

DESIGN DATA				
Traffic	Average Daily			
Current 2022	Pass: 420	Trucks: 75	Total: 495	
Forecast 2042	Pass: 420	Trucks: 75	Total: 495	
Clear Zone Distance: 20'		Design Speed: 65 MPH		
Minimum Sight Dist. for Stopping: 645'		Bridges: 0032-006.121		
Sight Dist. for No Passing Zone: 1,100'				
Pavement Design Life 20 (years)				
Design Accumulated One-way Flexible ESALs: 573,929				

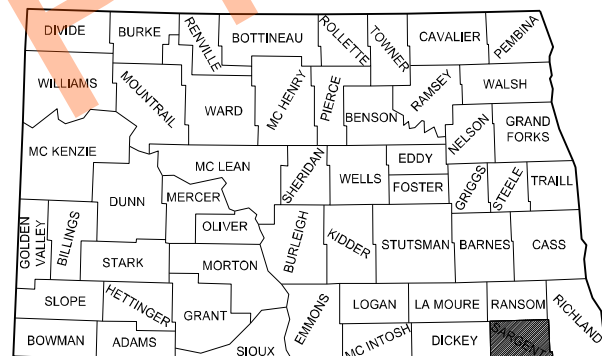
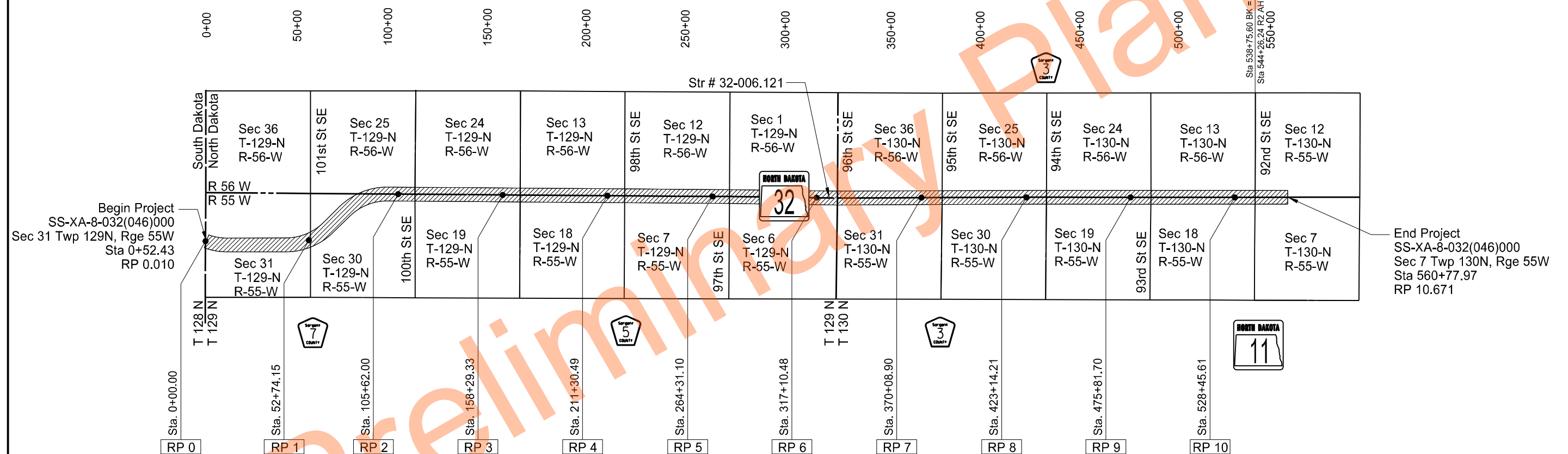
NORTH DAKOTA
DEPARTMENT OF TRANSPORTATION

SS-XA-8-032(046)000

Sargent County
NDDOT Hwy 32 Major Rehabilitation
State Line N to S Jct 11 Forman
Grading, Aggregate Base, HMA Surfacing, Subcut,
Pipe Rehabilitation & Replacement, Erosion Control,
Pavement Marking, Signing, and Incidentals

GOVERNING SPECIFICATIONS	Date Published and Adopted by the North Dakota Department of Transportation
Standard Specifications	4/1/2023
Supplemental Specifications	NONE

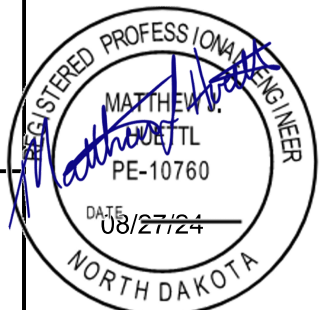
<u>PROJECT NUMBER \ DESCRIPTION</u>	<u>NET MILES</u>	<u>GROSS MILES</u>
SS-XA-8-032(046)000	10.507	10.507



STATE COUNTY MAP

DESIGNER Matthew J. Huettl, PE
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HDR Engineering, Inc.



ND DEPARTMENT OF TRANSPORTATION
OFFICE OF PROJECT DEVELOPMENT

kirk hoff

Kirk Hoff
08/27/24

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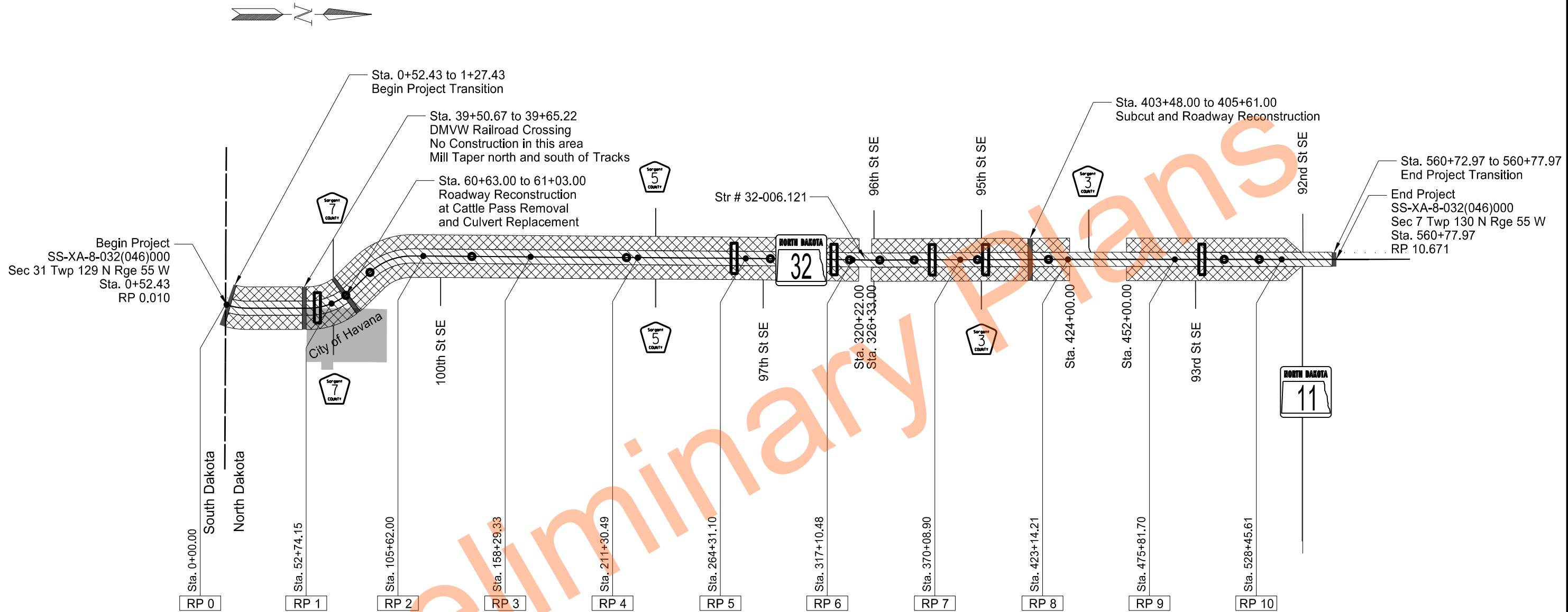
SPECIAL PROVISIONS	
Number	Description
SP 299(23)	Temporary Water Diversion
SP 311(23)	Cured In Place Pipe (CIPP)
SP 298(23)	Utility Coordination
SP 302(23)	Railroad Coordination DMVW
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SSP 4	Longitudinal Joint Density
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D-101-10	NDDOT Utility Company and Organization Abbreviations	D-754-86	911 Sign Support Information And Sign Details
D-101-20, 21	Line Styles	D-754-87	Sign Punching, Stringer And Support Location Details For Street Name Signs And 911 Signs
D-101-30, 31, 32, 33	Symbols	D-760-3	Rumble Strips Undivided Highways (Shoulders 4' Or Greater)
D-101-40	Cross Section Legend	D-762-1	Pavement Marking Message Details
D-203-6	Standard 90 Degree Flared Intersections - (Center Left Turn Lane on Major Road)	D-762-4	Pavement Marking
D-203-7	Recovery Approaches At T-Intersections	D-762-5	Pavement Marking for Standard 90 Degree Flared Intersection-(No Center Left Turn Lane on Major Road)
D-203-8	Standard Rural Approaches	D-762-6	Pavement Marking for Standard 90 Degree Flared Intersection - (Center Left Turn Lane on Major Road)
D-255-2	Erosion And Siltation Control - Erosion Control Blanket Installation	D-762-11	Short-Term Pavement Marking
D-261-1	Erosion Control - Fiber Roll Placement Details	D-766-1	Mailbox Location Details
D-704-2	Traffic Control For Coring Of Hot Bituminous Pavement	D-900-2	Pavement Details At Railroad Crossing
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		
D-704-10	Construction Sign Details - Regulatory Signs		
D-704-11, 11A	Construction Sign Details - Warning Signs		
D-704-12	Shoulder Closure Tapers		
D-704-13	Barricade And Channelizing Device Details		
D-704-14	Construction Sign Punching And Mounting Details		
D-704-15	Road Closure Layouts		
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D-704-33	Two-Lane Roadway Portable Rumble Strips		
D-704-50	Portable Sign Support Assembly		
D-714-1	Reinforced Concrete Pipe Culverts And End Sections (Round Pipe)		
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D-714-25	Transverse Mainline Pipe Installation Detail - Pipes More Than 4 Feet Below Top of Subgrade		
D-720-1	Standard Monuments And Right Of Way Markers		
D-752-1	Standard Barbed Wire Fence		
D-754-19	(Conventional Use) Reference Markers		
D-754-21B	Reflectorized Delineators - Two-Lane Two-Way Highway		
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D-754-51, 57, 60, 74	Sign Punching, Stringer and Support Location Details - Route Marker Signs		
D-754-82	Object Markers		

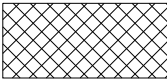
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- RP Locations
- ◻ CIPP Locations
- ◻ Pipe Crossing Locations



1.5" Mill & 3" HMA Overlay
See Sections 10 and 30 for further details

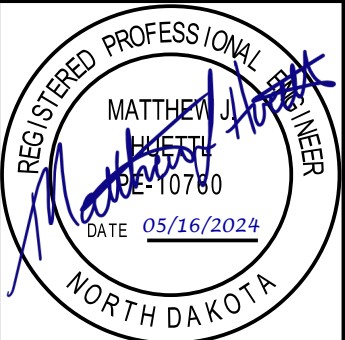


Widening & Culvert Extensions
See Sections 10 and 30 for further details



Alternative Construction Areas, Noted Above

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Scope of Work



NOTES

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

107-111 RAILROAD PROTECTIVE LIABILITY INSURANCE: This project crosses the Dakota, Missouri Valley & Western Railroad Company at railroad MP 0064.63. The type of work that will be performed within the railroad right of way is earthwork, base work, paving, and striping. Direct inquiries regarding protective liability insurance to:

JEFF WOOD
Executive Vice President
Dakota, Missouri Valley & Western Railroad, Inc.
3501 East Rosser Avenue
Bismarck, ND 58501
701-223-9282 off.
jwood@dmvwr.com

Obtain information regarding crossing number 067484D from the Federal Railroad Administration website: <http://safetydata.fra.dot.gov/Officeofsafety/>

107-P01 MAINTAINING TRAFFIC – UNEVEN SHOULDER: If a shoulder and the adjacent lane are uneven due to milling or paving operations, the requirements of Section 704.04 O, "Traffic Control for Uneven Pavement" apply. If the uneven shoulder and adjacent lane are due to other circumstance, the contents of this note apply. If, at the end of the work-day, drop-offs greater than 2 inches and less than 18 inches or slopes steeper than 4:1 exist between the edge of a traffic lane and the outside edge of the proposed roadway, perform one of the following actions:

- Construct a traversable wedge in the area of the drop-off or steep slope; or
- Close the lane adjacent to the drop-off or steep slope and provide 24-hour flagging or pilot car operations.

When constructing a wedge, construct a wedge composed of aggregate or earthen materials with a 4:1 or flatter slope along the entire length of the area. Compact materials using Type C compaction, as specified in 203.04 G.4, "Compaction Control Type C".

Install stackable vertical panels that meet the requirements of Section 704.03 H, "Stackable Vertical Panels", along the edge of the driving lane closest to the wedge.

The Engineer will measure stackable vertical panels as specified in Section 704.05, "Method of Measurement" and will pay for panels as specified in Section 704.06, "Basis of Payment".

The Engineer will not measure material used to construct the wedge. Include the cost of materials, equipment, labor, and incidentals required for this operation in the unit price bid for "Aggregate Base Course CL 5".

If a 4:1 or flatter wedge is not installed, provide 24-hour flagging or pilot car operations and associated traffic control at no additional cost to the Department.

108-100 WEEKLY PLANNING & REPORTING MEETING: A weekly planning and reporting meeting is required.

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

203-380 AVERAGE HAUL: The average haul shown on the plans does not include the dead haul from the borrow areas to the point of entry into the mass.

203-P02 CONTRACTOR FURNISHED PROCTORS: Determine the optimum moisture and density, as specified in ND T 99, for each type of material encountered that requires compaction control.

Perform a multi-point test using a minimum of 4 points. Submit the results to the Engineer along with a split sample of each material.

The Engineer will perform comparison tests using the same procedure on the split sample. The Engineer's results will be used for determining in place density of material.

Include the cost of testing in the unit price bid for "Common Excavation-Type A".

302-P01 SUBCUT AGGREGATE: Include all costs for labor, materials, and equipment to install "Subcut Aggregate" from Sta. 403+48 to Sta. 405+61 in the unit price bid for "Subcut Aggregate".

401-P01 FOG SEAL: Fog seal the HMA Superpave FAA 42 after final rolling with a minimum mat temperature of 125 degrees Fahrenheit.

411-P01 TEMPORARY ASPHALT WEDGES: The Contractor will place temporary asphalt or milled material wedges at the milled taper locations to allow for a smooth passage of vehicles. Sawing required to construct a straight vertical edge in milling areas will not be paid for separately. Include all costs for labor, materials, and equipment to install, maintain, and remove the wedges in the unit price bid for "Milling Pavement Surface."

626-P01 COFFERDAM: Design, construct, operate, and remove temporary cofferdams. Construct upstream and downstream cofferdams to isolate the work areas. Construct the cofferdams to remain in the Right of Way.

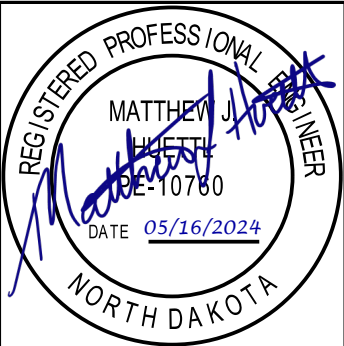
Construct cofferdams using one or more of the following materials or as approved by the Engineer:

- Sandbags;
- Sheet piles;
- Water filled bladder;
- Impermeable containers; or
- Prefabricated dams.

Dewater the work areas. Operate the dewatering system within the work area to prevent any change in water quality of any adjacent water body. Before beginning dewatering of the work area, provide an inlet control system that limits sediment from entering the system and provide a stabilized discharge from the dewatering system.

Inlet control systems may include:

- Surface skimmers;
- Aggregate filled perforated containers; or
- Inlet filter sock.



NOTES

Stabilized discharges may include:

- Dewatering basin;
- Sediment bag; or
- Filtering through vegetation.

Design and operate the discharge so that there is no visible sediment plume present in the water body and the discharge causes no additional erosion or sediment.

Do not discharge water directly to any adjacent water body.

12 sites require cofferdams. A site is defined as one end of a pipe. Pay for cofferdams per site. Include all costs for labor, equipment, and material to install cofferdams, remove cofferdams, and dewater the work areas in the unit price bid for "Cofferdam".

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

704-500 PORTABLE RUMBLE STRIPS (PRS): Use PRS made of rubber or engineered polymers.

Install PRS as part of the temporary traffic control when the following signs are also part of the required traffic control set up:

- "Be Prepared to Stop" (W3-4); and
- "Flagger" symbol (W20-7)

Install PRS that meet the following criteria:

- Have no adhesives or fasteners required for placement;
- Have a manufacture's speed rating that meets or exceeds the posted speed limit; and
- Each strip in the array must weigh a minimum of 100 pounds.

Use individual PRS constructed in one of the following manners:

- A single piece;
- Interlocking segments; or
- Two pieces hinged at the midpoint.

An installed array of PRS consists of a minimum of 3 individual strips.

Move rumble strips with the flagging operation. Do not place rumble strips on horizontal curves.

The Engineer will count and measure each array as one unit. Include the cost of providing, installing, maintaining, and relocating PRS in the unit price bid for "Portable Rumble Strips".

704-P01 TRAFFIC CONTROL DEVICES: The traffic control devices list has been developed using the layouts shown in the plans and the following layouts shown on the Standard Drawings.

D-704-19 Layout Type F as needed.

D-704-20 Layout Type G as the basis of the Construction Signing Sheet.

D-704-31 Layout Type J as needed for pipe installation.

D-704-22 Layouts Type K and L for Construction Trucks Hauling Material.

D-704-24 Layouts Type R and U as needed.

D-704-26 Layouts Type BB, CC, EE, FF, GG as needed.

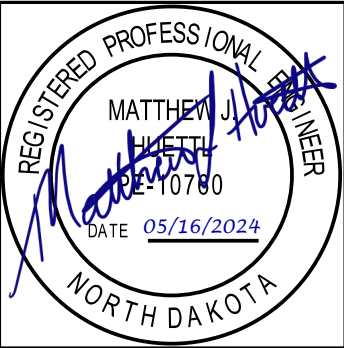
704-P02 TRAFFIC CONTROL FOR BITUMINOUS PAVEMENT: Provide traffic control consisting of a temporary road closure, flagging, and a pilot car.

Traffic control device quantities are estimated based on a 6-mile lane closure and the list below. The Department will pay for all necessary deployed devices, regardless of the length of the lane closure.

1. Standard D-704-12;
2. Standard D-704-15, layout A;
3. Standard D-704-20, layout G – signing will be required at junctions: State Line, CR 7, 100th St SE, CR 5, 97th St SE, 96th St SE, CR 3 East, CR 3 West, 93rd St SE, and ND 11;
4. Standard D-704-22, layouts K and L; and
5. Standard D-704-26, layouts CC, EE, and GG.

Place flaggers and traffic control devices as shown on Standard D-704-15, layout A at the following intersections when the lane closure spans across them:

1. ND 11
2. CR 3 West
3. CR 3 East
4. CR 5
5. CR 7



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704-P03 TRAFFIC CONTROL PHASING

Phase 1

Phase 1 construction consists of removing topsoil, removing surfacing and aggregate base, constructing proposed embankment widening, installing roadway pipes, constructing aggregate base, topsoil placement, and temporary erosion control, as shown in the plans.

Provide traffic control consisting of a temporary lane closure and flagging for removing topsoil, removing surfacing and aggregate base, constructing proposed embankment widening, installing roadway pipes, subcuts, and constructing aggregate base. Maintain traffic with use of temporary widening for pipe installation as needed. Provide and maintain access to all properties during construction.

The maximum length of the work zone includes the daily construction area plus the longitudinal buffer space and does not include tapers. Maintain two 12-foot lanes at the end of the work-day according to note 107-P01. Traffic control device quantities are estimated based on a 2-mile lane closure. The Department will pay for all necessary deployed devices, regardless of the length of the lane closure.

Provide traffic control consisting of a temporary shoulder closure for topsoil placement and installation of temporary erosion control. Traffic control device quantities are estimated based on a 10-mile shoulder closure. The Department will pay for all necessary deployed devices, regardless of the length of the lane closure.

Phase 2

Phase 2 construction consists of milling pavement surface, all paving operations, installation of temporary and permanent pavement markings, installation of permanent signing, topsoil placement, and permanent erosion control, as shown in the plans.

Provide traffic control according note 704-P02 during all paving operations and according to standard drawing D-704-27 during installation of pavement markings.

Provide traffic control consisting of a temporary shoulder closure for installation of permanent signing, topsoil placement, pipe rehabilitation, and permanent erosion control. Traffic control device quantities are estimated based on a 10-mile shoulder closure. The Department will pay for all necessary deployed devices, regardless of the length of the lane closure.

706-P01 FIELD OFFICE: Provide a field office which meets the following requirements:

- 1. Minimum total area of 800 square feet
- 2. Indoor bathroom facilities and supplies with weekly cleaning services
- 3. Hookups for heat, electricity, sewer, and potable water.
- 4. Minimum cabinet space of 32 cubic feet
- 5. Minimum counter space of 40 square feet
- 6. Air conditioner with a minimum of 20,000 BTUs
- 7. Lighting with a minimum of 110 foot-candles
- 8. DSL broadband internet and a router that broadcasts Wi-Fi and will allow for hard wiring of a computer.
- 9. Photocopy/Printer with scanning capabilities capable of 11x17 photocopies and toner to last the duration of the project. Other features to include digital copying and scanning. Copier/printer machine with operating software compatible with that used by the NDDOT.

Place the field office on the project, or as close to the project as possible. The Contractor is responsible for furnishing the office equipment and for the pay for the following:

- Rental fees;
- Heating;
- Electrical;
- Sewer, and
- Potable water.

Make the field office available for occupancy one week before the start of the project. The Engineer will approve the location and the condition of the office. Do not remove the field office until the Engineer releases the field office.

All requirements of the Field Office are subject to approval by the Engineer. Include the costs for the field office in the bid item "Field Office".

Schedule for Payments:

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

714-P01 CONTRACTOR FURNISHED PROCTORS: Determine the optimum moisture and density, as specified in ND T 99, for each type of material encountered that requires compaction control.

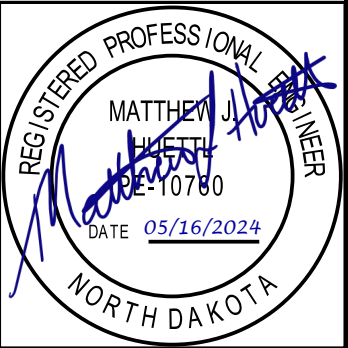
Perform a multi-point test using a minimum of 4 points. Submit the results to the Engineer along with a split sample of each material.

The Engineer will perform comparison tests using the same procedure on the split sample. The Engineer's results will be used for determining in place density of material.

Include the cost of testing in the unit price bid for "Pipe Conduit __IN".

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

990-P01 PIPE CLEANOUT: Remove silt from each mainline pipe and beyond the end of the pipe. Clean the pipe to re-establish drainage. Include all costs for removing the silt and debris in the contract unit price for "Pipe Cleanout".



ENVIRONMENTAL NOTES

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

EN-1 AQUATIC NUISANCE SPECIES (ANS): Equipment that was last used outside of North Dakota or within a Class I infested waterbody (identified on the North Dakota Game and Fish Department (NDGFD) website) requires an inspection by NDGFD. Notify the NDGFD at least 10 business days prior to pumps, watercraft, or any equipment entering a public water to allow the NDGFD sufficient time to inspect any and all such equipment for ANS. Contact the NDGFD ANS Coordinator, Ben Holen by e-mail - bholen@nd.gov for equipment inspections. Supply one of the following to the engineer as proof of compliance prior to work taking place in the water: (1) the NDGFD inspection report, (2) documented NDGFD correspondence (email or signed letter).

EN-2 THREATENED AND ENDANGERED SPECIES: The project is located near/within suitable habitat for the species listed in the following table.

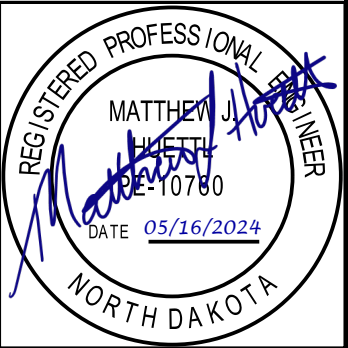
SPECIES	HABITAT	PRESENCE
Northern Long-Eared Bat	Forested/Wooded Areas/Bridges/Box Culverts/Caves/Mines	Active Season: April 1 - October 31* Inactive Season: November 1 - March 31*

*Time frames can differ slightly, depending on the year

If any of the above threatened and endangered species are identified within 1 mile of the project, the Contractor will notify the Engineer immediately and cease construction activities in the vicinity until an avoidance area is established. The Engineer will establish an avoidance area that is at least a 0.5 mile and immediately coordinate with the USFWS (701-355-8513), FHWA (701-221-9464), and NDDOT Environmental and Transportation Services (701-328-2592). The Contractor will not resume work within the avoidance area until the Engineer has confirmed with the agencies that work may proceed (either the species have left the area, or approved avoidance/minimization measures have been implemented).

EN-3 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-5 SPIRITWOOD AQUIFER: The proposed project overlies the Spiritwood aquifer. Care should be taken to avoid spills of any materials that have an adverse effect on groundwater quality. All spills would need to be reported to the North Dakota Department of Environmental Quality (NDDEQ) (701-328-5210) and appropriate remedial actions performed.



Estimated Quantities

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		ND 32			
SPEC	CODE	ITEM DESCRIPTION	UNIT		TOTAL
103	0100	CONTRACT BOND	L SUM	1	1
107	0100	RAILWAY PROTECTION INSURANCE	L SUM	1	1
107	0140	RAILROAD COORDINATION	L SUM	1	1
107	0151	RAILROAD FLAGGING	LSUM	1	1
202	0021	REMOVE AGGREGATE BASE & SURFACING	TON	33465	33465
202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES	EA	21	21
202	0174	REMOVAL OF PIPE ALL TYPES AND SIZES	LF	892	892
202	0312	REMOVE EXISTING FENCE	LF	1638	1638
202	0350	REMOVAL OF TEMPORARY BYPASS	EA	1	1
203	0101	COMMON EXCAVATION-TYPE A	CY	50906	50906
203	0109	TOPSOIL	CY	67148	67148
203	0138	COMMON EXCAVATION-SUBCUT	CY	519	519
203	0140	BORROW-EXCAVATION	CY	40973	40973
203	0237	SUBCUT AGGREGATE	TON	973	973
216	0100	WATER	M GAL	3099	3099
251	0200	SEEDING CLASS II	ACRE	97.6	97.6
251	2000	TEMPORARY COVER CROP	ACRE	97.6	97.6
253	0101	STRAW MULCH	ACRE	197	197
255	0103	ECB TYPE 3	SY	2708	2708
260	0200	SILT FENCE SUPPORTED	LF	4015	4015
260	0201	REMOVE SILT FENCE SUPPORTED	LF	4015	4015
261	0112	FIBER ROLLS 12IN	LF	12360	12360
261	0113	REMOVE FIBER ROLLS 12IN	LF	6180	6180
261	0120	FIBER ROLLS 20IN	LF	67410	67410
261	0121	REMOVE FIBER ROLLS 20IN	LF	34205	34205
302	0120	AGGREGATE BASE COURSE CL 5	TON	94870	94870
302	0314	TEMPORARY TRAFFIC SURFACE AGGREGATE	TON	250	250
401	0050	TACK COAT	GAL	16156	16156
401	0060	PRIME COAT	GAL	14919	14919
401	0070	FOG SEAL	GAL	9959	9959
401	0160	BLOTTER MATERIAL CL 44	TON	448	448
411	0105	MILLING PAVEMENT SURFACE	SY	163553	163553
430	0142	RAP - SUPERPAVE FAA 42	TON	46618	46618
430	1000	CORED SAMPLE	EA	340	340
430	5803	PG 58S-28 ASPHALT CEMENT	TON	2797	2797
626	0100	COFFERDAM	EA	12	12
702	0100	MOBILIZATION	L SUM	1	1
704	0100	FLAGGING	MHR	2800	2800
704	1000	TRAFFIC CONTROL SIGNS	UNIT	4631	4631
704	1048	PORTABLE RUMBLE STRIPS	EA	2	2
704	1052	TYPE III BARRICADE	EA	4	4
704	1060	DELINEATOR DRUMS	EA	128	128
704	1067	TUBULAR MARKERS	EA	422	422
704	1081	VERTICAL PANELS-BACK TO BACK	EA	19	19
704	1185	PILOT CAR	HR	1400	1400
706	0400	FIELD OFFICE	EA	1	1
706	0500	AGGREGATE LABORATORY	EA	1	1

Estimated Quantities

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		ND 32			
SPEC	CODE	ITEM DESCRIPTION	UNIT		TOTAL
706	0550	BITUMINOUS LABORATORY	EA	1	1
706	0600	CONTRACTOR'S LABORATORY	EA	1	1
709	0100	GEOSYNTHETIC MATERIAL TYPE G	SY	131724	131724
714	0615	PIPE CONC REINF 24IN CL III	LF	200	200
714	0820	PIPE CONC REINF 30IN CL III	LF	70	70
714	0905	PIPE CONC REINF 36IN CL III	LF	16	16
714	2524	CURED-IN-PLACE PIPE-24IN	LF	488	488
714	2530	CURED-IN-PLACE PIPE-30IN	LF	146	146
714	2536	CURED-IN-PLACE PIPE-36IN	LF	248	248
714	3020	END SECT-CONC REINF 24IN	EA	3	3
714	4106	PIPE CONDUIT 24IN-APPROACH	LF	808	808
714	4113	PIPE CONDUIT 30IN-APPROACH	LF	97	97
714	4116	PIPE CONDUIT 36IN-APPROACH	LF	54	54
714	4135	PIPE CONDUIT 60IN	LF	79	79
714	5015	PIPE CORR STEEL .064IN 18IN	LF	356	356
714	5035	PIPE CORR STEEL .064IN 24IN	LF	255	255
714	5210	PIPE CORR STEEL .079IN 30IN	LF	15	15
714	5810	END SECT CORR STEEL .064IN 18IN	EA	9	9
714	5820	END SECT CORR STEEL .064IN 24IN	EA	7	7
714	5825	END SECT CORR STEEL .079IN 30IN	EA	2	2
714	9659	REMOVE & RELAY PIPE-ALL TYPES & SIZES	LF	64	64
714	9660	REMOVE & RELAY END SECTION-ALL TYPE & SIZES	EA	53	53
720	0110	RIGHT OF WAY MARKERS	EA	59	59
720	0125	ALIGNMENT MONUMENTS	EA	9	9
720	0130	IRON PIN R/W MONUMENTS	EA	25	25
720	0135	IRON PIN REFERENCE MONUMENTS	EA	34	34
752	0320	FENCE BARBED WIRE 4 STRAND-STEEL POST	LF	1634	1634
752	3150	CORNER ASSEMBLY BARBED WIRE-WOOD POST	EA	8	8
754	0110	FLAT SHEET FOR SIGNS-TYPE XI REFL SHEETING	SF	559	559
754	0155	DELINEATORS-TYPE A-DOUBLE SIDED	EA	105	105
754	0206	STEEL GALV POSTS-TELESCOPING PERFORATED TUBE	LF	1226	1226
754	0561	REFERENCE MARKER-TYPE A	EA	9	9
754	0562	REFERENCE MARKER-TYPE B	EA	1	1
754	0592	RESET SIGN PANEL	EA	8	8
754	0805	OBJECT MARKERS - CULVERTS	EA	126	126
760	0025	SINUSOIDAL RUMBLE STRIP - ASPHALT SHOULDER	MILE	21	21
760	0027	SINUSOIDAL RUMBLE STRIP - ASPHALT CENTERLINE	MILE	10.5	10.5
762	0111	EPOXY PVT MK 12IN LINE	LF	630	630
762	0112	EPOXY PVT MK MESSAGE	SF	458	458
762	0114	EPOXY PVT MK 6IN LINE	LF	149262	149262
762	0115	EPOXY PVT MK 8IN LINE	LF	995	995
762	0430	SHORT TERM 4IN LINE-TYPE NR	LF	39014	39014
764	2020	REMOVE 3-CABLE GUARDRAIL & POSTS	LF	613	613
766	0100	MAILBOX-ALL TYPES	EA	1	1
990	0400	PIPE CLEANOUT	EA	11	11

												STATE	PROJECT NO.			SECTION NO.	SHEET NO.
											ND	SS-XA-8-032(046)000			10	1	

ND Highway 32 (132nd Ave SE)																
0+52.43				0+52.43 to 1+23.00				1+23.00 to 10+50.00 41+50.00 to 51+50.00			10+50.00 to 12+44.00 39+65.22 to 41+50.00			12+44.00 to 39+50.67		
Length (Sta.) 0.000				Length (Sta.) 0.706				Length (Sta.) 19.270			Length (Sta.) 3.788			Length (Sta.) 27.067		
Proposed Typical Section 1 2 Lane - 32' Roadway Top Widening with 3" RAP Overlay				Transition from Proposed Typical Section 1 to Proposed Typical Section 2				Proposed Typical Section 2 2 Lane - 32' Roadway Top Widening with 3" RAP & Superelevation Correction			Transition from Proposed Typical Section 2 to Proposed Typical Section 3 (and vice versa)			Proposed Typical Section 3 2 Lane - 32' Roadway Top Widening with 3" RAP Overlay		
Material	Unit	Width (ft)	Area (sf)	Quantity	Width (ft)	Area (sf)	Quantity	Width (ft)	Area (sf)	Quantity	Width (ft)	Area (sf)	Quantity	Width (ft)	Area (sf)	Quantity
Geosynthetic Material Type G	SY	22.47	--	--	22.47	--	176.19	22.47	--	4811.08	22.46	--	945.06	22.44	--	6748.63
Aggregate Base Course Class 5 @ 1.875 Ton/CY	TON	--	18.14	--	--	19.51	95.59	--	20.87	2792.81	--	20.42	537.00	--	19.96	3751.75
Prime Coat @ 0.25 Gal/SY	GAL	9.83	--	--	9.60	--	18.82	9.37	--	501.56	9.43	--	99.17	9.48	--	712.76
Blotter Material CL 44 @ 15 lbs/SY	TON	9.83	--	--	9.60	--	0.56	9.37	--	15.05	9.43	--	2.98	9.48	--	21.38
Tack Coat @ 0.05 Gal/SY (Widening)	GAL	9.83	--	--	9.60	--	3.76	9.37	--	100.31	9.43	--	19.83	9.48	--	142.55
Tack Coat @ 0.05 Gal/SY (Overlay)	GAL	34.84	--	--	34.67	--	13.59	34.49	--	369.23	34.55	--	72.69	34.60	--	520.28
RAP - Superpave FAA 42 @ 2 Ton/CY (Widening/Reconstruct 1st Lift)	TON	--	1.14	--	--	0.85	4.42	--	0.55	78.51	--	0.83	23.15	--	1.10	220.54
RAP - Superpave FAA 42 @ 2 Ton/CY (Overlay)	TON	--	8.35	--	--	8.24	43.07	--	8.13	1160.48	--	8.23	230.78	--	8.32	1668.11
PG 58S-28 Asphalt Cement @ 6.0% (Widening/Reconstruct 1st Lift)	TON	--	--	--	--	--	0.27	--	--	4.71	--	--	1.39	--	--	13.23
PG 58S-28 Asphalt Cement @ 6.0% (Overlay)	TON	--	--	--	--	--	2.58	--	--	69.63	--	--	13.85	--	--	100.09
Fog Seal @ 0.05 Gal/SY	GAL	32.00	--	--	32.00	--	12.55	32.00	--	342.58	32.00	--	67.34	32.00	--	481.19

ND Highway 32 (132nd Ave SE)																
51+50.00 to 60+63.00 61+03.00 to 63+86.00				60+63.00 to 61+03.00				63+86.00 to 65+80.00			65+80.00 to 75+09.00 101+61.00 to 317+00.00			75+09.00 to 77+03.00 99+67.00 to 101+61.00		
Length (Sta.) 11.960				Length (Sta.) 0.400				Length (Sta.) 1.940			Length (Sta.) 224.680			Length (Sta.) 3.880		
Proposed Typical Section 4 2 Lane - 32' Roadway Top Widening with 3" RAP & Superelevation Correction				Proposed Typical Section 5 2 Lane - 32' Roadway Top Full Depth Reconstruction				Transition from Proposed Typical Section 4 to Proposed Typical Section 6 (and vice versa)			Proposed Typical Section 6 2 Lane - 32' Roadway Top Widening with 3" RAP			Transition from Proposed Typical Section 6 to Proposed Typical Section 7 (and vice versa)		
Material	Unit	Width (ft)	Area (sf)	Quantity	Width (ft)	Area (sf)	Quantity	Width (ft)	Area (sf)	Quantity	Width (ft)	Area (sf)	Quantity	Width (ft)	Area (sf)	Quantity
Geosynthetic Material Type G	SY	23.68	--	3146.81	48.91	--	217.38	23.66	--	510.00	23.64	--	59015.95	23.66	--	1019.79
Aggregate Base Course Class 5 @ 1.875 Ton/CY	TON	--	22.51	1869.58	--	55.63	154.53	--	21.99	296.19	--	21.46	33483.56	--	21.99	592.37
Prime Coat @ 0.25 Gal/SY	GAL	10.65	--	353.82	35.88	--	39.87	10.67	--	57.47	10.68	--	6665.51	10.69	--	115.21
Blotter Material CL 44 @ 15 lbs/SY	TON	10.65	--	10.61	35.88	--	1.20	10.67	--	1.72	10.68	--	199.97	10.69	--	3.46
Tack Coat @ 0.05 Gal/SY (Widening)	GAL	10.65	--	70.76	35.88	--	7.97	10.67	--	11.49	10.68	--	1333.10	10.69	--	23.04
Tack Coat @ 0.05 Gal/SY (Overlay)	GAL	33.28	--	221.13	34.60	--	7.69	33.94	--	36.58	34.60	--	4318.85	34.60	--	74.58
RAP - Superpave FAA 42 @ 2 Ton/CY (Widening/Reconstruct 1st Lift)	TON	--	0.61	54.04	--	4.40	13.04	--	0.94	13.44	--	1.26	2097.01	--	2.07	59.49
RAP - Superpave FAA 42 @ 2 Ton/CY (Overlay)	TON	--	8.32	737.09	--	8.32	24.65	--	8.32	119.56	--	8.32	13846.95	--	8.32	239.12
PG 58S-28 Asphalt Cement @ 6.0% (Widening/Reconstruct 1st Lift)	TON	--	--	3.24	--	--	0.78	--	--	0.81	--	--	125.82	--	--	3.57
PG 58S-28 Asphalt Cement @ 6.0% (Overlay)	TON	--	--	44.23	--	--	1.48	--	--	7.17	--	--	830.82	--	--	14.35
Fog Seal @ 0.05 Gal/SY	GAL	32.00	--	212.62	32.00	--	7.11	32.00	--	34.49	32.00	--	3994.31	32.00	--	68.98

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Basis of Estimate

REGISTERED PROFESSIONAL ENGINEER

MATTHEW J. HETTEL

PE-10780

DATE 05/16/2024

NORTH DAKOTA

												STATE	PROJECT NO.			SECTION NO.	SHEET NO.
												ND	SS-XA-8-032(046)000			10	2

ND Highway 32 (132nd Ave SE)																
77+03.00 to 99+67.00				317+00.00 to 320+22.00 326+33.00 to 403+48.00 405+61.00 to 424+00.00 452+00.00 to 530+33.30			320+22.00 to 326+33.00 424+00.00 to 452+00.00			403+48.00 to 405+61.00			530+33.30 to 538+13.32			
Length (Sta.) 22.640				Length (Sta.) 177.093			Length (Sta.) 34.110			Length (Sta.) 2.130			Length (Sta.) 7.800			
Proposed Typical Section 7 2 Lane - 32' Roadway Top Widening with 3" RAP & Superelevation Correction				Proposed Typical Section 8 2 Lane - 32' Roadway Top Widening with 3" RAP Overlay			Proposed Typical Section 9 2 Lane - 32' Roadway Top 3" RAP Overlay			Proposed Typical Section 10 2 Lane - 32' Roadway Top Full Depth Reconstruction			Transition from Proposed Typical Section 8 to Proposed Typical Section 11 (or vice versa)			
Material	Unit	Width (ft)	Area (sf)	Quantity	Width (ft)	Area (sf)	Quantity	Width (ft)	Area (sf)	Quantity	Width (ft)	Area (sf)	Quantity	Width (ft)	Area (sf)	Quantity
Geosynthetic Material Type G	SY	23.67	--	5954.32	23.84	--	46909.97	--	--	--	48.85	--	1156.12	11.92	--	1033.09
Aggregate Base Course Class 5 @ 1.875 Ton/CY	TON	--	22.51	3539.07	--	21.70	26686.93	--	--	--	--	52.95	783.22	--	10.85	587.72
Prime Coat @ 0.25 Gal/SY	GAL	10.70	--	672.91	10.88	--	5352.14	--	--	--	35.89	--	212.35	5.44	--	117.87
Blotter Material CL 44 @ 15 lbs/SY	TON	10.70	--	20.19	10.88	--	160.56	--	--	--	35.89	--	6.37	5.44	--	3.54
Tack Coat @ 0.05 Gal/SY (Widening)	GAL	10.70	--	134.58	10.88	--	1070.43	--	--	--	35.89	--	42.47	5.44	--	23.57
Tack Coat @ 0.05 Gal/SY (Overlay)	GAL	34.60	--	435.19	34.60	--	3404.12	35.09	--	664.96	34.60	--	40.94	40.85	--	177.00
RAP - Superpave FAA 42 @ 2 Ton/CY (Widening/Reconstruct 1st Lift)	TON	--	2.88	482.99	--	1.28	1679.10	--	--	--	--	4.40	69.42	--	0.64	36.98
RAP - Superpave FAA 42 @ 2 Ton/CY (Overlay)	TON	--	8.32	1395.29	--	8.32	10914.18	--	8.38	2117.35	--	8.32	131.27	--	9.85	569.13
PG 58S-28 Asphalt Cement @ 6.0% (Widening/Reconstruct 1st Lift)	TON	--	--	28.98	--	--	100.75	--	--	--	--	--	4.17	--	--	2.22
PG 58S-28 Asphalt Cement @ 6.0% (Overlay)	TON	--	--	83.72	--	--	654.85	--	--	127.04	--	--	7.88	--	--	34.15
Fog Seal @ 0.05 Gal/SY	GAL	32.00	--	402.49	32.00	--	3148.32	32.00	--	606.40	32.00	--	37.87	38.00	--	164.67

ND Highway 32 (132nd Ave SE)																
538+13.32 to 538+75.60 544+26.24 to 552+98.09				552+98.09 to 560+77.97			560+77.97									
Length (Sta.) 9.341				Length (Sta.) 7.799			Length (Sta.) 0.000									
Proposed Typical Section 10 2 Lane - 44' Roadway Top 3" RAP Overlay				Transition from Proposed Typical Section 8 to Proposed Typical Section 11 (or vice versa)			Proposed Typical Section 10 2 Lane - 32' Roadway Top RAP Overlay									
Material	Unit	Width (ft)	Area (sf)	Quantity	Width (ft)	Area (sf)	Quantity	Width (ft)	Area (sf)	Quantity						
Geosynthetic Material Type G	SY	--	--	--	--	--	--	--	--	--						
Aggregate Base Course Class 5 @ 1.875 Ton/CY	TON	--	--	--	--	--	--	--	--	--						
Prime Coat @ 0.25 Gal/SY	GAL	--	--	--	--	--	--	--	--	--						
Blotter Material CL 44 @ 15 lbs/SY	TON	--	--	--	--	--	--	--	--	--						
Tack Coat @ 0.05 Gal/SY (Widening)	GAL	--	--	--	--	--	--	--	--	--						
Tack Coat @ 0.05 Gal/SY (Overlay)	GAL	47.09	--	244.38	37.14	--	160.89	27.18	--	--						
RAP - Superpave FAA 42 @ 2 Ton/CY (Widening/Reconstruct 1st Lift)	TON	--	--	--	--	--	--	--	--	--						
RAP - Superpave FAA 42 @ 2 Ton/CY (Overlay)	TON	--	11.38	787.44	--	8.95	517.03	--	6.52	--						
PG 58S-28 Asphalt Cement @ 6.0% (Widening/Reconstruct 1st Lift)	TON	--	--	--	--	--	--	--	--	--						
PG 58S-28 Asphalt Cement @ 6.0% (Overlay)	TON	--	--	47.25	--	--	31.02	--	--	--						
Fog Seal @ 0.05 Gal/SY	GAL	44.00	--	228.34	34.50	--	149.48	25.00	--	--						

NDDOT Hwy 32 Rehab

State Line N to S Jct 11 Forman

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REGISTERED PROFESSIONAL ENGINEER

MATTHEW J. HUETH

PE-10780

DATE 05/16/2024

NORTH DAKOTA

STATE

ND

PROJECT NO.

SS-XA-8-032(046)000

SECTION NO.

10

SHEET NO.

3

762-0114 - EPOXY
6IN WHITE EDGE LINE

Station to	Station	Quantity
00+00	Lt 39+38	3,938 LF
00+00	Rt 39+63	3,963 LF
39+53	Lt 52+52	1,299 LF
39+77	Rt 52+52	1,275 LF
53+44	Rt 53+62	55 LF
53+53	Lt 53+69	17 LF
53+65	Rt 53+80	17 LF
53+69	Lt 53+92	55 LF
54+88	Lt 93+02	3,814 LF
54+88	Rt 113+47	5,859 LF
93+91	Lt 219+26	12,535 LF
114+41	Rt 219+26	10,485 LF
219+53	Lt 219+95	42 LF
219+95	Lt 219+95	53 LF
220+19	Rt 220+19	37 LF
220+19	Rt 220+57	39 LF
220+86	Lt 326+98	10,612 LF
220+86	Rt 272+44	5,158 LF
272+68	Rt 326+98	5,430 LF
328+21	Rt 379+74	5,153 LF
328+23	Lt 379+74	5,151 LF
380+68	Rt 380+69	52 LF
380+69	Rt 381+07	37 LF
381+08	Rt 485+41	10,433 LF
381+08	Lt 434+58	5,350 LF
435+82	Lt 538+13	10,231 LF
544+35	Rt 544+36	80 LF
544+36	Rt 544+76	40 LF
486+65	Rt 538+13	5,148 LF
544+88	Lt 560+78	1,590 LF
544+88	Rt 560+78	1,590 LF
TOTAL		109,538 LF

762-0114 - EPOXY
6IN YELLOW CENTERLINE SKIPS

Station to	Station	Quantity
00+00	CL 34+19	854.75 LF
71+00	CL 77+35	158.75 LF
111+67	CL 212+81	2,528.50 LF
227+31	CL 286+20	1,472.25 LF
294+60	CL 297+20	65.00 LF
305+50	CL 333+00	687.50 LF
338+00	CL 344+00	150.00 LF
349+00	CL 373+29	607.25 LF
387+53	CL 468+90	2,034.25 LF
476+90	CL 479+70	70.00 LF
487+80	CL 502+00	355.00 LF
507+00	CL 512+00	125.00 LF
517+00	CL 529+43	310.75 LF
TOTAL		9,419 LF

762-0111 - EPOXY
12IN WHITE CHANNEL LINE

Station to	Station	Quantity
544+88	CL 551+18	630 LF
TOTAL		630 LF

762-0114 - EPOXY
6IN YELLOW DOUBLE BARRIER

Station to	Station	Quantity
52+92	Rt 53+53	324 LF
53+79	Lt 54+52	334 LF
61+33	CL 66+34	1002 LF
77+35	CL 88+46	2222 LF
97+00	CL 100+36	672 LF
220+06	Lt 220+07	476 LF
220+07	Rt 220+08	250 LF
380+52	Rt 380+55	472 LF
529+43	CL 538+13	1740 LF
530+34	CL 538+13	1558 LF
538+13	CL 538+13	24 LF
538+72	Rt 538+73	162 LF
544+88	CL 560+78	3180 LF
551+18	CL 560+78	1920 LF
TOTAL		14,336 LF

762-0114 - EPOXY
6IN YELLOW BARRIER W/ LT CL SKIPS

Station to	Station	Quantity
34+19	CL 39+51	665 LF
46+07	CL 52+52	806.25 LF
88+46	CL 97+00	1067.5 LF
212+81	CL 219+26	806.25 LF
286+20	CL 294+60	1050 LF
333+00	CL 338+00	625 LF
373+29	CL 379+74	806.25 LF
468+90	CL 476+90	1000 LF
502+00	CL 507+00	625 LF
TOTAL		7451 LF

762-0114 - EPOXY
6IN YELLOW BARRIER W/ RT CL SKIPS

Station to	Station	Quantity
39+65	CL 46+07	802.5 LF
54+88	CL 61+33	806.25 LF
66+34	CL 71+00	582.5 LF
100+36	CL 111+67	1413.75 LF
220+86	CL 227+31	806.25 LF
297+20	CL 305+50	1037.5 LF
344+00	CL 349+00	625 LF
381+08	CL 387+53	806.25 LF
479+70	CL 487+80	1012.5 LF
512+00	CL 517+00	625 LF
TOTAL		8518 LF

762-0115 - EPOXY
8IN WHITE CHANNEL LINE

Station to	Station	Quantity
53+53	Lt 53+92	31 LF
53+44	Rt 53+80	30 LF
219+53	Lt 219+95	57 LF
220+19	Rt 220+57	46 LF
380+68	Rt 381+07	52 LF
544+35	Rt 544+76	149 LF
544+88	CL 551+18	630 LF
TOTAL		995 LF

762-0112 - EPOXY
PAVEMENT MARKING

Station to	Station	Quantity	Message
34+29	Rt 34+31	24 SF	Stop Bar
34+46	Rt 34+52	8 SF	2 R's
34+53	Rt 34+73	53 SF	Railroad Cross
34+88	Rt 34+90	24 SF	Stop Bar
39+26	Rt 39+28	24 SF	Stop Bar
39+87	Lt 39+89	24 SF	Stop Bar
44+26	Lt 44+28	24 SF	Stop Bar
44+42	Lt 44+62	53 SF	Railroad Cross
44+64	Lt 44+70	8 SF	2 R's
44+84	Lt 44+86	24 SF	Stop Bar
53+53	Rt 53+65	24 SF	Stop Bar
53+69	Lt 53+79	24 SF	Stop Bar
219+95	Lt 220+07	24 SF	Stop Bar
220+07	Rt 220+19	24 SF	Stop Bar
380+56	Rt 380+68	24 SF	Stop Bar
544+24	Rt 544+36	24 SF	Stop Bar
548+03	Rt 548+11	16 SF	Turn Arrow
550+58	Rt 550+66	16 SF	Turn Arrow
551+10	Rt 550+18	16 SF	Turn Arrow
TOTAL		458 SF	

QUANTITY SUMMARY

SPEC	CODE	DESCRIPTION	QUANTITY	UNIT
762	0112	EPOXY PVMT MK MESSAGE (WHITE)	458	SF
762	0114	EPOXY PVMT MK-6IN LINE (YELLOW)	39,724	LF
762	0114	EPOXY PVMT MK-6IN LINE (WHITE)	109,538	LF
763	0115	EPOXY PVMT MK-8IN LINE (WHITE)	995	LF
762	0111	EPOXY PVMT MK-12IN LINE (WHITE)	630	LF

430-1000 HBP Cored Samples

Specification Section	A	B	C	D	Quantity (1 per mile)	Unit
	Distance (Ft) / 1000	Lanes	Joints	Lifts		
430.04 I.2.b(1), "General"	55	2	-	2	220	- EA
430.04 I.2.b(2), "Pavement Denslty"	55		1	2	110	- EA
430.04 I.2.b(3), "Pavement Thickness Determination"						10 EA
Total					330	10 EA

202

0021

REMOVE AGGREGATE BASE & SURFACING

Sta	0+52	to	560+78	1.875/CY	TON	33,465
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216

0100

WATER

Aggregate	20 GAL/TON	MGAL	1,917
Dust Palliative	25 MGAL/MI	MGAL	263
Embankment	10 GAL/CY	MGAL	919

754

0155

DELINEATORS-TYPE A-DOUBLE SIDED

Sta	0+52	to	560+78	EA	105
-----	------	----	--------	----	-----

760

0025

SINUSOIDAL RUMBLE STRIP - ASPHALT SHOULDER

Sta	0+52	to	560+78	MILE	21.0
-----	------	----	--------	------	------

760

0027

SINUSOIDAL RUMBLE STRIP - ASPHALT CENTERLINE

Sta	0+52	to	560+78	MILE	10.5
-----	------	----	--------	------	------

766

0100

MAILBOX-ALL TYPES

Sta	508+76	Replace	EA	1
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NDDOT Hwy 32 Rehab

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MATTHEW J. HETT

PE-10780

DATE 05/16/2024

NORTH DAKOTA

4/23/202410:26:08 AMRSCHILLc:\pwworking\central\01\1d2895710\1010BE_003.dgn

SURFACING QUANTITY SUMMARY									
	Subcut Aggregate	Aggregate Base Course CL 5	Tack Coat	Prime Coat	Fog Seal	Blotter Material CL 44	RAP - Superpave FAA 42	PG 58S-28 Asphalt Cement	Geosynthetic Material Type G
LOCATION	203 - 0237	302 - 0120	401 - 0050	401 - 0060	401 - 0070	401 - 0160	430 - 0142	430 - 5803	709 - 0100
	(TON)	(TON)	(GAL)	(GAL)	(GAL)	(TON)	(TON)	(TON)	(SY)
Hwy 32 (132nd Ave SE)		75,170	13,746	14,919	9,959	448	39,334	2,360	131,644
Approaches		9,035	1,142	--	--	--	2,539	152	--
Superelevation Wedge			424				2,331	140	
Tangent Wedge		10,665	844				2,415	145	
Subcut	973								
Project Total =	973	94,870	16,156	14,919	9,959	448	46,618	2,797	131,644

EARTHWORK SUMMARY					
	Common Excavation-Type A	Common Excavation-Subcut	*Embankment	Borrow Excavation	Topsoil
LOCATION	203 - 0101	203 - 0138	--	203 - 0140	203 - 0109
	(CY)	(CY)	(CY)	(CY)	(CY)
Hwy 32	50,906	--	91,879	40,973	67,148
Subcut	--	519	--	--	--
Project Total =	50,906	519	91,879	40,973	67,148

* Volumes shown have been adjusted to account for 25% shrinkage.

