	40.37	38	30.92	29	12.30	16	243,213	121.11	142	220,271	22,942
13606+80.00	5	40.03	7	30.58	6	30.59	4	243,217	112.38	27	220,298	22,919
13607+00.00	20	38.81	29	29.37	22	25.34	21	243,238	108.67	102	220,400	22,838
13607+50.00	50	37.14	70	27.68	53	18.90	41	243,279	99.30	241	220,641	22,638
13608+00.00	50	40.80	72	31.30	55	29.85	45	243,324	81.55	209	220,850	22,474

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Mountrail County, ND

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13608+50.00	50	42.22	77	32.67	59	58.54	82	243,406	61.62	166	221,016	22,390
13609+00.00	50	45.60	81	36.03	64	109.14	155	243,561	38.04	115	221,131	22,430
13609+50.00	50	49.97	88	40.24	71	163.99	253	243,814	16.69	63	221,194	22,620
13610+00.00	50	50.70	93	40.85	75	238.12	372	244,186	7.01	27	221,221	22,965
13610+50.00	50	52.02	95	42.32	77	335.30	531	244,717	0.99	9	221,230	23,487
13611+00.00	50	54.52	99	45.00	81	451.21	728	245,445	0.10	1	221,231	24,214
13611+50.00	50	58.20	104	48.70	87	571.24	947	246,392	0.10	0	221,231	25,161
13612+00.00	50	61.52	111	52.09	93	720.75	1,196	247,588	0.10	0	221,231	26,357
13612+50.00	50	64.69	117	55.49	100	939.57	1,537	249,125	0.10	0	221,231	27,894
13612+75.00	25	17.89	38	24.23	37	823.09	816	249,941	0.10	0	221,231	28,710
13613+00.00	25	68.07	40	58.76	38	1,012.55	850	250,791	0.10	0	221,231	29,560
13613+50.00	50	73.94	131	64.71	114	1,132.81	1,986	252,777	0.10	0	221,231	31,546
13614+00.00	50	81.17	144	71.94	127	1,291.81	2,245	255,022	0.10	0	221,231	33,791
13614+50.00	50	0.00	75	44.04	107	1,043.66	2,162	257,184	0.05	0	221,231	35,953
13614+50.00			284		238		1,370	258,554		464	221,695	36,859
13614+62.00	12	0.00	0	44.74	20	1,069.56	470	259,024	0.05	0	221,695	37,329
13615+00.00	38	91.51	64	82.38	89	1,606.08	1,883	260,907	0.10	0	221,695	39,212
13615+50.00	50	93.29	171	83.99	154	1,618.78	2,986	263,893	0.10	0	221,695	42,198
13616+00.00	50	88.72	169	79.57	151	1,481.10	2,870	266,763	0.10	0	221,695	45,068
13616+50.00	50	83.87	160	74.68	143	1,328.14	2,601	269,364	0.10	0	221,695	47,669
13616+97.90	48	77.36	143	67.95	127	1,075.58	2,132	271,496	0.10	0	221,695	49,801
13617+00.00	2	76.98	6	67.56	5	1,063.22	83	271,579	0.10	0	221,695	49,884
13617+45.70	46	66.96	122	57.57	106	807.16	1,583	273,162	0.10	0	221,695	51,467
13617+50.00	4	65.80	11	56.41	9	786.70	127	273,289	0.10	0	221,695	51,594
13618+00.00	50	58.32	115	48.92	98	613.51	1,296	274,585	0.10	0	221,695	52,890
13618+50.00	50	54.60	105	45.29	87	475.14	1,008	275,593	0.10	0	221,695	53,898
13619+00.00	50	51.31	98	42.06	81	340.48	755	276,348	1.02	1	221,696	54,652
13619+50.00	50	46.75	91	37.60	74	213.13	513	276,861	10.17	13	221,709	55,152
13619+57.70	8	46.32	13	37.16	11	197.13	59	276,920	12.39	4	221,713	55,207
13620+00.00	42	44.22	71	34.96	56	129.86	256	277,176	34.74	46	221,759	55,417
13620+02.70	3	44.12	4	34.88	3	125.97	13	277,189	36.73	4	221,763	55,426
13620+50.00	47	38.22	72	28.90	56	75.12	176	277,365	55.00	100	221,863	55,502
13621+00.00	50	38.55	71	29.39	54	45.92	112	277,477	88.77	166	222,029	55,448
13621+50.00	50	43.82	76	34.77	59	52.61	91	277,568	120.56	242	222,271	55,297
13622+00.00	50	49.33	86	40.15	69	65.91	110	277,678	129.62	290	222,561	55,117
13622+50.00	50	53.10	95	43.80	78	85.75	140	277,818	125.09	295	222,856	54,962
13622+85.00	35	68.79	79	59.60	67	127.91	138	277,956	120.86	199	223,055	54,901
13622+95.00	10	69.96	26	60.79	22	117.64	45	278,001	126.92	57	223,112	54,889
13623+00.00	5	70.43	13	61.28	11	123.82	22	278,023	125.89	29	223,141	54,882
13623+50.00	50	71.18	131	61.90	114	168.43	271	278,294	130.56	297	223,438	54,856
13624+00.00	50	74.24	135	64.89	117	205.49	346	278,640	144.66	319	223,757	54,883
13624+50.00	50	74.35	138	65.01	120	229.31	403	279,043	147.04	338	224,095	54,948
13625+00.00	50	69.00	133	59.76	116	116.54	320	279,363	155.04	350	224,445	54,918
13625+50.00	50	59.48	119	50.33	102	38.61	144	279,507	154.48	358	224,803	54,704
13626+00.00	50	57.38	108	48.31	91	91.40	120	279,627	146.00	348	225,151	54,476
13626+50.00	50	56.16	105	46.88	88	35.75	118	279,745	156.50	350	225,501	54,244
13627+00.00	50	47.64	96	38.15	79	3.69	37	279,782	174.34	383	225,884	53,898
13627+00.00							2,240	282,022		0	225,884	56,138
13627+50.00	50	45.74	86	36.26	69	1.75	5	282,027	172.45	401	226,285	55,742
13628+00.00	50	45.66	85	36.27	67	0.64	2	282,029	172.80	400	226,685	55,344
13628+07.10	7	39.56	11	30.19	9	0.53	0	282,029	169.92	56	226,741	55,288
13628+50.00	43	46.84	69	37.33	54	4.22	4	282,033	151.00	319	227,060	54,973
13628+52.10	2	46.85	4	37.32	3	5.05	0	282,033	149.22	15	227,075	54,958
13629+00.00	48	37.24	75	27.90	58	3.53	8	282,041	103.26	280	227,355	54,686

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

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	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13629+50.00	50	44.37	76	35.10	58	0.05	3	282,044	212.42	365	227,720	54,324
13629+89.00	39	41.27	62	31.97	48	0.12	0	282,044	169.24	345	228,065	53,979
13630+00.00	11	39.77	17	30.32	13	0.12	0	282,044	162.68	85	228,150	53,894
13630+50.00	50	54.45	87	44.31	69	49.13	46	282,090	156.76	370	228,520	53,570
13630+64.10	14	55.28	29	44.92	23	56.08	27	282,117	157.68	103	228,623	53,494
13630+75.23	11	55.59	23	45.13	19	60.81	24	282,141	158.30	81	228,704	53,437
13631+00.00	25	56.08	51	45.32	41	71.89	61	282,202	167.04	187	228,891	53,311
13631+11.90	12	56.39	25	45.47	20	76.55	33	282,235	172.09	93	228,984	53,251
13631+50.00	38	55.33	79	43.93	63	60.79	97	282,332	195.14	324	229,308	53,024
13632+00.00	50	52.81	100	40.79	78	34.54	88	282,420	206.99	465	229,773	52,647
13632+50.00	50	47.74	93	35.02	70	8.67	40	282,460	198.35	469	230,242	52,218
13633+00.00	50	45.46	86	32.21	62	2.71	11	282,471	186.16	445	230,687	51,784
13633+50.00	50	48.69	87	34.89	62	6.07	8	282,479	164.74	406	231,093	51,386
13633+79.00	29	49.57	53	35.43	38	9.43	8	282,487	162.01	219	231,312	51,175
13634+00.00	21	43.49	36	29.17	25	10.78	8	282,495	161.04	157	231,469	51,026
13634+50.00	50	45.43	82	30.71	55	15.01	24	282,519	173.78	388	231,857	50,662
13635+00.00	50	47.59	86	32.59	59	24.07	36	282,555	171.39	400	232,257	50,298
13635+50.00	50	50.75	91	35.00	63	42.76	62	282,617	193.82	423	232,680	49,937
13635+59.00	9	51.40	17	35.24	12	45.86	15	282,632	198.50	82	232,762	49,870
13636+00.00	41	53.01	79	35.35	54	52.86	75	282,707	203.73	382	233,144	49,563
13636+50.00	50	60.51	105	41.04	71	49.69	95	282,802	219.30	490	233,634	49,168
13636+59.00	9	60.71	20	40.96	14	49.40	17	282,819	219.98	92	233,726	49,093
13637+00.00	41	62.37	93	42.67	63	60.55	83	282,902	198.32	397	234,123	48,779
13637+50.00	50	62.09	115	42.47	79	62.59	114	283,016	204.61	466	234,589	48,427
13638+00.00	50	60.92	114	41.28	78	51.35	106	283,122	184.25	450	235,039	48,083
13638+50.00	50	60.39	112	40.66	76	44.79	89	283,211	191.28	435	235,474	47,737
13639+00.00	50	58.13	110	38.33	73	40.57	79	283,290	185.12	436	235,910	47,380
13639+50.00	50	58.96	108	39.18	72	38.23	73	283,363	180.80	424	236,334	47,029
13639+90.00	40	32.79	68	19.76	44	29.91	50	283,413	142.37	299	236,633	46,780
13640+00.00	10	55.19	16	19.82	7	29.58	11	283,424	159.53	70	236,703	46,721
13640+50.00	50	58.94	106	39.28	55	41.29	66	283,490	161.37	371	237,074	46,416
13641+00.00	50	61.70	112	42.00	75	59.90	94	283,584	149.45	360	237,434	46,150
13641+50.00	50	58.68	111	38.99	75	38.76	91	283,675	137.19	332	237,766	45,909
13642+00.00	50	41.93	93	22.54	57	28.30	62	283,737	98.47	273	238,039	45,698
13642+43.00	43	0.00	33	0.00	18	0.00	23	283,760	5.94	104	238,143	45,617
13642+43.00			158		138		97	283,857		449	238,592	
13642+50.00	7	0.00	0	0.00	0	0.00	0	283,857	8.74	2	238,594	45,263
13643+00.00	50	52.84	49	40.54	38	25.40	24	283,881	198.92	240	238,834	45,047
13644+00.00	100	66.28	221	53.42	174	169.40	361	284,242	243.33	1,024	239,858	44,384
13644+50.00	50	69.76	126	57.03	102	338.26	470	284,712	233.93	552	240,410	44,302
13645+00.00	50	60.32	120	47.69	97	159.65	461	285,173	217.63	523	240,933	44,240
13645+50.00	50	63.41	115	50.55	91	122.11	261	285,434	207.11	492	241,425	44,009
13646+00.00	50	66.49	120	51.27	94	159.07	260	285,694	190.56	460	241,885	43,809
13646+50.00	50	68.31	125	51.01	95	184.31	318	286,012	175.30	423	242,308	43,704
13647+00.00	50	67.15	125	47.93	92	130.07	291	286,303	180.43	412	242,720	43,583
13647+50.00	50	61.13	119	40.05	81	12.79	132	286,435	196.64	436	243,156	43,279
13648+00.00	50	51.51	104	30.36	65	5.46	17	286,452	173.80	429	243,585	42,867
13648+26.00	26	54.94	51	33.76	31	8.79	7	286,459	158.91	200	243,785	42,674
13648+50.00	24	56.36	49	35.95	31	21.56	13	286,472	146.80	170	243,955	42,517
13649+00.00	50	66.13	113	47.39	77	143.93	153	286,625	127.35	317	244,272	42,353
13649+50.00	50	77.01	133	59.94	99	319.42	429	287,054	114.55	280	244,552	42,502
13650+00.00	50	86.11	151	71.10	121	446.01	709	287,763	129.52	282	244,834	42,929
13650+06.00	6	86.91	19	72.10	16	450.24	100	287,863	130.47	36	244,870	42,993
13650+50.00	44	84.89	140	70.23	116	328.01	634	288,497	155.42	291	245,161	43,336

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Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13651+00.00	50	77.59	150	63.12	123	212.24	500	288,997	184.83	394	245,555	43,442
13651+50.00	50	73.18	140	59.22	113	179.85	363	289,360	206.66	453	246,008	43,352
13652+00.00	50	61.32	125	47.94	99	25.94	191	289,551	202.09	473	246,481	43,070
13652+50.00	50	58.14	111	45.44	86	4.33	28	289,579	211.00	478	246,959	42,620
13653+00.00	50	63.17	112	51.13	89	12.53	16	289,595	228.74	509	247,468	42,127
13653+50.00	50	53.91	108	42.61	87	13.94	25	289,620	211.11	509	247,977	41,643
13654+00.00	50	52.28	98	41.63	78	13.86	26	289,646	209.62	487	248,464	41,182
13654+50.00	50	51.84	96	41.93	77	4.89	17	289,663	195.11	468	248,932	40,731
13654+96.00	46	50.18	87	40.86	71	1.85	6	289,669	195.66	416	249,348	40,321
13655+00.00	4	49.47	7	40.17	6	1.59	0	289,669	192.53	36	249,384	40,285
13655+50.00	50	45.02	87	35.69	70	4.17	5	289,674	149.79	396	249,780	39,894
13656+00.00	50	32.91	72	23.74	55	0.00	4	289,678	138.03	333	250,113	39,565
13656+50.00	50	46.57	74	37.28	57	23.80	22	289,700	130.07	310	250,423	39,277
13657+00.00	50	58.32	97	49.07	80	133.03	145	289,845	133.77	305	250,728	39,117
13657+50.00	50	52.92	103	43.78	86	91.27	208	290,053	130.61	306	251,034	39,019
13658+00.00	50	54.19	99	44.96	82	114.18	190	290,243	128.61	300	251,334	38,909
13658+50.00	50	54.96	101	45.82	84	113.51	211	290,454	137.53	308	251,642	38,812
13659+00.00	50	49.21	96	39.97	79	61.90	162	290,616	136.32	317	251,959	38,657
13659+50.00	50	44.95	87	35.74	70	17.50	74	290,690	142.95	323	252,282	38,408
13660+00.00	50	40.76	79	31.53	62	0.00	16	290,706	149.83	339	252,621	38,085
13660+50.00	50	43.29	78	33.95	61	0.17	0	290,706	160.00	359	252,980	37,726
13661+00.00	50	44.25	81	34.85	64	0.20	0	290,706	168.24	380	253,360	37,346
13661+50.00	50	46.11	84	36.66	66	24.58	23	290,729	141.76	359	253,719	37,010
13662+00.00	50	53.02	92	43.58	74	61.54	80	290,809	130.97	316	254,035	36,774
13662+50.00	50	52.00	97	42.48	80	58.67	111	290,920	122.11	293	254,328	36,592
13663+00.00	50	45.88	91	36.48	73	4.55	59	290,979	119.89	280	254,608	36,371
13663+50.00	50	28.07	68	11.74	45	0.22	4	290,983	187.04	355	254,963	36,020
13664+00.00	50	32.52	56	22.98	32	0.14	0	290,983	106.04	339	255,302	35,681
13664+50.00	50	42.93	70	33.37	52	10.29	10	290,993	144.18	290	255,592	35,401
13665+00.00	50	54.68	90	45.16	73	22.06	30	291,023	123.77	310	255,902	35,121
13665+50.00	50	55.66	102	46.17	85	45.15	62	291,085	117.68	279	256,181	34,904
13666+00.00	50	53.88	101	44.30	84	44.67	83	291,168	138.44	296	256,477	34,691
13666+50.00	50	55.10	101	45.35	83	35.77	74	291,242	146.41	330	256,807	34,435
13667+00.00	50	56.01	103	46.27	85	32.92	64	291,306	137.77	329	257,136	34,170
13667+50.00	50	21.39	72	18.28	60	1.58	32	291,338	98.33	273	257,409	33,929
13667+55.00	5	20.87	4	17.74	3	0.79	0	291,338	96.87	23	257,432	33,906
13668+00.00	45	35.29	47	25.41	36	0.19	1	291,339	138.60	245	257,677	33,662
13668+50.00	50	38.92	69	28.76	50	1.06	1	291,340	137.40	319	257,996	33,344
13669+00.00	50	39.01	72	29.03	54	0.25	1	291,341	151.72	335	258,331	33,010
13669+50.00	50	38.09	71	28.41	53	0.30	1	291,342	162.49	364	258,695	32,647
13670+00.00	50	46.12	78	36.54	60	4.98	5	291,347	160.50	374	259,069	32,278
13670+50.00	50	47.20	86	37.75	69	11.13	15	291,362	144.19	353	259,422	31,940
13671+00.00	50	59.83	99	50.30	82	40.59	48	291,410	127.56	315	259,737	31,673
13671+50.00	50	70.70	121	61.08	103	107.76	137	291,547	126.41	294	260,031	31,516
13672+00.00	50	76.74	137	67.12	119	174.27	261	291,808	125.75	292	260,323	31,485
13672+00.00							2,240	294,048		0	260,323	33,725
13672+50.00	50	80.08	145	70.60	128	222.91	368	294,416	118.70	283	260,606	33,810
13673+00.00	50	70.89	140	61.36	122	118.66	316	294,732	129.32	287	260,893	33,839
13673+50.00	50	53.47	115	43.94	98	47.41	154	294,886	119.67	288	261,181	33,705
13674+00.00	50	48.98	95	39.33	77	24.52	67	294,953	122.68	280	261,461	33,492
13674+50.00	50	41.80	84	31.74	66	12.39	34	294,987	120.73	282	261,743	33,244
13675+00.00	50	42.53	78	32.22	59	11.59	22	295,009	120.35	279	262,022	32,987
13675+50.00	50	42.19	78	31.86	59	9.95	20	295,029	116.78	274	262,296	32,733
13676+00.00	50	43.33	79	33.12	60	11.35	20	295,049	108.91	261	262,557	32,492

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Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13676+50.00	50	45.34	82	35.20	63	17.05	26	295,075	95.81	237	262,794	32,281
13677+00.00	50	46.22	85	36.03	66	33.46	47	295,122	97.38	224	263,018	32,104
13677+50.00	50	46.31	86	36.22	67	31.80	60	295,182	107.50	237	263,255	31,927
13678+00.00	50	45.43	85	35.31	66	27.25	55	295,237	119.89	263	263,518	31,719
13678+50.00	50	44.76	84	34.81	65	19.15	43	295,280	108.92	265	263,783	31,497
13679+00.00	50	44.85	83	34.63	64	10.05	27	295,307	115.20	259	264,042	31,265
13679+50.00	50	43.91	82	33.62	63	10.08	19	295,326	105.43	255	264,297	31,029
13680+00.00	50	44.52	82	34.17	63	21.20	29	295,355	99.10	237	264,534	30,821
13680+50.00	50	45.88	84	35.64	65	37.29	54	295,409	96.73	227	264,761	30,648
13681+00.00	50	47.01	86	36.81	67	34.53	67	295,476	96.46	224	264,985	30,491
13681+50.00	50	45.11	85	34.82	66	25.34	55	295,531	89.61	215	265,200	30,331
13682+00.00	50	42.66	81	32.14	62	13.44	36	295,567	95.17	214	265,414	30,153
13682+50.00	50	42.18	79	31.77	59	4.14	16	295,583	107.05	234	265,648	29,935
13683+00.00	50	44.93	81	34.65	62	2.80	6	295,589	122.19	265	265,913	29,676
13683+50.00	50	43.18	82	33.22	63	0.38	3	295,592	126.25	288	266,201	29,391
13684+00.00	50	40.19	77	30.38	59	2.62	3	295,595	93.58	254	266,455	29,140
13684+50.00	50	40.09	74	30.39	56	11.71	13	295,608	80.58	202	266,657	28,951
13685+00.00	50	40.35	74	30.73	57	16.40	26	295,634	87.30	194	266,851	28,783
13685+50.00	50	40.97	75	31.42	58	22.53	36	295,670	92.89	209	267,060	28,610
13686+00.00	50	42.11	77	32.42	59	18.27	38	295,708	126.18	254	267,314	28,394
13686+50.00	50	40.56	77	30.90	59	1.20	18	295,726	155.46	326	267,640	28,086
13687+00.00	50	44.16	78	34.52	61	19.43	19	295,745	145.92	349	267,989	27,756
13687+50.00	50	45.49	83	35.83	65	27.34	43	295,788	146.50	338	268,327	27,461
13688+00.00	50	44.40	83	34.80	65	13.91	38	295,826	152.83	346	268,673	27,153
13688+50.00	50	45.78	84	36.18	66	4.59	17	295,843	167.97	371	269,044	26,799
13689+00.00	50	41.01	80	31.43	63	0.00	4	295,847	191.21	416	269,460	26,387
13689+50.00	50	43.34	78	33.72	60	0.00	0	295,847	208.60	463	269,923	25,924
13690+00.00	50	61.27	97	51.49	79	2.11	2	295,849	219.09	495	270,418	25,431
13690+50.00	50	53.01	106	43.24	88	5.85	7	295,856	231.03	521	270,939	24,917
13691+00.00	50	59.58	104	49.52	86	7.01	12	295,868	239.06	544	271,483	24,385
13691+50.00	50	58.00	109	47.99	90	19.49	25	295,893	228.47	541	272,024	23,869
13692+00.00	50	53.68	103	43.73	85	7.08	25	295,918	206.25	503	272,527	23,391
13692+50.00	50	51.07	97	41.10	79	9.06	15	295,933	175.97	442	272,969	22,964
13693+00.00	50	65.60	108	55.57	90	69.69	73	296,006	160.51	389	273,358	22,648
13693+50.00	50	61.31	118	51.22	99	41.54	103	296,109	139.85	348	273,706	22,403
13694+00.00	50	41.85	96	31.95	77	2.84	41	296,150	134.46	317	274,023	22,127
13694+50.00	50	42.14	78	32.13	59	2.68	5	296,155	130.47	307	274,330	21,825
13695+00.00	50	16.92	55	13.03	42	0.03	3	296,158	32.51	189	274,519	21,639
13695+23.52	24	0.00	7	0.00	6	0.00	0	296,158	1.43	18	274,537	21,621
13695+23.52			168		131		64	296,222		622	275,159	21,063
13695+50.00	26	16.62	8	14.29	7	0.00	0	296,222	27.56	18	275,177	21,045
13696+00.00	50	46.79	59	36.78	47	3.34	3	296,225	151.52	207	275,384	20,841
13696+50.00	50	54.99	94	45.07	76	73.41	71	296,296	139.89	337	275,721	20,575
13697+00.00	50	57.83	104	47.80	86	117.64	177	296,473	142.36	327	276,048	20,425
13697+50.00	50	58.19	107	48.07	89	126.13	226	296,699	130.39	316	276,364	20,335
13698+00.00	50	59.50	109	49.38	90	120.63	228	296,927	157.52	333	276,697	20,230
13698+50.00	50	60.56	111	50.45	92	108.67	212	297,139	172.05	381	277,078	20,061
13699+00.00	50	58.93	111	48.90	92	83.43	178	297,317	163.46	388	277,466	19,851
13699+50.00	50	58.37	109	48.61	90	50.84	124	297,441	177.10	394	277,860	19,581
13700+00.00	50	56.95	107	47.26	89	37.50	82	297,523	171.60	404	278,264	19,259
13700+50.00	50	54.51	103	44.84	85	25.01	58	297,581	186.60	415	278,679	18,902
13701+00.00	50	53.32	100	43.57	82	18.78	41	297,622	173.08	416	279,095	18,527
13701+50.00	50	50.22	96	40.32	78	11.24	28	297,650	155.70	381	279,476	18,174
13702+00.00	50	47.10	90	37.18	72	9.29	19	297,669	135.33	337	279,813	17,856

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13702+50.00	50	45.48	86	35.43	67	5.99	14	297,683	107.77	281	280,094	17,589
13703+00.00	50	43.42	82	33.40	64	6.94	12	297,695	115.06	258	280,352	17,343
13703+50.00	50	42.91	80	32.92	61	11.84	17	297,712	99.67	249	280,601	17,111
13704+00.00	50	47.83	84	37.93	66	18.06	28	297,740	102.14	234	280,835	16,905
13704+50.00	50	41.30	83	31.46	64	3.00	20	297,760	121.79	259	281,094	16,666
13705+00.00	50	48.14	83	38.41	65	6.98	9	297,769	127.83	289	281,383	16,386
13705+50.00	50	46.63	88	36.76	70	5.65	12	297,781	110.97	276	281,659	16,122
13706+00.00	50	46.52	86	36.57	68	8.88	13	297,794	103.98	249	281,908	15,886
13706+50.00	50	46.92	87	37.05	68	17.50	24	297,818	106.91	244	282,152	15,666
13707+00.00	50	43.70	84	34.02	66	30.43	44	297,862	104.16	244	282,396	15,466
13707+50.00	50	42.83	80	33.15	62	26.73	53	297,915	101.14	238	282,634	15,281
13708+00.00	50	43.19	80	33.28	62	22.77	46	297,961	101.90	235	282,869	15,092
13708+50.00	50	46.53	83	36.54	65	27.78	47	298,008	98.56	232	283,101	14,907
13709+00.00	50	53.26	92	43.23	74	66.65	87	298,095	100.62	231	283,332	14,763
13709+50.00	50	63.70	108	53.73	90	105.26	159	298,254	110.03	244	283,576	14,678
13710+00.00	50	62.85	117	53.16	99	91.67	182	298,436	110.17	255	283,831	14,605
13710+50.00	50	63.47	117	53.63	99	79.66	159	298,595	113.51	259	284,090	14,505
13711+00.00	50	65.37	119	55.70	101	73.42	142	298,737	136.35	289	284,379	14,358
13711+50.00	50	66.47	122	56.78	104	81.92	144	298,881	129.75	308	284,687	14,194
13712+00.00	50	65.79	122	56.06	104	63.53	135	299,016	137.00	309	284,996	14,020
13712+50.00	50	49.64	107	40.00	89	36.60	93	299,109	128.63	307	285,303	13,806
13713+00.00	50	45.87	88	36.14	71	10.09	43	299,152	97.15	261	285,564	13,588
13713+50.00	50	21.18	62	14.43	47	19.86	28	299,180	97.72	226	285,790	13,390
13713+60.00	10	21.14	8	14.41	5	28.93	9	299,189	96.69	45	285,835	13,354
13714+00.00	40	26.41	35	16.59	23	1.48	23	299,212	88.47	171	286,006	13,206
13714+50.00	50	43.98	65	33.92	47	0.04	1	299,213	138.71	263	286,269	12,944
13715+00.00	50	44.94	82	34.94	64	0.10	0	299,213	151.02	335	286,604	12,609
13715+50.00	50	36.95	76	26.92	57	0.13	0	299,213	138.41	335	286,939	12,274
13716+00.00	50	36.08	68	25.98	49	0.22	0	299,213	130.63	311	287,250	11,963
13716+50.00	50	35.53	66	25.37	48	0.17	0	299,213	131.31	303	287,553	11,660
13717+00.00	50	34.22	65	24.01	46	0.54	1	299,214	129.31	302	287,855	11,359
13717+50.00	50	43.88	72	33.73	53	19.71	19	299,233	134.61	305	288,160	11,073
13718+00.00	50	50.04	87	39.87	68	76.13	89	299,322	134.38	311	288,471	10,851
13718+50.00	50	69.17	110	59.01	92	229.89	283	299,605	154.24	334	288,805	10,800
13719+00.00	50	79.24	137	69.26	119	393.89	578	300,183	159.05	363	289,168	11,015
13719+50.00	50	79.50	147	69.51	128	352.13	691	300,874	165.19	375	289,543	11,331
13720+00.00	50	81.58	149	71.58	131	338.03	639	301,513	171.54	390	289,933	11,580
13720+50.00	50	82.10	152	72.18	133	317.96	607	302,120	192.81	422	290,355	11,765
13721+00.00	50	70.27	141	60.41	123	181.44	462	302,582	228.36	487	290,842	11,740
13721+50.00	50	66.40	127	56.37	108	26.53	193	302,775	287.27	597	291,439	11,336
13722+00.00	50	53.20	111	43.26	92	0.00	25	302,800	264.23	638	292,077	10,723
13722+50.00	50	53.41	99	43.58	80	0.00	0	302,800	255.85	602	292,679	10,121
13723+00.00	50	52.18	98	42.59	80	0.00	0	302,800	228.13	560	293,239	9,561
13723+50.00	50	52.63	97	43.06	79	33.33	31	302,831	178.49	471	293,710	9,121
13724+00.00	50	53.60	98	44.09	81	68.48	94	302,925	135.99	364	294,074	8,851
13724+50.00	50	65.53	110	56.18	93	194.28	243	303,168	131.13	309	294,383	8,785
13725+00.00	50	66.87	123	57.54	105	182.96	349	303,517	130.14	302	294,685	8,832
13725+50.00	50	65.61	123	56.23	105	150.29	309	303,826	126.78	297	294,982	8,844
13726+00.00	50	66.02	122	56.56	104	146.34	275	304,101	115.99	281	295,263	8,838
13726+50.00	50	59.36	116	49.41	98	80.23	210	304,311	119.52	273	295,536	8,775
13727+00.00	50	41.73	94	31.46	75	6.08	80	304,391	112.04	268	295,804	8,587
13727+50.00	50	35.19	71	24.75	52	0.02	6	304,397	106.46	253	296,057	8,340
13728+00.00	50	39.79	69	29.53	50	2.23	2	304,399	99.23	238	296,295	8,104
13728+50.00	50	46.50	80	36.53	61	29.43	29	304,428	106.66	238	296,533	7,895

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Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13729+00.00	50	50.22	90	40.25	71	63.94	86	304,514	98.90	238	296,771	7,743
13729+50.00	50	52.16	95	42.29	76	65.48	120	304,634	98.78	229	297,000	7,634
13730+00.00	50	54.08	98	44.25	80	62.27	118	304,752	103.49	234	297,234	7,518
13730+50.00	50	55.40	101	45.68	83	62.74	116	304,868	110.54	248	297,482	7,386
13731+00.00	50	50.05	98	40.10	79	16.53	73	304,941	115.83	262	297,744	7,197
13731+50.00	50	40.15	84	30.16	65	0.68	16	304,957	120.59	274	298,018	6,939
13732+00.00	50	34.95	70	25.10	51	0.01	1	304,958	118.77	277	298,295	6,663
13732+50.00	50	36.63	66	26.75	48	0.09	0	304,958	129.69	288	298,583	6,375
13733+00.00	50	37.77	69	27.97	51	0.00	0	304,958	136.44	308	298,891	6,067
13733+50.00	50	43.36	75	33.71	57	3.03	3	304,961	149.33	331	299,222	5,739
13734+00.00	50	44.06	81	34.41	63	9.30	11	304,972	139.58	334	299,556	5,416
13734+50.00	50	46.38	84	36.64	66	18.19	25	304,997	131.24	313	299,869	5,128
13734+90.00	40	44.98	68	35.19	53	6.96	19	305,016	149.10	260	300,129	4,887
13735+00.00	10	44.86	17	35.13	13	7.69	3	305,019	146.14	68	300,197	4,822
13735+50.00	50	43.51	82	34.22	64	8.49	15	305,034	142.00	333	300,530	4,504
13736+00.00	50	42.56	80	33.79	63	5.98	13	305,047	130.62	316	300,846	4,201
13736+50.00	50	45.33	81	36.52	65	12.22	17	305,064	132.40	304	301,150	3,914
13737+00.00	50	47.85	86	39.61	70	13.09	23	305,087	146.52	323	301,473	3,614
13737+50.00	50	45.06	86	37.32	71	3.38	15	305,102	150.80	344	301,817	3,285
13738+00.00	50	46.93	85	39.42	71	0.17	3	305,105	170.99	372	302,189	2,916
13738+50.00	50	44.97	85	37.86	72	3.65	4	305,109	157.76	380	302,569	2,540
13738+75.00	25	43.71	41	36.76	35	5.26	4	305,113	122.54	162	302,731	2,382
13738+85.00	10	40.25	16	33.39	13	25.10	6	305,119	91.10	49	302,780	2,339
13739+00.00	15	38.09	22	31.42	18	26.07	14	305,133	81.55	60	302,840	2,293
13739+50.00	50	33.78	67	27.50	55	35.32	57	305,190	70.42	176	303,016	2,174
13740+00.00	50	36.17	65	30.38	54	58.56	87	305,277	52.16	142	303,158	2,119
13740+50.00	50	36.65	67	30.93	57	73.14	122	305,399	37.70	104	303,262	2,137
13741+00.00	50	39.83	71	33.74	60	93.73	155	305,554	25.29	73	303,335	2,219
13741+50.00	50	32.54	67	25.88	55	128.57	206	305,760	4.55	35	303,370	2,390
13742+00.00	50	39.77	67	33.42	55	185.31	291	306,051	0.10	5	303,375	2,676
13742+50.00	50	52.81	86	46.54	74	324.56	472	306,523	0.10	0	303,375	3,148
13743+00.00	50	56.46	101	50.43	90	469.48	735	307,258	0.10	0	303,375	3,883
13743+50.00	50	52.87	101	48.86	92	514.33	911	308,169	0.10	0	303,375	4,794
13744+00.00	50	22.78	70	19.81	64	460.13	902	309,071	0.10	0	303,375	5,696
13744+50.00	50	41.98	60	51.00	66	649.47	1,027	310,098	0.10	0	303,375	6,723
13745+00.00	50	49.19	84	53.14	96	584.65	1,143	311,241	0.10	0	303,375	7,866
13745+50.00	50	54.69	96	54.31	99	574.98	1,074	312,315	0.10	0	303,375	8,940
13746+00.00	50	57.08	103	53.09	99	510.17	1,005	313,320	0.10	0	303,375	9,945
13746+50.00	50	57.83	106	51.97	97	434.15	874	314,194	0.10	0	303,375	10,819
13747+00.00	50	59.44	109	52.89	97	357.13	733	314,927	0.10	0	303,375	11,552
13747+50.00	50	46.35	98	45.99	92	257.51	569	315,496	0.10	0	303,375	12,121
13747+78.00	28	0.00	24	0.00	24	45.53	157	315,653	0.00	0	303,375	12,278
13747+78.00			197		129		267	315,920		589	303,964	11,956
13748+00.00	22	37.17	15	40.52	17	235.25	114	316,034	0.10	0	303,964	12,070
13748+50.00	50	49.47	80	44.25	78	107.40	317	316,351	17.12	20	303,984	12,367
13749+00.00	50	41.98	85	37.53	76	74.83	169	316,520	44.60	71	304,055	12,465
13749+50.00	50	42.38	78	39.43	71	66.71	131	316,651	54.03	114	304,169	12,482
13749+80.00	30	42.40	47	40.37	44	68.97	75	316,726	57.83	78	304,247	12,479
13749+85.00	5	42.42	8	40.47	7	38.97	10	316,736	69.34	15	304,262	12,474
13750+00.00	15	42.60	24	40.44	22	37.30	21	316,757	73.87	50	304,312	12,445
13750+50.00	50	35.12	72	27.98	63	0.42	35	316,792	75.47	173	304,485	12,307
13751+00.00	50	35.28	65	28.22	52	0.22	1	316,793	75.11	174	304,659	12,134
13751+50.00	50	34.51	65	27.52	52	0.56	1	316,794	61.18	158	304,817	11,977
13752+00.00	50	37.48	67	30.47	54	1.86	2	316,796	69.62	151	304,968	11,828

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Mountrail County, ND

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13752+50.00	50	36.40	68	29.28	55	0.24	2	316,798	84.66	179	305,147	11,651
13753+00.00	50	58.96	88	51.91	75	106.77	99	316,897	113.86	230	305,377	11,520
13753+50.00	50	43.79	95	36.73	82	2.83	101	316,998	98.07	245	305,622	11,376
13754+00.00	50	44.94	82	37.89	69	1.56	4	317,002	92.38	220	305,842	11,160
13754+00.00							5,047	322,049		0	305,842	16,207
13754+50.00	50	44.55	83	37.54	70	1.06	2	322,051	102.79	226	306,068	15,983
13755+00.00	50	45.88	84	38.88	71	2.71	3	322,054	101.09	236	306,304	15,750
13755+50.00	50	42.42	82	35.58	69	5.51	8	322,062	88.33	219	306,523	15,539
13756+00.00	50	42.92	79	36.11	66	6.18	11	322,073	85.74	201	306,724	15,349
13756+50.00	50	41.62	78	34.85	66	5.96	11	322,084	81.11	193	306,917	15,167
13757+00.00	50	38.83	74	32.16	62	2.73	8	322,092	63.92	168	307,085	15,007
13757+50.00	50	35.48	69	28.82	56	0.74	3	322,095	62.33	146	307,231	14,864
13758+00.00	50	29.69	60	23.00	48	0.70	1	322,096	69.95	153	307,384	14,712
13758+50.00	50	29.60	55	22.81	42	0.48	1	322,097	64.76	156	307,540	14,557
13759+00.00	50	28.18	54	21.52	41	1.55	2	322,099	54.95	139	307,679	14,420
13759+50.00	50	27.88	52	21.15	40	0.91	2	322,101	53.04	125	307,804	14,297
13760+00.00	50	29.07	53	22.35	40	0.54	1	322,102	59.86	131	307,935	14,167
13760+50.00	50	29.42	54	22.56	42	0.00	1	322,103	66.56	146	308,081	14,022
13761+00.00	50	28.08	53	21.22	41	0.00	0	322,103	67.64	155	308,236	13,867
13761+50.00	50	29.13	53	22.18	40	0.01	0	322,103	63.92	152	308,388	13,715
13762+00.00	50	30.50	55	23.52	42	0.04	0	322,103	66.01	150	308,538	13,565
13762+50.00	50	31.04	57	24.10	44	0.00	0	322,103	79.52	168	308,706	13,397
13763+00.00	50	32.05	58	25.17	46	0.00	0	322,103	85.22	191	308,897	13,206
13763+50.00	50	31.21	59	24.34	46	0.03	0	322,103	87.06	199	309,096	13,007
13764+00.00	50	30.98	58	24.11	45	0.17	0	322,103	83.06	197	309,293	12,810
13764+50.00	50	29.79	56	22.92	44	0.03	0	322,103	76.57	185	309,478	12,625
13765+00.00	50	28.42	54	21.56	41	0.11	0	322,103	52.85	150	309,628	12,475
13765+50.00	50	27.25	52	20.40	39	0.18	0	322,103	49.70	119	309,747	12,356
13766+00.00	50	28.15	51	21.33	39	0.11	0	322,103	55.42	122	309,869	12,234
13766+50.00	50	28.98	53	21.97	40	0.05	0	322,103	58.67	132	310,001	12,102
13767+00.00	50	33.29	58	26.53	45	0.01	0	322,103	73.06	152	310,153	11,950
13767+50.00	50	37.78	66	30.85	53	0.18	0	322,103	100.17	200	310,353	11,750
13768+00.00	50	40.77	73	34.00	60	0.14	0	322,103	112.19	246	310,599	11,504
13768+50.00	50	40.34	75	33.74	63	0.07	0	322,103	111.47	259	310,858	11,245
13769+00.00	50	38.02	73	31.44	60	0.04	0	322,103	95.67	240	311,098	11,005
13769+50.00	50	35.68	68	28.87	56	0.05	0	322,103	82.77	207	311,305	10,798
13770+00.00	50	33.04	64	26.08	51	0.00	0	322,103	79.08	187	311,492	10,611
13770+35.00	35	29.98	41	23.04	32	0.00	0	322,103	68.71	120	311,612	10,491
13770+50.00	15	29.19	16	22.29	13	0.00	0	322,103	66.47	47	311,659	10,444
13770+52.00	2	29.19	2	22.28	2	0.00	0	322,103	65.99	6	311,665	10,438
13770+99.80	48	29.64	52	22.87	40	0.01	0	322,103	65.45	145	311,810	10,293
13771+00.00	0	29.64	0	22.88	0	0.01	0	322,103	65.48	1	311,811	10,292
13771+50.00	50	30.46	56	23.64	43	0.01	0	322,103	80.88	169	311,980	10,123
13771+70.00	20	30.59	23	23.76	18	0.01	0	322,103	85.98	77	312,057	10,046
13772+00.00	30	31.52	35	24.68	27	0.05	0	322,103	102.55	131	312,188	9,915
13772+39.80	40	32.46	47	25.47	37	0.04	0	322,103	116.97	202	312,390	9,713
13772+50.00	10	32.37	12	25.38	10	0.02	0	322,103	116.41	55	312,445	9,658
13773+00.00	50	31.54	59	24.49	46	0.00	0	322,103	112.83	265	312,710	9,393
13773+50.00	50	29.96	57	23.00	44	0.01	0	322,103	87.73	232	312,942	9,161
13774+00.00	50	18.52	45	0.00	21	0.06	0	322,103	103.25	221	313,163	8,940
13774+05.00	5	18.40	3	0.00	0	0.00	0	322,103	101.02	24	313,187	8,916
13774+50.00	45	24.76	36	21.55	18	0.07	0	322,103	74.54	183	313,370	8,733
13775+00.00	50	28.84	50	22.24	41	0.21	0	322,103	79.92	179	313,549	8,554
13775+50.00	50	31.24	56	24.22	43	0.67	1	322,104	92.08	199	313,748	8,356