SALVAGED SURFACING SUMMARY			
	Remove Aggregate Base & Surfacing	Milling Pavement Surface	Temporary Traffic Surface Aggregate
LOCATION	202 - 0021	411 - 0105	302 - 0314
	(TON)	(SY)	(TON)
Hwy 32	33,465	162,381	--
Approaches	--	--	--
Milling Depth Transitions	--	1,172	--
Temporary Pipe Widening	--	--	250
Project Total =	33,465	163,553	250

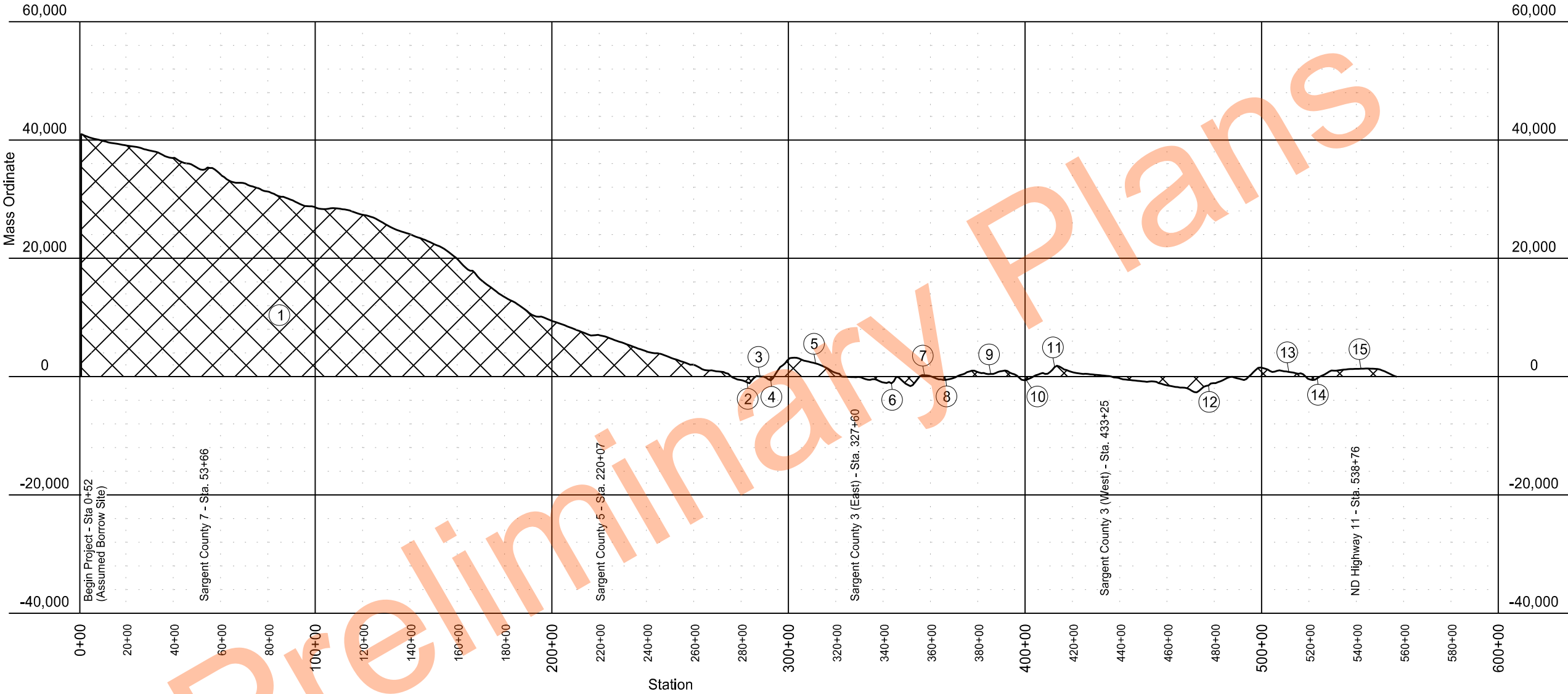
TRAVERSE MAINLINE PIPE INSTALLATION	
	Geosynthetic Material Type G
LOCATION	709 - 0100
	(SY)
Mainline Pipes	80
Project Total =	80

* Individual pipe locations and quantities shown in Section 51

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Data Tables



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SS-XA-8-032(046)000	11	2



NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Mass Haul Diagram



1	Excavation =	11,074	CY
	Borrow Excavation =	40,973	CY
	Embankment =	52,047	CY
	CY Stationing =	5,898,784	CY-STA
	Average Haul =	41,743	CY
		141.31	STA

2	Excavation =	1,703	CY
	Embankment =	1,703	CY
	CY Stationing =	5,778	CY-STA
	Average Haul =	948	CY
		6.09	STA

3	Excavation =	594	CY
	Embankment =	594	CY
	CY Stationing =	151	CY-STA
	Average Haul =	1	CY
		131.72	STA

4	Excavation =	947	CY
	Embankment =	947	CY
	CY Stationing =	1,405	CY-STA
	Average Haul =	632	CY
		2.22	STA

5	Excavation =	5,883	CY
	Embankment =	5,883	CY
	CY Stationing =	55,778	CY-STA
	Average Haul =	3,211	CY
		17.37	STA

6	Excavation =	5,301	CY
	Embankment =	5,301	CY
	CY Stationing =	18,702	CY-STA
	Average Haul =	2,568	CY
		7.28	STA

7	Excavation =	817	CY
	Embankment =	817	CY
	CY Stationing =	976	CY-STA
	Average Haul =	53	CY
		18.42	STA

8	Excavation =	1,845	CY
	Embankment =	1,845	CY
	CY Stationing =	3,905	CY-STA
	Average Haul =	467	CY
		8.37	STA

9	Excavation =	4,210	CY
	Embankment =	4,210	CY
	CY Stationing =	16,167	CY-STA
	Average Haul =	1,409	CY
		11.47	STA

10	Excavation =	1,178	CY
	Embankment =	1,178	CY
	CY Stationing =	2,271	CY-STA
	Average Haul =	215	CY
		10.57	STA

11	Excavation =	3,794	CY
	Embankment =	3,794	CY
	CY Stationing =	21,142	CY-STA
	Average Haul =	2,023	CY
		10.45	STA

12	Excavation =	6,737	CY
	Embankment =	6,737	CY
	CY Stationing =	60,516	CY-STA
	Average Haul =	3,293	CY
		18.38	STA

13	Excavation =	3,635	CY
	Embankment =	3,635	CY
	CY Stationing =	20,731	CY-STA
	Average Haul =	1,839	CY
		11.28	STA

14	Excavation =	1,013	CY
	Embankment =	1,013	CY
	CY Stationing =	2,213	CY-STA
	Average Haul =	575	CY
		3.85	STA

15	Excavation =	2,175	CY
	Embankment =	2,175	CY
	CY Stationing =	31,251	CY-STA
	Average Haul =	1,402	CY
		22.30	STA

PROJECT TOTALS			
Excavation =	50,906	CY	
Borrow Excavation =	40,973	CY	
Embankment =	91,879	CY	
CY Stationing =	6,139,769	CY-STA	
AVG Haul =	60,379	CY	
	101.69	STA	

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Mass Haul Diagram Tables



P.C. Station	=	00+78.03
P.I. Station	=	05+91.20
Delta	=	19°18'52" (LT)
Degree	=	01°54'00"
Tangent	=	513.17'
Length	=	1016.6
Radius	=	3015.71
External	=	
P.T. Station		10+94.63

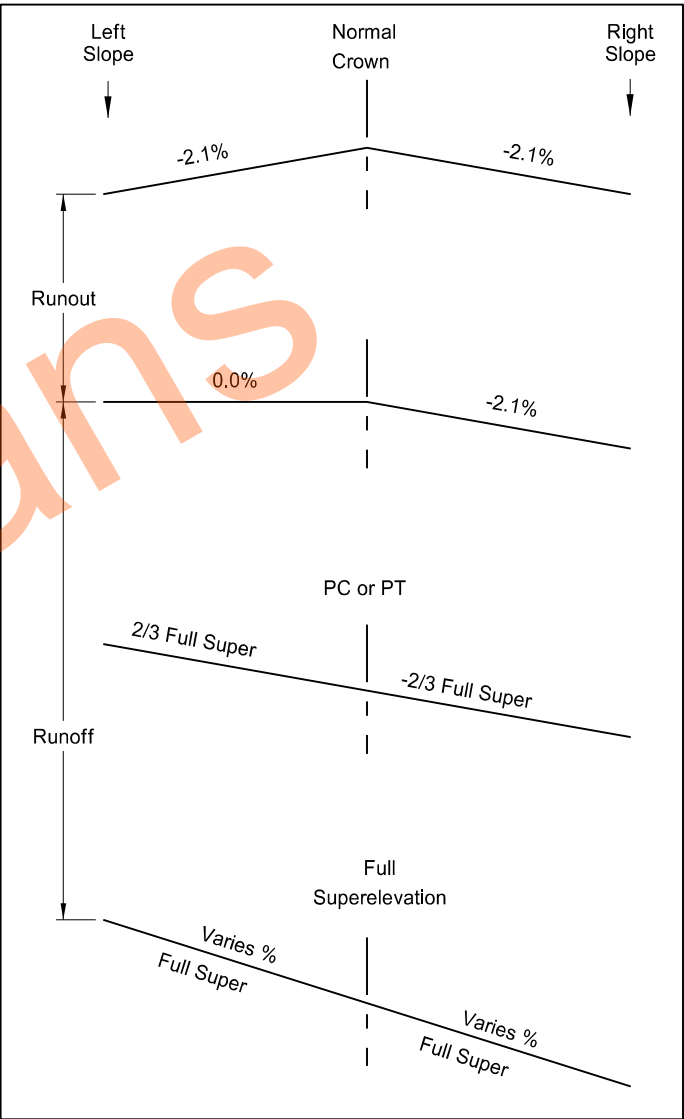
Station	Left Slope	Right Slope
0+52.43	-2.3%	2.3%
1+23.00	-4.8%	4.8%
10+50.00	-4.8%	4.8%
11+25.00	-2.1%	2.1%
11+84.00	-2.1%	0.0%
12+44.00	-2.1%	-2.1%

P.C. Station	=	41+04.81
P.I. Station	=	53+29.12
Delta	=	44°11'32" (LT)
Degree	=	01°54'00"
Tangent	=	1224.32'
Length	=	2326.02
Radius	=	3015.71
External	=	
P.T. Station		64+30.83

Station	Left Slope	Right Slope
39+56.00	-2.1%	-2.1%
40+15.00	-2.1%	0.0%
40+75.00	-2.1%	2.1%
41+50.00	-4.8%	4.8%
63+86.00	-4.8%	4.8%
64+61.00	-2.1%	2.1%
65+21.00	-2.1%	0.0%
65+80.00	-2.1%	-2.1%

P.C. Station	=	76+58.31
P.I. Station	=	88+98.45
Delta	=	44°42'28" (RT)
Degree	=	01°54'00"
Tangent	=	1240.15'
Length	=	2353.15
Radius	=	3015.71
External	=	
P.T. Station		100+11.46

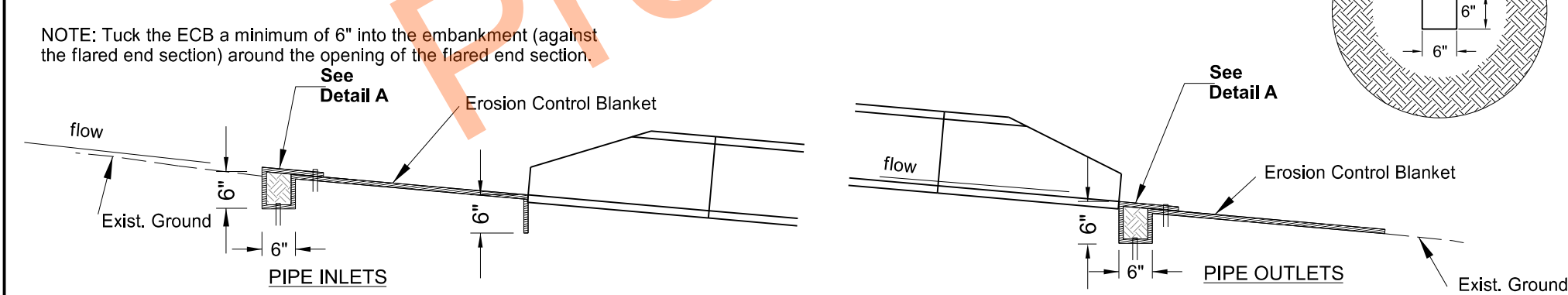
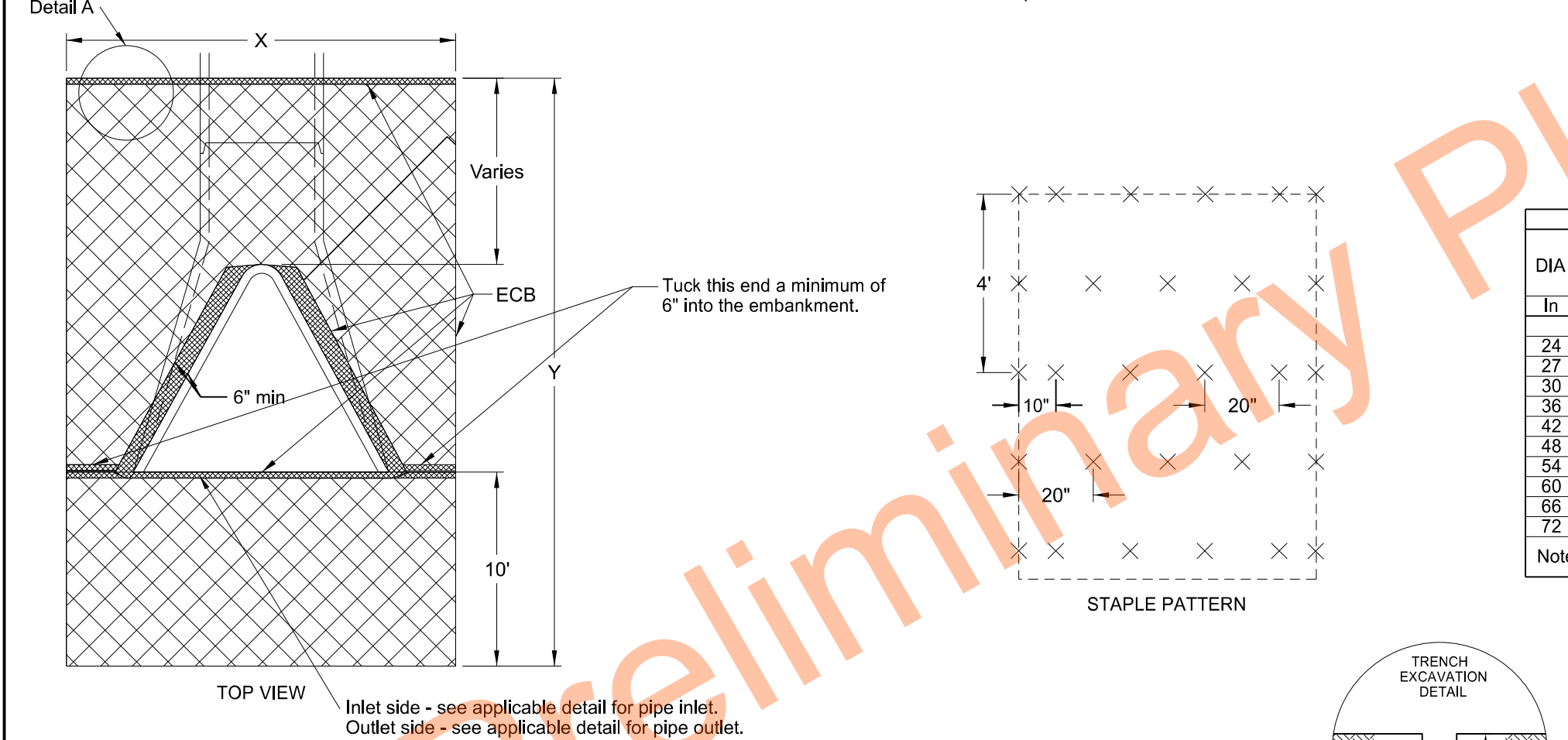
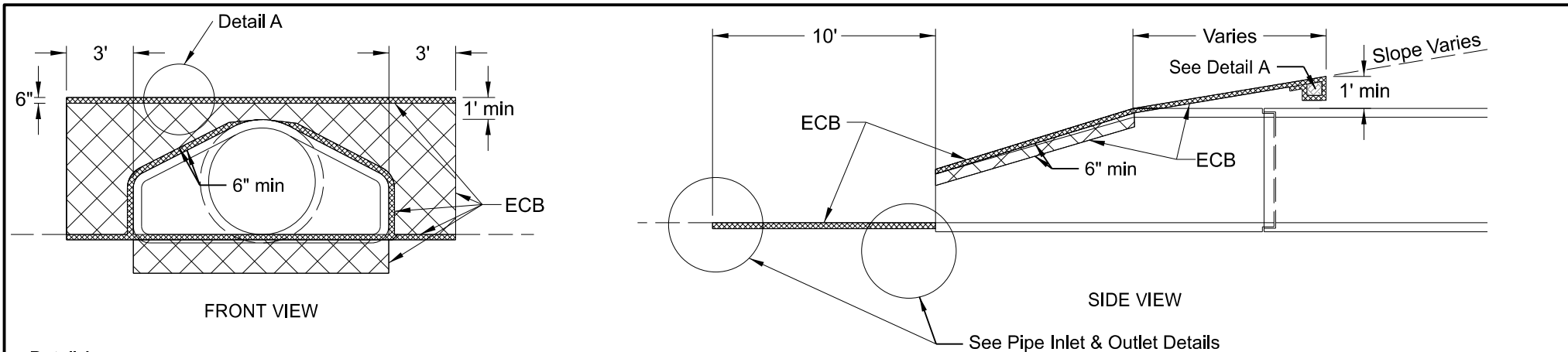
Station	Left Slope	Right Slope
75+09.00	-2.1%	-2.1%
75+69.00	0.0%	-2.1%
76+28.00	2.1%	-2.1%
77+03.00	4.8%	-4.8%
99+67.00	4.8%	-4.8%
100+42.00	2.1%	-2.1%
101+01.00	0.0%	-2.1%
101+61.00	-2.1%	-2.1%



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

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Superelevation Table





	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SS-XA-8-032(046)000	20	2

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

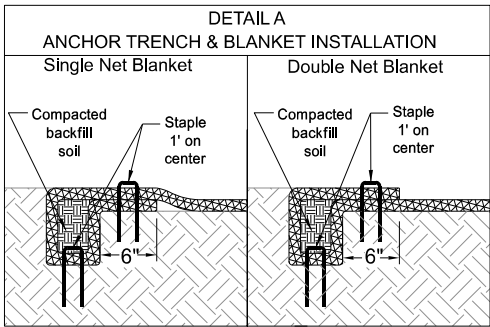
Note: Quantities based on 8:1 slope.

CENTERLINE CULVERTS				
DIA	X	Y	Surface area to be protected	ECB
In	Ft	Ft	SF	SY
24	10.5	19.6	193.1	22
27	11.0	20.0	204.3	23
30	11.6	20.5	218.3	25
36	12.7	21.2	242.1	27
42	13.3	21.2	251.8	28
48	13.8	22.0	265.6	30
54	14.5	21.5	273.7	31
60	15.0	21.0	278.3	31
66	15.6	22.0	295.7	33
72	16.2	22.5	309.2	35

Note: Quantities based on 6:1 slope.

DIA	X	Y	Surface area to be protected	ECB
In	Ft	Ft	SF	SY
24	10.5	17.6	172.1	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	20.0	238.0	27
54	14.5	19.5	244.7	28
60	15.0	19.0	248.3	28
66	15.6	20.0	264.5	30
72	16.2	20.5	276.8	31

Note: Quantities based on 4:1 slope.



NDDOT Hwy 32 Rehab

State Line N to S Jct 11 Forman

Erosion Control at Culvert Flared End Sections

REGISTERED PROFESSIONAL ENGINEER

MATTHEW J. HETTY

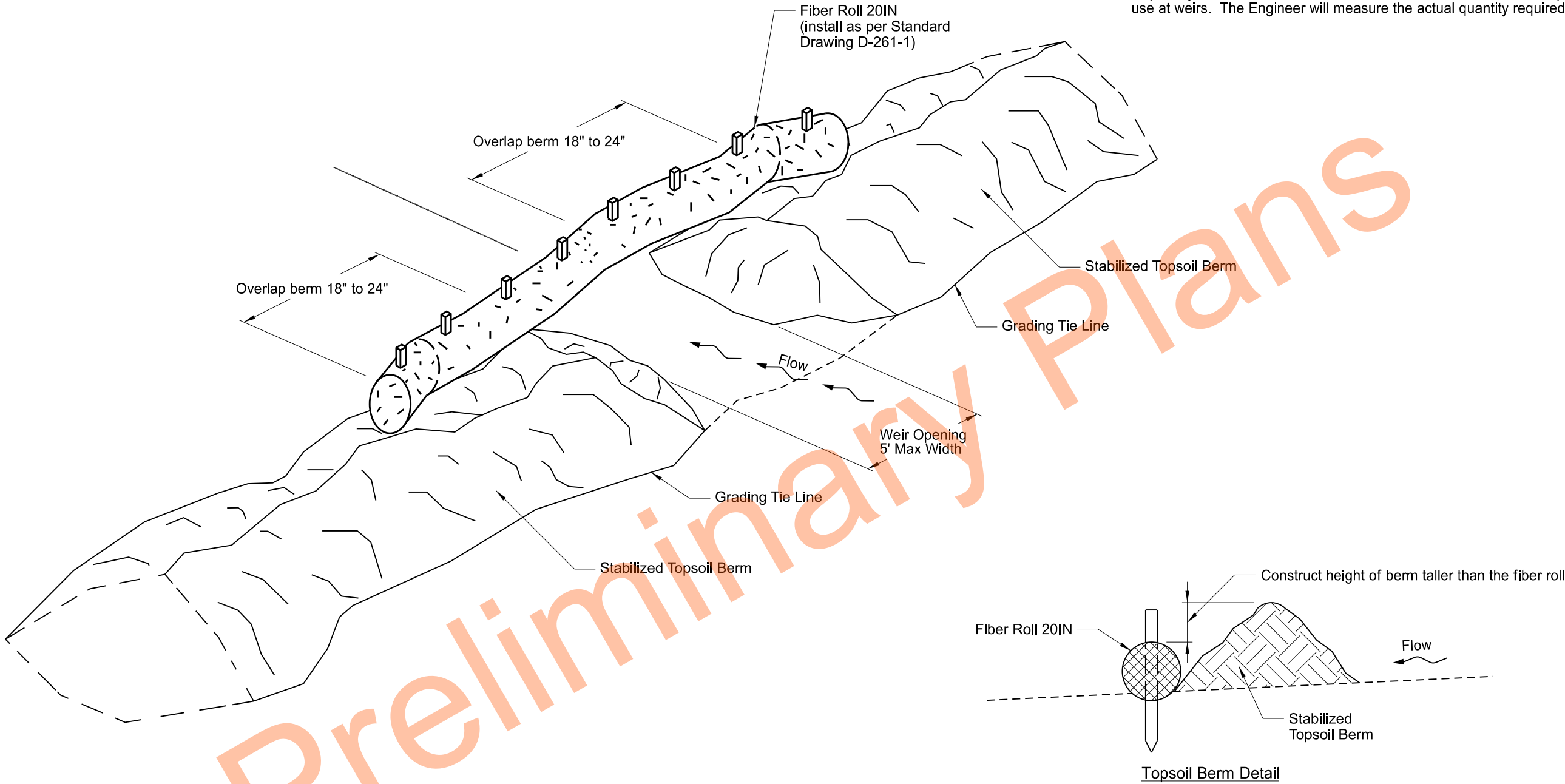
PE 10780

DATE 05/16/2024

NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SS-XA-8-032(046)000	20	3

A quantity of 1,000 LF of Fiber Roll 20IN has been included in the quantities for use at weirs. The Engineer will measure the actual quantity required in the field.



Notes:

1. Windrow the existing topsoil from the foreslope to create a berm at the grading tie line.
2. Stabilize berms in accordance with the Construction General Permit.
3. Place weirs intermittently throughout the length of the berm to allow stormwater to drain through the berm.
4. Avoid placing weirs adjacent to waterbodies.
5. Install fiber rolls as the weirs are created in the topsoil berm.
6. Include costs to create, stabilize, maintain, and dismantle the berm in the unit price bid for "Topsoil".
7. Include costs for fiber rolls in the unit price bid for "Fiber Rolls 20IN".

NDDOT Hwy 32 Rehab

State Line N to S Jct 11 Forman

Temporary Topsoil Berm and Weir Detail

REGISTERED PROFESSIONAL ENGINEER

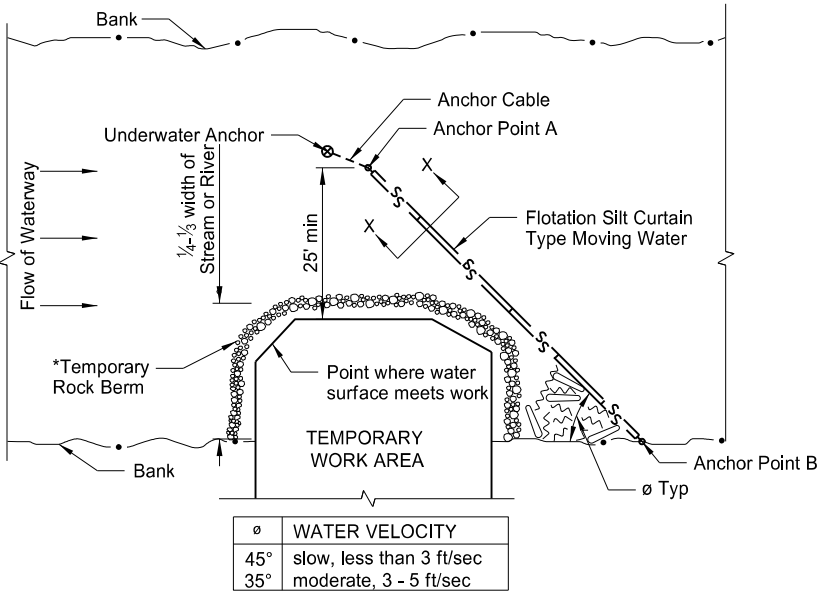
MATTHEW J. HUETT

PE-10780

DATE 05/16/2024

NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SS-XA-8-032(046)000	20	4



PLAN VIEW

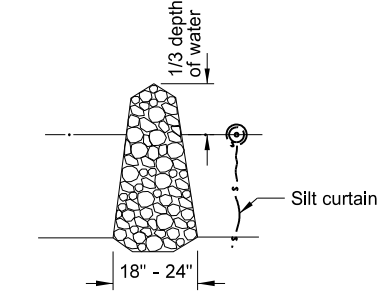
FLotation SILT CURTAIN - TYPE MOVING WATER

DESIGN GUIDELINES:

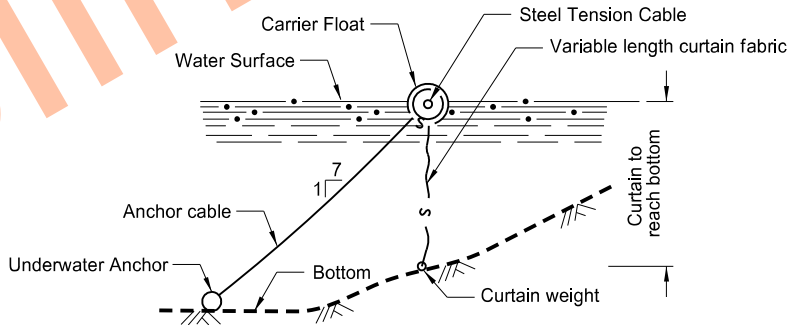
When temporary work encroaches more than 1/4 but less than 1/3 width of the stream.

For narrow waterways, the curtain may be placed 1 foot above the bottom of waterway to allow water flow.

*In areas where the plans call for riprap at the bridge, provide a temporary rock berm. Include all costs for the temporary rock berm in price bid for the "Riprap".

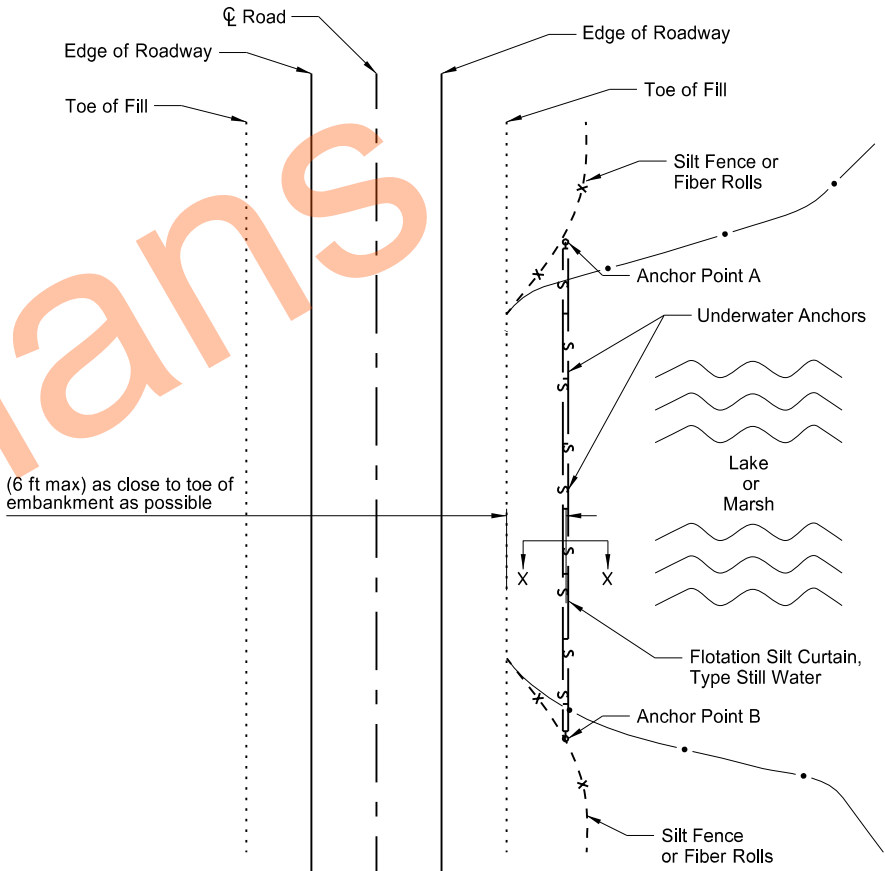


TEMPORARY ROCK BERM



Note:
Maximum water velocity for moving water = 5 ft/sec

SECTION X-X
FLotation SILT CURTAINS



PLAN VIEW

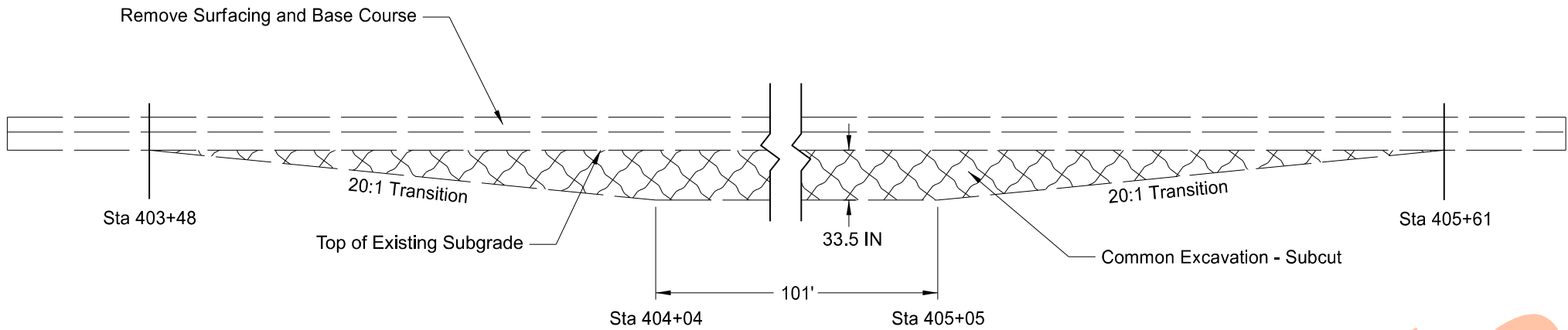
FLotation SILT CURTAIN - TYPE STILL WATER

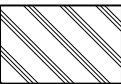
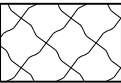
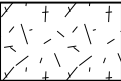
Extend silt curtain onto shore and anchor there also.

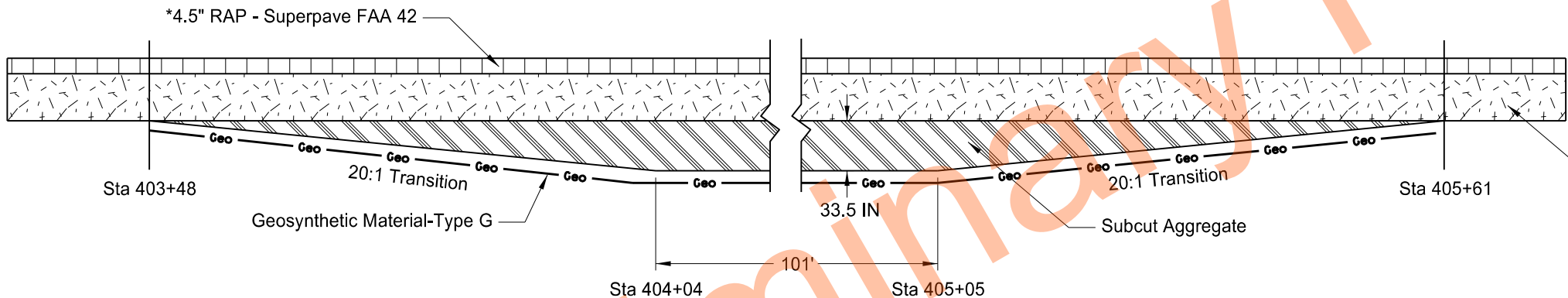
NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Temporary Erosion Control - Flotation Silt Curtain



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SS-XA-8-032(046)000	20	5



-  Subcut Aggregate
-  Common Excavation - Subcut
-  RAP - Superpave FAA 42
-  Aggregate Base Course CL 5



- Notes:
- (1) Place 12" of aggregate on the geogrid prior to compacting.
 - (2) Geosynthetic Material-Type G quantity included in Section 10.
 - (3) Do not scarify the bottom of the subcut.

Reconstruction	Full Depth Subcut	Transition Length	Existing Surfacing Depth	Subcut Depth	Common Excavation - Subcut	Subcut Aggregate
STA	LF	LF	IN	IN	CY	TON
403+48 to 405+61	101	112	18	33.5	519	973

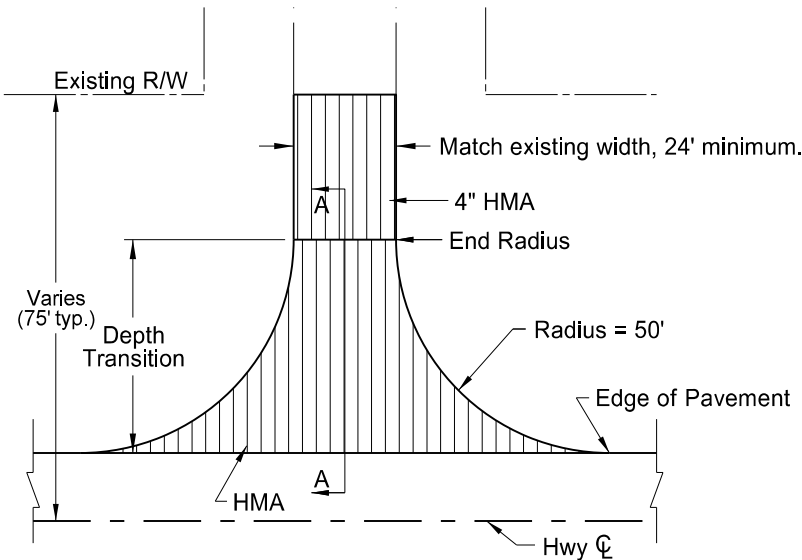
Note: Quantities are based on a 32' Graded Roadway Width.
*See Section 10, 11 and 30 for Aggregate Base and Surfacing Depths and Quantities.

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Subcut

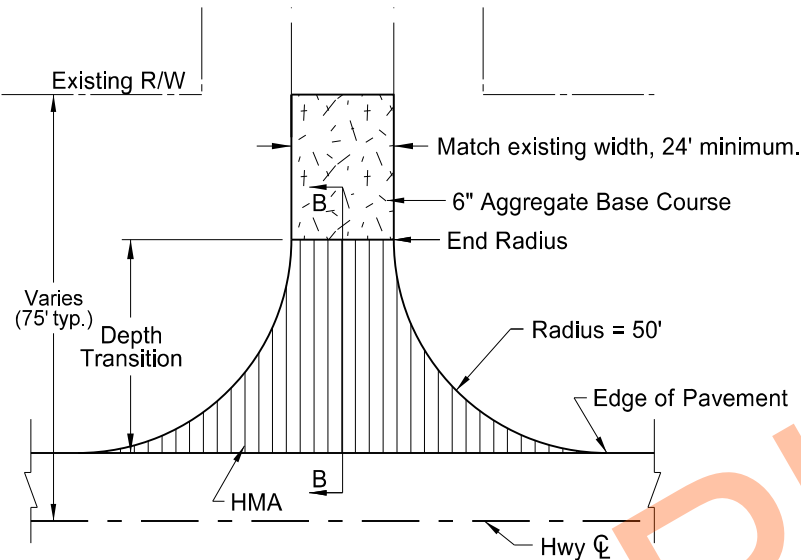


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-XA-8-032(046)000	20	6

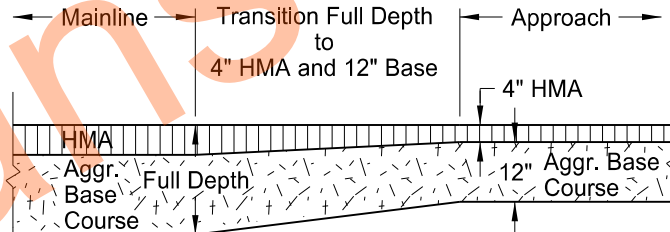
- Notes:
- 1. Actual HMA paving and aggregate base course locations may vary in the field, as approved by the Engineer.
 - 2. Quantity totals have been included in the bid items of the "Estimate of Quantities" of the plans.



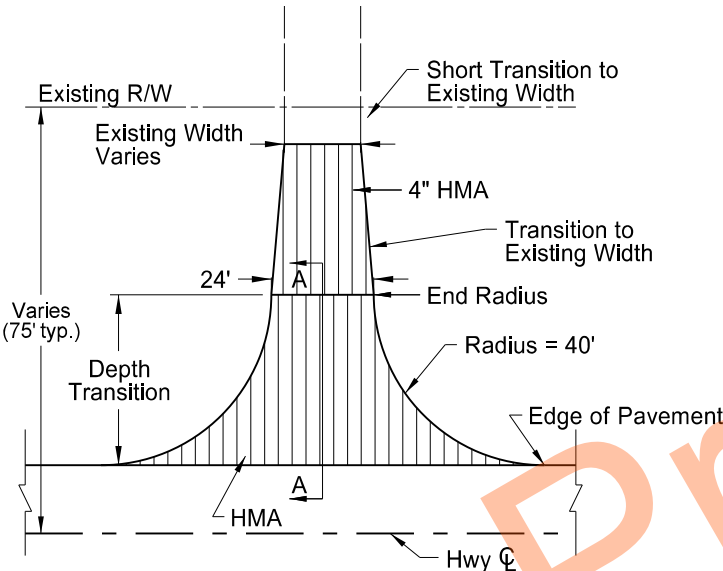
(1) Paved Section Line, County Road, or Street Approach



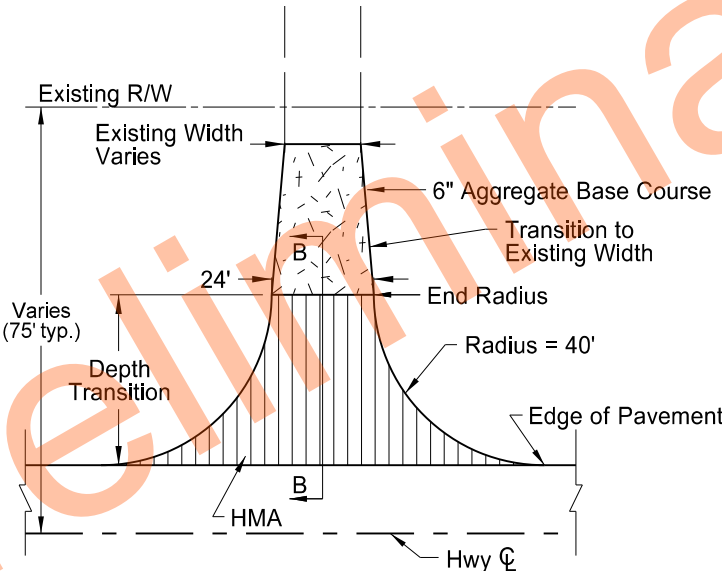
(2) Gravel Section Line, County Road, or Street Approach



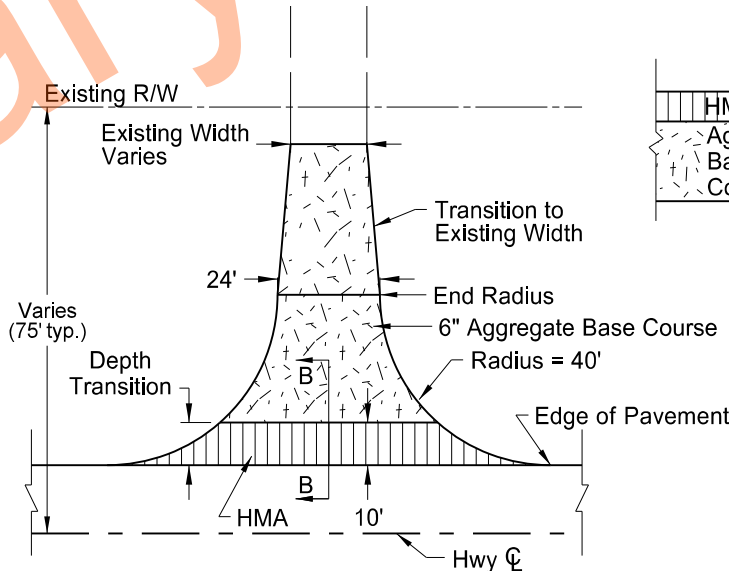
Section A-A
(not to scale)



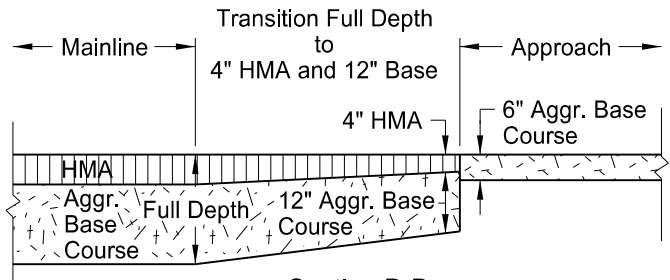
(3) Paved Private Drive Approach



(4) Gravel Private Drive Approach

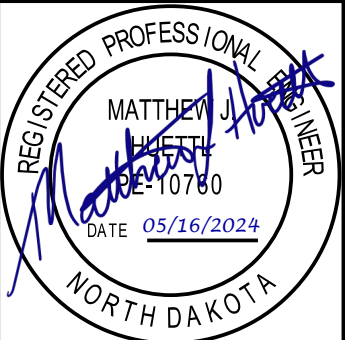


(5) Field Drive Approach



Section B-B
(not to scale)

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Approach Paving Details



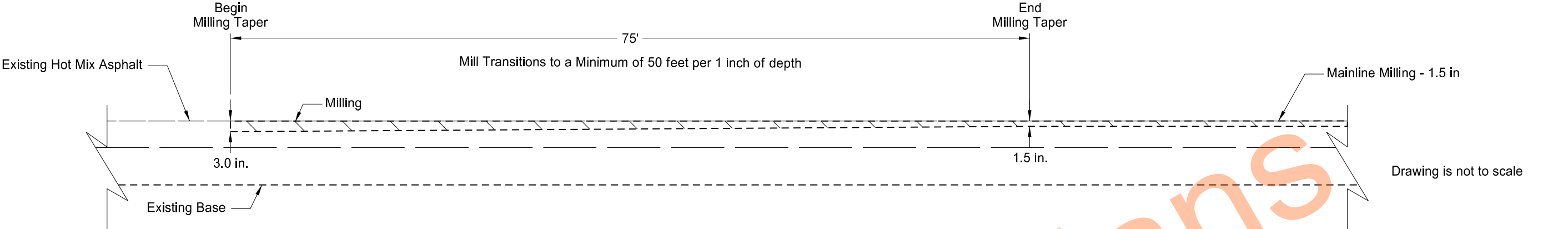
BASIS OF ESTIMATE													
APPROACH			AGGREGATE BASE COURSE CL5	TACK COAT	RAP SUPERPAVE FAA 42	PG 58S-28 ASPHALT CEMENT	APPROACH			AGGREGATE BASE COURSE CL5	TACK COAT	RAP SUPERPAVE FAA 42	PG 58S-28 ASPHALT CEMENT
LOCATION		DETAIL NUMBER	302 - 0120	401 - 0050	430 - 0042	430 - 5803	LOCATION		DETAIL NUMBER	302 - 0120	401 - 0050	430 - 0042	430 - 5803
			(TON)	(GAL)	(TON)	(TON)				(TON)	(GAL)	(TON)	(TON)
24+86	Rt	5	86.3	7.5	16.7	1.0	320+47	Lt	5	84.6	7.5	16.7	1.0
33+29	Lt	5	86.3	7.5	16.7	1.0	320+47	Rt	5	118.8	7.5	16.7	1.0
40+80	Lt	5	103.3	7.6	16.8	1.0	327+60	Rt	2	163.1	25.0	55.6	3.3
53+66	Rt	1	616.4	98.6	219.2	13.2	327+60	Lt	2	167.7	25.8	57.3	3.4
53+66	Lt	1	619.6	99.1	220.3	13.2	341+89	Lt	5	93.5	7.5	16.7	1.0
70+83	Lt	4	121.9	18.3	40.7	2.4	341+89	Rt	5	92.6	7.5	16.7	1.0
70+83	Rt	3	133.8	21.4	47.6	2.9	363+93	Lt	5	92.6	7.5	16.7	1.0
93+44	Lt	2	103.9	12.8	28.4	1.7	363+93	Rt	5	92.6	7.5	16.7	1.0
99+67	Rt	5	88.7	7.6	16.9	1.0	380+56	Rt	1	700.9	112.1	249.2	15.0
114+08	Lt	3	142.7	22.8	50.7	3.0	380+56	Lt	3	142.1	22.7	50.5	3.0
114+08	Rt	2	165.3	25.4	56.5	3.4	395+93	Rt	5	116.9	7.5	16.7	1.0
124+84	Lt	5	92.6	7.5	16.7	1.0	396+34	Lt	5	90.7	7.5	16.7	1.0
140+77	Lt	5	86.8	7.5	16.7	1.0	406+93	Rt	5	92.6	7.5	16.7	1.0
140+77	Rt	5	89.5	7.5	16.7	1.0	406+94	Lt	5	92.6	7.5	16.7	1.0
152+34	Lt	5	86.9	7.5	16.7	1.0	417+11	Lt	5	86.3	7.5	16.7	1.0
160+12	Rt	5	101.9	7.5	16.7	1.0	418+90	Rt	5	92.6	7.5	16.7	1.0
176+35	Lt	5	87.2	7.5	16.7	1.0	435+20	Lt	2	185.0	25.3	56.1	3.4
190+11	Lt	5	110.1	7.5	16.7	1.0	435+20	Rt	*	0.0	0.0	0.0	0.0
193+85	Rt	3	120.5	19.3	42.9	2.6	438+84	Rt	5	89.9	7.5	16.7	1.0
199+20	Rt	5	83.2	7.5	16.7	1.0	438+84	Lt	5	101.9	7.5	16.7	1.0
213+90	Lt	5	86.9	7.5	16.7	1.0	454+46	Lt	5	94.6	7.5	16.7	1.0
220+07	Lt	1	634.7	101.5	225.7	13.5	454+46	Rt	5	92.6	7.5	16.7	1.0
220+07	Rt	1	445.5	71.3	158.4	9.5	477+95	Lt	5	89.4	7.5	16.7	1.0
221+83	Rt	5	86.9	7.5	16.7	1.0	477+95	Rt	5	92.6	7.5	16.7	1.0
253+01	Rt	5	83.2	7.5	16.7	1.0	486+04	Lt	5	83.6	7.5	16.7	1.0
253+01	Lt	5	83.2	7.5	16.7	1.0	486+04	Rt	2	165.1	25.4	56.5	3.4
267+91	Rt	5	92.6	7.5	16.7	1.0	508+57	Rt	3	102.9	16.5	36.6	2.2
273+06	Lt	4	134.2	18.2	40.6	2.4	512+40	Lt	3	137.0	21.9	48.7	2.9
273+06	Rt	2	168.7	25.5	56.6	3.4	520+52	Rt	4	134.3	18.3	40.7	2.4
295+92	Lt	5	92.6	7.5	16.7	1.0	520+60	Lt	4	218.1	29.0	64.4	3.9
299+37	Rt	5	92.6	7.5	16.7	1.0							
SUBTOTAL =			5127.9	677.4	1505.4	90.3	SUBTOTAL =			3907.3	465.0	1033.3	62.0
PROJECT TOTAL =			9035.1	1142.4	2538.7	152.3							

* See Standard D-203-7 for recovery approach details.

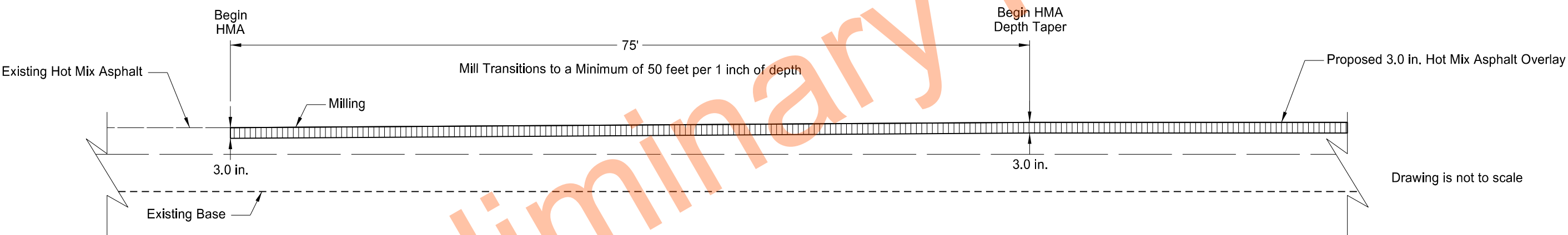
- Notes:
- Actual HMA paving and aggregate base course locations may vary in the field, as approved by the Engineer.
 - Quantity totals have been included in the bid items of the "Estimate of Quantities" of the plans.

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Approach Paving Details





Proposed Milling Transition



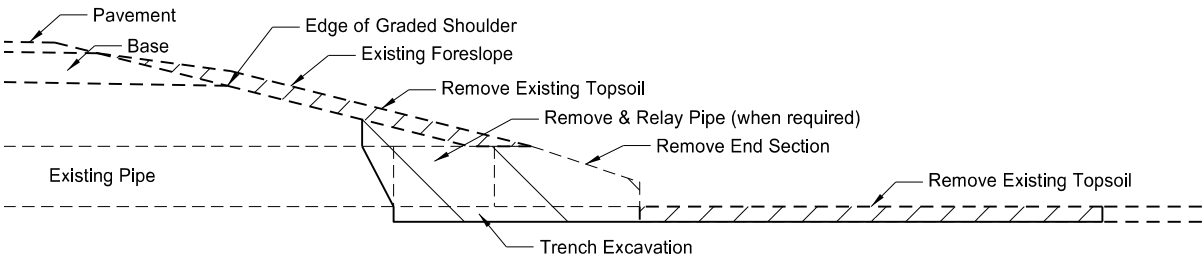
Proposed Pavement Transition

Milling and Paving Transition Locations					
Location	Begin Milling/Paving Station	Taper Length (Ft)	Begin Taper Depth (In.)	End Taper Depth (In.)	End Milling Depth Taper Station
Beginning of Project	0+52.43	75	3	1.5	1+27.43
DMVW RR Crossing	39+34.09	75	3	1.5	38+59.09
DMVW RR Crossing	39+81.83	75	3	1.5	40+56.83
ND 11 Intersection	538+75.6 (127' Rt)	75	3	1.5	538+75.6 (52' Rt)
End of Project	560+77.97	75	3	1.5	560+02.97

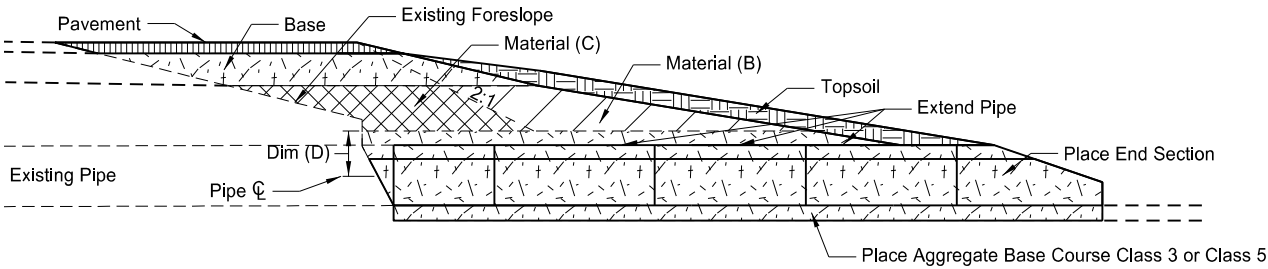
Note: Milling quantities are shown in Section 40.

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Milling and Paving End Transitions

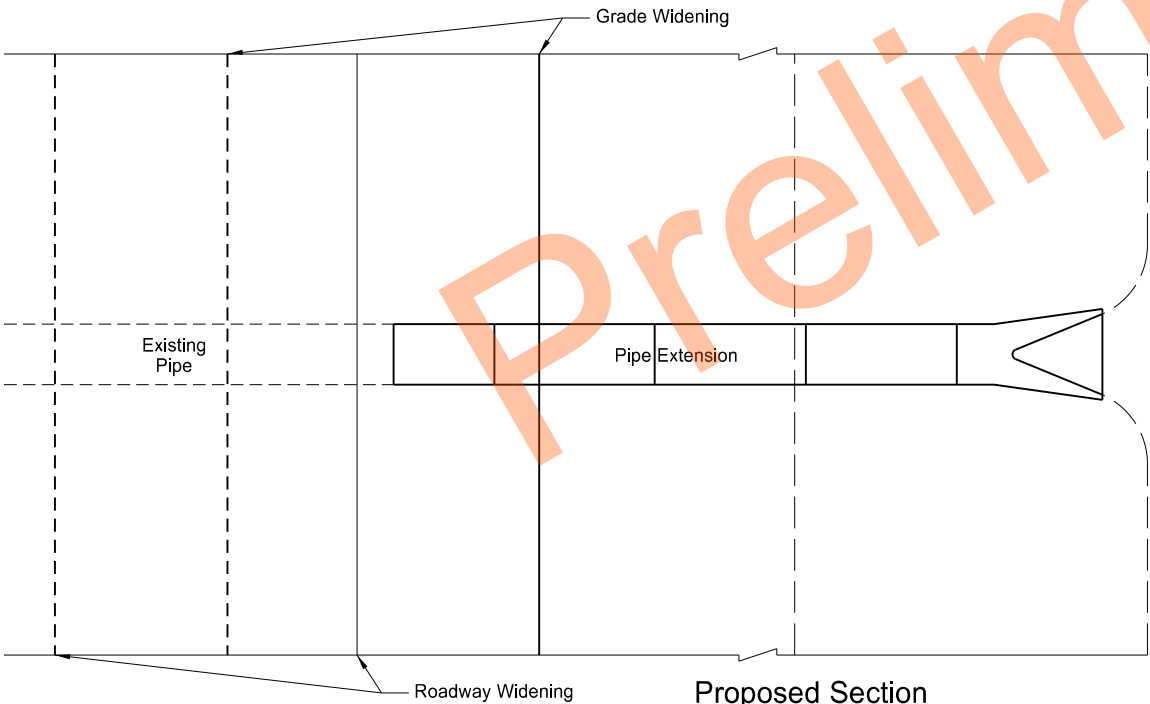




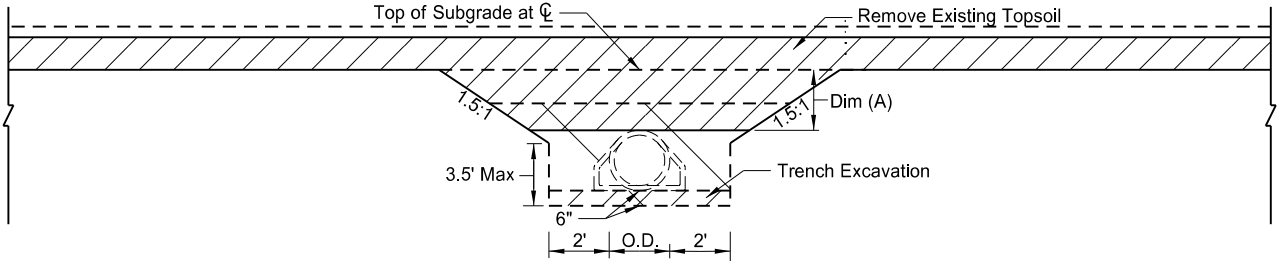
Removal Section
Cross Section View



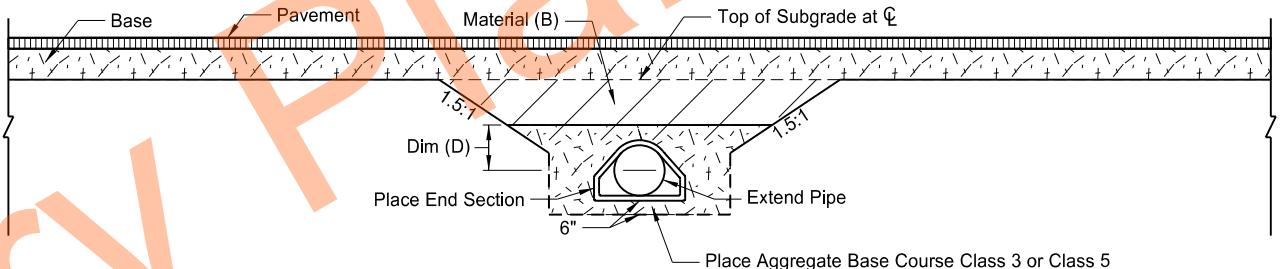
Proposed Section
Cross Section View



Proposed Section
Plan View



Removal Detail
Side View



Backfill Detail
Side View (Topsoil not shown)

- 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) Borrow Excavation or Common Excavation
 - 5) Topsoil
 - 6) Seeding
 - 7) Mulching

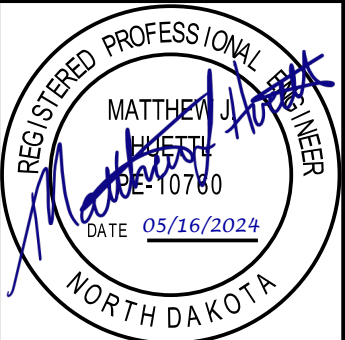
- *Included in Pipe Pay Item
- 1) Pipe
 - 2) Trench excavation
 - 3) Aggregate Base Course Class 3 or Class 5

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

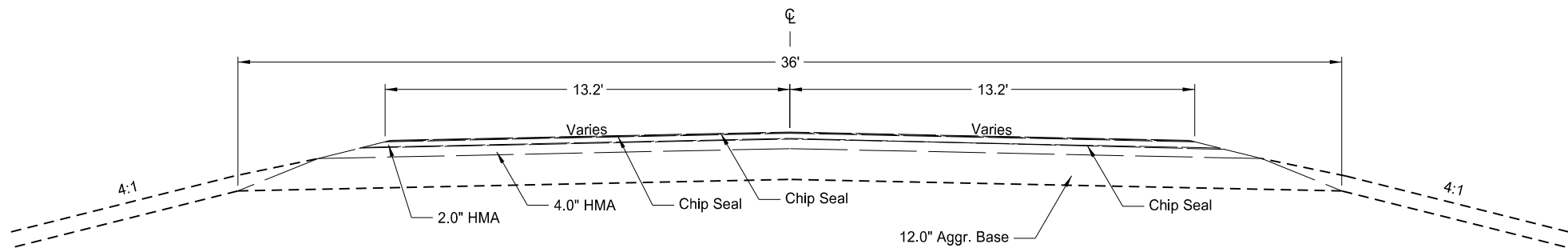
Pipe Materials	Dim (A) > 4 Feet		Backfill Dimension
	Material (B)	Material (C)	Dim (D)
Concrete	Embankment	Embankment	0.5 O.D.
Metal	Embankment	Embankment	0.5 O.D.+1 Foot

- NOTES:
1. Embankment may be either Borrow Excavation or Common Excavation
 2. Aggregate may be either Class 3 or Class 5 Aggregate Base Course.