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13776+00.00	50	42.22	68	35.00	55	2.14	3	322,107	110.09	234	313,982	8,125
13776+04.80	5	42.55	8	35.33	6	2.62	0	322,107	111.95	25	314,007	8,100
13776+50.00	45	44.21	73	37.04	61	4.52	6	322,113	112.85	235	314,242	7,871
13776+75.00	25	44.28	41	37.23	34	1.02	3	322,116	116.31	133	314,375	7,741
13777+00.00	25	48.26	43	41.17	36	4.35	2	322,118	136.97	147	314,522	7,596
13777+44.80	45	49.76	81	42.51	69	8.86	11	322,129	143.81	291	314,813	7,316
13777+50.00	5	50.40	10	43.17	8	12.00	2	322,131	141.07	34	314,847	7,284
13777+75.00	25	66.35	54	59.10	47	59.69	33	322,164	180.02	186	315,033	7,131
13777+92.60	18	71.46	45	64.17	40	100.52	52	322,216	187.35	150	315,183	7,033
13778+00.00	7	73.31	20	66.02	18	120.11	30	322,246	197.54	66	315,249	6,997
13778+45.00	45	80.34	128	73.05	116	187.52	256	322,502	195.36	409	315,658	6,844
13778+50.00	5	80.03	15	72.74	13	188.10	35	322,537	189.85	45	315,703	6,834
13778+53.00	3	79.96	9	72.66	8	188.45	21	322,558	186.34	26	315,729	6,829
13779+00.00	47	69.57	130	62.33	117	116.86	266	322,824	134.51	349	316,078	6,746
13779+00.80	1	69.37	2	62.14	2	115.47	3	322,827	133.82	5	316,083	6,744
13779+50.00	49	62.57	120	55.32	107	68.78	168	322,995	110.69	278	316,361	6,634
13780+00.00	50	60.36	114	53.58	101	54.34	114	323,109	104.94	250	316,611	6,498
13780+40.80	41	38.57	75	32.10	65	8.48	47	323,156	66.21	162	316,773	6,383
13780+50.00	9	33.92	12	27.67	10	6.01	2	323,158	58.03	26	316,799	6,359
13780+65.00	15	24.83	16	20.71	13	4.58	3	323,161	67.84	44	316,843	6,318
13781+00.00	35	26.38	33	23.72	29	0.48	3	323,164	51.06	96	316,939	6,225
13781+25.00	25	14.95	19	12.67	17	0.00	0	323,164	48.38	58	316,997	6,167
13781+25.00			70		49		30	323,194		176	317,173	
13781+50.00	25	23.43	18	17.40	14	0.20	0	323,194	57.05	61	317,234	5,960
13782+00.00	50	30.13	50	23.91	38	0.60	1	323,195	84.70	164	317,398	5,797
13782+50.00	50	30.99	57	24.75	45	0.39	1	323,196	83.53	195	317,593	5,603
13783+00.00	50	30.40	57	24.66	46	0.28	1	323,197	67.22	174	317,767	5,430
13783+50.00	50	80.47	103	12.98	35	0.00	0	323,197	282.25	404	318,171	5,026
13784+00.00	50	42.69	114	36.63	46	6.72	6	323,203	100.77	443	318,614	4,589
13784+50.00	50	43.98	80	37.55	69	5.42	11	323,214	120.72	256	318,870	4,344
13785+00.00	50	43.89	81	36.95	69	0.59	6	323,220	126.88	287	319,157	4,063
13785+50.00	50	44.14	82	37.02	68	1.98	2	323,222	114.72	280	319,437	3,785
13786+00.00	50	35.82	74	28.75	61	0.00	2	323,224	114.22	265	319,702	3,522
13786+50.00	50	55.64	85	10.74	37	0.00	0	323,224	188.71	351	320,053	3,171
13786+55.00	5	55.83	10	10.90	2	0.00	0	323,224	207.71	46	320,099	3,125
13787+00.00	45	31.35	73	24.22	29	0.00	0	323,224	79.84	300	320,399	2,825
13787+50.00	50	29.67	57	22.54	43	0.14	0	323,224	81.63	187	320,586	2,638
13788+00.00	50	29.44	55	22.28	42	0.00	0	323,224	86.68	195	320,781	2,443
13788+14.10	14	28.80	15	21.67	11	0.00	0	323,224	84.06	56	320,837	2,387
13788+50.00	36	27.79	38	20.76	28	0.00	0	323,224	70.52	128	320,965	2,259
13789+00.00	50	28.43	52	21.23	39	0.00	0	323,224	61.89	153	321,118	2,106
13789+50.00	50	26.50	51	19.64	38	0.03	0	323,224	44.79	123	321,241	1,983
13789+54.10	4	26.73	4	19.88	3	0.03	0	323,224	44.49	8	321,249	1,975
13790+00.00	46	28.68	47	21.79	35	0.00	0	323,224	56.00	107	321,356	1,868
13790+01.90	2	28.65	2	21.76	2	0.00	0	323,224	56.24	5	321,361	1,863
13790+50.00	48	28.26	51	21.27	38	0.06	0	323,224	55.69	125	321,486	1,738
13790+55.00	5	28.47	5	21.47	4	0.08	0	323,224	57.15	13	321,499	1,725
13790+71.80	17	28.85	18	21.77	13	0.24	0	323,224	55.63	44	321,543	1,681
13791+00.00	28	29.05	30	22.01	23	0.73	1	323,225	57.03	74	321,617	1,608
13791+19.60	20	29.33	21	22.30	16	0.84	1	323,226	58.44	52	321,669	1,557
13791+50.00	30	30.24	34	23.23	26	0.23	1	323,227	60.97	84	321,753	1,474
13791+90.00	40	31.55	46	24.57	35	0.08	0	323,227	77.76	128	321,881	1,346
13792+00.00	10	31.74	12	24.79	9	0.22	0	323,227	81.43	37	321,918	1,309
13792+50.00	50	31.99	59	25.21	46	0.33	1	323,228	93.78	203	322,121	1,107

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Mountrail County, ND

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Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13792+59.60	10	32.18	11	25.42	9	0.48	0	323,228	96.23	42	322,163	1,065
13793+00.00	40	32.09	48	25.40	38	0.18	0	323,228	98.89	182	322,345	883
13793+50.00	50	30.91	58	24.17	46	0.13	0	323,228	86.37	214	322,559	669
13794+00.00	50	29.28	56	22.39	43	0.12	0	323,228	82.29	195	322,754	474
13794+50.00	50	31.67	56	24.75	44	0.01	0	323,228	90.13	200	322,954	274
13795+00.00	50	34.21	61	27.25	48	0.00	0	323,228	98.32	218	323,172	56
13795+50.00	50	35.74	65	28.73	52	0.03	0	323,228	113.79	245	323,417	-189
13796+00.00	50	35.09	66	28.09	53	0.03	0	323,228	109.45	258	323,675	-447
13796+21.30	21	35.50	28	28.53	22	0.02	0	323,228	108.79	108	323,783	-555
13796+50.00	29	34.80	37	27.83	30	0.03	0	323,228	94.44	135	323,918	-690
13796+90.00	40	32.34	50	25.38	39	0.09	0	323,228	73.19	155	324,073	-845
13797+00.00	10	31.40	12	24.39	9	0.10	0	323,228	71.89	34	324,107	-879
13797+50.00	50	29.83	57	22.86	44	0.01	0	323,228	68.28	162	324,269	-1,041
13797+61.30	11	30.10	13	23.23	10	0.00	0	323,228	64.65	35	324,304	-1,076
13798+00.00	39	29.59	43	23.13	33	0.00	0	323,228	64.61	116	324,420	-1,192
13798+09.10	9	29.70	10	23.33	8	0.00	0	323,228	66.78	28	324,448	-1,220
13798+25.00	16	30.20	18	23.86	14	0.02	0	323,228	68.76	50	324,498	-1,270
13798+50.00	25	31.72	29	25.41	23	0.00	0	323,228	72.21	82	324,580	-1,352
13799+00.00	50	32.45	59	26.10	48	0.00	0	323,228	73.75	169	324,749	-1,521
13799+50.00	50	29.33	57	22.97	45	0.00	0	323,228	59.06	154	324,903	-1,675
13800+00.00	50	31.72	57	25.67	45	0.00	0	323,228	70.00	149	325,052	-1,824
13800+50.00	50	0.39	30	3.10	27	0.00	0	323,228	1.98	83	325,135	-1,907
13800+50.00			94		78		26	323,254		202	325,337	
13800+65.00	15	73.45	21	0.00	1	0.00	0	323,254	341.16	119	325,456	-2,202
13801+00.00	35	26.79	65	23.06	15	0.03	0	323,254	50.89	318	325,774	-2,520
13801+10.00	10	29.54	10	23.41	9	0.05	0	323,254	61.91	26	325,800	-2,546
13801+50.00	40	37.31	50	30.89	40	0.48	0	323,254	80.21	132	325,932	-2,678
13802+00.00	50	42.76	74	36.30	62	8.01	8	323,262	81.61	187	326,119	-2,857
13802+50.00	50	46.48	83	40.00	71	23.87	30	323,292	74.15	180	326,299	-3,007
13803+00.00	50	46.34	86	39.78	74	18.29	39	323,331	77.93	176	326,475	-3,144
13803+50.00	50	39.05	79	32.59	67	6.01	23	323,354	77.83	180	326,655	-3,301
13804+00.00	50	36.74	70	30.23	58	2.65	8	323,362	79.16	182	326,837	-3,475
13804+50.00	50	31.54	63	24.92	51	2.93	5	323,367	78.14	182	327,019	-3,652
13805+00.00	50	30.80	58	24.09	45	2.46	5	323,372	80.12	183	327,202	-3,830
13805+50.00	50	34.25	60	27.21	48	3.02	5	323,377	76.68	181	327,383	-4,006
13806+00.00	50	42.50	71	34.94	58	5.99	8	323,385	79.08	180	327,563	-4,178
13806+50.00	50	45.08	81	37.15	67	21.24	25	323,410	85.43	190	327,753	-4,343
13807+00.00	50	44.97	83	36.67	68	13.44	32	323,442	97.64	212	327,965	-4,523
13807+50.00	50	34.38	73	25.65	58	1.60	14	323,456	102.57	232	328,197	-4,741
13808+00.00	50	33.06	62	23.97	46	2.23	4	323,460	92.44	226	328,423	-4,963
13808+50.00	50	32.17	60	22.67	43	1.94	4	323,464	86.96	208	328,631	-5,167
13809+00.00	50	31.08	59	21.23	41	2.13	4	323,468	76.41	189	328,820	-5,352
13809+50.00	50	29.31	56	19.32	38	1.56	3	323,471	72.22	172	328,992	-5,521
13810+00.00	50	28.87	54	18.67	35	1.45	3	323,474	72.83	168	329,160	-5,686
13810+20.00	20	28.81	21	18.51	14	1.36	1	323,475	70.25	66	329,226	-5,751
13810+50.00	30	28.31	32	18.11	20	0.94	1	323,476	69.88	97	329,323	-5,847
13811+00.00	50	27.54	52	17.30	33	1.05	2	323,478	66.84	158	329,481	-6,003
13811+50.00	50	27.58	51	17.16	32	1.24	2	323,480	68.89	157	329,638	-6,158
13812+00.00	50	27.28	51	16.84	31	0.95	2	323,482	68.82	159	329,797	-6,315
13812+50.00	50	27.23	50	16.64	31	1.14	2	323,484	67.15	157	329,954	-6,470
13813+00.00	50	26.95	50	16.56	31	1.60	3	323,487	65.19	153	330,107	-6,620
13813+50.00	50	26.94	50	16.82	31	1.51	3	323,490	69.47	156	330,263	-6,773
13814+00.00	50	26.75	50	16.82	31	2.78	4	323,494	57.11	147	330,410	-6,916
13814+50.00	50	26.45	49	16.62	31	2.18	5	323,499	57.06	132	330,542	-7,043

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Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	44

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13815+00.00	50	26.60	49	16.63	31	2.24	4	323,503	57.35	132	330,674	-7,171
13815+50.00	50	26.81	49	16.52	31	4.08	6	323,509	46.05	120	330,794	-7,285
13816+00.00	50	15.69	39	11.31	26	4.55	8	323,517	26.19	84	330,878	-7,361
13816+25.00	25	15.65	15	8.59	9	4.93	4	323,521	57.52	48	330,926	-7,405
13816+50.00	25	25.37	19	14.90	11	4.72	4	323,525	39.35	56	330,982	-7,457
13817+00.00	50	25.99	48	15.82	28	7.57	11	323,536	28.64	79	331,061	-7,525
13817+50.00	50	25.28	47	14.89	28	6.54	13	323,549	38.05	77	331,138	-7,589
13818+00.00	50	26.08	48	15.72	28	3.61	9	323,558	52.89	105	331,243	-7,685
13818+50.00	50	25.71	48	15.29	29	4.03	7	323,565	43.07	111	331,354	-7,789
13819+00.00	50	25.16	47	14.76	28	3.91	7	323,572	43.82	101	331,455	-7,883
13819+50.00	50	25.47	47	14.80	27	3.88	7	323,579	44.11	102	331,557	-7,978
13820+00.00	50	26.03	48	15.41	28	3.87	7	323,586	45.63	104	331,661	-8,075
13820+50.00	50	26.19	48	15.62	29	3.10	6	323,592	43.33	103	331,764	-8,172
13821+00.00	50	26.44	49	15.88	29	3.29	6	323,598	44.49	102	331,866	-8,268
13821+50.00	50	26.95	49	16.47	30	3.34	6	323,604	48.41	108	331,974	-8,370
13822+00.00	50	26.29	49	15.70	30	4.19	7	323,611	45.49	109	332,083	-8,472
13822+50.00	50	26.65	49	16.14	29	4.61	8	323,619	46.44	106	332,189	-8,570
13823+00.00	50	33.73	56	23.32	37	8.11	12	323,631	57.93	121	332,310	-8,679
13823+50.00	50	30.58	60	20.10	40	4.26	11	323,642	64.69	142	332,452	-8,810
13824+00.00	50	31.28	57	20.75	38	3.74	7	323,649	71.86	158	332,610	-8,961
13824+50.00	50	32.03	59	21.61	39	3.21	6	323,655	79.20	175	332,785	-9,130
13825+00.00	50	38.59	65	28.30	46	10.42	13	323,668	79.73	184	332,969	-9,301
13825+50.00	50	39.69	72	29.41	53	17.19	26	323,694	80.36	185	333,154	-9,460
13826+00.00	50	40.65	74	30.27	55	23.18	37	323,731	75.78	181	333,335	-9,604
13826+50.00	50	40.89	76	30.53	56	23.43	43	323,774	77.56	177	333,512	-9,738
13827+00.00	50	10.33	47	8.12	36	5.53	27	323,801	4.89	95	333,607	-9,806
13827+15.00	15	38.34	14	0.00	2	5.58	3	323,804	120.34	43	333,650	-9,846
13827+50.00	35	36.88	49	26.49	17	9.88	10	323,814	64.58	150	333,800	-9,986
13828+00.00	50	38.97	70	28.68	51	11.94	20	323,834	83.10	171	333,971	-10,137
13828+50.00	50	39.45	73	28.90	53	12.32	22	323,856	85.16	195	334,166	-10,310
13829+00.00	50	40.18	74	29.44	54	13.24	24	323,880	89.18	202	334,368	-10,488
13829+50.00	50	39.75	74	29.17	54	17.49	28	323,908	84.21	201	334,569	-10,661
13830+00.00	50	39.48	73	29.04	54	16.50	31	323,939	76.60	186	334,755	-10,816
13830+50.00	50	40.11	74	29.65	54	23.05	37	323,976	75.30	176	334,931	-10,955
13831+00.00	50	41.01	75	30.55	56	27.73	47	324,023	74.79	174	335,105	-11,082
13831+50.00	50	41.14	76	30.77	57	28.83	52	324,075	83.50	183	335,288	-11,213
13832+00.00	50	41.18	76	30.94	57	32.59	57	324,132	88.11	199	335,487	-11,355
13832+50.00	50	40.39	76	30.25	57	22.68	51	324,183	86.80	202	335,689	-11,506
13833+00.00	50	39.35	74	29.21	55	18.94	39	324,222	80.43	194	335,883	-11,661
13833+50.00	50	39.72	73	29.59	54	19.65	36	324,258	78.57	184	336,067	-11,809
13834+00.00	50	39.13	73	28.87	54	22.55	39	324,297	75.87	179	336,246	-11,949
13834+50.00	50	38.94	72	28.67	53	22.27	42	324,339	72.45	172	336,418	-12,079
13835+00.00	50	39.23	72	29.03	53	24.02	43	324,382	68.21	163	336,581	-12,199
13835+50.00	50	40.00	73	29.77	54	24.86	45	324,427	71.87	162	336,743	-12,316
13836+00.00	50	40.62	75	30.29	56	24.03	45	324,472	83.09	179	336,922	-12,450
13836+50.00	50	41.01	76	30.67	56	19.95	41	324,513	88.65	199	337,121	-12,608
13837+00.00	50	42.08	77	32.03	58	21.37	38	324,551	94.90	212	337,333	-12,782
13837+50.00	50	43.10	79	33.19	60	32.20	50	324,601	95.09	220	337,553	-12,952
13838+00.00	50	43.01	80	32.98	61	39.68	67	324,668	85.08	209	337,762	-13,094
13838+50.00	50	42.69	79	32.72	61	33.64	68	324,736	87.56	200	337,962	-13,226
13839+00.00	50	42.08	78	32.07	60	26.90	56	324,792	91.23	207	338,169	-13,377
13839+50.00	50	40.99	77	31.14	59	18.90	42	324,834	92.73	213	338,382	-13,548
13840+00.00	50	41.10	76	31.15	58	18.98	35	324,869	90.92	213	338,595	-13,726
13840+50.00	50	40.95	76	30.72	57	17.54	34	324,903	94.75	215	338,810	-13,907

This document was originally issued and sealed by Adam J. Schoenherr Registration Number PE- 7569, on 10/12/2016and the original document is stored at the North Dakota Department of Transportation

ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13841+00.00	50	40.62	76	30.27	56	13.41	29	324,932	96.58	221	339,031	-14,099
13841+50.00	50	39.83	74	29.49	55	7.88	20	324,952	95.31	222	339,253	-14,301
13842+00.00	50	33.62	68	23.26	49	3.57	11	324,963	90.22	215	339,468	-14,505
13842+50.00	50	38.14	66	27.76	47	3.69	7	324,970	112.45	235	339,703	-14,733
13843+00.00	50	38.73	71	28.38	52	3.29	6	324,976	129.57	280	339,983	-15,007
13843+50.00	50	40.35	73	30.08	54	3.50	6	324,982	136.38	308	340,291	-15,309
13844+50.00	100	41.22	151	31.02	113	2.30	11	324,993	134.30	627	340,918	-15,925
13845+00.00	50	39.76	75	29.66	56	2.31	4	324,997	124.74	300	341,218	-16,221
13845+50.00	50	37.64	72	27.64	53	2.40	4	325,001	116.65	279	341,497	-16,496
13845+70.00	20	37.68	28	27.69	20	1.66	2	325,003	113.08	106	341,603	-16,600
13846+00.00	30	37.85	42	26.68	30	3.97	3	325,006	112.52	157	341,760	-16,754
13846+50.00	50	36.99	69	24.21	47	4.36	8	325,014	105.83	253	342,013	-16,999
13847+00.00	50	38.06	69	23.47	44	5.06	9	325,023	111.27	251	342,264	-17,241
13847+50.00	50	38.79	71	22.54	43	5.28	10	325,033	119.15	267	342,531	-17,498
13848+00.00	50	37.26	70	21.20	41	6.10	11	325,044	109.54	265	342,796	-17,752
13848+50.00	50	37.39	69	21.22	39	6.46	12	325,056	113.80	258	343,054	-17,998
13849+00.00	50	37.34	69	21.20	39	6.06	12	325,068	119.60	270	343,324	-18,256
13849+50.00	50	39.31	71	23.15	41	5.03	10	325,078	133.82	293	343,617	-18,539
13850+00.00	50	39.11	73	22.91	43	6.65	11	325,089	128.87	304	343,921	-18,832
13850+50.00	50	39.25	73	23.94	43	4.63	10	325,099	156.02	330	344,251	-19,152
13851+00.00	50	38.04	72	22.64	43	4.74	9	325,108	139.28	342	344,593	-19,485
13851+50.00	50	37.10	70	21.57	41	3.90	8	325,116	131.89	314	344,907	-19,791
13852+00.00	50	37.39	69	21.99	40	3.58	7	325,123	147.84	324	345,231	-20,108
13852+50.00	50	37.80	70	22.44	41	1.61	5	325,128	155.76	351	345,582	-20,454
13853+00.00	50	32.89	65	20.01	39	3.01	4	325,132	96.86	292	345,874	-20,742
13853+35.00	35	0.00	21	0.00	13	10.83	9	325,141	5.01	83	345,957	-20,816
13853+35.00			97		82		69	325,210		221	346,178	-20,968
13853+50.00	15	16.60	5	8.57	2	14.50	7	325,217	1.53	2	346,180	-20,963
13854+00.00	50	43.54	56	30.01	36	7.68	21	325,238	121.65	143	346,323	-21,085
13854+50.00	50	56.24	92	42.51	67	19.89	26	325,264	140.79	304	346,627	-21,363
13855+00.00	50	60.89	108	47.15	83	28.95	45	325,309	151.89	339	346,966	-21,657
13855+50.00	50	62.40	114	48.66	89	38.80	63	325,372	157.87	359	347,325	-21,953
13856+00.00	50	59.79	113	45.88	88	30.54	64	325,436	152.09	359	347,684	-22,248
13856+50.00	50	53.47	105	39.36	79	14.45	42	325,478	151.45	351	348,035	-22,557
13857+00.00	50	50.08	96	35.96	70	8.86	22	325,500	148.93	348	348,383	-22,883
13857+50.00	50	45.09	88	30.97	62	10.78	18	325,518	139.35	334	348,717	-23,199
13858+00.00	50	43.08	82	28.98	56	5.87	15	325,533	136.45	319	349,036	-23,503
13858+50.00	50	41.55	78	27.47	52	5.03	10	325,543	129.73	308	349,344	-23,801
13859+00.00	50	36.76	73	22.55	46	5.88	10	325,553	128.33	299	349,643	-24,090
13859+20.00	20	36.88	27	22.69	17	6.62	5	325,558	126.15	118	349,761	-24,203
13859+50.00	30	41.18	43	25.06	27	7.21	8	325,566	151.06	193	349,954	-24,388
13860+00.00	50	34.87	70	23.78	45	4.91	11	325,577	119.41	313	350,267	-24,690
13860+50.00	50	34.55	64	25.01	45	3.51	8	325,585	113.80	270	350,537	-24,952
13861+00.00	50	35.07	64	25.59	47	0.96	4	325,589	126.96	279	350,816	-25,227
13861+30.00	30	35.89	39	26.32	29	1.47	1	325,590	128.82	178	350,994	-25,404
13861+50.00	20	36.14	27	26.54	20	1.51	1	325,591	129.53	120	351,114	-25,523
13862+00.00	50	37.63	68	28.05	51	0.77	2	325,593	144.59	317	351,431	-25,838
13862+50.00	50	38.44	70	28.92	53	0.81	1	325,594	157.20	349	351,780	-26,186
13863+00.00	50	47.08	79	37.58	62	2.87	3	325,597	182.07	393	352,173	-26,576
13863+50.00	50	49.95	90	40.54	72	7.88	10	325,607	184.17	424	352,597	-26,990
13864+00.00	50	51.00	93	41.53	76	1.94	9	325,616	195.48	439	353,036	-27,420
13864+50.00	50	48.03	92	38.59	74	3.86	5	325,621	179.54	434	353,470	-27,849
13865+00.00	50	55.60	96	46.19	79	7.16	10	325,631	189.56	427	353,897	-28,266
13865+50.00	50	60.47	107	50.24	89	22.82	28	325,659	215.92	469	354,366	-28,707

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	46

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13866+00.00	50	64.57	116	54.34	97	43.65	62	325,721	248.84	538	354,904	-29,183
13866+50.00	50	60.06	115	49.81	96	64.54	100	325,821	268.62	599	355,503	-29,682
13867+00.00	50	59.88	111	49.59	92	57.86	113	325,934	285.75	642	356,145	-30,211
13867+10.00	10	60.11	22	49.80	18	59.86	22	325,956	283.76	132	356,277	-30,321
13867+50.00	40	61.23	90	51.06	75	69.90	96	326,052	346.57	584	356,861	-30,809
13867+75.00	25	59.85	56	49.79	47	79.56	69	326,121	286.39	366	357,227	-31,106
13868+00.00	25	57.68	54	47.66	45	81.14	74	326,195	237.50	303	357,530	-31,335
13868+50.00	50	51.77	101	41.56	83	73.24	143	326,338	149.57	448	357,978	-31,640
13869+00.00	50	50.55	95	40.91	76	68.43	131	326,469	144.48	340	358,318	-31,849
13869+50.00	50	52.46	95	42.83	78	108.84	164	326,633	143.66	333	358,651	-32,018
13870+00.00	50	55.23	100	45.60	82	148.53	238	326,871	150.37	340	358,991	-32,120
13870+50.00	50	63.97	110	54.86	93	161.41	287	327,158	140.79	337	359,328	-32,170
13871+00.00	50	68.65	123	59.47	106	159.51	297	327,455	143.96	330	359,658	-32,203
13871+50.00	50	63.64	122	54.49	106	82.23	224	327,679	129.08	316	359,974	-32,295
13872+00.00	50	52.30	107	43.12	90	48.78	121	327,800	117.77	286	360,260	-32,460
13872+45.00	45	52.31	87	43.06	72	47.46	80	327,880	121.65	249	360,509	-32,629
13872+50.00	5	52.02	10	42.77	8	77.05	12	327,892	115.37	27	360,536	-32,644
13873+00.00	50	49.53	94	40.31	77	112.78	176	328,068	99.66	249	360,785	-32,717
13873+50.00	50	51.38	93	41.99	76	160.28	253	328,321	76.64	204	360,989	-32,668
13874+00.00	50	51.24	95	41.75	78	196.52	330	328,651	48.17	144	361,133	-32,482
13874+50.00	50	55.67	99	45.96	81	218.69	384	329,035	27.15	87	361,220	-32,185
13875+00.00	50	52.86	100	43.19	83	219.29	406	329,441	13.76	47	361,267	-31,826
13875+50.00	50	52.05	97	42.51	79	221.27	408	329,849	9.32	27	361,294	-31,445
13876+00.00	50	51.38	96	41.90	78	241.49	428	330,277	8.35	20	361,314	-31,037
13876+50.00	50	58.06	101	48.65	84	327.87	527	330,804	4.24	15	361,329	-30,525
13877+00.00	50	55.24	105	46.00	88	335.88	615	331,419	2.73	8	361,337	-29,918
13877+50.00	50	58.66	105	49.53	88	406.75	688	332,107	1.45	5	361,342	-29,235
13878+00.00	50	60.36	110	51.12	93	468.77	811	332,918	0.51	2	361,344	-28,426
13878+50.00	50	59.69	111	50.47	94	486.40	884	333,802	1.34	2	361,346	-27,544
13879+00.00	50	56.46	108	47.39	91	433.88	852	334,654	0.22	2	361,348	-26,694
13879+50.00	50	0.00	52	0.00	44	324.11	702	335,356	0.10	0	361,348	-25,992
13879+60.00	10	0.00	0	0.00	0	312.57	118	335,474	0.10	0	361,348	-25,874
13880+00.00	40	54.15	40	45.31	34	406.98	533	336,007	0.10	0	361,348	-25,341
13880+50.00	50	58.63	104	49.65	88	457.92	801	336,808	0.10	0	361,348	-24,540
13881+00.00	50	52.52	103	43.18	86	384.04	780	337,588	0.10	0	361,348	-23,760
13881+50.00	50	47.24	92	37.68	75	322.88	655	338,243	0.10	0	361,348	-23,105
13882+00.00	50	45.74	86	36.16	68	305.04	581	338,824	3.82	5	361,353	-22,529
13882+50.00	50	44.98	84	35.55	66	301.15	561	339,385	5.08	10	361,363	-21,978
13883+00.00	50	44.96	83	35.66	66	308.34	564	339,949	2.43	9	361,372	-21,423
13883+50.00	50	46.43	85	37.08	67	339.11	599	340,548	0.10	3	361,375	-20,827
13884+00.00	50	51.12	90	41.76	73	380.50	666	341,214	0.10	0	361,375	-20,161
13884+50.00	50	52.88	96	43.57	79	386.70	710	341,924	0.10	0	361,375	-19,451
13885+00.00	50	57.85	103	48.62	85	403.38	732	342,656	0.10	0	361,375	-18,719
13885+50.00	50	53.40	103	44.24	86	312.46	663	343,319	2.24	3	361,378	-18,059
13886+00.00	50	37.52	84	28.43	67	222.78	496	343,815	12.60	17	361,395	-17,580
13886+50.00	50	42.57	74	33.48	57	194.21	386	344,201	43.63	65	361,460	-17,259
13887+00.00	50	45.88	82	36.80	65	160.91	329	344,530	67.35	128	361,588	-17,058
13887+50.00	50	46.43	85	37.24	69	140.78	279	344,809	74.32	164	361,752	-16,943
13888+00.00	50	42.82	83	33.32	65	110.84	233	345,042	56.94	152	361,904	-16,862
13888+50.00	50	36.80	74	27.65	56	91.84	188	345,230	41.68	114	362,018	-16,788
13889+00.00	50	36.10	68	27.01	51	76.92	156	345,386	45.38	101	362,119	-16,733
13889+50.00	50	29.56	61	20.54	44	53.43	121	345,507	64.84	128	362,247	-16,740
13890+00.00	50	36.52	61	27.21	44	38.94	86	345,593	85.78	174	362,421	-16,828
13890+50.00	50	39.91	71	30.57	54	29.45	63	345,656	142.56	264	362,685	-17,029

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	47

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13890+80.00	30	41.11	45	31.70	35	29.35	33	345,689	165.48	214	362,899	-17,210
13890+85.00	5	41.14	8	31.71	6	1.25	3	345,692	173.44	39	362,938	-17,246
13891+00.00	15	41.15	23	31.61	18	1.36	1	345,693	178.54	122	363,060	-17,367
13891+50.00	50	44.55	79	35.08	62	0.56	2	345,695	211.69	452	363,512	-17,817
13892+00.00	50	51.98	89	42.50	72	1.23	2	345,697	294.35	586	364,098	-18,401
13892+50.00	50	54.08	98	44.55	81	1.31	2	345,699	330.10	723	364,821	-19,122
13893+00.00	50	53.50	100	44.05	82	0.87	2	345,701	309.96	741	365,562	-19,861
13893+50.00	50	56.63	102	47.08	84	1.26	2	345,703	273.55	675	366,237	-20,534
13894+00.00	50	58.29	106	48.21	88	2.63	4	345,707	271.37	631	366,868	-21,161
13894+50.00	50	54.47	104	43.60	85	1.30	4	345,711	251.11	605	367,473	-21,762
13895+00.00	50	43.76	91	32.26	70	1.44	3	345,714	207.01	530	368,003	-22,289
13895+00.00							6,470	352,184		0	368,003	-15,819
13895+50.00	50	41.55	79	29.64	57	1.13	2	352,186	185.05	454	368,457	-16,271
13896+00.00	50	40.17	76	27.64	53	2.22	3	352,189	160.70	400	368,857	-16,668
13896+50.00	50	46.36	80	33.14	56	13.39	14	352,203	146.45	355	369,212	-17,009
13897+00.00	50	47.77	87	33.86	62	15.57	27	352,230	155.73	350	369,562	-17,332
13897+50.00	50	48.46	89	33.93	63	18.69	32	352,262	167.91	375	369,937	-17,675
13898+00.00	50	48.14	89	33.04	62	22.42	38	352,300	163.13	383	370,320	-18,020
13898+35.00	35	47.22	62	31.88	42	18.22	26	352,326	164.09	265	370,585	-18,259
13898+50.00	15	46.98	26	31.18	18	15.24	9	352,335	171.01	116	370,701	-18,366
13899+00.00	50	47.29	87	29.71	56	11.86	25	352,360	192.95	421	371,122	-18,762
13899+50.00	50	49.25	89	30.07	55	43.11	51	352,411	166.23	416	371,538	-19,127
13899+85.00	35	36.51	56	21.86	34	65.67	71	352,482	146.50	253	371,791	-19,309
13900+00.00	15	41.92	22	26.07	13	70.18	38	352,520	144.81	101	371,892	-19,372
13900+20.00	20	53.21	35	31.91	21	71.85	53	352,573	185.59	153	372,045	-19,472
13900+50.00	30	54.81	60	33.53	36	70.56	79	352,652	213.16	277	372,322	-19,670
13901+00.00	50	54.22	101	32.73	61	52.15	114	352,766	202.30	481	372,803	-20,037
13901+50.00	50	52.89	99	31.08	59	22.40	69	352,835	201.62	468	373,271	-20,436
13902+00.00	50	46.07	92	24.23	51	2.86	23	352,858	209.67	476	373,747	-20,889
13902+50.00	50	46.38	86	24.54	45	4.01	6	352,864	197.36	471	374,218	-21,354
13903+00.00	50	47.63	87	25.73	47	3.97	7	352,871	206.24	467	374,685	-21,814
13903+50.00	50	53.53	94	31.54	53	12.32	15	352,886	207.72	479	375,164	-22,278
13904+00.00	50	46.27	92	24.52	52	3.45	15	352,901	233.75	511	375,675	-22,774
13904+50.00	50	46.33	86	24.60	45	2.59	6	352,907	239.78	548	376,223	-23,316
13905+00.00	50	45.94	85	24.17	45	2.37	5	352,912	232.81	547	376,770	-23,858
13905+50.00	50	47.57	87	29.04	49	5.88	8	352,920	228.46	534	377,304	-24,384
13906+00.00	50	0.00	44	0.00	27	3.53	9	352,929	17.48	285	377,589	-24,660
13906+00.00			262		227		79	353,008		1,636	379,225	-26,217
13906+50.00	50	44.41	41	25.47	24	3.51	7	353,015	189.79	240	379,465	-26,450
13907+00.00	50	44.55	82	24.34	46	3.94	7	353,022	170.16	417	379,882	-26,860
13907+50.00	50	44.47	82	24.21	45	4.21	8	353,030	172.66	397	380,279	-27,249
13908+00.00	50	45.44	83	25.21	46	3.80	7	353,037	185.35	414	380,693	-27,656
13908+50.00	50	46.02	85	25.48	47	3.97	7	353,044	195.07	440	381,133	-28,089
13909+00.00	50	45.60	85	25.14	47	5.35	9	353,053	183.75	438	381,571	-28,518
13909+50.00	50	45.46	84	24.91	46	6.22	11	353,064	179.63	421	381,992	-28,928
13910+00.00	50	44.96	84	24.20	45	6.50	12	353,076	172.21	407	382,399	-29,323
13910+50.00	50	43.38	82	22.60	43	6.38	12	353,088	157.54	382	382,781	-29,693
13911+00.00	50	41.75	79	21.24	41	7.46	13	353,101	133.39	337	383,118	-30,017
13911+50.00	50	40.71	76	20.23	38	6.01	12	353,113	134.27	310	383,428	-30,315
13911+85.00	35	41.10	53	20.75	27	6.01	8	353,121	143.99	225	383,653	-30,532
13912+00.00	15	40.91	23	21.07	12	6.05	3	353,124	143.96	100	383,753	-30,629
13912+50.00	50	39.40	74	21.28	39	5.95	11	353,135	140.26	329	384,082	-30,947
13912+85.00	35	38.55	51	21.56	28	5.62	7	353,142	134.68	223	384,305	-31,163
13913+00.00	15	38.29	21	21.84	12	5.38	3	353,145	131.50	92	384,397	-31,252

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13913+50.00	50	38.45	71	22.31	41	4.57	9	353,154	130.19	303	384,700	-31,546
13913+95.00	45	39.16	65	23.22	38	4.27	7	353,161	132.89	274	384,974	-31,813
13914+00.00	5	39.29	7	23.39	4	4.23	1	353,162	133.81	31	385,005	-31,843
13914+50.00	50	40.41	74	24.90	45	5.17	9	353,171	133.27	309	385,314	-32,143
13915+00.00	50	41.82	76	26.96	48	4.18	9	353,180	152.72	331	385,645	-32,465
13915+50.00	50	43.56	79	29.25	52	3.76	7	353,187	180.84	386	386,031	-32,844
13916+00.00	50	45.57	83	31.96	57	3.09	6	353,193	199.14	440	386,471	-33,278
13916+50.00	50	47.10	86	34.23	61	2.90	6	353,199	218.88	484	386,955	-33,756
13917+00.00	50	47.87	88	35.50	65	3.33	6	353,205	234.11	524	387,479	-34,274
13917+50.00	50	47.59	88	35.77	66	4.32	7	353,212	218.23	524	388,003	-34,791
13918+00.00	50	51.85	92	40.73	71	7.58	11	353,223	175.85	456	388,459	-35,236
13918+50.00	50	48.09	93	37.66	73	21.89	27	353,250	98.51	318	388,777	-35,527
13918+55.00	5	47.65	9	37.26	7	23.93	4	353,254	93.95	22	388,799	-35,545
13919+00.00	45	45.74	78	35.28	60	43.31	56	353,310	78.85	180	388,979	-35,669
13919+50.00	50	46.96	86	36.50	66	57.62	93	353,403	81.72	186	389,165	-35,762
13920+00.00	50	48.73	89	38.28	69	74.35	122	353,525	88.10	197	389,362	-35,837
13920+50.00	50	49.88	91	39.38	72	86.48	149	353,674	85.01	200	389,562	-35,888
13921+00.00	50	50.24	93	39.87	73	83.49	157	353,831	90.31	203	389,765	-35,934
13921+50.00	50	50.75	94	40.49	74	71.12	143	353,974	93.41	213	389,978	-36,004
13921+55.00	5	50.76	9	40.59	8	69.90	13	353,987	93.70	22	390,000	-36,013
13922+00.00	45	51.54	85	41.59	68	58.71	107	354,094	93.82	195	390,195	-36,101
13922+50.00	50	51.59	95	42.02	77	48.95	100	354,194	91.12	214	390,409	-36,215
13923+00.00	50	52.30	96	43.15	79	52.76	94	354,288	85.32	204	390,613	-36,325
13923+50.00	50	54.28	99	45.66	82	73.90	117	354,405	82.88	195	390,808	-36,403
13924+00.00	50	55.02	101	46.83	86	88.77	151	354,556	83.26	192	391,000	-36,444
13924+50.00	50	54.75	102	46.98	87	98.36	173	354,729	81.30	190	391,190	-36,461
13925+00.00	50	54.20	101	46.84	87	96.83	181	354,910	82.67	190	391,380	-36,470
13925+50.00	50	52.40	99	45.42	85	61.96	147	355,057	85.52	195	391,575	-36,518
13926+00.00	50	48.12	93	41.40	80	7.18	64	355,121	92.96	207	391,782	-36,661
13926+50.00	50	85.40	124	0.00	38	4.32	11	355,132	255.25	403	392,185	-37,053
13927+00.00	50	27.96	105	21.76	20	1.01	5	355,137	61.79	367	392,552	-37,415
13927+50.00	50	27.96	52	21.65	40	1.37	2	355,139	60.16	141	392,693	-37,554
13928+00.00	50	28.30	52	21.86	40	0.99	2	355,141	60.63	140	392,833	-37,692
13928+50.00	50	30.23	54	23.73	42	0.68	2	355,143	71.21	153	392,986	-37,843
13929+00.00	50	31.40	57	24.89	45	1.16	2	355,145	74.44	169	393,155	-38,010
13929+50.00	50	38.72	65	32.33	53	0.01	1	355,146	90.08	190	393,345	-38,199
13930+00.00	50	48.21	80	42.01	69	11.89	11	355,157	100.55	221	393,566	-38,409
13930+50.00	50	49.10	90	42.91	79	12.53	23	355,180	112.45	247	393,813	-38,633
13930+65.00	15	49.00	27	42.77	24	12.80	7	355,187	117.28	80	393,893	-38,706
13931+00.00	35	47.88	63	41.66	55	14.72	18	355,205	119.42	192	394,085	-38,880
13931+50.00	50	46.28	87	39.84	75	8.86	22	355,227	111.39	267	394,352	-39,125
13932+00.00	50	40.68	81	34.15	69	0.60	9	355,236	85.78	228	394,580	-39,344
13932+50.00	50	32.66	68	26.25	56	0.00	1	355,237	76.01	187	394,767	-39,530
13933+00.00	50	30.45	58	24.22	47	0.33	0	355,237	65.89	164	394,931	-39,694
13933+50.00	50	28.71	55	22.62	43	0.06	0	355,237	65.70	152	395,083	-39,846
13934+00.00	50	27.24	52	21.10	40	0.00	0	355,237	61.36	147	395,230	-39,993
13934+50.00	50	26.62	50	20.26	38	0.00	0	355,237	56.92	137	395,367	-40,130
13935+00.00	50	33.90	56	27.58	44	0.75	1	355,238	54.01	128	395,495	-40,257
13935+50.00	50	33.17	62	26.91	50	0.19	1	355,239	64.24	137	395,632	-40,393
13936+00.00	50	33.83	62	27.45	50	0.03	0	355,239	64.39	149	395,781	-40,542
13936+50.00	50	35.24	64	28.70	52	0.21	0	355,239	76.61	163	395,944	-40,705
13937+00.00	50	35.45	65	29.01	53	0.43	1	355,240	75.00	175	396,119	-40,879
13937+50.00	50	43.71	73	37.39	61	4.63	5	355,245	66.64	164	396,283	-41,038
13938+00.00	50	48.17	85	41.94	73	8.55	12	355,257	72.08	161	396,444	-41,187

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Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	49