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Mainline Widening CL Pipe Extension Detail

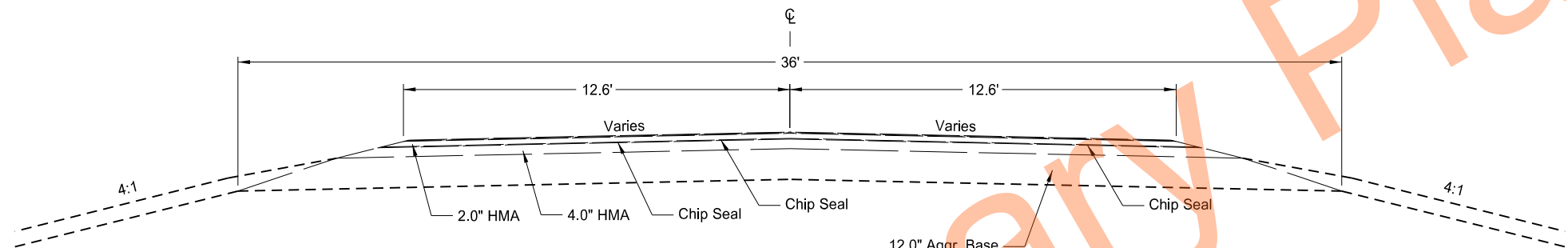


	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SS-XA-8-032(046)000	30	1



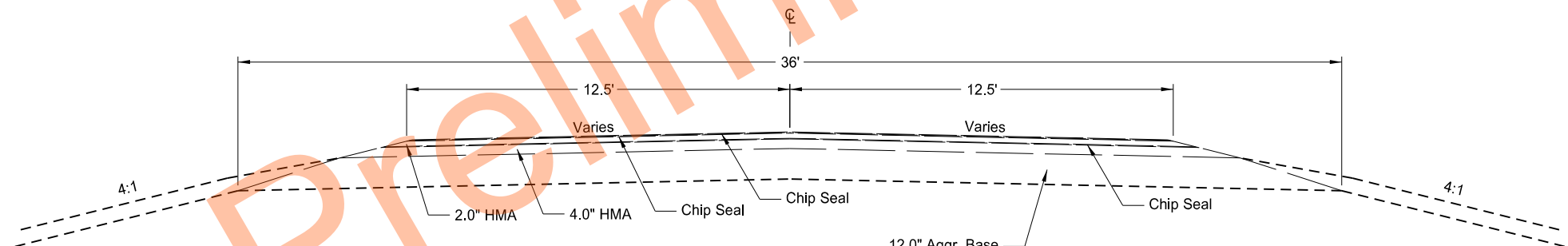
Existing Typical Section 1
Sta 0+52.43
Sta 1+23.00 to 10+50.00 (Superelevation)
Sta 12+44.00 to 39+50.67
Sta 41+50.00 to 51+50.00 (Superelevation)

*Sta 0+52.43 to 1+23.00 - Superelevation Transition
*Sta 10+50.00 to 12+44.00 - Superelevation Transition
Sta 51+50.00 - Roadway Width Transition
*Sta 39+50.67 to 39+65.22 - Railroad Crossing
Sta 39+65.22 to 41+50.00 - Superelevation Transition



Existing Typical Section 2
Sta 51+50.00 to 63+86.00 (Superelevation)
Sta 65+80.00 to 75+09.00
Sta 77+03.00 to 99+67.00 (Superelevation)
Sta. 101+61.00 to 317+00.00

*Sta 63+86.00 to 65+80.00 - Superelevation Transition
*Sta 75+09.00 to 77+03.00 - Superelevation Transition
Sta 317+00.00 - Roadway Width Transition
*Sta 99+67.00 to 101+61.00 - Superelevation Transition



Existing Typical Section 3
Sta 317+00.00 to 320+22.00
Sta 326+33.00 to 424+00.00
Sta 452+00.00 to 530+33.30
Sta 560+77.97

*Sta 320+22.00 - Roadway Width Transition
Sta 424+00.00 - Roadway Width Transition
Sta 530+33.30 to 538+13.32 - Taper Transition

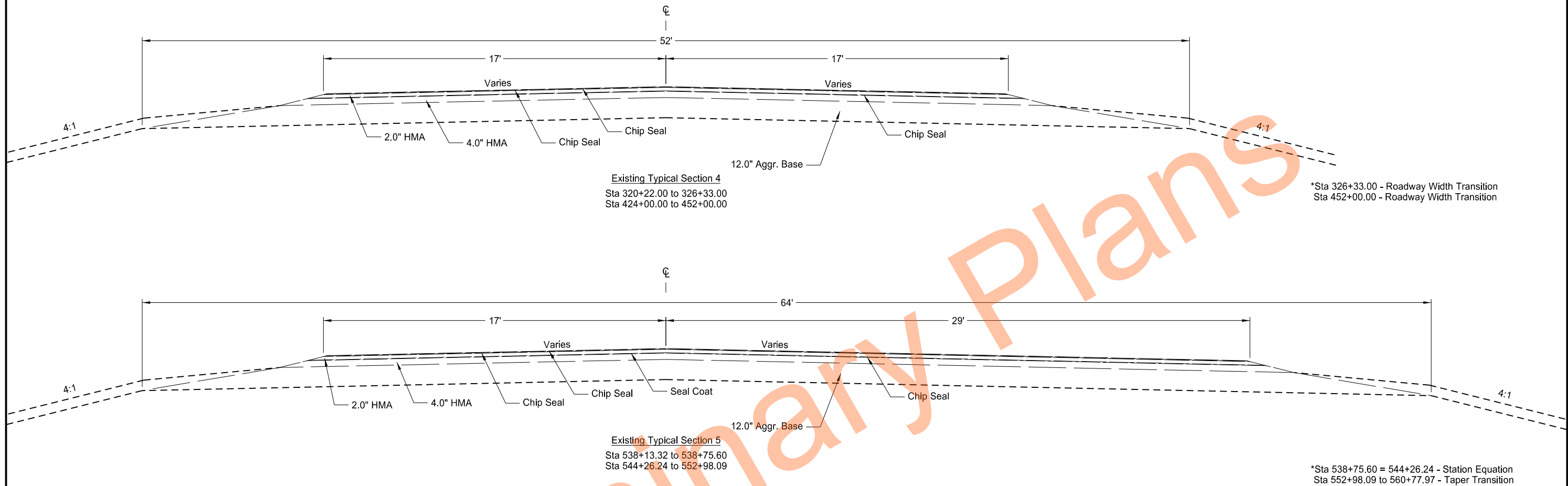
Note: ND 32 Scoping Report Shows the following surface data:

- 1998 - 12" x 36' Aggregate Base
- 1998 - 4" x 36' PG 58-28 HBP
- 2003 - 24' HFMS-2 Chip Seal
- 2010 - 2" x 25' PG 58-28 HBP
- 2013 - 27' HFMS-2 Chip Seal
- 2020 - 25' HFMS-2 Chip Seal

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Existing Typical Sections



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SS-XA-8-032(046)000	30	2



Preliminary Plans

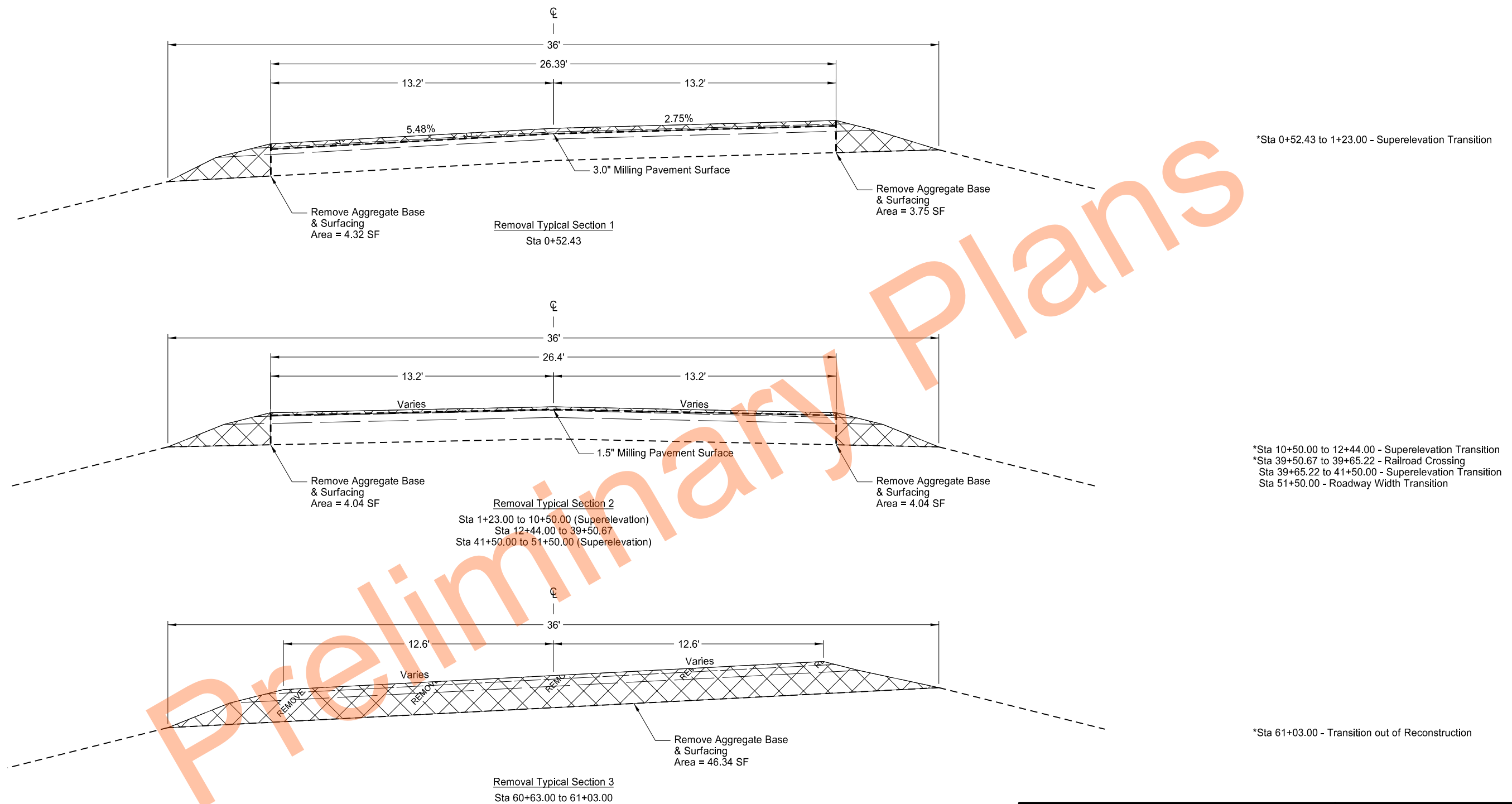
Note: ND 32 Scoping Report Shows the following surface data:

- 1998 - 12" x 36' Aggregate Base
- 1998 - 4" x 36' PG 58-28 HBP
- 2003 - 24' HFMS-2 Chip Seal
- 2010 - 2" x 25' PG 58-28 HBP
- 2013 - 27' HFMS-2 Chip Seal
- 2020 - 25' HFMS-2 Chip Seal

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Existing Typical Sections



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SS-XA-8-032(046)000	30	3



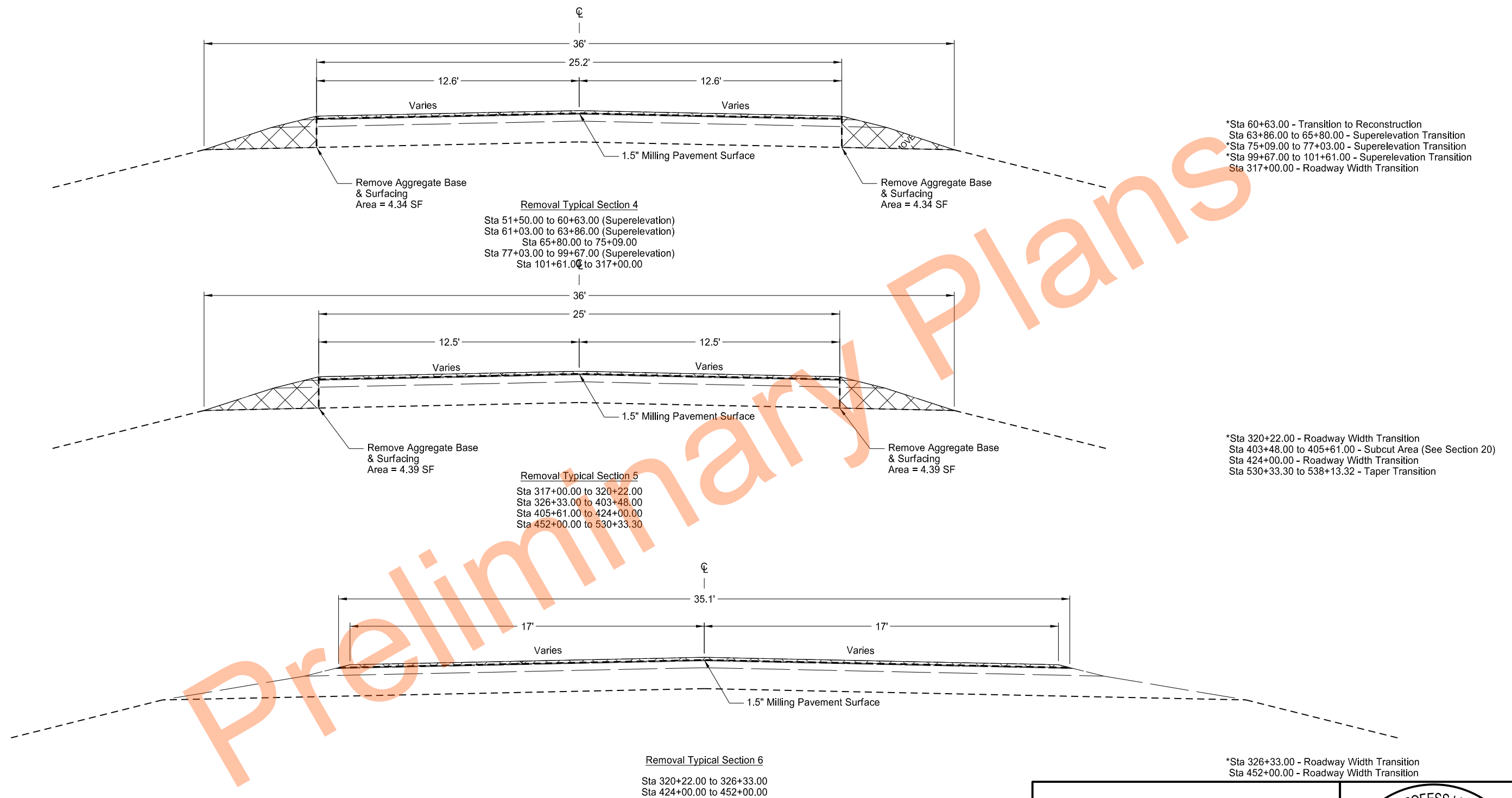
Note: ND 32 Scoping Report Shows the following surface data:

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- 1998 - 4" x 36' PG 58-28 HBP
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- 2010 - 2" x 25' PG 58-28 HBP
- 2013 - 27' HFMS-2 Chip Seal
- 2020 - 25' HFMS-2 Chip Seal

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Removal Typical Sections



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-XA-8-032(046)000	30	4



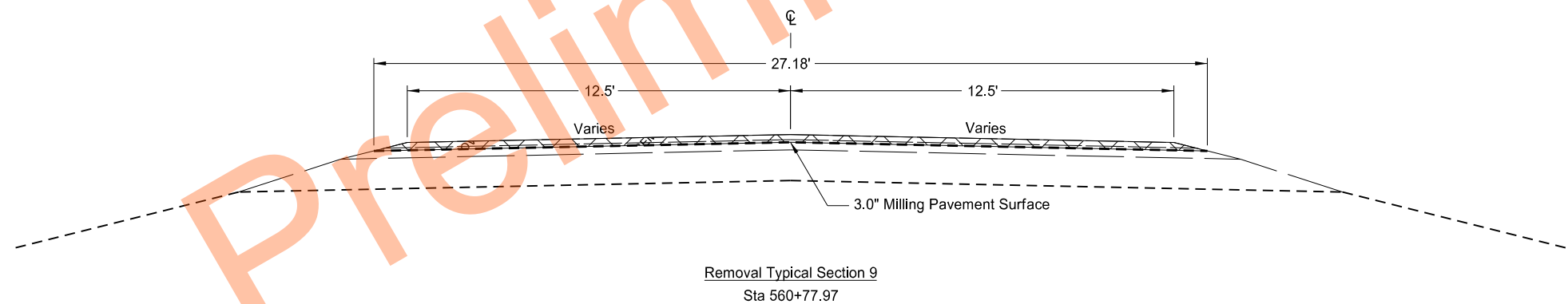
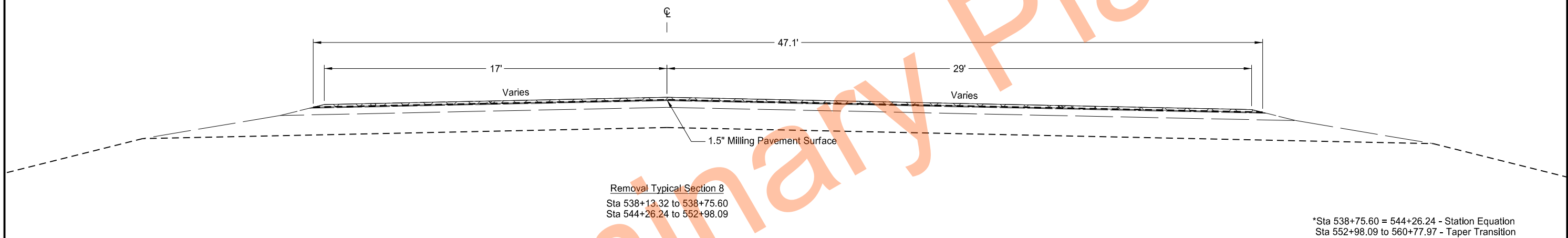
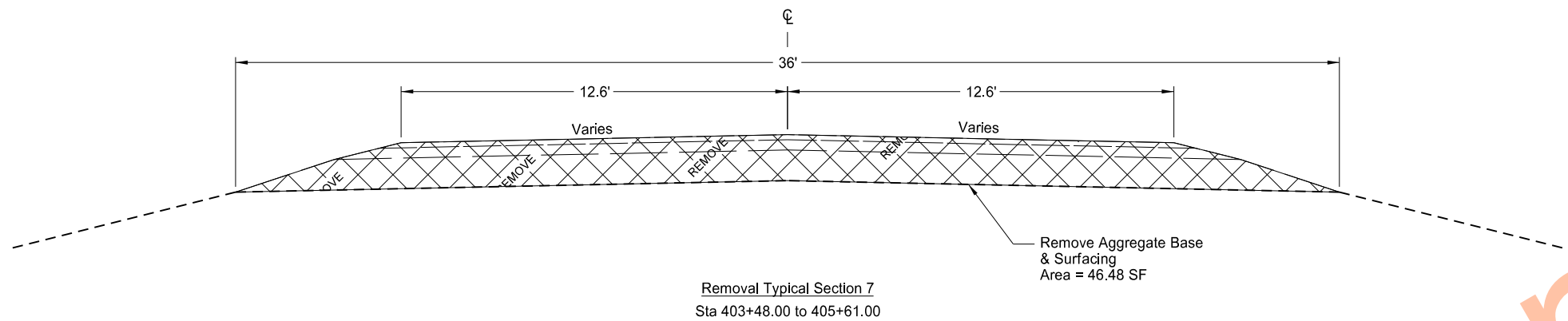
Note: ND 32 Scoping Report Shows the following surface data:

- 1998 - 12" x 36' Aggregate Base
- 1998 - 4" x 36' PG 58-28 HBP
- 2003 - 24' HFMS-2 Chip Seal
- 2010 - 2" x 25' PG 58-28 HBP
- 2013 - 27' HFMS-2 Chip Seal
- 2020 - 25' HFMS-2 Chip Seal

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Removal Typical Sections



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SS-XA-8-032(046)000	30	5



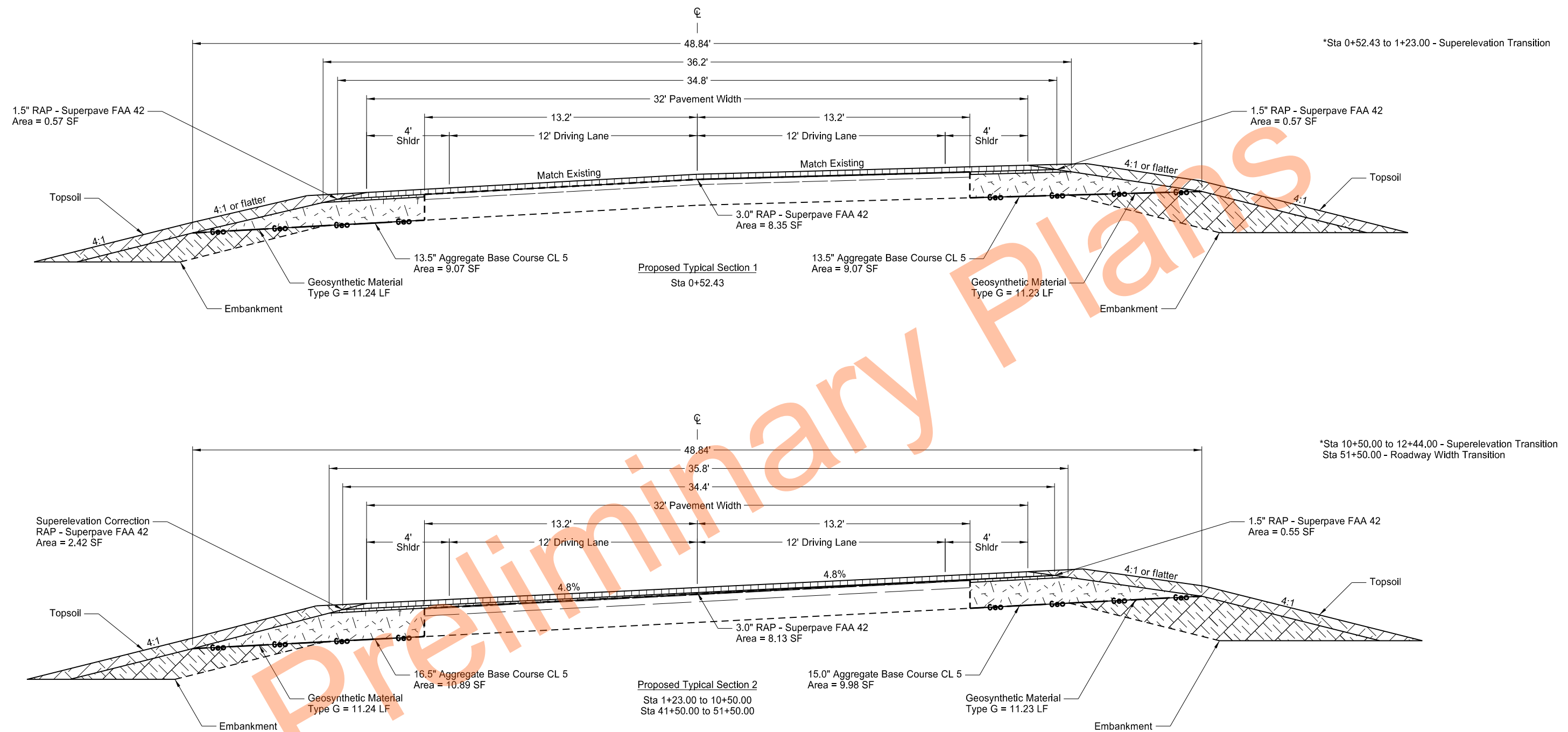
Note: ND 32 Scoping Report Shows the following surface data:

- 1998 - 12" x 36' Aggregate Base
- 1998 - 4" x 36' PG 58-28 HBP
- 2003 - 24' HFMS-2 Chip Seal
- 2010 - 2" x 25' PG 58-28 HBP
- 2013 - 27' HFMS-2 Chip Seal
- 2020 - 25' HFMS-2 Chip Seal

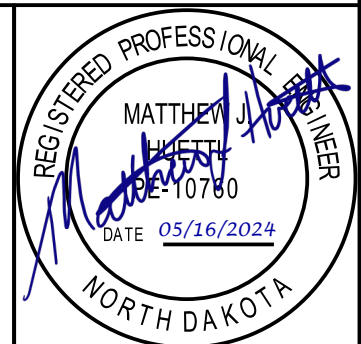
NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Removal Typical Sections



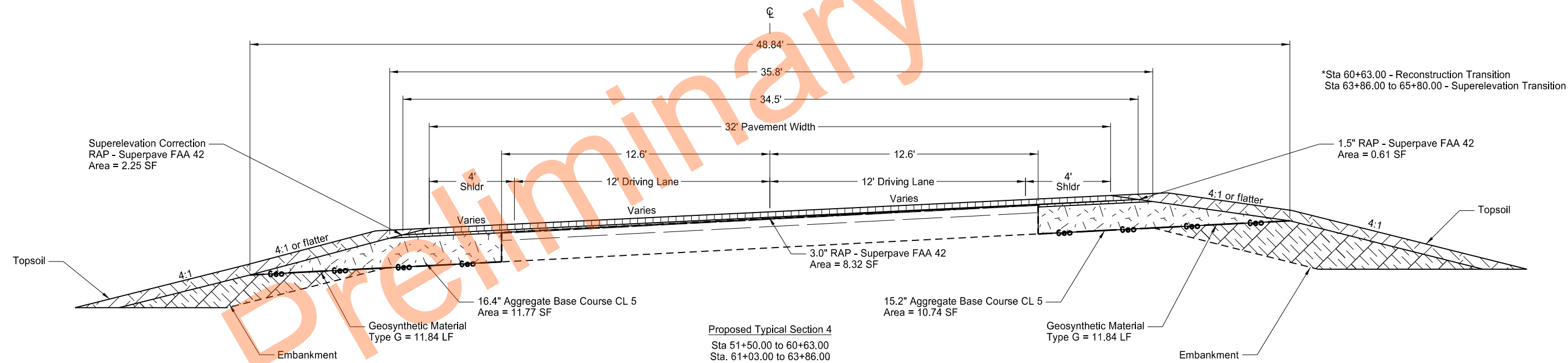
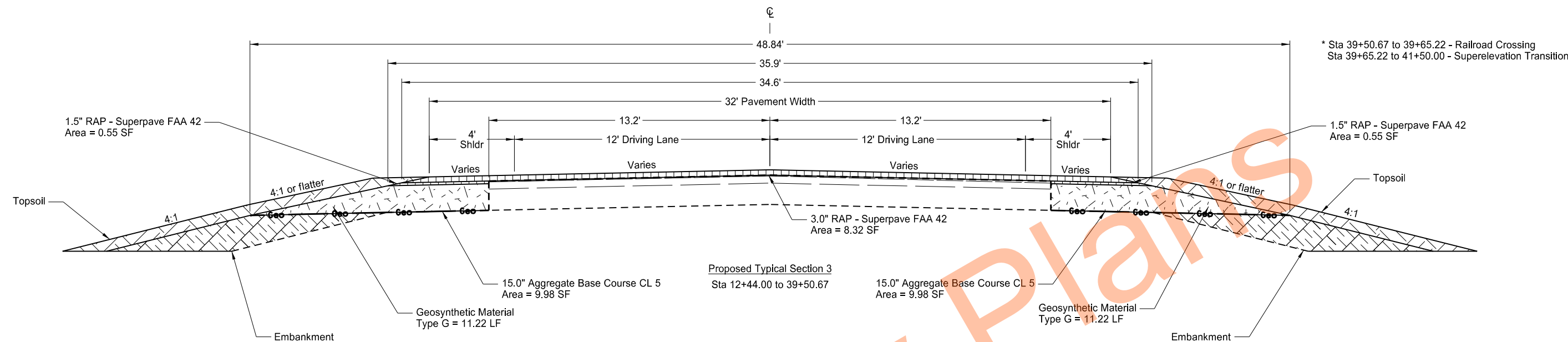
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	ND	SS-XA-8-032(046)000	30	6



NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Proposed Typical Sections

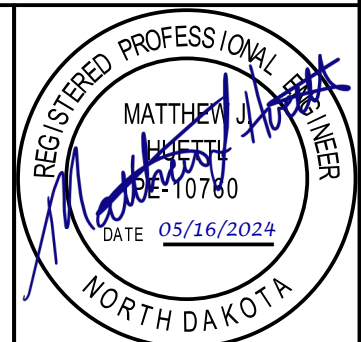


	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SS-XA-8-032(046)000	30	7

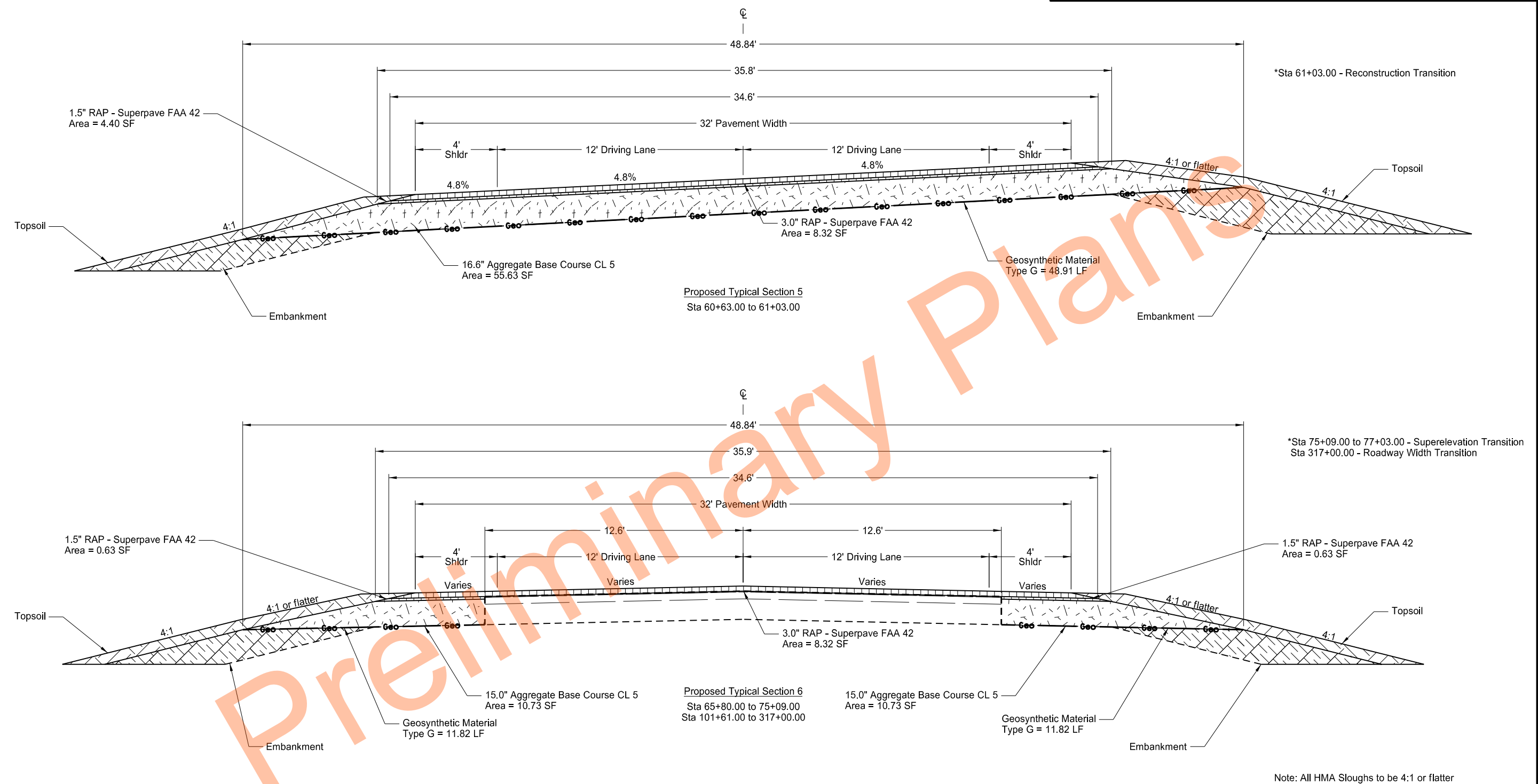


Note: All HMA Sloughs to be 4:1 or flatter

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Proposed Typical Sections



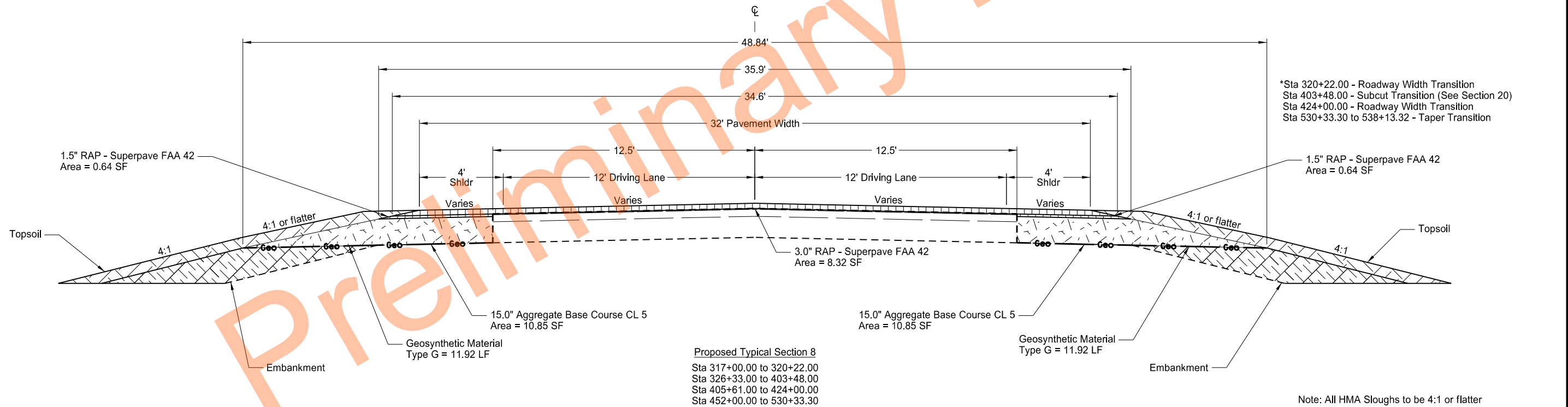
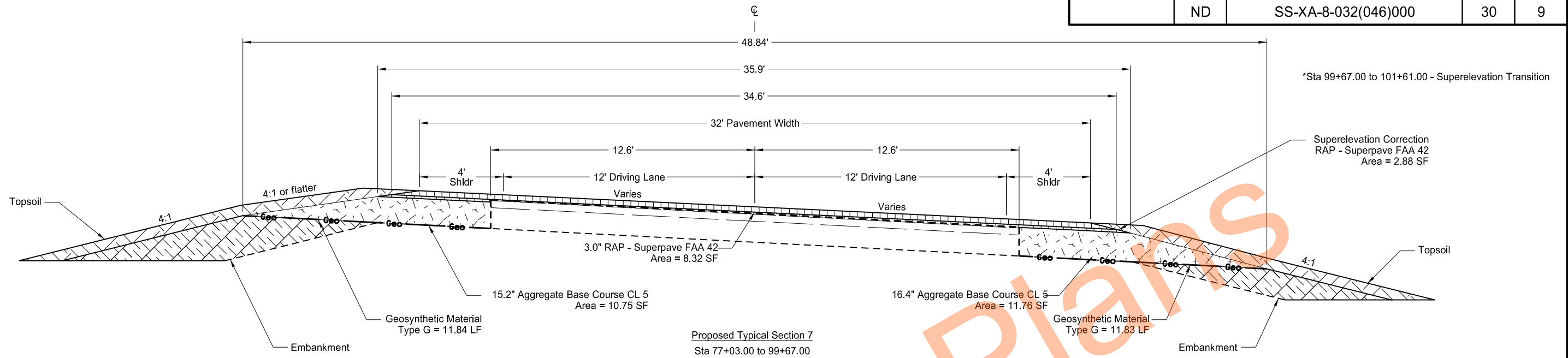
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-XA-8-032(046)000	30	8



NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Proposed Typical Sections

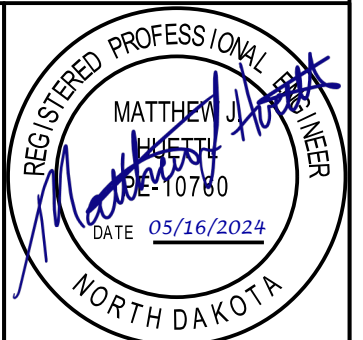
REGISTERED PROFESSIONAL ENGINEER
MATTHEW J. HETTEL
PE-10780
DATE 05/16/2024
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-XA-8-032(046)000	30	9

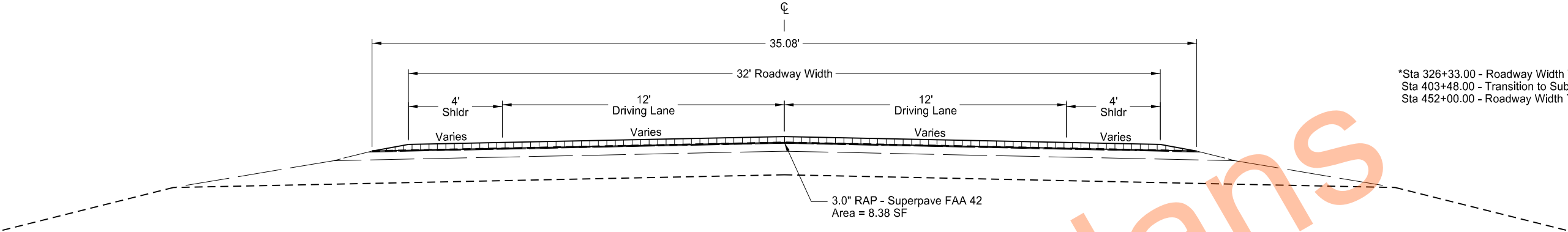


Note: All HMA Sloughs to be 4:1 or flatter

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Proposed Typical Sections

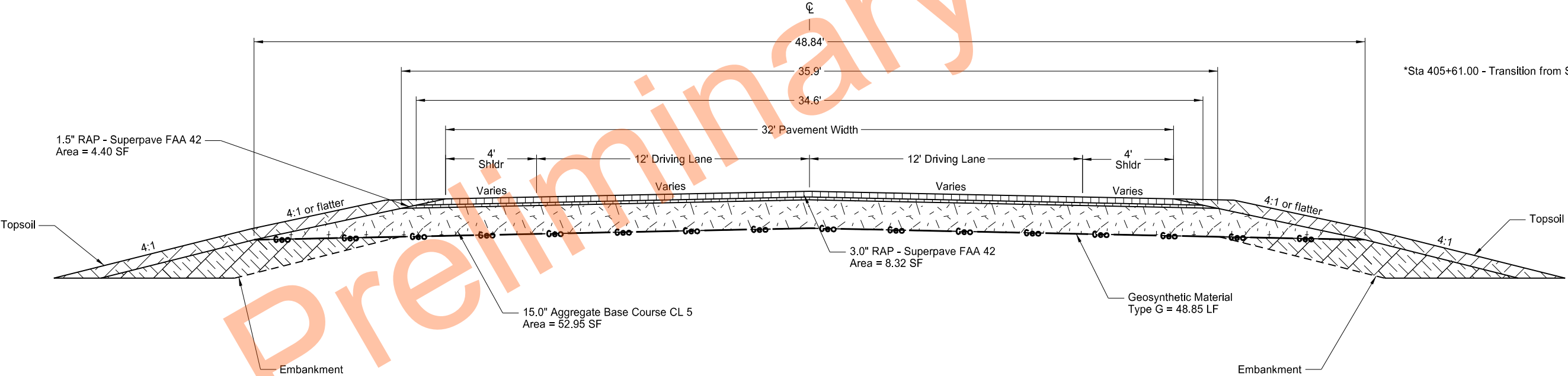


	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SS-XA-8-032(046)000	30	10



*Sta 326+33.00 - Roadway Width Transition
Sta 403+48.00 - Transition to Subcut
Sta 452+00.00 - Roadway Width Transition

Proposed Typical Section 9
Sta 320+22.00 to 326+33.00
Sta 424+00.00 to 452+00.00



*Sta 405+61.00 - Transition from Subcut (See Section 20)

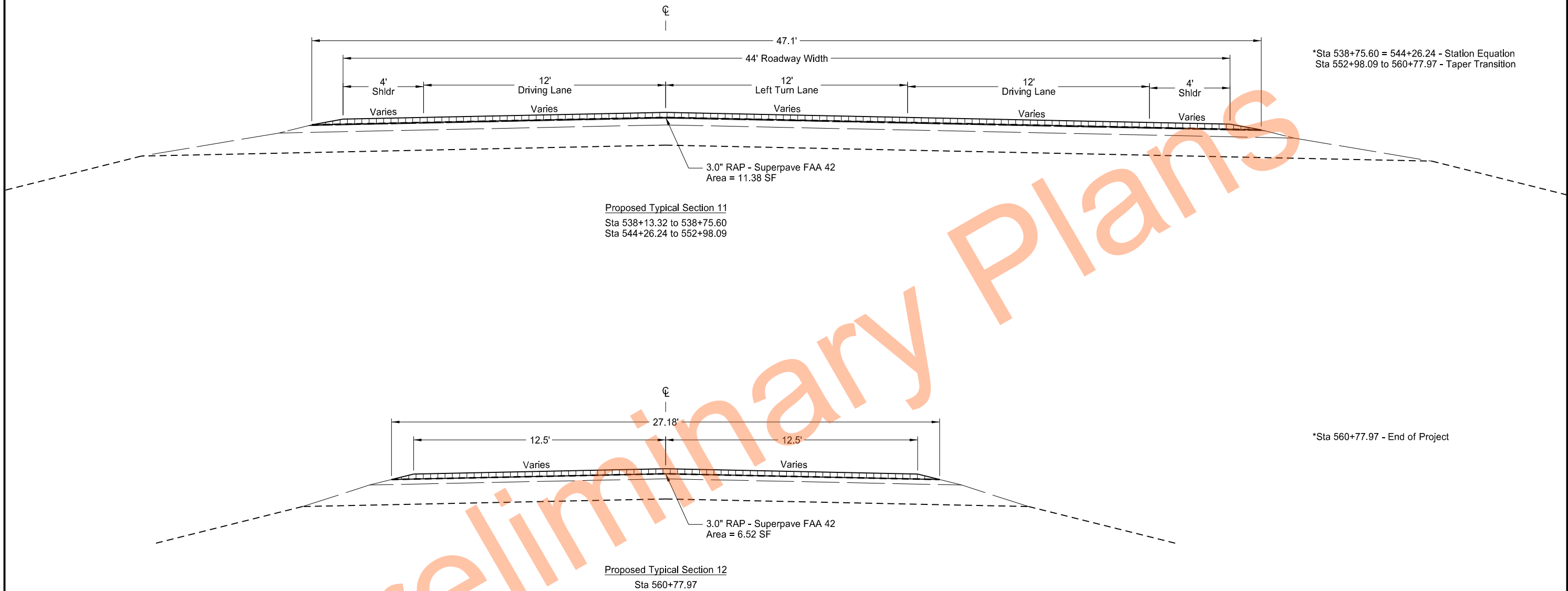
Proposed Typical Section 10 - Subcut Reconstruction
Sta 403+48.00 to 405+61.00

Note: All HMA Sloughs to be 4:1 or flatter

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Proposed Typical Sections



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SS-XA-8-032(046)000	30	11



*Sta 538+75.60 = 544+26.24 - Station Equation
Sta 552+98.09 to 560+77.97 - Taper Transition

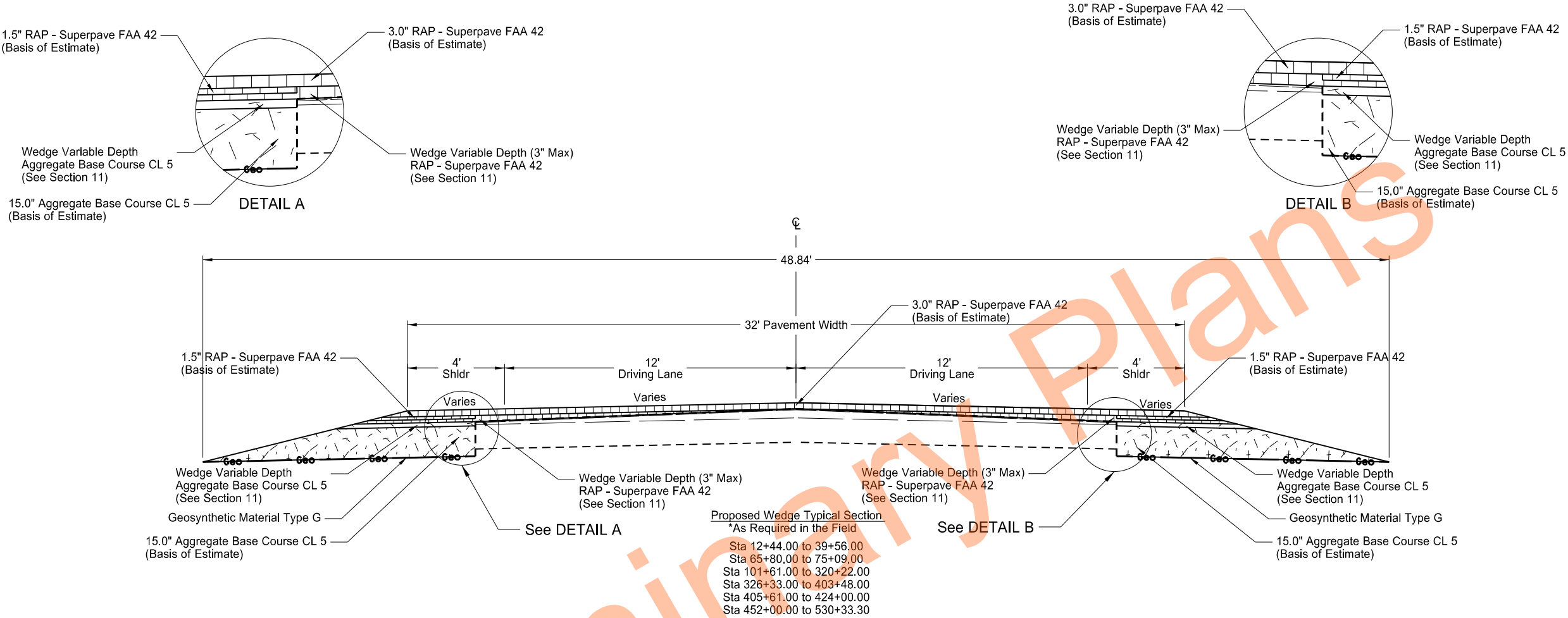
*Sta 560+77.97 - End of Project

Note: All HMA Sloughs to be 4:1 or flatter

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Proposed Typical Sections

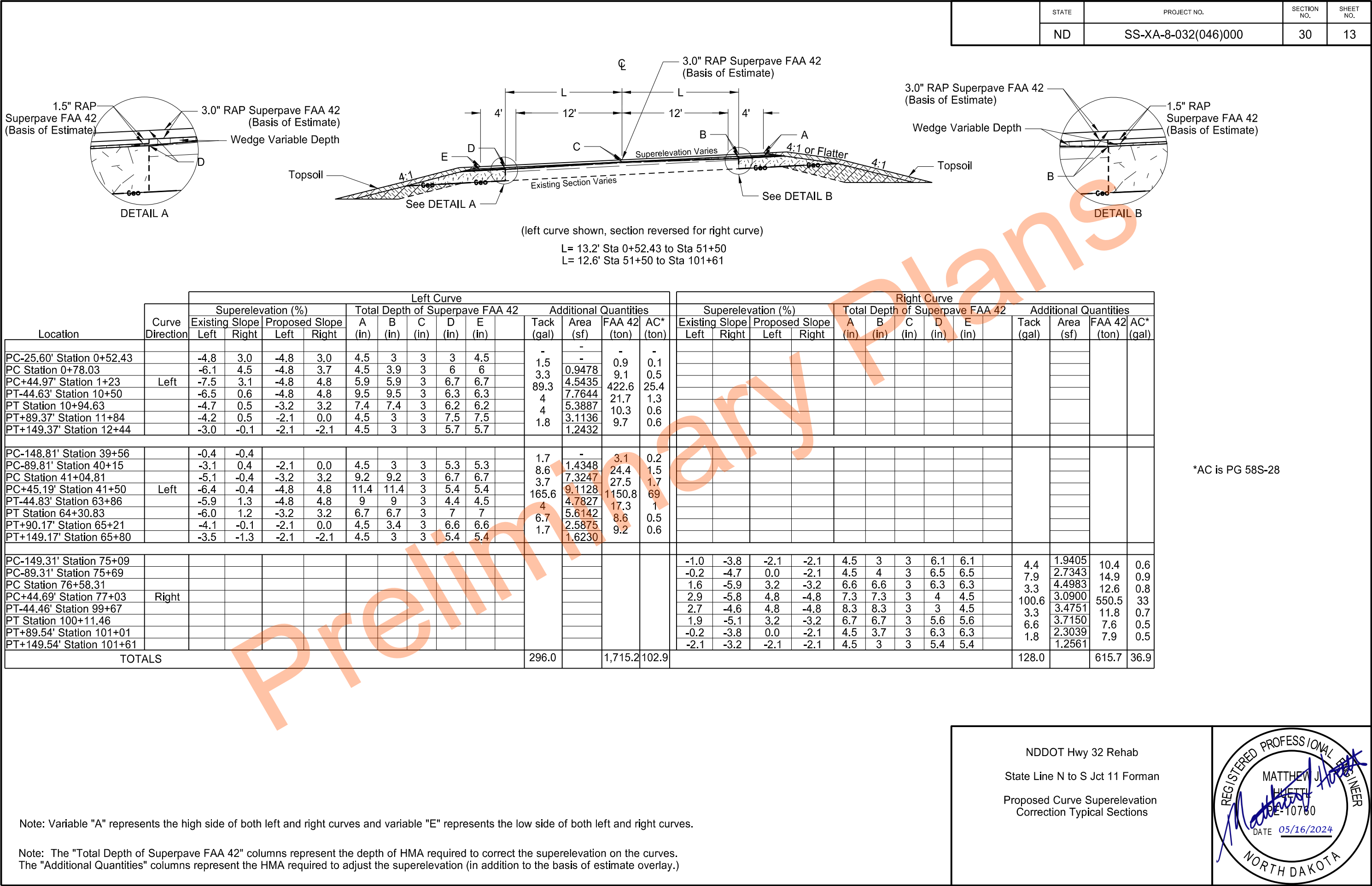


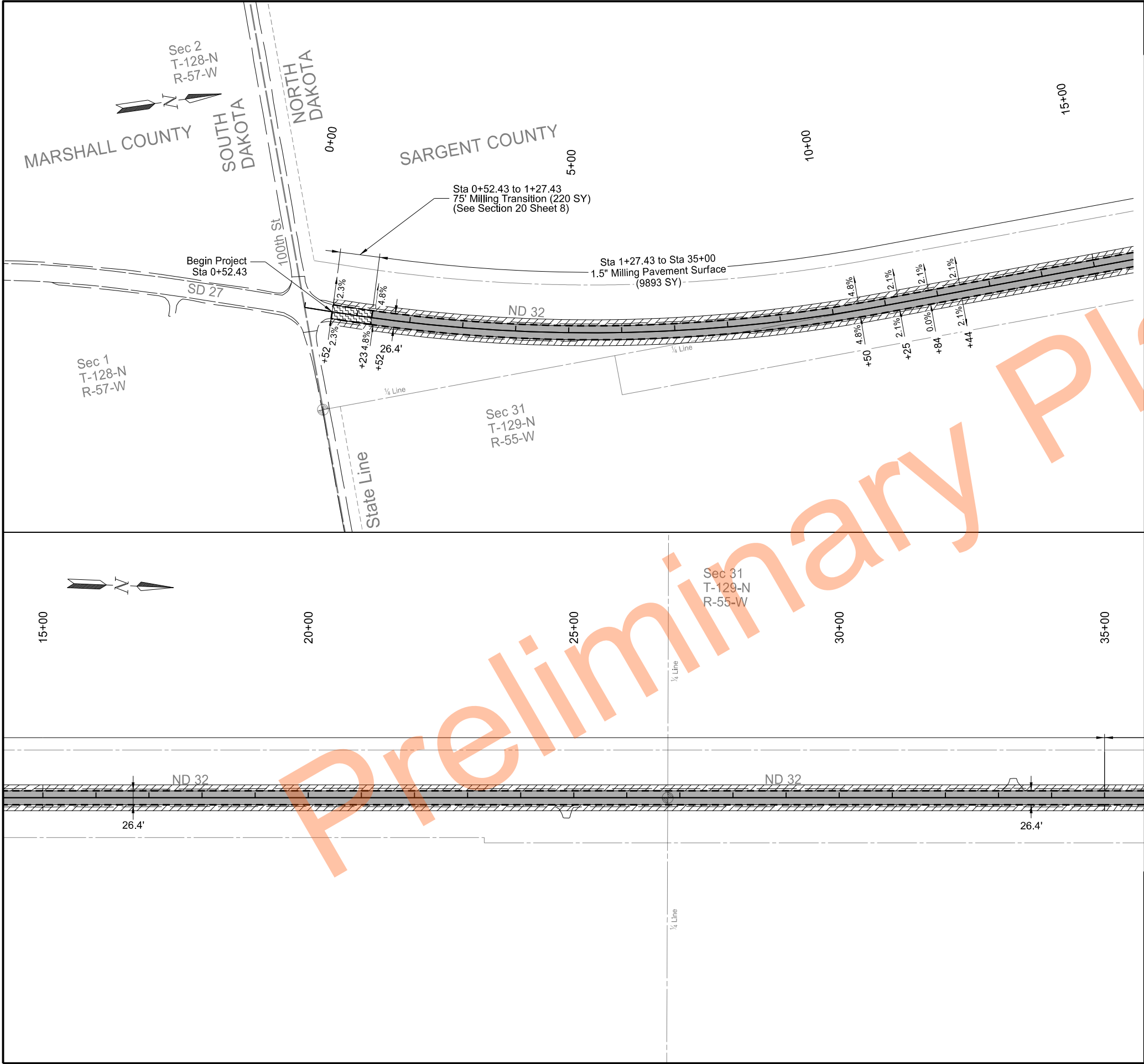
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-XA-8-032(046)000	30	12



NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Proposed Typical Sections







		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	40	1

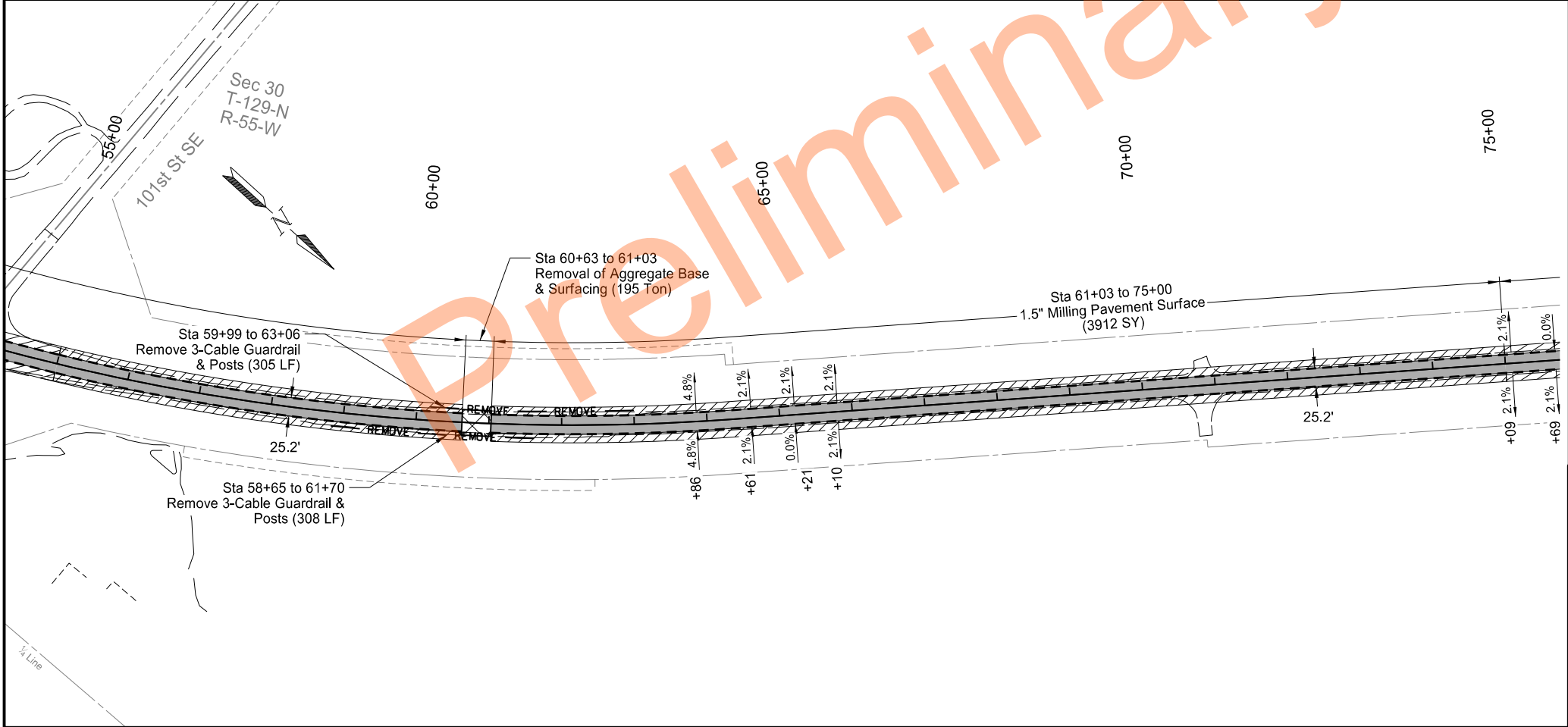
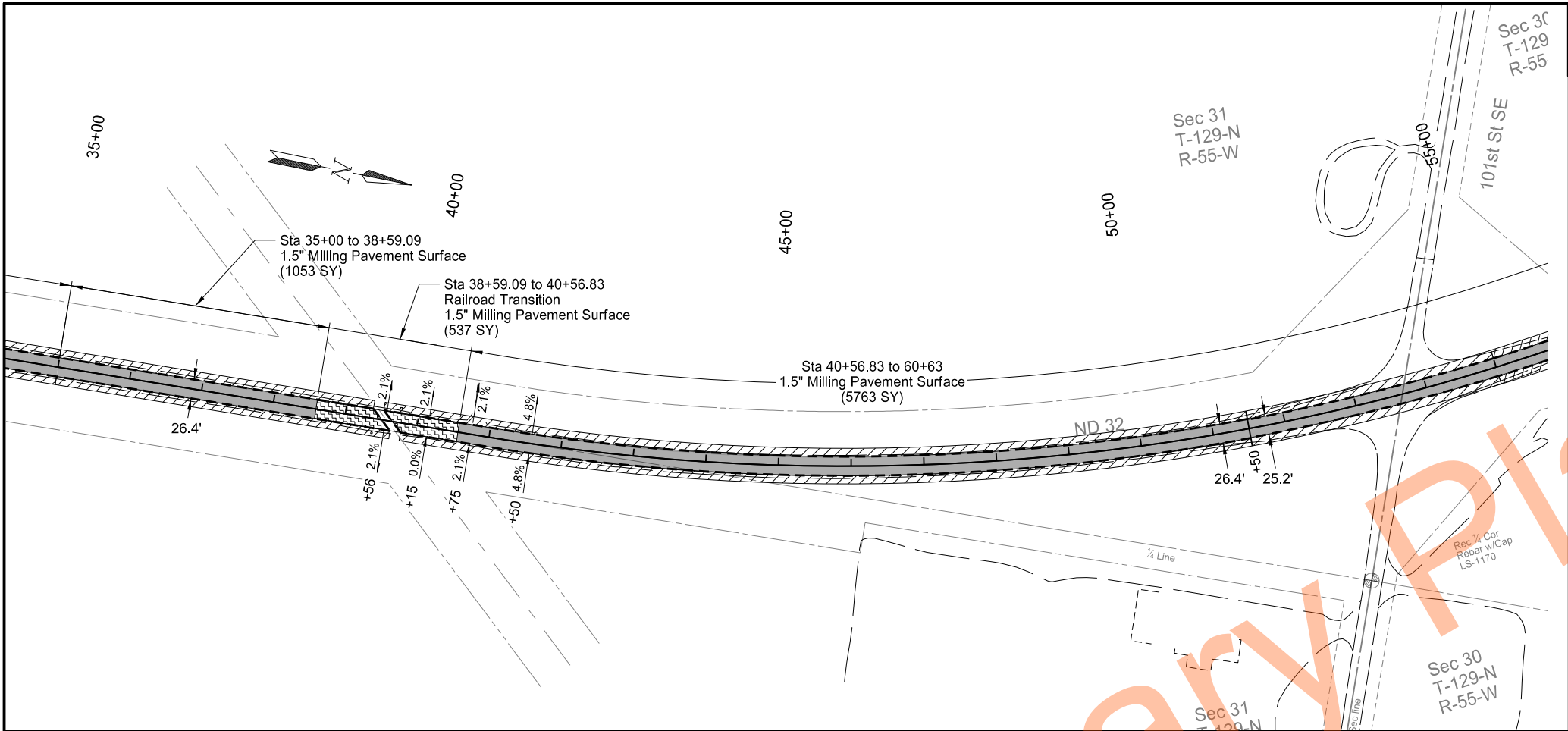
SPEC	CODE	BID ITEM	UNIT	QUANTITY
202	0021	REMOVE AGGREGATE BASE & SURFACING		
		Sta 0+52.43 to 35+00 Lt	TON	1001
		Sta 0+52.43 to 35+00 Rt	TON	1001
411	0105	MILLING PAVEMENT SURFACE		
		Sta 0+52.43 to 1+27.43 - Transition	SY	220
		Sta 1+27.43 to 35+00	SY	9893

LEGEND

- Milling Transition
- Mill Asphalt Pavement
- Remove Aggregate Base & Surfacing
- Remove Aggregate Base & Surfacing - Widening

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Removals
Sta. 0+52.43 to Sta. 35+00

REGISTERED PROFESSIONAL ENGINEER
MATTHEW J. HUETT
PE-10780
DATE 05/16/2024
NORTH DAKOTA



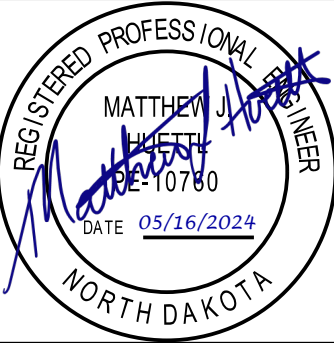
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-XA-8-032(046)000	40	2

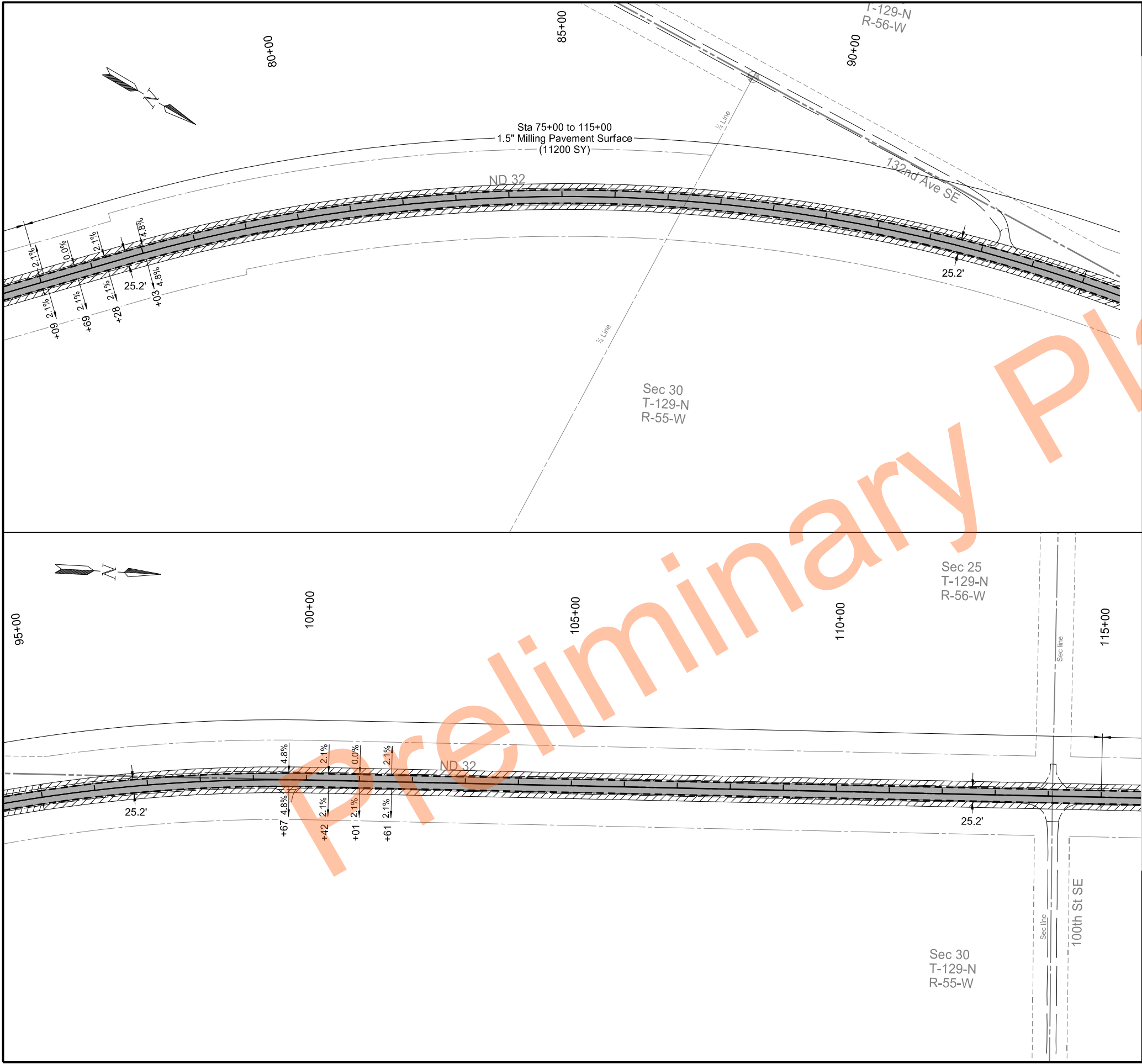
SPEC	CODE	BID ITEM	UNIT	QUANTITY
202	0021	REMOVE AGGREGATE BASE & SURFACING		
		Sta 35+00 to 51+50 Lt	TON	135
		Sta 35+00 to 51+50 Rt	TON	135
		Sta 51+50 Lt to 60+63 Lt	TON	310
		Sta 51+50 Lt to 60+63 Rt	TON	310
		Sta 60+63 to 61+03	TON	195
		Sta 61+03 to Sta 75+00 Lt	TON	474
411	0105	MILLING PAVEMENT SURFACE		
		Sta 35+00 to 38+59.09	SY	1053
		Sta 38+59.09 to 40+56.83	SY	537
		Sta 40+56.83 to 60+63	SY	5763
		Sta 61+03 to 75+00	SY	3912
764	2020	REMOVE 3-CABLE GUARDRAIL & POSTS		
		Sta 58+65 to 61+70 Rt	LF	308
		Sta 59+99 to 63+06 Lt	LF	305

LEGEND

- Milling Transition
- Mill Asphalt Pavement
- Remove Aggregate Base & Surfacing
- Remove Aggregate Base & Surfacing - Widening

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Removals
Sta. 35+00 to Sta. 75+00

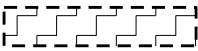
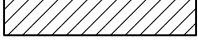




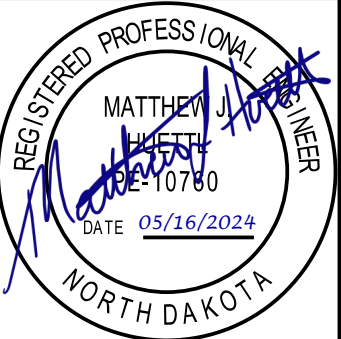
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SS-XA-8-032(046)000	40	3

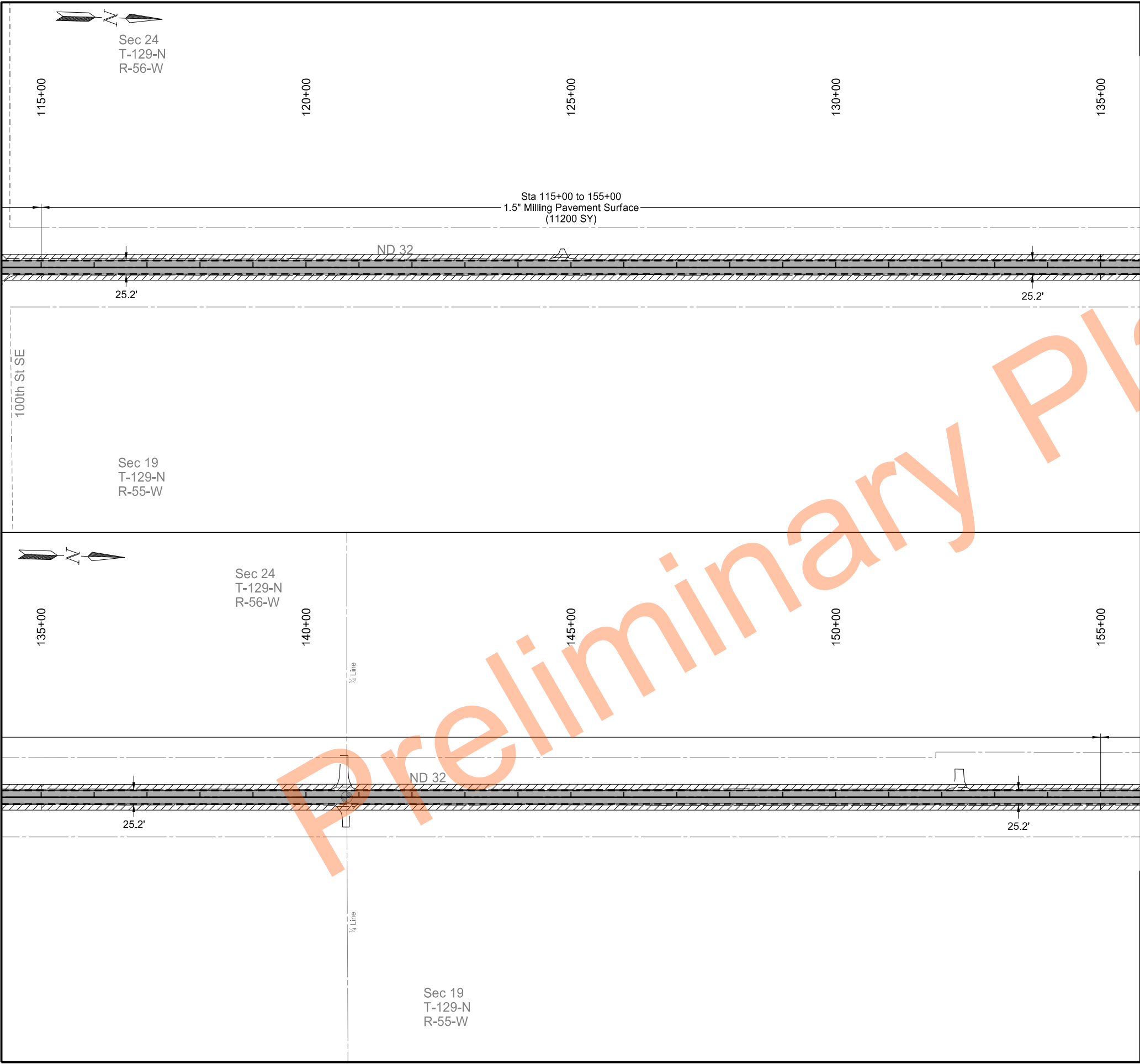
SPEC	CODE	BID ITEM	UNIT	QUANTITY
202	0021	REMOVE AGGREGATE BASE & SURFACING		
		Sta 75+00 to 115+00 Lt	TON	1358
		Sta 75+00 to 115+00 Rt	TON	1358
411	0105	MILLING PAVEMENT SURFACE		
		Sta 75+00 to 115+00	SY	11200

LEGEND

-  Milling Transition
-  Mill Asphalt Pavement
-  Remove Aggregate Base & Surfacing
-  Remove Aggregate Base & Surfacing - Widening

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Removals
Sta. 75+00 to Sta. 115+00





STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000

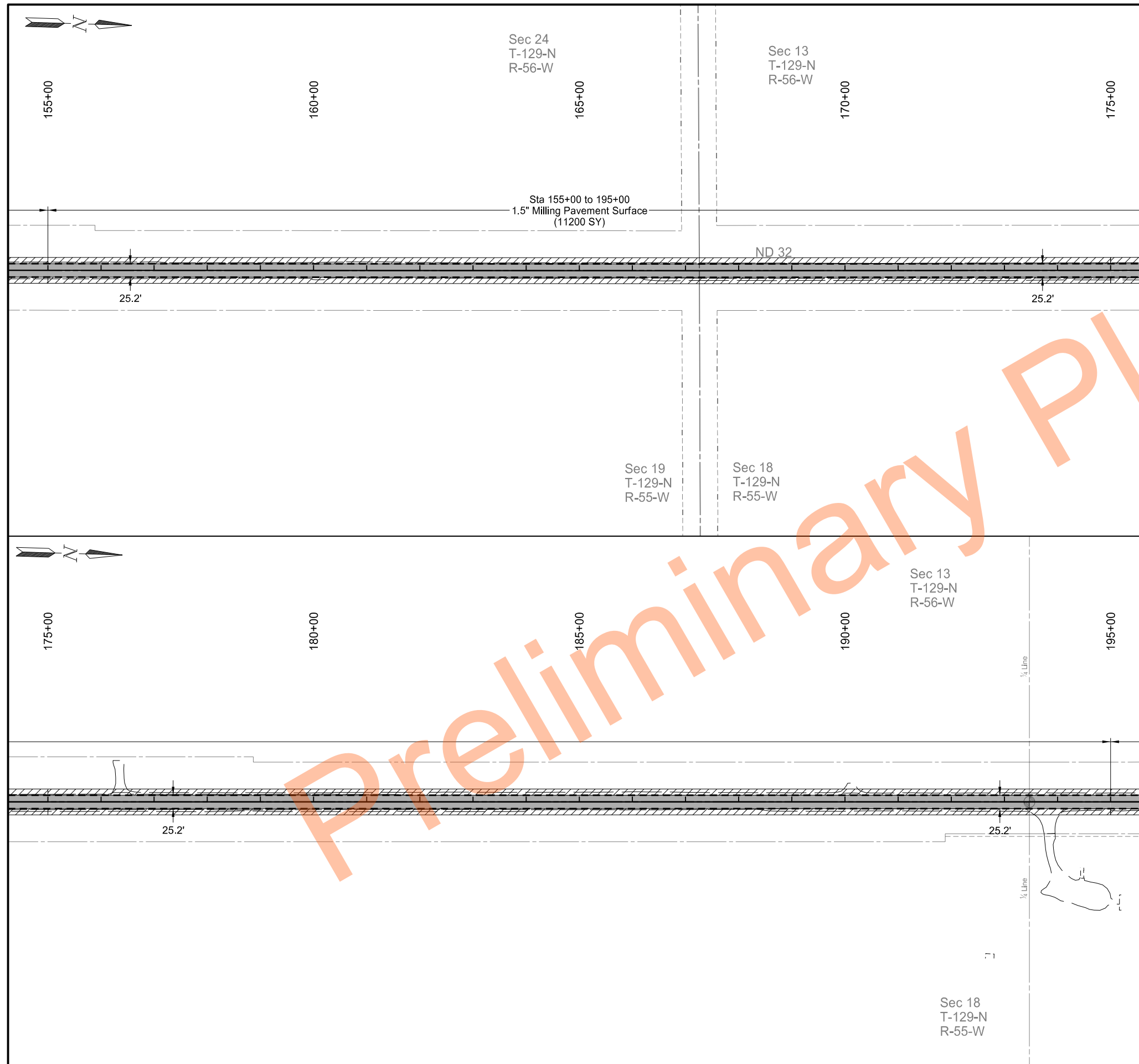
SPEC	CODE	BID ITEM	UNIT	QUANTITY
202	0021	REMOVE AGGREGATE BASE & SURFACING		
		Sta 115+00 to 155+00 Lt	TON	1358
		Sta 115+00 to 155+00 Rt	TON	1358
411	0105	MILLING PAVEMENT SURFACE		
		Sta 115+00 to 155+00	SY	11200

LEGEND

- Milling Transition
- Mill Asphalt Pavement
- Remove Aggregate Base & Surfacing
- Remove Aggregate Base & Surfacing - Widening

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Removals
Sta. 115+00 to Sta. 155+00

REGISTERED PROFESSIONAL ENGINEER
MATTHEW J. HUNTER
PE-10780
DATE 05/16/2024
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SS-XA-8-032(046)000	40	5

SPEC	CODE	BID ITEM	UNIT	QUANTITY
202	0021	REMOVE AGGREGATE BASE & SURFACING		
		Sta 155+00 to 195+00 Lt	TON	1358
		Sta 155+00 to 195+00 Rt	TON	1358
411	0105	MILLING PAVEMENT SURFACE		
		Sta 155+00 to 195+00	SY	11200



Milling Transition



Mill Asphalt Pavement



Remove Aggregate Base & Surfacing



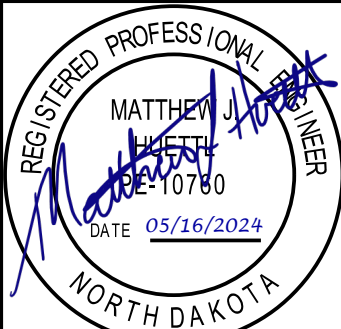
Remove Aggregate Base & Surfacing - Widening

NDDOT Hwy 32 Rehab

State Line N to S Jct 11 Forman

Removals

Sta. 155+00 to Sta. 195+00



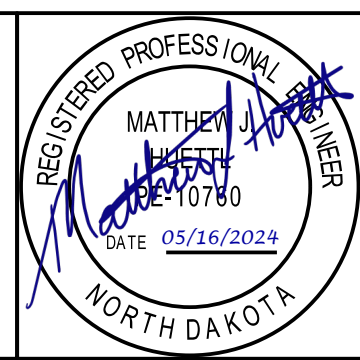
SPEC	CODE	BID ITEM	UNIT	QUANTITY
202	0021	REMOVE AGGREGATE BASE & SURFACING		
		Sta 155+00 to 195+00 Lt	TON	1358
		Sta 155+00 to 195+00 Rt	TON	1358
411	0105	MILLING PAVEMENT SURFACE		
		Sta 155+00 to 195+00	SY	11200

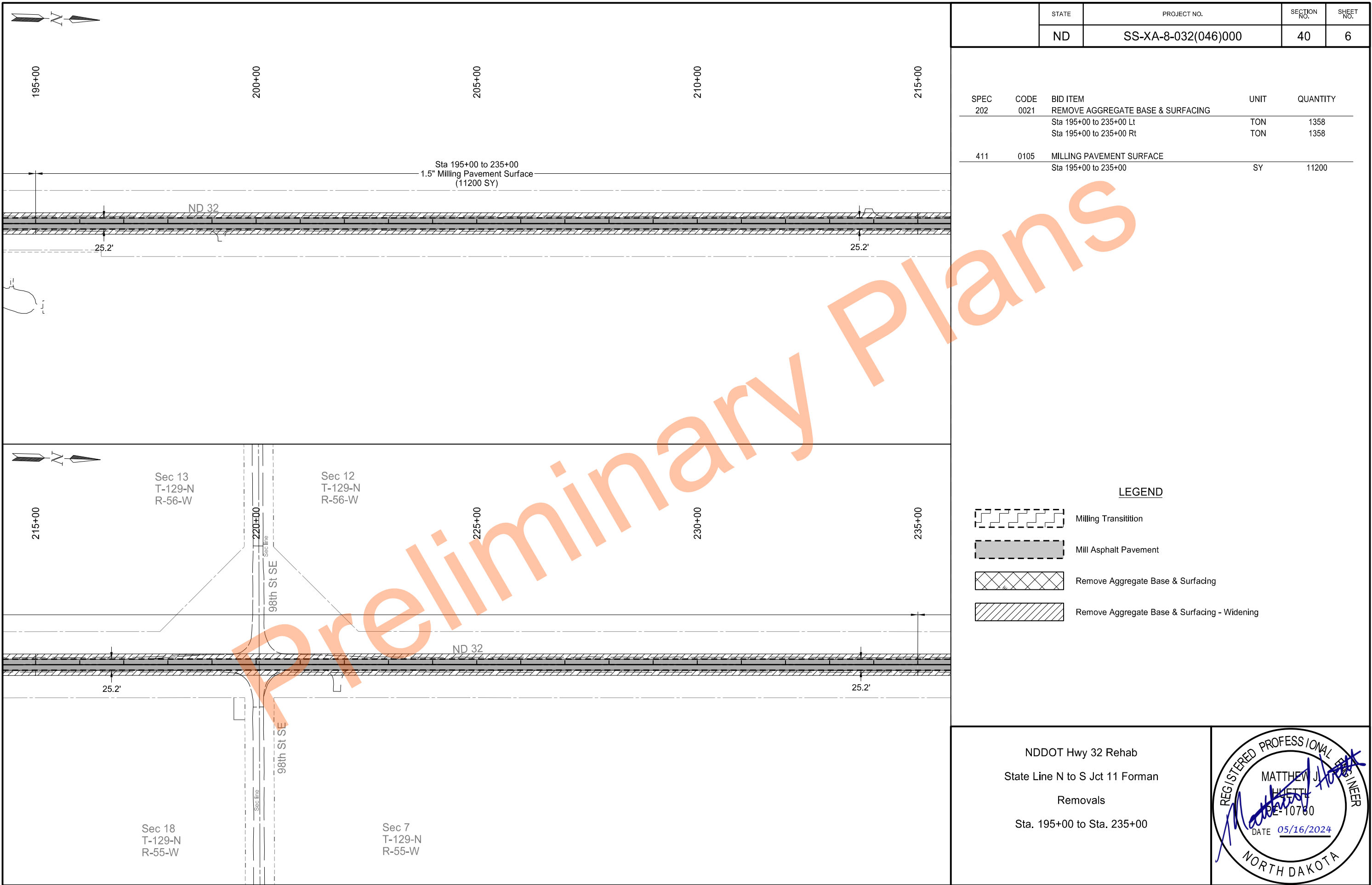
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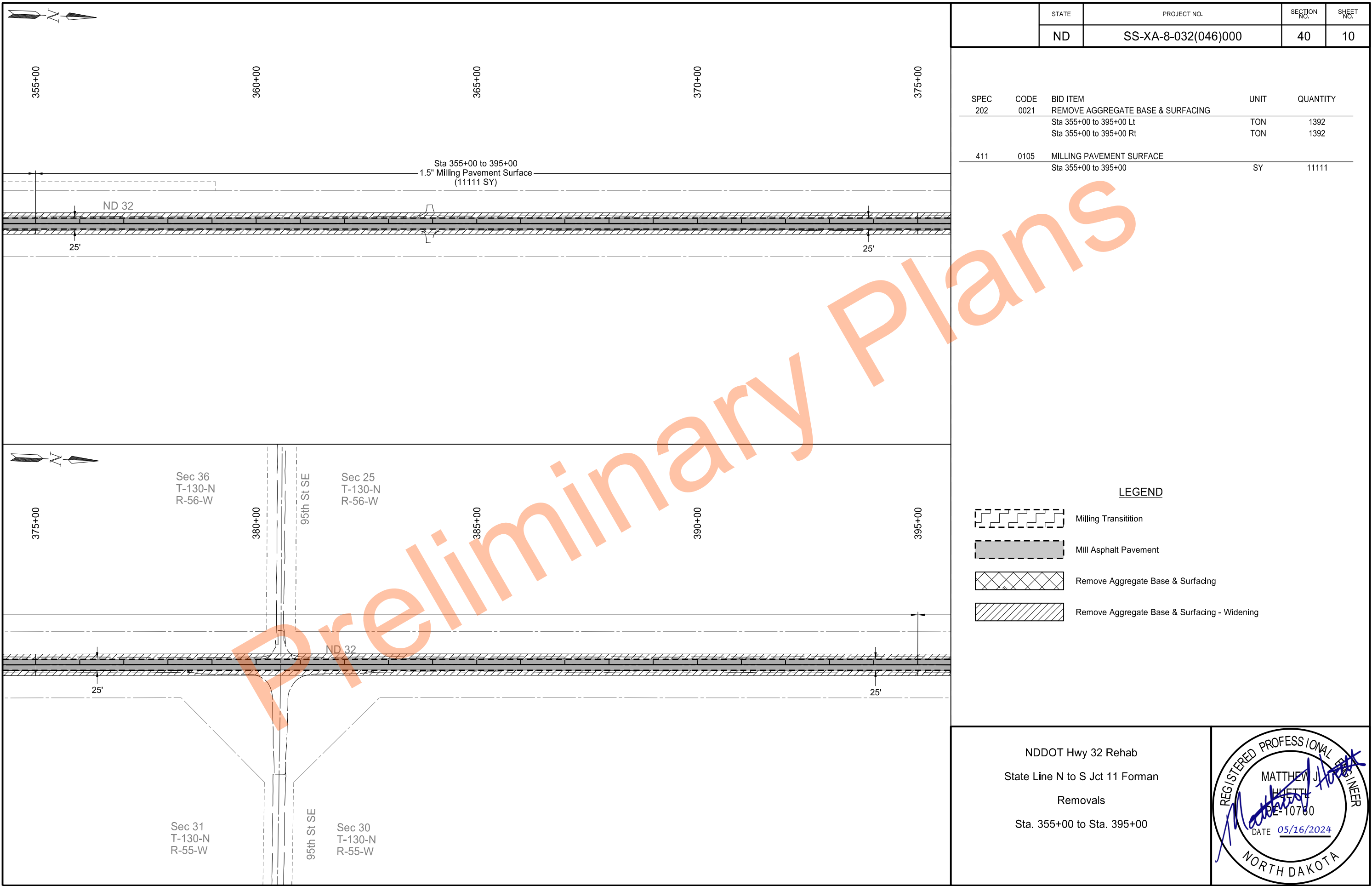
LEGEND

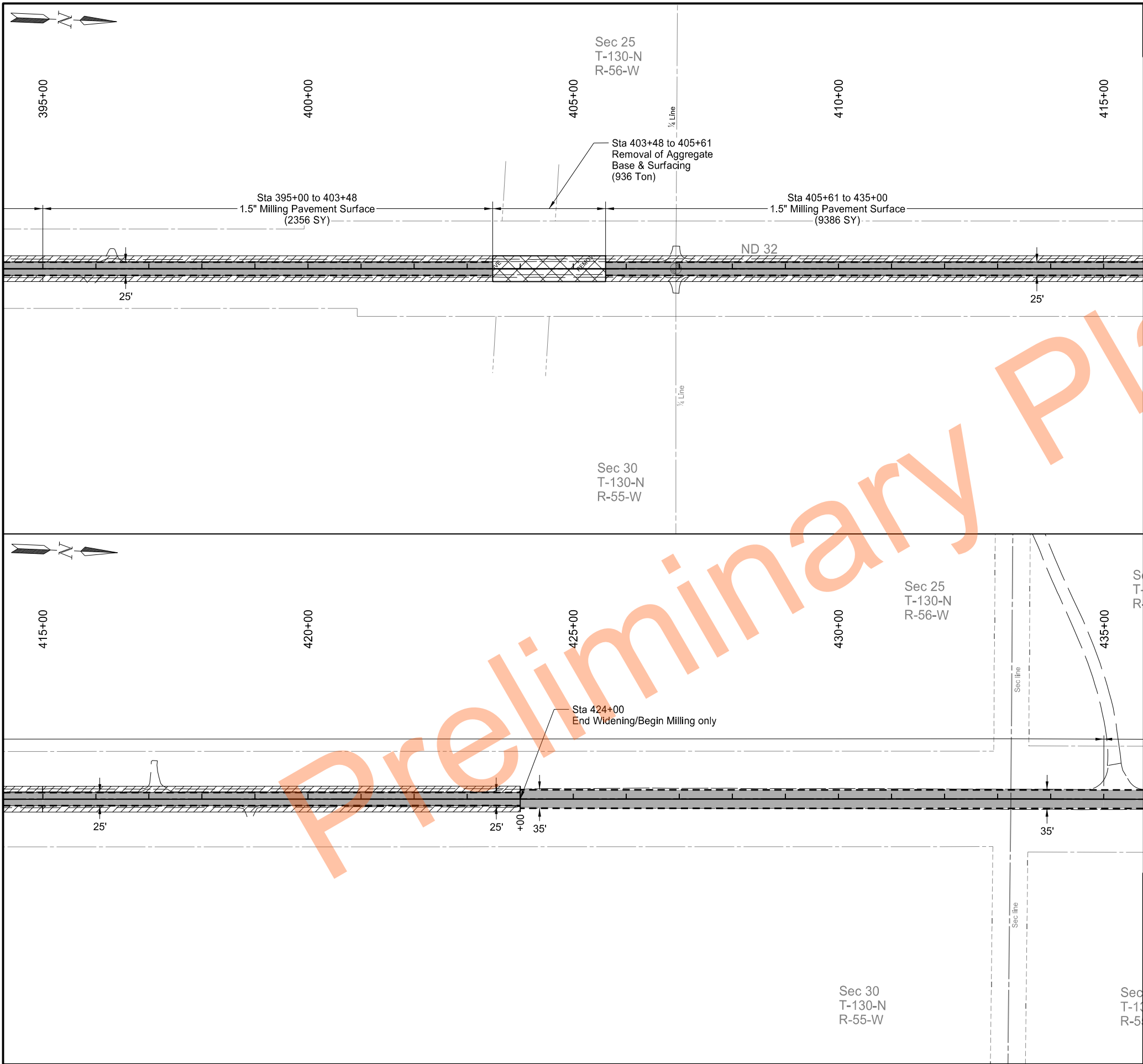
- | | |
|---|--|
|  | Milling Transition |
|  | Mill Asphalt Pavement |
|  | Remove Aggregate Base & Surfacing |
|  | Remove Aggregate Base & Surfacing - Widening |

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Removals
Sta. 155+00 to Sta. 195+00









STATE		PROJECT NO.	SECTION NO.	SHEET NO.
ND		SS-XA-8-032(046)000	40	11

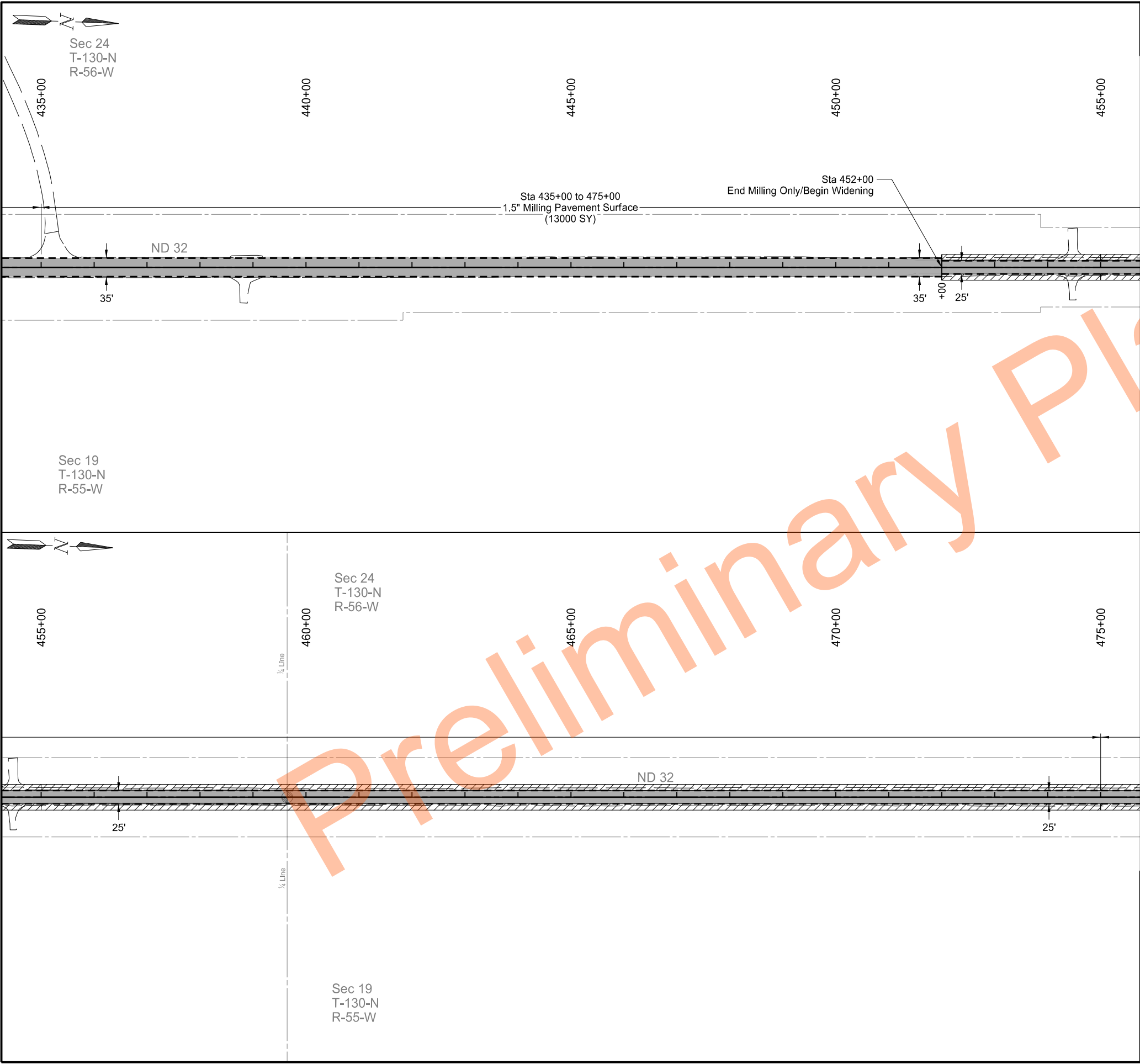
SPEC	CODE	BID ITEM	UNIT	QUANTITY
202	0021	REMOVE AGGREGATE BASE & SURFACING		
		Sta 395+00 to 403+48 Lt	TON	295
		Sta 395+00 to 403+48 Rt	TON	295
		Sta 403+48 to 405+61	TON	936
		Sta 405+61 to 424+00 Lt	TON	295
411	0105	MILLING PAVEMENT SURFACE		
		Sta 395+00 to 403+48	SY	2356
		Sta 405+61 to 435+00	SY	9386

LEGEND

- Milling Transition
- Mill Asphalt Pavement
- Remove Aggregate Base & Surfacing
- Remove Aggregate Base & Surfacing - Widening

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Removals
Sta. 395+00 to Sta. 435+00

REGISTERED PROFESSIONAL ENGINEER
MATTHEW J. HETT
PE-10780
DATE 05/16/2024
NORTH DAKOTA



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000

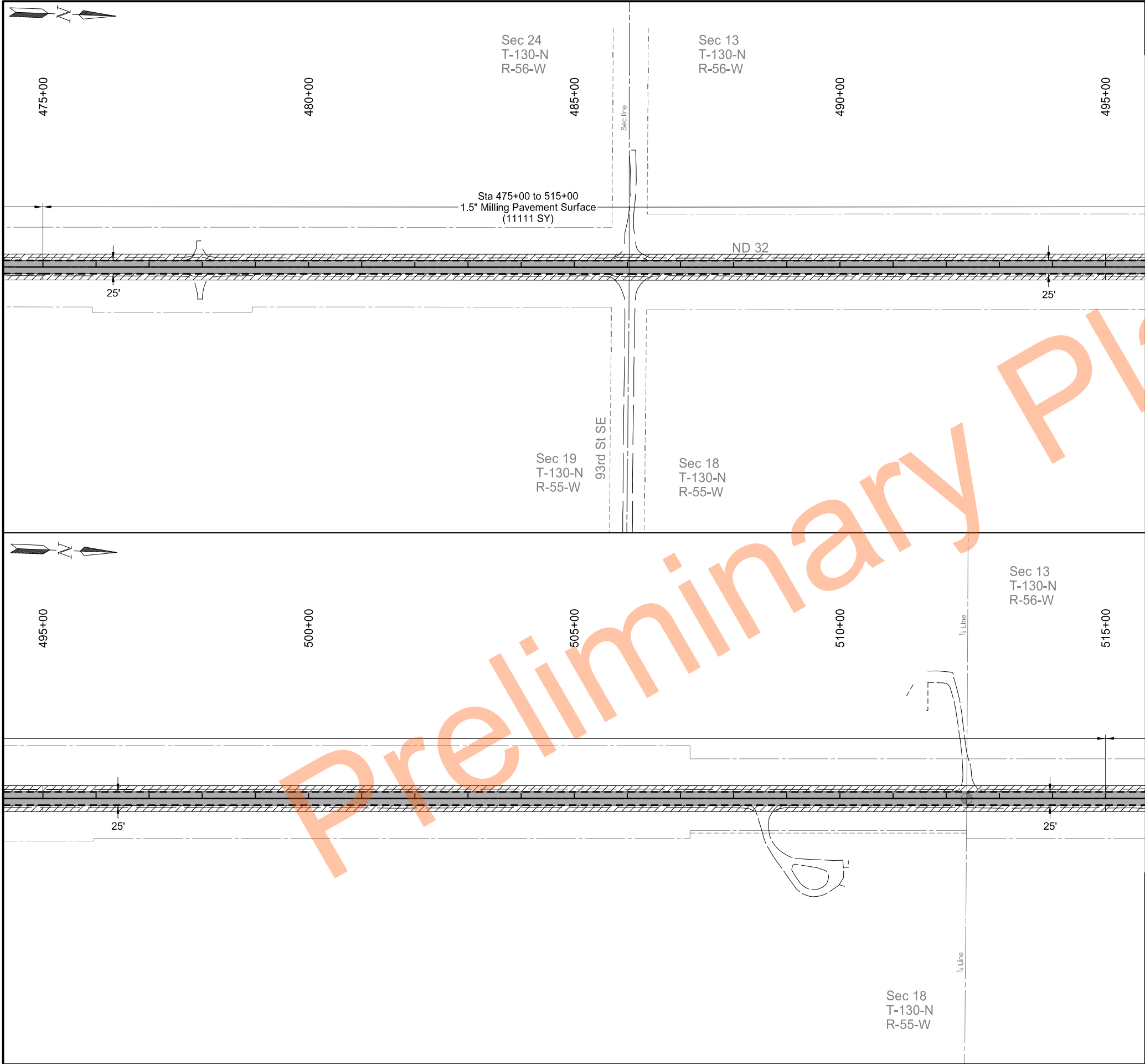
SPEC	CODE	BID ITEM	UNIT	QUANTITY
202	0021	REMOVE AGGREGATE BASE & SURFACING		
		Sta 452+00 to 475+00 Lt	TON	800
		Sta 452+00 to 475+00 Rt	TON	800
411	0105	MILLING PAVEMENT SURFACE		
		Sta 435+00 to 475+00	SY	13000

LEGEND

- Milling Transition
- Mill Asphalt Pavement
- Remove Aggregate Base & Surfacing
- Remove Aggregate Base & Surfacing - Widening

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Removals
Sta. 435+00 to Sta. 475+00

REGISTERED PROFESSIONAL ENGINEER
MATTHEW J. HETTL
PE-10780
DATE 05/16/2024
NORTH DAKOTA



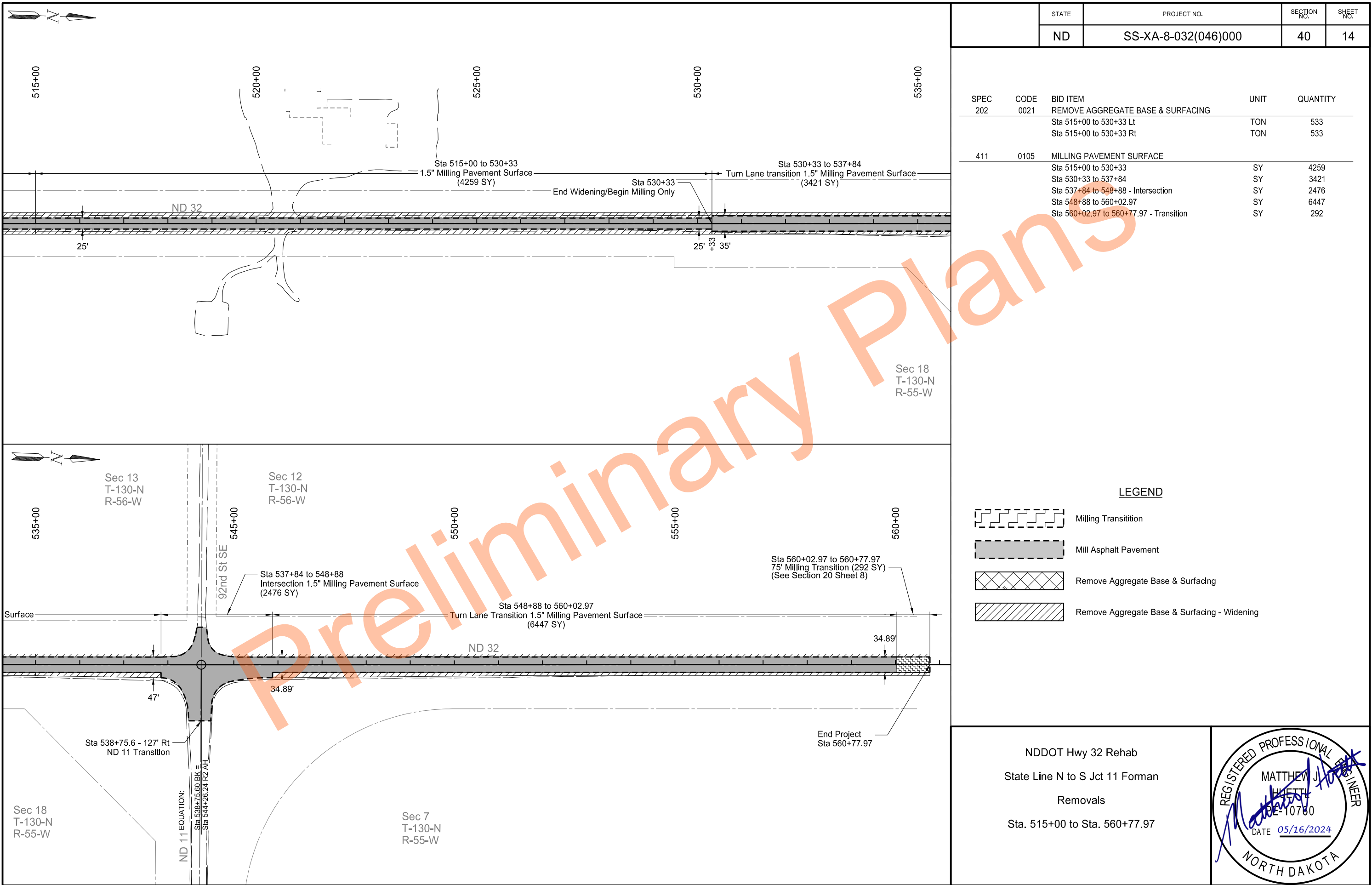
STATE		PROJECT NO.	SECTION NO.	SHEET NO.
ND		SS-XA-8-032(046)000	40	13

SPEC	CODE	BID ITEM	UNIT	QUANTITY
202	0021	REMOVE AGGREGATE BASE & SURFACING		
		Sta 475+00 to 515+00 Lt	TON	1392
		Sta 475+00 to 515+00 Rt	TON	1392
411	0105	MILLING PAVEMENT SURFACE		
		Sta 475+00 to 515+00	SY	11111

LEGEND

- Milling Transition
- Mill Asphalt Pavement
- Remove Aggregate Base & Surfacing
- Remove Aggregate Base & Surfacing - Widening

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Removals
Sta. 475+00 to Sta. 515+00



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SS-XA-8-032(046)000	50	1

HYDRAULIC DATA FOR SS-XA-8-032(046)000 (A)									
STATION	EXISTING PIPE	PROPOSED PIPE SIZE	DRAINAGE AREA (ACRES)	25-YEAR DATA				100-YEAR DATA	
				DESIGN DISCHARGE (CFS)	DESIGN HEADWATER (FT)	DESIGN VELOCITY (FPS)	DESIGN STAGE (NAVD 88)	100-YEAR DISCHARGE (CFS)	100-YEAR STAGE (NAVD 88)
60+84	CATTLE PASS 4'x6'x48' RCP	60" RCP	1216.0	107.9	4.50	9.56	1285.09	153.2	1286.38
(A) Hydraulic data provided is for smooth-walled (Manning's n=0.012) type conduits.									

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Hydraulic Data



													STATE	PROJECT NO.		SECTION NO.	SHEET NO.
													ND	SS-XA-8-032(046)000		51	1
Begin Station / Location	Begin Offset	End Station / Location	End Offset	Pipe Installation (Pay Item)			Allowable Material		Required Diameter	Steel Pipe Coatings	Steel Pipe Corrugations or Spiral Ribs	Steel Pipe Minimum Thickness	Geosynthetic Material Type GT (Pay Item)	End Sections		Applicable Backfill Detail	
				Size (IN)	Bid Item	LF								Begin	End		
												IN	SY	EA	EA		
0+67	20.7' Lt	0+67	33.2' Lt	24	PIPE CONC REINF 24IN CL III	10	Reinforced Concrete Pipe - Class III	(barrel length = 10 LF)	24					N/A	R&R	Section 20 Sheet 10	
0+67	22.78' Rt	0+67	35.28' Rt	24	PIPE CONC REINF 24IN CL III	10	Reinforced Concrete Pipe - Class III	(barrel length = 10 LF)	24					N/A	R&R	Section 20 Sheet 10	
24+63	52.2' Rt	24+55	52.2' Rt	24	PIPE CORR STEEL 0.064IN 24IN	8	Corrugated Steel Pipe		24	Z, A, P	2	0.064		Remove	FES	Specification 714.04 A	
25+17	52.2' Rt	25+29	52.2' Rt	24	PIPE CORR STEEL 0.064IN 24IN	12	Corrugated Steel Pipe		24	Z, A, P	2	0.064		Remove	FES	Specification 714.04 A	
33+50	60.2' Lt	33+54	60.21' Lt	30	PIPE CORR STEEL 0.079IN 30IN	4	Corrugated Steel Pipe		30	Z, A, P	2	0.079		Remove	FES	Specification 714.04 A	
40+07	81.77' Rt	40+07		30	PIPE CONC REINF 30IN CL III	0	Reinforced Concrete Pipe - Class III	(barrel length = LF)	30					N/A	R&R	Section 20 Sheet 10	
60+84	34.97' Lt	60+84	43.53' Rt	60	PIPE CONDUIT 60IN	79	Reinforced Concrete Pipe - Class III		60				80	FES	FES	D-714-25	
							Corrugated Steel Pipe			Z, A, P	2, 3, 5	0.109					
							Spiral Rib Steel Pipe			Z, A, P	3/4, 1	0.109					
							High-Density Polyethylene										
							Polypropylene Pipe (AASHTO M330, Type S)										
77+34	35.27' Lt	77+34	47.77' Lt	24	PIPE CONC REINF 24IN CL III	10	Reinforced Concrete Pipe - Class III	(barrel length = 10 LF)	24					N/A	R&R	Section 20 Sheet 10	
77+34	28.51' Rt	77+34	43.01' Rt	24	PIPE CONC REINF 24IN CL III	12	Reinforced Concrete Pipe - Class III	(barrel length = 12 LF)	24					N/A	R&R	Section 20 Sheet 10	
93+77	43.7' Lt	93+99	44.18' Lt	18	PIPE CORR STEEL 0.064IN 18IN	23	Corrugated Steel Pipe		18	Z, A, P	2	0.064		Remove	FES	Specification 714.04 A	
99+47	44.42' Rt	99+28	44.47' Rt	24	PIPE CORR STEEL 0.064IN 24IN	19	Corrugated Steel Pipe		24	Z, A, P	2	0.064		N/A	R&R	Specification 714.04 A	
99+92	43.84' Rt	100+13	43.35' Rt	24	PIPE CORR STEEL 0.064IN 24IN	20	Corrugated Steel Pipe		24	Z, A, P	2	0.064		N/A	R&R	Specification 714.04 A	
114+46	53.26' Lt	114+55	53.3' Lt	24	PIPE CORR STEEL 0.064IN 24IN	9	Corrugated Steel Pipe		24	Z, A, P	2	0.064		Remove	FES	Specification 714.04 A	
113+84	53.32' Rt	114+38	53.23' Rt	36	PIPE CORR STEEL IN 36IN	54	Corrugated Steel Pipe		36					FES (Included in Conduit)	FES (Included in Conduit)	Specification 714.04 A	
124+59	42.2' Lt	124+39	41.9' Lt	24	PIPE CORR STEEL 0.064IN 24IN	20	Corrugated Steel Pipe		24	Z, A, P	2	0.064		Remove	FES	Specification 714.04 A	
125+09	43' Lt	125+32	43.37' Lt	24	PIPE CORR STEEL 0.064IN 24IN	23	Corrugated Steel Pipe		24	Z, A, P	2	0.064		Remove	FES	Specification 714.04 A	
129+53	20.59' Lt	129+53	34.24' Lt	30	PIPE CONC REINF 30IN CL III	12	Reinforced Concrete Pipe - Class III	(barrel length = 12 LF)	30					N/A	R&R	Section 20 Sheet 10	
129+53	22.15' Rt	129+53	35.8' Rt	30	PIPE CONC REINF 30IN CL III	12	Reinforced Concrete Pipe - Class III	(barrel length = 12 LF)	30					N/A	R&R	Section 20 Sheet 10	
140+50	41.19' Lt	141+07	41.8' Lt	24	PIPE CONDUIT 24IN - APPROACH	57	Reinforced Concrete Pipe - Class III		24				FES (Included in Conduit)	FES (Included in Conduit)	FES (Included in Conduit)	Specification 714.04 A	
							Corrugated Steel Pipe			Z, A, P	2	0.064					
							Spiral Rib Steel Pipe			Z, A, P	3/4, 1	0.064					
							High-Density Polyethylene										
							Polypropylene Pipe (AASHTO M330, Type S)										
140+42	42.52' Rt	141+11	42.73' Rt	24	PIPE CONDUIT 24IN - APPROACH	68	Reinforced Concrete Pipe - Class III		24				FES (Included in Conduit)	FES (Included in Conduit)	FES (Included in Conduit)	Specification 714.04 A	
							Corrugated Steel Pipe			Z, A, P	2	0.064					
							Spiral Rib Steel Pipe			Z, A, P	3/4, 1	0.064					
							High-Density Polyethylene										
							Polypropylene Pipe (AASHTO M330, Type S)										
152+09	53.16' Lt	152+63	54.51' Lt	24	PIPE CONDUIT 24IN - APPROACH	54	Reinforced Concrete Pipe - Class III		24				FES (Included in Conduit)	FES (Included in Conduit)	FES (Included in Conduit)	Specification 714.04 A	
							Corrugated Steel Pipe			Z, A, P	2	0.064					
							Spiral Rib Steel Pipe			Z, A, P	3/4, 1	0.064					
							High-Density Polyethylene										
							Polypropylene Pipe (AASHTO M330, Type S)										
159+69	50.71' Rt	160+48	51.28' Rt	24	PIPE CONDUIT 24IN - APPROACH	79	Reinforced Concrete Pipe - Class III		24				FES (Included in Conduit)	FES (Included in Conduit)	FES (Included in Conduit)	Specification 714.04 A	
							Corrugated Steel Pipe			Z, A, P	2	0.064					
							Spiral Rib Steel Pipe			Z, A, P	3/4, 1	0.064					
							High-Density Polyethylene										
							Polypropylene Pipe (AASHTO M330, Type S)										
176+11	54.15' Lt	175+96	54.12' Lt	24	PIPE CORR STEEL 0.064IN 24IN	15	Corrugated Steel Pipe		24	Z, A, P	2	0.064		N/A	R&R	Specification 714.04 A	
176+63	54.26' Lt	176+77	54.29' Lt	24	PIPE CORR STEEL 0.064IN 24IN	14	Corrugated Steel Pipe		24	Z, A, P	2	0.064		Remove	FES	Specification 714.04 A	
189+61	51.95' Lt	190+46	51.32' Lt	24	PIPE CONDUIT 24IN - APPROACH	85	Reinforced Concrete Pipe - Class III		24				FES (Included in Conduit)	FES (Included in Conduit)	FES (Included in Conduit)	Specification 714.04 A	
							Corrugated Steel Pipe			Z, A, P	2	0.064					
							Spiral Rib Steel Pipe			Z, A, P	3/4, 1	0.064					
							High-Density Polyethylene										
							Polypropylene Pipe (AASHTO M330, Type S)										
PRELIMINARY																	
Coatings: Z = Zinc A = Aluminum P = Polymeric (over Zinc or Aluminum)																	
Corrugations: 2 = 2-2/3"x1/2 3 = 3"x1" 5 = 5"x1"																	
Spiral Ribs: ¾ = 3/4"x3/4"@7-1/2" 1 = 3/4"x1"@11-1/2"																	
FES = Flared End Section R&R = Remove and Relay End Section																	
NDDOT Hwy 32 Rehab State Line N to S Jct 11 Forman Allowable Pipe List																	
REGISTERED PROFESSIONAL ENGINEER MATTHEW J. HUETT PE-10780 DATE 05/16/2024 NORTH DAKOTA																	