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13938+50.00	50	58.73	99	52.41	87	11.75	19	355,276	122.85	226	396,670	-41,394
13939+00.00	50	65.73	115	59.55	104	29.93	39	355,315	178.22	348	397,018	-41,703
13939+50.00	50	77.46	133	71.25	121	56.72	80	355,395	255.88	502	397,520	-42,125
13940+00.00	50	66.07	133	59.76	121	5.81	58	355,453	263.15	601	398,121	-42,668
13940+50.00	50	56.67	114	50.36	102	0.32	6	355,459	223.25	563	398,684	-43,225
13941+00.00	50	56.40	105	50.07	93	0.77	1	355,460	155.05	438	399,122	-43,662
13941+50.00	50	48.86	97	42.46	86	0.59	1	355,461	112.47	310	399,432	-43,971
13942+00.00	50	39.40	82	33.01	70	1.41	2	355,463	69.55	211	399,643	-44,180
13942+50.00	50	39.04	73	32.55	61	0.26	2	355,465	77.61	170	399,813	-44,348
13943+00.00	50	39.85	73	33.42	61	1.26	1	355,466	82.26	185	399,998	-44,532
13943+50.00	50	40.43	74	33.93	62	4.63	5	355,471	73.77	181	400,179	-44,708
13944+00.00	50	38.72	73	32.08	61	4.31	8	355,479	64.20	160	400,339	-44,860
13944+50.00	50	40.36	73	33.75	61	7.32	11	355,490	68.40	153	400,492	-45,002
13945+00.00	50	43.23	77	36.62	65	9.27	15	355,505	66.05	156	400,648	-45,143
13945+50.00	50	42.97	80	36.49	68	3.93	12	355,517	72.73	161	400,809	-45,292
13946+00.00	50	39.43	76	32.87	64	0.86	4	355,521	82.55	180	400,989	-45,468
13946+50.00	50	37.74	71	31.24	59	0.50	1	355,522	76.45	184	401,173	-45,651
13947+00.00	50	37.63	70	31.07	58	0.43	1	355,523	86.65	189	401,362	-45,839
13947+50.00	50	37.59	70	30.96	57	0.07	0	355,523	91.46	206	401,568	-46,045
13948+00.00	50	37.32	69	30.68	57	0.14	0	355,523	89.14	209	401,777	-46,254
13948+50.00	50	35.62	68	29.08	55	0.27	0	355,523	69.20	183	401,960	-46,437
13948+90.00	40	20.73	42	18.23	35	0.60	1	355,524	77.19	136	402,096	-46,572
13949+00.00	10	20.97	8	22.45	8	1.03	0	355,524	41.73	28	402,124	-46,600
13949+50.00	50	36.70	53	30.31	49	0.52	1	355,525	68.32	127	402,251	-46,726
13950+00.00	50	31.25	63	24.65	51	0.00	0	355,525	79.81	171	402,422	-46,897
13950+50.00	50	32.94	59	26.42	47	0.06	0	355,525	68.87	172	402,594	-47,069
13951+00.00	50	36.18	64	29.60	52	0.11	0	355,525	87.98	182	402,776	-47,251
13951+50.00	50	37.28	68	30.76	56	0.00	0	355,525	91.06	207	402,983	-47,458
13952+00.00	50	35.69	68	29.38	56	0.00	0	355,525	96.23	217	403,200	-47,675
13952+50.00	50	34.53	65	28.19	53	0.00	0	355,525	98.68	226	403,426	-47,901
13953+00.00	50	36.54	66	30.14	54	0.00	0	355,525	116.05	249	403,675	-48,150
13953+50.00	50	38.44	69	32.02	58	0.00	0	355,525	130.58	285	403,960	-48,435
13954+00.00	50	40.14	73	33.71	61	0.02	0	355,525	147.45	322	404,282	-48,757
13954+50.00	50	42.22	76	35.58	64	0.00	0	355,525	173.34	371	404,653	-49,128
13955+00.00	50	43.45	79	36.80	67	0.00	0	355,525	202.61	435	405,088	-49,563
13955+50.00	50	45.21	82	38.59	70	0.00	0	355,525	226.97	497	405,585	-50,060
13956+00.00	50	42.87	82	36.30	69	0.03	0	355,525	170.46	460	406,045	-50,520
13956+50.00	50	30.89	68	24.36	56	0.10	0	355,525	88.14	299	406,344	-50,819
13957+00.00	50	30.15	57	23.67	44	0.04	0	355,525	79.89	194	406,538	-51,013
13957+50.00	50	30.17	56	23.63	44	0.00	0	355,525	83.41	189	406,727	-51,202
13958+00.00	50	29.48	55	22.95	43	0.00	0	355,525	73.92	182	406,909	-51,384
13958+50.00	50	3.89	31	9.08	30	0.65	1	355,526	7.27	94	407,003	-51,477
13958+75.00	25	0.00	2	0.00	4	0.00	0	355,526	2.01	5	407,008	-51,482
13958+75.00			1088		26		25	355,551		19,594	426,602	-71,051
13959+00.00	25	1.04	0	7.13	3	2.36	1	355,552	3.04	3	426,605	-71,053
13959+50.00	50	40.48	38	34.08	38	0.09	2	355,554	126.75	150	426,755	-71,201
13960+00.00	50	47.63	82	41.27	70	0.21	0	355,554	173.34	347	427,102	-71,548
13960+00.00							41,500	397,054		0	427,102	-30,048
13960+50.00	50	64.10	103	57.82	92	6.92	7	397,061	200.34	433	427,535	-30,474
13961+00.00	50	64.06	119	57.65	107	2.67	9	397,070	237.71	507	428,042	-30,972
13961+50.00	50	63.93	119	56.04	105	2.39	5	397,075	263.10	580	428,622	-31,547
13962+00.00	50	63.14	118	53.92	102	2.41	4	397,079	277.60	626	429,248	-32,169
13962+50.00	50	63.40	117	52.62	99	2.97	5	397,084	285.30	652	429,900	-32,816
13963+00.00	50	64.45	118	52.07	97	6.18	8	397,092	258.88	630	430,530	-33,438

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	50

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13963+50.00	50	67.22	122	53.19	97	13.05	18	397,110	251.68	591	431,121	-34,011
13964+00.00	50	66.80	124	51.23	97	12.90	24	397,134	246.84	577	431,698	-34,564
13964+25.00	25	63.33	60	47.03	45	13.43	12	397,146	238.82	281	431,979	-34,833
13964+50.00	25	61.81	58	45.61	43	13.05	12	397,158	226.16	269	432,248	-35,090
13965+00.00	50	57.51	110	41.47	81	15.04	26	397,184	201.36	495	432,743	-35,559
13965+50.00	50	56.19	105	40.08	76	9.69	23	397,207	195.57	459	433,202	-35,995
13966+00.00	50	54.13	102	37.85	72	6.92	15	397,222	189.79	446	433,648	-36,426
13966+50.00	50	51.96	98	35.68	68	7.96	14	397,236	164.93	411	434,059	-36,823
13967+00.00	50	50.04	94	33.92	64	13.27	20	397,256	154.04	369	434,428	-37,172
13967+25.00	25	51.89	47	35.83	32	13.14	12	397,268	158.29	181	434,609	-37,341
13967+50.00	25	51.40	48	36.09	33	10.05	11	397,279	162.46	186	434,795	-37,516
13968+00.00	50	48.49	92	34.76	66	3.52	13	397,292	156.06	369	435,164	-37,872
13968+50.00	50	43.81	85	31.60	61	2.34	5	397,297	134.05	336	435,500	-38,203
13969+00.00	50	48.15	85	37.39	64	2.00	4	397,301	164.94	346	435,846	-38,545
13969+50.00	50	57.97	98	48.63	80	2.29	4	397,305	192.54	414	436,260	-38,955
13970+00.00	50	94.16	141	86.30	125	85.48	81	397,386	372.81	654	436,914	-39,528
13970+50.00	50	82.99	164	76.54	151	40.41	117	397,503	385.70	878	437,792	-40,289
13971+00.00	50	88.96	159	82.60	147	44.73	79	397,582	496.69	1,021	438,813	-41,231
13971+50.00	50	93.81	169	87.71	158	68.21	105	397,687	608.87	1,280	440,093	-42,406
13972+00.00	50	84.31	165	78.33	154	13.88	76	397,763	622.49	1,425	441,518	-43,755
13972+50.00	50	70.36	143	64.32	132	3.70	16	397,779	578.62	1,390	442,908	-45,129
13973+00.00	50	65.27	126	59.20	114	7.18	10	397,789	451.98	1,193	444,101	-46,312
13973+50.00	50	22.76	82	17.85	71	27.06	32	397,821	5.25	529	444,630	-46,809
13973+65.00	15	0.86	7	3.81	6	8.34	10	397,831	44.00	17	444,647	-46,816
13973+80.00	15	2.23	1	2.99	2	4.79	4	397,835	2.85	16	444,663	-46,828
13973+80.00			155		132		0	397,835		1,020	445,683	-47,848
13974+00.00	20	24.11	10	18.21	8	4.11	3	397,838	29.27	15	445,698	-47,860
13974+50.00	50	34.24	54	28.30	43	3.44	7	397,845	87.34	135	445,833	-47,988
13975+00.00	50	32.87	62	27.02	51	3.39	6	397,851	79.91	194	446,027	-48,176
13975+50.00	50	33.68	62	27.37	50	4.15	7	397,858	83.67	189	446,216	-48,358
13976+00.00	50	35.27	64	28.37	52	3.65	7	397,865	98.80	211	446,427	-48,562
13976+50.00	50	37.64	68	30.34	54	4.14	7	397,872	108.19	240	446,667	-48,795
13977+00.00	50	44.85	76	37.11	62	2.99	7	397,879	149.17	298	446,965	-49,086
13977+50.00	50	57.76	95	49.58	80	2.56	5	397,884	319.54	542	447,507	-49,623
13978+00.00	50	64.47	113	55.95	98	2.36	5	397,889	532.34	986	448,493	-50,604
13978+50.00	50	71.15	126	62.17	109	2.96	5	397,894	716.96	1,446	449,939	-52,045
13979+00.00	50	77.11	137	67.49	120	1.97	5	397,899	864.79	1,831	451,770	-53,871
13979+50.00	50	80.65	146	70.62	128	1.95	4	397,903	921.43	2,067	453,837	-55,934
13980+00.00	50	84.40	153	73.99	134	1.73	3	397,906	1,022.63	2,250	456,087	-58,181
13980+50.00	50	87.94	160	77.52	140	2.36	4	397,910	1,100.33	2,457	458,544	-60,634
13981+00.00	50	91.42	166	81.04	147	2.79	5	397,915	1,192.10	2,653	461,197	-63,282
13981+50.00	50	95.03	173	84.55	153	2.40	5	397,920	1,277.19	2,858	464,055	-66,135
13982+00.00	50	97.67	178	87.17	159	2.17	4	397,924	1,363.67	3,057	467,112	-69,188
13982+50.00	50	99.89	183	89.38	163	1.58	3	397,927	1,456.29	3,264	470,376	-72,449
13983+00.00	50	101.60	187	91.09	167	1.08	2	397,929	1,515.66	3,440	473,816	-75,887
13983+50.00	50	99.22	186	88.64	166	1.43	2	397,931	1,409.55	3,386	477,202	-79,271
13984+00.00	50	99.76	184	89.21	165	4.48	5	397,936	1,346.23	3,190	480,392	-82,456
13984+50.00	50	97.52	183	86.97	163	4.22	8	397,944	1,215.68	2,965	483,357	-85,413
13985+00.00	50	93.38	177	82.93	157	3.12	7	397,951	1,043.25	2,615	485,972	-88,021
13985+50.00	50	83.62	164	73.12	144	3.88	6	397,957	768.15	2,097	488,069	-90,112
13986+00.00	50	73.02	145	62.60	126	3.59	7	397,964	401.73	1,354	489,423	-91,459
13986+50.00	50	48.11	112	37.83	93	2.07	5	397,969	143.34	631	490,054	-92,085
13987+00.00	50	44.72	86	34.53	67	7.53	9	397,978	110.09	293	490,347	-92,369
13987+50.00	50	62.79	100	52.72	81	81.69	83	398,061	107.73	252	490,599	-92,538

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	51

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
13988+00.00	50	70.89	124	60.93	105	139.62	205	398,266	123.26	267	490,866	-92,600
13988+50.00	50	77.99	138	68.01	119	201.09	315	398,581	121.11	283	491,149	-92,568
13989+00.00	50	82.39	149	72.38	130	199.83	371	398,952	120.61	280	491,429	-92,477
13989+50.00	50	83.68	154	73.68	135	142.00	317	399,269	101.05	257	491,686	-92,417
13990+00.00	50	80.59	152	70.57	134	153.56	274	399,543	93.64	225	491,911	-92,368
13990+50.00	50	77.80	147	67.70	128	158.31	289	399,832	103.04	228	492,139	-92,307
13991+00.00	50	76.91	143	66.63	124	94.89	234	400,066	97.12	232	492,371	-92,305
13991+50.00	50	41.95	110	31.56	91	5.63	93	400,159	92.29	219	492,590	-92,431
13992+00.00	50	43.24	79	33.01	60	9.43	14	400,173	82.01	202	492,792	-92,619
13992+00.00							49,700	449,873		0	492,792	-42,919
13992+50.00	50	46.26	83	36.06	64	8.62	17	449,890	76.25	183	492,975	-43,085
13993+00.00	50	40.05	80	29.92	61	6.77	14	449,904	79.21	180	493,155	-43,251
13993+50.00	50	33.31	68	23.17	49	2.89	9	449,913	90.18	196	493,351	-43,438
13994+00.00	50	33.40	62	23.26	43	2.59	5	449,918	94.70	214	493,565	-43,647
13994+50.00	50	33.47	62	23.23	43	2.54	5	449,923	92.48	217	493,782	-43,859
13995+00.00	50	34.80	63	24.39	44	1.95	4	449,927	102.93	226	494,008	-44,081
13995+50.00	50	34.63	64	24.18	45	1.66	3	449,930	103.99	239	494,247	-44,317
13995+90.00	40	21.63	42	12.83	27	1.15	2	449,932	103.20	192	494,439	-44,507
13996+00.00	10	20.67	8	15.44	5	1.24	0	449,932	78.79	42	494,481	-44,549
13996+50.00	50	40.20	56	29.99	42	3.00	4	449,936	112.92	222	494,703	-44,767
13997+00.00	50	43.53	78	33.36	59	3.79	6	449,942	114.60	263	494,966	-45,024
13997+50.00	50	41.01	78	30.86	59	2.88	6	449,948	123.67	276	495,242	-45,294
13998+00.00	50	41.15	76	31.01	57	2.30	5	449,953	124.42	287	495,529	-45,576
13998+50.00	50	41.76	77	31.35	58	3.20	5	449,958	112.76	275	495,804	-45,846
13999+00.00	50	41.42	77	30.98	58	2.86	6	449,964	112.95	261	496,065	-46,101
13999+50.00	50	42.17	77	31.63	58	3.99	6	449,970	116.75	266	496,331	-46,361
14000+00.00	50	43.92	80	33.46	60	5.37	9	449,979	113.60	267	496,598	-46,619
14000+00.00							49,700	499,679		0	496,598	3,081
14000+50.00	50	49.27	86	38.87	67	17.67	21	499,700	110.81	260	496,858	2,842
14001+00.00	50	49.59	92	39.31	72	26.37	41	499,741	113.48	260	497,118	2,623
14001+50.00	50	50.57	93	40.33	74	28.33	51	499,792	107.79	256	497,374	2,418
14002+00.00	50	52.16	95	41.81	76	16.48	41	499,833	102.91	244	497,618	2,215
14002+50.00	50	41.44	87	31.13	68	2.83	18	499,851	103.23	239	497,857	1,994
14003+00.00	50	41.24	77	30.99	58	9.20	11	499,862	92.04	226	498,083	1,779
14003+30.00	30	42.18	46	31.90	35	8.48	10	499,872	91.38	127	498,210	1,662
14003+50.00	20	43.03	32	32.72	24	8.49	6	499,878	92.75	85	498,295	1,583
14004+00.00	50	48.90	85	38.59	66	18.63	25	499,903	100.93	224	498,519	1,384
14004+50.00	50	48.61	90	37.38	70	25.73	41	499,944	104.85	238	498,757	1,187
14005+00.00	50	49.85	91	36.92	69	38.81	60	500,004	121.49	262	499,019	985
14005+40.00	40	49.98	74	35.83	54	38.73	57	500,061	126.80	230	499,249	812
14005+50.00	10	49.95	19	35.76	13	37.87	14	500,075	126.92	59	499,308	767
14006+00.00	50	50.39	93	36.31	67	35.83	68	500,143	129.49	297	499,605	538
14006+50.00	50	51.06	94	36.87	68	55.03	84	500,227	120.95	290	499,895	332
14006+80.00	30	51.23	57	36.89	41	59.01	63	500,290	126.78	172	500,067	223
14007+00.00	20	50.97	38	36.25	27	53.23	42	500,332	135.36	121	500,188	144
14007+50.00	50	49.19	93	33.69	65	19.96	68	500,400	148.94	329	500,517	-117
14008+00.00	50	48.18	90	32.06	61	3.96	22	500,422	163.36	361	500,878	-456
14008+50.00	50	45.14	86	28.21	56	3.82	7	500,429	188.01	407	501,285	-856
14009+00.00	50	47.21	86	29.56	53	3.84	7	500,436	220.85	473	501,758	-1,322
14009+50.00	50	48.79	89	30.39	56	3.12	6	500,442	261.73	559	502,317	-1,875
14010+00.00	50	50.74	92	31.59	57	2.78	5	500,447	305.72	657	502,974	-2,527
14010+50.00	50	51.39	95	31.47	58	2.57	5	500,452	302.11	704	503,678	-3,226
14010+70.00	20	50.98	38	30.72	23	2.55	2	500,454	293.58	276	503,954	-3,500
14011+00.00	30	48.96	56	28.36	33	2.97	3	500,457	259.25	384	504,338	-3,881

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
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Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	52

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
14011+50.00	50	3.63	49	0.00	26	20.93	22	500,479	7.41	309	504,647	-4,168
14011+50.00			244		183		56	500,535		1,583	506,230	-5,695
14011+65.00	15	0.00	1	0.00	0	21.70	12	500,547	3.29	4	506,234	-5,687
14012+00.00	35	46.24	30	24.74	16	8.23	19	500,566	176.55	146	506,380	-5,814
14012+50.00	50	42.86	83	26.29	47	4.48	12	500,578	165.39	396	506,776	-6,198
14013+00.00	50	40.81	77	24.38	47	4.86	9	500,587	139.43	353	507,129	-6,542
14013+50.00	50	40.39	75	23.90	45	3.76	8	500,595	120.80	301	507,430	-6,835
14014+00.00	50	70.15	102	7.64	29	8.21	11	500,606	378.17	578	508,008	-7,402
14014+50.00	50	46.83	108	30.34	35	4.68	12	500,618	189.95	658	508,666	-8,048
14015+00.00	50	52.35	92	35.64	61	4.93	9	500,627	229.18	485	509,151	-8,524
14015+50.00	50	52.98	98	36.33	67	24.00	27	500,654	185.23	480	509,631	-8,977
14016+00.00	50	51.75	97	35.20	66	19.86	41	500,695	131.84	367	509,998	-9,303
14016+50.00	50	44.45	89	27.87	58	5.30	23	500,718	131.04	304	510,302	-9,584
14017+00.00	50	43.60	82	27.28	51	3.55	8	500,726	181.48	362	510,664	-9,938
14017+50.00	50	50.03	87	33.82	57	3.41	6	500,732	275.49	529	511,193	-10,461
14018+00.00	50	52.39	95	36.09	65	4.14	7	500,739	330.78	702	511,895	-11,156
14018+50.00	50	60.17	104	43.92	74	11.14	14	500,753	357.64	797	512,692	-11,939
14019+00.00	50	62.62	114	46.70	84	22.79	31	500,784	345.25	814	513,506	-12,722
14019+50.00	50	58.47	112	42.79	83	11.24	32	500,816	293.87	740	514,246	-13,430
14020+00.00	50	56.62	107	41.13	78	61.97	68	500,884	195.69	567	514,813	-13,929
14020+30.00	30	56.64	63	41.23	46	75.12	76	500,960	160.84	248	515,061	-14,101
14020+50.00	20	56.41	42	41.23	31	68.74	53	501,013	153.00	145	515,206	-14,193
14021+00.00	50	54.89	103	40.35	76	39.50	100	501,113	155.32	357	515,563	-14,450
14021+50.00	50	50.88	98	36.97	72	21.17	56	501,169	150.12	354	515,917	-14,748
14022+00.00	50	47.54	91	34.29	66	13.50	32	501,201	127.04	321	516,238	-15,037
14022+50.00	50	43.60	84	31.05	61	8.20	20	501,221	106.93	271	516,509	-15,288
14023+00.00	50	42.41	80	30.66	57	5.32	13	501,234	108.07	249	516,758	-15,524
14023+50.00	50	43.07	79	31.94	58	3.22	8	501,242	108.41	251	517,009	-15,767
14024+00.00	50	43.53	80	32.96	60	7.62	10	501,252	84.59	223	517,232	-15,980
14024+20.00	20	44.06	32	33.71	25	8.70	6	501,258	85.50	79	517,311	-16,053
14024+50.00	30	44.17	49	33.82	38	12.10	12	501,270	81.25	116	517,427	-16,157
14025+00.00	50	43.88	82	33.51	62	10.78	21	501,291	75.53	181	517,608	-16,317
14025+50.00	50	44.35	82	33.92	62	12.67	22	501,313	83.07	184	517,792	-16,479
14026+00.00	50	43.12	81	32.68	62	17.19	28	501,341	79.42	188	517,980	-16,639
14026+50.00	50	40.92	78	30.58	59	17.93	33	501,374	68.43	171	518,151	-16,777
14027+00.00	50	49.24	83	38.84	64	23.79	39	501,413	55.40	143	518,294	-16,881
14027+50.00	50	53.57	95	42.99	76	46.35	65	501,478	55.19	128	518,422	-16,944
14028+00.00	50	54.77	100	44.25	81	60.04	99	501,577	59.01	132	518,554	-16,977
14028+50.00	50	56.94	103	46.54	84	47.90	100	501,677	66.50	145	518,699	-17,022
14029+00.00	50	57.84	106	47.66	87	35.50	77	501,754	71.42	160	518,859	-17,105
14029+50.00	50	59.32	108	49.05	90	62.71	91	501,845	77.07	172	519,031	-17,186
14030+00.00	50	60.49	111	50.36	92	57.01	111	501,956	74.18	175	519,206	-17,250
14030+50.00	50	46.78	99	36.76	81	33.74	84	502,040	77.17	175	519,381	-17,341
14031+00.00	50	44.07	84	34.03	66	19.22	49	502,089	71.01	172	519,553	-17,464
14031+50.00	50	54.15	91	43.66	72	23.05	39	502,128	60.54	152	519,705	-17,577
14032+00.00	50	45.91	93	35.50	73	15.97	36	502,164	61.83	142	519,847	-17,683
14032+50.00	50	44.79	84	34.43	65	11.76	26	502,190	73.60	157	520,004	-17,814
14033+00.00	50	38.84	77	28.40	58	12.47	22	502,212	59.02	153	520,157	-17,945
14033+50.00	50	35.71	69	25.25	50	6.02	17	502,229	67.35	146	520,303	-18,074
14034+00.00	50	35.97	66	25.55	47	4.94	10	502,239	75.39	165	520,468	-18,229
14034+50.00	50	40.97	71	30.65	52	5.84	10	502,249	76.61	176	520,644	-18,395
14035+00.00	50	43.52	78	33.32	59	7.84	13	502,262	71.79	172	520,816	-18,554
14035+50.00	50	47.41	84	37.05	65	12.11	18	502,280	69.19	163	520,979	-18,699
14036+00.00	50	48.72	89	38.26	70	10.27	21	502,301	76.11	168	521,147	-18,846

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
14036+50.00	50	49.40	91	38.83	71	8.66	18	502,319	81.70	183	521,330	-19,011
14037+00.00	50	47.30	90	36.79	70	7.92	15	502,334	79.70	187	521,517	-19,183
14037+50.00	50	48.88	89	38.56	70	6.32	13	502,347	83.93	189	521,706	-19,359
14038+00.00	50	55.20	96	45.06	77	12.60	18	502,365	77.50	187	521,893	-19,528
14038+50.00	50	50.80	98	41.79	80	23.99	34	502,399	76.41	178	522,071	-19,672
14039+00.00	50	32.09	77	24.52	61	20.51	41	502,440	115.18	222	522,293	-19,853
14039+50.00	50	42.27	69	31.98	52	12.59	31	502,471	72.98	218	522,511	-20,040
14040+00.00	50	39.28	76	28.69	56	4.80	16	502,487	80.41	178	522,689	-20,202
14040+50.00	50	44.27	77	33.86	58	5.90	10	502,497	99.80	209	522,898	-20,401
14041+00.00	50	49.96	87	39.51	68	9.20	14	502,511	126.77	262	523,160	-20,649
14041+50.00	50	46.00	89	35.69	70	3.33	12	502,523	166.04	339	523,499	-20,976
14042+00.00	50	48.58	88	38.27	68	2.93	6	502,529	178.91	399	523,898	-21,369
14042+50.00	50	48.07	89	37.57	70	3.09	6	502,535	154.88	386	524,284	-21,749
14043+00.00	50	46.06	87	35.73	68	4.01	7	502,542	134.76	335	524,619	-22,077
14043+50.00	50	41.81	81	31.37	62	4.50	8	502,550	111.08	285	524,904	-22,354
14044+00.00	50	38.61	74	28.07	55	4.66	8	502,558	85.91	228	525,132	-22,574
14044+50.00	50	34.43	68	23.96	48	5.15	9	502,567	75.43	187	525,319	-22,752
14045+00.00	50	41.31	70	30.82	51	10.72	15	502,582	82.76	183	525,502	-22,920
14045+50.00	50	44.40	79	33.80	60	22.74	31	502,613	81.28	190	525,692	-23,079
14046+00.00	50	44.50	82	34.01	63	28.48	47	502,660	80.37	187	525,879	-23,219
14046+50.00	50	43.85	82	33.35	62	22.92	48	502,708	79.87	185	526,064	-23,356
14047+00.00	50	43.35	81	32.78	61	22.13	42	502,750	72.38	176	526,240	-23,490
14047+50.00	50	43.24	80	32.62	61	29.96	48	502,798	68.20	163	526,403	-23,605
14048+00.00	50	42.76	80	32.01	60	22.84	49	502,847	72.02	162	526,565	-23,718
14048+50.00	50	42.51	79	31.88	59	20.48	40	502,887	76.99	172	526,737	-23,850
14049+00.00	50	43.60	80	33.07	60	25.51	43	502,930	78.30	180	526,917	-23,987
14049+50.00	50	45.03	82	34.44	63	34.07	55	502,985	76.30	179	527,096	-24,111
14050+00.00	50	47.17	85	36.69	66	46.00	74	503,059	79.48	180	527,276	-24,217
14050+50.00	50	46.70	87	36.37	68	36.30	76	503,135	85.81	191	527,467	-24,332
14051+00.00	50	46.63	86	36.23	67	32.75	64	503,199	79.06	191	527,658	-24,459
14051+50.00	50	46.65	86	36.10	67	21.11	50	503,249	79.65	184	527,842	-24,593
14052+00.00	50	44.09	84	33.60	65	18.67	37	503,286	76.24	180	528,022	-24,736
14052+50.00	50	42.20	80	31.68	60	12.78	29	503,315	79.85	181	528,203	-24,888
14053+00.00	50	43.12	79	32.76	60	14.76	26	503,341	78.24	183	528,386	-25,045
14053+50.00	50	45.79	82	35.39	63	31.55	43	503,384	83.34	187	528,573	-25,189
14054+00.00	50	45.25	84	34.93	65	11.33	40	503,424	99.01	211	528,784	-25,360
14054+50.00	50	41.04	80	30.80	61	4.97	15	503,439	119.66	253	529,037	-25,598
14055+00.00	50	40.78	76	30.31	57	4.14	8	503,447	133.80	293	529,330	-25,883
14055+50.00	50	50.97	85	40.48	66	25.02	27	503,474	149.13	327	529,657	-26,183
14056+00.00	50	53.56	97	43.01	77	13.22	35	503,509	136.27	330	529,987	-26,478
14056+50.00	50	53.63	99	43.03	80	23.52	34	503,543	120.25	297	530,284	-26,741
14057+00.00	50	51.63	97	40.98	78	22.14	42	503,585	103.08	258	530,542	-26,957
14057+50.00	50	49.52	94	38.98	74	14.84	34	503,619	96.81	231	530,773	-27,154
14058+00.00	50	49.03	91	38.52	72	13.74	26	503,645	82.62	208	530,981	-27,336
14058+50.00	50	42.73	85	32.15	65	13.84	26	503,671	109.62	223	531,204	-27,533
14059+00.00	50	43.17	80	32.55	60	21.23	32	503,703	105.44	249	531,453	-27,750
14059+50.00	50	45.79	82	35.17	63	25.99	44	503,747	108.46	248	531,701	-27,954
14060+00.00	50	45.99	85	35.40	65	26.67	49	503,796	107.38	250	531,951	-28,155
14060+50.00	50	45.80	85	35.18	65	27.15	50	503,846	106.73	248	532,199	-28,353
14061+00.00	50	45.55	85	34.95	65	25.59	49	503,895	110.58	252	532,451	-28,556
14061+50.00	50	45.32	84	34.83	65	22.98	45	503,940	119.20	266	532,717	-28,777
14062+00.00	50	45.09	84	34.51	64	20.10	40	503,980	115.85	272	532,989	-29,009
14062+50.00	50	43.81	82	33.07	63	16.50	34	504,014	115.74	268	533,257	-29,243
14063+00.00	50	42.25	80	31.45	60	13.58	28	504,042	118.57	271	533,528	-29,486

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	54

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
14063+50.00	50	40.46	77	29.58	57	4.98	17	504,059	123.84	281	533,809	-29,750
14064+00.00	50	38.80	73	27.92	53	4.53	9	504,068	96.13	255	534,064	-29,996
14064+50.00	50	0.00	36	0.00	26	0.18	4	504,072	5.74	118	534,182	-30,110
14064+50.00			180		148		64	504,136		667	534,849	-30,713
14065+00.00	50	32.17	30	23.55	22	1.46	2	504,138	107.91	132	534,981	-30,843
14065+50.00	50	35.45	63	23.73	44	2.53	4	504,142	111.31	254	535,235	-31,093
14066+00.00	50	37.17	67	25.20	45	2.90	5	504,147	112.52	259	535,494	-31,347
14066+50.00	50	37.28	69	25.37	47	2.74	5	504,152	113.60	262	535,756	-31,604
14067+00.00	50	44.12	75	32.40	53	10.81	13	504,165	114.53	264	536,020	-31,855
14067+50.00	50	41.92	80	30.37	58	8.93	18	504,183	113.73	264	536,284	-32,101
14068+00.00	50	42.02	78	31.36	57	8.82	16	504,199	120.22	271	536,555	-32,356
14068+50.00	50	43.04	79	32.48	59	10.33	18	504,217	118.27	276	536,831	-32,614
14069+00.00	50	43.27	80	32.78	60	8.94	18	504,235	120.66	277	537,108	-32,873
14069+50.00	50	42.63	80	32.22	60	10.18	18	504,253	109.14	266	537,374	-33,121
14070+00.00	50	42.65	79	32.37	60	12.57	21	504,274	105.57	249	537,623	-33,349
14070+15.00	15	42.96	24	32.74	18	14.14	7	504,281	106.45	74	537,697	-33,416
14070+50.00	35	43.42	56	33.61	43	15.74	19	504,300	99.55	167	537,864	-33,564
14071+00.00	50	43.64	81	34.20	63	16.80	30	504,330	95.22	225	538,089	-33,759
14071+50.00	50	42.95	80	33.88	63	12.42	27	504,357	92.03	217	538,306	-33,949
14072+00.00	50	39.98	77	31.38	60	5.47	17	504,374	91.12	212	538,518	-34,144
14072+50.00	50	42.88	77	34.76	61	3.04	8	504,382	93.65	214	538,732	-34,350
14073+00.00	50	36.75	74	29.12	59	2.06	5	504,387	95.57	219	538,951	-34,564
14073+50.00	50	37.16	68	30.08	55	2.23	4	504,391	92.88	218	539,169	-34,778
14074+00.00	50	36.37	68	29.79	55	1.92	4	504,395	88.31	210	539,379	-34,984
14074+50.00	50	35.53	67	29.38	55	2.65	4	504,399	80.77	196	539,575	-35,176
14075+00.00	50	35.80	66	30.13	55	2.93	5	504,404	79.55	186	539,761	-35,357
14075+50.00	50	29.08	60	23.78	50	2.06	5	504,409	74.93	179	539,940	-35,531
14076+00.00	50	35.88	60	30.54	50	4.63	6	504,415	71.00	169	540,109	-35,694
14076+50.00	50	36.24	67	30.78	57	6.84	11	504,426	69.19	162	540,271	-35,845
14077+00.00	50	36.95	68	31.50	58	8.83	15	504,441	70.15	161	540,432	-35,991
14077+35.00	35	36.84	48	31.40	41	10.40	12	504,453	71.89	115	540,547	-36,094
14077+50.00	15	36.62	20	31.19	17	10.72	6	504,459	70.58	49	540,596	-36,137
14078+00.00	50	36.17	67	30.72	57	6.53	16	504,475	65.56	158	540,754	-36,279
14078+50.00	50	29.15	60	23.12	50	2.13	8	504,483	72.55	160	540,914	-36,431
14079+00.00	50	45.40	69	37.72	56	6.10	8	504,491	93.00	192	541,106	-36,615
14079+25.00	25	46.21	42	37.85	35	14.54	10	504,501	99.52	111	541,217	-36,716
14079+50.00	25	47.15	43	38.02	35	21.06	16	504,517	103.81	118	541,335	-36,818
14080+00.00	50	48.35	88	37.62	70	20.76	39	504,556	115.24	254	541,589	-37,033
14080+50.00	50	49.73	91	37.51	70	34.36	51	504,607	126.81	280	541,869	-37,262
14081+00.00	50	51.19	93	37.42	69	54.39	82	504,689	132.77	300	542,169	-37,480
14081+50.00	50	52.18	96	36.90	69	70.58	116	504,805	134.33	309	542,478	-37,673
14081+60.00	10	52.13	19	36.53	14	71.14	26	504,831	133.42	62	542,540	-37,709
14082+00.00	40	50.26	76	34.69	53	53.18	92	504,923	123.58	238	542,778	-37,855
14082+50.00	50	47.79	91	32.06	62	25.08	72	504,995	118.78	281	543,059	-38,064
14083+00.00	50	44.99	86	29.35	57	4.98	28	505,023	121.22	278	543,337	-38,314
14083+50.00	50	47.00	85	31.45	56	11.61	15	505,038	121.90	281	543,618	-38,580
14084+00.00	50	48.01	88	32.38	59	21.99	31	505,069	113.37	272	543,890	-38,821
14084+50.00	50	47.33	88	31.59	59	22.21	41	505,110	112.14	261	544,151	-39,041
14084+60.00	10	46.58	17	30.84	12	17.09	7	505,117	114.54	52	544,203	-39,086
14085+00.00	40	42.48	66	28.03	44	4.35	16	505,133	119.66	217	544,420	-39,287
14085+50.00	50	34.54	71	21.65	46	2.61	6	505,139	110.03	266	544,686	-39,547
14086+00.00	50	34.03	63	22.80	41	1.70	4	505,143	109.94	255	544,941	-39,798
14086+50.00	50	33.03	62	23.38	43	1.57	3	505,146	107.81	252	545,193	-40,047
14087+00.00	50	32.35	61	24.14	44	1.51	3	505,149	96.71	237	545,430	-40,281

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Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	55

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
14087+50.00	50	31.45	59	24.67	45	3.03	4	505,153	75.88	200	545,630	-40,477
14088+00.00	50	29.88	57	24.24	45	3.02	6	505,159	62.11	160	545,790	-40,631
14088+50.00	50	28.54	54	22.94	44	3.04	6	505,165	52.31	132	545,922	-40,757
14088+85.00	35	28.09	37	22.45	29	0.69	2	505,167	53.67	86	546,008	-40,841
14089+00.00	15	27.51	15	21.83	12	0.80	0	505,167	54.34	38	546,046	-40,879
14089+50.00	50	28.18	52	22.45	41	0.77	1	505,168	63.97	137	546,183	-41,015
14090+00.00	50	27.92	52	22.36	41	0.07	1	505,169	64.21	148	546,331	-41,162
14090+50.00	50	1.64	27	5.81	26	0.00	0	505,169	1.61	76	546,407	-41,238
14090+65.00	15	0.00	0	0.00	2	0.00	0	505,169	0.88	1	546,408	-41,239
14090+65.00			181		144		40	505,209		585	546,993	-41,784
14091+00.00	35	18.95	12	14.15	9	0.48	0	505,209	18.63	16	547,009	-41,800
14091+50.00	50	27.42	43	21.71	33	0.33	1	505,210	62.43	94	547,103	-41,893
14092+00.00	50	27.85	51	22.29	41	0.42	1	505,211	66.53	149	547,252	-42,041
14092+50.00	50	27.21	51	21.76	41	0.63	1	505,212	64.81	152	547,404	-42,192
14093+00.00	50	26.93	50	21.43	40	0.52	1	505,213	61.32	146	547,550	-42,337
14093+50.00	50	27.71	51	22.25	40	0.32	1	505,214	65.56	147	547,697	-42,483
14094+00.00	50	27.81	51	22.44	41	0.27	1	505,215	60.94	146	547,843	-42,628
14094+50.00	50	28.10	52	22.80	42	0.11	0	505,215	66.45	147	547,990	-42,775
14095+00.00	50	28.36	52	22.91	42	0.39	0	505,215	72.60	161	548,151	-42,936
14095+50.00	50	28.01	52	22.24	42	0.45	1	505,216	64.79	159	548,310	-43,094
14095+68.80	19	27.85	19	21.98	15	0.54	0	505,216	63.00	56	548,366	-43,150
14096+00.00	31	27.71	32	21.69	25	2.81	2	505,218	56.56	86	548,452	-43,234
14096+16.60	17	28.04	17	22.02	13	2.61	2	505,220	60.48	45	548,497	-43,277
14096+50.00	33	29.17	35	23.10	28	1.57	3	505,223	68.89	100	548,597	-43,374
14096+85.00	35	30.78	39	24.74	31	0.47	1	505,224	79.87	121	548,718	-43,494
14097+00.00	15	31.28	17	25.25	14	0.32	0	505,224	85.43	57	548,775	-43,551
14097+50.00	50	31.75	58	25.83	47	0.11	0	505,224	96.35	210	548,985	-43,761
14097+56.60	7	31.75	8	25.82	6	0.11	0	505,224	96.16	29	549,014	-43,790
14098+00.00	43	32.68	52	26.73	42	0.10	0	505,224	109.16	206	549,220	-43,996
14098+37.30	37	32.49	45	26.80	37	0.20	0	505,224	110.27	189	549,409	-44,185
14098+50.00	13	32.53	15	26.70	13	0.39	0	505,224	114.07	66	549,475	-44,251
14098+87.60	38	31.16	44	25.56	36	0.83	1	505,225	92.51	180	549,655	-44,430
14099+00.00	12	30.62	14	25.13	12	0.57	0	505,225	92.01	53	549,708	-44,483
14099+50.00	50	30.61	57	25.01	46	0.86	1	505,226	102.66	225	549,933	-44,707
14100+00.00	50	30.55	57	25.06	46	0.98	2	505,228	94.37	228	550,161	-44,933
14100+50.00	50	29.28	55	24.09	46	2.96	4	505,232	63.51	183	550,344	-45,112
14101+00.00	50	28.20	53	23.24	44	3.17	6	505,238	54.41	136	550,480	-45,242
14101+50.00	50	29.93	54	24.58	44	3.54	6	505,244	67.34	141	550,621	-45,377
14102+00.00	50	33.70	59	28.23	49	3.08	6	505,250	83.43	175	550,796	-45,546
14102+50.00	50	33.26	62	27.42	52	1.75	4	505,254	77.14	186	550,982	-45,728
14103+00.00	50	32.37	61	26.47	50	1.05	3	505,257	90.91	195	551,177	-45,920
14103+50.00	50	31.41	59	25.59	48	1.71	3	505,260	89.39	209	551,386	-46,126
14104+00.00	50	31.90	59	26.23	48	2.00	3	505,263	83.11	200	551,586	-46,323
14104+50.00	50	31.55	59	25.94	48	2.31	4	505,267	85.30	195	551,781	-46,514
14105+00.00	50	31.27	58	25.70	48	1.80	4	505,271	85.31	197	551,978	-46,707
14105+50.00	50	28.28	55	22.71	45	1.98	4	505,275	67.23	177	552,155	-46,880
14106+00.00	50	25.76	50	20.27	40	1.32	3	505,278	62.16	150	552,305	-47,027
14106+50.00	50	25.50	47	19.91	37	1.02	2	505,280	60.08	141	552,446	-47,166
14107+00.00	50	28.31	50	22.59	39	0.91	2	505,282	68.03	148	552,594	-47,312
14107+35.00	35	69.83	64	0.00	15	6.13	5	505,287	194.32	213	552,807	-47,520
14107+50.00	15	47.50	33	4.47	1	3.86	3	505,290	122.37	110	552,917	-47,627
14108+00.00	50	28.70	71	22.56	25	1.89	5	505,295	67.07	219	553,136	-47,841
14108+50.00	50	29.15	54	23.08	42	1.78	3	505,298	67.30	156	553,292	-47,994
14108+57.00	7	29.05	8	22.99	6	1.82	0	505,298	67.63	22	553,314	-48,016