													STATE	PROJECT NO.		SECTION NO.	SHEET NO.
													ND	SS-XA-8-032(046)000		51	2
Begin Station / Location	Begin Offset	End Station / Location	End Offset	Pipe Installation (Pay Item)			Allowable Material		Required Diameter	Steel Pipe Coatings	Steel Pipe Corrugations or Spiral Ribs	Steel Pipe Minimum Thickness	Geosynthetic Material Type GT (Pay Item)	End Sections		Applicable Backfill Detail	
				Size (IN)	Bid Item	LF								Begin	End		
												IN	SY	EA	EA		
194+24	41.12' Rt	194+27	41.06' Rt	18	PIPE CORR STEEL 0.064IN 18IN	3	Corrugated Steel Pipe		18	Z, A, P	2	0.064		Remove	FES	Specification 714.04 A	
198+93	43.36' Rt	198+73	43.28' Rt	18	PIPE CORR STEEL 0.064IN 18IN	20	Corrugated Steel Pipe		18	Z, A, P	2	0.064		N/A	R&R	Specification 714.04 A	
199+53	43.59' Rt	199+66	43.64' Rt	18	PIPE CORR STEEL 0.064IN 18IN	13	Corrugated Steel Pipe		18	Z, A, P	2	0.064		N/A	R&R	Specification 714.04 A	
205+70	20.36' Lt	205+70	34.86' Lt	24	PIPE CONC REINF 24IN CL III	12	Reinforced Concrete Pipe - Class III	(barrel length = 12 LF)	24					N/A	R&R	Section 20 Sheet 10	
205+70	20.56' Rt	205+70	35.06' Rt	24	PIPE CONC REINF 24IN CL III	12	Reinforced Concrete Pipe - Class III	(barrel length = 12 LF)	24					N/A	R&R	Section 20 Sheet 10	
213+60	44.8' Lt	213+46	45.1' Lt	18	PIPE CORR STEEL 0.064IN 18IN	15	Corrugated Steel Pipe		18	Z, A, P	2	0.064		N/A	R&R	Specification 714.04 A	
214+19	43.7' Lt	214+33	43.5' Lt	18	PIPE CORR STEEL 0.064IN 18IN	14	Corrugated Steel Pipe		18	Z, A, P	2	0.064		Remove	FES	Specification 714.04 A	
221+63	43.5' Rt	221+41	43.2' Rt	24	PIPE CORR STEEL 0.064IN 24IN	21	Corrugated Steel Pipe		24	Z, A, P	2	0.064		N/A	R&R	Specification 714.04 A	
222+10	44.1' Rt	222+32	44.3' Rt	24	PIPE CORR STEEL 0.064IN 24IN	22	Corrugated Steel Pipe		24	Z, A, P	2	0.064		N/A	R&R	Specification 714.04 A	
252+71	43.81' Rt	253+30	44.04' Rt	24	PIPE CONDUIT 24IN - APPROACH	59	Reinforced Concrete Pipe - Class III		24					FES (Included In Conduit)	FES (Included In Conduit)	Specification 714.04 A	
							Corrugated Steel Pipe			Z, A, P	2	0.064					
							Spiral Rib Steel Pipe			Z, A, P	3/4, 1	0.064					
							High-Density Polyethylene										
							Polypropylene Pipe (AASHTO M330, Type S)										
252+77	43.5' Lt	252+61	43.4' Lt	24	PIPE CORR STEEL 0.064IN 24IN	16	Corrugated Steel Pipe		24	Z, A, P	2	0.064		N/A	R&R	Specification 714.04 A	
253+27	44' Lt	253+43	44.1' Lt	24	PIPE CORR STEEL 0.064IN 24IN	16	Corrugated Steel Pipe		24	Z, A, P	2	0.064		N/A	R&R	Specification 714.04 A	
267+50	50.87' Rt	268+38	49.51' Rt	24	PIPE CONDUIT 24IN - APPROACH	88	Reinforced Concrete Pipe - Class III		24					FES	FES	Specification 714.04 A	
							Corrugated Steel Pipe			Z, A, P	2	0.064					
							Spiral Rib Steel Pipe			Z, A, P	3/4, 1	0.064					
							High-Density Polyethylene										
							Polypropylene Pipe (AASHTO M330, Type S)										
272+63	54.56' Lt	273+63	62.38' Lt	24	PIPE CONDUIT 24IN - APPROACH	101	Reinforced Concrete Pipe - Class III		24					FES	FES	Specification 714.04 A	
							Corrugated Steel Pipe			Z, A, P	2	0.064					
							Spiral Rib Steel Pipe			Z, A, P	3/4, 1	0.064					
							High-Density Polyethylene										
							Polypropylene Pipe (AASHTO M330, Type S)										
272+68	55.68' Rt	273+66	61.42' Rt	30	PIPE CONDUIT 30IN - APPROACH	97	Reinforced Concrete Pipe - Class III		30					FES	FES	Specification 714.04 A	
							Corrugated Steel Pipe			Z, A, P	2	0.079					
							Spiral Rib Steel Pipe			Z, A, P	3/4, 1	0.079					
							High-Density Polyethylene										
							Polypropylene Pipe (AASHTO M330, Type S)										
276+61	23.54' Lt	276+61	42.43' Lt	36	PIPE CONC REINF 36IN CL III	8	Reinforced Concrete Pipe - Class III	(barrel length = 8 LF)	36					N/A	R&R	Section 20 Sheet 10	
276+61	30.19' Rt	276+61	41.08' Rt	36	PIPE CONC REINF 36IN CL III	8	Reinforced Concrete Pipe - Class III	(barrel length = 8 LF)	36					N/A	R&R	Section 20 Sheet 10	
299+10	42.2' Rt	298+90	41.8' Rt	18	PIPE CORR STEEL 0.064IN 18IN	20	Corrugated Steel Pipe		18	Z, A, P	2	0.064		N/A	R&R	Specification 714.04 A	
299+71	43.3' Rt	299+95	43.7' Rt	18	PIPE CORR STEEL 0.064IN 18IN	24	Corrugated Steel Pipe		18	Z, A, P	2	0.064		N/A	R&R	Specification 714.04 A	
307+92	21.71' Lt	307+92	33.35' Lt	30	PIPE CONC REINF 30IN CL III	10	Reinforced Concrete Pipe - Class III	(barrel length = 10 LF)	30					N/A	R&R	Section 20 Sheet 10	
307+93	29.2' Rt	307+93	42.84' Rt	30	PIPE CONC REINF 30IN CL III	12	Reinforced Concrete Pipe - Class III	(barrel length = 12 LF)	30					N/A	R&R	Section 20 Sheet 10	
315+55	22.3' Lt	315+55	34.81' Lt	24	PIPE CONC REINF 24IN CL III	10	Reinforced Concrete Pipe - Class III	(barrel length = 10 LF)	24					Remove	FES	Section 20 Sheet 10	
315+55	40.08' Rt	315+55	54.56' Rt	24	PIPE CONC REINF 24IN CL III	12	Reinforced Concrete Pipe - Class III	(barrel length = 12 LF)	24					Remove	FES	Section 20 Sheet 10	
330+49	34.37' Lt	330+49	50.87' Lt	24	PIPE CONC REINF 24IN CL III	6	Reinforced Concrete Pipe - Class III	(barrel length = 6 LF)	24					N/A	R&R	Section 20 Sheet 10	
330+49	35.19' Rt	330+49	49.69' Rt	24	PIPE CONC REINF 24IN CL III	4	Reinforced Concrete Pipe - Class III	(barrel length = 4 LF)	24					N/A	R&R	Section 20 Sheet 10	
347+39	41.63' Lt	347+39	54.13' Lt	24	PIPE CONC REINF 24IN CL III	10	Reinforced Concrete Pipe - Class III	(barrel length = 10 LF)	24					N/A	R&R	Section 20 Sheet 10	
347+39	42.14' Rt	347+39	52.64' Rt	24	PIPE CONC REINF 24IN CL III	8	Reinforced Concrete Pipe - Class III	(barrel length = 8 LF)	24					N/A	R&R	Section 20 Sheet 10	
356+29	13.58' Lt	356+29	34.07' Lt	24	PIPE CONC REINF 24IN CL III	10	Reinforced Concrete Pipe - Class III	(barrel length = 10 LF)	24					Remove	FES	Section 20 Sheet 10	
356+29	24.97' Rt	356+29	43.46' Rt	24	PIPE CONC REINF 24IN CL III	8	Reinforced Concrete Pipe - Class III	(barrel length = 8 LF)	24					N/A	R&R	Section 20 Sheet 10	
363+59	43.2' Lt	363+37	43.5' Lt	18	PIPE CORR STEEL 0.064IN 18IN	23	Corrugated Steel Pipe		18	Z, A, P	2	0.064		Remove	FES	Specification 714.04 A	
364+24	42.5' Lt	364+42	42.3' Lt	18	PIPE CORR STEEL 0.064IN 18IN	18	Corrugated Steel Pipe		18	Z, A, P	2	0.064		N/A	R&R	Specification 714.04 A	
363+65	40.8' Rt	363+39	40.7' Rt	18	PIPE CORR STEEL 0.064IN 18IN	26	Corrugated Steel Pipe		18	Z, A, P	2	0.064		Remove	FES	Specification 714.04 A	
364+25	41' Rt	364+41	41' Rt	18	PIPE CORR STEEL 0.064IN 18IN	15	Corrugated Steel Pipe		18	Z, A, P	2	0.064		N/A	R&R	Specification 714.04 A	
378+60	22.11' Lt	378+60	31.75' Lt	30	PIPE CONC REINF 30IN CL III	8	Reinforced Concrete Pipe - Class III	(barrel length = 8 LF)	30					N/A	R&R	Section 20 Sheet 10	

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

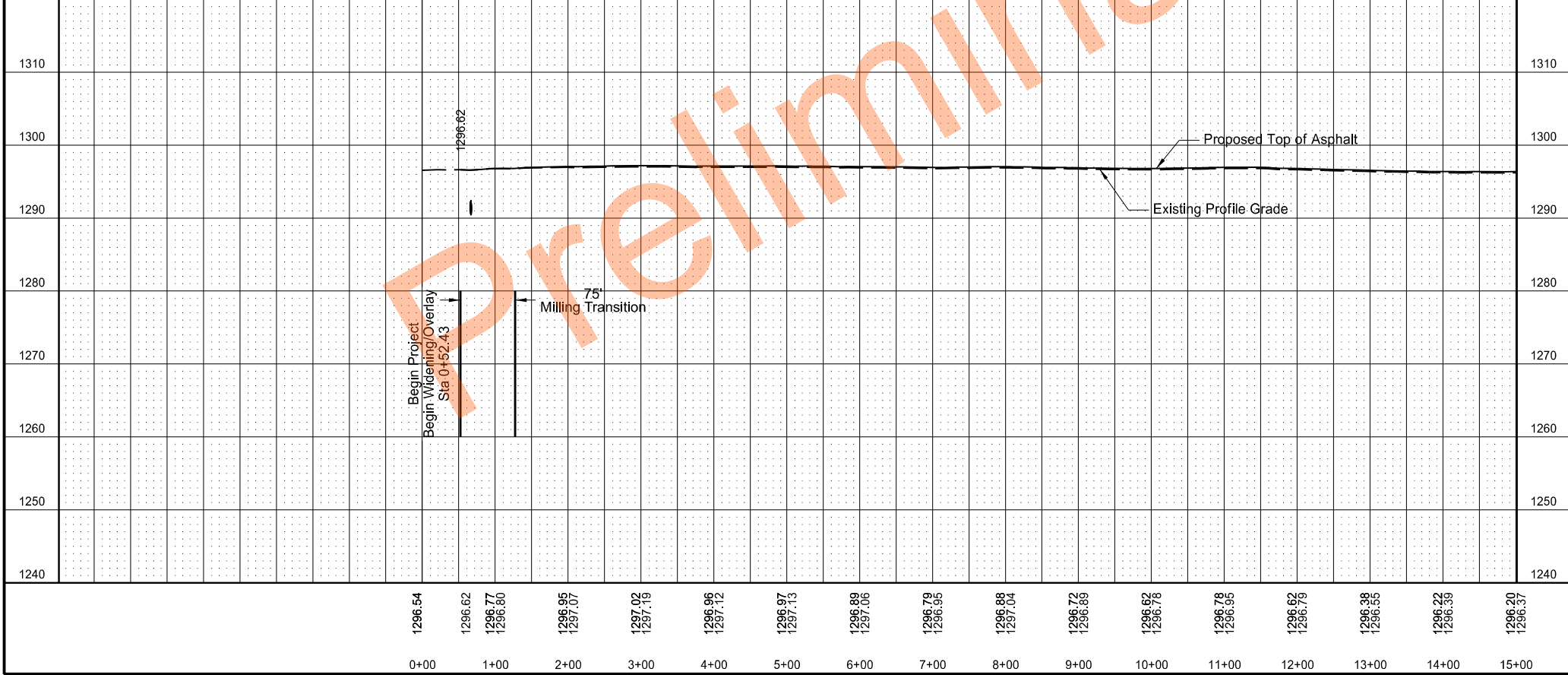
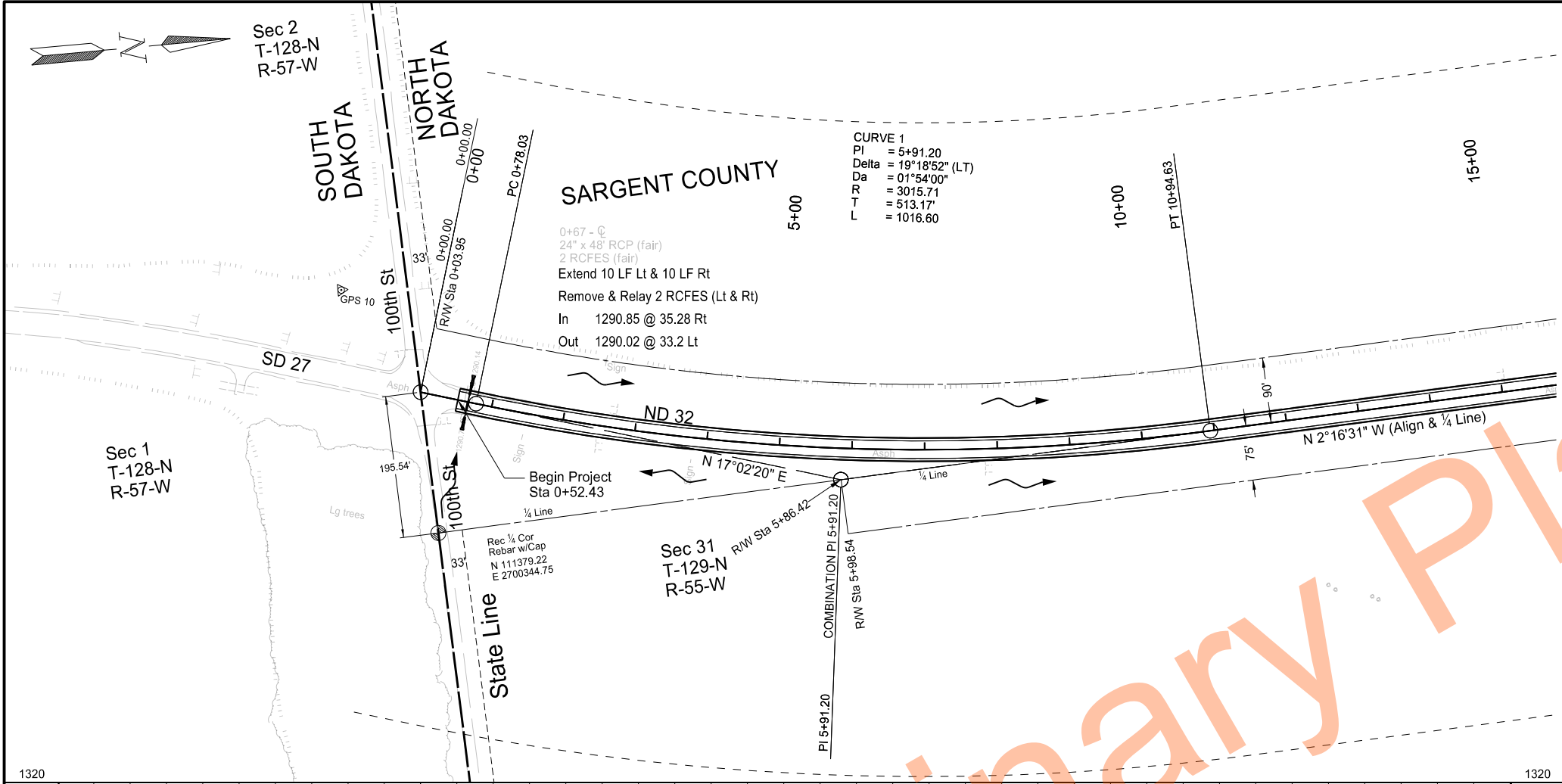
Corrugations:
2 = 2-2/3"x1/2"
3 = 3"x1"
5 = 5"x1"

Spiral Ribs:
¾ = 3/4"x3/4"@7'-1/2"
1 = 3/4"x1"@11'-1/2"

FES = Flared End Section
R&R = Remove and Relay End Section

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Allowable Pipe List

REGISTERED PROFESSIONAL ENGINEER
MATTHEW J. HUETT
PE-10780
DATE 05/16/2024
NORTH DAKOTA



		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	60	1

SPEC	CODE	BID ITEM	UNIT	QUANTITY
714	0615	PIPE CONC REINF 24IN CL III		
		Sta. 0+67 - CL (Lt)	LF	10
		Sta. 0+67 - CL (Rt)	LF	10
714	9660	REMOVE & RELAY END SECTION-ALL TYPES & SIZES		
		Sta. 0+67 - CL (Lt & Rt)	EA	2
990	0400	PIPE CLEANOUT		
		Sta. 0+67 - CL	EA	1

NDDOT Hwy 32 Rehab

State Line N to S Jct 11 Forman

Plan and Profile

Sta. 0+00 to Sta. 15+00

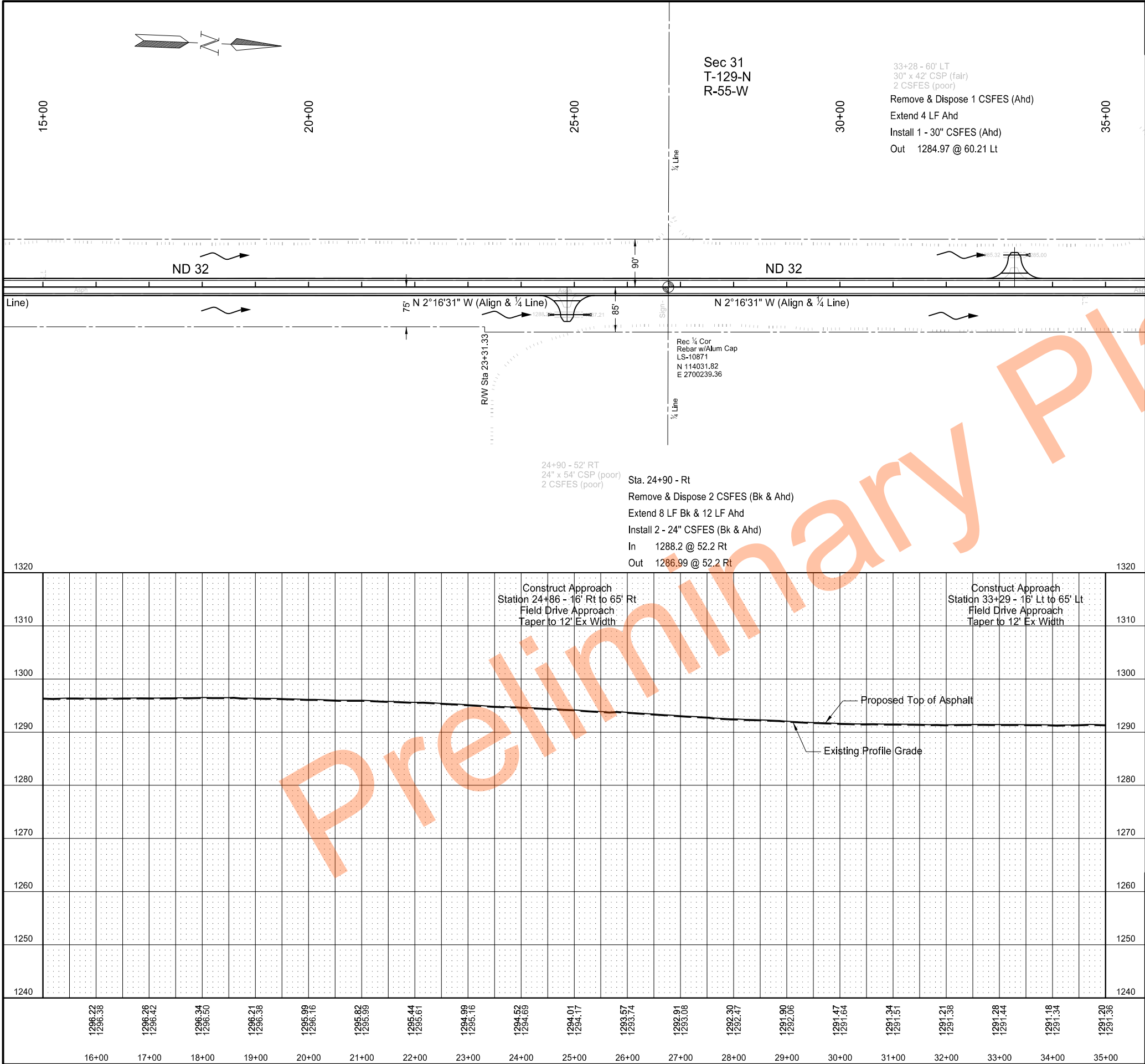
REGISTERED PROFESSIONAL ENGINEER

MATTHEW J. HETTL

PE-10780

DATE 05/16/2024

NORTH DAKOTA



		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	60	2
SPEC	CODE	BID ITEM		UNIT	QUANTITY
202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES			
		Sta. 24+90 - Rt (Bk & Ahd)		EA	2
		Sta. 33+28 - Lt (Ahd)		EA	1
714	5035	PIPE CORR STEEL .064IN 24IN			
		Sta. 24+90 - Rt (Bk)		LF	8
		Sta. 24+90 - Rt (Ahd)		LF	12
714	5210	PIPE CORR STEEL .079IN 30IN			
		Sta. 33+28 - Lt (Ahd)		LF	4
714	5820	END SECT CORR STEEL .064IN 24IN			
		Sta. 24+90 - Rt (Bk & Ahd)		EA	2
714	5825	END SECT CORR STEEL .079IN 30IN			
		Sta. 33+28 - Lt (Ahd)		EA	1

NDDOT Hwy 32 Rehab

State Line N to S Jct 11 Forman

Plan and Profile

Sta. 15+00 to Sta. 35+00

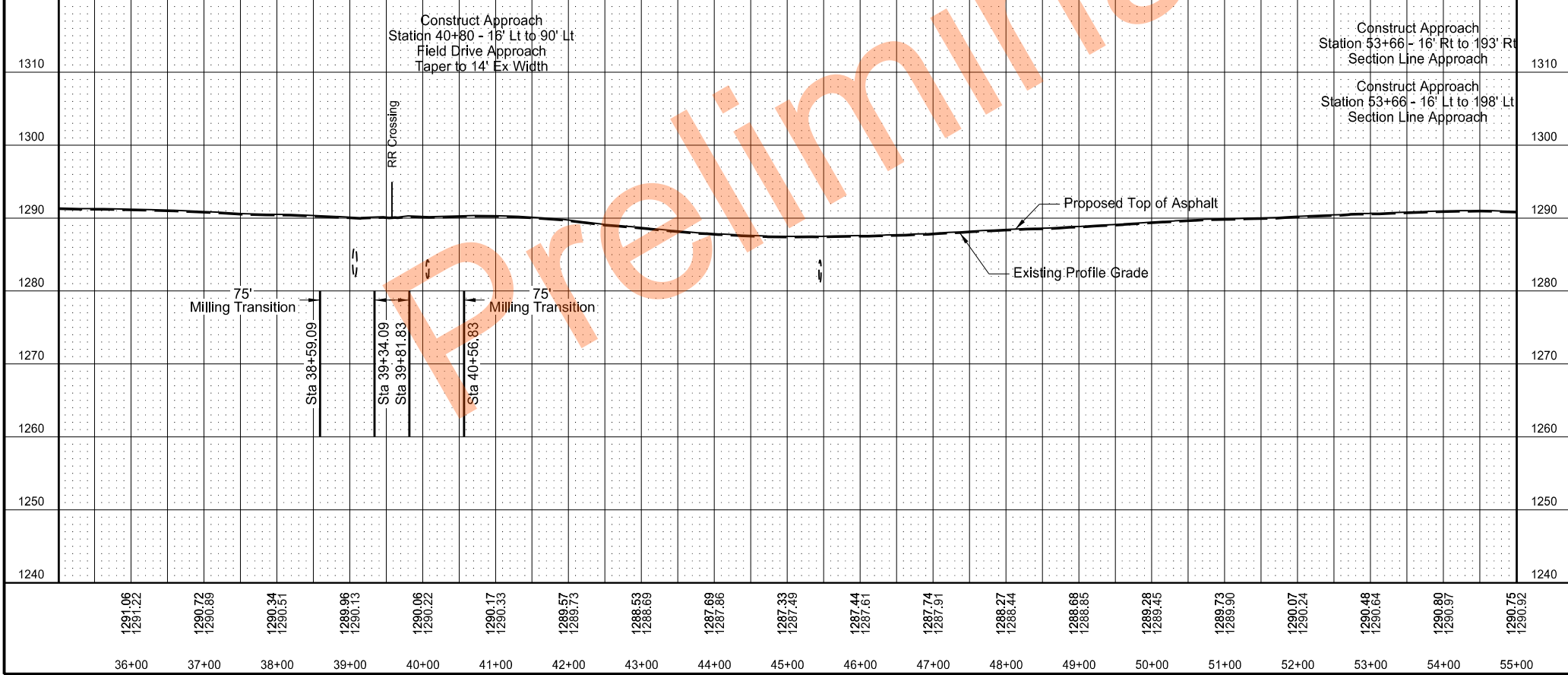
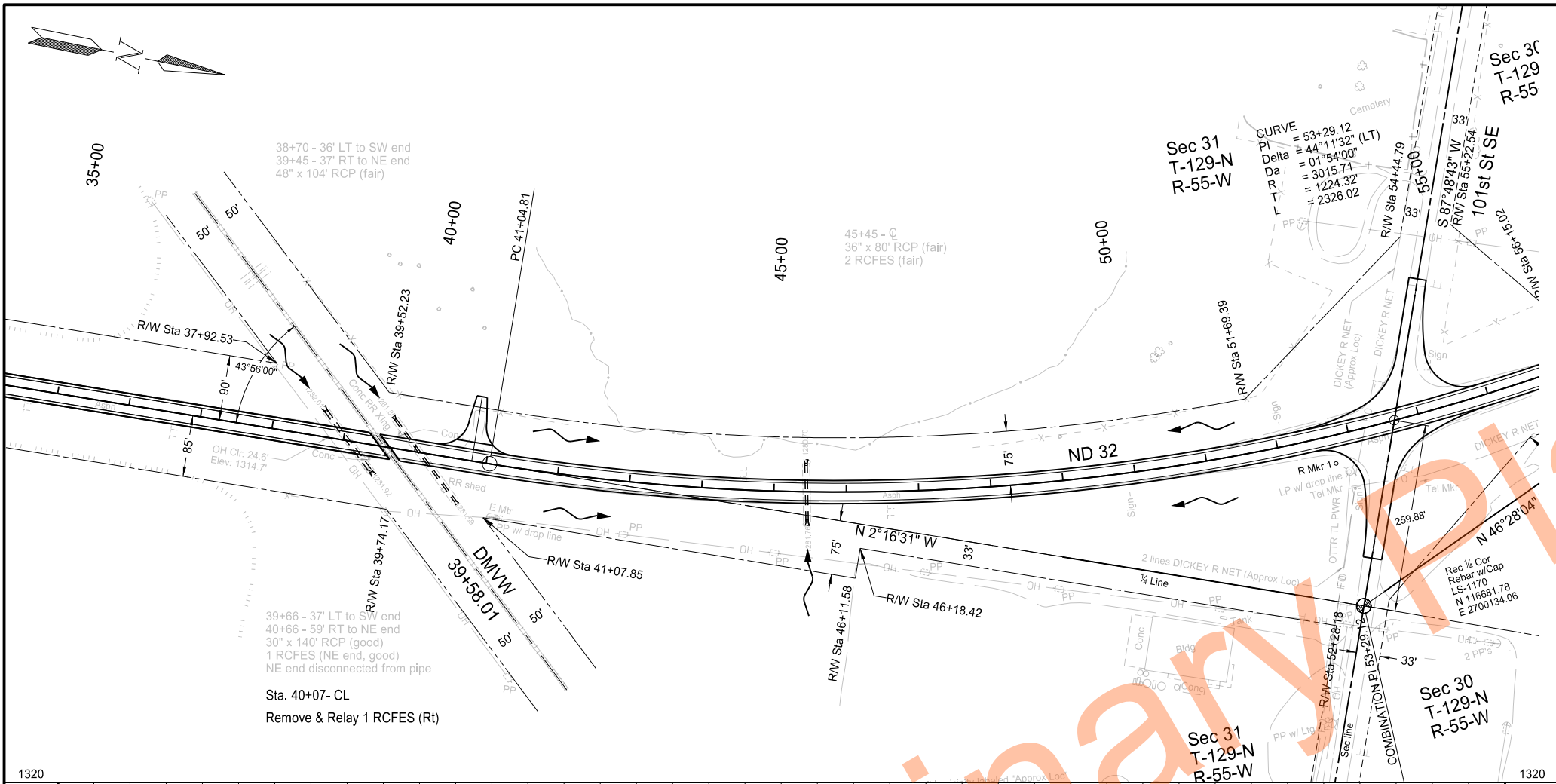
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DATE 05/16/2024

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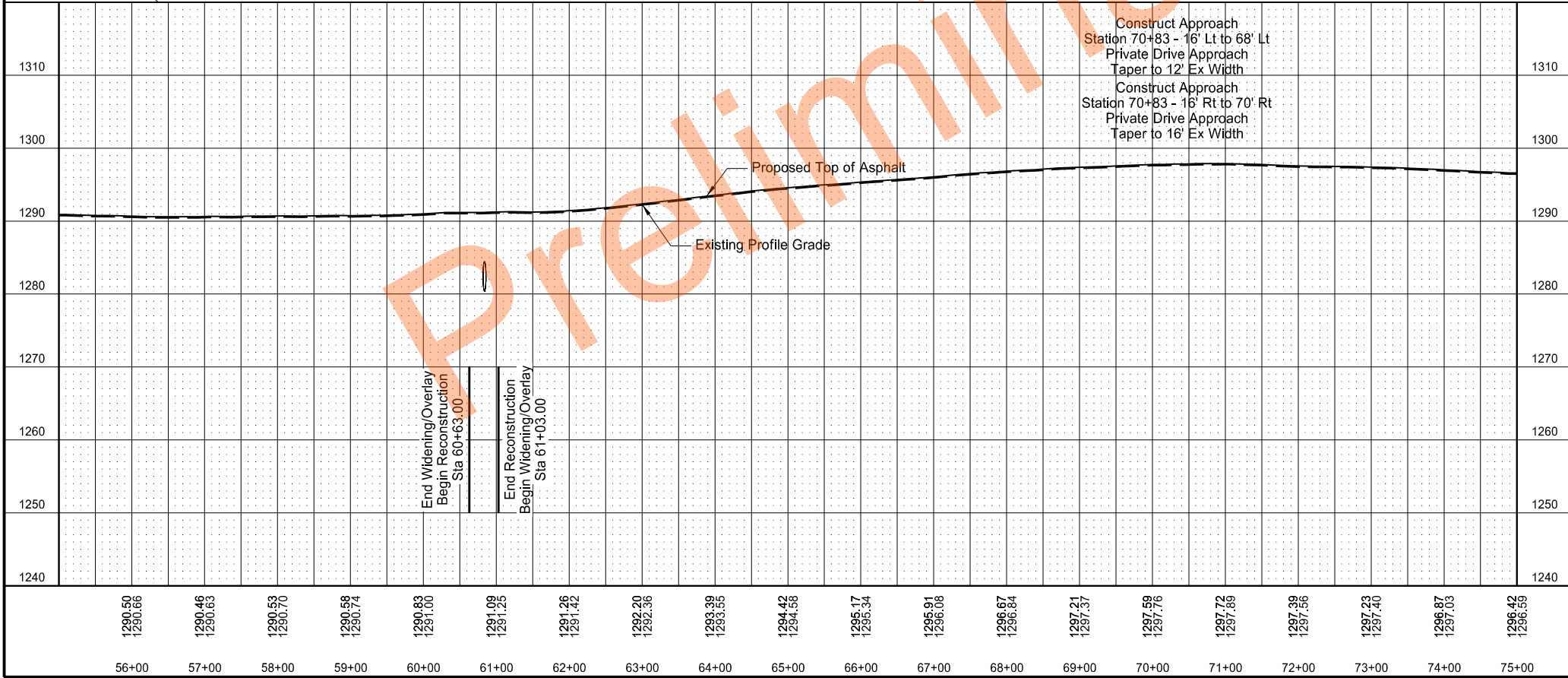
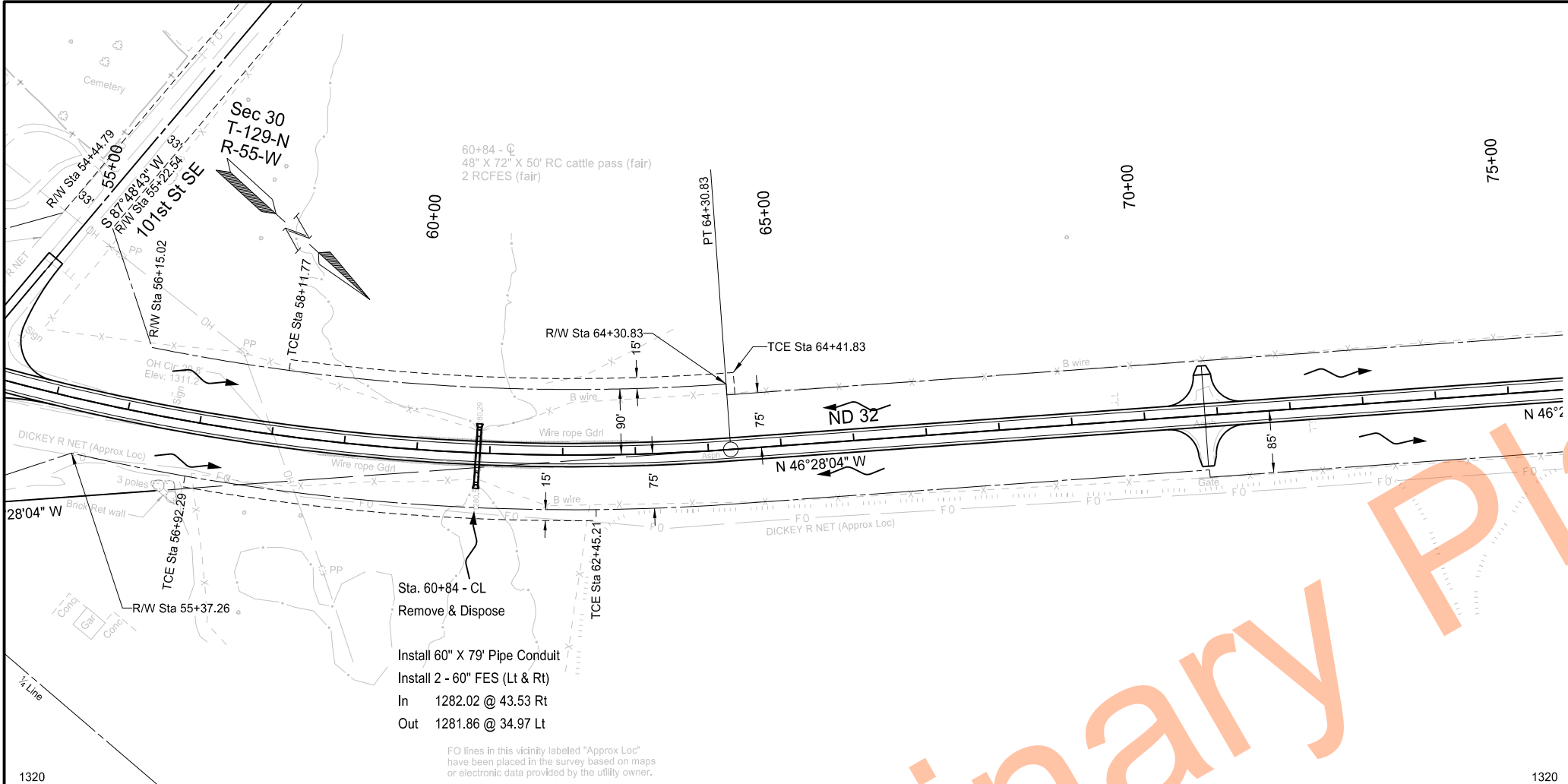


STATE		PROJECT NO.	SECTION NO.	SHEET NO.
ND		SS-XA-8-032(046)000	60	3

SPEC	CODE	BID ITEM	UNIT	QUANTITY
714	9660	REMOVE & RELAY END SECTION-ALL TYPES & SIZES		
		Sta. 40+07 - CL (Rt)	EA	1
990	0400	PIPE CLEANOUT		
		Sta. 45+45 - CL	EA	1

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Plan and Profile
Sta. 35+00 to Sta. 55+00

REGISTERED PROFESSIONAL ENGINEER
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		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	60	4
SPEC	CODE	BID ITEM		UNIT	QUANTITY
202	0174	REMOVAL OF PIPE ALL TYPES & SIZES			
		Sta 60+84 - CL		LF	50
714	4135	PIPE CONDUIT 60IN			
		Sta. 60+84 - CL		LF	79

NDDOT Hwy 32 Rehab

State Line N to S Jct 11 Forman

Plan and Profile

Sta. 55+00 to Sta. 75+00

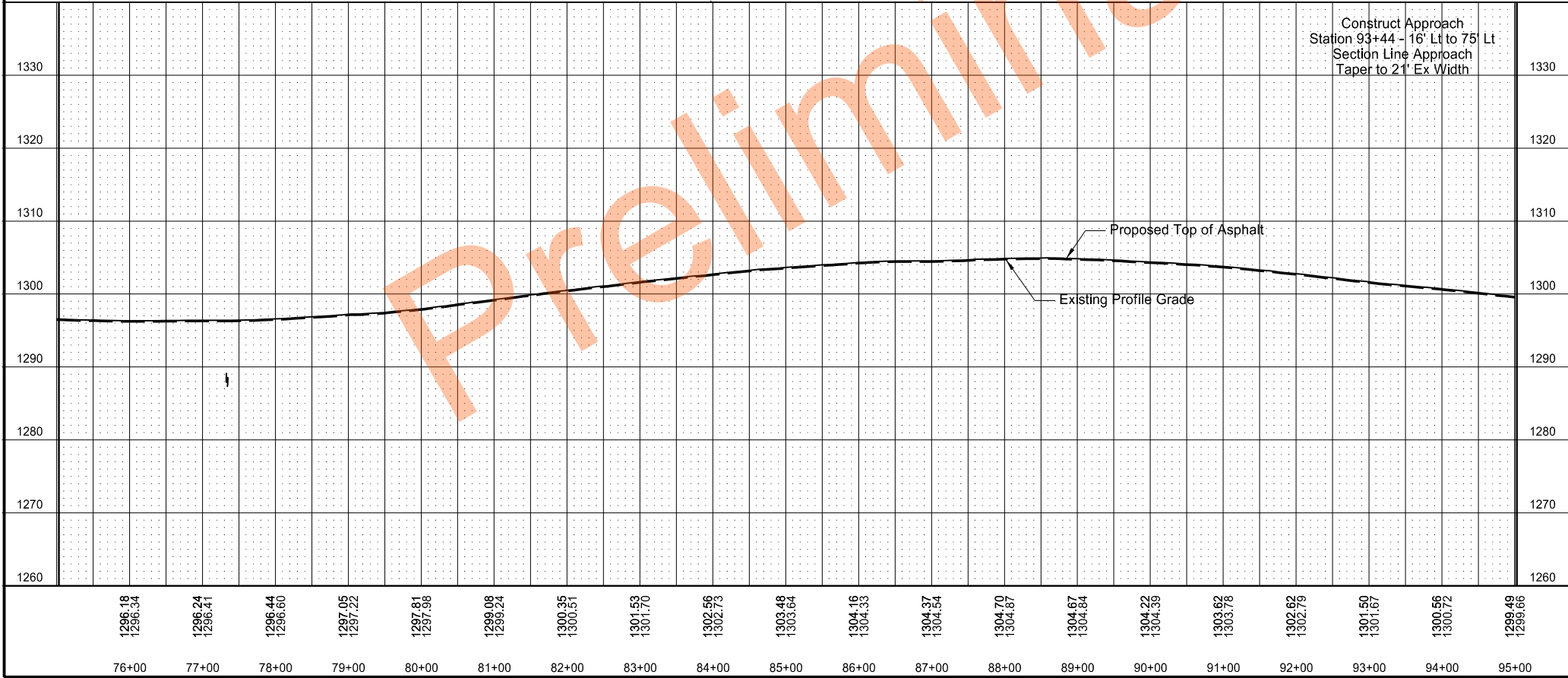
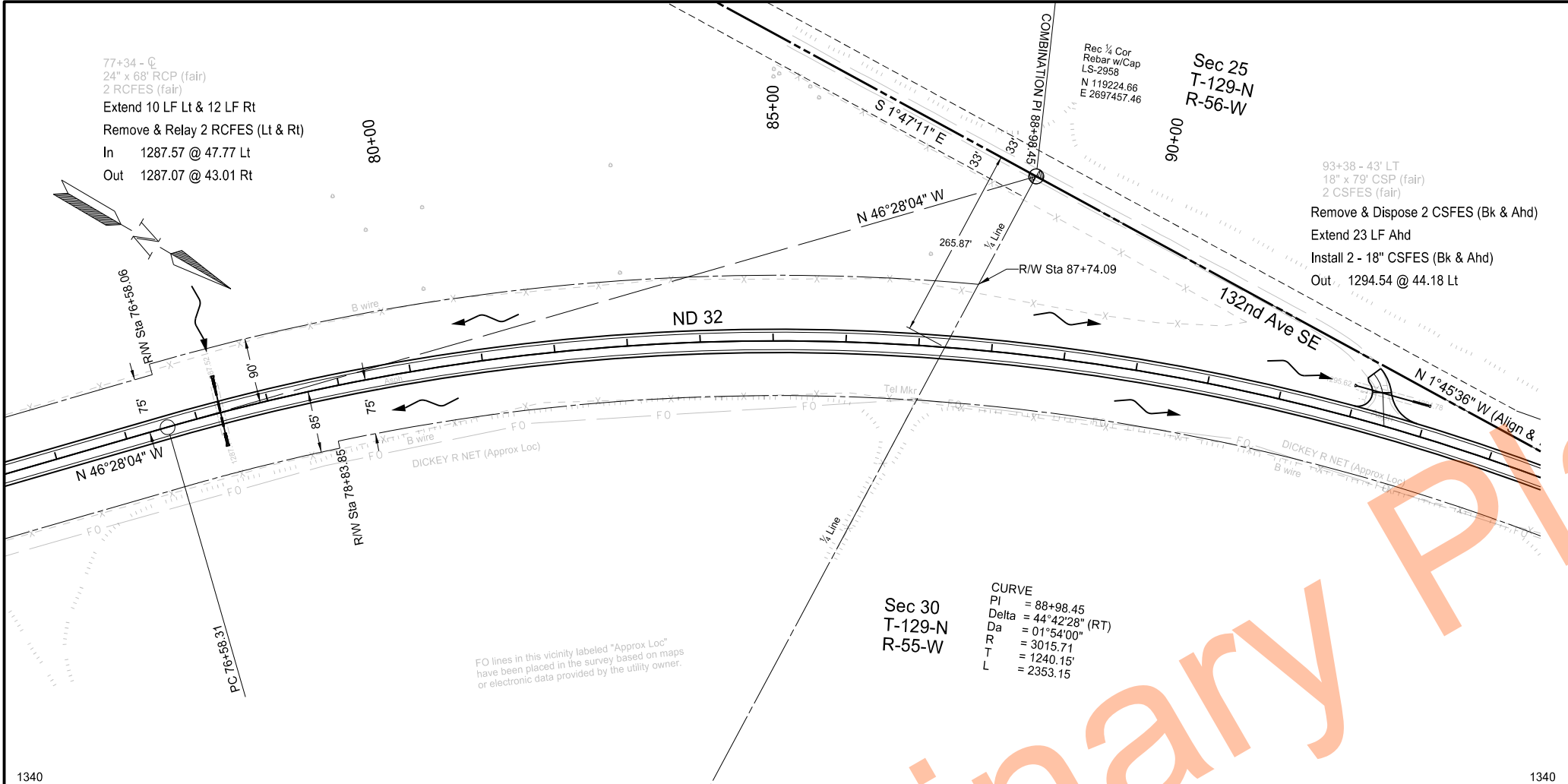
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		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	60	5
SPEC	CODE	BID ITEM		UNIT	QUANTITY
202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES			
		Sta. 93+38 - Lt (Bk & Ahd)		EA	2
714	0615	PIPE CONC REINF 24IN CL III			
		Sta. 77+34 - CL (Lt)		LF	10
		Sta. 77+34 - CL (Rt)		LF	12
714	5015	PIPE CORR STEEL .064IN 18IN			
		Sta. 93+38 - Lt (Ahd)		LF	23
714	5810	END SECT CORR STEEL .064IN 18IN			
		Sta. 93+38 - Lt (Bk & Ahd)		EA	2
714	9660	REMOVE & RELAY END SECTION-ALL TYPES & SIZES			
		Sta. 77+34 - CL (Lt & Rt)		EA	2
990	0400	PIPE CLEANOUT			
		Sta. 77+34 - CL		EA	1

NDDOT Hwy 32 Rehab

State Line N to S Jct 11 Forman

Plan and Profile

Sta. 75+00 to Sta. 95+00

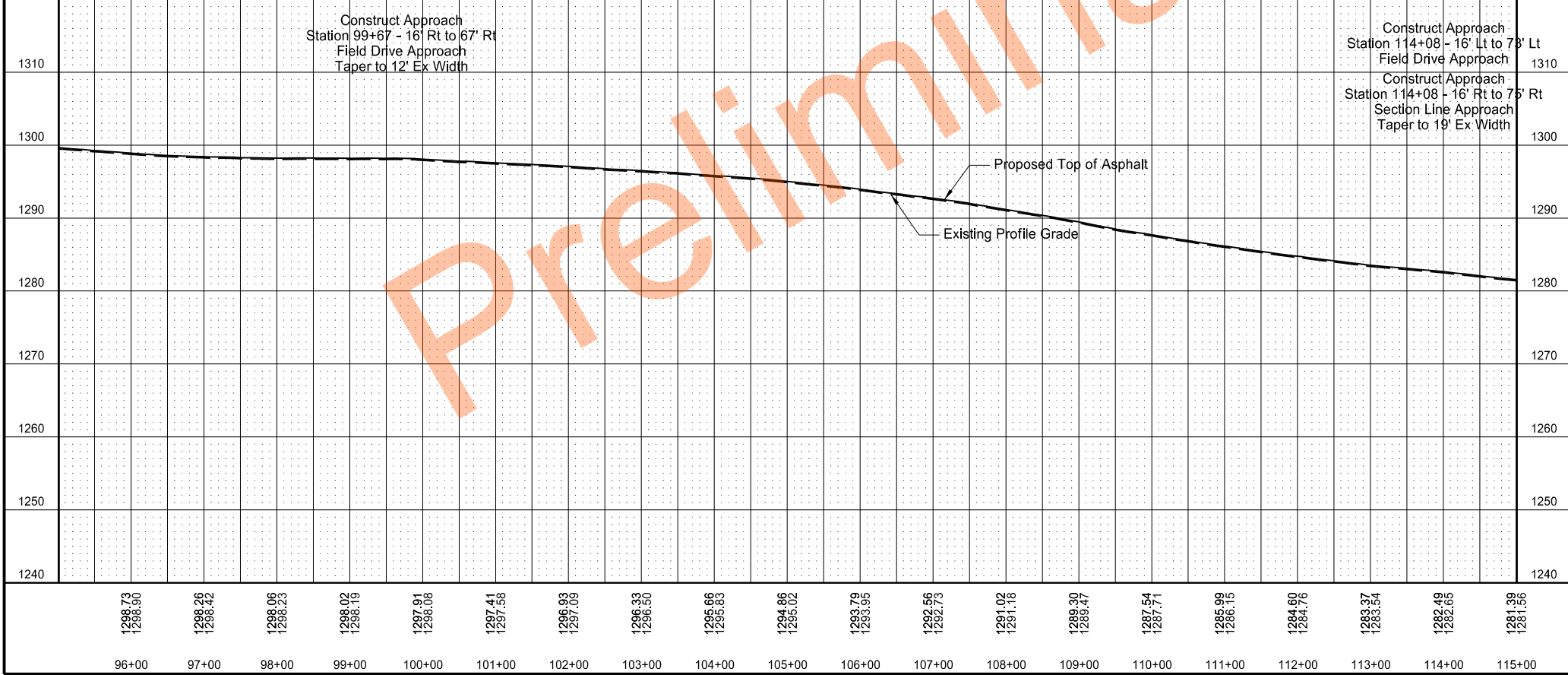
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		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	60	6
SPEC	CODE	BID ITEM		UNIT	QUANTITY
202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES			
		Sta. 114+11 - Lt (Ahd)		EA	1
202	0174	REMOVAL OF PIPE ALL TYPES & SIZES			
		Sta. 114+11 - Rt		LF	55
714	4116	PIPE CONDUIT 36IN-APPROACH			
		Sta. 114+11 - Rt		LF	54
714	5035	PIPE CORR STEEL .064IN 24IN			
		Sta. 99+70 - Rt (Bk)		LF	19
		Sta. 99+70 - Rt (Ahd)		LF	20
		Sta. 114+11 - Lt (Ahd)		LF	9
714	5820	END SECT CORR STEEL .064IN 24IN			
		Sta. 114+11 - Lt (Ahd)		EA	1
714	9660	REMOVE & RELAY END SECTION-ALL TYPES & SIZES			
		Sta. 99+70 - CL (Bk & Ahd)		EA	2

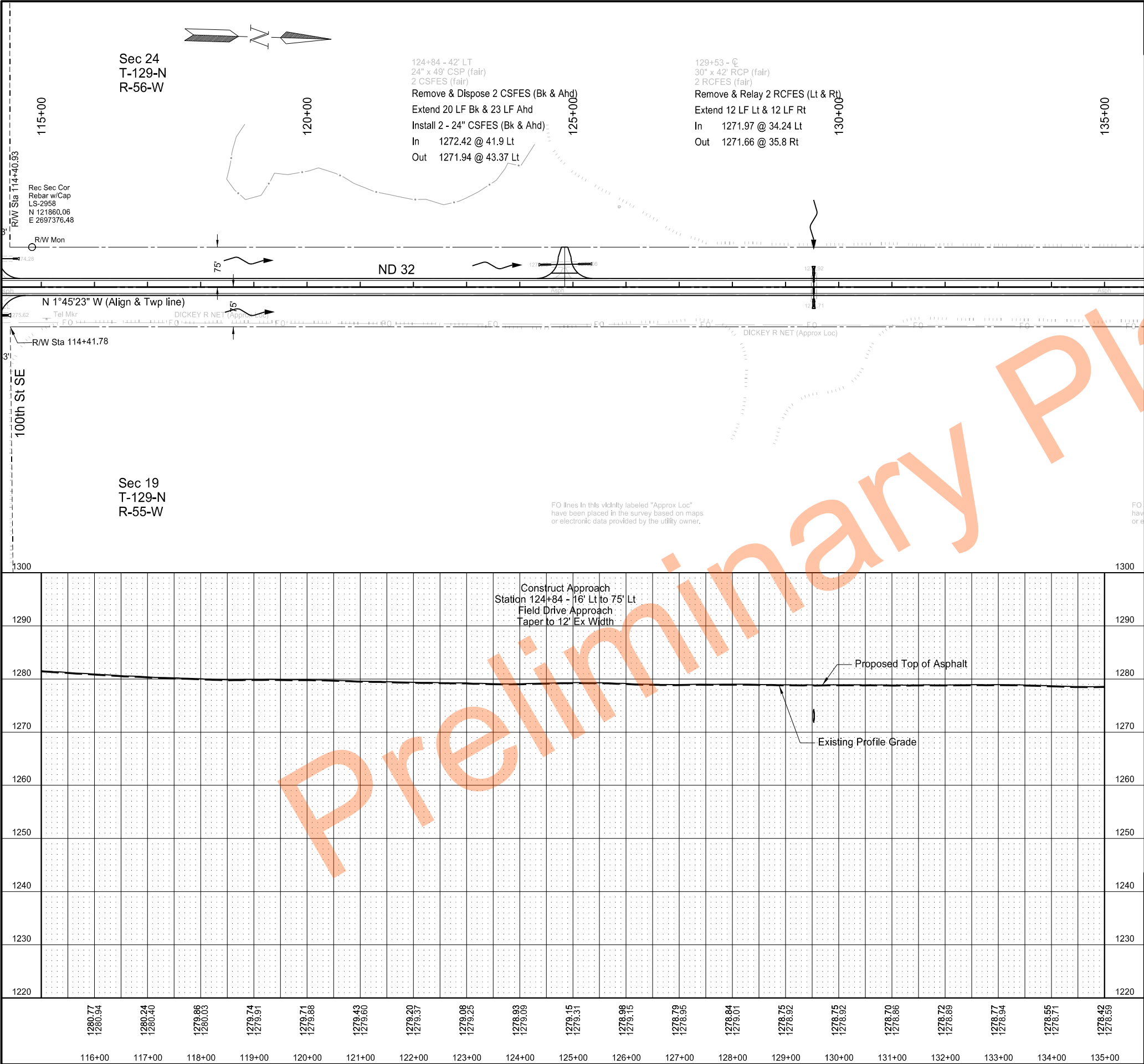
NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman

Plan and Profile

Sta. 95+00 to Sta. 115+00

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MATTHEW J. HETTL
PE-10780
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		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	60	7
SPEC	CODE	BID ITEM	UNIT	QUANTITY	
202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES			
		Sta. 124+84 - Lt (Bk & Ahd)	EA	2	
714	0820	PIPE CONC REINF 30IN CL III			
		Sta. 129+53 - CL (Lt)	LF	12	
		Sta. 129+53 - CL (Rt)	LF	12	
714	5035	PIPE CORR STEEL .064IN 24IN			
		Sta. 124+84 - Lt (Bk)	LF	20	
		Sta. 124+84 - Lt (Ahd)	LF	23	
714	5820	END SECT CORR STEEL .064IN 24IN			
		Sta. 124+84 - Lt (Bk & Ahd)	EA	2	
714	9660	REMOVE & RELAY END SECTION-ALL TYPES & SIZES			
		Sta. 129+53 - CL (Lt & Rt)	EA	2	
990	0400	PIPE CLEANOUT			
		Sta. 129+53 - CL	EA	1	

NDDOT Hwy 32 Rehab

State Line N to S Jct 11 Forman

Plan and Profile

Sta. 115+00 to Sta. 135+00

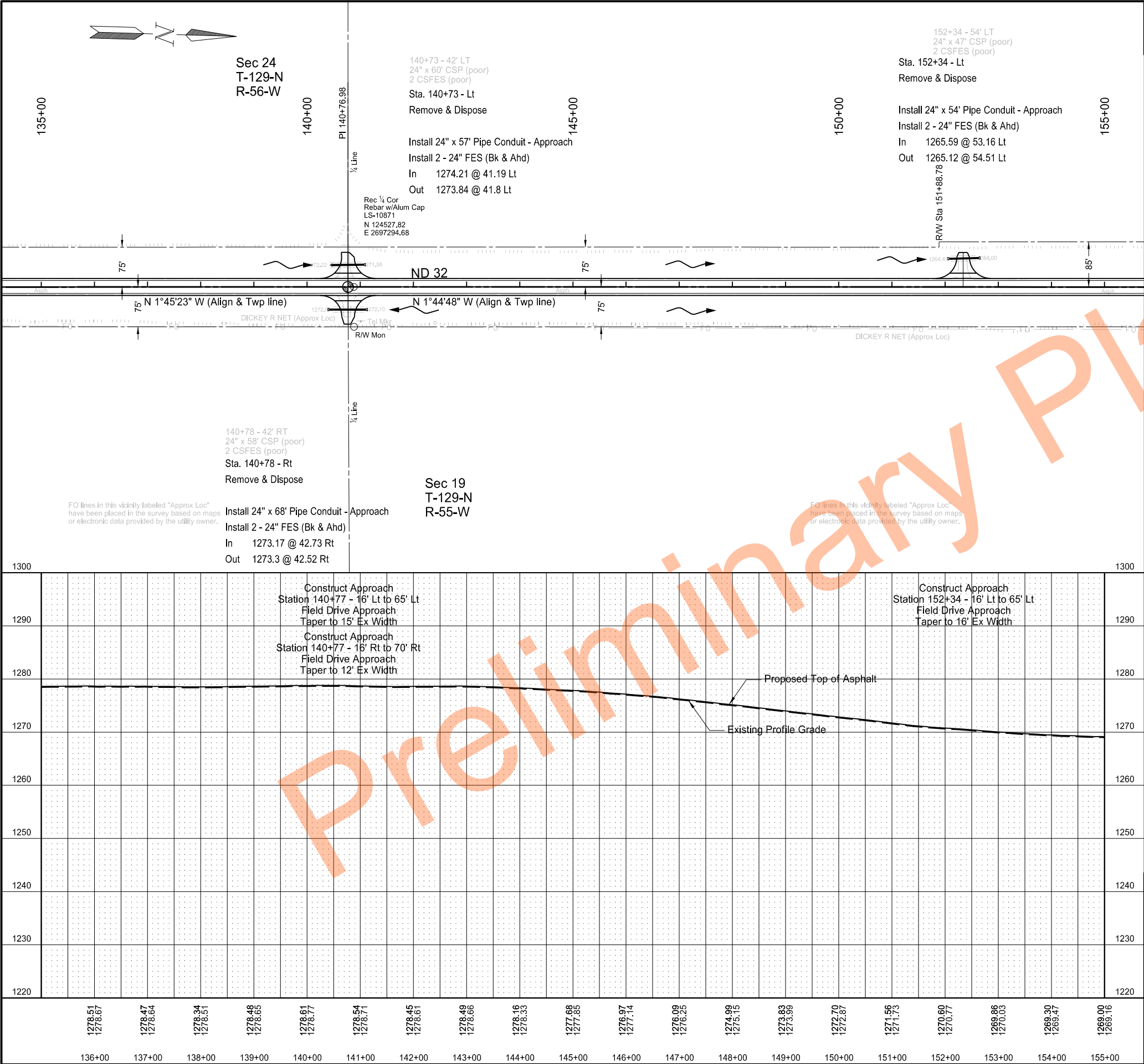
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DATE 05/16/2024

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		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	60	8
SPEC	CODE	BID ITEM	UNIT	QUANTITY	
202	0174	REMOVAL OF ALL PIPE-ALL TYPES & SIZES			
		Sta. 140+73 - Lt	LF	60	
		Sta. 140+78 - Rt	EA	58	
		Sta. 152+34 - Lt	LF	47	
714	4106	PIPE CONDUIT 24IN - APPROACH			
		Sta. 140+73 - Lt	LF	57	
		Sta. 140+78 - Rt	LF	68	
		Sta. 152+34 - Lt	LF	54	