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

Mainline ND 1804 - Mass Diagram Sheets 2 & 3

Location	Distance	Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			Mass Ordinate
		Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
14109+00.00	43	31.75	48	24.13	38	1.58	3	505,301	86.15	153	553,467	-48,166
14109+50.00	50	34.34	61	25.05	46	1.84	3	505,304	113.96	232	553,699	-48,395
14109+77.00	27	35.81	35	25.54	25	2.15	2	505,306	134.87	156	553,855	-48,549
14110+00.00	23	35.73	30	25.54	22	2.22	2	505,308	128.55	140	553,995	-48,687
14110+40.00	40	33.07	51	22.86	36	2.45	3	505,311	121.03	231	554,226	-48,915
14110+50.00	10	33.41	12	23.24	9	2.37	1	505,312	122.79	56	554,282	-48,970
14111+00.00	50	33.70	62	23.87	44	1.95	4	505,316	134.45	298	554,580	-49,264
14111+20.00	20	34.32	25	24.50	18	1.75	1	505,317	145.48	130	554,710	-49,393
14111+50.00	30	35.33	39	25.04	28	1.18	2	505,319	160.04	212	554,922	-49,603
14112+00.00	50	38.10	68	27.14	48	1.00	2	505,321	187.80	403	555,325	-50,004
14112+50.00	50	39.76	72	27.98	51	0.95	2	505,323	201.31	450	555,775	-50,452
14113+00.00	50	40.65	74	28.02	52	1.48	2	505,325	195.80	460	556,235	-50,910
14113+50.00	50	42.11	77	28.53	52	1.71	3	505,328	200.24	458	556,693	-51,365
14114+00.00	50	43.15	79	28.65	53	2.11	4	505,332	202.63	466	557,159	-51,827
14114+50.00	50	43.55	80	28.19	53	2.50	4	505,336	195.47	461	557,620	-52,284
14115+00.00	50	38.27	76	26.75	51	0.62	3	505,339	145.83	395	558,015	-52,676
14115+50.00	50	29.90	63	18.97	42	0.54	1	505,340	82.55	264	558,279	-52,939
14116+00.00	50	14.34	41	9.67	27	4.18	4	505,344	53.70	158	558,437	-53,093
14116+00.00			91		91		0	505,344		365	558,802	-53,458
14116+50.00	50	27.35	39	20.09	28	0.43	4	505,348	82.95	158	558,960	-53,612
14117+00.00	50	33.53	56	22.47	39	2.93	3	505,351	77.55	186	559,146	-53,795
14117+50.00	50	37.07	65	24.10	43	3.38	6	505,357	126.78	236	559,382	-54,025
14118+00.00	50	37.77	69	24.73	45	3.10	6	505,363	140.91	310	559,692	-54,329
14118+50.00	50	38.12	70	25.13	46	2.71	5	505,368	147.67	334	560,026	-54,658
14119+00.00	50	37.37	70	24.46	46	3.18	5	505,373	139.85	333	560,359	-54,986
14119+50.00	50	37.35	69	24.68	46	2.47	5	505,378	142.84	327	560,686	-55,308
14120+00.00	50	36.96	69	24.58	46	1.66	4	505,382	141.66	329	561,015	-55,633
14120+50.00	50	35.76	67	23.47	44	1.72	3	505,385	124.58	308	561,323	-55,938
14121+00.00	50	36.18	67	23.98	44	1.65	3	505,388	127.25	291	561,614	-56,226
14121+50.00	50	36.76	68	24.71	45	1.97	3	505,391	132.08	300	561,914	-56,523
14122+00.00	50	36.72	68	24.72	46	2.19	4	505,395	129.95	303	562,217	-56,822
14122+50.00	50	35.80	67	23.93	45	2.35	4	505,399	124.35	294	562,511	-57,112
14123+00.00	50	48.03	78	36.39	56	3.40	5	505,404	121.01	284	562,795	-57,391
14123+30.00	30	50.02	54	38.36	42	9.38	7	505,411	123.11	170	562,965	-57,554
14123+50.00	20	50.00	37	38.47	28	12.41	8	505,419	121.55	113	563,078	-57,659
14124+00.00	50	45.15	88	34.15	67	11.84	22	505,441	100.00	256	563,334	-57,893
14124+50.00	50	52.52	90	41.54	70	12.35	22	505,463	92.48	223	563,557	-58,094
14125+00.00	50	34.35	80	23.66	60	3.08	14	505,477	97.21	220	563,777	-58,300
14125+50.00	50	35.57	65	25.68	46	2.40	5	505,482	103.18	232	564,009	-58,527
14126+00.00	50	36.15	66	26.66	48	1.74	4	505,486	114.33	252	564,261	-58,775
14126+50.00	50	42.83	73	34.12	56	3.61	5	505,491	119.93	271	564,532	-59,041
14127+00.00	50	44.07	80	36.06	65	7.09	10	505,501	112.72	269	564,801	-59,300
14127+49.10	49	42.67	79	34.82	64	5.45	11	505,512	117.08	261	565,062	-59,550
14127+50.00	1	42.65	1	34.81	1	5.38	0	505,512	117.18	5	565,067	-59,555
14127+99.40	49	42.37	78	34.79	64	4.63	9	505,521	111.49	261	565,328	-59,807
14128+00.00	1	42.34	1	34.77	1	4.62	0	505,521	111.31	3	565,331	-59,810
14128+50.00	50	39.58	76	32.65	62	1.33	6	505,527	94.76	239	565,570	-60,043
14128+80.10	30	40.04	44	33.61	37	1.75	2	505,529	90.39	129	565,699	-60,170
14129+00.00	20	39.99	29	33.66	25	2.47	2	505,531	83.25	80	565,779	-60,248
14129+50.00	50	29.35	64	25.34	55	3.30	5	505,536	46.99	151	565,930	-60,394
14130+00.00	50	27.40	53	24.63	46	6.94	9	505,545	20.02	78	566,008	-60,463
14130+20.10	20	23.75	19	21.57	17	7.40	5	505,550	13.00	15	566,023	-60,473
14130+50.00	30	20.90	25	19.40	23	3.79	6	505,556	8.44	15	566,038	-60,482
14130+60.00	10	20.63	8	19.34	7	4.05	1	505,557	5.99	3	566,041	-60,484

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

Mainline ND 1804 - Mass Diagram Sheets 2 & 3												
		Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment			
Location	Distance	Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume	Mass Ordinate
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY	
14130+67.90	8	20.66	6	19.37	6	4.17	1	505,558	6.33	2	566,043	-60,485
14131+00.00	32	20.74	25	19.62	23	4.49	5	505,563	8.12	11	566,054	-60,491
14131+50.00	50	22.30	40	21.05	38	4.59	8	505,571	7.88	19	566,073	-60,502
		Total=	173,190		151,340		505,571			566,073		

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline ND 1804
Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	58

41st St NW											
		Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment		
Location	Distance	Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY
102+55.00		37.99		37.64		96.59			0.61		
103+00.00	45	38.00	63	36.57	62	2.90	83	83	113.81	119	119
103+50.00	50	39.05	71	37.11	68	12.42	14	97	313.66	495	614
104+00.00	50	59.79	92	57.81	88	88.05	93	190	602.96	1,061	1,675
104+20.00	20	61.55	45	52.44	41	0.00	33	223	828.76	663	2,338
104+25.00	5	66.34	12	64.21	11	0.00	0	223	807.04	189	2,527
104+50.00	25	65.33	61	40.13	48	0.00	0	223	232.49	602	3,129
105+50.00		35.32		14.53		0.02			121.35		
105+74.00	24	47.14	37	46.10	27	0.00	0	0	694.80	453	453
105+75.00	1	48.12	2	46.97	2	0.00	0	0	742.24	33	486
106+00.00	25	52.27	46	50.13	45	0.00	0	0	823.14	906	1,392
106+50.00	50	40.14	86	36.52	80	0.00	0	0	459.86	1,485	2,877
107+00.00	50	23.89	59	20.68	53	0.00	0	0	155.40	712	3,589
107+20.00	20	12.06	13	12.74	12	0.00	0	0	33.12	87	3,676
		Sub-total=	587		537		223			6,805	

Sta. 13201+25 Field Drive											
		Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment		
Location	Distance	Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY
100+21.00		35.30		3.54		0.00			15.23		
100+50.00	29	49.74	46	35.31	21	0.00	0	0	420.67	293	293
101+00.00	50	35.75	79	25.02	56	569.28	527	527	0.10	487	780
101+50.00	50	42.60	73	37.64	58	976.40	1,431	1,958	0.10	0	780
102+00.00	50	61.19	96	58.85	89	756.25	1,604	3,562	0.10	0	780
102+50.00	50	25.36	80	24.14	77	67.78	763	4,325	0.10	0	780
102+60.00	10	20.65	9	20.18	8	44.38	21	4,346	0.10	0	780
		Sub-total=	383		309		4,346			780	

Sta. 13218+18 Field Drive											
		Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment		
Location	Distance	Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY
98+20.00		5.34		3.18		0.00			14.36		
98+50.00	30	20.00	14	14.58	10	0.00	0	0	105.52	83	83
99+00.00	50	35.73	52	27.63	39	0.00	0	0	342.31	518	601
99+50.00	50	64.64	93	55.72	77	0.00	0	0	569.92	1,056	1,657
99+75.00	25	31.68	45	8.29	30	0.00	0	0	15.24	339	1,996
		Sub-total=	204		156		0			1,996	

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Approach
Earthwork Tabulation

Mountrail County, ND

Sta. 13229+85 Field Drive											
		Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment		
Location	Distance	Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY
100+21.00		34.79		0.00		0.00			12.29		
100+50.00	29	62.35	52	47.88	26	0.00	0	0	446.24	308	308
101+00.00	50	49.97	104	36.73	78	463.32	429	429	0.10	517	825
101+50.00	50	90.17	130	76.93	105	1,388.97	1,715	2,144	0.10	0	825
102+00.00	50	114.33	189	101.10	165	1,673.48	2,836	4,980	0.10	0	825
102+50.00	50	72.71	173	59.48	149	726.47	2,222	7,202	0.10	0	825
103+00.00	50	28.26	93	20.14	74	49.44	718	7,920	0.10	0	825
103+05.00	5	26.07	5	18.39	4	29.06	7	7,927	0.10	0	825
		Sub-total=	746		601		7,927			825	

87th St NW											
		Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment		
Location	Distance	Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY
200+31.00		53.47		27.00		0.00			111.73		
200+50.00	19	91.07	51	75.09	36	0.00	0	0	599.33	313	313
200+70.00	20	118.88	78	119.73	72	9.76	4	4	1,007.09	744	1,057
200+78.00	8	88.98	31	89.20	31	0.36	1	5	764.75	328	1,385
200+80.00	2	84.07	6	69.63	6	0.05	0	5	723.66	69	1,454
201+00.00	20	61.62	54	60.61	48	0.00	0	5	287.50	468	1,922
201+50.00	50	53.35	106	51.99	104	5.60	5	10	74.35	419	2,341
201+55.00	5	51.05	10	49.75	9	8.20	1	11	64.59	16	2,357
		Sub-total=	336		306		11			2,357	

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Approach
Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	60

Little Knife River Channel											
		Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment		
Location	Distance	Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY
2+85.00		0.00		0.00		0.00			0.00		
2+90.00	5	0.00	0	0.00	0	86.22	8	8	14.77	2	2
3+10.00	20	0.00	0	0.00	0	162.13	92	100	3.18	8	10
3+30.00	20	0.00	0	0.00	0	264.59	158	258	2.63	3	13
3+50.00	20	0.00	0	0.00	0	386.85	241	499	0.00	1	14
3+70.00	20	0.00	0	0.00	0	533.45	341	840	0.00	0	14
3+90.00	20	0.00	0	0.00	0	717.73	463	1,303	0.00	0	14
3+97.00	7	0.00	0	0.00	0	1,160.22	243	1,546	97.52	16	30
4+22.00	25	0.00	0	0.00	0	1,380.31	1,176	2,722	94.81	111	141
4+30.00	8	0.00	0	0.00	0	816.73	325	3,047	84.00	33	174
4+35.00	5	0.00	0	0.00	0	546.07	126	3,173	0.00	10	184
4+40.00	5	0.00	0	0.00	0	570.98	103	3,276	0.25	0	184
4+60.00	20	0.00	0	0.00	0	653.79	454	3,730	698.76	324	508
4+80.00	20	0.00	0	0.00	0	1,228.71	697	4,427	877.07	730	1,238
5+00.00	20	0.00	0	0.00	0	1,546.08	1,028	5,455	1,000.23	869	2,107
5+20.00	20	0.00	0	0.00	0	1,394.72	1,089	6,544	955.90	906	3,013
5+40.00	20	0.00	0	0.00	0	638.90	753	7,297	0.00	443	3,456
5+60.00	20	0.00	0	0.00	0	599.00	458	7,755	13.10	6	3,462
5+65.00	5	0.00	0	0.00	0	610.87	112	7,867	13.05	3	3,465
5+70.00	5	0.00	0	0.00	0	907.73	141	8,008	84.00	11	3,476
5+78.00	8	0.00	0	0.00	0	1,576.93	368	8,376	95.38	33	3,509
5+83.00	5	0.00	0	0.00	0	1,562.91	291	8,667	97.52	22	3,531
5+90.00	7	0.00	0	0.00	0	1,060.93	340	9,007	0.00	16	3,547
6+10.00	20	0.00	0	0.00	0	883.65	720	9,727	0.00	0	3,547
6+30.00	20	0.00	0	0.00	0	684.83	581	10,308	0.00	0	3,547
6+50.00	20	0.00	0	0.00	0	496.87	438	10,746	0.00	0	3,547
6+70.00	20	0.00	0	0.00	0	325.57	305	11,051	0.00	0	3,547
6+90.00	20	0.00	0	0.00	0	154.40	178	11,229	0.00	0	3,547
7+10.00	20	0.00	0	0.00	0	20.26	65	11,294	0.06	0	3,547
		Sub-total=	0		0		11,294			3,547	

Sta. 13328+58 Field Drive											
		Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment		
Location	Distance	Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY
7+75.00		15.96		2.78		0.00			12.06		
8+00.00	25	24.72	19	11.49	7	0.00	0	0	100.54	65	65
8+50.00	50	41.41	61	28.17	37	0.00	0	0	370.48	545	610
9+00.00	50	51.20	86	37.97	61	0.00	0	0	647.70	1,178	1,788
9+50.00	50	55.10	98	41.87	74	0.00	0	0	695.51	1,555	3,343
10+00.00	50	62.02	108	48.78	84	0.00	0	0	629.14	1,533	4,876
10+50.00	50	59.14	112	44.44	86	0.00	0	0	350.81	1,134	6,010
10+75.00	25	29.37	41	5.77	23	0.00	0	0	28.15	219	6,229
		Sub-total=	525		372		0			6,229	

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Approach
Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	61

89th St NW											
		Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment		
Location	Distance	Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY
510+40.00		28.95		20.89		29.00			23.72		
510+50.00	10	42.26	13	37.51	11	33.21	12	12	73.24	22	22
510+75.00	25	18.36	28	16.79	25	27.18	28	40	8.85	48	70
508+64.00		12.93		11.19		0.00			12.94		
509+00.00	36	28.61	28	25.18	24	0.64	0	0	95.23	90	90
509+30.00	30	53.35	46	48.92	41	0.00	0	0	340.64	303	393
509+35.00	5	62.25	11	57.43	10	0.00	0	0	372.56	83	476
509+50.00	15	60.48	34	53.46	31	0.00	0	0	421.84	276	752
509+80.00	30	50.59	62	26.77	45	127.49	71	71	0.00	293	1,045
		Sub-total=	222		187		111			1,115	

Sta. 13424+45 Field Drive											
		Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment		
Location	Distance	Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY
8+30.00		0.00		0.00		0.00			0.00		
8+50.00	20	16.02	6	6.33	2	0.00	0	0	28.58	13	13
9+00.00	50	29.37	42	16.16	21	0.00	0	0	161.81	220	233
9+50.00	50	39.26	64	26.08	39	0.00	0	0	215.88	437	670
10+00.00	50	47.04	80	42.07	63	0.00	0	0	253.38	543	1,213
10+25.00	25	34.70	38	12.75	25	0.00	0	0	69.01	187	1,400
		Sub-total=	230		150		0			1,400	

Sta. 13460+18 Private Drive											
		Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment		
Location	Distance	Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY
98+23.00		32.57		35.83		35.85			7.83		
98+50.00	27	34.79	34	32.67	34	97.56	67	67	0.10	5	5
99+00.00	50	25.51	56	25.29	54	283.85	353	420	0.05	0	5
99+45.00	45	54.16	66	39.76	54	5.39	241	661	233.53	243	248
99+50.00	5	52.47	10	37.84	7	0.00	0	661	269.31	58	306
99+70.00	20	38.25	34	15.98	20	0.00	0	661	36.73	142	448
198+73.00		17.93		16.75		12.62			0.90		
199+00.00	27	23.19	21	20.44	19	84.89	49	49	0.10	1	1
199+50.00	50	30.74	50	27.32	44	311.85	367	416	0.05	0	1
199+85.00	35	14.91	30	15.31	28	271.12	378	794	0.05	0	1
		Sub-total=	301		260		1,455			449	

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Approach
Earthwork Tabulation

Mountrail County, ND

Sta. 13614+62 Private Drive											
		Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment		
Location	Distance	Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY
97+90.00		10.77		7.57		2.69			0.25		
98+00.00	10	18.05	5	14.61	4	4.77	1	1	2.65	1	1
98+50.00	50	28.97	44	27.17	39	171.29	163	164	0.10	3	4
99+00.00	50	56.49	79	48.21	70	591.67	706	870	0.10	0	4
99+30.00	30	68.22	69	57.43	59	132.84	403	1,273	129.42	90	94
99+50.00	20	59.82	47	44.40	38	0.00	49	1,322	334.42	215	309
99+70.00	20	48.12	40	30.17	28	129.05	48	1,370	0.00	155	464
		Sub-total=	284		238		1,370			464	

46th St NW											
		Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment		
Location	Distance	Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY
798+95.00		28.49		25.85		0.00			96.90		
799+00.00	5	28.77	5	26.12	5	0.00	0	0	98.59	23	23
799+15.00	15	35.76	18	32.14	16	9.47	3	3	101.94	70	93
799+50.00	35	23.47	38	19.73	34	72.69	53	56	0.00	83	176
800+35.00		32.60		0.00		90.51			0.16		
800+50.00	15	37.18	19	33.96	9	0.00	25	25	134.73	47	47
800+70.00	20	35.40	27	34.43	25	8.28	3	28	102.31	110	157
801+00.00	30	20.72	31	19.47	30	2.57	6	34	31.24	93	250
801+30.00	30	15.55	20	14.08	19	9.56	7	41	1.96	23	273
		Sub-total=	158		138		97			449	

47th St NW											
		Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment		
Location	Distance	Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY
908+30.00		5.33		4.16		0.00			7.31		
908+50.00	20	7.03	5	5.64	4	0.00	0	0	16.57	11	11
909+00.00	50	11.53	17	9.84	14	0.00	0	0	50.61	78	89
909+33.00	33	33.45	27	31.35	25	0.00	0	0	154.79	157	246
909+50.00	17	40.60	23	38.02	22	0.00	0	0	192.52	137	383
909+65.00	15	44.89	24	14.55	15	28.20	8	8	0.00	67	450
910+20.00		42.07		10.30		96.71			0.10		
910+50.00	30	44.94	48	42.79	29	3.31	56	56	129.70	90	90
910+55.00	5	33.20	7	30.27	7	0.00	0	56	96.29	26	116
910+80.00	25	3.15	17	1.96	15	0.66	0	56	0.79	56	172
		Sub-total=	168		131		64			622	

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Approach
Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	63

48th St NW											
		Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment		
Location	Distance	Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY
999+26.00		10.47		9.21		0.69			7.89		
999+45.00	19	37.02	17	34.11	15	2.36	1	1	153.31	71	71
999+50.00	5	43.42	7	40.40	7	22.05	2	3	206.78	42	113
999+80.00	30	39.59	46	16.28	31	107.86	72	75	0.09	144	257
1000+23.00		41.83		20.12		87.06			0.00		
1000+50.00	27	53.25	48	38.98	30	0.00	44	44	277.82	174	174
1000+55.00	5	59.00	10	44.98	8	9.68	1	45	216.60	57	231
1000+75.00	20	50.43	41	32.93	29	221.99	86	131	0.10	100	331
1000+80.00	5	42.97	9	16.04	5	108.26	31	162	0.50	0	331
1000+95.00	15	26.38	19	0.00	4	0.00	30	192	2.44	1	332
		Sub-total=	197		129		267			589	

Sta. 13781+22 Private Drive											
		Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment		
Location	Distance	Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY
99+05.00		3.73		1.81		0.00			5.05		
99+35.00	30	26.40	17	20.29	12	0.00	0	0	81.45	60	60
99+40.00	5	30.72	5	24.07	4	0.00	0	0	71.77	18	78
99+50.00	10	34.62	12	27.77	10	0.00	0	0	99.63	40	118
99+75.00	25	43.66	36	22.52	23	65.41	30	30	0.05	58	176
		Sub-total=	70		49		30			176	

49th St NW											
		Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment		
Location	Distance	Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY
1100+25.00		39.51		17.80		50.77			0.00		
1100+50.00	25	41.52	38	41.20	27	2.08	24	24	101.98	59	59
1100+64.00	14	30.92	19	29.37	18	5.82	2	26	60.07	53	112
1100+65.00	1	29.93	1	28.35	1	0.00	0	26	84.28	3	115
1101+00.00	35	15.97	30	13.42	27	0.17	0	26	15.85	81	196
1101+10.00	10	14.63	6	12.02	5	0.66	0	26	9.90	6	202
		Sub-total=	94		78		26			202	

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Approach
Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	64

50th St NW											
		Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment		
Location	Distance	Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY
1204+26.00		15.41		15.49		45.95			0.05		
1204+50.00	24	49.49	29	46.91	28	24.01	31	31	168.13	93	93
1204+66.00	16	26.53	23	21.41	20	37.47	18	49	8.65	65	158
1205+45.00		47.96		23		60.59			7.38		
1205+50.00	5	34.10	8	25	4	9.18	6	6	36.22	5	5
1205+79.00	29	16.38	27	15	22	15.75	13	19	17.56	36	41
1205+81.00	2	14.82	1	13	1	0.00	1	20	27.55	2	43
1206+00.00	19	2.93	6	1	5	0.03	0	20	4.99	14	57
1206+25.00	25	3.85	3	2	2	0.33	0	20	4.58	6	63
		Sub-total=	97		82		69			221	

51st St NW											
		Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment		
Location	Distance	Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY
1299+30.00		14.94		13.86		25.97			15.35		
1299+50.00	20	36.64	19	31.66	17	10.92	14	14	83.75	46	46
1299+64.00	14	42.25	20	14.07	12	54.88	17	31	0.00	27	73
1300+50.00		53.16		26.29		76.30			17.74		
1300+83.00	33	55.06	66	52.55	48	0.00	47	47	442.19	351	351
1300+85.00	2	58.43	4	55.92	4	0.00	0	47	484.65	43	394
1301+50.00	65	24.00	99	22.77	95	0.00	0	47	131.03	926	1,320
1302+20.00	70	17.62	54	16.62	51	0.57	1	48	18.83	243	1,563
		Sub-total=	262		227		79			1,636	

52nd St NW											
		Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment		
Location	Distance	Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY
1399+26.00		3.80		2.68		0.00			1.44		
1399+46.00	20	48.29	19	49.68	19	0.00	0	0	188.69	88	88
1399+50.00	4	45.98	7	48.74	7	10.36	1	1	140.18	30	118
1399+75.00	25	43	41	14	29	11.02	10	11	7.98	86	204
1400+26.00		38.69		15.17		30.24			0.00		
1400+50.00	24	54.63	41	51.22	30	0.00	13	13	345.48	192	192
1400+55.00	5	60.50	11	56.18	10	0.00	0	13	466.88	94	286
1401+00.00	45	55.40	97	52.75	91	0.00	0	13	656.25	1,170	1,456
1401+50.00	50	46.81	95	45.66	91	0.00	0	13	676.59	1,543	2,999
1402+00.00	50	61.81	101	60.46	98	0.00	0	13	1,092.42	2,047	5,046
1402+50.00	50	64.36	117	62.92	114	0.00	0	13	1,206.72	2,661	7,707
1403+00.00	50	64.17	119	62.81	116	0.00	0	13	1,216.56	2,805	10,512
1403+45.00	45	61.61	105	60.36	103	0.00	0	13	1,141.81	2,457	12,969
1405+65.00	220	15.07	312	13.83	302	0.00	0	13	95.47	6,301	19,270
1406+00.00	35	6.29	14	5.05	12	0.00	0	13	21.70	95	19,365
1406+50.00	50	3.21	9	2.01	7	0.68	1	14	0.10	25	19,390
		Sub-total=	1,088		26		25			19,594	

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Approach
Earthwork Tabulation

Mountrail County, ND

Sta. 13973+71 Field Drive											
		Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment		
Location	Distance	Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY
4+00.00		18.38		15.35		0.00			46.50		
4+40.00	40	90.11	80	83.04	73	0.00	0	0	567.93	569	569
4+50.00	10	69.99	30	62.85	27	0.00	0	0	371.32	217	786
4+74.00	24	31.65	45	9.05	32	0.00	0	0	49.36	234	1,020
		Sub-total=	155		132		0			1,020	

53rd St NW											
		Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment		
Location	Distance	Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY
1597+90.00		16.21		1.22		0.12			0.80		
1598+00.00	10	16.69	6	1.72	1	0.00	0	0	4.17	1	1
1598+50.00	50	10.36	25	9.21	10	0.00	0	0	81.24	99	100
1599+00.00	50	19.60	28	24.75	31	0.00	0	0	275.66	413	513
1599+20.00	20	36.84	21	42.41	25	0.00	0	0	405.60	315	828
1599+25.00	5	48.37	8	49.28	8	0.00	0	0	410.33	94	922
1599+50.00	25	53.53	47	28.38	36	0.00	0	0	150.87	325	1,247
1599+60.00	10	0.00	10	21.02	9	140.18	26	26	0.00	35	1,282
1600+45.00		73.74		24.56		8.32			24.31		
1600+50.00	5	63.36	13	37.75	6	26.72	3	3	97.89	14	14
1600+75.00	25	40.20	48	31.20	32	31.08	27	30	101.78	116	130
		Sub-total=	206		158		56			1,412	

53rd St NW - Field Drive											
		Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment		
Location	Distance	Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY
300+19.00		29.58		10.21		0.00			28.11		
300+50.00	31	19.77	28	17.78	16	0.00	0	0	119.31	106	106
300+70.00	20	6.70	10	5.51	9	0.00	0	0	20.79	65	171
		Sub-total=	38		25		0			171	

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Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

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Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	66

54th St NW											
		Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment		
Location	Distance	Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY
1798+40.00		4.01		3.00		0.48			0.81		
1798+50.00	10	3.92	1	2.72	1	0.12	0	0	1.23	0	0
1799+00.00	50	18.63	21	17.22	18	0.00	0	0	68.68	81	81
1799+28.00	28	42.78	32	40.88	30	0.00	0	0	226.43	191	272
1799+30.00	2	44.91	3	42.95	3	0.00	0	0	202.00	20	292
1799+50.00	20	38.69	31	32.28	28	0.00	0	0	135.98	156	448
1799+65.00	15	50.16	25	20.60	15	94.30	26	26	0.00	47	495
1800+25.00		34.53		9.57		77.49			0.08		
1800+50.00	25	40.09	35	39.85	23	2.94	37	37	109.24	63	63
1800+59.00	9	34.12	12	31.90	12	5.98	1	38	81.02	40	103
1800+60.00	1	32.83	1	30.67	1	0.00	0	38	96.34	4	107
1800+89.00	29	1.87	19	1.15	17	0.87	0	38	0.95	65	172
		Sub-total=	180		148		64			667	

55th St NW											
		Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment		
Location	Distance	Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY
1999+02.00		4.46		4.00		1.86			0.42		
1999+25.00	23	9.07	6	3.95	3	0.00	1	1	9.18	5	5
1999+50.00	25	38.70	22	35.17	18	0.00	0	1	109.10	68	73
1999+60.00	10	37.47	14	34.86	13	0.00	0	1	99.09	48	121
1999+65.00	5	27.13	6	25.42	6	0.00	0	1	30.84	15	136
1999+75.00	10	29.94	11	14.47	7	36.82	7	8	0.00	7	143
2000+25.00		40.64		20.45		68.87			0.00		
2000+50.00	25	48.41	41	42.02	29	0.00	32	32	151.17	87	87
2000+55.00	5	48.04	9	41.50	8	0.00	0	32	199.64	41	128
2001+00.00	45	21.13	58	16.81	49	0.00	0	32	59.52	270	398
2001+30.00	30	3.99	14	2.49	11	0.00	0	32	3.90	44	442
		Sub-total=	181		144		40			585	

55th St NW - Recovery Approach											
		Topsoil - Excavation		Topsoil - Embankment		Common Excavation - Type A			Embankment		
Location	Distance	Area	Volume	Area	Volume	Area	Volume	Accumulated Volume	Area	Adjusted Volume (1.25)	Accumulated Volume
	LF	SF	CY	SF	CY	SF	CY	CY	SF	CY	CY
0+90.00		32.27		32.17		0.00			6.41		
1+30.00	40	43.92	56	43.82	56	0.00	0	0	224.76	214	214
1+50.00	20	50.22	35	50.12	35	0.00	0	0	100.47	151	365
		Sub-total=	91		91		0			365	

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Approach
Earthwork Tabulation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	67

Iron Pin R/W Monument (ND 1804)							
Point	Northing	Easting	Station	Offset	Feature	Include Iron Pin	Include R/W Marker
6762	372370.6553	1478764.95	13140+53.00	75	RWMON	x	x
6763	372381.3484	1478787.548	13140+53.00	100	RWMON	x	x
6764	372527.1733	1478726.193	13142+20.00	100	RWMON	x	x
6765	372523.7017	1478716.815	13142+20.00	90	RWMON	x	x
6766	372586.6651	1478694.81	13142+90.00	90	RWMON	x	x
6767	372581.9766	1478680.562	13142+90.00	75	RWMON	x	x
7680	372277.5667	1478643.341	13140+22.08	-75	RWMON	x	x
7681	372343.9115	1478777.871	13140+22.08	75	RWMON	x	x
7004	372624.5944	1478510.945	13143+80.00	-75	RWMON	x	x
7005	372619.2447	1478491.674	13143+80.00	-95	RWMON	x	x
6768	372922.8323	1478432.168	13146+75.00	-95	RWMON	x	x
6769	372919.9305	1478407.337	13146+75.00	-120	RWMON	x	x
6770	373156.2273	1478393.615	13148+97.83	-120	RWMON	x	x
7006	373156.2192	1478418.615	13148+97.83	-95	RWMON	x	x
7007	373303.3894	1478418.663	13150+45.00	-95	RWMON	x	x
7008	373303.3828	1478438.663	13150+45.00	-75	RWMON	x	x
7009	372757.9196	1478632.216	13144+80.00	75	RWMON	x	x
7010	372763.3369	1478656.622	13144+80.00	100	RWMON	x	x
7011	372945.4663	1478625.85	13146+75.00	100	RWMON	x	x
7012	372942.5645	1478601.019	13146+75.00	75	RWMON	x	x
7684	373156.1675	1478588.615	13148+97.83	75	RWMON	x	x
7013	373263.3336	1478588.65	13150+05.00	75	RWMON	x	x
7014	373263.309	1478663.65	13150+05.00	150	RWMON	x	x
7017	373468.309	1478663.717	13152+10.00	150	RWMON	x	x
7018	373468.3287	1478603.717	13152+10.00	90	RWMON	x	x
7021	373818.3287	1478603.832	13155+60.00	90	RWMON	x	x
7022	373818.2943	1478708.832	13155+60.00	195	RWMON	x	x
7023	373848.1968	1478708.842	13155+89.90	195	RWMON	x	x
7024	373383.3828	1478438.69	13151+25.00	-75	RWMON	x	x
7025	373383.3861	1478428.69	13151+25.00	-85	RWMON	x	x
7026	373528.3861	1478428.737	13152+70.00	-85	RWMON	x	x
7027	373528.4025	1478378.737	13152+70.00	-135	RWMON	x	x
7028	373798.4024	1478378.826	13155+40.00	-135	RWMON	x	x
7029	373798.4418	1478258.826	13155+40.00	-255	RWMON	x	x
7030	373860.8911	1478258.846	13156+02.45	-255	RWMON	x	x
7031	373925.9295	1478293.867	13156+67.50	-220	RWMON	x	x
7032	373968.4303	1478293.881	13157+10.00	-220	RWMON	x	x
7033	373968.391	1478413.881	13157+10.00	-100	RWMON	x	x
7034	374658.3909	1478414.107	13164+00.00	-100	RWMON	x	x
7035	374658.4024	1478379.108	13164+00.00	-135	RWMON	x	x
6758	375440.4024	1478379.364	13171+82.00	-135	RWMON	x	x
6759	375440.3961	1478398.364	13171+82.00	-116	RWMON	x	x
6760	375460.3961	1478398.37	13172+02.00	-116	RWMON	x	x
6761	375460.3951	1478401.37	13172+02.00	-113	RWMON	x	x
7036	375533.3951	1478401.394	13172+75.00	-113	RWMON	x	x
7037	375533.3826	1478439.394	13172+75.00	-75	RWMON	x	x
7038	373931.3701	1478703.869	13156+73.07	190	RWMON	x	x
7039	373963.2959	1478703.88	13157+05.00	190	RWMON	x	x
7040	373963.327	1478608.88	13157+05.00	95	RWMON	x	x
7041	374605.3673	1478609.09	13163+47.04	95	RWMON	x	x
7042	374605.3486	1478666.093	13163+47.04	152	RWMON	x	x
7043	374708.3083	1478666.124	13164+50.00	152	RWMON	x	x
7044	374708.2926	1478714.124	13164+50.00	200	RWMON	x	x

Iron Pin R/W Monument (ND 1804)							
Point	Northing	Easting	Station	Offset	Feature	Include Iron Pin	Include R/W Marker
7045	374908.2925	1478714.19	13166+50.00	200	RWMON	x	x
7046	374908.3106	1478659.19	13166+50.00	145	RWMON	x	x
7047	374968.3106	1478659.209	13167+10.00	145	RWMON	x	x
7048	374968.3221	1478624.209	13167+10.00	110	RWMON	x	x
7049	375173.3221	1478624.276	13169+15.00	110	RWMON	x	x
7050	375173.3335	1478589.276	13169+15.00	75	RWMON	x	x
7688	375680.445	1478439.443	13174+22.06	-75	RWMON	x	x
7690	375680.3958	1478589.443	13174+22.06	75	RWMON	x	x
7056	376193.7314	1478563.186	13179+00.00	135	RWMON	x	x
7057	376644.2748	1478318.499	13183+70.66	135	RWMON	x	x
7058	376746.3086	1478239.018	13185+00.00	135	RWMON	x	x
7059	376730.9453	1478219.296	13185+00.00	110	RWMON	x	x
7060	376975.1305	1478029.084	13188+09.53	110	RWMON	x	x
7061	377207.7323	1477805.045	13191+10.00	110	RWMON	x	x
7062	377180.9468	1477782.517	13191+10.00	75	RWMON	x	x
7063	375895.5458	1478422.366	13176+50.00	-75	RWMON	x	x
7064	375887.6407	1478372.995	13176+50.00	-125	RWMON	x	x
7496	376484.4983	1478113.386	13183+70.66	-125	RWMON	x	x
7698	376830.7171	1477843.693	13188+09.53	-125	RWMON	x	x
7065	376957.1727	1477731.317	13189+95.00	-125	RWMON	x	x
7066	376918.0553	1477692.654	13189+95.00	-180	RWMON	x	x
6941	377079.2765	1477491.895	13192+90.00	-180	RWMON	x	x
6942	377167.4688	1477548.878	13192+90.00	-75	RWMON	x	x
7701	377274.7612	1477347.49	13195+31.08	-75	RWMON	x	x
7067	377412.6059	1477406.641	13195+31.08	75	RWMON	x	x
7068	377472.3376	1477432.275	13195+31.08	140	RWMON	x	x
7069	377659.237	1476996.765	13200+05.00	140	RWMON	x	x
7070	377599.5051	1476971.131	13200+05.00	75	RWMON	x	x
7071	377321.6615	1477238.204	13196+50.00	-75	RWMON	x	x
7072	377234.3609	1477200.739	13196+50.00	-170	RWMON	x	x
7077	377336.1889	1476963.461	13199+08.21	-170	RWMON	x	x
7078	377438.3155	1476966.378	13199+45.80	-75	RWMON	x	x
6943	377479.4089	1476870.623	13200+50.00	-75	RWMON	x	x
6944	377369.1346	1476823.299	13200+50.00	-195	RWMON	x	x
6945	377473.6423	1476579.777	13203+15.00	-195	RWMON	x	x
6946	377565.5374	1476619.213	13203+15.00	-95	RWMON	x	x
6947	377579.3405	1476587.05	13203+50.00	-95	RWMON	x	x
6948	377597.7195	1476594.937	13203+50.00	-75	RWMON	x	x
7083	377682.5088	1476397.363	13205+65.00	-75	RWMON	x	x
7084	377608.9926	1476365.813	13205+65.00	-155	RWMON	x	x
7085	377648.4295	1476273.918	13206+65.00	-155	RWMON	x	x
7086	377721.9457	1476305.468	13206+65.00	-75	RWMON	x	x
7703	377749.2675	1476241.803	13207+34.28	-75	RWMON	x	x
7705	377887.1121	1476300.954	13207+34.28	75	RWMON	x	x
7091	377753.7551	1476231.453	13207+45.00	-75	RWMON	x	x
7092	377744.5953	1476227.44	13207+45.00	-85	RWMON	x	x
7093	377940.3004	1475900.095	13211+05.98	-85	RWMON	x	x
7094	377952.7608	1475900.437	13211+13.03	-75	RWMON	x	x
7707	378129.798	1475923.496	13212+10.00	75	RWMON	x	x
6949	378137.2019	1475930.218	13212+10.00	85	RWMON	x	x
6950	378159.6246	1475906.131	13212+44.99	85	RWMON	x	x
6951	378146.1979	1475905.762	13212+35.49	75	RWMON	x	x
7514	378006.8622	1475835.902	13211+93.06	-75	RWMON	x	x

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Iron Pin R/W Monuments

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	68

Iron Pin R/W Monument (ND 1804)							
Point	Northing	Easting	Station	Offset	Feature	Include Iron Pin	Include R/W Marker
7096	378254.2124	1475842.71	13213+65.10	105	RWMON	x	x
7097	378404.8321	1475727.349	13215+70.00	105	RWMON	x	x
7098	378388.3388	1475702.29	13215+70.00	75	RWMON	x	x
7099	378650.017	1475408.747	13219+35.00	-75	RWMON	x	x
7100	378640.3715	1475380.34	13219+35.00	-105	RWMON	x	
7101	378722.4039	1475355.017	13220+15.00	-105	RWMON	x	x
7102	378716.7723	1475334.786	13220+15.00	-126	RWMON	x	
7103	379021.7569	1475281.796	13223+00.00	-126	RWMON	x	x
7104	379025.4545	1475332.662	13223+00.00	-75	RWMON	x	x
7113	379131.0084	1475478.7	13224+00.00	75	RWMON	x	x
7114	379131.1744	1475538.699	13224+00.00	135	RWMON	x	x
7115	379217.1672	1475541.313	13224+95.00	135	RWMON	x	x
7116	379206.3723	1475710.97	13224+95.00	305	RWMON	x	x
6987	379318.6285	1475723.784	13226+38.60	305	RWMON	x	x
7118	379640.6571	1475777.002	13229+65.00	305	RWMON	x	x
7119	379678.1574	1475550.079	13229+65.00	75	RWMON	x	x
7515	379767.7054	1475564.878	13230+55.76	75	RWMON	x	x
7708	379380.5856	1475348.869	13226+38.60	-75	RWMON	x	x
7120	379603.9523	1475385.782	13228+65.00	-75	RWMON	x	x
7121	379612.9197	1475331.518	13228+65.00	-130	RWMON	x	x
7122	379686.9161	1475343.746	13229+40.00	-130	RWMON	x	x
7123	379701.5902	1475254.951	13229+40.00	-220	RWMON	x	x
7124	379776.2703	1475267.292	13230+15.69	-220	RWMON	x	x
7126	379841.2593	1475303.371	13230+85.69	-195	RWMON	x	x
7127	379909.6371	1475314.671	13231+55.00	-195	RWMON	x	x
7128	379904.7457	1475344.269	13231+55.00	-165	RWMON	x	x
7129	379968.8759	1475354.867	13232+20.00	-165	RWMON	x	x
7130	379959.0932	1475414.064	13232+20.00	-105	RWMON	x	x
7131	380013.3573	1475423.032	13232+75.00	-105	RWMON	x	x
7132	380008.4659	1475452.63	13232+75.00	-75	RWMON	x	x
7516	379832.1038	1475621.476	13231+28.53	120.34	RWMON	x	x
7134	379825.0013	1475812.533	13231+52.67	310	RWMON	x	x
7135	379921.0281	1475828.402	13232+50.00	310	RWMON	x	x
7136	379925.9195	1475798.804	13232+50.00	280	RWMON	x	x
7137	379975.2504	1475806.956	13233+00.00	280	RWMON	x	x
7138	379989.9245	1475718.16	13233+00.00	190	RWMON	x	x
7139	380236.5791	1475758.922	13235+50.00	190	RWMON	x	x
7140	380249.6227	1475679.992	13235+50.00	110	RWMON	x	x
7141	380417.3479	1475707.71	13237+20.00	110	RWMON	x	x
7142	380423.0545	1475673.178	13237+20.00	75	RWMON	x	x
7518	380973.2643	1475612.069	13242+52.88	-75	RWMON	x	x
6953	380797.9696	1475735.135	13241+00.00	75	RWMON	x	x
6954	380795.5239	1475749.935	13241+00.00	90	RWMON	x	x
7715	380946.3619	1475774.861	13242+52.88	90	RWMON	x	x
6955	381010.6957	1475784.421	13243+15.00	90	RWMON	x	x
6956	381012.6588	1475769.55	13243+15.00	75	RWMON	x	x
7143	381161.3669	1475633.259	13244+50.00	-75	RWMON	x	x
7144	381163.7885	1475593.333	13244+50.00	-115	RWMON	x	x
7145	381262.4004	1475596.597	13245+55.00	-115	RWMON	x	x
7146	381262.1761	1475636.596	13245+55.00	-75	RWMON	x	x
6828	381334.0737	1475785.669	13246+25.00	75	RWMON	x	x
6829	381337.798	1475905.611	13246+25.00	195	RWMON	x	x
6830	381398.3483	1475902.858	13246+80.00	195	RWMON	x	x

Iron Pin R/W Monument (ND 1804)							
Point	Northing	Easting	Station	Offset	Feature	Include Iron Pin	Include R/W Marker
6831	381403.1323	1475982.715	13246+80.00	275	RWMON	x	x
6832	381482.9615	1475976.463	13247+50.00	275	RWMON	x	x
6833	381489.2232	1476041.16	13247+50.00	340	RWMON	x	x
6834	381547.7684	1476034.72	13248+00.00	340	RWMON	x	x
6835	381515.3449	1475771.711	13248+00.00	75	RWMON	x	x
7571	382426.5398	1475416.678	13257+50.76	75	RWMON	x	x
7521	382339.3336	1475294.632	13257+50.76	-75	RWMON	x	x
7522	382443.7865	1475404.354	13257+71.95	75	RWMON	x	x
7147	382359.0598	1475280.537	13257+75.00	-75	RWMON	x	x
7148	382329.9911	1475239.855	13257+75.00	-125	RWMON	x	x
7523	382450.8391	1475153.505	13259+23.53	-125	RWMON	x	x
6778	382451.8969	1475115.877	13259+46.26	-155	RWMON	x	x
7149	382479.3452	1475096.265	13259+80.00	-155	RWMON	x	x
7150	382467.7177	1475079.992	13259+80.00	-175	RWMON	x	x
7151	383125.5073	1474609.976	13267+88.46	-175	RWMON	x	x
7153	383123.2249	1474691.495	13267+39.21	-110	RWMON	x	x
7154	383315.0749	1474554.411	13269+75.00	-110	RWMON	x	x
7155	383335.423	1474582.888	13269+75.00	-75	RWMON	x	x
7156	382486.9478	1475373.514	13258+25.00	75	RWMON	x	x
7157	382524.7371	1475426.4	13258+25.00	140	RWMON	x	x
7158	382972.237	1475106.644	13263+75.00	140	RWMON	x	x
7159	383024.5607	1475179.872	13263+75.00	230	RWMON	x	x
7160	383111.2899	1475117.9	13264+81.59	230	RWMON	x	x
7162	383260.5151	1475011.273	13266+65.00	230	RWMON	x	x
7163	383216.912	1474950.25	13266+65.00	155	RWMON	x	x
7164	383298.2756	1474892.113	13267+65.00	155	RWMON	x	x
7165	383277.9275	1474863.635	13267+65.00	120	RWMON	x	x
7166	383408.1093	1474770.616	13269+25.00	120	RWMON	x	x
7167	383437.178	1474811.297	13269+25.00	170	RWMON	x	x
7168	383633.7062	1474670.87	13271+66.54	170	RWMON	x	x
7169	383663.9012	1474648.758	13272+00.00	170	RWMON	x	x
7170	383645.8947	1474624.763	13272+00.00	140	RWMON	x	x
7171	383780.2022	1474511.727	13273+60.00	140	RWMON	x	x
7172	383752.7776	1474482.608	13273+60.00	100	RWMON	x	x
7173	383982.7003	1474208.766	13276+95.00	100	RWMON	x	x
7174	383961.8097	1474195.034	13276+95.00	75	RWMON	x	x
7720	383491.2694	1474471.529	13271+66.54	-75	RWMON	x	x
7175	384029.2236	1474082.025	13278+20.08	75	RWMON	x	x
7176	384051.5868	1474082.614	13278+29.54	95	RWMON	x	x
7177	384179.2393	1473756.007	13281+59.13	95	RWMON	x	x
7179	384235.6657	1473757.508	13281+70.83	150	RWMON	x	x
7180	384250.487	1473693.849	13282+30.00	150	RWMON	x	x
7181	384221.1342	1473687.651	13282+30.00	120	RWMON	x	x
7182	384244.5773	1473543.289	13283+65.00	120	RWMON	x	x
7183	384219.7392	1473540.448	13283+65.00	95	RWMON	x	x
7184	384228.4331	1473427.402	13284+71.35	95	RWMON	x	x
7185	384208.4385	1473426.869	13284+71.11	75	RWMON	x	x
6779	384209.6157	1473359.647	13285+35.00	75	RWMON	x	x
6780	384219.6156	1473359.599	13285+35.00	85	RWMON	x	x
6781	384213.2097	1473227.38	13286+60.00	85	RWMON	x	x
6782	384203.2521	1473228.299	13286+60.00	75	RWMON	x	x
7524	384178.7249	1473063.147	13288+18.74	75	RWMON	x	x
6793	384008.7688	1473058.606	13288+60.02	-90	RWMON	x	x

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Iron Pin R/W Monuments

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	69

Iron Pin R/W Monument (ND 1804)							
Point	Northing	Easting	Station	Offset	Feature	Include Iron Pin	Include R/W Marker
7525	384165.7753	1473005.86	13288+74.55	75	RWMON	x	x
7526	384005.575	1473045.368	13288+74.55	-90	RWMON	x	x
6784	383992.2988	1472991.534	13289+30.00	-90	RWMON	x	x
6785	384006.8625	1472987.943	13289+30.00	-75	RWMON	x	x
7530	383849.1954	1472348.62	13295+88.48	-75	RWMON		x
7531	383994.832	1472312.704	13295+88.48	75	RWMON	x	x
6786	383944.9248	1472150.311	13297+50.00	75	RWMON	x	x
6787	383963.681	1472143.368	13297+50.00	95	RWMON	x	x
6788	383841.7059	1471888.924	13300+15.00	95	RWMON	x	x
6789	383858.8652	1471878.65	13300+15.00	115	RWMON	x	x
6790	383768.5049	1471744.232	13301+65.00	115	RWMON	x	x
6791	383736.5216	1471768.255	13301+65.00	75	RWMON	x	x
7532	383697.5184	1471718.531	13302+25.06	75	RWMON	x	x
7533	383581.4615	1471813.562	13302+25.06	-75	RWMON	x	x
7194	382896.13	1470739.828	13314+90.00	75	RWMON	x	x
7195	382919.3413	1470720.822	13314+90.00	105	RWMON	x	x
7196	382779.9632	1470550.605	13317+10.00	105	RWMON	x	x
7197	382756.7519	1470569.612	13317+10.00	75	RWMON	x	x
7198	382719.8871	1470761.356	13315+85.00	-75	RWMON	x	x
7199	382708.2814	1470770.859	13315+85.00	-90	RWMON	x	x
7200	382579.9359	1470614.116	13317+87.59	-90	RWMON	x	x
7201	382580.5928	1470591.242	13318+04.87	-75	RWMON	x	x
7202	382643.2737	1470431.025	13318+89.12	75	RWMON	x	x
7534	382527.2168	1470526.056	13318+89.12	-75	RWMON	x	x
7204	382630.3494	1470415.123	13319+10.16	75	RWMON	x	x
7205	382696.4247	1470416.866	13318+66.40	125.09	RWMON	x	x
7206	382589.5333	1470279.902	13320+47.06	125	RWMON	x	x
7535	382436.9545	1470410.021	13320+32.39	-75	RWMON	x	x
7210	382367.2705	1470311.494	13321+50.00	-75	RWMON	x	x
7211	382338.2864	1470331.113	13321+50.00	-110	RWMON	x	x
7732	382083.8968	1469872.96	13326+55.32	-110	RWMON	x	x
7539	381951.2854	1469574.947	13329+81.51	-110	RWMON	x	x
7561	382591.0081	1470228.544	13320+90.00	156.18	RWMON	x	x
7207	382700.2275	1470151.229	13320+90.00	290	RWMON	x	x
7208	382485.4728	1469788.017	13325+60.00	290	RWMON	x	x
7209	382292.059	1469881.911	13325+60.00	75	RWMON	x	x
7734	382252.9181	1469797.748	13326+55.32	75	RWMON	x	x
7217	381951.6196	1469563.399	13329+91.92	-105	RWMON	x	x
7218	381810.1075	1469245.383	13333+40.00	-105	RWMON	x	x
7219	381837.5164	1469233.186	13333+40.00	-75	RWMON	x	x
7537	381963.6486	1469147.682	13333+66.84	75	RWMON	x	x
7220	381650.5033	1468812.917	13338+00.00	-75	RWMON	x	x
7221	381627.6626	1468823.081	13338+00.00	-100	RWMON	x	x
7222	381589.6879	1468737.742	13338+93.41	-100	RWMON	x	x
7223	381542.8889	1468626.533	13340+10.00	-100	RWMON	x	x
7224	381566.1243	1468617.307	13340+10.00	-75	RWMON	x	x
7540	381749.5729	1468666.595	13338+93.41	75	RWMON	x	x
7541	381382.1598	1467903.779	13347+29.96	-75	RWMON	x	x
7542	381530.9579	1467884.828	13347+29.96	75	RWMON	x	x
7543	381365.8795	1467775.95	13348+58.82	-75	RWMON	x	x
7544	381517.5999	1467779.944	13348+35.69	75	RWMON	x	x
6935	381509.1629	1467713.699	13349+02.47	75	RWMON	x	x
6936	381357.4426	1467709.705	13349+25.60	-75	RWMON	x	x

Iron Pin R/W Monument (ND 1804)							
Point	Northing	Easting	Station	Offset	Feature	Include Iron Pin	Include R/W Marker
7225	381315.1944	1467377.983	13352+60.00	-75	RWMON	x	x
7228	381270.555	1467383.668	13352+60.00	-120	RWMON	x	x
7229	381200.4365	1466833.116	13358+15.00	-120	RWMON	x	x
7230	381245.0759	1466827.43	13358+15.00	-75	RWMON	x	x
7231	381421.037	1467021.757	13356+00.00	75	RWMON	x	x
7232	381460.7165	1467016.703	13356+00.00	115	RWMON	x	x
7233	381425.3414	1466738.947	13358+80.00	115	RWMON	x	x
7234	381385.6619	1466744	13358+80.00	75	RWMON	x	x
7559	381344.7253	1466422.577	13362+04.02	75	RWMON	x	x
7560	381193.0108	1466418.629	13362+27.10	-75	RWMON	x	x
7545	381108.6916	1465756.576	13368+94.50	-75	RWMON	x	x
7546	381260.4032	1465760.501	13368+71.44	75	RWMON	x	x
7235	381104.0047	1465719.775	13369+31.60	-75	RWMON	x	x
7236	381036.9169	1465628.499	13370+30.62	-130	RWMON	x	x
6836	381058.5824	1465565.883	13370+90.00	-100.6	RWMON	x	x
6837	381083.9928	1465562.647	13370+90.00	-75	RWMON	x	x
7239	381294.3293	1465631.121	13369+95.50	125	RWMON	x	x
7240	381247.0151	1465259.622	13373+70.00	125	RWMON	x	x
7241	381197.4158	1465265.939	13373+70.00	75	RWMON	x	x
6794	381173.4112	1465077.462	13375+60.00	75	RWMON	x	x
6795	381188.291	1465075.567	13375+60.00	90	RWMON	x	x
6796	381164.2865	1464887.089	13377+50.00	90	RWMON	x	x
6797	381179.1663	1464885.194	13377+50.00	105	RWMON	x	x
6798	381140.9193	1464570.214	13380+70.00	105	RWMON	x	x
6799	381185.6899	1464565.677	13380+70.00	150	RWMON	x	x
6800	381160.6088	1464196.544	13384+50.00	150	RWMON	x	x
6801	381105.6419	1464198.451	13384+50.00	95	RWMON	x	x
6802	381105.7305	1463805.163	13388+50.00	95	RWMON	x	x
6803	381095.7367	1463804.812	13388+50.00	85	RWMON	x	x
6804	381098.5798	1463735.909	13389+20.00	85	RWMON	x	x
6805	381088.591	1463735.436	13389+20.00	75	RWMON	x	x
7750	380978.7661	1464736.433	13379+22.89	-75	RWMON	x	x
7752	381127.5641	1464717.482	13379+22.89	75	RWMON	x	x
7753	380971.5758	1463328.571	13393+16.01	-75	RWMON	x	x
7754	381120.5597	1463346.001	13393+16.01	75	RWMON	x	x
7756	381040.5707	1462738.837	13399+09.76	-75	RWMON	x	x
7758	381189.5545	1462756.267	13399+09.76	75	RWMON	x	x
7764	381231.2457	1461754.553	13408+30.82	-245.8	RWMON	x	x
7242	381814.0875	1461386.766	13414+50.00	-75	RWMON	x	x
7243	381808.0519	1461378.793	13414+50.00	-85	RWMON	x	x
7244	381989.8577	1461256.276	13416+60.00	-85	RWMON	x	x
7245	381994.982	1461264.863	13416+60.00	-75	RWMON	x	x
7765	382078.2246	1461217.87	13417+51.99	-75	RWMON	x	x
7767	382148.7995	1461350.23	13417+51.99	75	RWMON	x	x
6958	382288.2284	1461275.886	13419+10.00	75	RWMON	x	x
6959	382297.6384	1461293.534	13419+10.00	95	RWMON	x	x
6960	382650.5985	1461105.334	13423+10.00	95	RWMON	x	x
6961	382641.1886	1461087.686	13423+10.00	75	RWMON	x	x
7246	383002.973	1460894.781	13427+20.00	75	RWMON	x	x
7247	383012.383	1460912.429	13427+20.00	95	RWMON	x	x
7248	383338.8712	1460738.344	13430+90.00	95	RWMON	x	x
7249	383352.9862	1460764.816	13430+90.00	125	RWMON	x	x
6962	383441.2262	1460717.766	13431+90.00	125	RWMON	x	x

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Iron Pin R/W Monuments

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	70

Iron Pin R/W Monument (ND 1804)							
Point	Northing	Easting	Station	Offset	Feature	Include Iron Pin	Include R/W Marker
6963	383450.6362	1460735.414	13431+90.00	145	RWMON	x	x
6964	383582.9962	1460664.84	13433+40.00	145	RWMON	x	x
6965	383573.5863	1460647.192	13433+40.00	125	RWMON	x	x
7250	383994.2514	1460422.891	13438+16.73	125	RWMON	x	x
7251	384005.714	1460416.796	13438+30.00	125	RWMON	x	x
7252	383991.6604	1460390.292	13438+30.00	95	RWMON	x	x
7253	384318.4093	1460230.332	13442+00.00	95	RWMON	x	x
7254	384310.2	1460212.095	13442+00.00	75	RWMON	x	x
7768	383900.1515	1460246.411	13438+16.73	-75	RWMON	x	x
7771	384409.7437	1460005.701	13443+73.25	-75	RWMON	x	x
7773	384467.15	1460144.281	13443+73.25	75	RWMON	x	x
7255	384598.1103	1460090.031	13445+15.00	75	RWMON	x	x
7256	384605.7645	1460108.509	13445+15.00	95	RWMON	x	x
7257	384938.357	1459970.734	13448+75.00	95	RWMON	x	x
7258	384930.7028	1459952.256	13448+75.00	75	RWMON	x	x
7777	384891.009	1459806.338	13448+94.17	-75	RWMON	x	x
7779	384948.4153	1459944.919	13448+94.17	75	RWMON	x	x
7260	385554.5439	1459648.091	13455+48.52	110	RWMON	x	x
7261	385729.3536	1459512.902	13457+61.38	110	RWMON	x	x
7262	386000.8524	1459286.337	13461+15.00	110	RWMON	x	x
7263	385978.4274	1459259.464	13461+15.00	75	RWMON	x	x
6806	385561.6214	1459378.925	13457+16.89	-100	RWMON	x	x
7784	385594.8039	1459351.668	13457+61.38	-100	RWMON	x	x
6807	385885.4972	1459109.085	13461+40.00	-100	RWMON	x	x
6808	385901.515	1459128.279	13461+40.00	-75	RWMON	x	x
6966	386059.0441	1459192.19	13462+20.00	75	RWMON	x	x
6967	386065.4512	1459199.868	13462+20.00	85	RWMON	x	x
6968	386111.5181	1459161.425	13462+80.00	85	RWMON	x	x
6969	386105.1109	1459153.747	13462+80.00	75	RWMON	x	x
7264	386343.1232	1458955.126	13465+90.00	75	RWMON	x	x
7265	386368.7517	1458985.837	13465+90.00	115	RWMON	x	x
7266	386733.4476	1458681.498	13470+65.00	115	RWMON	x	x
7267	386707.819	1458650.787	13470+65.00	75	RWMON	x	x
7786	386154.8826	1458916.844	13464+70.00	-75	RWMON	x	x
7787	386138.8648	1458897.65	13464+70.00	-100	RWMON	x	x
7788	386561.1442	1458545.258	13470+20.00	-100	RWMON	x	x
7789	386577.162	1458564.452	13470+20.00	-75	RWMON	x	x
7268	387437.2107	1458042.11	13480+15.00	75	RWMON	x	x
7269	387456.432	1458065.143	13480+15.00	105	RWMON	x	x
7270	387488.3833	1458038.48	13480+56.62	105	RWMON	x	x
7271	388182.41	1457679.566	13488+90.00	105	RWMON	x	x
7272	388174.7232	1457650.567	13488+90.00	75	RWMON	x	x
7790	387373.055	1457900.28	13480+56.62	-75	RWMON	x	x
7796	388372.4629	1457458.092	13491+21.94	-75	RWMON	x	x
7798	388393.0508	1457606.673	13491+21.94	75	RWMON	x	x
7802	389204.9237	1457342.743	13499+62.35	-75	RWMON	x	x
7804	389225.5117	1457491.323	13499+62.35	75	RWMON	x	x
6809	389736.9022	1457370.545	13504+66.53	95	RWMON	x	x
6810	390267.5651	1457039.099	13510+65.00	95	RWMON	x	x
6811	390254.4533	1457023.997	13510+65.00	75	RWMON	x	x
6812	390312.2925	1456971.754	13511+40.00	75	RWMON	x	x
6813	390319.1398	1456979.042	13511+40.00	85	RWMON	x	x
6814	390375.1645	1456924.296	13512+15.00	85	RWMON	x	x

Iron Pin R/W Monument (ND 1804)							
Point	Northing	Easting	Station	Offset	Feature	Include Iron Pin	Include R/W Marker
6815	390368.0364	1456917.282	13512+15.00	75	RWMON	x	x
7805	390561.0229	1456409.311	13517+39.33	-75	RWMON	x	x
7807	390692.4588	1456481.592	13517+39.33	75	RWMON	x	x
7811	390975.6919	1455655.28	13525+99.86	-75	RWMON	x	x
7813	391107.1278	1455727.561	13525+99.86	75	RWMON	x	x
7815	391388.4706	1455081.156	13532+90.60	-75	RWMON	x	x
7817	391498.8459	1455182.731	13532+90.60	75	RWMON	x	x
7821	392645.135	1453715.605	13551+46.39	-75	RWMON	x	x
7823	392755.5103	1453817.179	13551+46.39	75	RWMON	x	x
7828	393845.176	1453091.93	13564+74.30	-75	RWMON	x	x
7830	393864.8717	1453240.631	13564+74.30	75	RWMON	x	x
7273	394851.9488	1453109.891	13574+70.00	75	RWMON	x	x
7274	394856.5445	1453144.588	13574+70.00	110	RWMON	x	x
7275	395089.5098	1453113.731	13577+05.00	110	RWMON	x	x
7276	395084.9142	1453079.034	13577+05.00	75	RWMON	x	x
7277	394961.1275	1452944.12	13576+00.00	-75	RWMON	x	x
7278	394957.8449	1452919.336	13576+00.00	-100	RWMON	x	x
7279	395200.7237	1452887.167	13578+45.00	-100	RWMON	x	x
7280	395204.0063	1452911.95	13578+45.00	-75	RWMON	x	x
7281	395426.9272	1453033.734	13580+50.00	75	RWMON	x	x
7282	395430.2098	1453058.518	13580+50.00	100	RWMON	x	x
7283	395692.9154	1453023.722	13583+15.00	100	RWMON	x	x
7284	395689.6328	1452998.938	13583+15.00	75	RWMON	x	x
7285	395476.6254	1452875.841	13581+20.00	-75	RWMON	x	x
7286	395473.9993	1452856.015	13581+20.00	-95	RWMON	x	x
7287	395592.9603	1452840.258	13582+40.00	-95	RWMON	x	x
7288	395595.5864	1452860.085	13582+40.00	-75	RWMON	x	x
6816	395714.5475	1452844.328	13583+60.00	-75	RWMON	x	x
6817	395711.9214	1452824.501	13583+60.00	-95	RWMON	x	x
6818	395850.7093	1452806.119	13585+00.00	-95	RWMON	x	x
6819	395845.851	1452769.439	13585+00.00	-132	RWMON	x	x
6820	396044.1194	1452743.178	13587+00.00	-132	RWMON	x	x
6821	396048.3211	1452774.901	13587+00.00	-100	RWMON	x	x
6822	396117.7151	1452765.71	13587+70.00	-100	RWMON	x	x
6823	396120.9977	1452790.493	13587+70.00	-75	RWMON	x	x
6824	395783.8103	1452986.464	13584+10.00	75	RWMON	x	x
6825	395785.1234	1452996.378	13584+10.00	85	RWMON	x	x
6826	396047.829	1452961.582	13586+75.00	85	RWMON	x	x
6827	396046.5159	1452951.668	13586+75.00	75	RWMON	x	x
7289	397637.751	1452589.597	13603+00.00	-75	RWMON	x	x
7290	397635.1249	1452569.77	13603+00.00	-95	RWMON	x	x
7291	397982.0946	1452523.813	13606+50.00	-95	RWMON	x	x
7292	397984.7207	1452543.64	13606+50.00	-75	RWMON	x	x
7293	398430.8246	1452484.553	13611+00.00	-75	RWMON	x	x
7294	398425.5724	1452444.899	13611+00.00	-115	RWMON	x	x
7295	398737.8452	1452403.538	13614+15.00	-115	RWMON	x	x
7296	398736.3774	1452392.456	13614+15.00	-126.2	RWMON	x	x
7298	398475.3039	1452629.971	13611+25.00	75	RWMON	x	x
7299	398480.5561	1452669.625	13611+25.00	115	RWMON	x	x
7547	398928.2716	1452610.324	13615+76.63	115	RWMON	x	x
7300	399149.712	1452580.994	13618+00.00	115	RWMON	x	x
7301	399144.4598	1452541.341	13618+00.00	75	RWMON	x	x
7838	399282.8369	1452340.794	13619+63.51	-105.6	RWMON	x	x

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Iron Pin R/W Monuments

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	71

Iron Pin R/W Monument (ND 1804)							
Point	Northing	Easting	Station	Offset	Feature	Include Iron Pin	Include R/W Marker
7840	399306.5559	1452519.871	13619+63.51	75	RWMON	x	x
7302	399479.5508	1452499.663	13621+40.00	75	RWMON	x	x
7303	399481.565	1452519.561	13621+40.00	95	RWMON	x	x
7304	400065.7359	1452490.938	13627+35.00	95	RWMON	x	x
7305	400065.7952	1452470.938	13627+35.00	75	RWMON	x	x
7306	399503.6183	1452346.594	13621+78.85	-75	RWMON	x	x
7307	399500.3296	1452311.749	13621+78.85	-110	RWMON	x	x
7308	399944.0453	1452286.857	13626+15.00	-110	RWMON	x	x
7309	399944.6746	1452321.851	13626+15.00	-75	RWMON	x	x
7842	400201.4936	1452322.915	13628+68.52	-75	RWMON	x	x
7844	400197.554	1452472.864	13628+68.52	75	RWMON	x	x
7310	400328.985	1452476.317	13630+00.00	75	RWMON	x	x
7311	400328.591	1452491.312	13630+00.00	90	RWMON	x	x
7312	400528.5221	1452496.564	13632+00.00	90	RWMON	x	x
7313	400528.916	1452481.57	13632+00.00	75	RWMON	x	x
7314	400807.7608	1452338.844	13634+75.00	-75	RWMON	x	x
7315	400808.2861	1452318.851	13634+75.00	-95	RWMON	x	x
7316	401193.1532	1452328.963	13638+60.00	-95	RWMON	x	x
7317	401192.628	1452348.956	13638+60.00	-75	RWMON	x	x
7318	401363.628	1452503.5	13640+35.00	75	RWMON	x	x
7319	401363.234	1452518.495	13640+35.00	90	RWMON	x	x
7320	401537.5934	1452523.076	13642+09.42	90	RWMON	x	x
6749	401602.0185	1452574.815	13642+75.31	140	RWMON	x	x
6750	401608.7074	1452574.997	13642+82.00	140	RWMON	x	x
7323	401609.5226	1452545.008	13642+82.00	110	RWMON	x	x
7324	401857.431	1452551.747	13645+30.00	110	RWMON	x	x
7325	401857.8386	1452536.753	13645+30.00	95	RWMON	x	x
7326	401987.7906	1452540.285	13646+60.00	95	RWMON	x	x
7327	401988.334	1452520.293	13646+60.00	75	RWMON	x	x
7329	401522.5141	1452357.623	13641+90.00	-75	RWMON	x	x
7330	401523.5647	1452317.637	13641+90.00	-115	RWMON	x	x
7331	401543.6894	1452318.165	13642+10.13	-115	RWMON	x	x
7333	401609.6659	1452319.929	13642+76.03	-115	RWMON	x	x
7334	401633.6299	1452320.58	13643+00.00	-115	RWMON	x	x
7335	401633.3582	1452330.577	13643+00.00	-105	RWMON	x	x
7338	402088.1902	1452342.941	13647+55.00	-105	RWMON	x	x
7339	402087.7826	1452357.935	13647+55.00	-90	RWMON	x	x
7342	402222.7327	1452361.604	13648+90.00	-90	RWMON	x	x
7343	402224.0914	1452311.622	13648+90.00	-140	RWMON	x	x
7344	402543.9732	1452320.318	13652+10.00	-140	RWMON	x	x
7345	402542.4787	1452375.297	13652+10.00	-85	RWMON	x	x
7336	402637.4436	1452377.879	13653+05.00	-85	RWMON	x	x
7337	402637.1719	1452387.875	13653+05.00	-75	RWMON	x	x
7346	402173.2657	1452525.32	13648+45.00	75	RWMON	x	x
7347	402172.8581	1452540.314	13648+45.00	90	RWMON	x	x
7348	402377.7824	1452545.885	13650+50.00	90	RWMON	x	x
7349	402378.19	1452530.89	13650+50.00	75	RWMON	x	x
6893	402428.1712	1452532.249	13651+00.00	75	RWMON	x	x
6894	402427.8994	1452542.245	13651+00.00	85	RWMON	x	x
6895	402682.8053	1452549.175	13653+55.00	85	RWMON	x	x
6896	402683.077	1452539.178	13653+55.00	75	RWMON	x	x
7350	402972.0482	1452396.978	13656+40.00	-75	RWMON	x	x
7351	402972.9992	1452361.991	13656+40.00	-110	RWMON	x	x

Iron Pin R/W Monument (ND 1804)							
Point	Northing	Easting	Station	Offset	Feature	Include Iron Pin	Include R/W Marker
7352	403282.8848	1452370.415	13659+50.00	-110	RWMON	x	x
7353	403281.9337	1452405.402	13659+50.00	-75	RWMON	x	x
7354	403801.7417	1452419.532	13664+70.00	-75	RWMON	x	x
7355	403802.1493	1452404.538	13664+70.00	-90	RWMON	x	x
7356	404062.0533	1452411.603	13667+30.00	-90	RWMON	x	x
7357	404061.6457	1452426.597	13667+30.00	-75	RWMON	x	x
6897	404397.4437	1452585.781	13670+70.00	75	RWMON	x	x
6898	404396.7644	1452610.772	13670+70.00	100	RWMON	x	x
6899	404626.6794	1452617.022	13673+00.00	100	RWMON	x	x
6900	404627.3588	1452592.031	13673+00.00	75	RWMON	x	x
7358	404461.498	1452437.467	13671+30.00	-75	RWMON	x	x
7359	404462.449	1452402.48	13671+30.00	-110	RWMON	x	x
7360	404722.353	1452409.545	13673+90.00	-110	RWMON	x	x
7361	404721.402	1452444.532	13673+90.00	-75	RWMON	x	x
7362	404956.3152	1452450.918	13676+25.00	-75	RWMON	x	x
7363	404956.5869	1452440.921	13676+25.00	-85	RWMON	x	x
7364	405486.3912	1452455.323	13681+55.00	-85	RWMON	x	x
7365	405486.1195	1452465.32	13681+55.00	-75	RWMON	x	x
7366	406180.8628	1452484.205	13688+50.00	-75	RWMON	x	x
7367	406181.2704	1452469.211	13688+50.00	-90	RWMON	x	x
7368	406681.0858	1452482.797	13693+50.00	-90	RWMON	x	x
7369	406680.6782	1452497.792	13693+50.00	-75	RWMON	x	x
6901	406606.6276	1452645.834	13692+80.00	75	RWMON	x	x
6902	406606.3559	1452655.831	13692+80.00	85	RWMON	x	x
6903	406696.3227	1452658.276	13693+70.00	85	RWMON	x	x
6904	406696.5944	1452648.28	13693+70.00	75	RWMON	x	x
7371	406882.4526	1452688.332	13695+56.83	110	RWMON	x	x
7372	407325.4609	1452700.195	13700+00.00	110	RWMON	x	x
7373	407326.3978	1452665.207	13700+00.00	75	RWMON	x	x
6905	408176.0928	1452687.96	13708+50.00	75	RWMON	x	x
6906	408175.5575	1452707.953	13708+50.00	95	RWMON	x	x
6907	408545.4249	1452717.857	13712+20.00	95	RWMON	x	x
6908	408545.9602	1452697.864	13712+20.00	75	RWMON	x	x
7374	408465.0063	1452545.642	13711+35.00	-75	RWMON	x	x
7375	408465.2739	1452535.646	13711+35.00	-85	RWMON	x	x
7376	408635.213	1452540.196	13713+05.00	-85	RWMON	x	x
7377	408634.9453	1452550.193	13713+05.00	-75	RWMON	x	x
7378	409084.7841	1452562.238	13717+55.00	-75	RWMON	x	x
7379	409086.1225	1452512.256	13717+55.00	-125	RWMON	x	x
7380	409493.9169	1452523.176	13721+62.94	-125	RWMON	x	x
7382	409493.0367	1452553.163	13721+62.86	-95	RWMON	x	x
7383	409655.1152	1452557.503	13723+25.00	-95	RWMON	x	x
7384	409654.5798	1452577.496	13723+25.00	-75	RWMON	x	x
7385	409720.5395	1452729.316	13723+95.00	75	RWMON	x	x
7386	409720.138	1452744.311	13723+95.00	90	RWMON	x	x
7387	409975.0466	1452751.137	13726+50.00	90	RWMON	x	x
7388	409975.4481	1452736.142	13726+50.00	75	RWMON	x	x
7389	409769.5386	1452580.574	13724+40.00	-75	RWMON	x	x
7390	409769.8063	1452570.578	13724+40.00	-85	RWMON	x	x
7391	409989.7275	1452576.467	13726+60.00	-85	RWMON	x	x
7392	409989.4598	1452586.463	13726+60.00	-75	RWMON	x	x
7393	410125.3945	1452740.157	13728+00.00	75	RWMON	x	x
7394	410124.7253	1452765.148	13728+00.00	100	RWMON	x	x

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Iron Pin R/W Monuments

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	72

Iron Pin R/W Monument (ND 1804)							
Point	Northing	Easting	Station	Offset	Feature	Include Iron Pin	Include R/W Marker
7395	410444.6106	1452773.714	13731+20.00	100	RWMON	x	x
7396	410445.2798	1452748.723	13731+20.00	75	RWMON	x	x
6970	411304.9713	1452771.743	13739+80.00	75	RWMON	x	x
6971	411304.3021	1452796.734	13739+80.00	100	RWMON	x	x
6972	412068.3531	1452817.193	13747+44.32	100	RWMON	x	x
6973	412134.7496	1452803.982	13748+10.38	85	RWMON	x	x
6974	412334.2912	1452809.421	13750+10.00	85	RWMON	x	x
6975	412334.5637	1452799.424	13750+10.00	75	RWMON	x	x
6909	412594.4668	1452806.508	13752+70.00	75	RWMON	x	x
6910	412593.9218	1452826.501	13752+70.00	95	RWMON	x	x
6911	412658.8977	1452828.272	13753+35.00	95	RWMON	x	x
6912	412659.4426	1452808.279	13753+35.00	75	RWMON	x	x
7865	414544.3203	1452709.599	13772+16.49	-75	RWMON	x	x
7867	414540.2333	1452859.543	13772+16.49	75	RWMON	x	x
7869	414958.2501	1452728.327	13776+28.17	-75	RWMON	x	x
7871	414948.78	1452878.027	13776+28.17	75	RWMON	x	x
7872	414970.5666	1452879.406	13776+50.00	75	RWMON	x	x
7873	414968.3569	1452914.336	13776+50.00	110	RWMON	x	x
7874	415038.2173	1452918.755	13777+20.00	110	RWMON	x	x
7875	415039.4799	1452898.795	13777+20.00	90	RWMON	x	x
7876	415254.051	1452912.369	13779+35.00	90	RWMON	x	x
7877	415254.998	1452897.399	13779+35.00	75	RWMON	x	x
7397	415074.8471	1452735.703	13777+45.00	-75	RWMON	x	x
7398	415077.0568	1452700.772	13777+45.00	-110	RWMON	x	x
7399	415348.9529	1452717.973	13780+17.44	-110	RWMON	x	x
7878	415346.7446	1452752.903	13780+17.44	-75	RWMON	x	x
7880	415337.2745	1452902.604	13780+17.44	75	RWMON	x	x
7882	416160.8808	1452775.214	13788+37.42	-75	RWMON	x	x
7884	416162.138	1452925.208	13788+37.42	75	RWMON	x	x
7885	416559.7316	1452771.871	13792+36.29	-75	RWMON	x	x
7887	416560.9888	1452921.865	13792+36.29	75	RWMON	x	x
7889	416970.7419	1452775.75	13796+44.67	-75	RWMON	x	x
7891	416966.6539	1452925.694	13796+44.67	75	RWMON	x	x
7897	420023.0674	1452854.9	13826+98.13	-75	RWMON	x	x
7899	420019.2106	1453004.851	13826+98.13	75	RWMON	x	x
7497	422595.2252	1453071.109	13852+75.00	75	RWMON	x	x
7498	422593.811	1453126.091	13852+75.00	130	RWMON	x	x
7499	422620.7382	1453126.783	13853+01.94	130	RWMON	x	x
6913	422729.9379	1453074.808	13854+10.00	75	RWMON	x	x
6914	422729.6493	1453084.804	13854+10.00	85	RWMON	x	x
6915	422959.5535	1453091.441	13856+40.00	85	RWMON	x	x
6916	422959.8421	1453081.446	13856+40.00	75	RWMON	x	x
7405	423609.5713	1453100.204	13862+90.00	75	RWMON	x	x
7406	423608.8498	1453125.194	13862+90.00	100	RWMON	x	x
7407	425408.1005	1453177.14	13880+90.00	100	RWMON	x	x
7408	425408.822	1453152.151	13880+90.00	75	RWMON	x	x
7413	425718.6925	1453161.097	13884+00.00	75	RWMON	x	x
7414	425718.1153	1453181.088	13884+00.00	95	RWMON	x	x
7415	425918.032	1453186.86	13886+00.00	95	RWMON	x	x
7416	425918.6092	1453166.869	13886+00.00	75	RWMON	x	x
7417	426428.3971	1453181.587	13891+10.00	75	RWMON	x	x
7418	426427.6757	1453206.576	13891+10.00	100	RWMON	x	x
7419	426817.5132	1453217.831	13895+00.00	100	RWMON	x	x

Iron Pin R/W Monument (ND 1804)							
Point	Northing	Easting	Station	Offset	Feature	Include Iron Pin	Include R/W Marker
7420	426818.2347	1453192.842	13895+00.00	75	RWMON	x	x
7421	426998.1597	1453198.037	13896+80.00	75	RWMON	x	x
7422	426997.5825	1453218.028	13896+80.00	95	RWMON	x	x
7423	427767.2618	1453240.25	13904+50.00	95	RWMON	x	x
7424	427764.8088	1453325.214	13904+50.00	180	RWMON	x	x
7425	427884.8767	1453328.681	13905+70.12	180	RWMON	x	x
7428	427949.596	1453375.517	13906+35.81	225	RWMON	x	x
7429	428008.7616	1453377.133	13906+95.00	225	RWMON	x	x
7430	428012.8575	1453227.189	13906+95.00	75	RWMON	x	x
7431	429157.4305	1453258.454	13918+40.00	75	RWMON	x	x
7432	429156.7479	1453283.445	13918+40.00	100	RWMON	x	x
7433	429951.4515	1453305.153	13926+35.00	100	RWMON	x	x
7434	429952.1341	1453280.162	13926+35.00	75	RWMON	x	x
6842	431160.7807	1453163.122	13938+40.00	-75	RWMON	x	x
6843	431161.4633	1453138.131	13938+40.00	-100	RWMON	x	x
6844	431461.3515	1453146.323	13941+40.00	-100	RWMON	x	x
6845	431460.6688	1453171.314	13941+40.00	-75	RWMON	x	x
7435	431211.6639	1453314.568	13938+95.00	75	RWMON	x	x
7436	431210.9813	1453339.558	13938+95.00	100	RWMON	x	x
7437	431410.9071	1453345.02	13940+95.00	100	RWMON	x	x
7438	431411.5897	1453320.029	13940+95.00	75	RWMON	x	x
7439	433115.9539	1453366.585	13958+00.00	75	RWMON	x	x
7440	433103.5298	1453821.416	13958+00.00	530	RWMON	x	x
7441	433143.1864	1453822.499	13958+39.67	530	RWMON	x	x
6751	433208.2222	1453859.289	13959+05.70	565	RWMON	x	x
6752	433242.5098	1453860.227	13959+40.00	565	RWMON	x	x
7444	433248.1119	1453655.303	13959+40.00	360	RWMON	x	x
7445	433268.1043	1453655.85	13959+60.00	360	RWMON	x	x
7446	433275.3461	1453390.949	13959+60.00	95	RWMON	x	x
7447	433755.1786	1453404.066	13964+40.01	95	RWMON	x	x
7448	433755.7134	1453384.073	13964+40.00	75	RWMON	x	x
6848	433639.8569	1453230.85	13963+20.00	-75	RWMON	x	x
6849	433640.2668	1453215.856	13963+20.00	-90	RWMON	x	x
7453	434270.0319	1453233.072	13969+50.00	-90	RWMON	x	x
7454	434270.7151	1453208.081	13969+50.00	-115	RWMON	x	x
7455	434650.5732	1453218.466	13973+30.00	-115	RWMON	x	x
7456	434649.4801	1453258.451	13973+30.00	-75	RWMON	x	x
7449	434245.5304	1453397.464	13969+30.00	75	RWMON	x	x
7450	434243.8907	1453457.441	13969+30.00	135	RWMON	x	x
7557	434506.4706	1453464.62	13971+92.68	135	RWMON	x	x
7558	434507.286	1453434.631	13971+92.67	105	RWMON	x	x
7451	434624.5683	1453437.837	13973+10.00	105	RWMON	x	x
7452	434625.3881	1453407.848	13973+10.00	75	RWMON	x	x
7457	435069.3232	1453269.928	13977+50.00	-75	RWMON	x	x
7458	435070.8262	1453214.949	13977+50.00	-130	RWMON	x	x
7459	435965.492	1453239.407	13986+45.00	-130	RWMON	x	x
7460	435963.989	1453294.386	13986+45.00	-75	RWMON	x	x
7465	435045.2316	1453419.326	13977+30.00	75	RWMON	x	x
7466	435044.1385	1453459.311	13977+30.00	115	RWMON	x	x
7467	435826.7127	1453480.704	13985+12.87	115	RWMON	x	x
7469	435827.1254	1453465.71	13985+12.87	100	RWMON	x	x
6756	436194.1189	1453475.743	13989+80.00	100	RWMON	x	x
6757	436194.3376	1453467.746	13989+80.00	92	RWMON	x	x

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Iron Pin R/W Monuments

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	73

Iron Pin R/W Monument (ND 1804)

Point	Northing	Easting	Station	Offset	Feature	Include Iron Pin	Include R/W Marker
7470	436264.3114	1453469.659	13989+50.00	92	RWMON	x	x
7471	436264.776	1453452.665	13989+50.00	75	RWMON	x	x
7461	436063.9516	1453297.119	13987+45.00	-75	RWMON	x	x
7462	436064.4982	1453277.126	13987+45.00	-95	RWMON	x	x
7463	436169.459	1453279.996	13988+50.00	-95	RWMON	x	x
7464	436170.5521	1453240.011	13988+50.00	-135	RWMON	x	x
6852	436440.4512	1453247.389	13991+20.00	-135	RWMON	x	x
6853	436438.8116	1453307.367	13991+20.00	-75	RWMON	x	x
6917	437394.3536	1453483.545	14000+80.00	75	RWMON	x	x
6918	437394.0803	1453493.541	14000+80.00	85	RWMON	x	x
6919	438043.8376	1453511.304	14007+30.00	85	RWMON	x	x
6920	438044.1108	1453501.308	14007+30.00	75	RWMON	x	x
6925	438413.9727	1453511.419	14011+00.00	75	RWMON	x	x
6926	438413.6994	1453521.415	14011+00.00	85	RWMON	x	x
6927	438433.9892	1453521.97	14011+20.30	85	RWMON	x	x
6928	438499.9673	1453523.765	14011+86.28	85	RWMON	x	x
6929	438533.676	1453524.678	14012+20.00	85	RWMON	x	x
6930	438533.9468	1453514.682	14012+20.00	75	RWMON	x	x
7473	438546.9785	1453354.976	14012+28.70	-85	RWMON	x	x
7474	438553.2745	1453355.147	14012+35.00	-85	RWMON	x	x
7475	438553.0037	1453365.143	14012+35.00	-75	RWMON	x	x
6854	438847.8955	1453373.132	14015+30.00	-75	RWMON	x	x
6855	438848.1663	1453363.136	14015+30.00	-85	RWMON	x	x
7478	439268.0123	1453374.509	14019+50.00	-85	RWMON	x	x
7479	439267.7415	1453384.505	14019+50.00	-75	RWMON	x	x
7480	439163.7158	1453531.742	14018+50.00	75	RWMON	x	x
7481	439163.3096	1453546.737	14018+50.00	90	RWMON	x	x
7482	439413.2183	1453553.507	14021+00.00	90	RWMON	x	x
7483	439413.6245	1453538.512	14021+00.00	75	RWMON	x	x
7484	440017.4665	1453404.815	14027+00.00	-75	RWMON	x	x
7485	440017.7373	1453394.819	14027+00.00	-85	RWMON	x	x
7486	440437.5832	1453406.193	14031+20.00	-85	RWMON	x	x
7487	440437.3124	1453416.189	14031+20.00	-75	RWMON	x	x
6724	441111.9112	1453434.464	14037+94.85	-75	RWMON	x	x
6858	441112.2213	1453424.469	14037+94.89	-85	RWMON	x	x
6859	441457.2092	1453433.814	14041+40.00	-85	RWMON	x	x
6860	441456.9384	1453443.811	14041+40.00	-75	RWMON	x	x
6861	441841.7972	1453454.236	14045+25.00	-75	RWMON	x	x
6862	441842.068	1453444.24	14045+25.00	-85	RWMON	x	x
6863	442027.0001	1453449.25	14047+10.00	-85	RWMON	x	x
6864	442026.7293	1453459.246	14047+10.00	-75	RWMON	x	x
6865	442226.656	1453464.662	14049+10.00	-75	RWMON	x	x
6866	442226.9268	1453454.666	14049+10.00	-85	RWMON	x	x
6867	442716.7471	1453467.935	14054+00.00	-85	RWMON	x	x
6868	442716.4763	1453477.931	14054+00.00	-75	RWMON	x	x
6869	443216.2929	1453491.471	14059+00.00	-75	RWMON	x	x
6870	443216.5637	1453481.475	14059+00.00	-85	RWMON	x	x
6871	443521.4519	1453489.734	14062+05.00	-85	RWMON	x	x
6872	443521.1811	1453499.731	14062+05.00	-75	RWMON	x	x
7488	443706.1132	1453504.74	14063+90.00	-75	RWMON	x	x
7489	443706.7902	1453479.75	14063+90.00	-100	RWMON	x	x
7490	443726.5591	1453480.285	14064+09.78	-100	RWMON	x	x
7493	443792.5335	1453482.128	14064+75.61	-100	RWMON	x	x