NDDOT Hwy 32 Rehab

State Line N to S Jct 11 Forman

Plan and Profile

Sta. 135+00 to Sta. 155+00

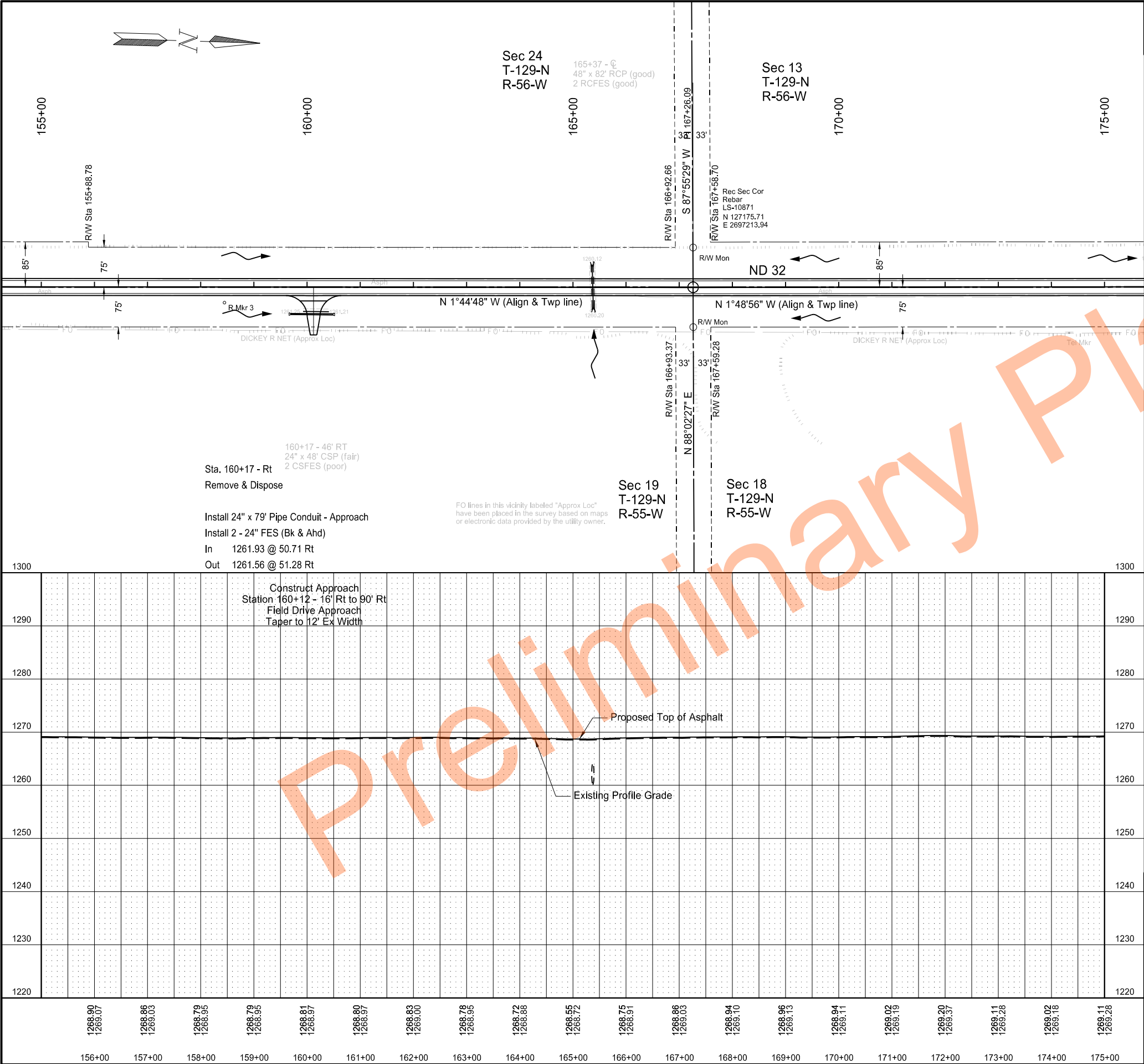
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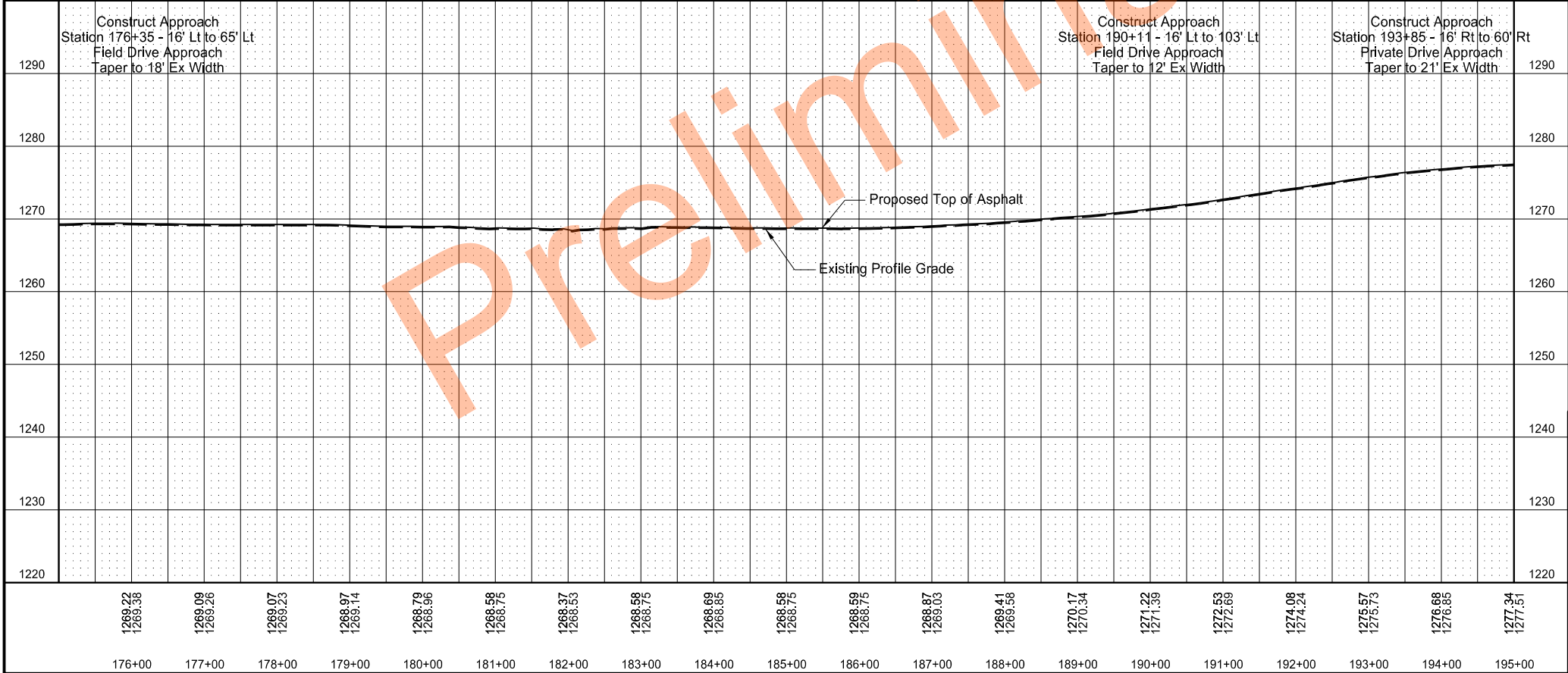
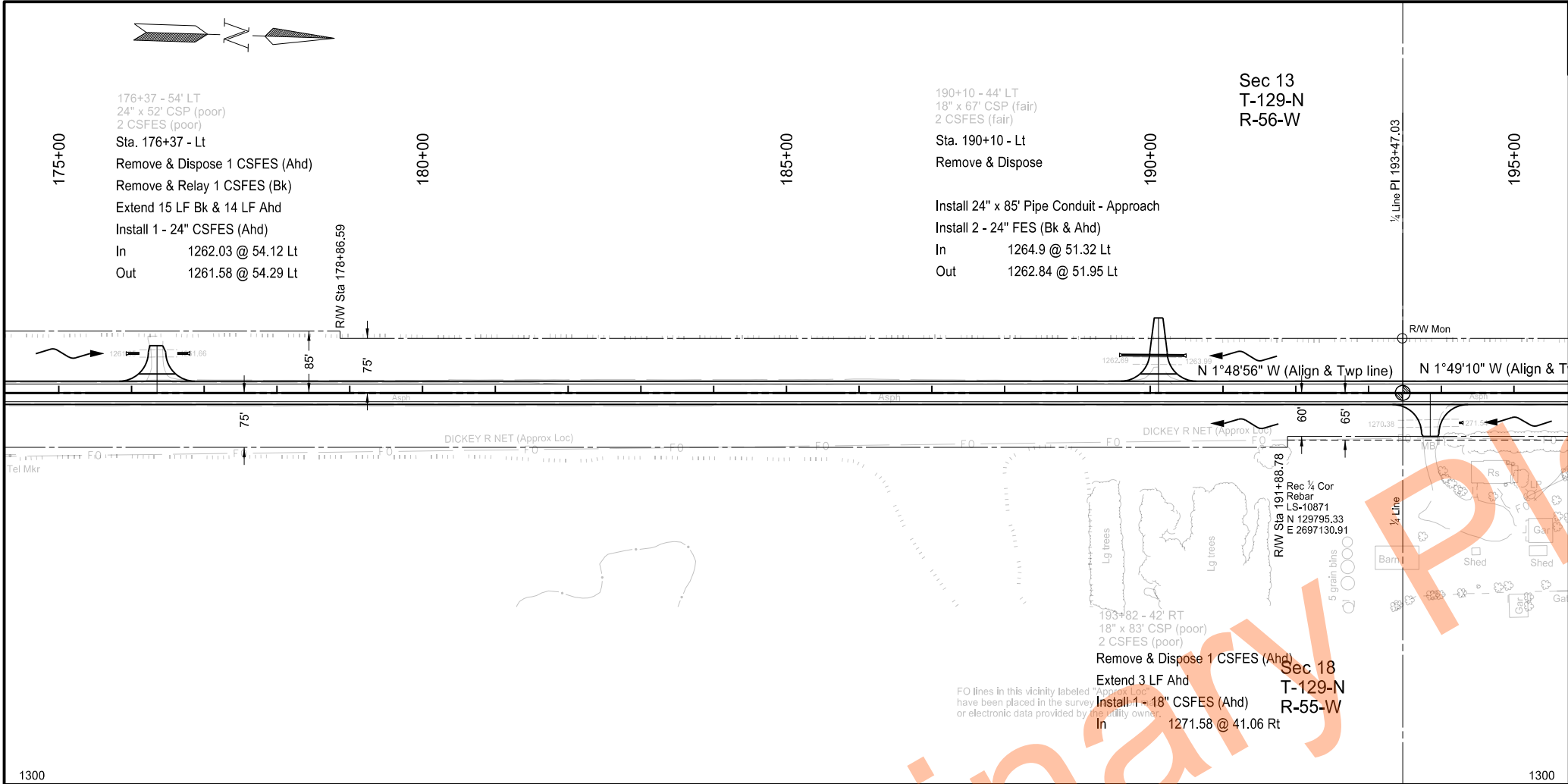


STATE		PROJECT NO.	SECTION NO.	SHEET NO.
ND		SS-XA-8-032(046)000	60	9

SPEC	CODE	BID ITEM	UNIT	QUANTITY
202	0174	REMOVAL OF ALL PIPE-ALL TYPES & SIZES		
		Sta. 160+17 - Rt	LF	48
714	4106	PIPE CONDUIT 24IN - APPROACH		
		Sta. 160+17 - Rt	LF	79

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Plan and Profile
Sta. 155+00 to Sta. 175+00

REGISTERED PROFESSIONAL ENGINEER
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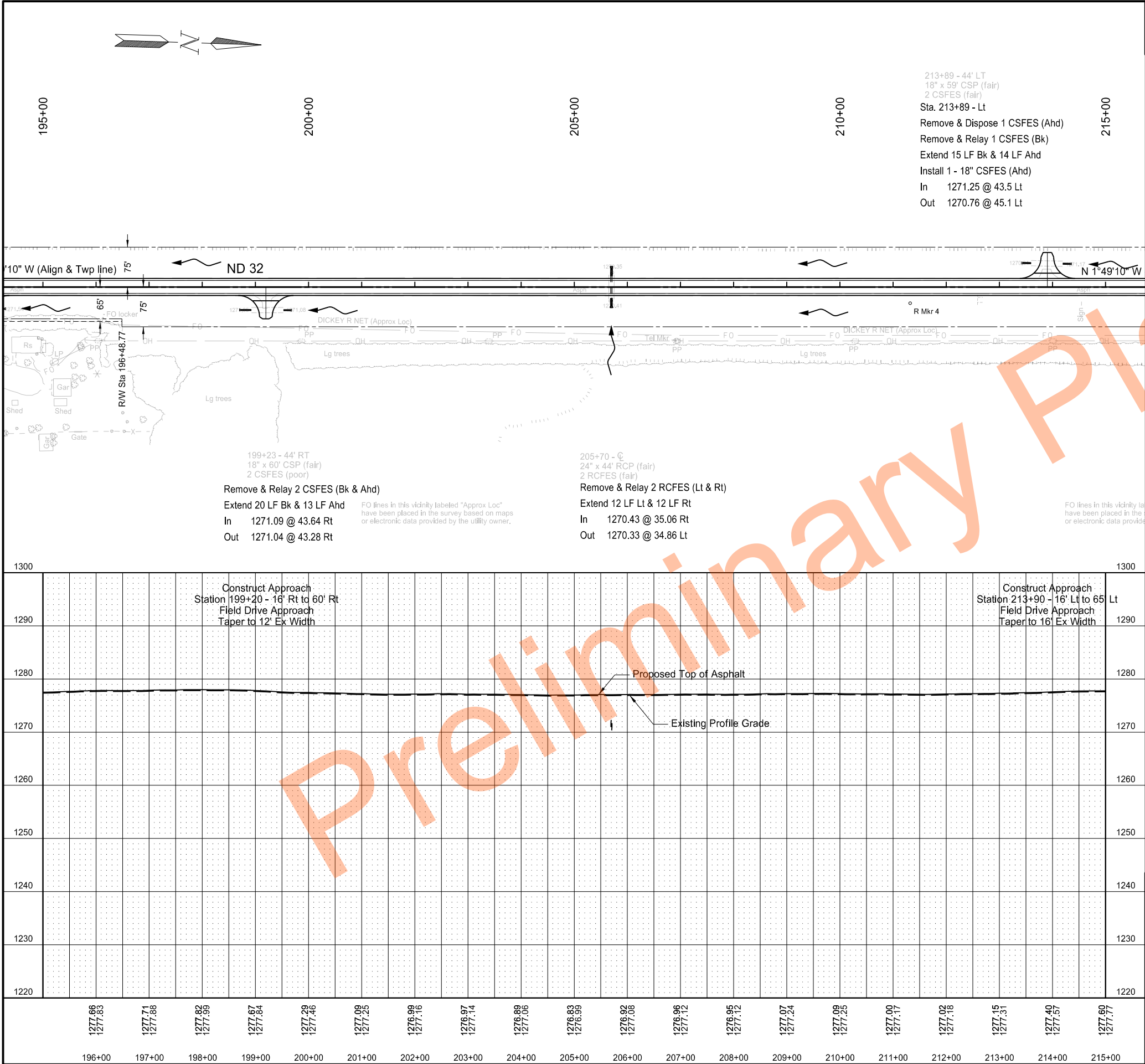
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		ND	SS-XA-8-032(046)000	60	10
SPEC	CODE	BID ITEM	UNIT	QUANTITY	
202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES			
		Sta. 176+37 - Lt (Ahd)	EA	1	
		Sta. 193+82 - Rt (Ahd)	EA	1	
202	0174	REMOVAL OF ALL PIPE-ALL TYPES & SIZES			
		Sta. 190+10 - Lt	LF	67	
714	4106	PIPE CONDUIT 24IN - APPROACH			
		Sta. 190+10 - Lt	LF	85	
714	5035	PIPE CORR STEEL .064IN 24IN			
		Sta. 193+82 - Rt (Ahd)	LF	3	
714	5035	PIPE CORR STEEL .064IN 24IN			
		Sta. 176+37 - Lt (Bk)	LF	15	
714	5035	PIPE CORR STEEL .064IN 24IN			
		Sta. 176+37 - Lt (Ahd)	LF	14	
714	5810	END SECT CORR STEEL .064IN 18IN			
		Sta. 193+82 - Rt (Ahd)	EA	1	
714	5820	END SECT CORR STEEL .064IN 24IN			
		Sta. 176+37 - Lt (Ahd)	EA	1	
714	9660	REMOVE & RELAY END SECTION-ALL TYPES & SIZES			
		Sta. 176+37 - Lt (Bk)	EA	1	

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman

Plan and Profile
Sta. 175+00 to Sta. 195+00

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		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	60	11
SPEC	CODE	BID ITEM	UNIT	QUANTITY	
202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES			
		Sta. 213+89 - Lt (Ahd)	EA	1	
714	0615	PIPE CONC REINF 24IN CL III			
		Sta. 205+70 - CL (Lt)	LF	12	
		Sta. 205+70 - CL (Rt)	LF	12	
714	5015	PIPE CORR STEEL .064IN 18IN			
		Sta. 199+23 - Rt (Bk)	LF	20	
		Sta. 199+23 - Rt (Ahd)	LF	13	
		Sta. 213+89 - Lt (Bk)	LF	15	
		Sta. 213+89 - Lt (Ahd)	LF	14	
714	5810	END SECT CORR STEEL .064IN 18IN			
		Sta. 213+89 - Lt (Ahd)	EA	1	
714	9660	REMOVE & RELAY END SECTION-ALL TYPES & SIZES			
		Sta. 199+23 - Rt (Bk & Ahd)	EA	2	
		Sta. 205+70 - CL (Lt & Rt)	EA	2	
		Sta. 213+89 - Lt (Bk)	EA	1	

NDDOT Hwy 32 Rehab

State Line N to S Jct 11 Forman

Plan and Profile

Sta. 195+00 to Sta. 215+00

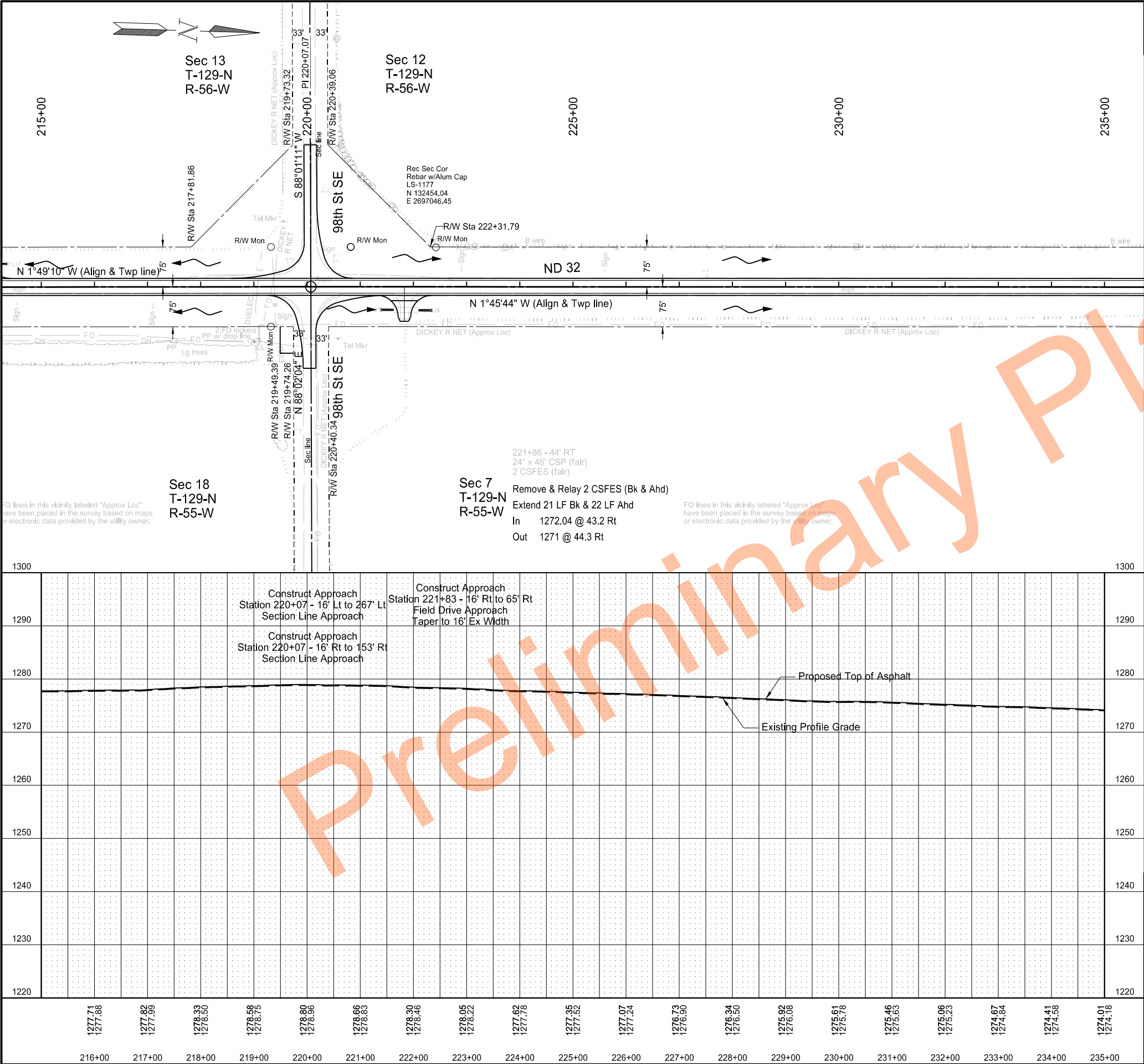
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DATE 05/16/2024

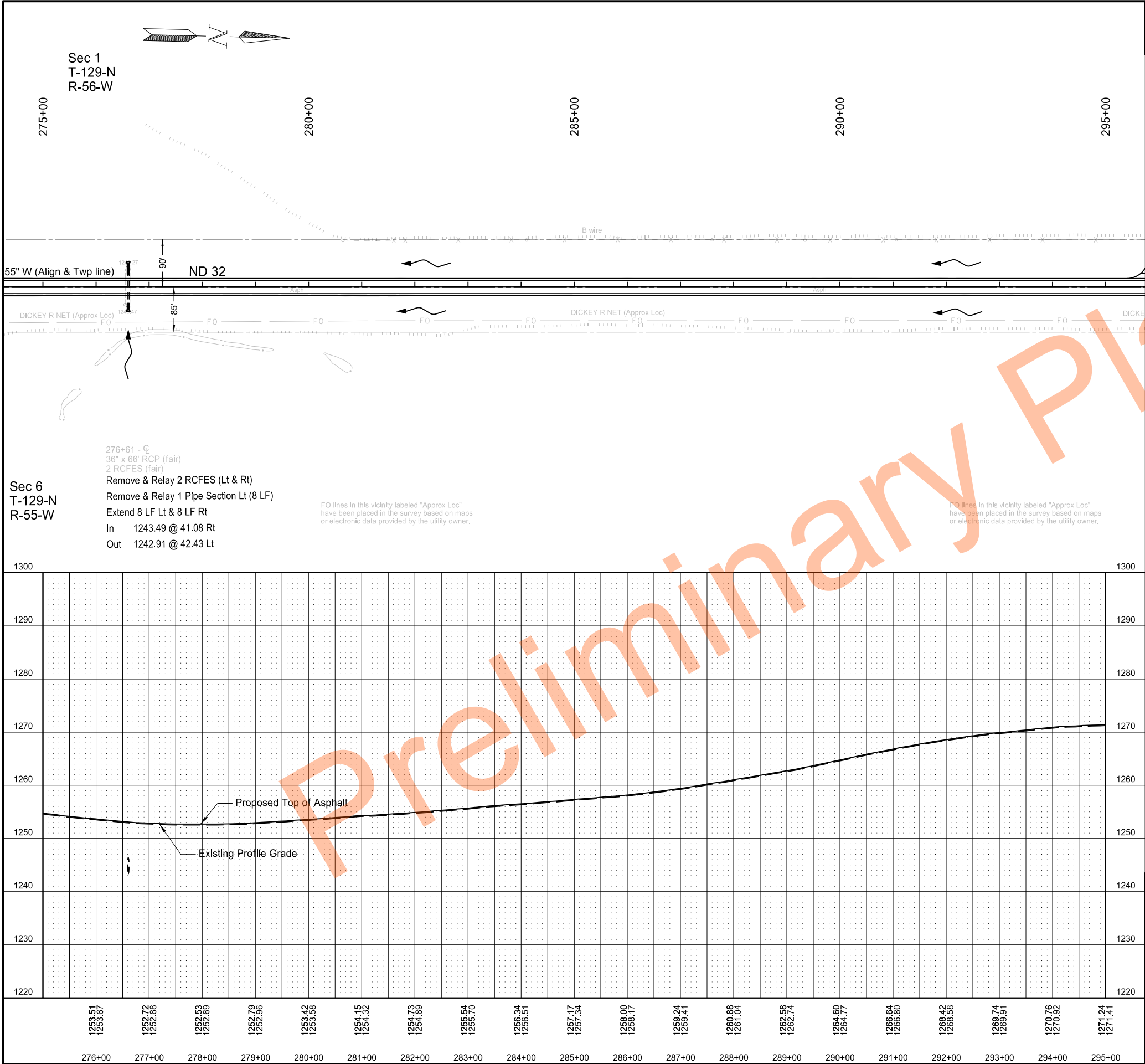
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		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	60	12
SPEC	CODE	BID ITEM		UNIT	QUANTITY
714	5035	PIPE CORR STEEL .064IN 24IN			
		Sta. 221+86 - Rt (Bk)		LF	21
		Sta. 221+86 - Rt (Ahd)		LF	22
714	9660	REMOVE & RELAY END SECTION-ALL TYPES & SIZES			
		Sta. 221+86 - Rt (Bk & Ahd)		EA	2

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Plan and Profile
Sta. 215+00 to Sta. 235+00

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		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	60	15
SPEC	CODE	BID ITEM	UNIT	QUANTITY	
714	0905	PIPE CONC REINF 36IN CL III			
		Sta. 276+61 - CL (Lt)	LF	8	
		Sta. 276+61 - CL (Rt)	LF	8	
714	9659	REMOVE & RELAY PIPE-ALL TYPES & SIZES			
		Sta. 276+61 - CL (Lt)	LF	8	
714	9660	REMOVE & RELAY END SECTION-ALL TYPES & SIZES			
		Sta. 276+61 - CL (Lt & Rt)	EA	2	
990	0400	PIPE CLEANOUT			
		Sta. 276+61 - CL	EA	1	

NDDOT Hwy 32 Rehab

State Line N to S Jct 11 Forman

Plan and Profile

Sta. 275+00 to Sta. 295+00

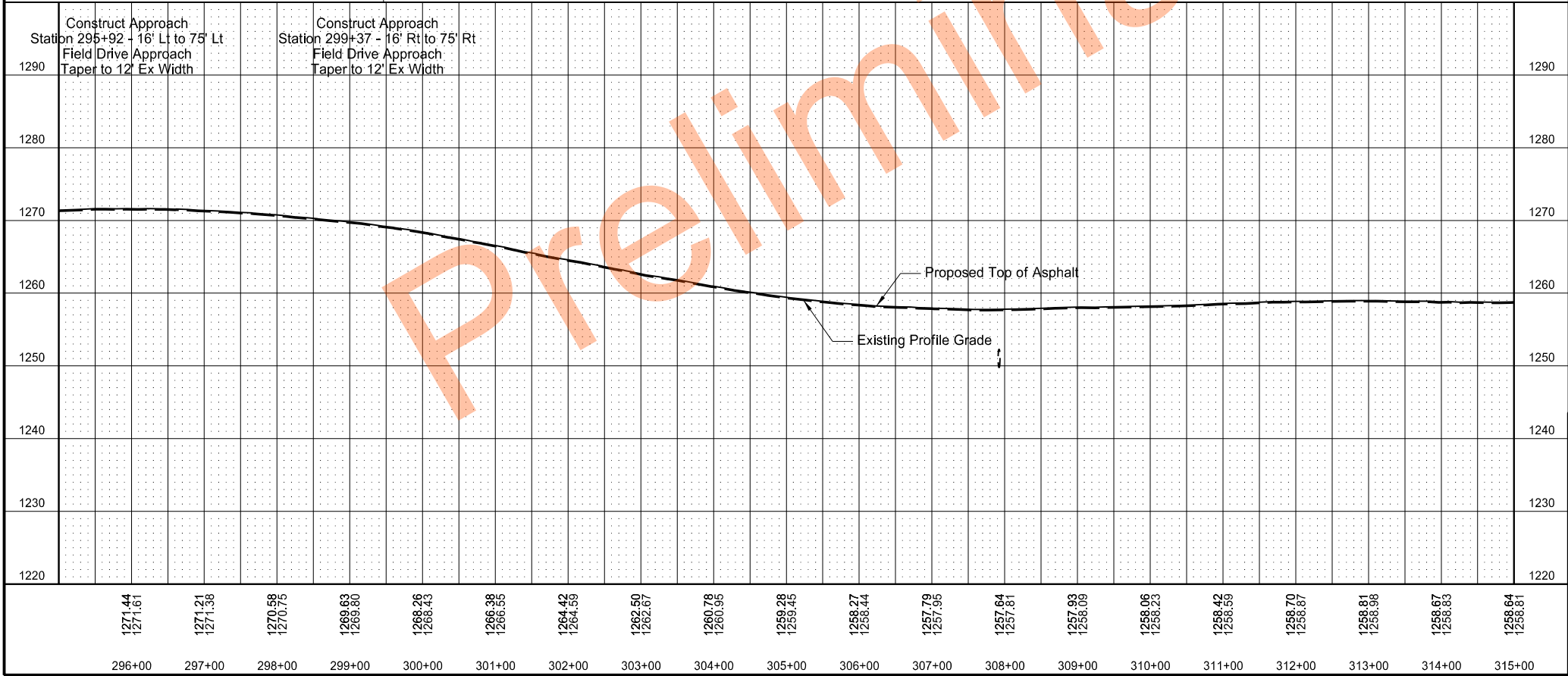
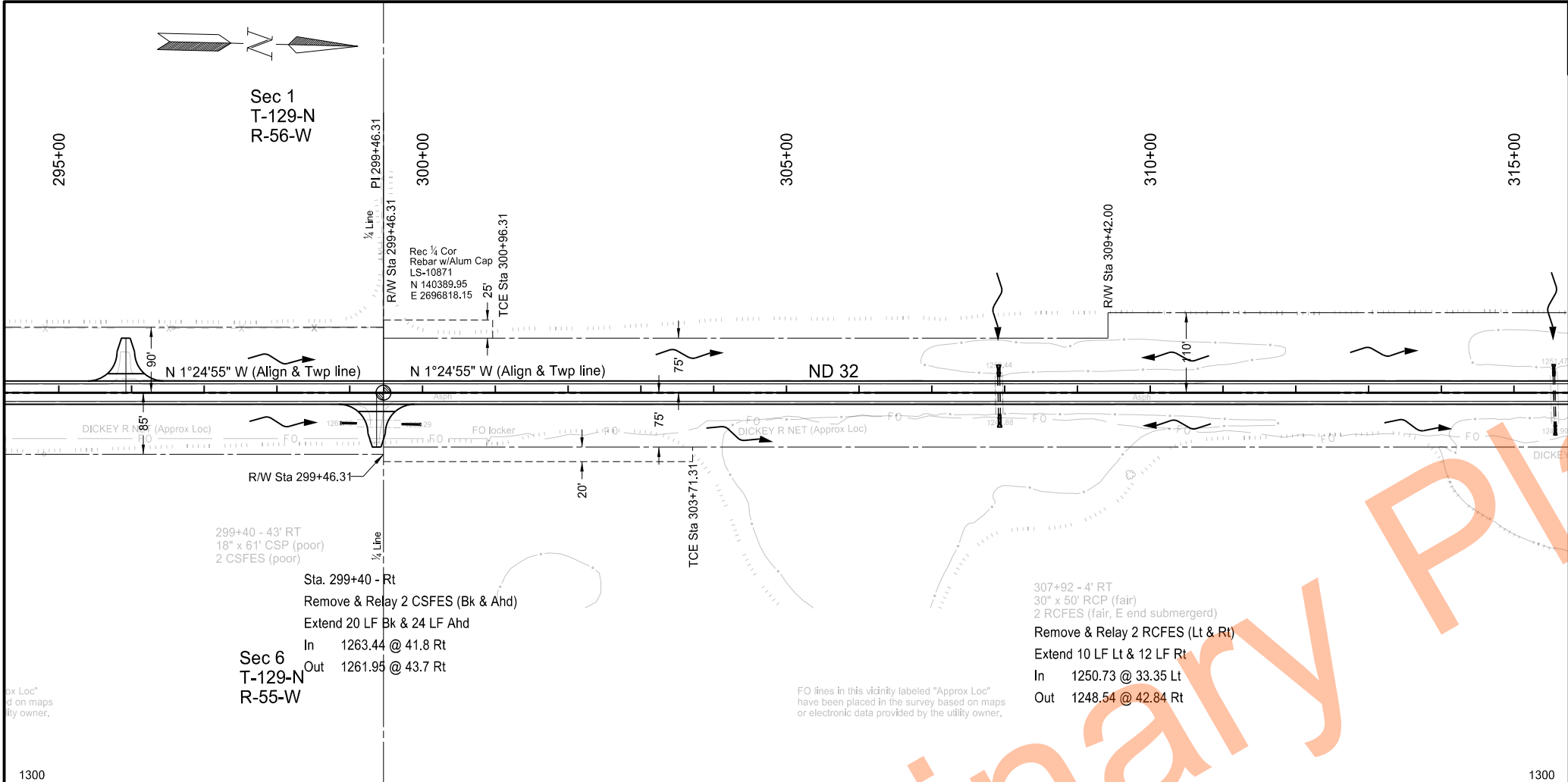
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STATE
ND

PROJECT NO.
SS-XA-8-032(046)000

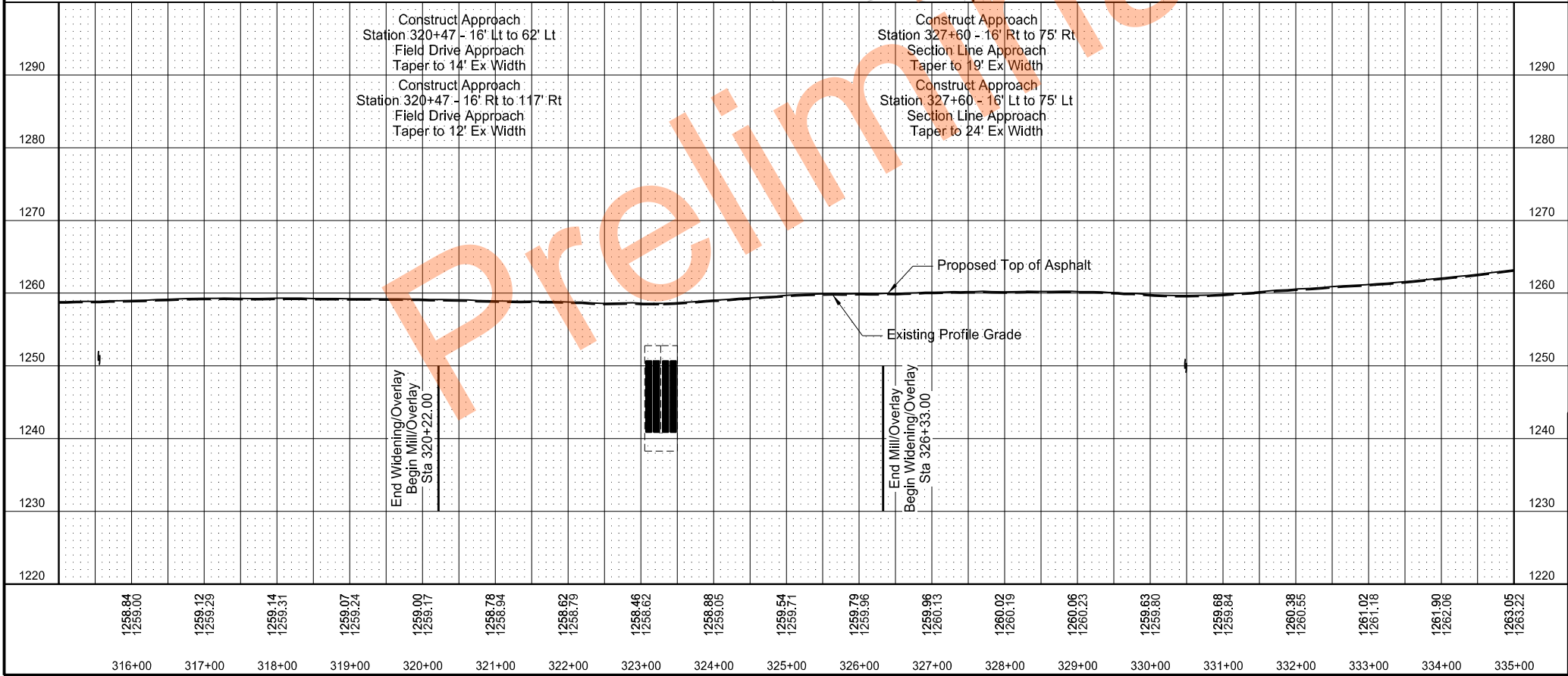
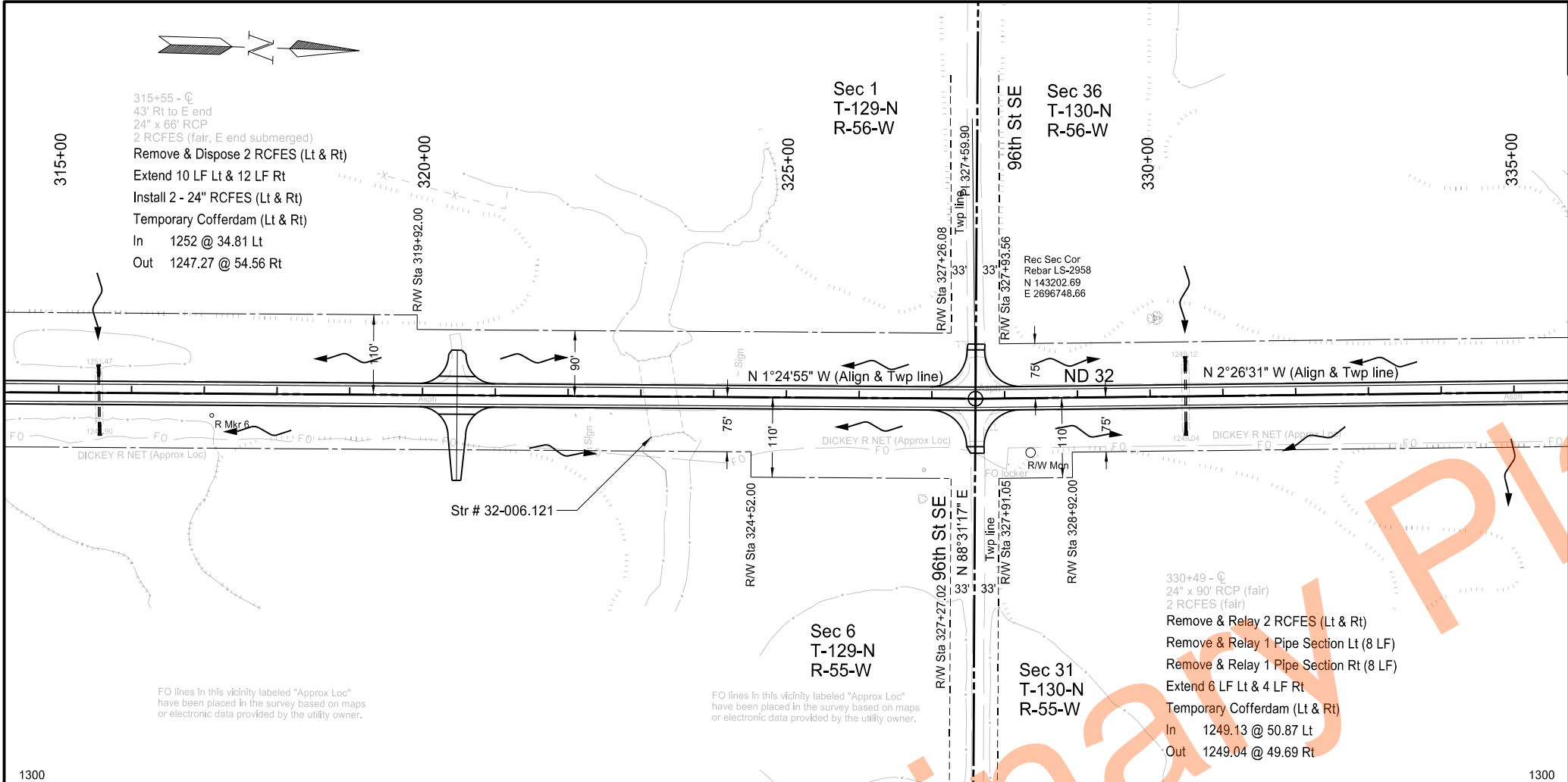
SECTION NO.
60

SHEET NO.
16

SPEC	CODE	BID ITEM	UNIT	QUANTITY
714	0820	PIPE CONC REINF 30IN CL III		
		Sta. 307+92 - CL (Lt)	LF	10
		Sta. 307+92 - CL (Rt)	LF	12
714	5015	PIPE CORR STEEL .064IN 18IN		
		Sta. 299+40 - Rt	LF	20
		Sta. 299+40 - Rt	LF	24
714	9660	REMOVE & RELAY END SECTION-ALL TYPES & SIZES		
		Sta. 299+40 - Rt (Bk & Ahd)	EA	2
		Sta. 307+92 - CL (Lt & Rt)	EA	2
990	0400	PIPE CLEANOUT		
		Sta. 307+92 - CL	EA	1

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Plan and Profile
Sta. 295+00 to Sta. 315+00

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		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	60	17
SPEC	CODE	BID ITEM	UNIT	QUANTITY	
202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES			
		Sta. 315+55 - CL (Lt & Rt)	EA	2	
714	0615	PIPE CONC REINF 24IN CL III			
		Sta. 315+55 - CL (Lt)	LF	10	
		Sta. 315+55 - CL (Rt)	LF	12	
		Sta. 330+49 - CL (Lt)	LF	6	
		Sta. 330+49 - CL (Rt)	LF	4	
714	3020	END SECT-CONC REINF 24IN			
		Sta 315+56 - CL (Lt & Rt)	EA	2	
714	9659	REMOVE & RELAY PIPE-ALL TYPES & SIZES			
		Sta. 330+49 - CL (Lt)	LF	8	
		Sta. 330+49 - CL (Rt)	LF	8	
714	9660	REMOVE & RELAY END SECTION-ALL TYPES & SIZES			
		Sta. 330+49 - CL (Lt & Rt)	EA	2	
990	0400	PIPE CLEANOUT			
		Sta. 330+49 - CL	EA	1	

NDDOT Hwy 32 Rehab

State Line N to S Jct 11 Forman

Plan and Profile

Sta. 315+00 to Sta. 335+00

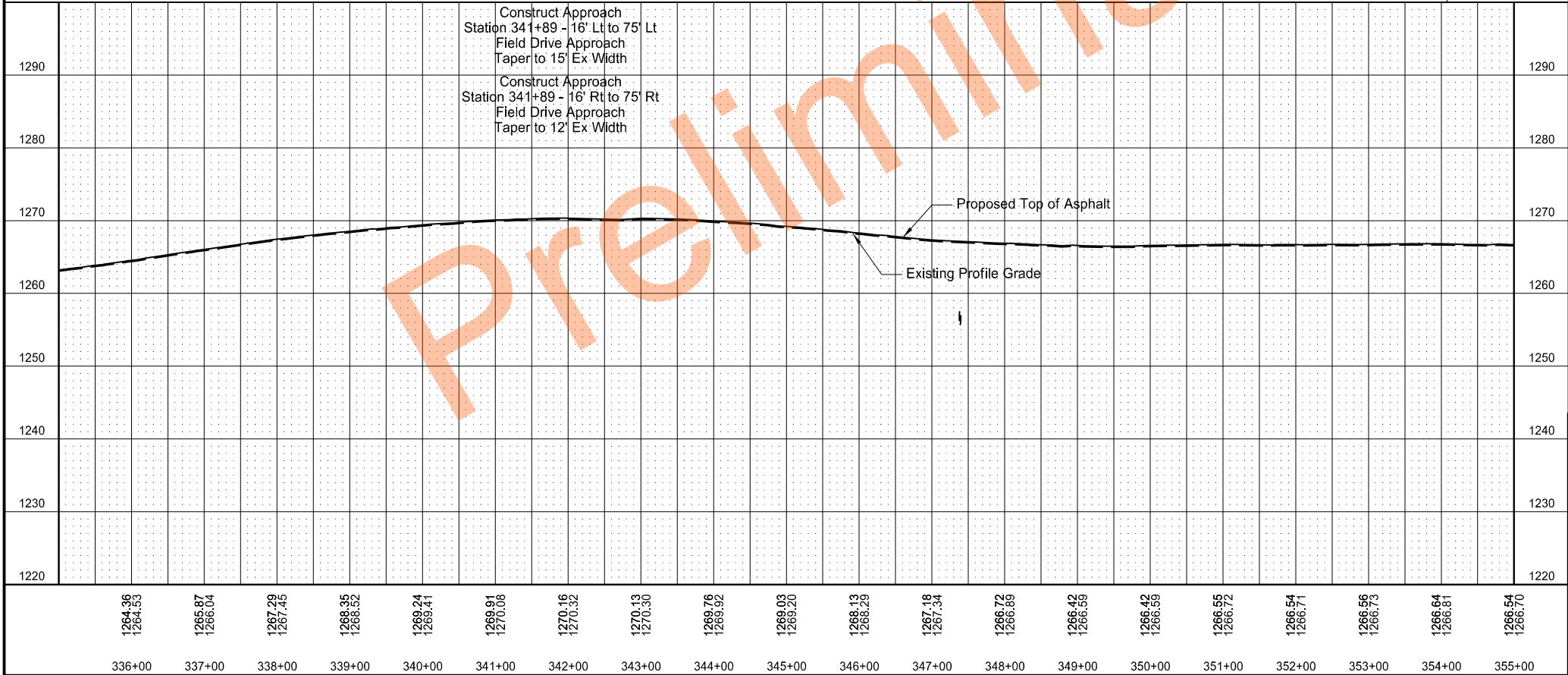
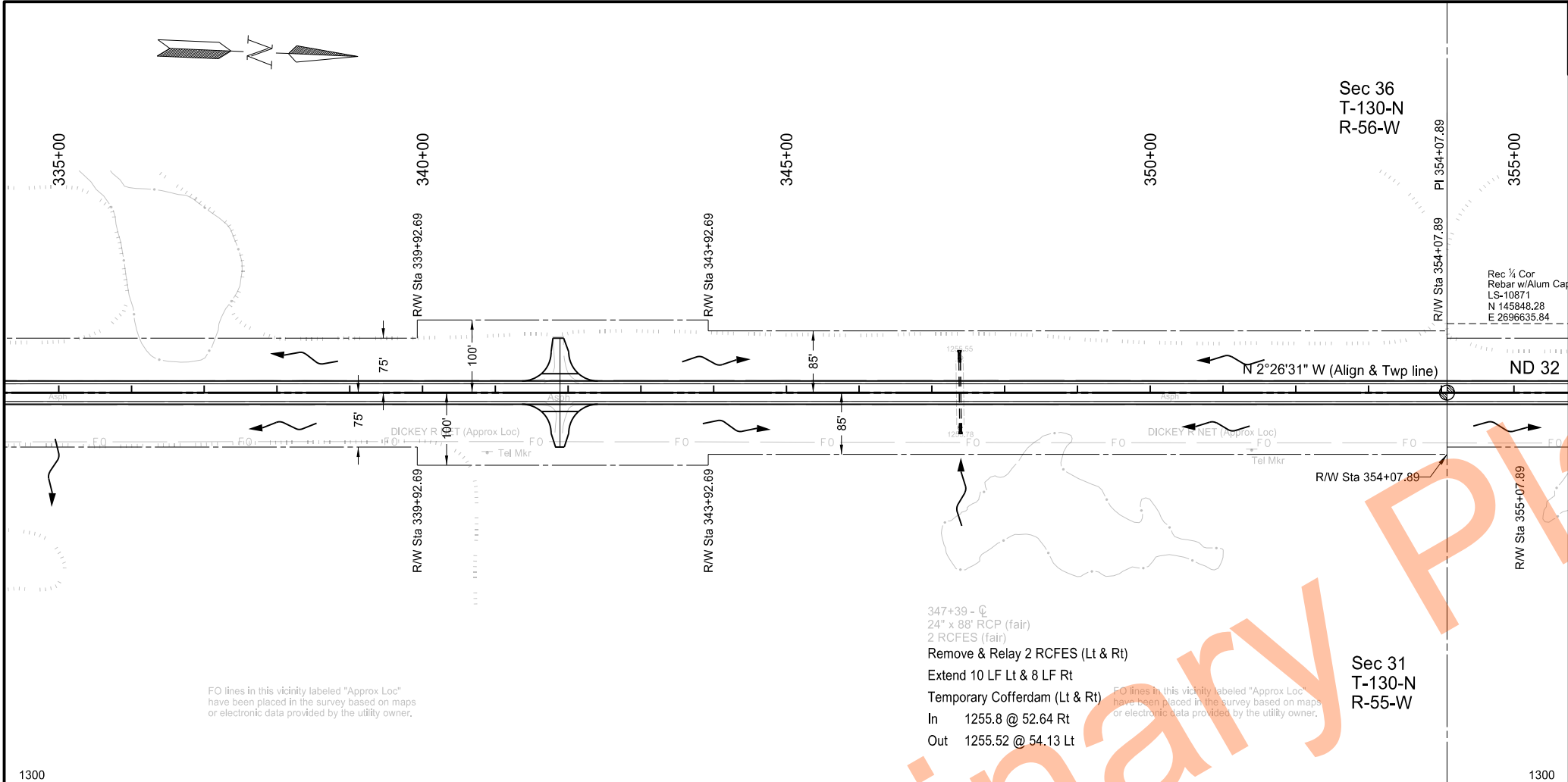
REGISTERED PROFESSIONAL ENGINEER

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DATE 05/16/2024

NORTH DAKOTA



		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	60	18
SPEC	CODE	BID ITEM		UNIT	QUANTITY
714	0615	PIPE CONC REINF 24IN CL III			
		Sta. 347+39 - CL (Lt)		LF	10
		Sta. 347+39 - CL (Rt)		LF	8
714	9660	REMOVE & RELAY END SECTION-ALL TYPES & SIZES			
		Sta. 347+39 - CL (Lt & Rt)		EA	2

NDDOT Hwy 32 Rehab

State Line N to S Jct 11 Forman

Plan and Profile

Sta. 335+00 to Sta. 355+00

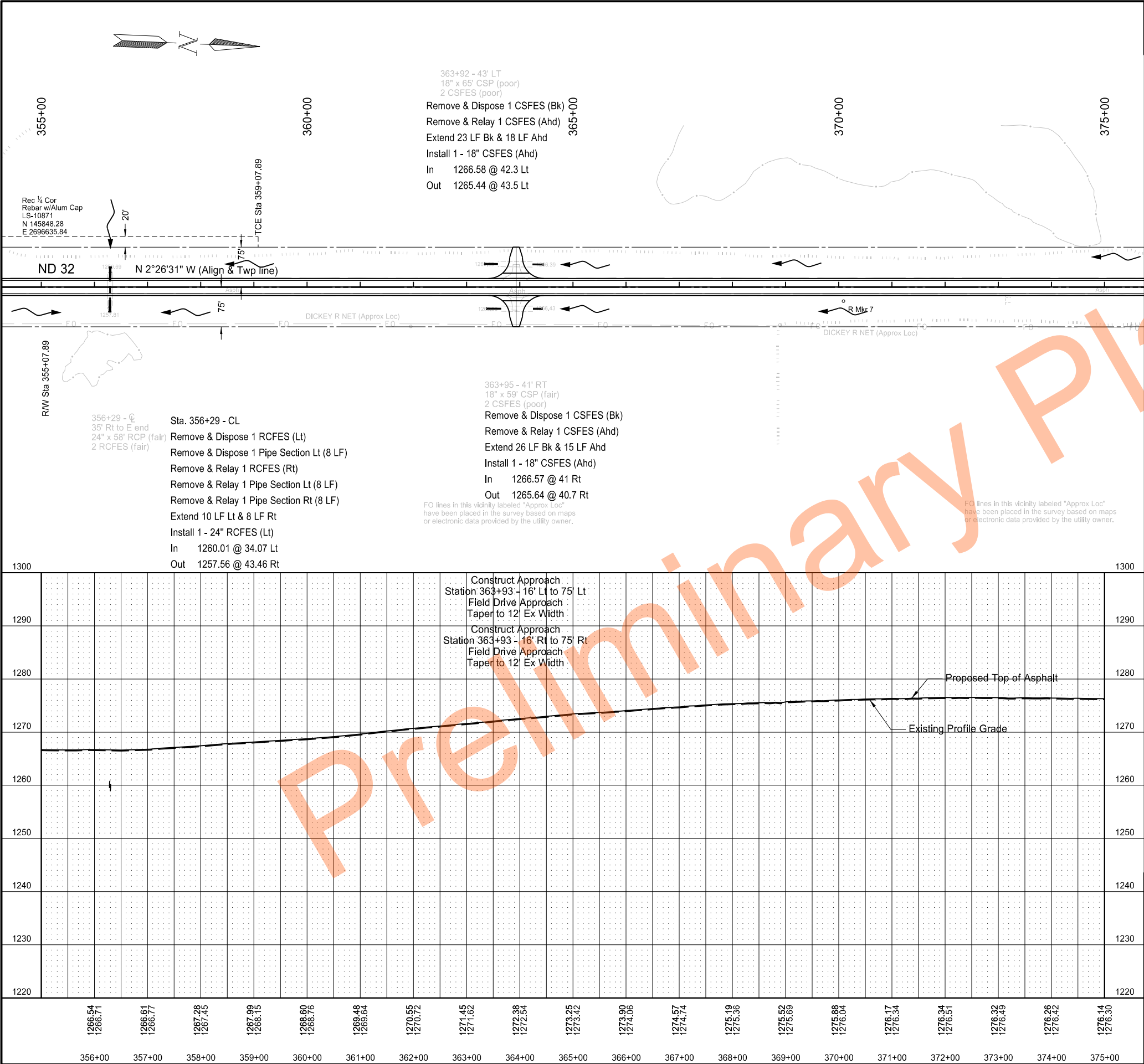
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		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	60	19
SPEC	CODE	BID ITEM	UNIT	QUANTITY	
202	0174	REMOVAL OF ALL PIPE-ALL TYPES & SIZES			
		Sta. 356+29 - CL (Lt)	LF	8	
202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES			
		Sta. 356+29 - CL (Lt)	EA	1	
		Sta. 363+92 - Lt (Bk)	EA	1	
		Sta. 363+95 - Rt (Bk)	EA	1	
714	0615	PIPE CONC REINF 24IN CL III			
		Sta. 356+29 - CL (Lt)	LF	10	
		Sta. 356+29 - CL (Rt)	LF	8	
714	3020	END SECT-CONC REINF 24IN			
		Sta. 356+29 - CL (Lt)	EA	1	
714	5015	PIPE CORR STEEL .064IN 18IN			
		Sta. 363+92 - Lt (Bk)	LF	23	
		Sta. 363+92 - Lt (Ahd)	LF	18	
		Sta. 363+95 - Rt (Bk)	LF	26	
		Sta. 363+95 - Rt (Ahd)	LF	15	
714	5810	END SECT CORR STEEL .064IN 18IN			
		Sta. 363+92 - Lt (Bk)	EA	1	
		Sta. 363+95 - Rt (Bk)	EA	1	
714	9659	REMOVE & RELAY PIPE-ALL TYPES & SIZES			
		Sta. 356+29 - CL (Lt)	LF	8	
		Sta. 356+29 - CL (Rt)	LF	8	
714	9660	REMOVE & RELAY END SECTION-ALL TYPES & SIZES			
		Sta. 356+29 - CL (Rt)	EA	1	
		Sta. 363+92 - Lt (Ahd)	EA	1	
		Sta. 363+95 - Rt (Ahd)	EA	1	
990	0400	PIPE CLEANOUT			
		Sta. 356+29 - CL	EA	1	

NDDOT Hwy 32 Rehab

State Line N to S Jct 11 Forman

Plan and Profile

Sta. 355+00 to Sta. 375+00

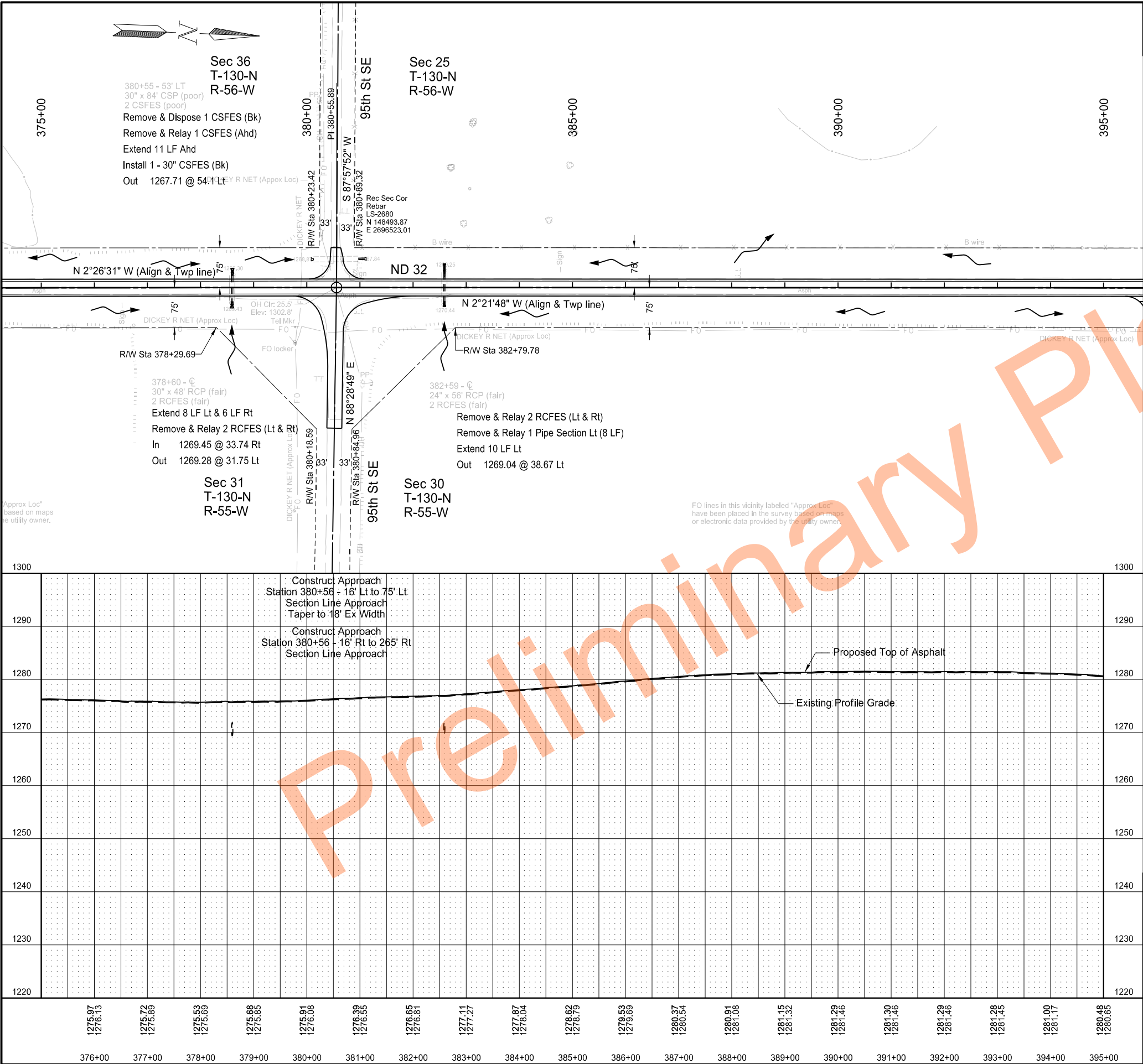
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DATE 05/16/2024