Iron Pin R/W Monument (ND 1804)

Point	Northing	Easting	Station	Offset	Feature	Include Iron Pin	Include R/W Marker
7493	443792.5335	1453482.128	14064+75.61	-100	RWMON	x	x
7494	443816.9145	1453482.829	14065+00.00	-100	RWMON	x	x
7495	443816.1957	1453507.819	14065+00.00	-75	RWMON	x	x
6921	445201.3076	1453697.724	14078+90.00	75	RWMON	x	x
6922	445200.5888	1453722.714	14078+90.00	100	RWMON	x	x
6923	445790.3448	1453739.678	14084+80.00	100	RWMON	x	x
6924	445791.0637	1453714.689	14084+80.00	75	RWMON	x	x
6733	447135.4228	1453603.297	14098+20.60	-75	RWMON	x	x
6735	447131.1138	1453753.235	14098+20.60	75	RWMON	x	x
6873	448966.6126	1452221.455	14124+00.00	-75	RWMON	x	x
6874	448956.9213	1452218.989	14124+00.00	-85	RWMON	x	x
6875	448969.1443	1452167.88	14124+55.00	-85	RWMON	x	x
6876	448978.9025	1452170.065	14124+55.00	-75	RWMON	x	x
6737	449022.3736	1451826.374	14128+16.13	-75	RWMON	x	x
6739	449172.3002	1451831.066	14128+16.13	75	RWMON	x	x
					Total=	702	701

Iron Pin Reference Monument (ND 1804)

Point	Northing	Easting	Station	Offset	Feature	Include Iron Pin	Include R/W Marker
7000	371194.8735	1479177.282	13128+14.89	-75	RWMON	x	x
7002	371261.2184	1479311.812	13128+14.89	75	RWMON	x	x
7685	373751.7548	1478378.81	13154+93.35	-135	RWMON	x	x
7686	373796.681	1478603.825	13155+38.35	90	RWMON	x	x
7693	376582.7835	1478364.032	13183+00.73	135	RWMON	x	x
6940	376422.7785	1478158.625	13182+86.81	-125	RWMON	x	x
7695	376458.8819	1478132.839	13183+35.42	-125	RWMON	x	x
7696	376618.6987	1478338.004	13183+41.27	135	RWMON	x	x
7709	379716.5156	1475556.418	13230+03.88	75	RWMON	x	x
7710	379964.9827	1475378.426	13232+20.00	-141.1	RWMON	x	x
7711	379984.8503	1475748.866	13233+00.00	221.1	RWMON	x	x
7713	380721.6481	1475570.488	13239+97.85	-75	RWMON	x	x
7714	380697.1914	1475718.481	13239+97.85	75	RWMON	x	x
7717	381840.7599	1475546.412	13251+67.12	-75	RWMON	x	x
7719	382373.7594	1475208.581	13258+28.79	-125	RWMON	x	x
7722	384193.1238	1473144.358	13287+40.35	75	RWMON	x	x
7723	384048.85	1473196.09	13287+08.83	-75	RWMON	x	x
7729	382628.9174	1470332.472	13319+78.37	125	RWMON	x	x
7730	382474.1049	1470459.237	13319+72.30	-75	RWMON	x	x
7738	381372.5977	1467828.699	13348+05.64	-75	RWMON	x	x
7739	381521.3957	1467809.748	13348+05.64	75	RWMON	x	x
7740	381502.4448	1467660.95	13349+55.64	75	RWMON	x	x
7741	381353.6467	1467679.901	13349+55.64	-75	RWMON	x	x
7747	381025.8316	1465105.98	13375+50.36	-75	RWMON	x	x
7749	381174.6297	1465087.029	13375+50.36	75	RWMON	x	x
7759	381080.355	1462512.882	13401+30.65	-75	RWMON	x	x
7760	381108.3448	1462407.486	13402+35.59	-75	RWMON	x	x
7761	381284.244	1462351.706	13403+43.17	75	RWMON	x	x
7762	381224.6421	1462554.603	13401+22.93	75	RWMON	x	x
6976	382830.7098	1460816.642	13426+04.76	-75	RWMON	x	x
6977	382901.2847	1460949.002	13426+04.76	75	RWMON	x	x

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Iron Pin R/W Monuments
Iron Pin Reference Monument

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	74

Iron Pin Reference Monument (ND 1804)							
Point	Northing	Easting	Station	Offset	Feature	Include Iron Pin	Include R/W Marker
7774	384797.3453	1459845.138	13447+92.79	-75	RWMON	x	x
7776	384862.4058	1460002.196	13447+92.79	95	RWMON	x	x
7781	385472.7932	1459478.877	13455+81.38	-75	RWMON	x	x
7783	385591.53	1459621.191	13455+92.57	110	RWMON	x	x
7793	388208.0373	1457487.978	13489+61.09	-75	RWMON	x	x
7795	388228.7045	1457637.13	13489+47.90	75	RWMON	x	x
7799	389367.7097	1457312.648	13501+34.72	-75	RWMON	x	x
7800	389388.3754	1457461.79	13501+21.67	75	RWMON	x	x
7808	390839.0568	1455903.736	13523+16.31	-75	RWMON	x	x
7810	390970.4927	1455976.018	13523+16.31	75	RWMON	x	x
7818	391681.1067	1454763.164	13537+22.75	-75	RWMON	x	x
7820	391791.482	1454864.738	13537+22.75	75	RWMON	x	x
7825	393618.9102	1453135.387	13562+52.48	-75	RWMON	x	x
7827	393638.7585	1453285.178	13562+34.27	75	RWMON	x	x
7831	396197.0588	1452780.419	13588+46.73	-75	RWMON	x	x
7832	396216.7545	1452929.12	13588+46.73	75	RWMON	x	x
7834	396345.7601	1452760.723	13589+96.73	-75	RWMON	x	x
7835	396365.4558	1452909.424	13589+96.73	75	RWMON	x	x
7836	398910.2484	1452331.004	13615+95.43	-164.3	RWMON	x	x
6748	398946.9177	1452607.855	13615+95.43	115	RWMON	x	x
7845	401500.508	1452357.045	13641+67.99	-75	RWMON	x	x
7846	401480.8794	1452521.586	13641+52.69	90	RWMON	x	x
7848	401681.1904	1452331.877	13643+47.85	-105	RWMON	x	x
7849	401680.3463	1452546.934	13643+52.85	110	RWMON	x	x
7850	404211.8373	1452430.68	13668+80.25	-75	RWMON	x	x
7851	404207.7612	1452580.625	13668+80.25	75	RWMON	x	x
7853	406779.6398	1452500.482	13694+49.00	-75	RWMON	x	x
7854	406775.6855	1452650.43	13694+49.12	75	RWMON	x	x
7856	406929.6157	1452504.529	13695+99.06	-75	RWMON	x	x
7857	406959.6511	1452690.399	13696+34.06	110	RWMON	x	x
7858	409488.2419	1452723.096	13721+62.62	75	RWMON	x	x
7861	412031.2512	1452641.137	13747+02.52	-75	RWMON	x	x
7862	412001.4083	1452815.401	13746+77.36	100	RWMON	x	x
7863	412181.1606	1452645.187	13748+52.45	-75	RWMON	x	x
7864	412186.7975	1452805.4	13748+62.45	85	RWMON	x	x
6754	414739.5844	1452866.725	13774+17.29	75	RWMON	x	x
6755	414748.9615	1452716.995	13774+19.93	-75	RWMON	x	x
7892	417311.4514	1452785.039	13799+85.50	-75	RWMON	x	x
7893	417307.8256	1452934.995	13799+85.96	75	RWMON	x	x
7895	417461.5147	1452789.014	13801+35.73	-75	RWMON	x	x
7896	417457.6578	1452938.965	13801+35.73	75	RWMON	x	x
7981	422585.0838	1452920.798	13852+61.00	-75	RWMON	x	x
7983	422734.7932	1452924.886	13854+10.53	-75	RWMON	x	x
7985	425292.4375	1452998.728	13879+69.24	-75	RWMON	x	x
7553	425287.3871	1453173.655	13879+69.24	100	RWMON	x	x
7987	427849.8443	1453072.563	13905+27.71	-75	RWMON	x	x
7988	427765.5759	1453298.644	13904+50.00	153.42	RWMON	x	x
7990	427999.902	1453076.779	13906+77.94	-75	RWMON	x	x
7991	430558.6875	1453146.675	13932+37.68	-75	RWMON	x	x
7993	430554.5916	1453296.619	13932+37.68	75	RWMON	x	x
7994	433117.4821	1453216.571	13957+97.43	-75	RWMON	x	x
7997	435833.4294	1453235.796	13985+12.89	-130	RWMON	x	x
6720	438396.4044	1453360.882	14010+78.32	-75	RWMON		x

Iron Pin Reference Monument (ND 1804)							
Point	Northing	Easting	Station	Offset	Feature	Include Iron Pin	Include R/W Marker
6721	438392.3796	1453510.829	14010+78.40	75	RWMON		x
6723	438542.3055	1453514.909	14012+28.36	75	RWMON	x	x
6726	441107.5544	1453584.401	14037+94.55	75	RWMON	x	x
6730	446399.3223	1453582.123	14090+84.20	-75	RWMON	x	
6731	446395.0093	1453732.061	14090+84.20	75	RWMON	x	x
					Total=	87	88

Alignment Monument (ND 1804)						
Point	Northing	Easting	Station	Offset	Feature	Include Iron Pin
7001	371228.0459	1479244.547	13128+14.89	0	RWMON	x
7587	372310.7391	1478710.606	13140+22.08	0	RW	x
7682	372710.482	1478513.469	13144+59.96	-51.31	RWMON	x
7683	373156.192	1478513.615	13148+97.83	0	RWMON	x
7687	373886.7105	1478513.855	13156+28.35	0	RWMON	x
7689	375680.4204	1478514.443	13174+22.06	0	RWMON	x
7691	376172.843	1478514.604	13178+96.36	82.262	RWMON	
7692	376500.9701	1478259.004	13182+94.24	2.0405	RWMON	x
7694	376535.9406	1478231.763	13183+38.51	0.361	RWMON	x
7697	376561.3139	1478211.998	13183+70.66	0	RWMON	x
7699	376907.5328	1477942.305	13188+09.53	0	RWMON	x
7700	377198.319	1477715.792	13191+70.30	46.656	RWMON	x
7702	377343.6827	1477377.068	13195+31.08	0	RWMON	x
7704	377818.1907	1476271.376	13207+34.28	0	RWMON	x
7706	377991.0937	1475868.48	13211+59.78	-65.46	RWMON	x
6931	378260.8719	1475239.847	13216+86.44	-387.4	RWMON	x
7588	379368.3572	1475422.866	13226+38.60	0	RW	x
7579	379802.7467	1475494.429	13230+79.16	0	RW	x
7712	380709.4197	1475644.485	13239+97.85	0	RWMON	x
7578	380961.0359	1475686.066	13242+52.88	0	RW	x
6740	381740.3	1475814.844	13250+01.82	156.86	RWMON	x
7716	381933.7806	1475676.595	13252+13.36	78.173	RWMON	x
7718	382382.9367	1475355.655	13257+50.76	0	RWMON	x
7581	382446.4312	1475310.286	13258+28.79	0	RWMON	x
7721	383534.8725	1474532.552	13271+66.54	0	RWMON	x
6741	384325.6813	1473967.489	13280+20.55	298.57	RWMON	x
7724	384110.347	1473094.332	13288+01.99	1.8397	RWMON	x
7725	384092.957	1473023.818	13288+74.55	0	RWMON	x
7726	383922.0137	1472330.662	13295+88.48	0	RWMON	x
7727	383844.4961	1472016.412	13299+06.81	36.089	RWMON	x
7728	383639.49	1471766.046	13302+25.06	0	RWMON	x
7615	382585.2452	1470478.541	13318+89.12	0	RW	x
5513	382531.1746	1470412.506	13319+74.44	1.271	MONC	x
7731	382341.0803	1470180.352	13322+72.22	-25.81	RWMON	x
7629	382184.3959	1469828.24	13326+55.32	0	RW	x
7634	381681.0507	1468697.087	13338+93.41	0	RW	x
7736	381509.7823	1468312.2	13343+11.68	-30.81	RWMON	x
7633	381456.5589	1467894.303	13347+29.96	0	RW	x
7742	381437.5212	1467744.824	13348+80.64	0	RWMON	x
7748	381100.2307	1465096.504	13375+50.36	0	RWMON	x
7751	381053.1651	1464726.958	13379+22.89	0	RWMON	x

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Alignment Monument

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	11	75

Alignment Monument (ND 1804)						
Point	Northing	Easting	Station	Offset	Feature	Include Iron Pin
6746	380964.7213	1464032.595	13386+19.41	42.608	RWMON	x
7755	381046.0677	1463337.286	13393+16.01	0	RWMON	x
7757	381115.0626	1462747.552	13399+09.76	0	RWMON	x
7763	381148.8552	1462458.732	13401+98.34	-22.01	RWMON	x
7766	382113.512	1461284.05	13417+51.99	0	RWMON	x
6978	382865.9973	1460882.822	13426+04.76	0	RWMON	x
7769	383935.439	1460312.591	13438+16.73	0	RWMON	x
7770	384181.1689	1460181.567	13440+94.99	-6.764	RWMON	x
7772	384438.4469	1460074.991	13443+73.25	0	RWMON	x
7775	384826.0485	1459914.428	13447+92.79	0	RWMON	x
7778	384919.7122	1459875.629	13448+94.17	0	RWMON	x
7780	385323.3949	1459708.349	13453+27.81	33.081	RWMON	x
7782	385524.3568	1459540.68	13455+86.41	5.3342	RWMON	x
7785	385658.8752	1459428.446	13457+61.38	0	RWMON	x
7791	387421.1085	1457957.863	13480+56.62	0	RWMON	x
7792	387841.0186	1457607.448	13485+89.28	-76.76	RWMON	x
7794	388217.3657	1457555.3	13489+55.39	-7.284	RWMON	x
7797	388382.7569	1457532.383	13491+21.94	0	RWMON	x
7803	389215.2177	1457417.033	13499+62.35	0	RWMON	x
7801	389379.0285	1457394.335	13501+27.32	7.1458	RWMON	x
6747	390164.792	1457285.456	13508+50.84	227.07	RWMON	x
7806	390626.7409	1456445.452	13517+39.33	0	RWMON	x
7809	390904.7748	1455939.877	13523+16.31	0	RWMON	x
7812	391041.4098	1455691.421	13525+99.86	0	RWMON	x
7814	391208.6981	1455387.263	13529+45.31	-20.94	RWMON	x
7816	391443.6582	1455131.944	13532+90.60	0	RWMON	x
7819	391736.2943	1454813.951	13537+22.75	0	RWMON	x
7822	392700.3226	1453766.392	13551+46.39	0	RWMON	x
7824	393168.918	1453257.194	13558+10.29	-121.5	RWMON	x
7826	393627.0073	1453196.494	13562+45.39	-13.79	RWMON	x
7829	393855.0239	1453166.28	13564+74.30	0	RWMON	x
7833	396281.2573	1452844.922	13589+21.73	0	RWMON	x
7837	398931.8176	1452493.85	13615+95.43	0	RWMON	x
7839	399296.7081	1452445.52	13619+63.51	0	RWMON	x
7841	399746.2312	1452385.98	13624+16.02	-17.92	RWMON	x
7843	400199.5238	1452397.889	13628+68.52	0	RWMON	x
7847	401573.376	1452433.985	13642+42.85	0	RWMON	x
7852	404209.7993	1452505.652	13668+80.25	0	RWMON	x
7855	406852.635	1452577.494	13695+24.06	0	RWMON	x
7859	409490.2495	1452648.123	13721+62.62	0	RWMON	x
7860	412104.145	1452718.116	13747+77.45	0	RWMON	x
7866	414542.2768	1452784.571	13772+16.49	0	RWMON	x
7868	414744.3844	1452790.08	13774+18.65	-1.784	RWMON	x
7870	414953.5151	1452803.177	13776+28.17	0	RWMON	x
7879	415342.0096	1452827.753	13780+17.44	0	RWMON	x
7881	415751.3576	1452853.648	13784+27.43	7.3383	RWMON	x
7883	416161.5094	1452850.211	13788+37.42	0	RWMON	x
7886	416560.3602	1452846.868	13792+36.29	0	RWMON	x
7888	416764.5634	1452845.157	13794+40.48	-1.819	RWMON	x
7890	416968.6979	1452850.722	13796+44.67	0	RWMON	x
7894	417384.611	1452862.061	13800+60.73	0	RWMON	x
7898	420021.139	1452929.876	13826+98.13	0	RWMON	x
7982	422657.66	1452997.69	13853+35.53	0	RWMON	x

Alignment Monument (ND 1804)						
Point	Northing	Easting	Station	Offset	Feature	Include Iron Pin
7986	425290.273	1453073.697	13879+69.24	0	RWMON	x
7989	427922.882	1453149.703	13906+02.94	0	RWMON	x
7992	430556.6396	1453221.647	13932+37.68	0	RWMON	x
7995	433190.403	1453293.591	13958+72.43	0	RWMON	x
7998	435829.8769	1453365.748	13985+12.89	0	RWMON	x
6722	438469.364	1453437.905	14011+53.36	0	RWMON	x
6725	441109.5854	1453509.428	14037+94.55	0	RWMON	x
6753	443756.578	1453581.135	14064+42.52	0	RWMON	x
6732	446397.1658	1453657.092	14090+84.20	0	RWMON	x
6734	447133.2703	1453678.266	14098+20.60	0	RWMON	x
6736	449037.744	1453733.049	14113+18.37	787.78	RWMON	x
6738	449097.3369	1451828.72	14128+16.13	0	RWMON	x
					Total=	105

Removals (ND 1804)					
Point	Northing	Easting	Station	Offset	Feature
5128	433288.28	1453371.096	13959+72.39	74.801	RWMRB
5129	433138.378	1453367.25	13958+22.43	75.052	RWMRB
6145	384010.649	1473001.592	13289+15.84	74.592	RWSND

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Alignment Monument

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	20	1

Curve 1804-1 - 55mph

P.C. Station	13140+19.1
P.I. Station	13144+65.8
Delta	26°15' 49.44"
Degree	2°59' 31.01"
Tangent	446.7574
Length	877.8142
Radius	1,915.00
P.T. Station	13148+96.9

Station	Left Slope	Right Slope
13138+71.1	-1.5%	-1.5%
13139+17.1	0.0%	-1.5%
13139+63.1	1.5%	-1.5%
13140+19.1	3.3%	-3.3%
13140+70.1	5.0%	-5.0%
13148+45.9	5.0%	-5.0%
13148+96.9	3.3%	-3.3%
13149+34.9	2.1%	-2.1%
13149+98.9	0.0%	-2.1%
13150+62.9	-2.1%	-2.1%
$e_{Existing}$ = 4.8%		$e_{Proposed}$ = 5.0%

Runoff Length = 153'
Runout Length for 1.5% = 46'
Runout Length for 2.1% = 64'

Curve 1804-2 - 65mph

P.C. Station	13174+26.0
P.I. Station	13179+16.1
Delta	38° 02' 12.16"
Degree	4°01' 45.36"
Tangent	490.1401
Length	944.0106
Radius	1,421.99
P.T. Station	13183+70.0

Station	Left Slope	Right Slope
13172+22.0	-2.1%	-2.1%
13172+92.0	-2.1%	0.0%
13173+62.0	-2.1%	2.1%
13174+26.0	-4.0%	4.0%
13174+93.0	-6.0%	6.0%
13183+03.0	-6.0%	6.0%
13183+70.0	-4.0%	4.0%
13184+34.0	-2.1%	2.1%
13185+04.0	-2.1%	0.0%
13185+74.0	-2.1%	-2.1%
		$e_{Proposed}$ = 6.0%

Runoff Length = 201'
Runout Length = 70'

Curve 1804-3 - 65mph

P.C. Station	13188+12.4
P.I. Station	13191+77.7
Delta	28° 37' 46.43"
Degree	4° 00' 09.70"
Tangent	365.2602
Length	715.2571
Radius	1,431.43
P.T. Station	13195+27.7

Station	Left Slope	Right Slope
13186+08.4	-2.1%	-2.1%
13186+78.4	-2.1%	0.0%
13187+48.4	-2.1%	2.1%
13188+12.4	-4.0%	4.0%
13188+79.4	-6.0%	6.0%
13194+60.7	-6.0%	6.0%
13195+27.7	-4.0%	4.0%
13195+91.7	-2.1%	2.1%
13196+61.7	-2.1%	0.0%
13197+31.7	-2.1%	-2.1%
		$e_{Proposed}$ = 6.0%

Runoff Length = 201'
Runout Length = 70'

Curve 1804-4 - 65mph

P.C. Station	13207+37.5
P.I. Station	13218+54.5
Delta	75° 55' 59.41"
Degree	4° 00' 09.70"
Tangent	1,117.01
Length	1,897.05
Radius	1,431.43
P.T. Station	13226+34.6

Station	Left Slope	Right Slope
13205+33.5	-2.1%	-2.1%
13206+03.5	0.0%	-2.1%
13206+73.5	2.1%	-2.1%
13207+37.5	4.0%	-4.0%
13208+04.5	6.0%	-6.0%
13225+67.6	6.0%	-6.0%
13226+34.6	4.0%	-4.0%
13226+98.6	2.1%	-2.1%
13227+68.6	0.0%	-2.1%
13228+38.6	-2.1%	-2.1%
$e_{Existing}$ = 6.0%		$e_{Proposed}$ = 6.0%

Runoff Length = 201'
Runout Length = 70'

Curve 1804-5 - 65mph

P.C. Station	13242+56.0
P.I. Station	13250+43.1
Delta	44°47' 26.57"
Degree	2° 59' 58.75"
Tangent	787.0971
Length	1,493.20
Radius	1,910.08
P.T. Station	13257+49.2

Station	Left Slope	Right Slope
13240+52.0	-2.1%	-2.1%
13241+22.0	-2.1%	0.0%
13241+92.0	-2.1%	2.1%
13242+56.0	-4.0%	4.0%
13243+23.0	-6.0%	6.0%
13256+82.2	-6.0%	6.0%
13257+49.2	-4.0%	4.0%
13258+13.2	-2.1%	2.1%
13258+83.2	-2.1%	0.0%
13259+53.2	-2.1%	-2.1%
$e_{Existing}$ = 6.5%		$e_{Proposed}$ = 6.0%

Runoff Length = 201'
Runout Length = 70'

Curve 1804-6 - 65mph

P.C. Station	13271+69.6
P.I. Station	13281+35.0
Delta	68°20' 0.53"
Degree	4°01' 41.69"
Tangent	965.4215
Length	1,696.36
Radius	1,422.35
P.T. Station	13288+66.0

Station	Left Slope	Right Slope
13269+65.6	-2.1%	-2.1%
13270+35.6	-2.1%	0.0%
13271+05.6	-2.1%	2.1%
13271+69.6	-4.0%	4.0%
13272+36.6	-6.0%	6.0%
13287+99.0	-6.0%	6.0%
13288+66.0	-4.0%	4.0%
13289+30.0	-2.1%	2.1%
13290+00.0	-2.1%	0.0%
13290+70.0	-2.1%	-2.1%
$e_{Existing}$ = 6.6%		$e_{Proposed}$ = 6.0%

Runoff Length = 201'
Runout Length = 70'

Curve 1804-7 - 65mph

P.C. Station	13295+87.1
P.I. Station	13299+10.9
Delta	25° 28' 02.32"
Degree	3° 59' 57.03"
Tangent	323.7551
Length	636.8141
Radius	1,432.69
P.T. Station	13302+23.9

Station	Left Slope	Right Slope
13293+83.1	-2.1%	-2.1%
13294+53.1	-2.1%	0.0%
13295+23.1	-2.1%	2.1%
13295+87.1	-4.0%	4.0%
13296+54.1	-6.0%	6.0%
13301+56.9	-6.0%	6.0%
13302+23.9	-4.0%	4.0%
13303+07.9	-1.5%	1.5%
13303+57.9	-1.5%	0.0%
13304+07.9	-1.5%	-1.5%
$e_{Existing}$ = 6.1%		$e_{Proposed}$ = 6.0%

Runoff Length = 201'
Runout Length 1.5% = 50'
Runout Length 2.1% = 70'

Curve 1804-8 - 65mph

P.C. Station	13318+88.0
P.I. Station	13322+73.4
Delta	15°19' 23.67"
Degree	1°59' 59.65"
Tangent	385.3998
Length	766.1998
Radius	2,864.93
P.T. Station	13326+54.2

Station	Left Slope	Right Slope
13317+06.0	-2.1%	-2.1%
13317+76.0	0.0%	-2.1%
13318+47.0	2.1%	-2.1%
13318+88.0	3.3%	-3.3%
13319+44.0	5.0%	-5.0%
13325+98.2	5.0%	-5.0%
13326+54.2	3.3%	-3.3%
13327+15.2	1.5%	-1.5%
13327+66.2	0.0%	-1.5%
13328+16.2	-1.5%	-1.5%
		$e_{Proposed}$ = 5.0%

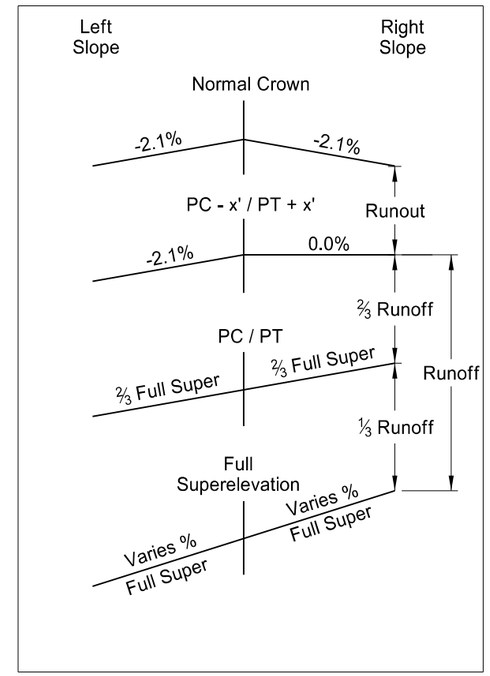
Runoff Length = 168'
Runout Length 1.5% = 50'
Runout Length 2.1% = 70'

Curve 1804-9 - 65mph

P.C. Station	13338+92.3
P.I. Station	13343+13.6
Delta	16° 43' 48.65"
Degree	1° 59' 59.65"
Tangent	421.2725
Length	836.5501
Radius	2,864.93
P.T. Station	13347+28.8

Station	Left Slope	Right Slope
13337+30.3	-1.5%	-1.5%
13337+80.3	0.0%	-1.5%
13338+31.3	1.5%	-1.5%
13338+92.3	3.3%	-3.3%
13339+48.3	5.0%	-5.0%
13346+72.8	5.0%	-5.0%
13347+28.8	3.3%	-3.3%
13347+89.8	1.5%	-1.5%
13348+40.8	0.0%	-1.5%
13348+90.8	-1.5%	-1.5%
$e_{Existing}$ = 3.85%		$e_{Proposed}$ = 5.0%

Runoff Length = 168'
Runout Length = 50'



NOTE: Calculations are based on AASHTO method five, a mainline design speeds of 55 and 65mph, and a maximum superelevation of 6%.

Mainline curve stations given above are based on the NB Alignment

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Superelevation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	20	2

Curve 1804-10 - 65mph

P.C. Station	13379+21.8
P.I. Station	13386+21.8
Delta	13°55' 51.65"
Degree	0°59' 59.95"
Tangent	700.0114
Length	1,393.12
Radius	5,729.65
P.T. Station	13393+14.9

Station	Left Slope	Right Slope
13377+75.4	-1.5%	-1.5%
13378+38.4	0.0%	-1.5%
13379+00.4	1.5%	-1.5%
13379+21.8	2.0%	-2.0%
13379+63.4	3.0%	-3.0%
13392+73.2	3.0%	-3.0%
13393+14.9	2.0%	-2.0%
13393+36.2	1.5%	-1.5%
13393+98.2	0.0%	-1.5%
13394+61.2	-1.5%	-1.5%
$e_{Existing}$ = 3.6%		$e_{Proposed}$ = 3.0%
Runoff Length = 125'		
Runout Length = 63'		

Curve 1804-11 - 65mph

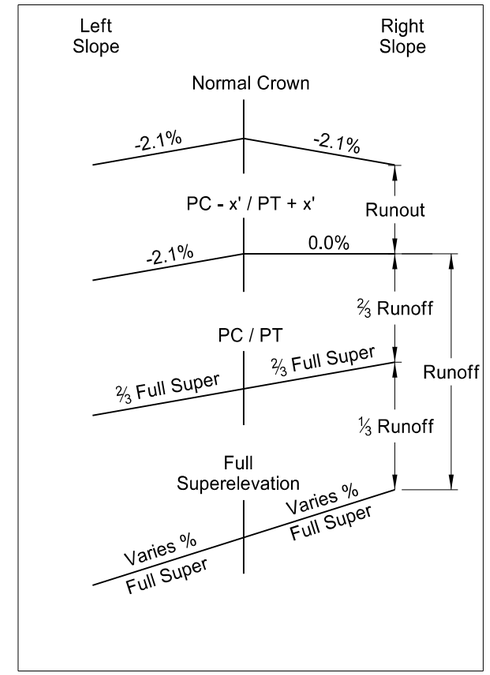
P.C. Station	13399+08.6
P.I. Station	13409+08.5
Delta	55° 15' 37.46"
Degree	2° 59' 58.75"
Tangent	999.8481
Length	1,842.23
Radius	1,910.08
P.T. Station	13417+50.9

Station	Left Slope	Right Slope
13396+79.0	-1.5%	-1.5%
13397+42.0	0.0%	-1.5%
13398+04.0	1.5%	-1.5%
13399+08.6	4.0%	-4.0%
13399+92.0	6.0%	-6.0%
13416+67.5	6.0%	-6.0%
13417+50.9	4.0%	-4.0%
13418+55.5	2.1%	-2.1%
13419+17.5	0.0%	-2.1%
13420+05.5	-2.1%	-2.1%
$e_{Existing}$ = 5.7%		$e_{Proposed}$ = 6.0%
Runoff Length = 250'		
Runout Length 1.5% = 63'		
Runout Length 2.1% = 88'		

Curve 1804-12 - 65mph

P.C. Station	13438+15.6
P.I. Station	13440+94.1
Delta	5°33' 54.46"
Degree	0°59' 59.95"
Tangent	278.4789
Length	556.5198
Radius	5,729.65
P.T. Station	13443+72.1

Station	Left Slope	Right Slope
13436+69.3	-1.5%	-1.5%
13437+32.3	0.0%	-1.5%
13437+94.3	1.5%	-1.5%
13438+15.6	2.0%	-2.0%
13438+57.3	3.0%	-3.0%
13443+30.5	3.0%	-3.0%
13443+68.5	2.1%	-2.1%
13443+72.1	2.0%	-2.1%
13444+55.5	0.0%	-2.1%
13445+43.5	-2.1%	-2.1%
		$e_{Proposed}$ = 3.0%
Runoff Length = 125'		
Runout Length 1.5% = 63'		
Runout Length 2.1% = 88'		



Curve 1804-13 - 65mph

P.C. Station	13448+93.1
P.I. Station	13453+30.0
Delta	17° 20' 36.28"
Degree	1°59' 59.65"
Tangent	436.9481
Length	867.2132
Radius	2,864.93
P.T. Station	13457+60.3

Station	Left Slope	Right Slope
13447+11.1	-2.1%	-2.1%
13447+81.1	-2.1%	0.0%
13448+52.1	-2.1%	2.1%
13448+93.1	-3.3%	3.3%
13449+49.1	-5.0%	5.0%
13457+04.3	-5.0%	5.0%
13457+60.3	-3.3%	3.3%
13458+01.3	-2.1%	2.1%
13458+72.3	-2.1%	0.0%
13459+42.3	-2.1%	-2.1%
		$e_{Proposed}$ = 5.0%
Runoff Length = 168'		
Runout Length = 70'		

Curve 1804-14 - 65mph

P.C. Station	13478+15.0
P.I. Station	13486+00.1
Delta	31° 52' 06.14"
Degree	2° 05' 00.54"
Tangent	785.1324
Length	1,529.57
Radius	2,750.00
P.T. Station	13493+44.6

Station	Left Slope	Right Slope
13476+31.0	-1.5%	-1.5%
13476+81.0	0.0%	-1.5%
13477+31.0	1.5%	-1.5%
13478+15.0	4.0%	-4.0%
13478+82.0	6.0%	-6.0%
13492+77.6	6.0%	-6.0%
13493+44.6	4.0%	-4.0%
13494+28.6	1.5%	-1.5%
13494+78.6	0.0%	-1.5%
13495+28.6	-1.5%	-1.5%
$e_{Existing}$ = 4.4%		$e_{Proposed}$ = 6.0%
Runoff Length = 201'		
Runout Length = 50'		

Curve 1804-15 - 65mph

P.C. Station	13500+33.9
P.I. Station	13503+84.8
Delta	25° 07' 37.62"
Degree	3°38' 20.92"
Tangent	350.8756
Length	690.47
Radius	1,574.43
P.T. Station	13507+24.4

Station	Left Slope	Right Slope
13498+49.9	-1.5%	-1.5%
13498+99.9	-1.5%	0.0%
13499+49.9	-1.5%	1.5%
13500+33.9	-4.0%	4.0%
13501+00.9	-6.0%	6.0%
13506+57.4	-6.0%	6.0%
13508+08.4	-6.0%	6.0%
13508+58.4	-6.0%	6.0%
13509+08.4	-6.0%	6.0%
$e_{Existing}$ = 4.6%		$e_{Proposed}$ = 6.0%
Runoff Length = 201'		
Runout Length = 50'		

Curve 1804-16 - 65mph

P.C. Station	13507+73.1
P.I. Station	13509+36.8
Delta	9° 47' 22.92"
Degree	2°59' 52.21"
Tangent	163.6779
Length	326.56
Radius	1,911.24
P.T. Station	13510+99.7

Station	Left Slope	Right Slope
13505+89.1	-6.0%	6.0%
13506+39.1	-6.0%	6.0%
13506+89.1	-6.0%	6.0%
13508+40.1	-6.0%	6.0%
13510+32.7	-6.0%	6.0%
13511+83.7	-6.0%	6.0%
13512+33.7	-6.0%	6.0%
13512+83.7	-6.0%	6.0%
$e_{Existing}$ = 4.6%		$e_{Proposed}$ = 6.0%

Curve 1804-17 - 65mph

P.C. Station	13510+99.7
P.I. Station	13514+20.9
Delta	18° 21' 43.45"
Degree	2°52' 57.20"
Tangent	321.2576
Length	637.01
Radius	1,987.67
P.T. Station	13517+36.7

Station	Left Slope	Right Slope
13509+15.7	-6.0%	6.0%
13509+65.7	-6.0%	6.0%
13510+15.7	-6.0%	6.0%
13511+66.7	-6.0%	6.0%
13516+69.7	-6.0%	6.0%
13518+20.7	-4.0%	4.0%
13518+20.7	-1.5%	1.5%
13518+70.7	-1.5%	0.0%
13519+20.7	-1.5%	-1.5%
$e_{Existing}$ = 4.6%		$e_{Proposed}$ = 6.0%
Runoff Length = 201'		
Runout Length = 50'		

Curve 1804-18 - 65mph

P.C. Station	13525+91.7
P.I. Station	13529+37.2
Delta	13° 45' 20.77"
Degree	1°59' 59.65"
Tangent	345.5727
Length	687.8223
Radius	2,864.93
P.T. Station	13532+79.5

Station	Left Slope	Right Slope
13524+29.7	-1.5%	-1.5%
13524+79.7	0.0%	-1.5%
13525+30.7	1.5%	-1.5%
13525+91.7	3.3%	-3.3%
13526+47.7	5.0%	-5.0%
13532+23.5	5.0%	-5.0%
13532+79.5	3.3%	-3.3%
13533+40.5	1.5%	-1.5%
13533+91.5	0.0%	-1.5%
13534+41.5	-1.5%	-1.5%
$e_{Existing}$ = 4.3%		$e_{Proposed}$ = 5.0%
Runoff Length = 168'		
Runout Length = 50'		

NOTE: Calculations are based on AASHTO method five, a mainline design speeds of 65mph, and a maximum superelevation of 6%.

Mainline curve stations given above are based on the NB Alignment

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Superelevation

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	20	3

Curve 1804-19 - 65mph

P.C. Station	13551+35.3
P.I. Station	13558+27.3
Delta	39°49' 58.20"
Degree	2°59' 58.75"
Tangent	692.0584
Length	1327.9145
Radius	1910.08
P.T. Station	13564+63.2

Station	Left Slope	Right Slope
13549+51.3	-1.5%	-1.5%
13550+01.3	0.0%	-1.5%
13550+51.3	1.5%	-1.5%
13551+35.3	4.0%	4.0%
13552+02.3	6.0%	-6.0%
13563+96.2	6.0%	-6.0%
13564+63.2	4.0%	-4.0%
13565+47.2	1.5%	-1.5%
13565+97.2	0.0%	-1.5%
13566+47.2	-1.5%	-1.5%
$e_{Existing}$ = 4.8%		$e_{Proposed}$ = 6.0%
Runoff Length = 201'		
Runout Length = 50'		

Curve 1804-20 - 65mph

P.C. Station	13619+52.4
P.I. Station	13624+05.8
Delta	9°03' 00.01"
Degree	0°59' 59.95"
Tangent	453.449
Length	905.0118
Radius	5,729.65
P.T. Station	13628+57.4

Station	Left Slope	Right Slope
13617+81.0	-2.1%	-2.1%
13618+69.0	0.0%	-2.1%
13619+52.4	2.0%	-2.1%
13619+56.0	2.1%	-2.1%
13619+94.0	3.0%	-3.0%
13628+15.7	3.0%	-3.0%
13628+57.4	2.0%	-2.0%
13628+78.7	1.5%	-1.5%
13629+40.7	0.0%	-1.5%
13630+03.7	-1.5%	-1.5%
$e_{Existing}$ = 3.0%		$e_{Proposed}$ = 3.0%
Runoff Length = 125'		
Runout Length 1.5% = 63'		
Runout Length 2.1% = 88'		

Curve 1804-21 - 65mph

P.C. Station	13772+16.5
P.I. Station	13774+22.4
Delta	2°03' 30.24"
Degree	0°29' 59.99"
Tangent	205.8627
Length	411.6811
Radius	11,459.19
P.T. Station	13776+28.2

Station	Left Slope	Right Slope
13771+19.8	-1.5%	-1.5%
13771+69.8	0.0%	-1.5%
13772+16.5	1.4%	-1.5%
13772+19.8	1.5%	-1.5%
13772+39.8	2.1%	-2.1%
13776+04.8	2.1%	-2.1%
13776+24.8	1.5%	-1.5%
13776+28.2	1.4%	-1.5%
13776+74.8	0.0%	-1.5%
13777+24.8	-1.5%	-1.5%
$e_{Existing}$ = None		$e_{Proposed}$ = 2.1%
Runoff Length = 70'		
Runout Length = 50'		

Curve 1804-22 - 65mph

P.C. Station	13780+17.4
P.I. Station	13784+27.6
Delta	4° 05' 59.64"
Degree	0°29' 59.99"
Tangent	410.1663
Length	819.9824
Radius	11,459.19
P.T. Station	13788+37.4

Station	Left Slope	Right Slope
13779+20.8	-1.5%	-1.5%
13779+70.8	-1.5%	0.0%
13780+17.4	-1.5%	1.4%
13780+20.8	-1.5%	1.5%
13780+40.8	-2.1%	2.1%
13788+14.1	-2.1%	2.1%
13788+34.1	-1.5%	1.5%
13788+37.4	-1.5%	1.4%
13788+84.1	-1.5%	0.0%
13789+34.1	-1.5%	-1.5%
$e_{Existing}$ = None		$e_{Proposed}$ = 2.1%
Runoff Length = 70'		
Runout Length = 50'		

Curve 1804-23 - 65mph

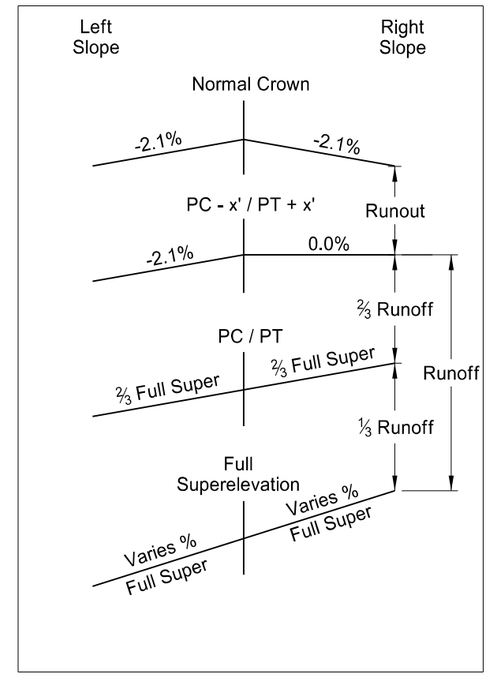
P.C. Station	13792+36.3
P.I. Station	13794+40.5
Delta	2°02' 30.77"
Degree	0°29' 59.99"
Tangent	204.2104
Length	408.3775
Radius	11,459.19
P.T. Station	13796+44.7

Station	Left Slope	Right Slope
13791+39.6	-1.5%	-1.5%
13791+89.6	0.0%	-1.5%
13792+36.3	1.4%	-1.5%
13792+39.6	1.5%	-1.5%
13792+59.6	2.1%	-2.1%
13796+21.3	2.1%	-2.1%
13796+41.3	1.5%	-1.5%
13796+44.7	1.4%	-1.5%
13796+91.3	0.0%	-1.5%
13797+41.3	-1.5%	-1.5%
$e_{Existing}$ = None		$e_{Proposed}$ = 2.1%
Runoff Length = 70'		
Runout Length = 50'		

Curve 1804-24 - 65mph

P.C. Station	14098+20.6
P.I. Station	14117+25.9
Delta	89°51' 19.00"
Degree	2°59' 58.75"
Tangent	1905.5220
Length	3000.4378
Radius	1,910.08
P.T. Station	14128+16.1

Station	Left Slope	Right Slope
14096+36.6	-1.5%	-1.5%
14096+86.6	-1.5%	0.0%
14097+36.6	-1.5%	1.5%
14098+20.6	-4.0%	4.0%
14098+87.6	-6.0%	6.0%
14127+49.1	-6.0%	6.0%
14128+16.1	-4.0%	4.0%
14129+00.1	-1.5%	1.5%
14129+50.1	-1.5%	0.0%
14130+00.1	-1.5%	-1.5%
$e_{Existing}$ = 6.0%		$e_{Proposed}$ = 6.0%
Runoff Length = 201'		
Runout Length = 50'		



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NOTE: Calculations are based on AASHTO method five, a mainline design speeds of 65mph, and a maximum superelevation of 6%.

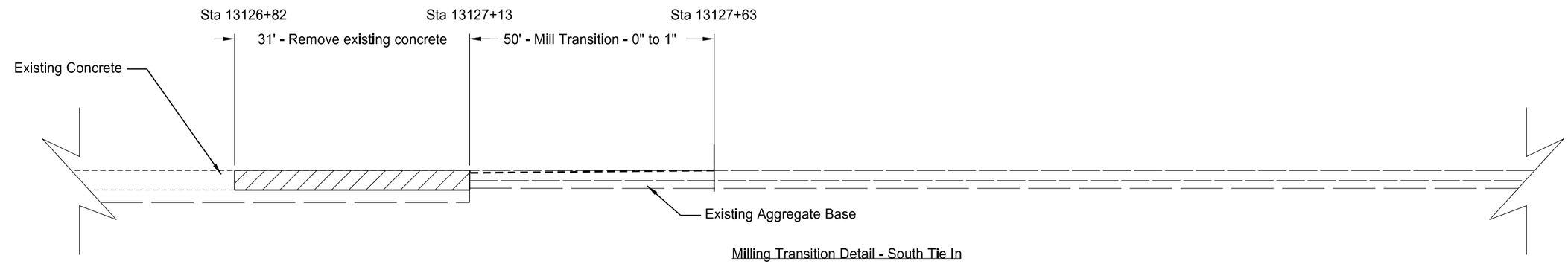
Mainline curve stations given above are based on the NB Alignment

ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Superelevation

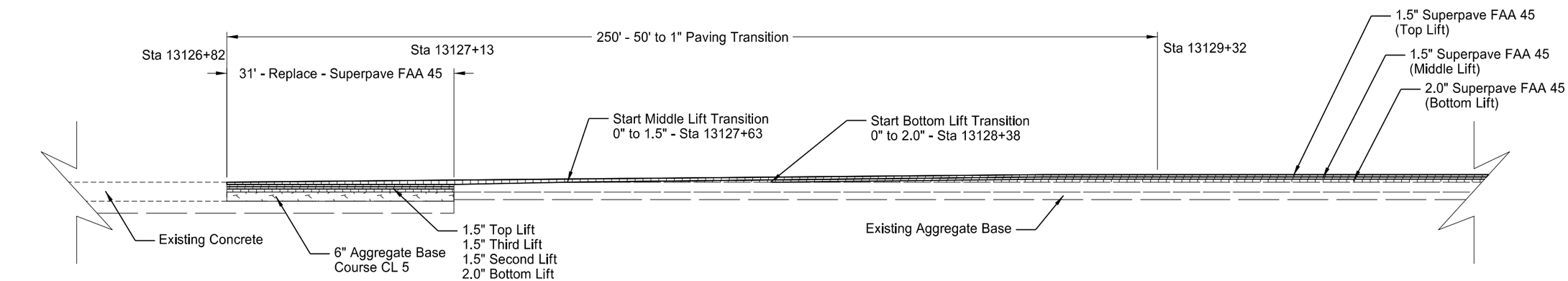
Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	20	4



*Drawing is not to scale

Milling Transition Detail - South Tie In



*Drawing is not to scale

Paving Transition Detail - South Tie In

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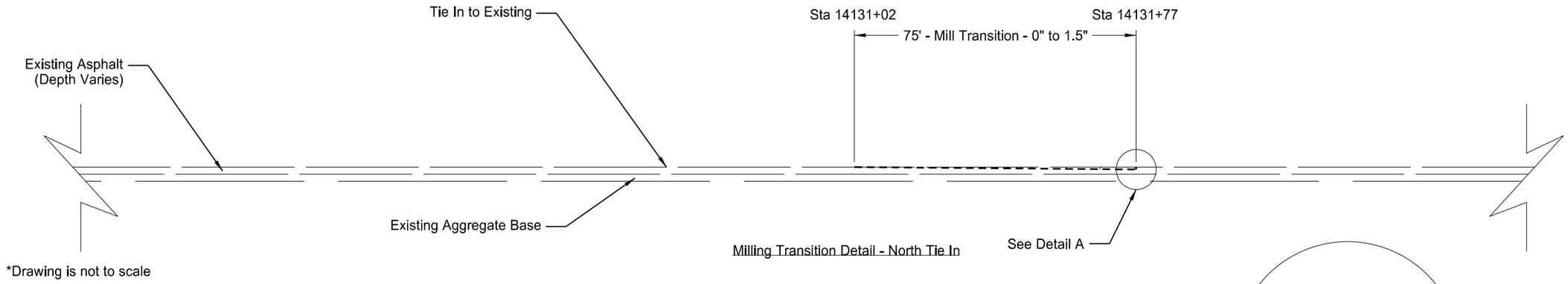
ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

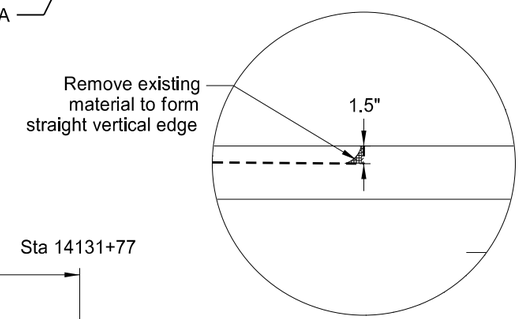
Paving Transition Details

Mountrail County, ND

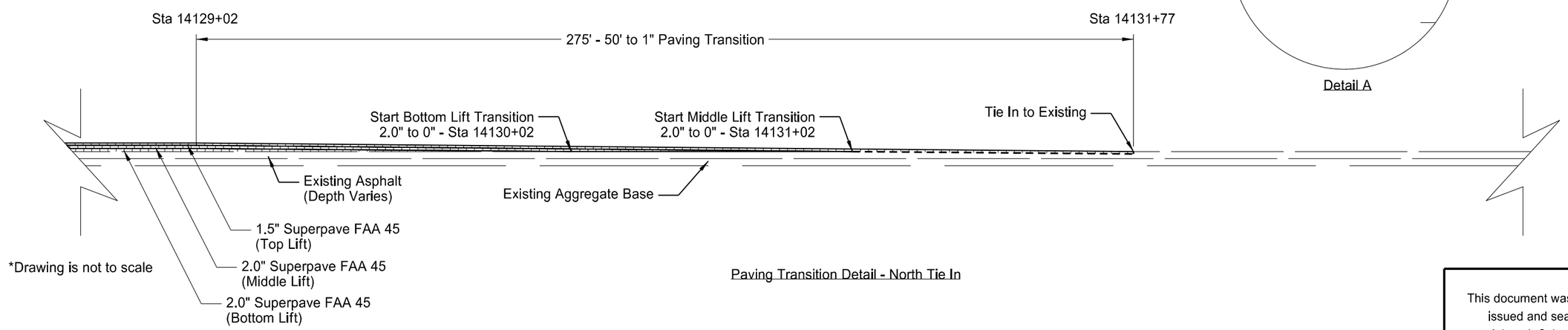
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	20	5



Milling Transition Detail - North Tie In



Detail A



Paving Transition Detail - North Tie In

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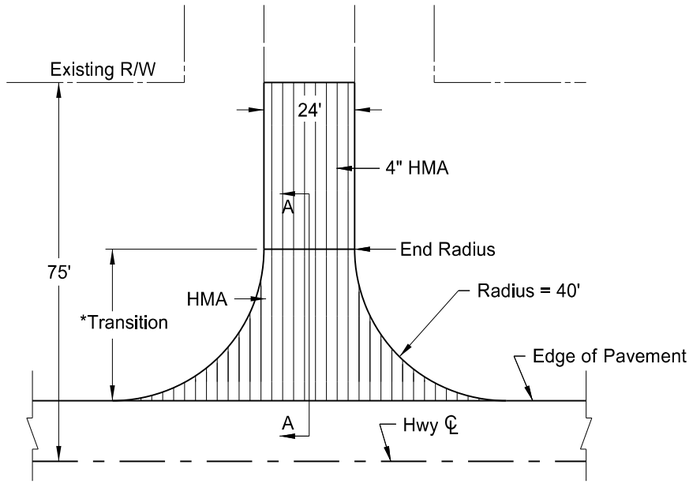
ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

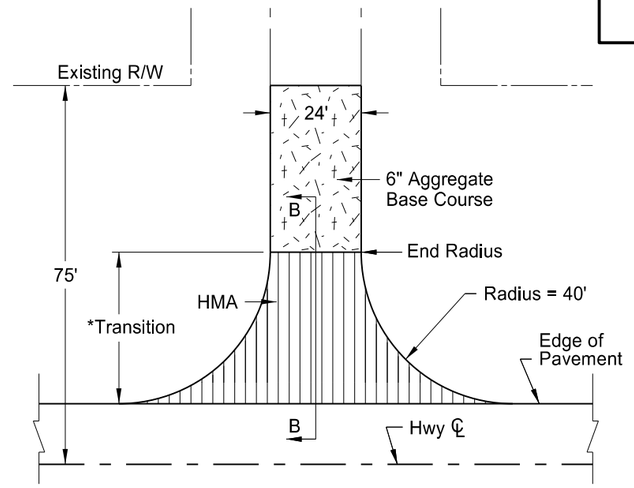
Paving Transition Details

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	20	6



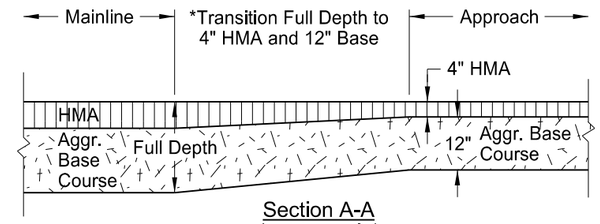
(1) Paved Section Line, County Road, or Street Approach



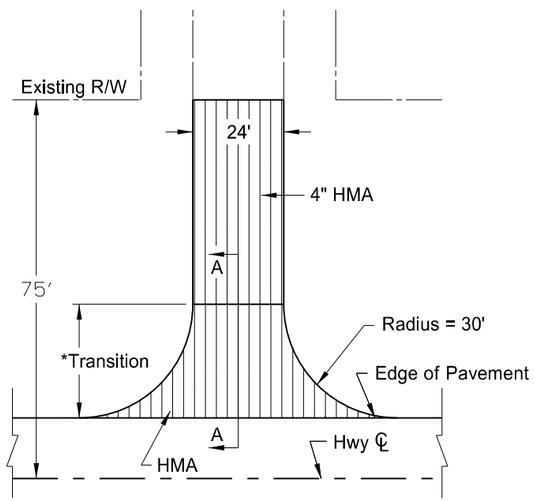
(2) Gravel Section Line, County Road, or Street Approach

Notes:

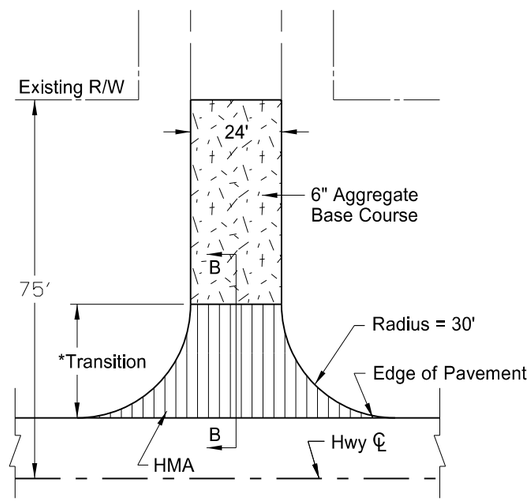
1. Actual HMA paving and aggregate base course locations may vary in the field, as approved by the Engineer.
2. Quantity totals have been included in the bid items of the "Estimate of Quantities" of the plans.



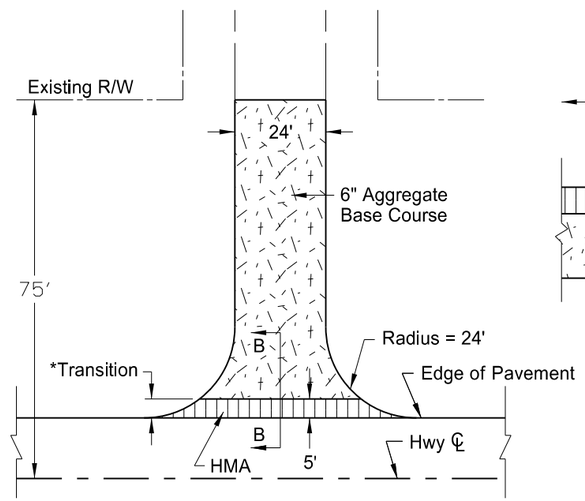
Section A-A
(not to scale)



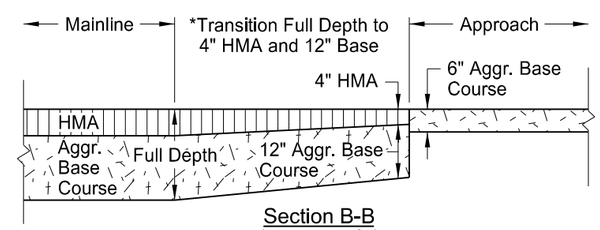
(3) Paved Private Drive Approach



(4) Gravel Private Drive Approach



(5) Field Drive Approach



Section B-B
(not to scale)

Basis of Estimate				(1)	(2)	(3)	(4)	(5)	Totals
Spec	Code	Item	Unit	Paved Section Line	Gravel Section Line	Paved Private Drive	Gravel Private Drive	Field Drive	
		Number of Locations	#	1	25	1	21	46	
302	0120	Aggregate Base Course CL 5	TON	485	7135	246	4433	5584	17883
401	0050	Tack Coat	GAL	29	314	15	207	93	658
401	0060	Prime Coat	GAL	141	1527	72	1021	427	3188
401	0160	Blotter Material CL 44	TON	4	46	2	31	13	96
430	0045	Superpave FAA 45	TON	160	1650	70	1069	424	3373
430	5828	PG 58-28 Asphalt Cement	TON	4	45	2	27	11	89
430	6428	PG 64-28 Asphalt Cement	TON	5	54	2	37	15	113

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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Approach Paving Details for
Major Rehabilitation

Mountrail County, ND

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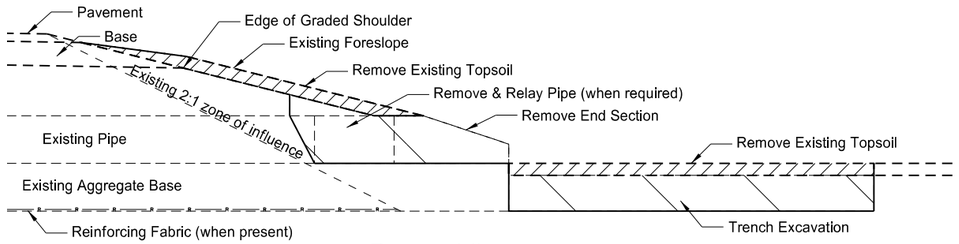
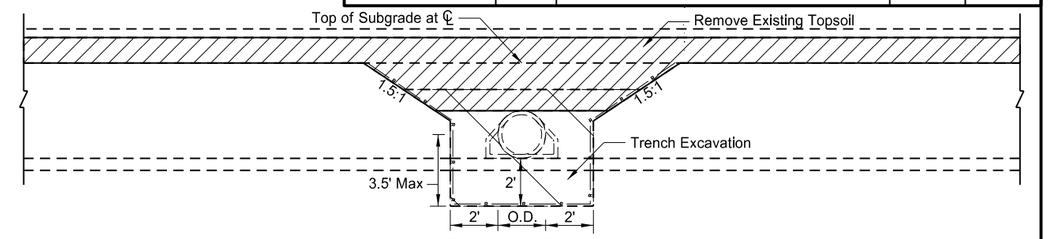
ND	SS-SOIB-7-804(050)248	20	7



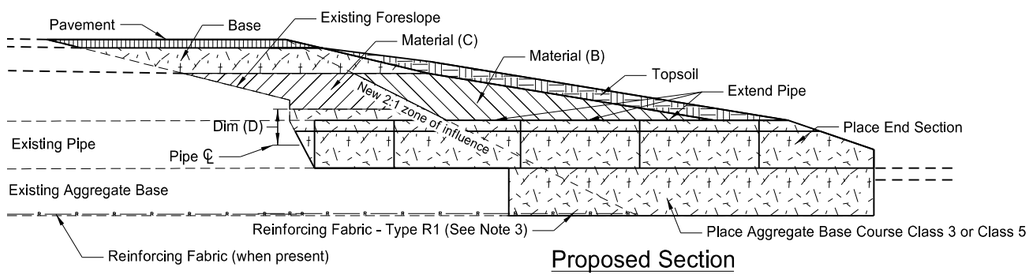
Removal Section

Cross Section View



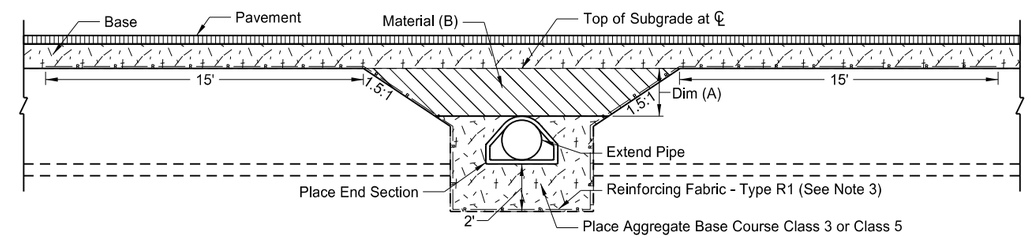
Removal Detail

Side View



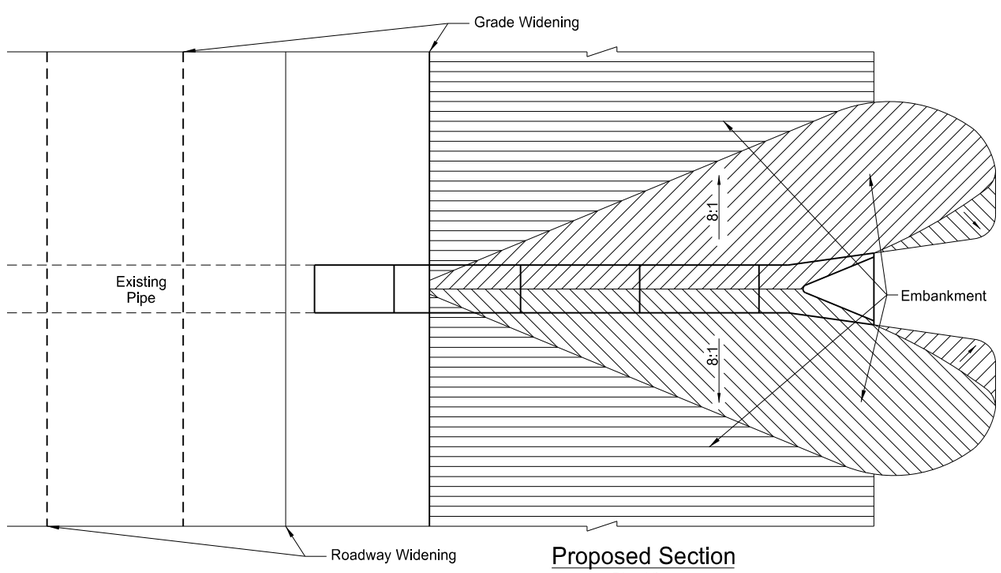
Proposed Section

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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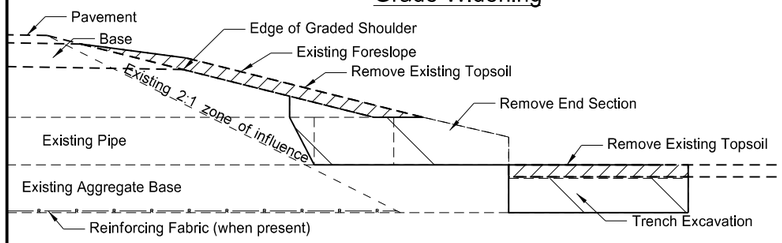
ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline Pipe Extension Detail for Adding a Lane

Mountrail County, ND

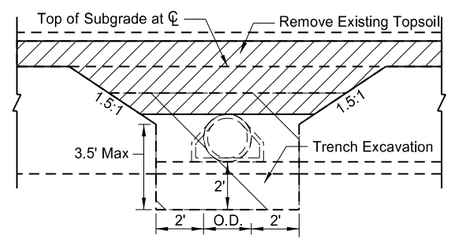
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	20	8

Grade Widening



Removal Section

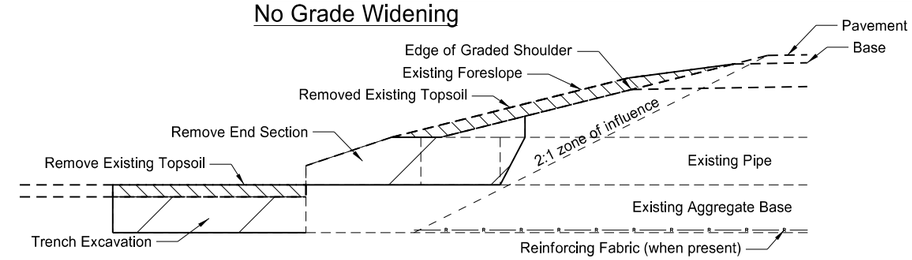
Cross Section View



Removal Detail

Side View

No Grade Widening



Removal Section

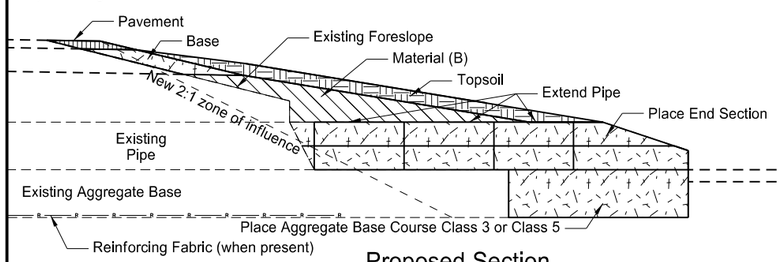
Cross Section View

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

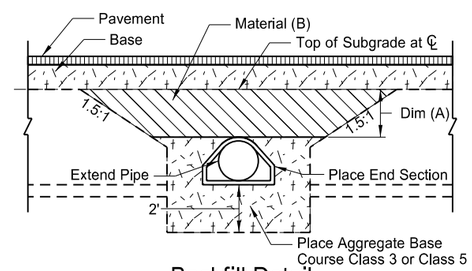
Pay Items
1) Pipe*
2) Remove & Reset End Section or Remove End Section and Place New End Section

*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



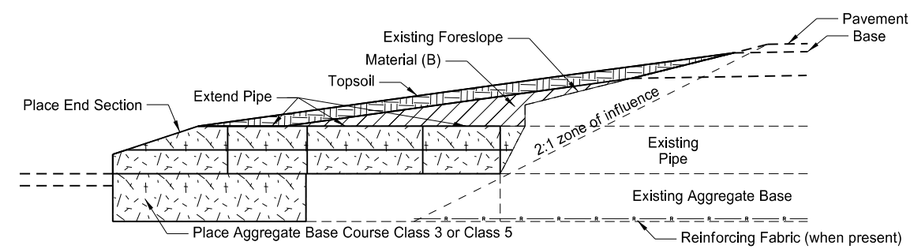
Proposed Section

Cross Section View



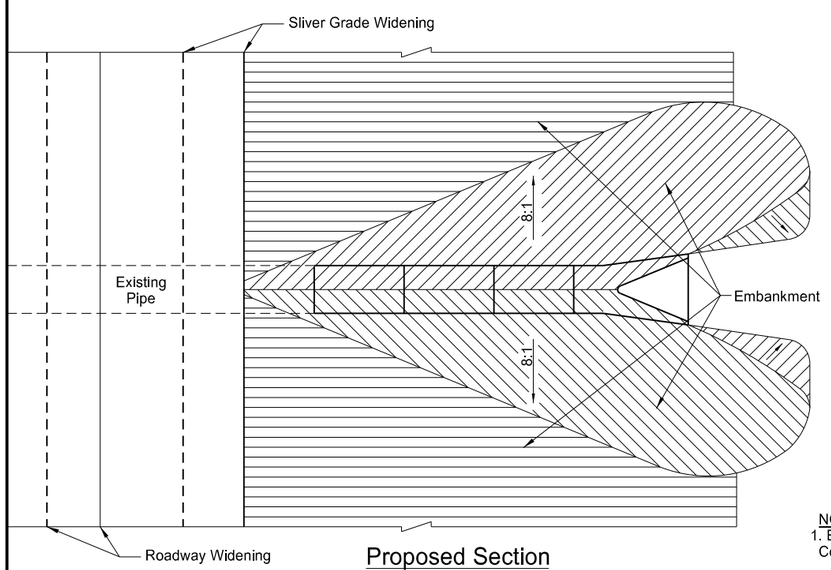
Backfill Detail

Side View (Topsoil not shown)



Proposed Section

Cross Section View

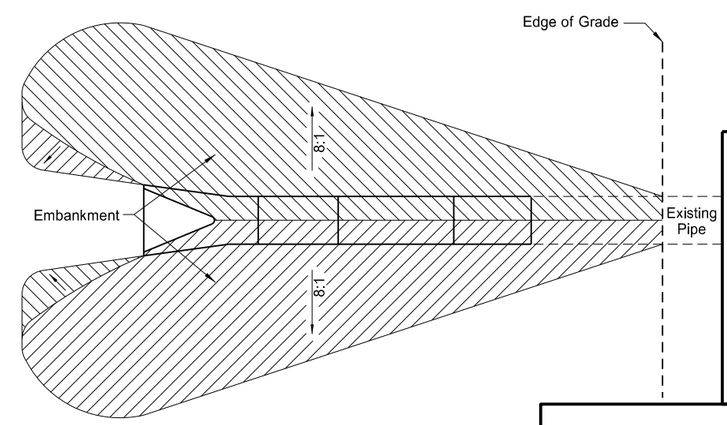


Proposed Section

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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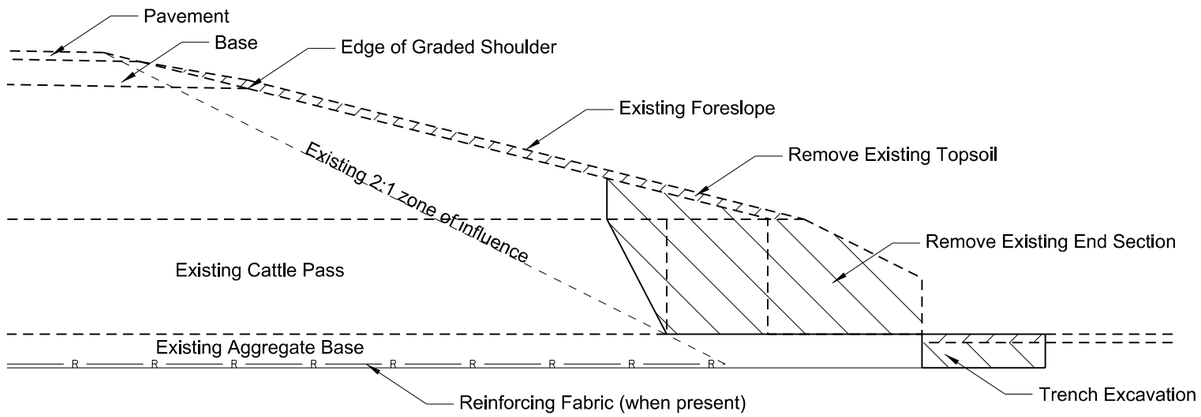
ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Mainline Pipe Extension Detail

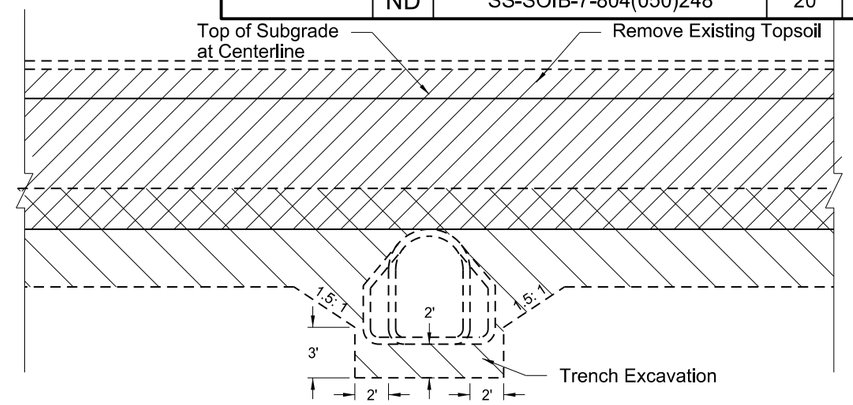
Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	20	9



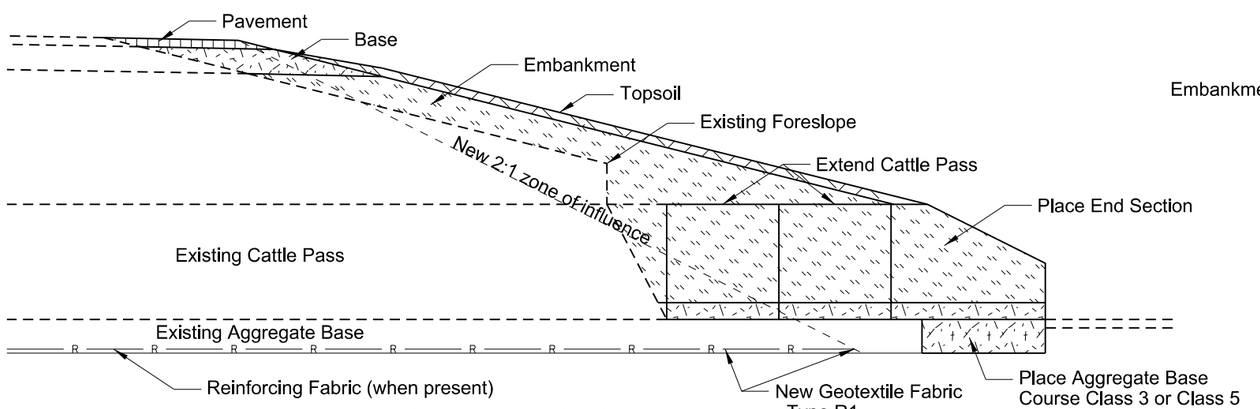
REMOVAL SECTION

Cross Section View



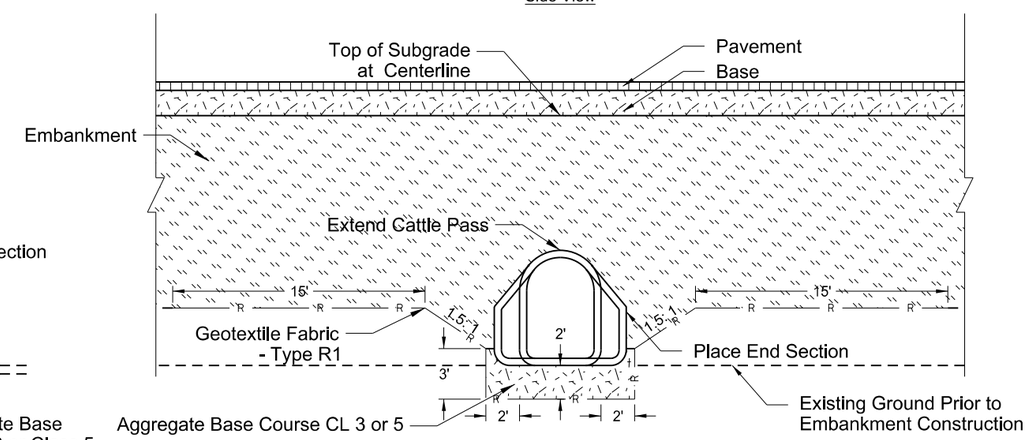
REMOVAL DETAIL

Side View



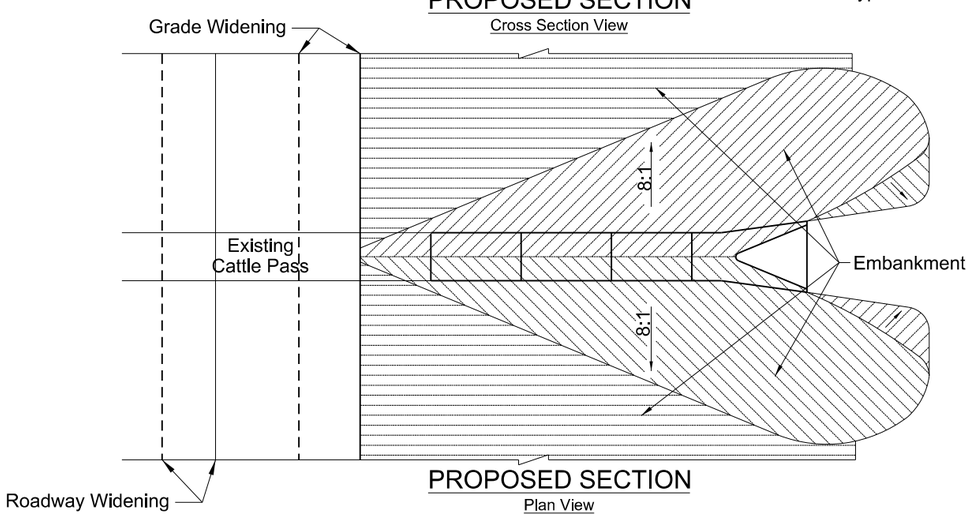
PROPOSED SECTION

Cross Section View



BACKFILL DETAIL

Side View (Topsoil Not Shown)



PROPOSED SECTION

Plan View

Pay Items
1) Cattle Pass Conc Intermed Section*
2) Geotextile Fabric - Type R1
3) Remove and Relay Conc Cattle Pass End Section
4) Remove and Relay Conc Cattle Pass (If Required)

*Included in Cattle Pass Conc Intermed Section Pay Item
1) Cattle Pass
2) Trench excavation
3) Aggregate Base Course Cl 3 or Cl 5
4) Embankment

NOTES:

1) Embankment may be either Borrow Excavation or Common Excavation - Type A

2) When reinforcing fabric is present, 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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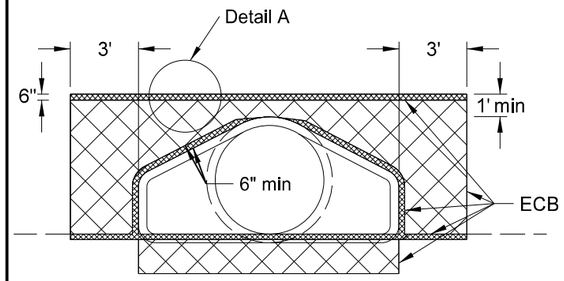
ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

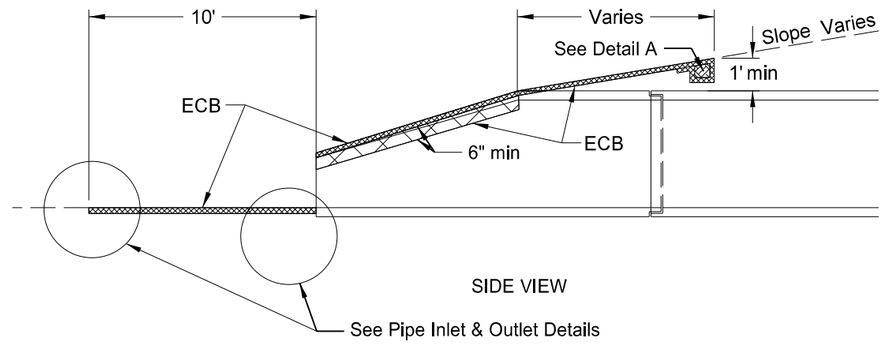
Transverse Mainline Cattle Pass Extension Detail

Mountrail County, ND

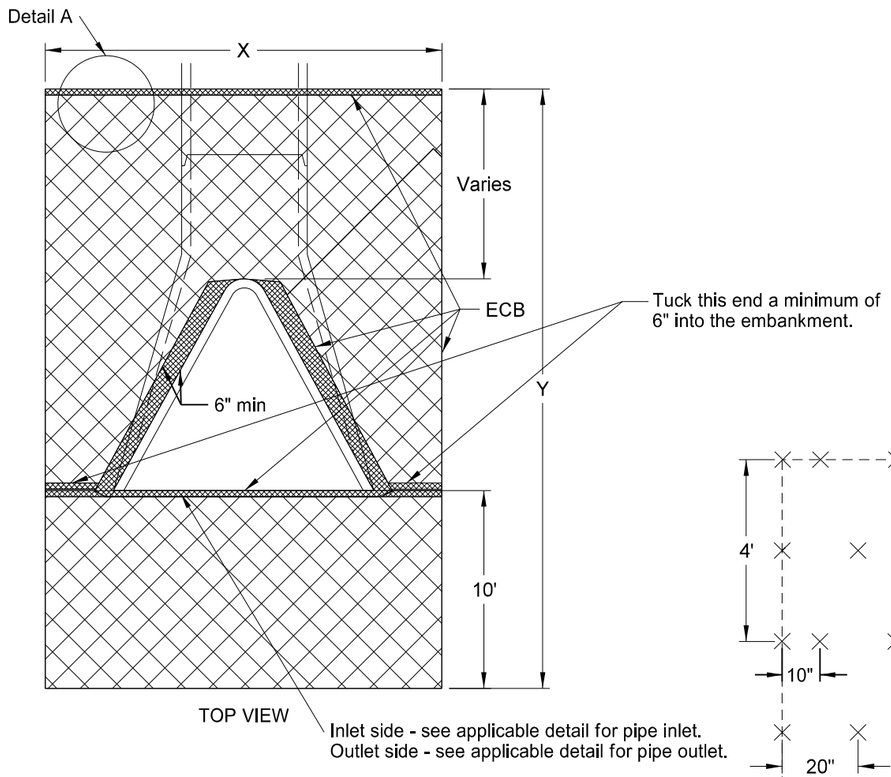
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	20	10



FRONT VIEW

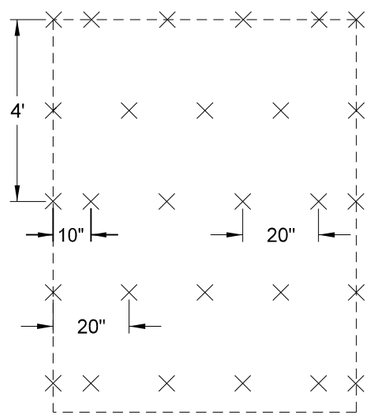


SIDE VIEW



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

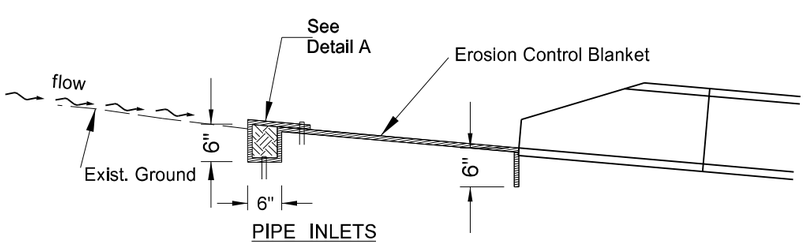
APPROACH CULVERTS				
DIA	X	Y	Surface area to be protected	ECB
In	Ft	Ft	SF	SY
15	9.0	20.0	176.0	20
18	9.5	20.7	190.7	22
21	9.5	21.0	190.9	22
24	10.5	21.6	214.1	24
27	11.0	22.0	226.3	25
30	11.6	22.5	241.5	27
36	12.7	23.3	268.8	30
42	13.3	23.3	279.7	31
48	13.8	24.0	293.2	33
54	14.5	23.4	300.6	34
60	15.0	23.0	307.5	35
66	15.6	24.0	325.6	37
72	16.2	24.5	340.6	38

Note: Quantities based on 8:1 slope.