NORTH DAKOTA



		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	60	20
SPEC	CODE	BID ITEM	UNIT	QUANTITY	
202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES			
		Sta. 380+55 - Lt (Bk)	EA	1	
714	0615	PIPE CONC REINF 24IN CL III			
		Sta. 382+59 - CL (Lt)	LF	10	
714	0805	PIPE CONC REINF 30IN CL III			
		Sta. 378+60 - CL (Lt)	LF	8	
		Sta. 378+60 - CL (Rt)	LF	6	
714	5210	PIPE CORR STEEL .079IN 30IN			
		Sta. 380+55 - Lt (Ahd)	LF	11	
714	5825	END SECT CORR STEEL .079IN 30IN			
		Sta. 380+55 - Lt (Bk)	EA	1	
714	9659	REMOVE & RELAY PIPE-ALL TYPES & SIZES			
		Sta. 382+59 - CL (Lt)	LF	8	
714	9660	REMOVE & RELAY END SECTION-ALL TYPES & SIZES			
		Sta. 378+60 - CL (Lt & Rt)	EA	2	
		Sta. 380+55 - Lt (Ahd)	EA	1	
		Sta. 382+59 - CL (Lt & Rt)	EA	2	
990	0400	PIPE CLEANOUT			
		Sta. 382+59 - CL	EA	1	

NDDOT Hwy 32 Rehab

State Line N to S Jct 11 Forman

Plan and Profile

Sta. 375+00 to Sta. 395+00

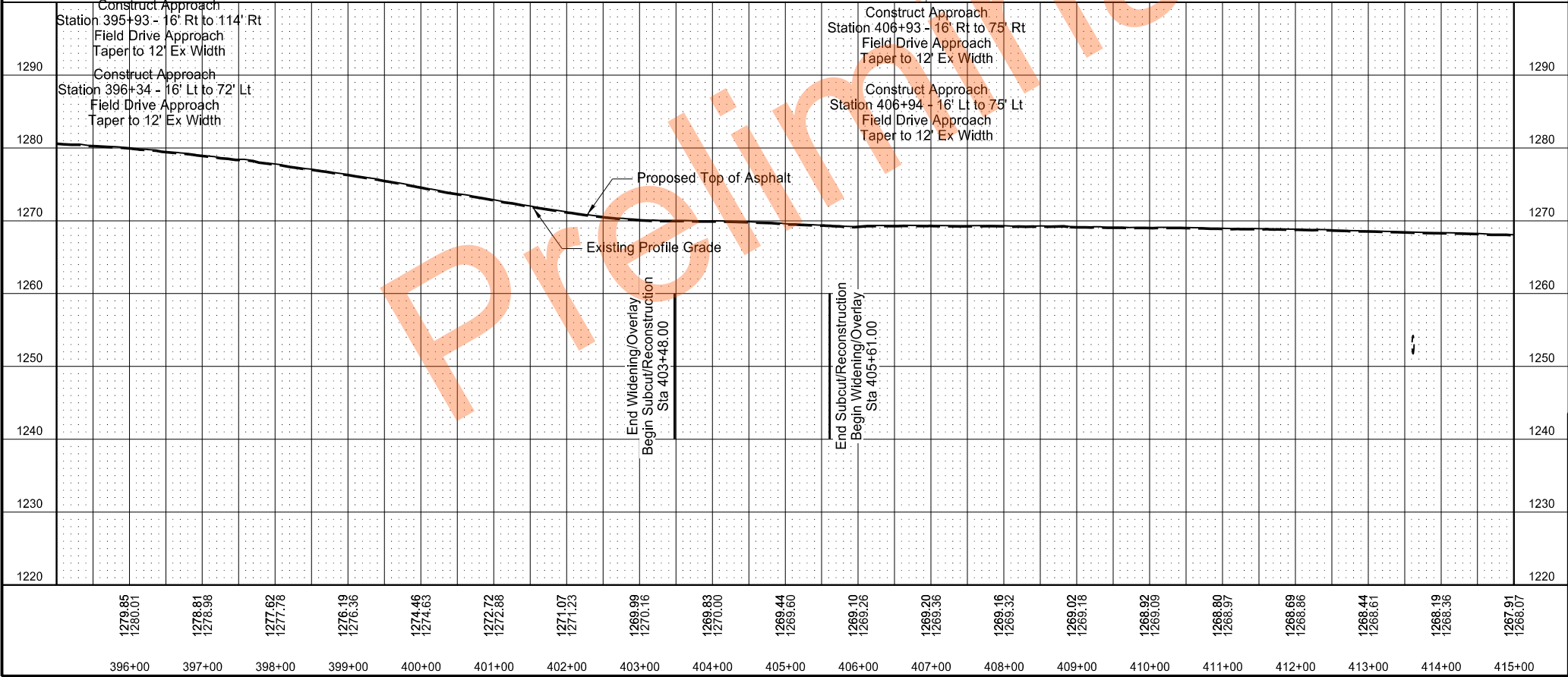
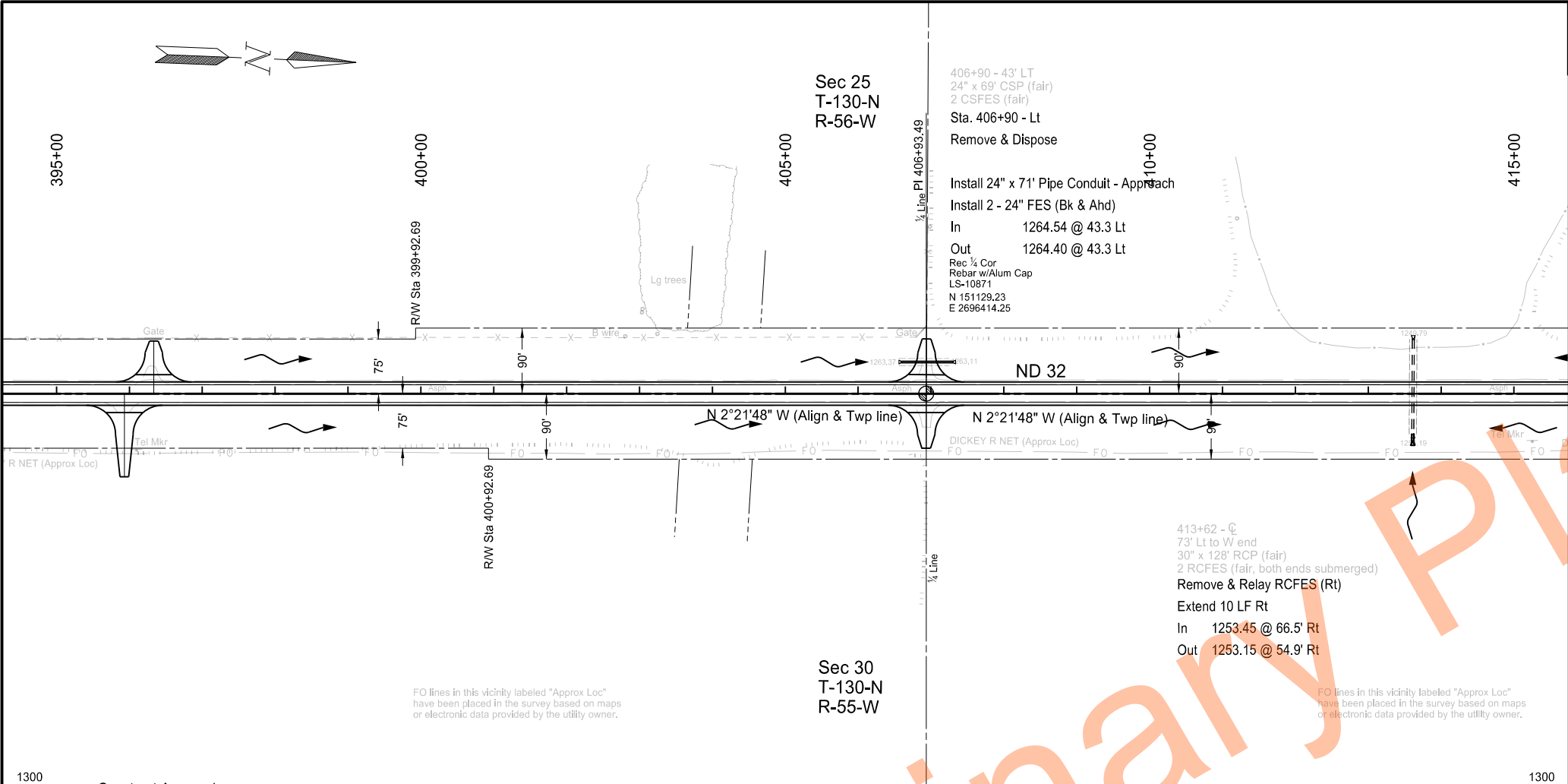
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DATE 05/16/2024

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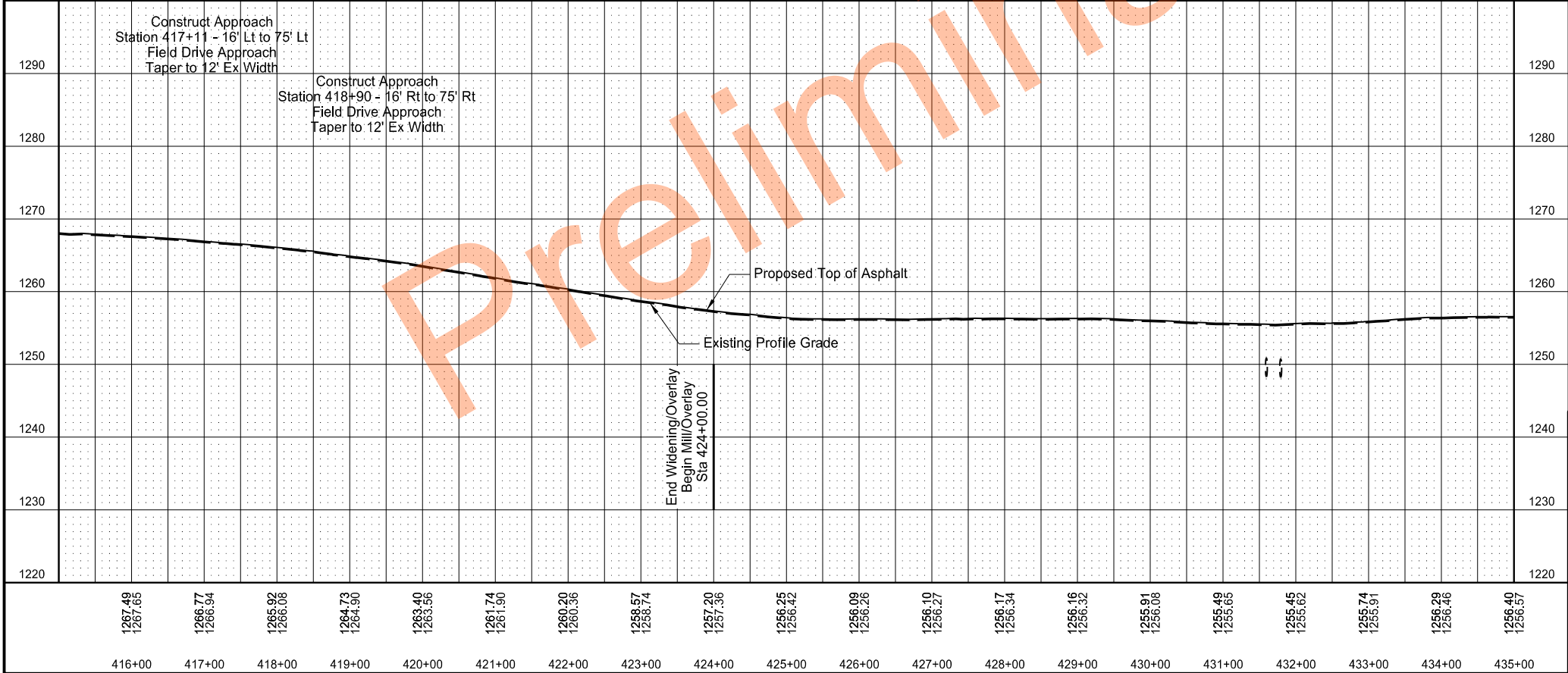
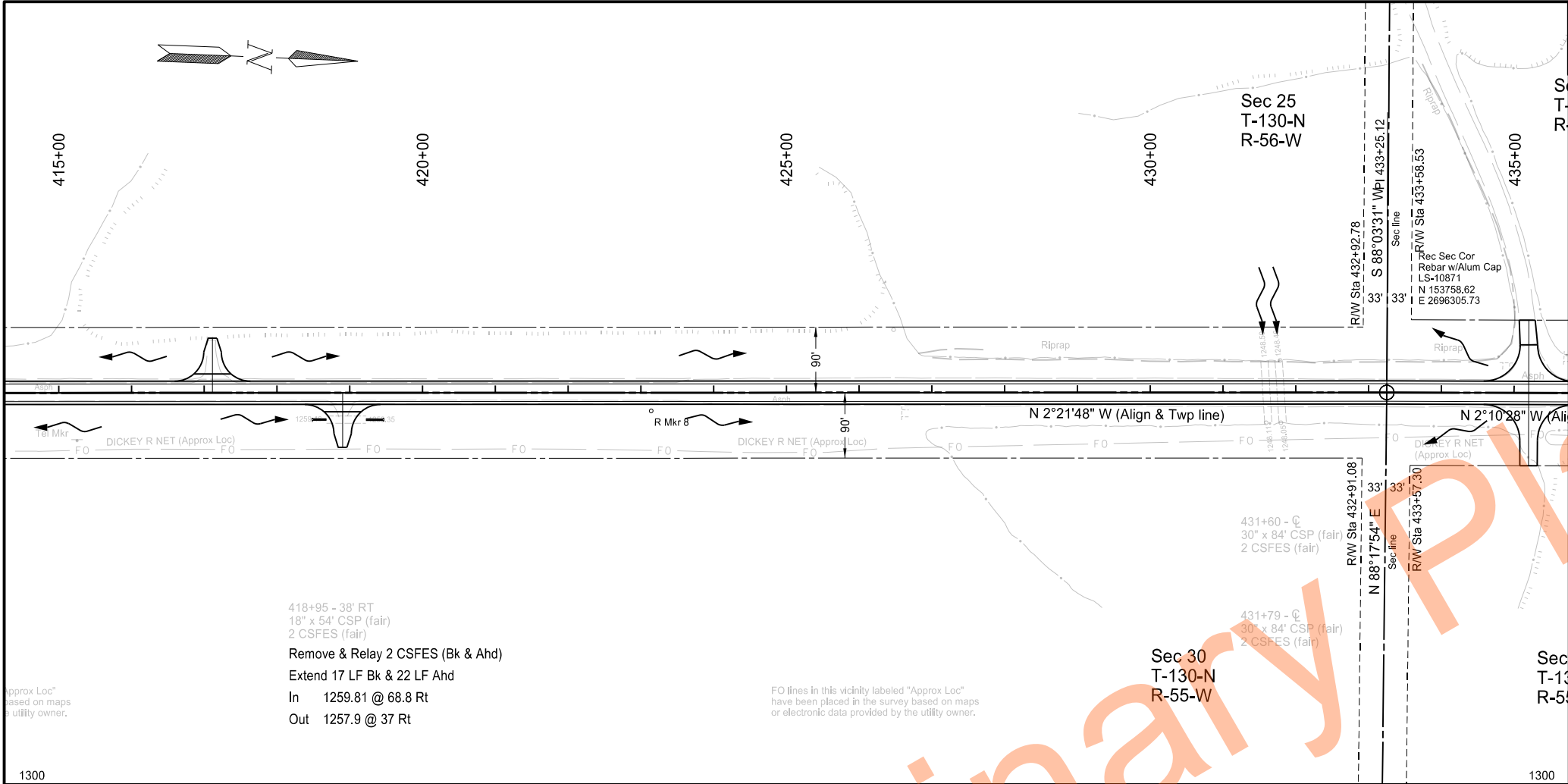


		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	60	21

SPEC	CODE	BID ITEM	UNIT	QUANTITY
202	0174	REMOVAL OF ALL PIPE-ALL TYPES & SIZES		
		Sta. 406+90 - Lt	EA	69
714	0805	PIPE CONC REINF 30IN CL III		
		Sta. 413+62 - CL (Rt)	LF	10
714	4106	PIPE CONDUIT 24IN - APPROACH		
		Sta. 406+90 - Lt	LF	71
714	9660	REMOVE & RELAY END SECTION-ALL TYPES & SIZES		
		Sta. 413+62 - CL (Rt)	EA	1

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Plan and Profile
Sta. 395+00 to Sta. 415+00

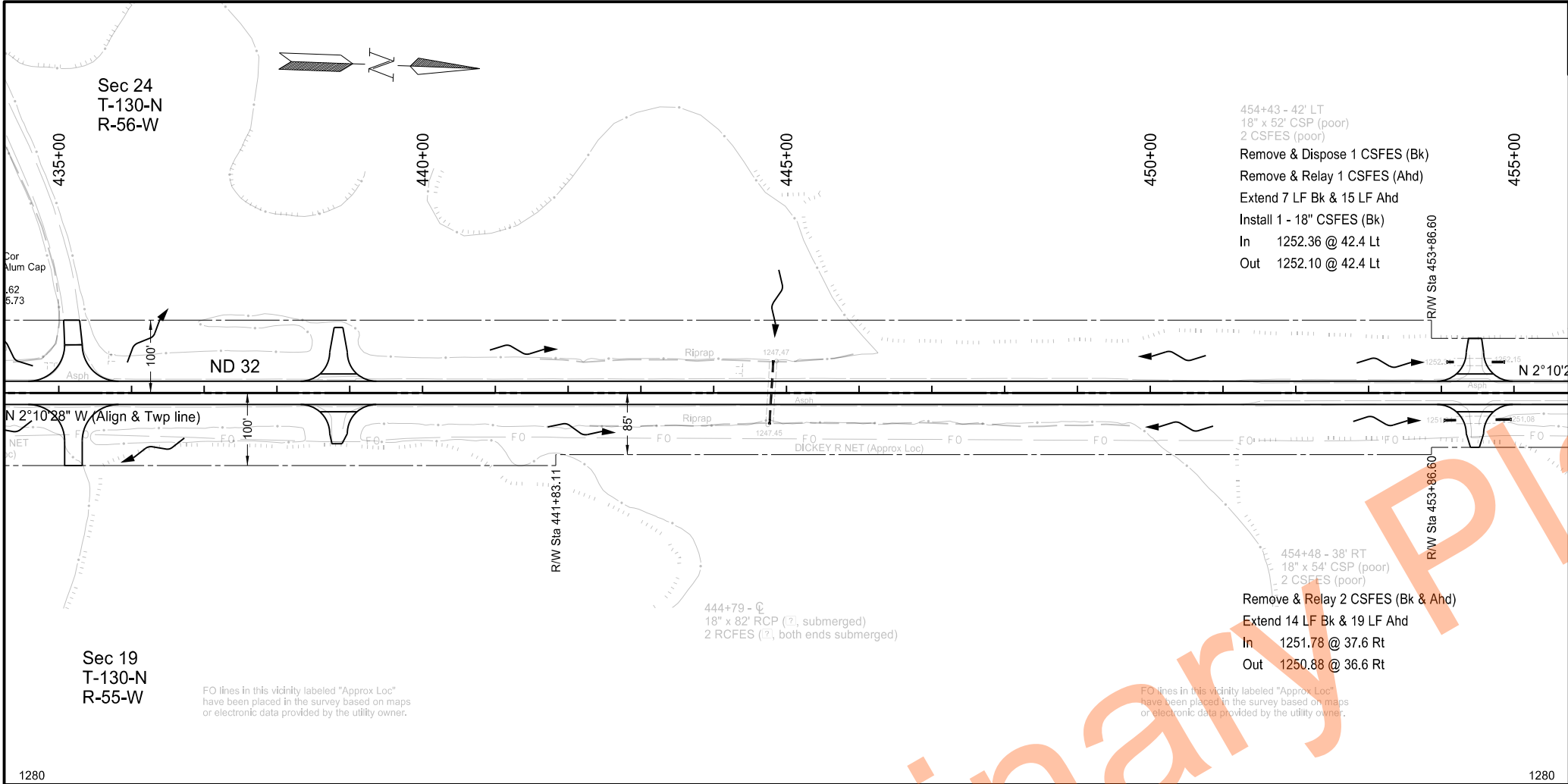
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		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	60	22
SPEC	CODE	BID ITEM		UNIT	QUANTITY
714	5015	PIPE CORR STEEL .064IN 18IN			
		Sta. 418+95 - Rt (Bk)		LF	17
		Sta. 418+95 - Rt (Ahd)		LF	22
714	9660	REMOVE & RELAY END SECTION-ALL TYPES & SIZES			
		Sta. 418+95 - Rt (Bk & Ahd)		EA	2

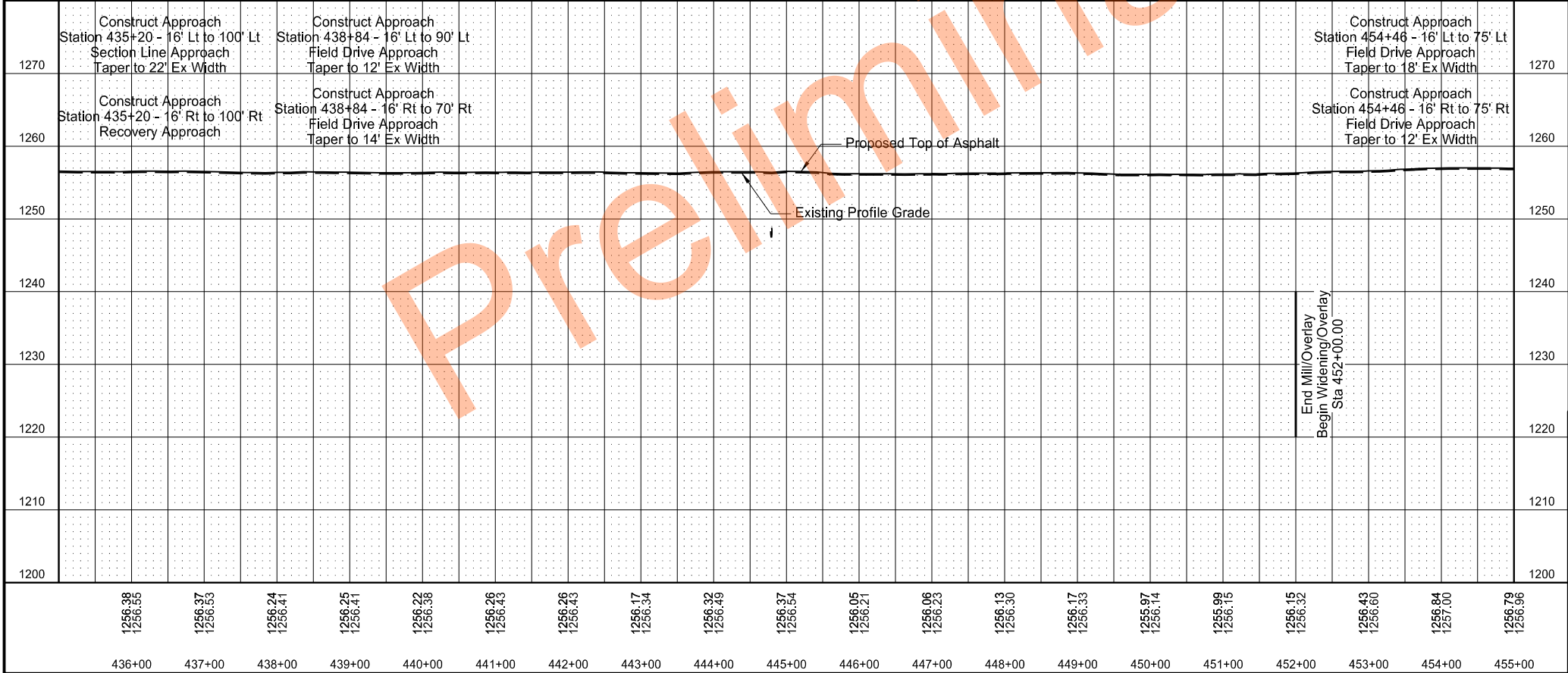
NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Plan and Profile
Sta. 415+00 to Sta. 435+00

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SS-XA-8-032(046)000	60	23

SPEC	CODE	BID ITEM	UNIT	QUANTITY
202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES		
		Sta. 454+43 - Lt (Bk)	EA	1
714	5015	PIPE CORR STEEL .064IN 18IN		
		Sta. 454+43 - Lt (Bk)	LF	7
		Sta. 454+43 - Lt (Ahd)	LF	15
		Sta. 454+48 - Rt (Bk)	LF	14
		Sta. 454+48 - Rt (Ahd)	LF	19
714	5810	END SECT CORR STEEL .064IN 18IN		
		Sta. 454+43 - Lt (Bk)	EA	1
714	9660	REMOVE & RELAY END SECTION-ALL TYPES & SIZES		
		Sta. 454+43 - Lt (Ahd)	EA	1
		Sta. 454+48 - Rt (Bk & Ahd)	EA	2



NDDOT Hwy 32 Rehab

State Line N to S Jct 11 Forman

Plan and Profile

Sta. 435+00 to Sta. 455+00

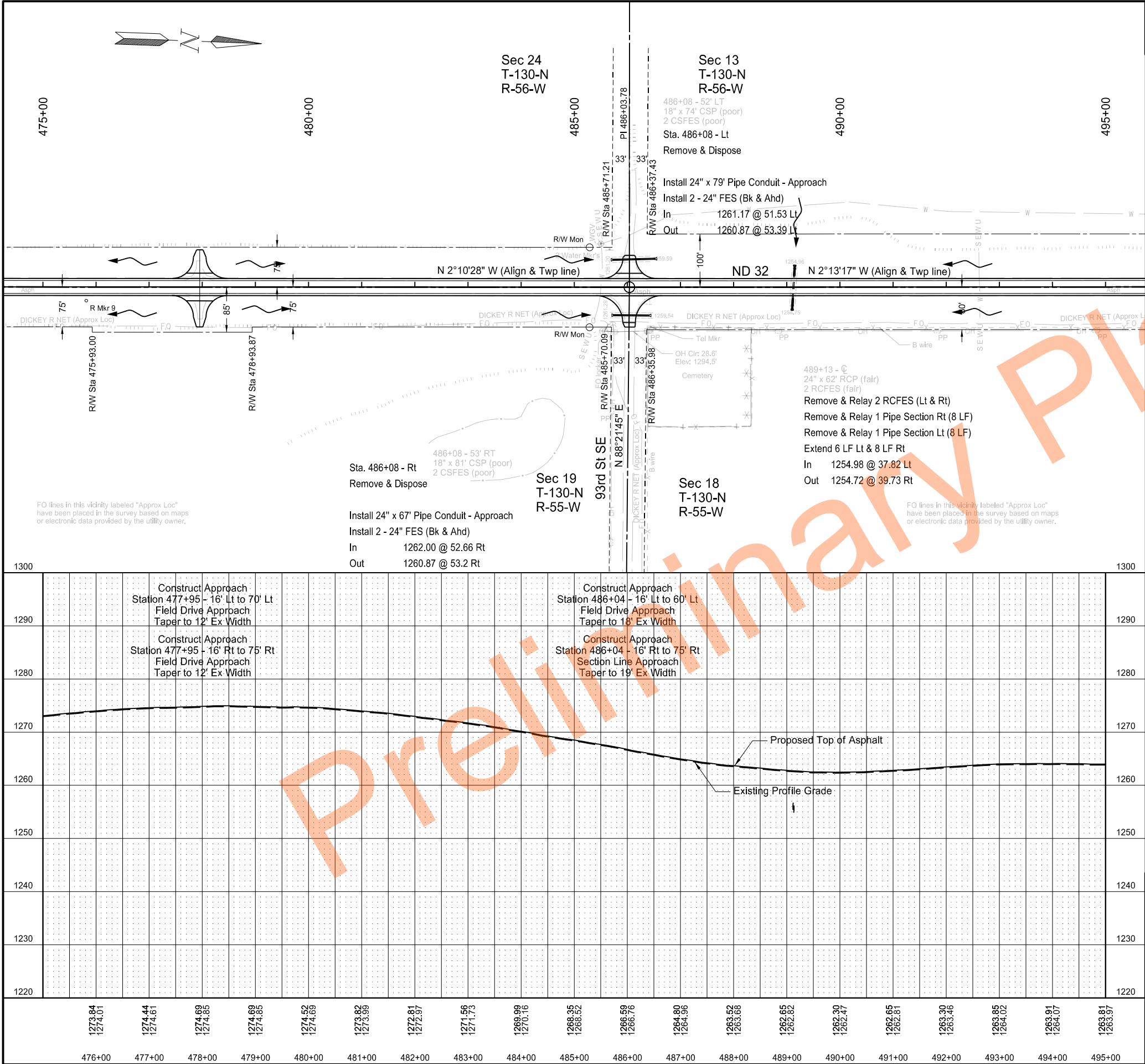
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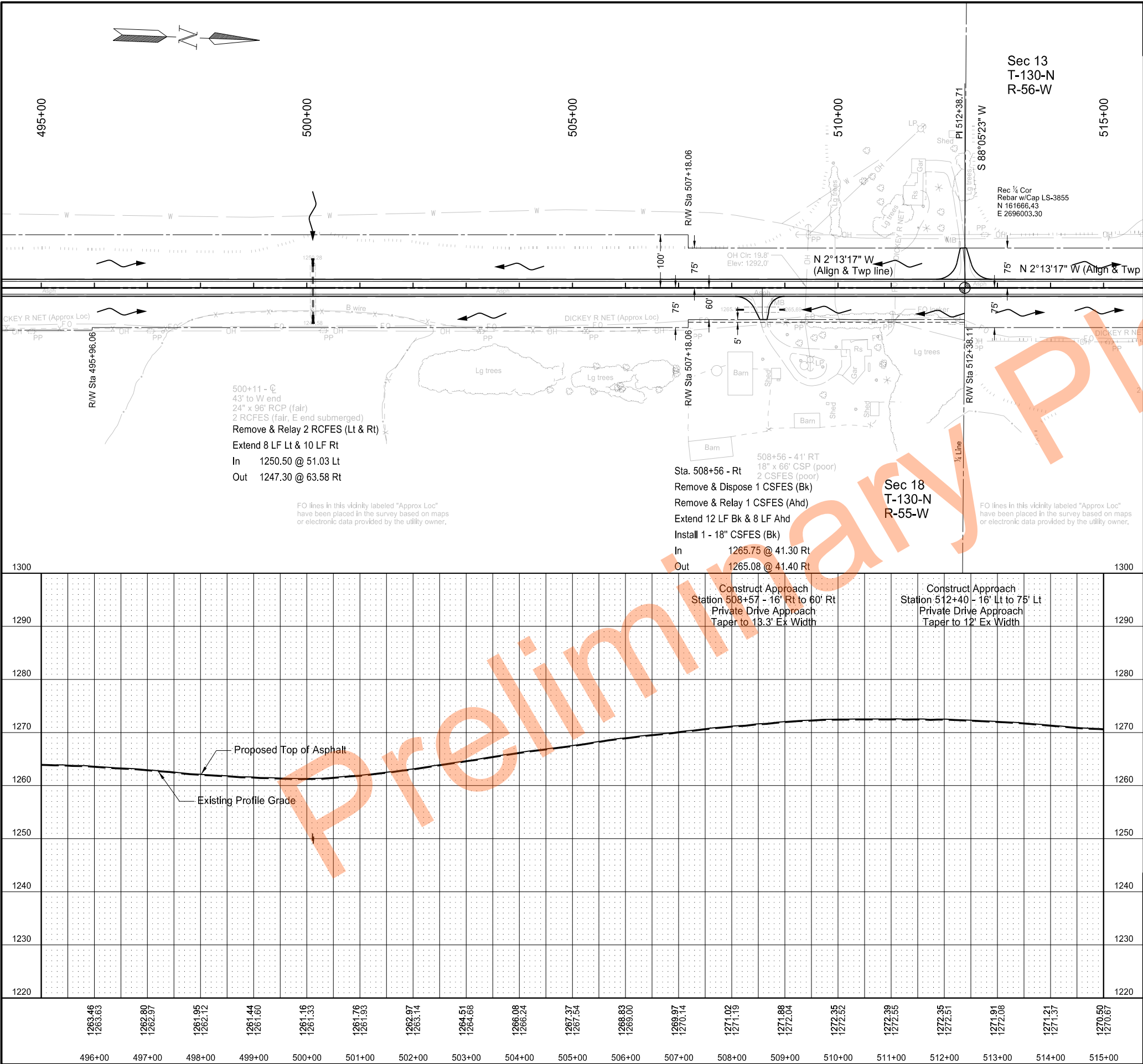
NORTH DAKOTA



		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	60	25
SPEC	CODE	BID ITEM	UNIT	QUANTITY	
202	0174	REMOVAL OF ALL PIPE-ALL TYPES & SIZES			
		Sta. 486+08 - Lt	LF	74	
		Sta. 486+08 - Rt	LF	81	
714	0615	PIPE CONC REINF 24IN CL III			
		Sta. 489+13 - CL (Lt)	LF	6	
		Sta. 489+13 - CL (Rt)	LF	8	
714	4106	PIPE CONDUIT 24IN - APPROACH			
		Sta. 486+08 - Lt	LF	79	
		Sta. 486+08 - Rt	LF	67	
714	9659	REMOVE & RELAY PIPE-ALL TYPES & SIZES			
		Sta. 489+13 - Lt	LF	8	
		Sta. 489+13 - Rt	LF	8	
714	9660	REMOVE & RELAY END SECTION-ALL TYPES & SIZES			
		Sta. 489+13 - CL (Lt & Rt)	EA	2	
990	0400	PIPE CLEANOUT			
		Sta. 489+13 - CL	EA	1	

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Plan and Profile
Sta. 475+00 to Sta. 495+00

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		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	60	26
SPEC	CODE	BID ITEM	UNIT	QUANTITY	
202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES			
		Sta. 508+56 - Rt (Bk)	EA	1	
714	0615	PIPE CONC REINF 24IN CL III			
		Sta. 500+11 - CL (Lt)	LF	8	
		Sta. 500+11 - CL (Rt)	LF	10	
714	5015	PIPE CORR STEEL .064IN 18IN			
		Sta. 508+56 - Rt (Bk)	LF	12	
		Sta. 508+56 - Rt (Ahd)	LF	8	
714	5810	END SECT CORR STEEL .064IN 18IN			
		Sta. 508+56 - Rt (Bk)	EA	1	
714	9660	REMOVE & RELAY END SECTION-ALL TYPES & SIZES			
		Sta. 500+11 - CL (Lt & Rt)	EA	2	
		Sta. 508+56 - Rt (Ahd)	EA	1	

NDDOT Hwy 32 Rehab

State Line N to S Jct 11 Forman

Plan and Profile

Sta. 495+00 to Sta. 515+00

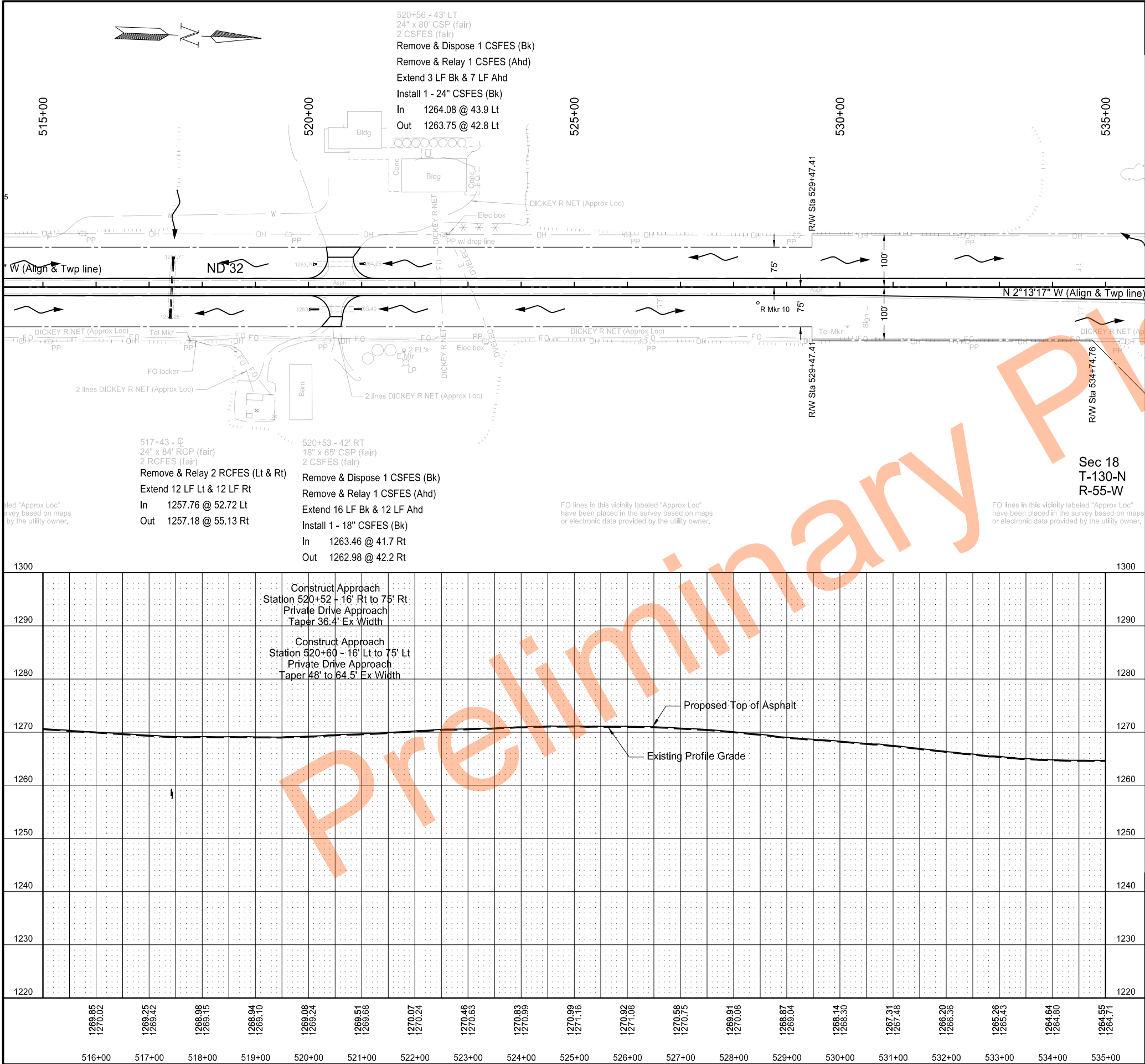
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DATE 05/16/2024

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		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	60	27
SPEC	CODE	BID ITEM	UNIT	QUANTITY	
202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES			
		Sta. 520+53 - Rt (Bk)	EA	1	
		Sta. 520+56 - Lt (Bk)	EA	1	
714	0615	PIPE CONC REINF 24IN CL III			
		Sta. 517+43 - CL (Lt)	LF	12	
		Sta. 517+43 - CL (Rt)	LF	12	
714	5015	PIPE CORR STEEL .064IN 18IN			
		Sta. 520+53 - Rt (Bk)	LF	16	
		Sta. 520+53 - Rt (Ahd)	LF	12	
714	5035	PIPE CORR STEEL .064IN 24IN			
		Sta. 520+56 - Lt (Bk)	LF	3	
		Sta. 520+56 - Lt (Ahd)	LF	7	
714	5810	END SECT CORR STEEL .064IN 18IN			
		Sta. 520+53 - Rt (Bk)	EA	1	
714	5820	END SECT CORR STEEL .064IN 24IN			
		Sta. 520+56 - Lt (Bk)	EA	1	
714	9660	REMOVE & RELAY END SECTION-ALL TYPES & SIZES			
		Sta. 517+43 - CL (Lt & Rt)	EA	2	
		Sta. 520+53 - Rt (Ahd)	EA	1	
		Sta. 520+56 - Lt (Ahd)	EA	1	

NDDOT Hwy 32 Rehab

State Line N to S Jct 11 Forman

Plan and Profile

Sta. 515+00 to Sta. 535+00

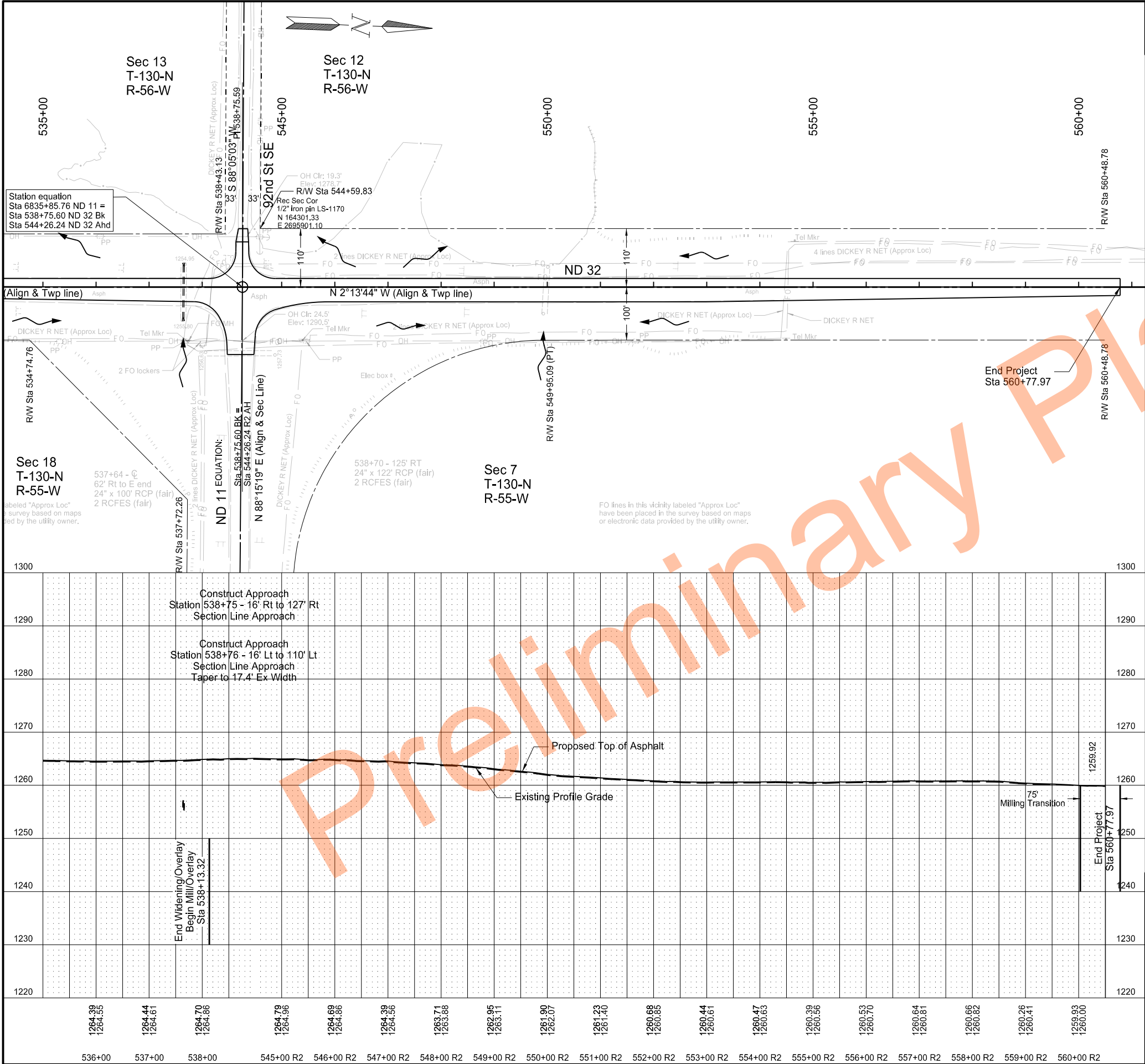
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DATE 05/16/2024

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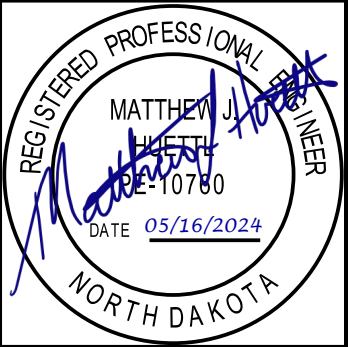


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-XA-8-032(046)000	60	28

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Plan and Profile
Sta. 535+00 to Sta. 560+78

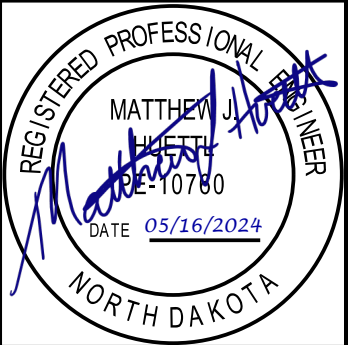
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PE-10780
DATE 05/16/2024
NORTH DAKOTA

Wetland Impact Table																						
Wetland Number	Location	Wetland Type	Wetland Feature	USACE Jurisdictional Wetlands ¹	Wetland Impacts				Wetland Mitigation													
					Wetland Impacts Acre(s)		USFWS Easement Impacts Acre(s)		Mitigation Required			USACE/11990 Bank		11990 Bank		USFWS Bank		Onsite Mitigation Method			Onsite Constructed Location	
					Temp.	Perm. (Fill/ Drain)	Temp.	Perm.	EO 11990	USACE	USFWS	Location	Acre(s)	Location	Acre(s)	Location	Acre(s)	Mitigation Location; Ratio	Ditch Shift Acre(s)	Onsite Acre(s)	Site #	Size Acre(s)
1a	Sec 31, T129N, R55W	Ditch	Created	No	0.19	0.05			No	No	No											
1b	Sec 31, T129N, R55W	Basin	Natural	No	0.02	0.002			Yes	No	No			Anderson Bank	0.002							
1c	Sec 31, T129N, R55W	Ditch	Created	No	0.11	0.04			No	No	No											
2	Sec 31, T129N, R55W	Basin	Natural	No	0.03	0.001			Yes	No	No			Anderson Bank	0.001							
3	Sec 31, T129N, R55W	Basin	Natural	No	0.00	0.00			No	No	No											
4a	Sec 31, T129N, R55W	Basin	Natural	No	0.00	0.00			No	No	No											
4b	Sec 31, T129N, R55W	Ditch	Manipulated Natural	No	0.00	0.00			No	No	No											
5	Sec 31, T129N, R55W	Basin	Natural	No	0.21	0.10			Yes	No	No			Anderson Bank	0.10							
6	Sec 31, T129N, R55W	Ditch	Created	No	0.04	0.01			No	No	No											
7a	Sec 31, T129N, R55W	Basin	Natural	No	0.05	0.00			No	No	No											
7b	Sec 31, T129N, R55W	Ditch	Created	No	0.10	0.01			No	No	No											
8a	Sec 31, T129N, R55W	Basin	Natural	No	0.00	0.00			No	No	No											



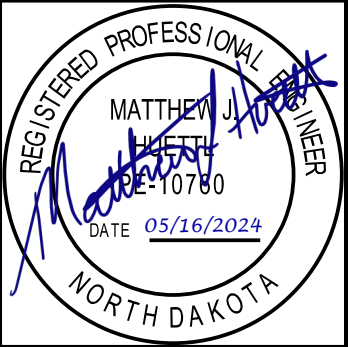
NDDOT Highway 32 Rehab
State Line N to S Jct 11 Forman
Wetland Impact Tables

8b	Sec 31, T129N, R55W	Ditch	Created	No	0.002	0.00			No	No	No										
9a	Sec 31, T129N, R55W	Basin	Natural	No	0.05	0.001			Yes	No	No			Anderson Bank	0.001						
9b	Sec 31, T129N, R55W	Basin	Natural	No	0.02	0.00			No	No	No										
9c	Sec 31, T129N, R55W	Ditch	Created	No	0.02	0.01			No	No	No										
9d	Sec 31, T129N, R55W	Ditch	Created	No	0.00	0.00			No	No	No										
10a	Sec 31, T129N, R55W	Basin	Natural	No	0.18	0.08			Yes	No	No			Anderson Bank	0.08						
10b	Sec 31, T129N, R55W	Ditch	Created	No	0.03	0.002			No	No	No										
10c	Sec 31, T129N, R55W	Basin	Natural	No	0.12	0.04			Yes	No	No			Anderson Bank	0.04						
10d	Sec 31, T129N, R55W	Ditch	Created	No	0.05	0.01			No	No	No										
11a	Sec 30, T129N, R55W	Basin	Natural	No	0.04	0.01			Yes	No	No			Anderson Bank	0.01						
11b	Sec 30, T129N, R55W	Basin	Natural	No	0.11	0.12			Yes	No	No			Anderson Bank	0.12						
12a	Sec 30, T129N, R55W	Ditch	Created	No	0.03	0.02			No	No	No										
12b	Sec 30, T129N, R55W	Basin	Natural	No	0.11	0.09			Yes	No	No			Anderson Bank	0.09						
13	Sec 30, T129N, R55W	Basin	Natural	No	0.00	0.00			No	No	No										
14a	Sec 30, T129N, R55W	Ditch	Created	No	0.02	0.01			No	No	No										



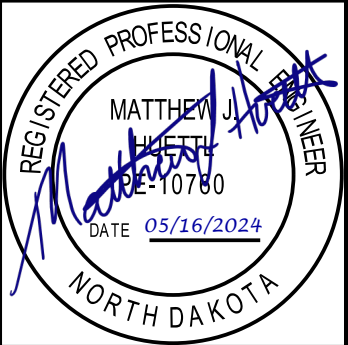
NDDOT Highway 32 Rehab
State Line N to S Jct 11 Forman
Wetland Impact Tables

14b	Sec 30, T129N, R55W	Basin	Natural	No	0.00	0.00			No	No	No										
15	Sec 30, T129N, R55W	Basin	Natural	No	0.00	0.00			No	No	No										
16a	Sec 30, T129N, R55W	Ditch	Created	No	0.06	0.03			No	No	No										
16b	Sec 30, T129N, R55W	Basin	Natural	No	0.07	0.07			Yes	No	No			Anderson Bank	0.07						
16c	Sec 30, T129N, R55W	Ditch	Created	No	0.001	0.02			No	No	No										
17a	Sec 24, T129N, R56W	Basin	Natural	No	0.03	0.01			Yes	No	No			Anderson Bank	0.01						
17b	Sec 24, T129N, R56W	Ditch	Created	No	0.11	0.07			No	No	No										
17c	Sec 30, T129N, R55W	Ditch	Created	No	0.12	0.08			No	No	No										
17d	Sec 24, T129N, R56W	Ditch	Created	No	0.36	0.20			No	No	No										
17e	Sec 30, T129N, R55W	Basin	Natural	No	0.14	0.12			Yes	No	No			Anderson Bank	0.12						
17f	Sec 30, T129N, R55W	Ditch	Created	No	0.17	0.14			No	No	No										
17g	Sec 30, T129N, R55W	Ditch	Created	No	0.03	0.01			No	No	No										
17h	Sec 24, T129N, R56W	Ditch	Created	No	0.12	0.01			No	No	No										
17i	Sec 24, T129N, R56W	Basin	Natural	No	0.06	0.01			Yes	No	No			Anderson Bank	0.01						
18a	Sec 30, T129N, R55W	Basin	Manipulated Natural	Yes	0.15	0.12			Yes	Yes	No	Kirkeby Bank	0.12								



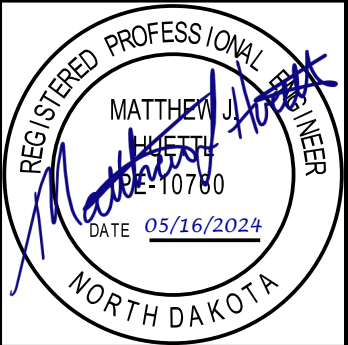
NDDOT Highway 32 Rehab
State Line N to S Jct 11 Forman
Wetland Impact Tables

18b	Sec 30, T129N, R55W	Ditch	Created	Yes	0.09	0.05			No	Yes	No	Kirkeby Bank	0.05									
18c	Sec 30, T129N, R55W	Basin	Natural	Yes	0.07	0.05			Yes	Yes	No	Kirkeby Bank	0.05									
18d	Sec 24, T129N, R56W	Ditch	Created	Yes	0.05	0.03			No	Yes	No	Kirkeby Bank	0.03									
18e	Sec 13, T129N, R56W	Basin	Natural	Yes	0.09	0.02			Yes	Yes	No	Kirkeby Bank	0.02									
19a	Sec 18, T129N, R55W	Basin	Natural	Yes	0.03	0.01			Yes	No	No			Anderson Bank	0.01							
19b	Sec 18, T129N, R55W	Ditch	Created	Yes	0.04	0.01			No	No	No											
20	Sec 13, T129N, R56W	Ditch	Created	Yes	0.08	0.01			No	No	No											
21a	Sec 18, T129N, R55W	Ditch	Created	Yes	0.16	0.09			No	Yes	No	Kirkeby Bank	0.09									
21b	Sec 18, T129N, R55W	Basin	Natural	Yes	0.05	0.03			Yes	Yes	No	Kirkeby Bank	0.03									
22a	Sec 13, T129N, R56W	Ditch	Created	Yes	0.05	0.01			No	No	No											
22b	Sec 13, T129N, R56W	Basin	Natural	Yes	0.02	0.01			Yes	No	No			Anderson Bank	0.01							
23a	Sec 13, T129N, R56W	Ditch	Created	Yes	0.20	0.10			No	Yes	No	Kirkeby Bank	0.10									
23b	Sec 18, T129N, R55W	Ditch	Created	Yes	0.04	0.01			No	Yes	No	Kirkeby Bank	0.01									
23c	Sec 18, T129N, R55W	Basin	Natural	Yes	0.03	0.01			Yes	Yes	No	Kirkeby Bank	0.01									
23d	Sec 18, T129N, R55W	Ditch	Created	Yes	0.16	0.04			No	Yes	No	Kirkeby Bank	0.04									



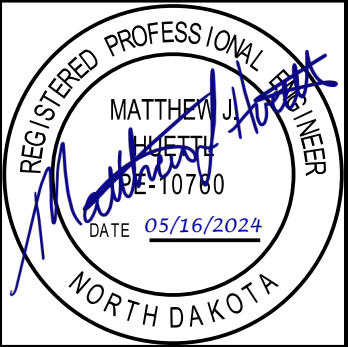
NDDOT Highway 32 Rehab
State Line N to S Jct 11 Forman
Wetland Impact Tables

23e	Sec 13, T129N, R56W	Ditch	Created	Yes	0.03	0.01			No	Yes	No	Kirkeby Bank	0.01								
24	Sec 07, T129N, R55W	Basin	Natural	No	0.00	0.00			No	No	No										
25	Sec 12, T129N, R56W	Basin	Natural	No	0.00	0.00			No	No	No										
26a	Sec 07, T129N, R55W	Basin	Natural	No	0.06	0.01			Yes	No	No			Anderson Bank	0.01						
26b	Sec 12, T129N, R56W	Basin	Natural	No	0.00	0.00			No	No	No										
27a	Sec 01, T129N, R56W	Basin	Natural	No	0.19	0.07			Yes	No	No			Anderson Bank	0.07						
27b	Sec 06, T129N, R55W	Ditch	Created	No	0.04	0.002			No	No	No										
27c	Sec 01, T129N, R56W	Basin	Natural	No	0.03	0.01			Yes	No	No			Anderson Bank	0.01						
28	Sec 01, T129N, R56W	Basin	Natural	No	0.02	0.002			Yes	No	No			Anderson Bank	0.002						
29a	Sec 06, T129N, R55W	Basin	Natural	No	0.17	0.17			Yes	No	No			Anderson Bank	0.17						
29b	Sec 01, T129N, R56W	Ditch	Created	No	0.21	0.14			No	No	No										
29c	Sec 06, T129N, R55W	Basin	Natural	No	0.04	0.05			Yes	No	No			Anderson Bank	0.05						
29d	Sec 01, T129N, R56W	Basin	Natural	No	0.02	0.002			Yes	No	No			Anderson Bank	0.002						
29e	Sec 06, T129N, R55W	Ditch	Created	No	0.09	0.12			No	No	No										
29f	Sec 01, T129N, R56W	Basin	Natural	No	0.07	0.05			Yes	No	No			Anderson Bank	0.05						



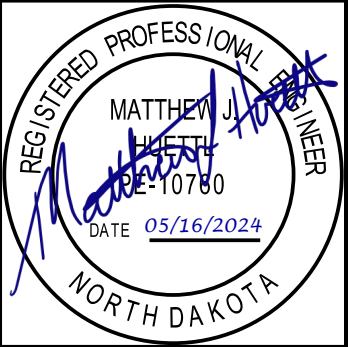
NDDOT Highway 32 Rehab
State Line N to S Jct 11 Forman
Wetland Impact Tables

29g	Sec 06, T129N, R55W	Ditch	Created	No	0.02	0.02			No	No	No										
30a	Sec 06, T129N, R55W	Riparian	Natural	Yes	0.00	0.00			No	No	No										
30b	Sec 01, T129N, R56W	Riparian	Natural	Yes	0.00	0.00			No	No	No										
30c	Sec 01, T129N, R56W	Riparian	Natural	Yes	0.00	0.00			No	No	No										
30d	Sec 06, T129N, R55W	Riparian	Natural	Yes	0.00	0.00			No	No	No										
31a	Sec 36, T130N, R56W	Basin	Natural	No	0.03	0.002			Yes	No	No			Anderson Bank	0.002						
31b	Sec 31, T130N, R55W	Basin	Natural	No	0.01	0.00			No	No	No										
32	Sec 36, T130N, R56W	Basin	Natural	No	0.03	0.02			Yes	No	No			Anderson Bank	0.02						
33a	Sec 36, T130N, R56W	Basin	Natural	No	0.07	0.02			Yes	No	No			Anderson Bank	0.02						
33b	Sec 31, T130N, R55W	Basin	Natural	No	0.11	0.05			Yes	No	No			Anderson Bank	0.05						
34a	Sec 31, T130N, R55W	Basin	Natural	No	0.06	0.07			Yes	No	No			Anderson Bank	0.07						
34b	Sec 31, T130N, R55W	Ditch	Created	No	0.00	0.00			No	No	No										
34c	Sec 31, T130N, R55W	Basin	Natural	No	0.07	0.05			Yes	No	No			Anderson Bank	0.05						
35	Sec 36, T130N, R56W	Basin	Natural	No	0.04	0.003			Yes	No	No			Anderson Bank	0.003						
36	Sec 36, T130N, R56W	Basin	Natural	No	0.001	0.00			No	No	No										



NDDOT Highway 32 Rehab
State Line N to S Jct 11 Forman
Wetland Impact Tables

37a	Sec 31, T130N, R55W	Basin	Natural	No	0.01	0.003			Yes	No	No			Anderson Bank	0.003						
37b	Sec 31, T130N, R55W	Ditch	Created	No	0.02	0.002			No	No	No										
38	Sec 25, T130N, R56W	Basin	Natural	No	0.01	0.003			Yes	No	No			Anderson Bank	0.003						
39	Sec 25, T130N, R56W	Basin	Natural	No	0.001	0.00			No	No	No										
40	Sec 30, T130N, R55W	Ditch	Created	No	0.04	0.02			No	No	No										
41	Sec 25, T130N, R56W	Ditch	Created	No	0.06	0.01			No	No	No										
42a	Sec 25, T130N, R56W	Basin	Natural	No	0.06	0.06			Yes	No	No			Anderson Bank	0.06						
42b	Sec 30, T130N, R55W	Basin	Natural	No	0.05	0.05			Yes	No	No			Anderson Bank	0.05						
43	Sec 30, T130N, R55W	Basin	Natural	No	0.004	0.00			No	No	No										
44a	Sec 25 & 24, T130N, R56W	Basin	Natural	No	0.03	0.03			Yes	No	No			Anderson Bank	0.03						
44b	Sec 30 & 19, T130N, R55W	Basin	Natural	No	0.05	0.08			Yes	No	No			Anderson Bank	0.08						
44c	Sec 24, T130N, R56W	Basin	Natural	No	0.03	0.01			Yes	No	No			Anderson Bank	0.01						
44d	Sec 19, T130N, R55W	Ditch	Created	No	0.01	0.01			No	No	No										
44e	Sec 24, T130N, R56W	Basin	Natural	No	0.04	0.001			Yes	No	No			Anderson Bank	0.001						
44f	Sec 19, T130N, R55W	Ditch	Created	No	0.04	0.03			No	No	No										



NDDOT Highway 32 Rehab
State Line N to S Jct 11 Forman
Wetland Impact Tables

44g	Sec 24, T130N, R56W	Basin	Natural	No	0.26	0.09			Yes	No	No			Anderson Bank	0.09							
44h	Sec 19, T130N, R55W	Basin	Natural	No	0.17	0.23			Yes	No	No			Anderson Bank	0.23							
44i	Sec 19, T130N, R55W	Ditch	Created	No	0.08	0.08			No	No	No											
44j	Sec 19, T130N, R55W	Basin	Natural	No	0.07	0.07			Yes	No	No			Anderson Bank	0.07							
45	Sec 18, T130N, R55W	Ditch	Created	No	0.003	0.004			No	No	No											
46a	Sec 13, T130N, R56W	Basin	Natural	No	0.10	0.06			Yes	No	No			Anderson Bank	0.06							
46b	Sec 18, T130N, R55W	Basin	Natural	No	0.07	0.02			Yes	No	No			Anderson Bank	0.02							
47a	Sec 18, T130N, R55W	Basin	Natural	No	0.10	0.17			Yes	No	No			Anderson Bank	0.17							
47b	Sec 13, T130N, R56W	Basin	Natural	No	0.06	0.03			Yes	No	No			Anderson Bank	0.03							
48	Sec 13, T130N, R56W	Ditch	Created	No	0.04	0.01			No	No	No											
49	Sec 18, T130N, R55W	Basin	Natural	No	0.02	0.02			Yes	No	No			Anderson Bank	0.02							
50a	Sec 13, T130N, R56W	Basin	Natural	No	0.02	0.003			Yes	No	No			Anderson Bank	0.003							
50b	Sec 18, T130N, R55W	Ditch	Created	No	0.00	0.00			No	No	No											
51	Sec 12, T130N, R56W	Basin	Natural	No	0.01	0.00			No	No	No											
Totals					6.98	3.94	0.00	0.00						0.56		2.18		0.00		0.00	0.00	0.00



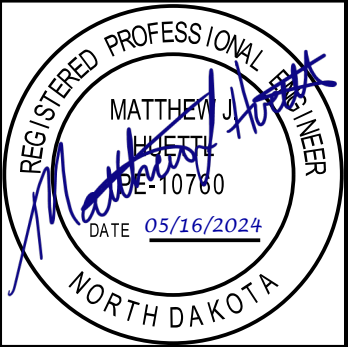
NDDOT Highway 32 Rehab
State Line N to S Jct 11 Forman
Wetland Impact Tables

Other Waters Impact Table																			
Number	Location	Type	Feature	USACE Jurisdictional ¹	Impacts to Other Waters						Other Water Mitigation								
					Acres			Linear Feet			Mitigation Proposed			USACE Mitigation Bank		Onsite Mitigation Method		Onsite Constructed Location	
					Temp.	Perm. (Fill/ Drain)	Perm. (Cut)	Temp.	Perm. (Fill/ Drain)	Perm. (Cut)	EO 11990	USACE	USFWS	Location	Acre(s)	Mitigation Location; ratio	Acre(s)	Site #	Size Acre(s)
OW1	Sec.6, T129N, R55W	Perennial Stream	Natural	Yes	0.00	0.00	0.00												
Totals					0.00	0.00	0.00								0.00		0.00		0.00

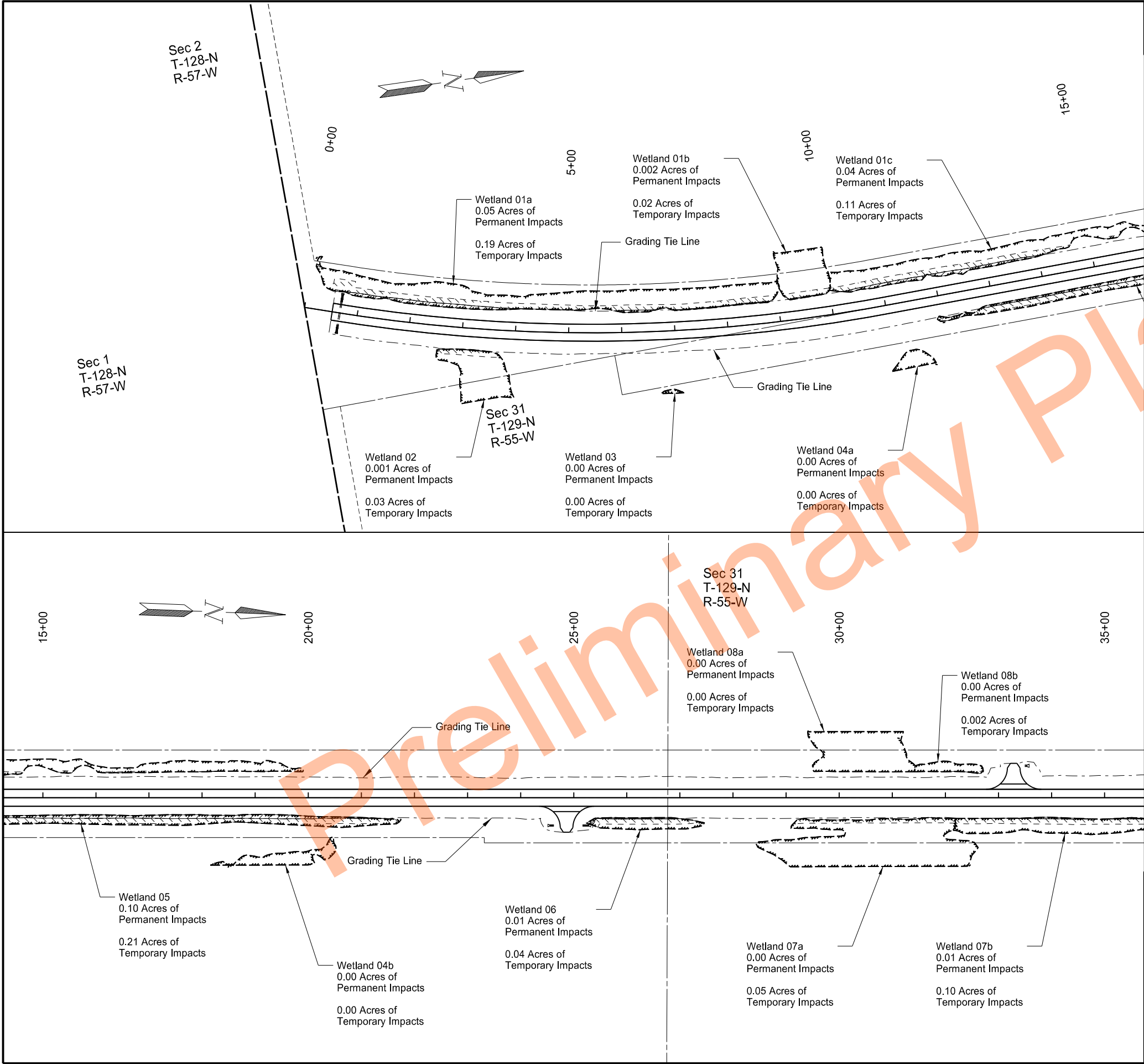
¹ A wetland Jurisdictional Determination was issued by the USACE on 2/21/2023; NWO-2022-01996-BIS.