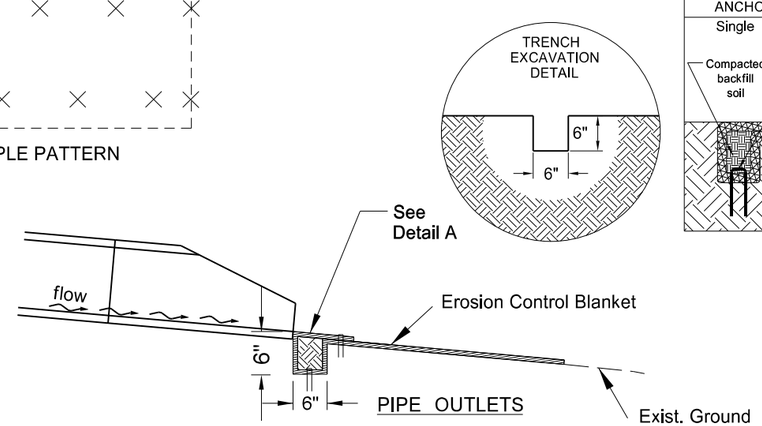
CENTERLINE CULVERTS				
DIA	X	Y	Surface area to be protected	ECB
In	Ft	Ft	SF	SY
18	9.4	16.3	148.9	17
24	10.5	17.6	176.1	20
27	11.0	18.0	182.3	21
30	11.6	18.5	195.1	22
36	12.7	19.2	216.7	24
42	13.3	19.2	225.2	25
48*	13.8	21.0	258.0	29
60	15.0	19.0	248.3	28
66	15.6	20.0	264.5	30
72	16.2	20.5	276.8	31
84	17.1	21.5	314.2	35

Note: Quantities based on 4:1 slope.

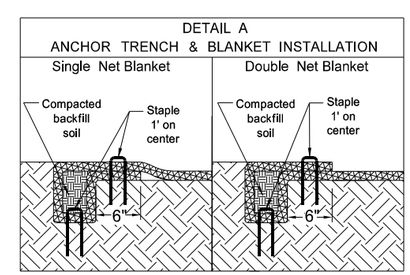
*4' x 6' Cattle Pass



PIPE INLETS



PIPE OUTLETS



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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Erosion Control at Culvert Flared End Sections

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	20	11

Station	Offset	Culvert Type Appr/CL	Pipe Diam.	ECB Type 3 (SY)
13140+63.96	Lt	CL	24	20
13140+70.21	Rt	CL	24	20
13146+91.36	Rt	Appr	18	22
13147+46.89	Rt	Appr	18	22
13149+37.83	Rt	Appr	24	24
13149+95.81	Rt	Appr	24	24
13153+00.00	Lt	CL	36	24
13153+00.00	Rt	CL	36	24
13155+68.84	Rt	Appr	18	22
13155+74.73	Lt	Appr	24	24
13157+02.21	Rt	Appr	18	22
13157+03.28	Lt	Appr	24	24
13184+23.15	Lt	CL	24	20
13184+27.19	Rt	CL	24	20
13197+78.13	Rt	CL	84	35
13197+96.85	Lt	CL	84	35
13205+22.01	Lt	Appr	24	24
13206+12.00	Lt	Appr	24	24
13213+44.97	Rt	CL	24	20
13213+45.33	Lt	CL	24	20
13244+86.79	Lt	CL	84	35
13244+91.57	Rt	CL	84	35
13258+99.02	Rt	CL	42	25
13259+11.56	Lt	CL	42	25
13268+54.30	Rt	CL	24	20
13268+68.54	Lt	CL	24	20
13283+68.84	Lt	Appr	24	24
13284+53.63	Lt	Appr	24	24
13296+48.75	Lt	Appr	18	22
13296+66.20	Rt	Appr	24	24
13297+38.94	Rt	Appr	24	24
13297+43.93	Lt	Appr	18	22
13316+05.96	Lt	CL	42	25
13316+06.32	Rt	CL	42	25
13330+23.48	Rt	CL	24	20
13330+23.67	Lt	CL	24	20
13338+88.83	Rt	CL	24	20
13339+02.36	Lt	CL	24	20
13350+61.00	Rt	Appr	24	24
13351+46.00	Rt	Appr	24	24
13352+82.09	Rt	CL	24	20
13353+80.79	Lt	CL	24	20
13357+10.63	Lt	CL	60	28
13357+13.04	Rt	CL	60	28
13369+32.54	Rt	Appr	30	27
13370+17.54	Rt	Appr	30	27
13377+77.95	Rt	CL	24	20
13378+01.19	Lt	CL	24	20
13391+02.26	Rt	CL	48*	29
13391+03.76	Lt	CL	48*	29

Station	Offset	Culvert Type Appr/CL	Pipe Diam.	ECB Type 3 (SY)
13400+02.45	Lt	CL	24	20
13400+02.48	Rt	CL	24	20
13416+01.83	Rt	CL	24	20
13416+06.20	Lt	CL	24	20
13431+99.57	Lt	CL	24	20
13432+01.82	Rt	CL	24	20
13450+78.96	Rt	CL	24	20
13450+96.39	Lt	CL	24	20
13466+96.20	Lt	CL	48*	29
13466+98.61	Rt	CL	48*	29
13469+77.98	Rt	CL	24	20
13469+82.74	Lt	CL	24	20
13483+09.65	Rt	Appr	24	24
13483+10.76	Rt	Appr	24	24
13483+65.82	Rt	Appr	24	24
13483+67.68	Rt	Appr	24	24
13490+31.71	Rt	Appr	24	24
13491+08.87	Rt	Appr	24	24
13502+83.26	Lt	CL	24	20
13502+97.88	Rt	CL	24	20
13517+67.27	Rt	CL	24	20
13517+80.30	Lt	CL	24	20
13536+36.80	Lt	Appr	18	22
13537+05.12	Lt	Appr	18	22
13540+83.02	Lt	CL	24	20
13540+84.69	Rt	CL	24	20
13542+36.48	Lt	Appr	24	24
13542+96.88	Lt	Appr	24	24
13576+21.69	Lt	CL	24	20
13576+33.95	Rt	CL	24	20
13576+80.16	Lt	CL	48*	29
13576+96.29	Rt	CL	48*	29
13581+71.55	Lt	CL	24	20
13581+77.95	Rt	CL	24	20
13592+76.46	Rt	CL	24	20
13592+82.32	Lt	CL	24	20
13614+24.72	Lt	Appr	24	24
13615+21.71	Lt	Appr	24	24
13628+81.85	Rt	CL	24	20
13628+82.67	Lt	CL	24	20
13639+56.56	Lt	Appr	18	22
13640+23.11	Lt	Appr	18	22
13642+08.47	Rt	Appr	24	24
13642+84.53	Rt	Appr	24	24
13643+50.23	Lt	CL	30	22
13643+51.07	Rt	CL	30	22
13643+70.49	Rt	CL	24	20
13643+70.50	Lt	CL	24	20
13653+04.89	Lt	CL	24	20
13653+08.15	Rt	CL	24	20

Station	Offset	Culvert Type Appr/CL	Pipe Diam.	ECB Type 3 (SY)
13707+08.43	Lt	CL	24	20
13707+10.26	Rt	CL	24	20
13713+01.23	Rt	Appr	18	22
13714+30.72	Rt	Appr	18	22
13714+65.07	Lt	CL	24	20
13714+66.15	Rt	CL	24	20
13733+10.87	Rt	CL	24	20
13733+14.54	Lt	CL	24	20
13747+40.53	Lt	Appr	24	24
13747+43.40	Rt	Appr	24	24
13748+17.42	Rt	Appr	24	24
13748+17.50	Lt	Appr	24	24
13752+94.19	Rt	CL	36	24
13752+94.36	Lt	CL	36	24
13773+65.38	Rt	Appr	18	22
13773+74.48	Lt	Appr	18	22
13774+33.88	Rt	Appr	18	22
13774+58.31	Lt	Appr	18	22
13778+12.55	Rt	CL	48*	29
13778+14.33	Lt	CL	48*	29
13780+18.99	R	Appr	18	22
13780+87.24	Lt	Appr	18	22
13781+09.02	R	Appr	18	22
13781+58.56	Lt	Appr	18	22
13782+87.70	Lt	Appr	18	22
13783+89.64	Lt	Appr	18	22
13785+82.98	Lt	Appr	18	22
13787+01.10	Lt	Appr	18	22
13814+81.02	Lt	CL	24	20
13814+81.55	Rt	CL	24	20
13816+01.27	Lt	Appr	36	30
13816+46.26	Lt	Appr	36	30
13826+78.58	Lt	Appr	18	22
13826+88.78	Rt	Appr	30	27
13826+90.88	Rt	Appr	30	27
13827+40.87	Rt	Appr	30	27
13827+43.77	Rt	Appr	30	27
13827+49.57	Lt	Appr	18	22
13844+00.35	Lt	CL	24	20
13844+00.76	Rt	CL	24	20
13852+73.52	Lt	Appr	18	22
13852+88.23	Rt	Appr	30	27
13853+75.08	Rt	Appr	30	27
13853+87.68	Lt	Appr	18	22
13867+43.59	Rt	CL	48*	29
13867+45.05	Lt	CL	48*	29
13879+02.16	Lt	Appr	24	24
13879+15.00	Rt	Appr	24	24
13880+00.00	Rt	Appr	24	24
13879+98.14	Lt	Appr	24	24

Station	Offset	Culvert Type Appr/CL	Pipe Diam.	ECB Type 3 (SY)
13894+88.62	Rt	CL	24	20
13894+90.28	Lt	CL	24	20
13899+39.22	Lt	Appr	18	22
13900+40.50	Lt	Appr	18	22
13905+44.02	Rt	CL	24	20
13905+46.32	Lt	CL	24	20
13910+67.14	Rt	CL	36	24
13910+69.18	Lt	CL	36	24
13910+84.15	Rt	CL	36	24
13910+85.15	Lt	CL	36	24
13931+23.27	Lt	CL	24	20
13931+23.33	Rt	CL	24	20
13939+43.68	Rt	CL	24	20
13939+45.81	Lt	CL	24	20
13958+26.49	Lt	Appr	18	22
13959+15.52	Lt	Appr	18	22
13960+42.74	Rt	CL	24	20
13960+65.47	Lt	CL	24	20
13971+42.72	Rt	CL	24	20
13971+49.61	Lt	CL	24	20
13978+24.60	Lt	CL	24	20
13978+41.22	Rt	CL	24	20
13995+30.30	Rt	Appr	18	22
13996+30.30	Rt	Appr	18	22
14010+91.61	Rt	Appr	24	24
14012+31.46	Rt	Appr	24	24
14018+73.37	Lt	CL	24	20
14018+74.51	Rt	CL	24	20
14038+62.16	Rt	Appr	18	22
14039+43.76	Rt	Appr	18	22
14055+46.22	Rt	CL	24	20
14055+47.10	Lt	CL	24	20
14084+35.07	Lt	CL	36	24
14084+36.09	Rt	CL	36	24
14107+11.39	Lt	Appr	24	24
14107+63.82	Lt	Appr	24	24
14113+42.29	Rt	CL	18	17
14113+44.65	Lt	CL	18	17
Total (SY)=				4276

*4' x 6' Cattle Pass

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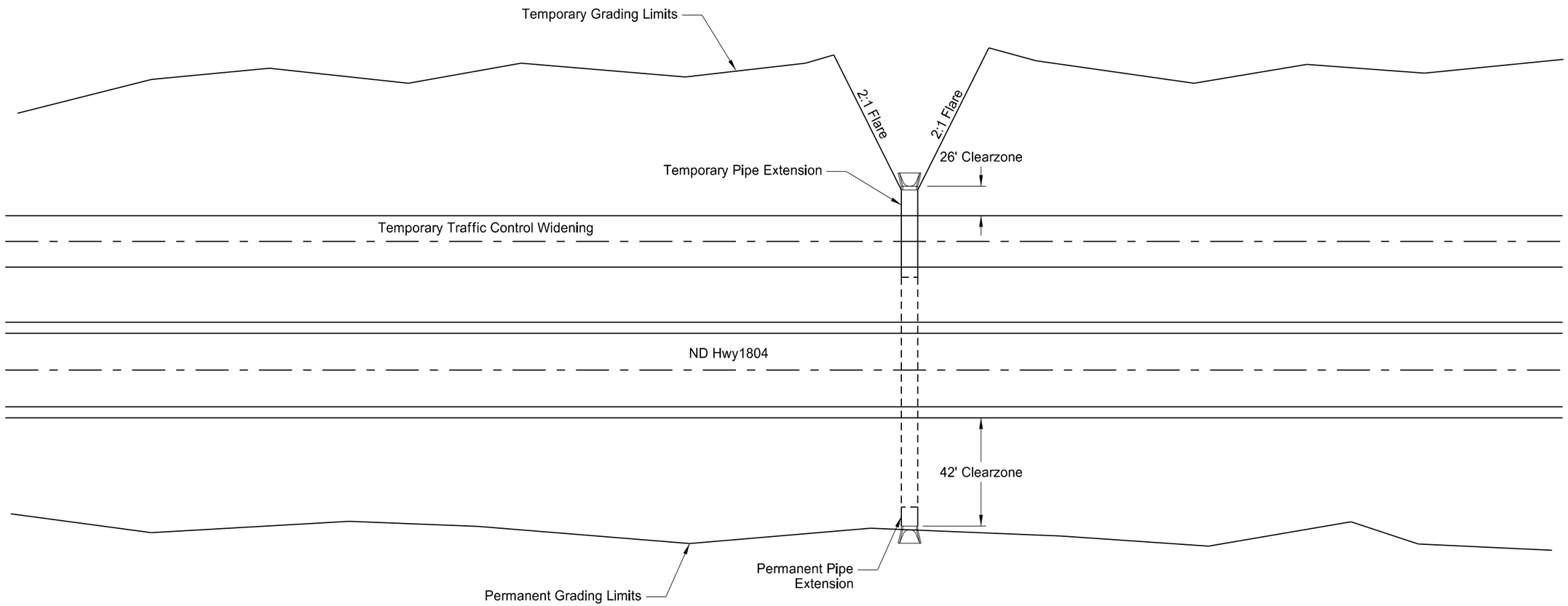
ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Erosion Control at Culvert Flared End Sections

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	20	12



*Drawing not to scale

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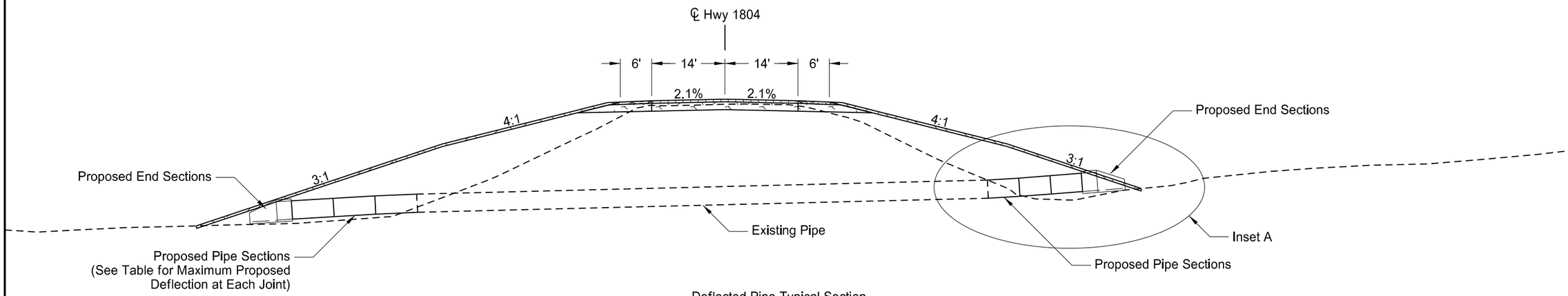
ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

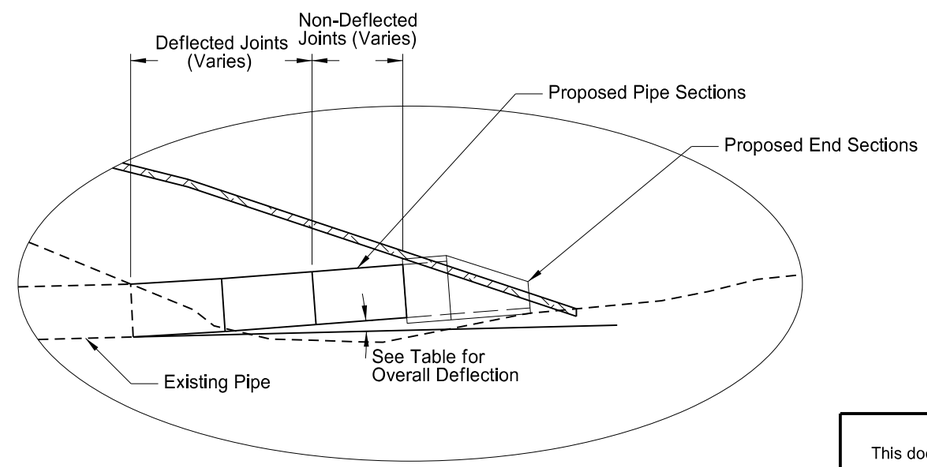
Temporary Pipe Extension Detail

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	20	13



Deflected Pipe Typical Section



Inset A

Begin Station	End Station	Offset	Pipe Diameter (Inches)	Pipe Material	Overall Vertical Deflection	Length of Extension (Feet)	Total # of Joints	Proposed # of Joints to Deflect	Proposed Max. Deflection Per Joint (Deg./Joint)
13894+88.62	13894+88.79	Rt	24	RCP	3°	12	3	3	1
14018+73.37	14018+73.55	Rt	24	RCP	2°	20	5	2	1
14113+43.12	14113+42.29	Rt	18	CSP*	2°27'	38	N/A	N/A	N/A
14113+44.37	14113+44.65	Lt	18	CSP*	2°27'	12	N/A	N/A	N/A

*Corrugated Steel Pipe to use pre-fabricated bend sections.

Notes:

1. Install new pipe sections up to the maximum deflection angle per joint to obtain the required invert elevation.
2. Proposed number of joints to deflect is based on 4' pipe segment lengths.
3. Drawing not to scale.

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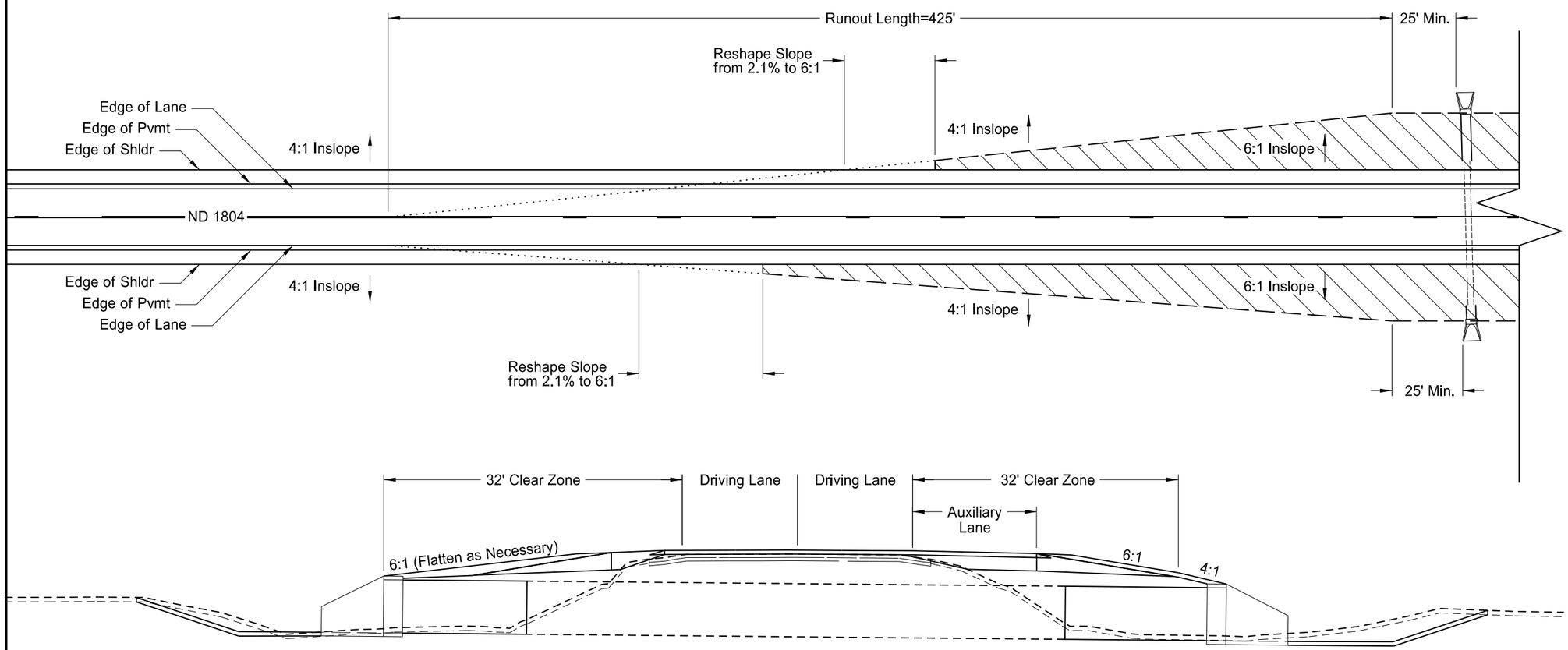
ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Deflected Pipe Detail

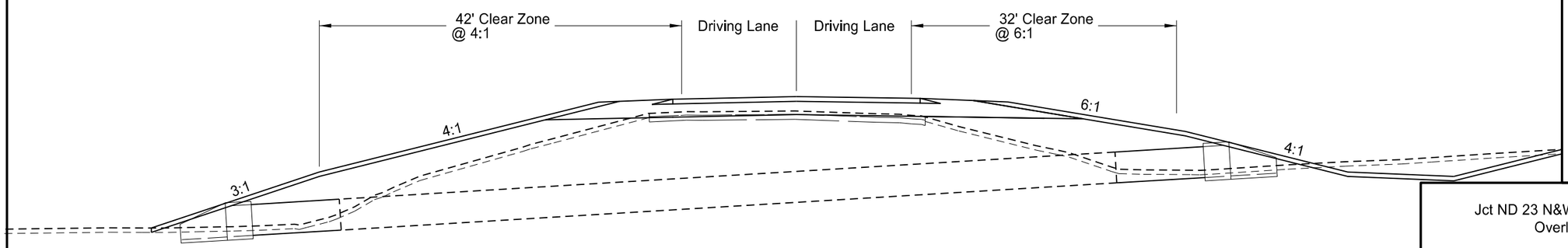
Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	20	14



Cattle Pass ℄ Locations
Sta. 13391+03 & Sta. 13466+97
Sta. 13576+88 & Sta. 13778+13
Sta. 13867+44

Note: Slope Flattening to Occur at All Cattle Pass Locations



42" Pipe @ Sta. 13316+06

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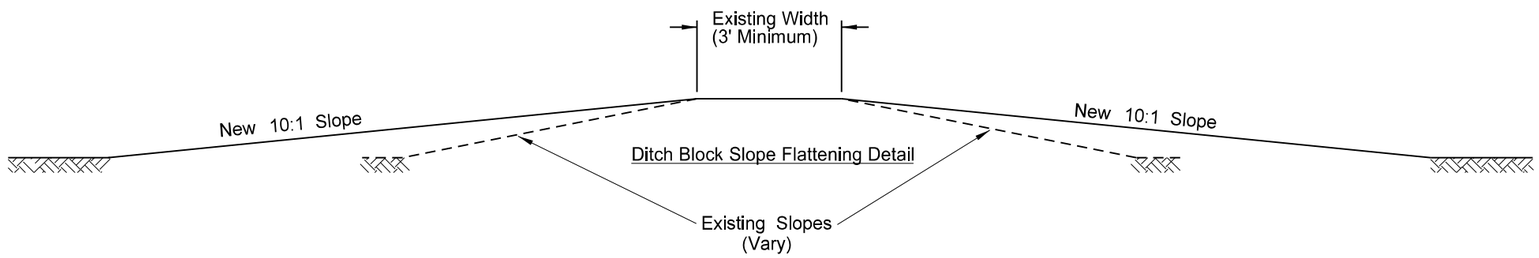
ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Slope Flattening Detail

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	20	15



Ditch Block Location		Top Elevation
Station	Offset	
13258+27	RT	1874.61
13365+79	RT	1880.75
13399+86	RT	1929.20
13431+78	RT	1995.54
13518+10	LT	2197.26
13592+60	LT	2166.66
13629+50	RT	2110.47

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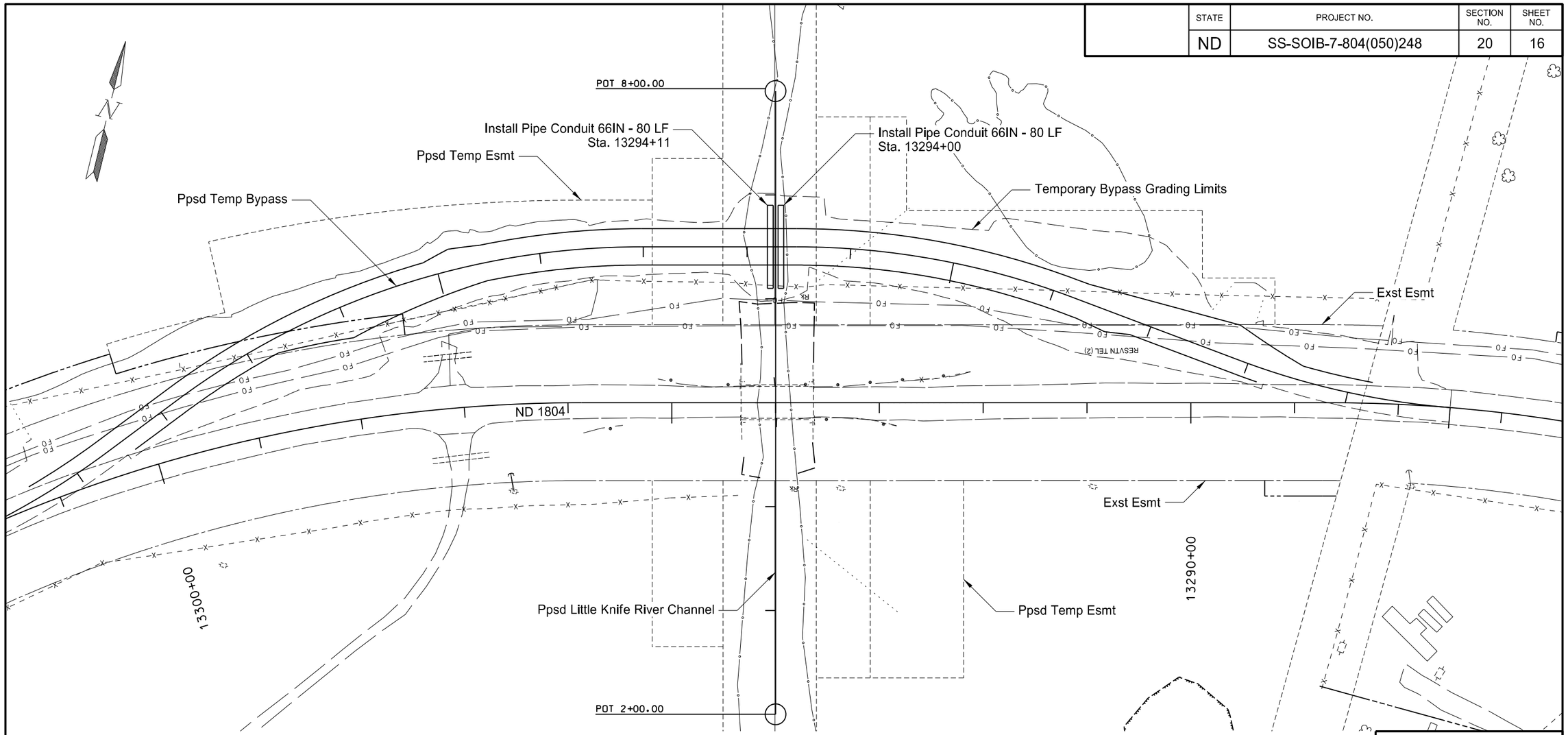
Note: When existing ditch block slopes are steeper than 8:1, flatten them to 10:1.

ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Ditch Block Detail

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	20	16



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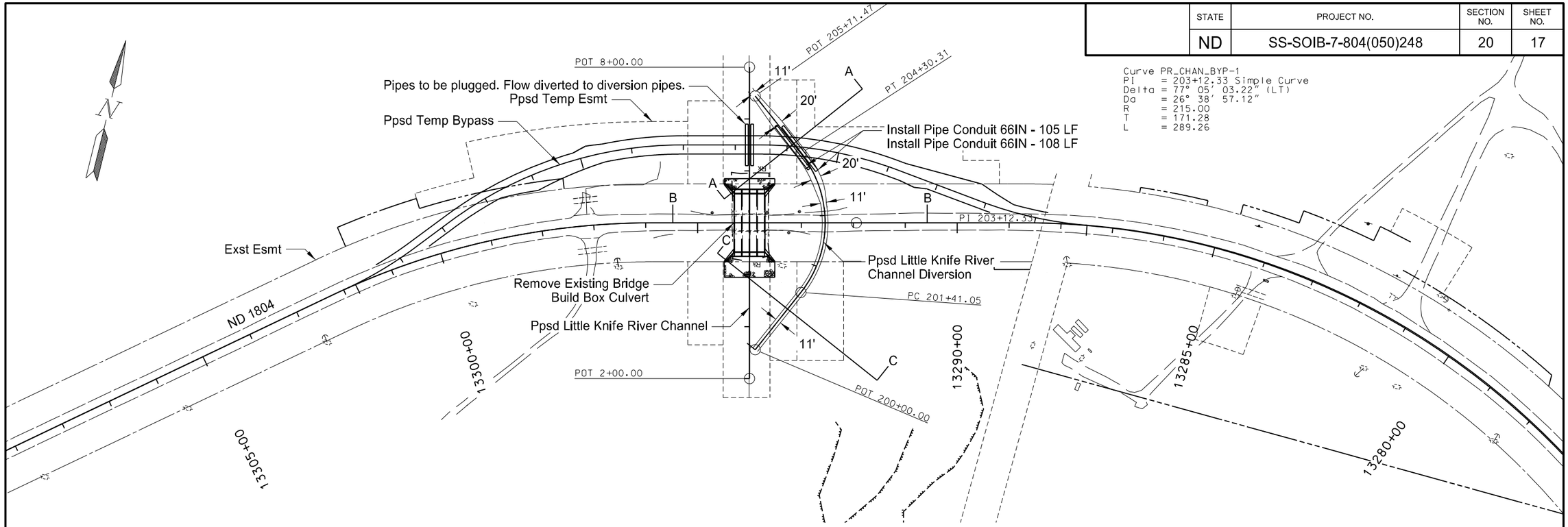
ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Little Knife River Diversion - Phase 1
Temporary Bypass Construction

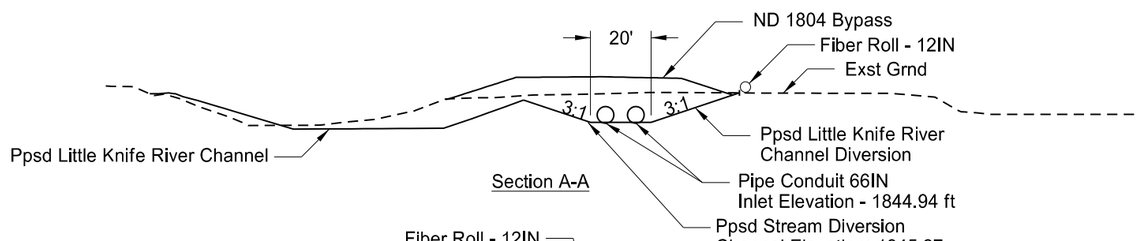
Mountrail County, ND

*Note: Quantities for the Little Knife River temporary bypass are shown in the Basis of Estimate.

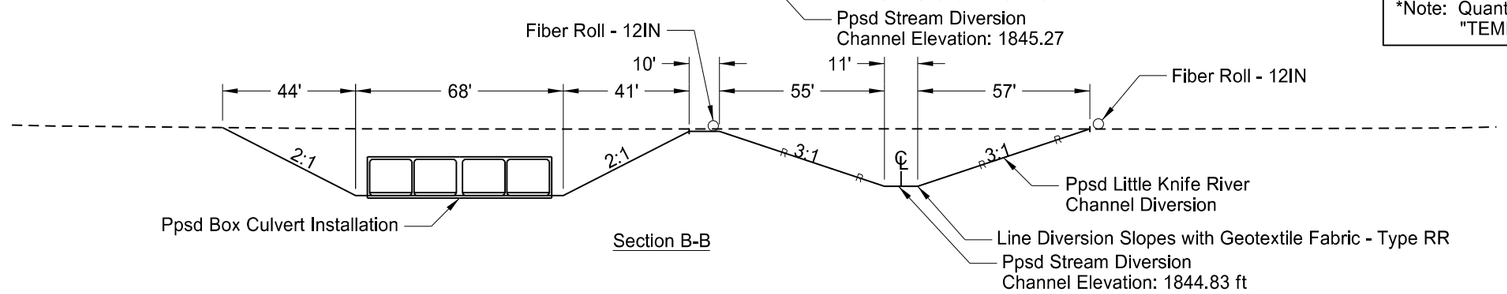
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	20	17



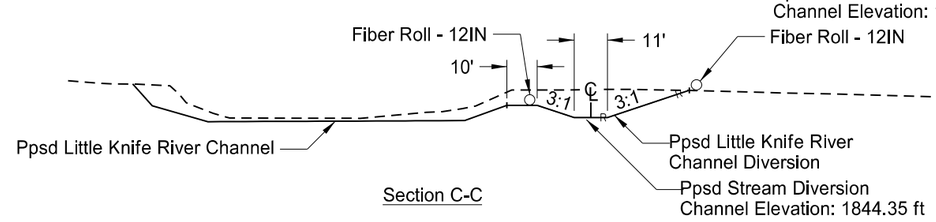
Curve PR_CHAN_BYP-1
PI = 203+12.33 Simple Curve
Delta = 77° 05' 03.22" (LT)
Da = 26° 38' 57.12"
R = 215.00
T = 171.28
L = 289.26



Section A-A



Section B-B



Section C-C

Estimate of Quantities for Temporary Stream Diversion

Common Excavation - Type A = 9,420 CY
Pipe Conduit 66IN (Diversion) = 213 LF
Geosynthetic Type RR = 4,800 SY
Fiber Rolls 12IN = 795 LF
Riprap Grade I = 1,334 TON

*Note: Quantities included in the price bid for "TEMPORARY STREAM DIVERSION."

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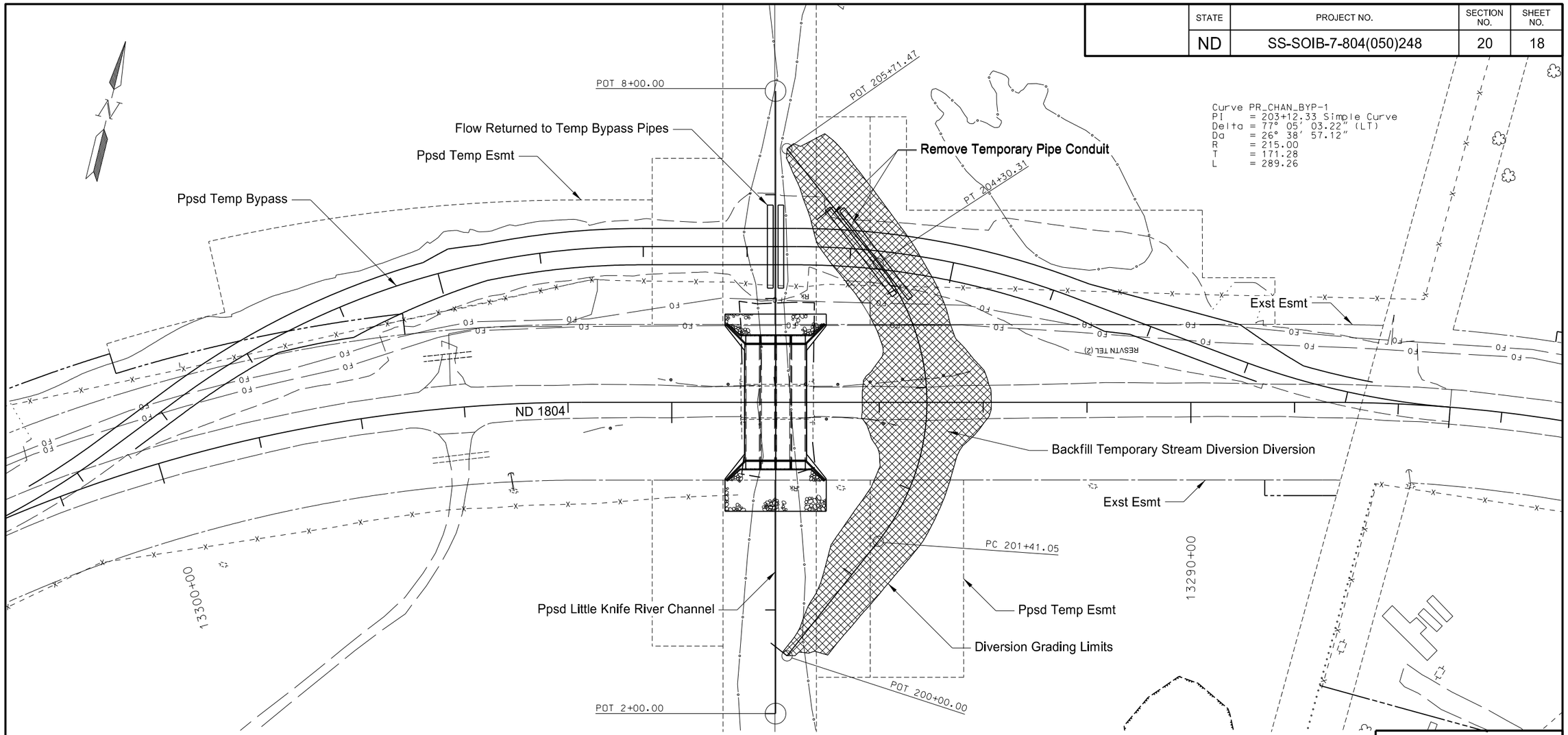
ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Little Knife River Diversion - Phase 2
Diversion Construction

Mountrail County, ND

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	20	18



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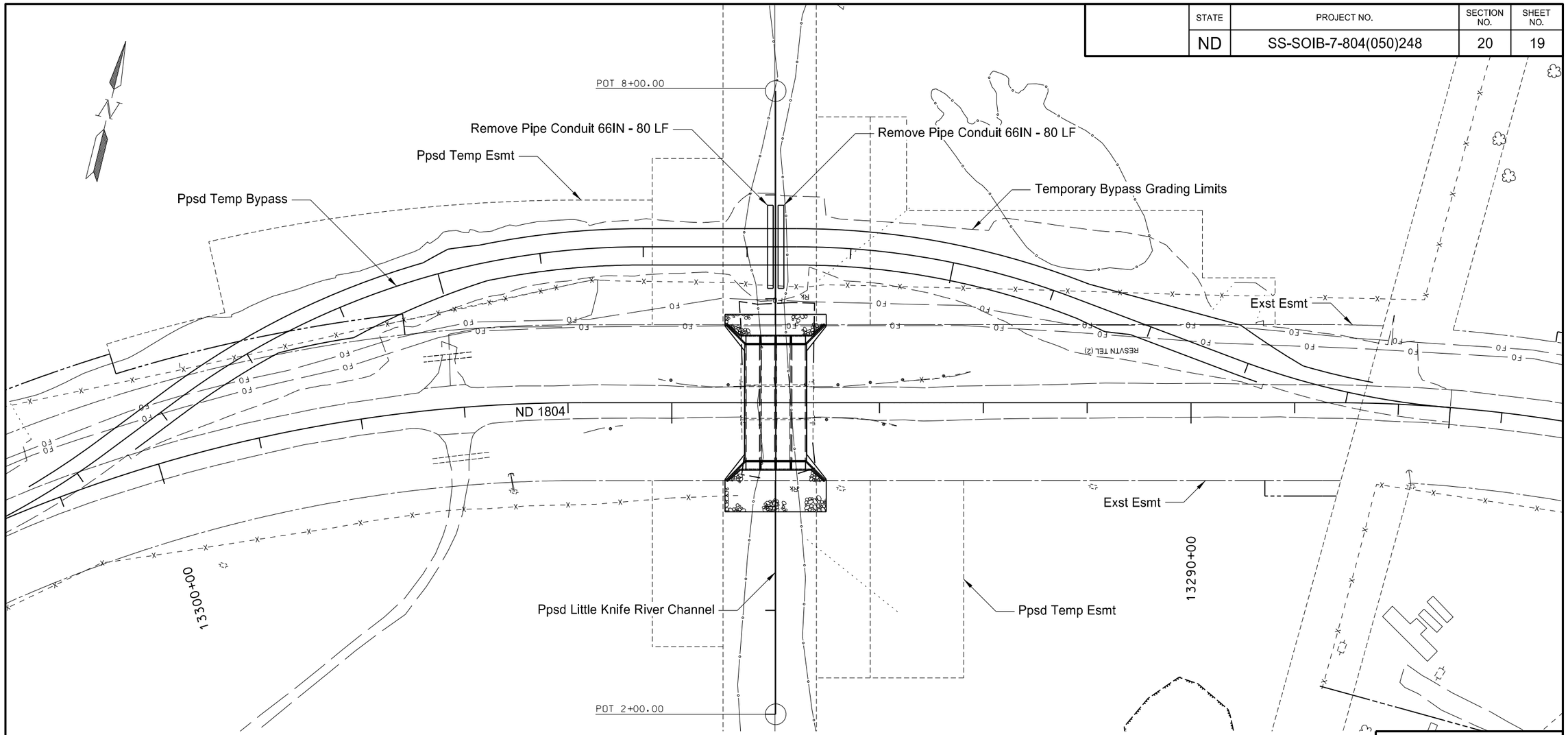
ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Little Knife River Diversion - Phase 3
Remove Diversion Channel

Mountrail County, ND

Note: Removal of Diversion is included in price bid for "TEMPORARY STREAM DIVERSION"

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-SOIB-7-804(050)248	20	19



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ND 1804
Jct ND 23 N&W to 16Mi E of Jct Tioga
Overlay & Widening

Little Knife River Diversion - Phase 4
Remove Temporary Bypass

Mountrail County, ND

Note: Removal of Temporary Pipes is included in price bid for "TEMPORARY BYPASS"