Impact Summary Table			
Permanent Impact Summary		Temporary Impacts and Additional Information	
Wetland Type	Total (Acres)	Wetland Type	Total Acre(s)
Natural/JD (Fill/Drain)	0.25	Temporary JD	1.34
Natural/Non-JD (Fill/Drain)	2.16	Temporary Non-JD	5.64
Artificial/JD (Fill/Drain)	0.36	Total	6.98
Artificial /Non-JD (Fill/Drain)	1.17	Permanent OW	0.00
Total	3.94	Temporary OW	0.00
Natural/JD (Cut)	0.00		
Natural/Non-JD (Cut)	0.00		
Artificial/JD (Cut)	0.00		
Artificial /Non-JD (Cut)	0.00		
Total	0.00		

Mitigation Summary Table						
	Location	Ditch Shift Acres(s)	Onsite Acre(s)	11990 Bank Acre(s)	USACE/11990 Bank Acre(s)	USFWS Bank Acre(s)
USACE Only	Kirkeby Bank	0.00	0.00		0.56	
EO 11990 Only	Anderson Bank			2.18		
USACE/11990	Onsite		0.00			
USFWS	N/A					
Totals		0.00	0.00	2.18	0.56	0.00



NDDOT Highway 32 Rehab
State Line N to S Jct 11 Forman
Wetland Impact Tables



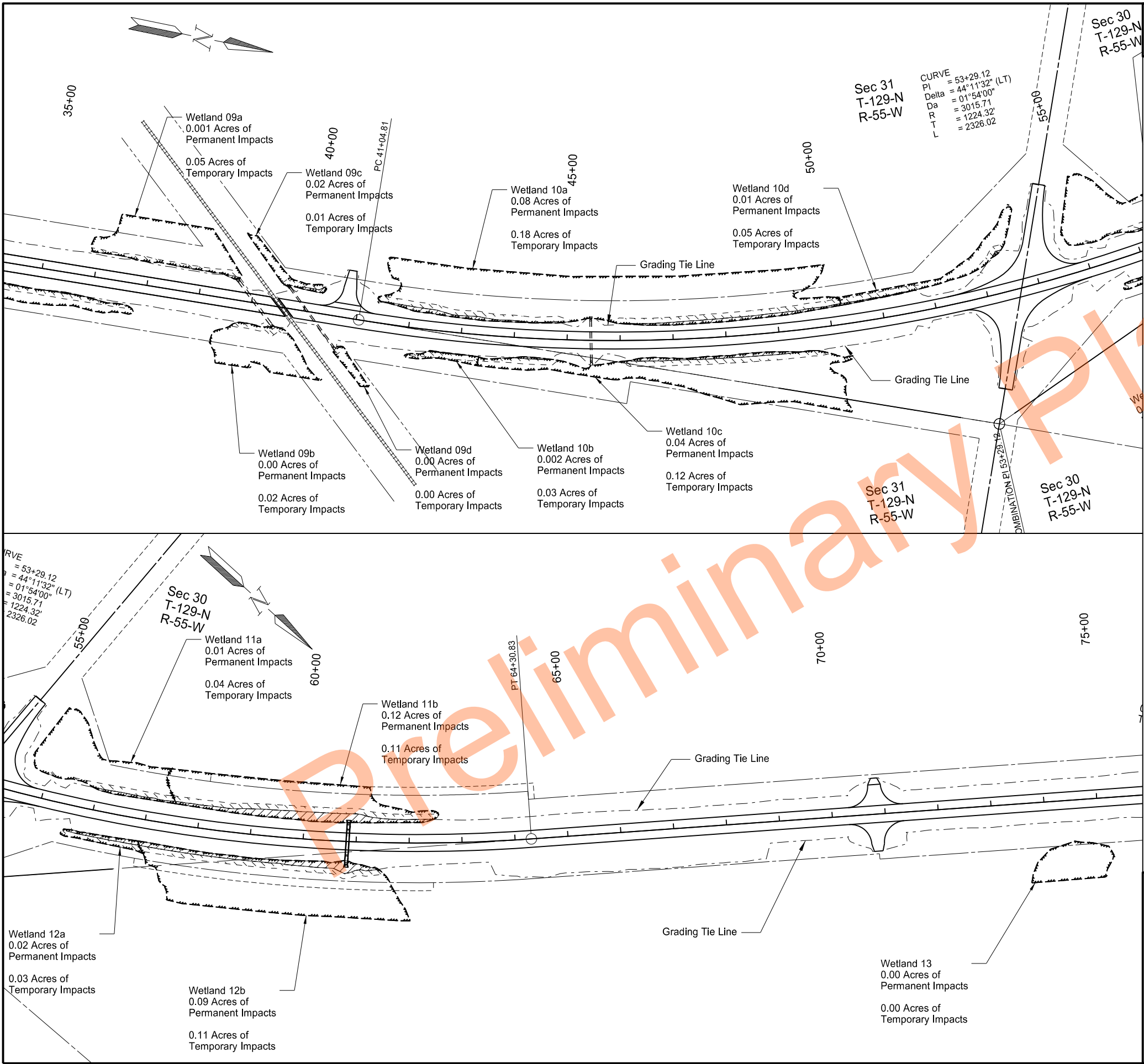
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-XA-8-032(046)000	75	10

LEGEND

	Delineated Wetland - Non JD		R/W Line
	Delineated Wetland - JD		Temporary Easement Line
	Temporary Wetland Impacts		Section Line
	Permanent Wetland Impacts (Cut)		Qtr Section Line
	Permanent Wetland Impacts (Fill)		Grading Tie Line
	Other Water		

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Wetland Impacts
Sta. 0+00 to Sta. 35+00

REGISTERED PROFESSIONAL ENGINEER
MATTHEW J. HETTEL
PE 10780
DATE 05/16/2024
NORTH DAKOTA



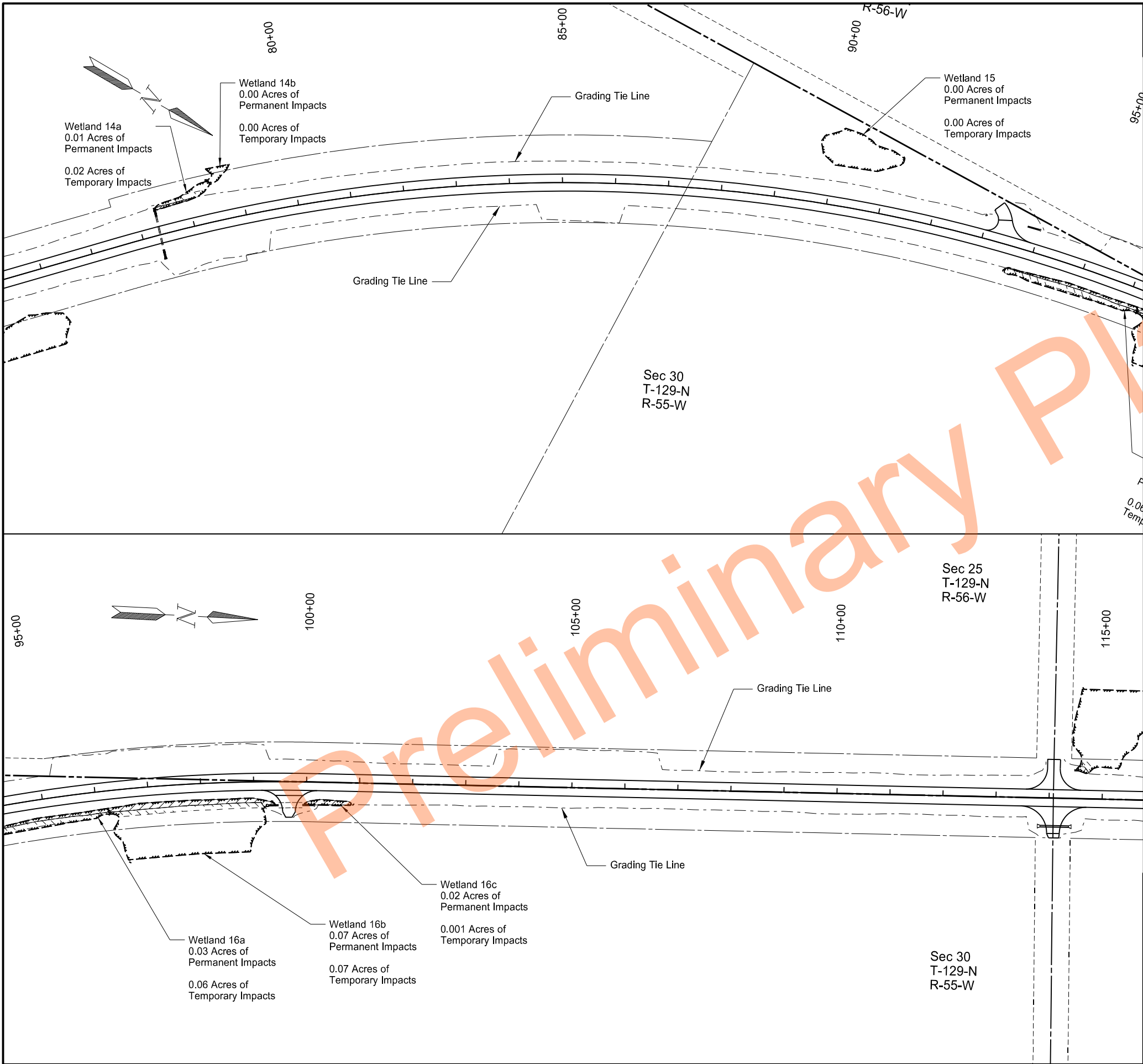
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-XA-8-032(046)000	75	11

LEGEND

- | | | | |
|--|----------------------------------|--|-------------------------|
| | Delineated Wetland - Non JD | | R/W Line |
| | Delineated Wetland - JD | | Temporary Easement Line |
| | Temporary Wetland Impacts | | Section Line |
| | Permanent Wetland Impacts (Cut) | | Qtr Section Line |
| | Permanent Wetland Impacts (Fill) | | Grading Tie Line |
| | Other Water | | |

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Wetland Impacts
Sta. 35+00 to Sta. 75+00





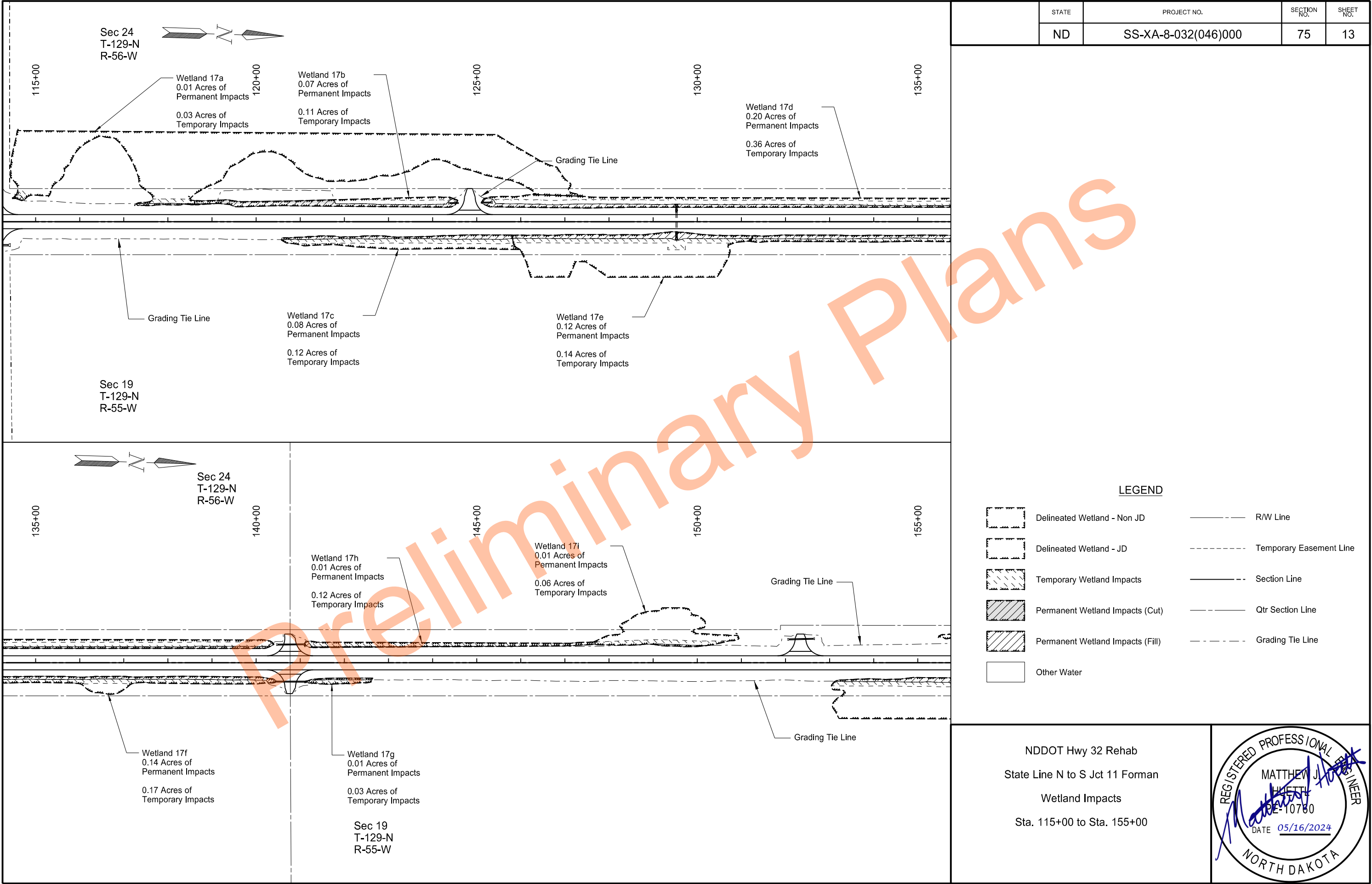
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-XA-8-032(046)000	75	12

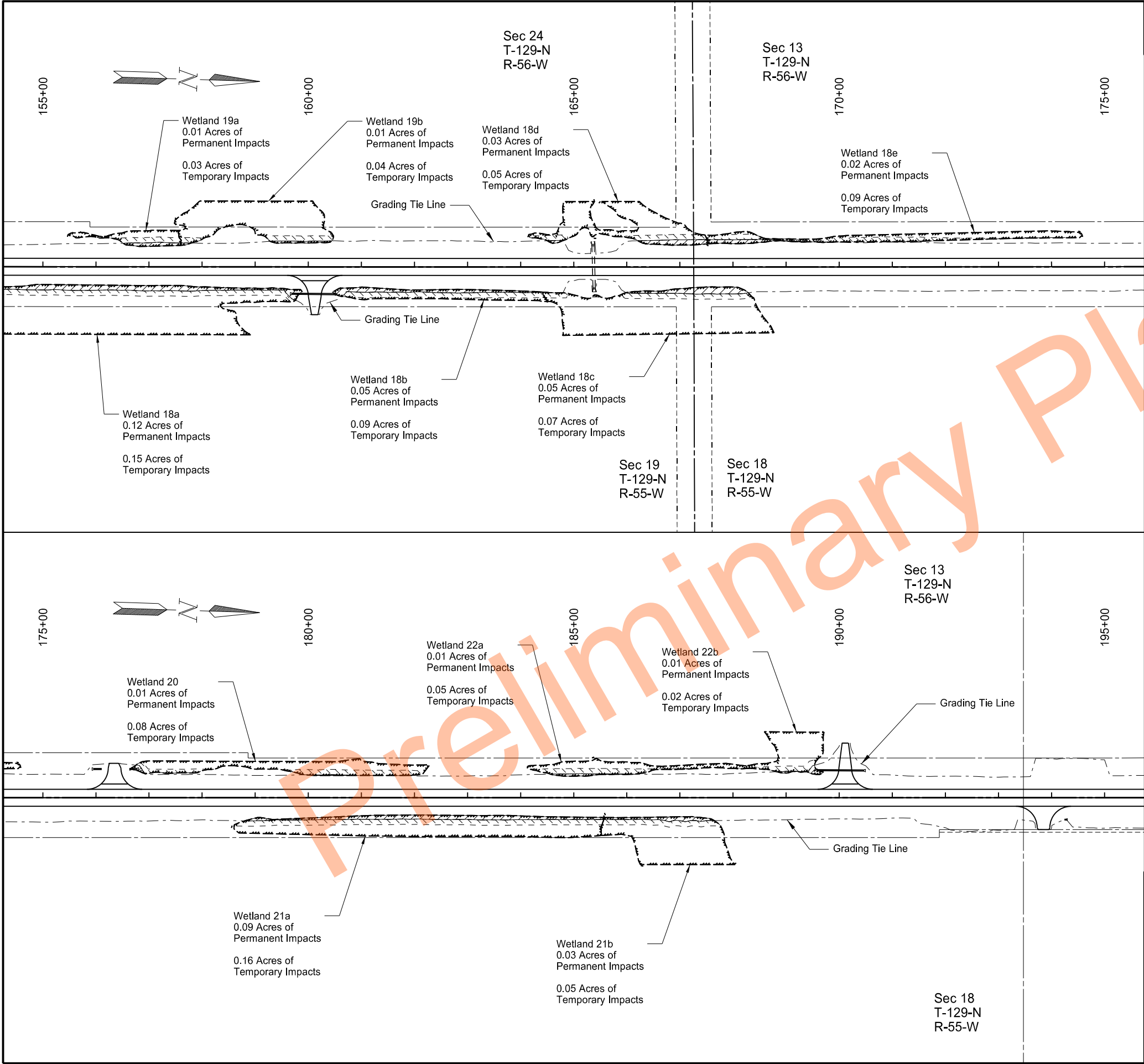
LEGEND

	Delineated Wetland - Non JD		R/W Line
	Delineated Wetland - JD		Temporary Easement Line
	Temporary Wetland Impacts		Section Line
	Permanent Wetland Impacts (Cut)		Qtr Section Line
	Permanent Wetland Impacts (Fill)		Grading Tie Line
	Other Water		

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Wetland Impacts
Sta. 75+00 to Sta. 115+00

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DATE 05/16/2024
NORTH DAKOTA





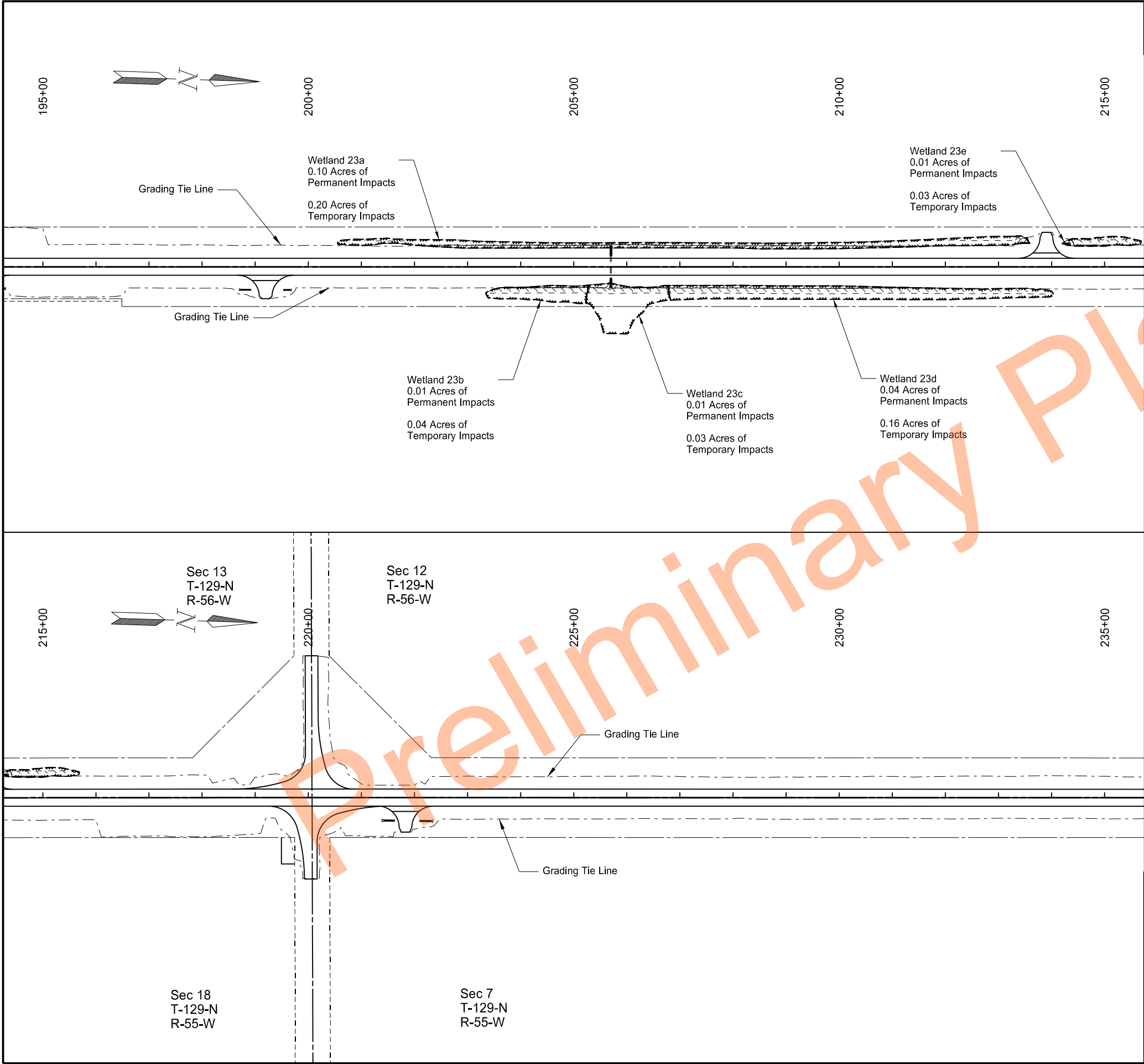
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SS-XA-8-032(046)000	75	14

LEGEND

	Delineated Wetland - Non JD		R/W Line
	Delineated Wetland - JD		Temporary Easement Line
	Temporary Wetland Impacts		Section Line
	Permanent Wetland Impacts (Cut)		Qtr Section Line
	Permanent Wetland Impacts (Fill)		Grading Tie Line
	Other Water		

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Wetland Impacts
Sta. 155+00 to Sta. 195+00

REGISTERED PROFESSIONAL ENGINEER
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PE-10780
DATE 05/16/2024
NORTH DAKOTA



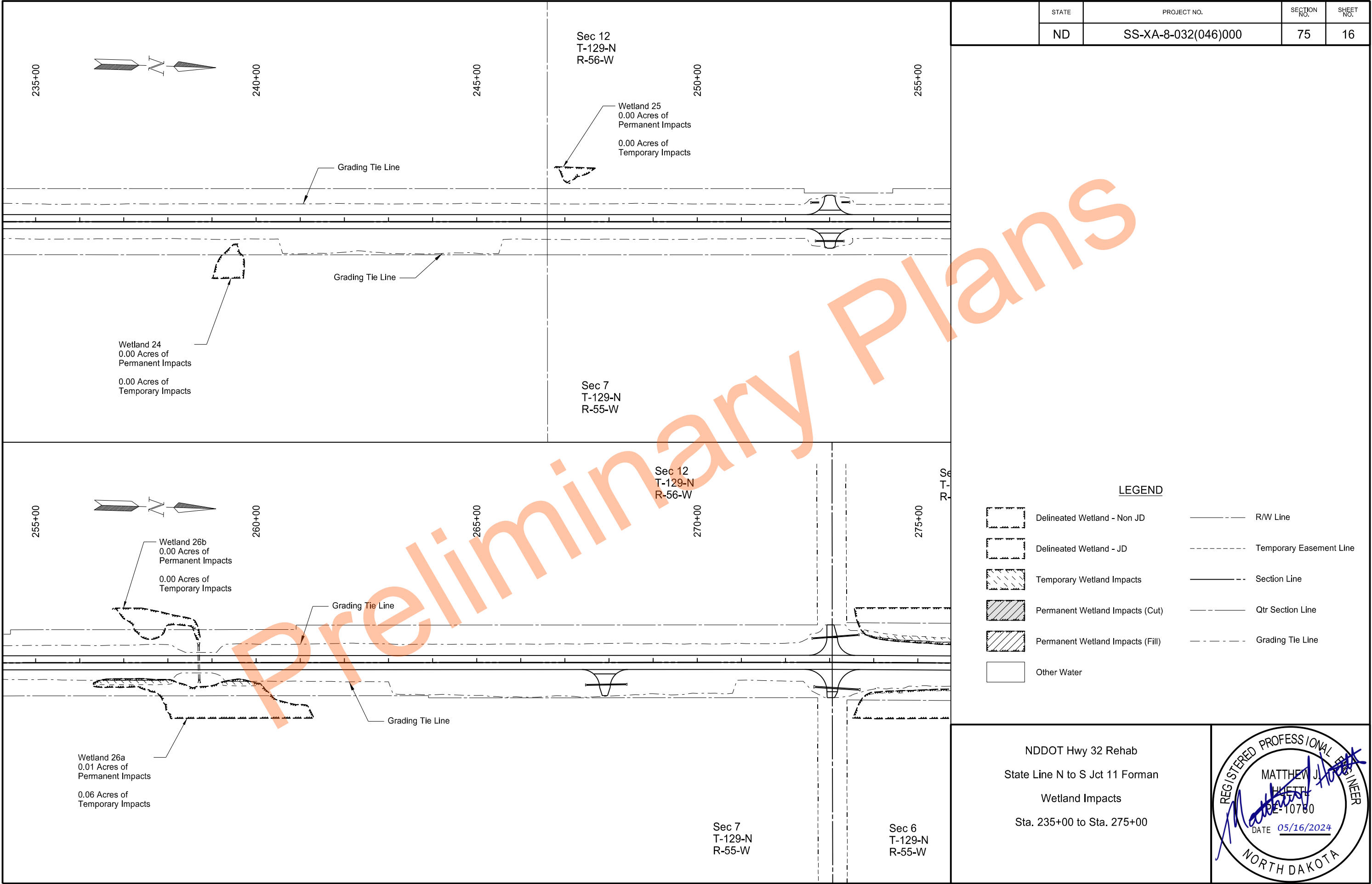
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-XA-8-032(046)000	75	15

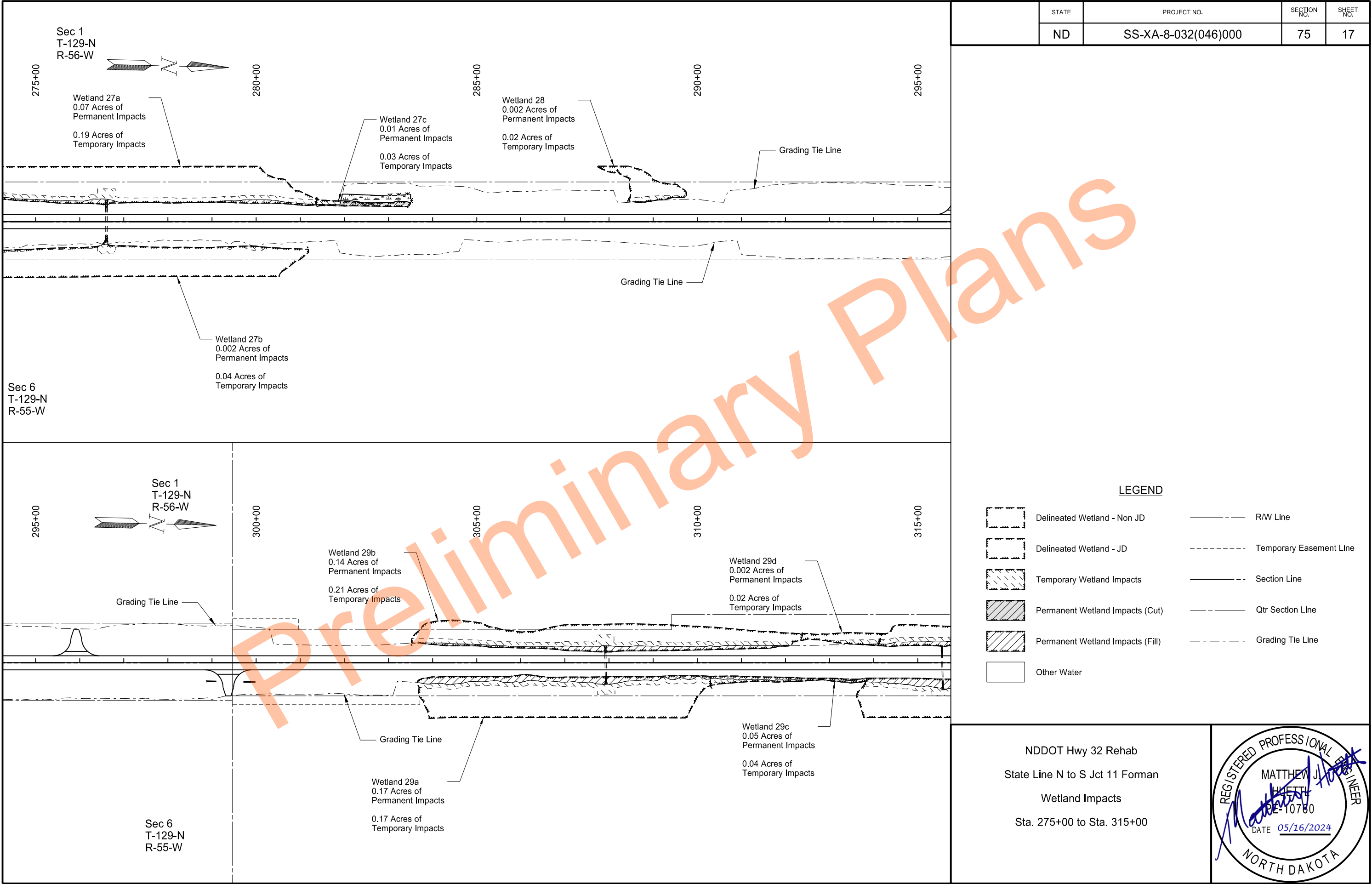
LEGEND

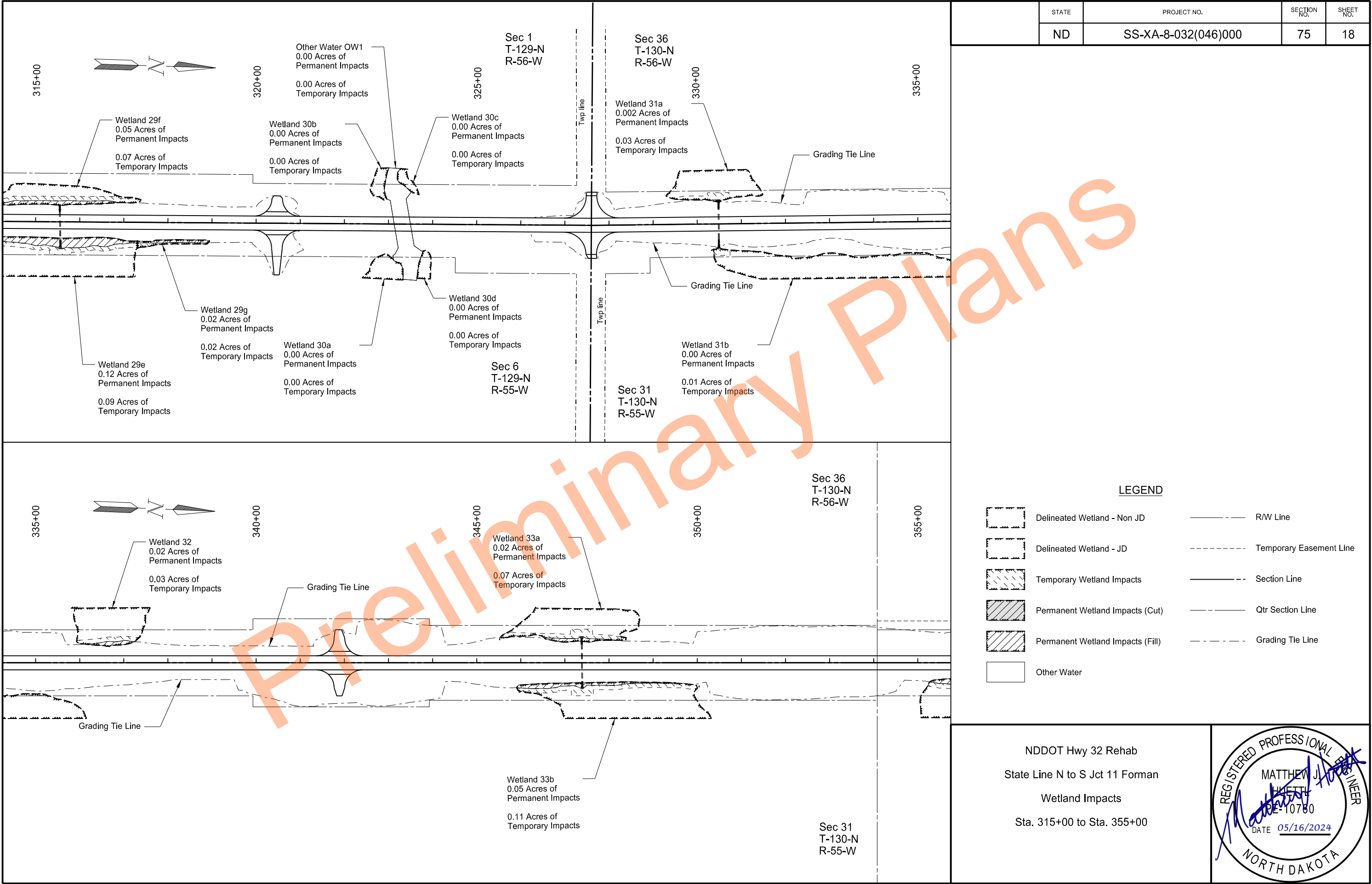
	Delineated Wetland - Non JD		R/W Line
	Delineated Wetland - JD		Temporary Easement Line
	Temporary Wetland Impacts		Section Line
	Permanent Wetland Impacts (Cut)		Qtr Section Line
	Permanent Wetland Impacts (Fill)		Grading Tie Line
	Other Water		

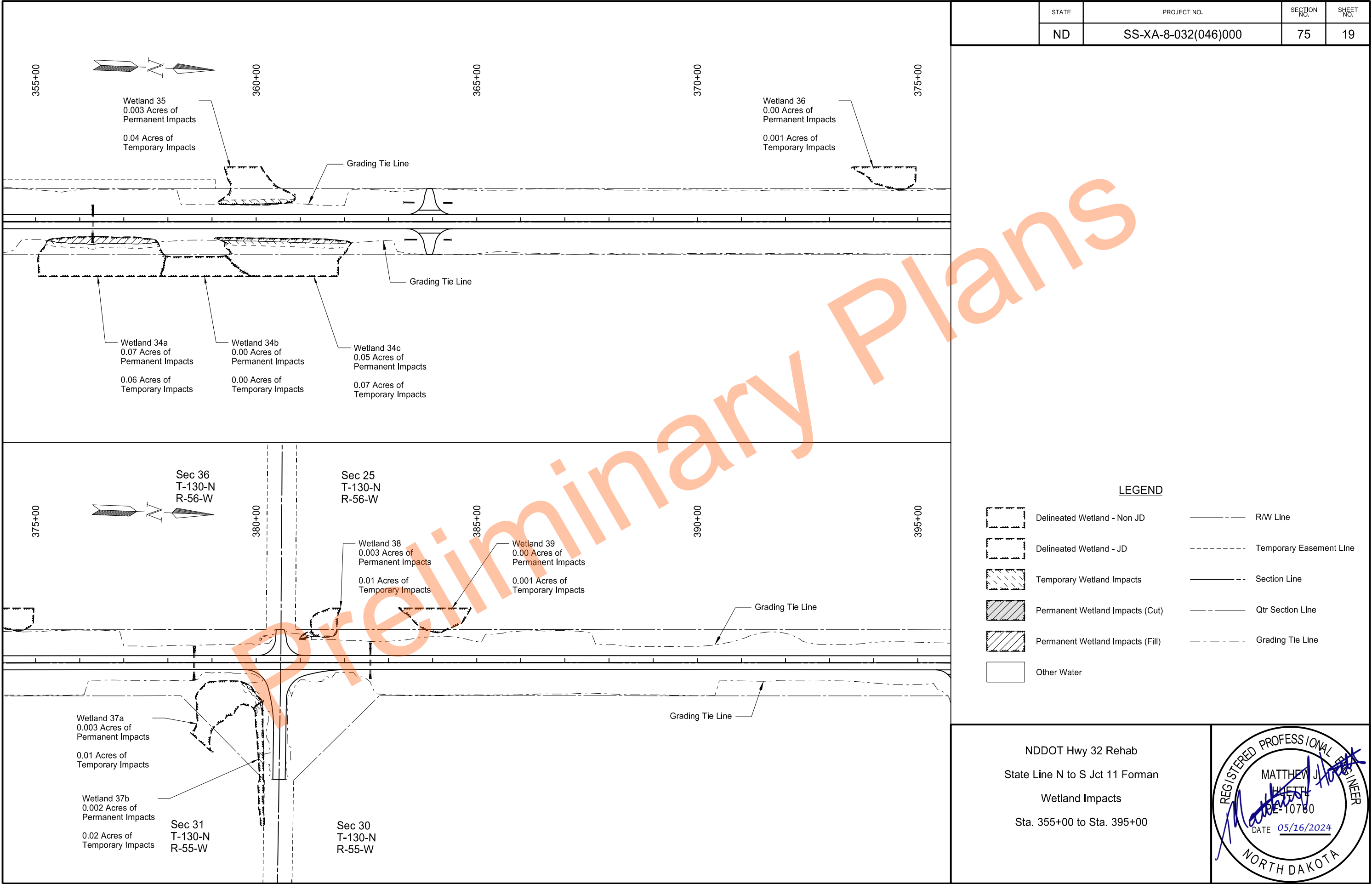
NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Wetland Impacts
Sta. 195+00 to Sta. 235+00

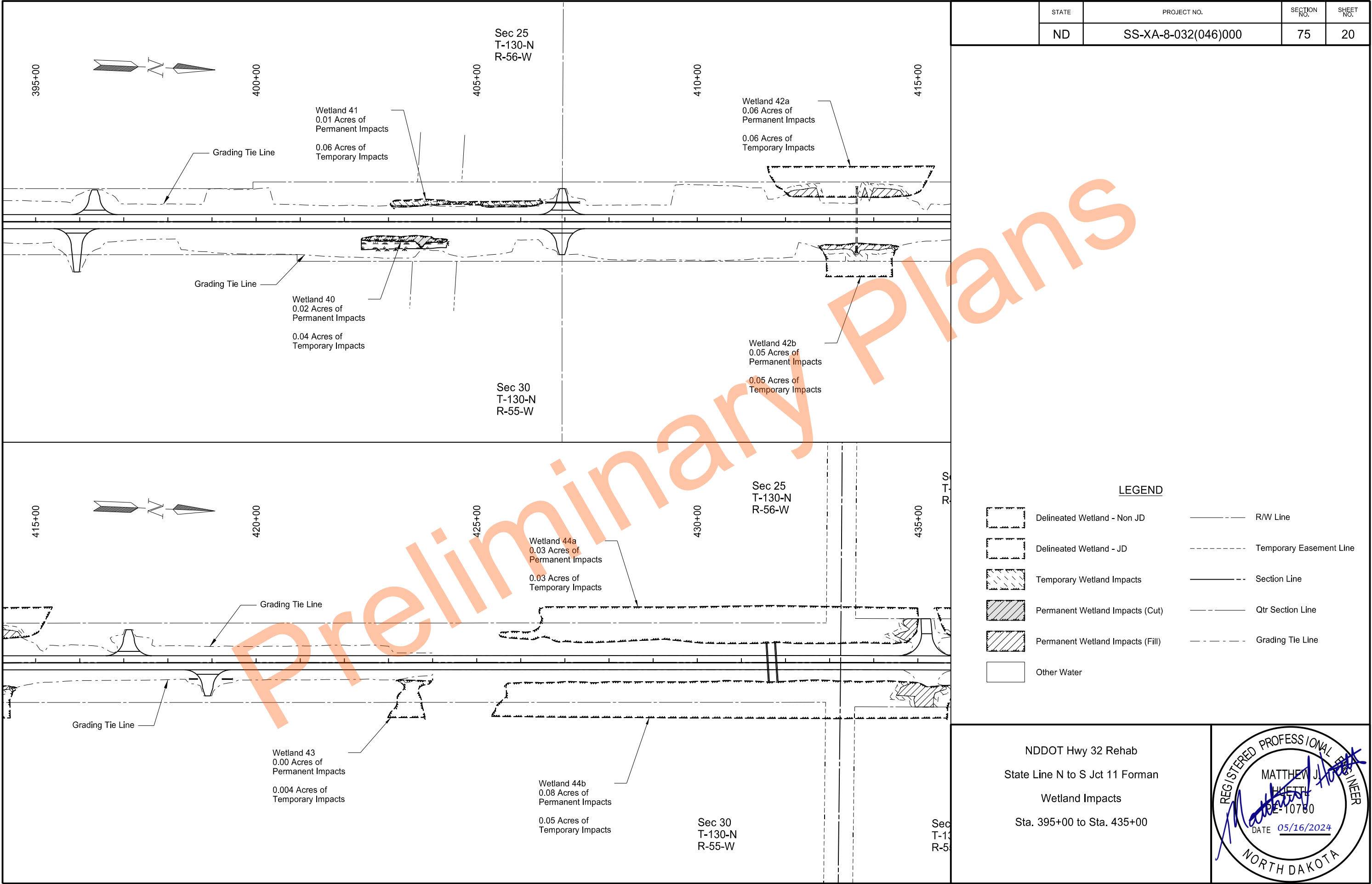
REGISTERED PROFESSIONAL ENGINEER
MATTHEW J. HETT
PE-10780
DATE 05/16/2024
NORTH DAKOTA

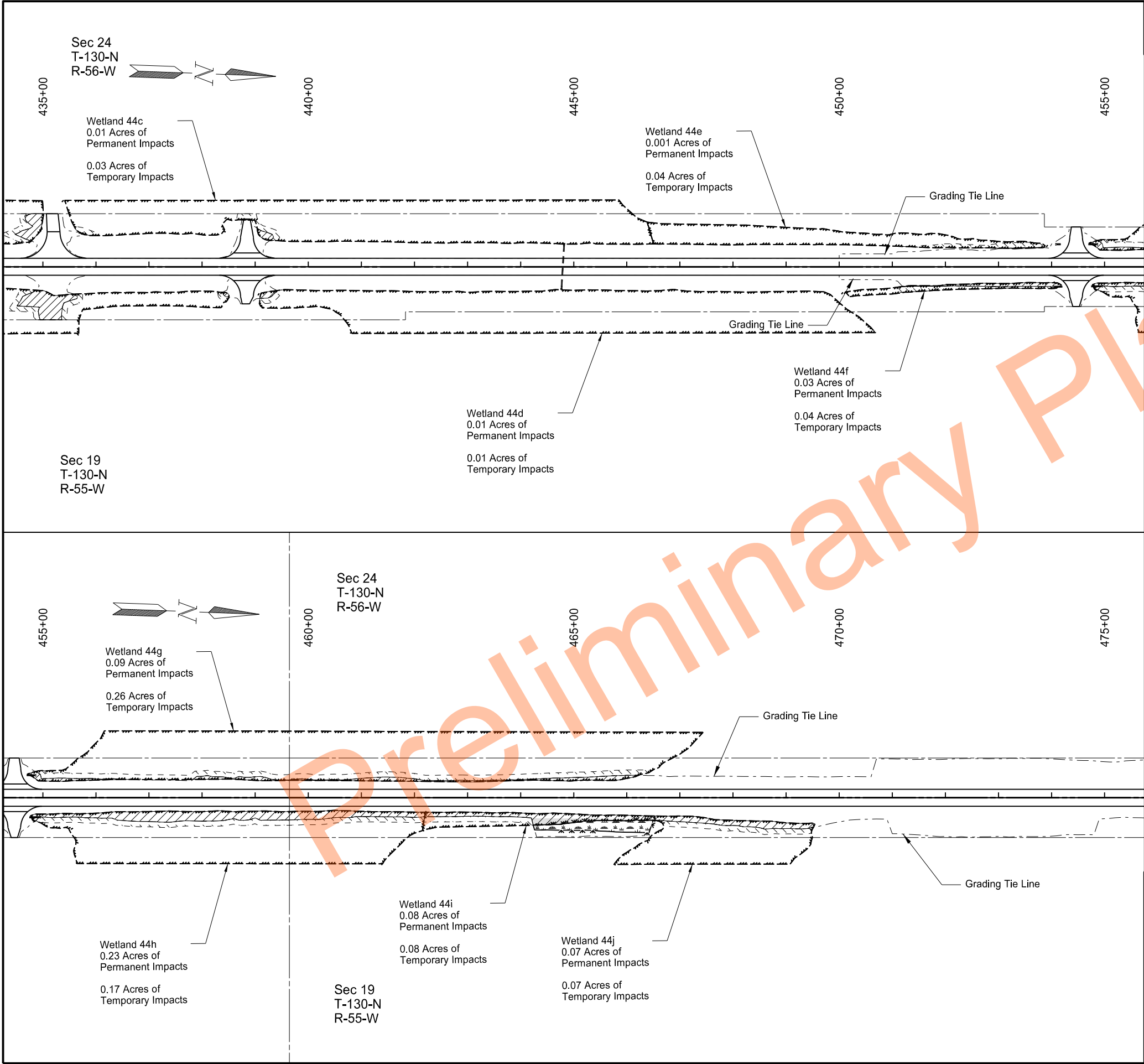










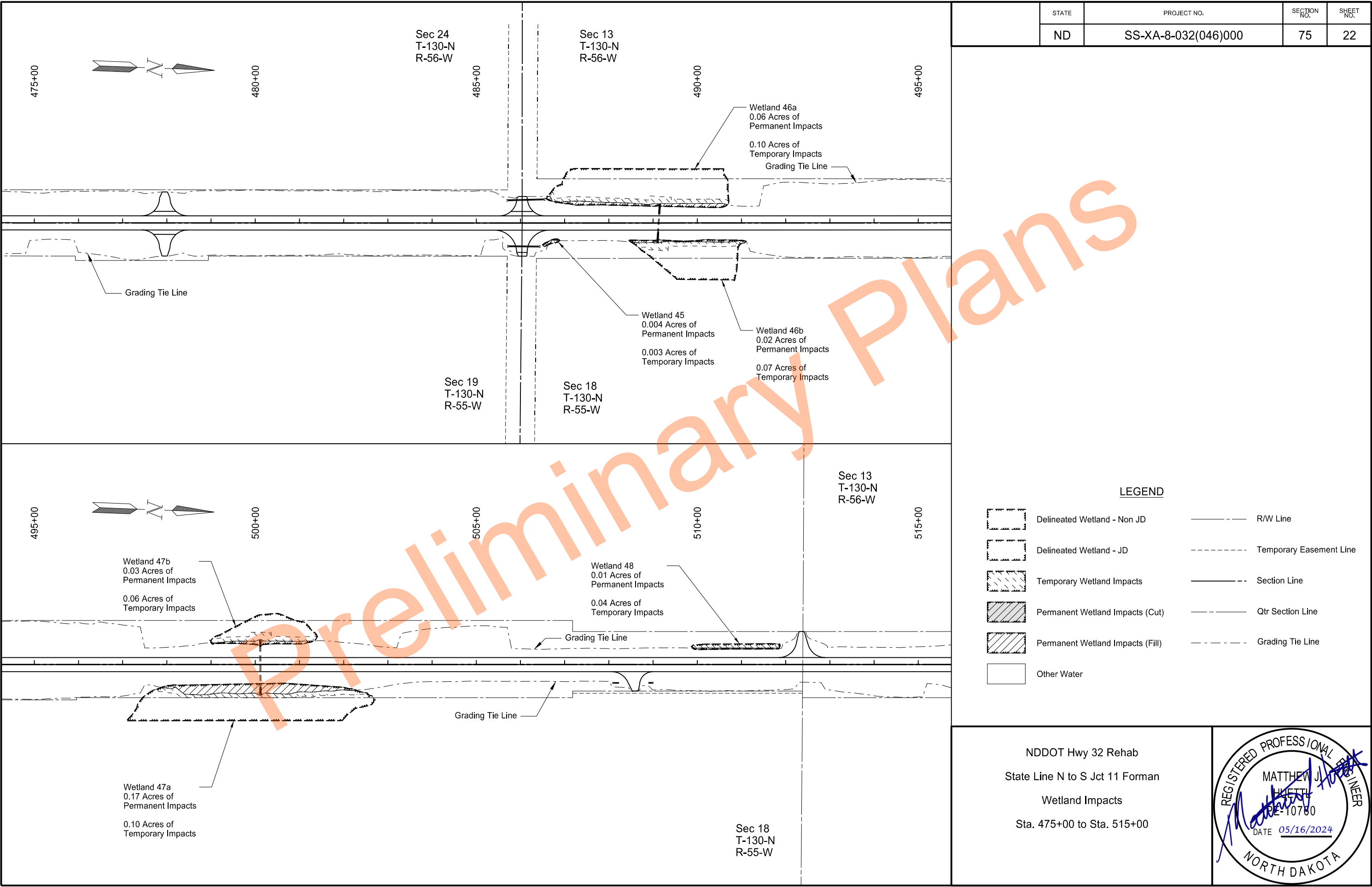


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-XA-8-032(046)000	75	21

LEGEND

	Delineated Wetland - Non JD		R/W Line
	Delineated Wetland - JD		Temporary Easement Line
	Temporary Wetland Impacts		Section Line
	Permanent Wetland Impacts (Cut)		Qtr Section Line
	Permanent Wetland Impacts (Fill)		Grading Tie Line
	Other Water		

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Wetland Impacts
Sta. 435+00 to Sta. 475+00



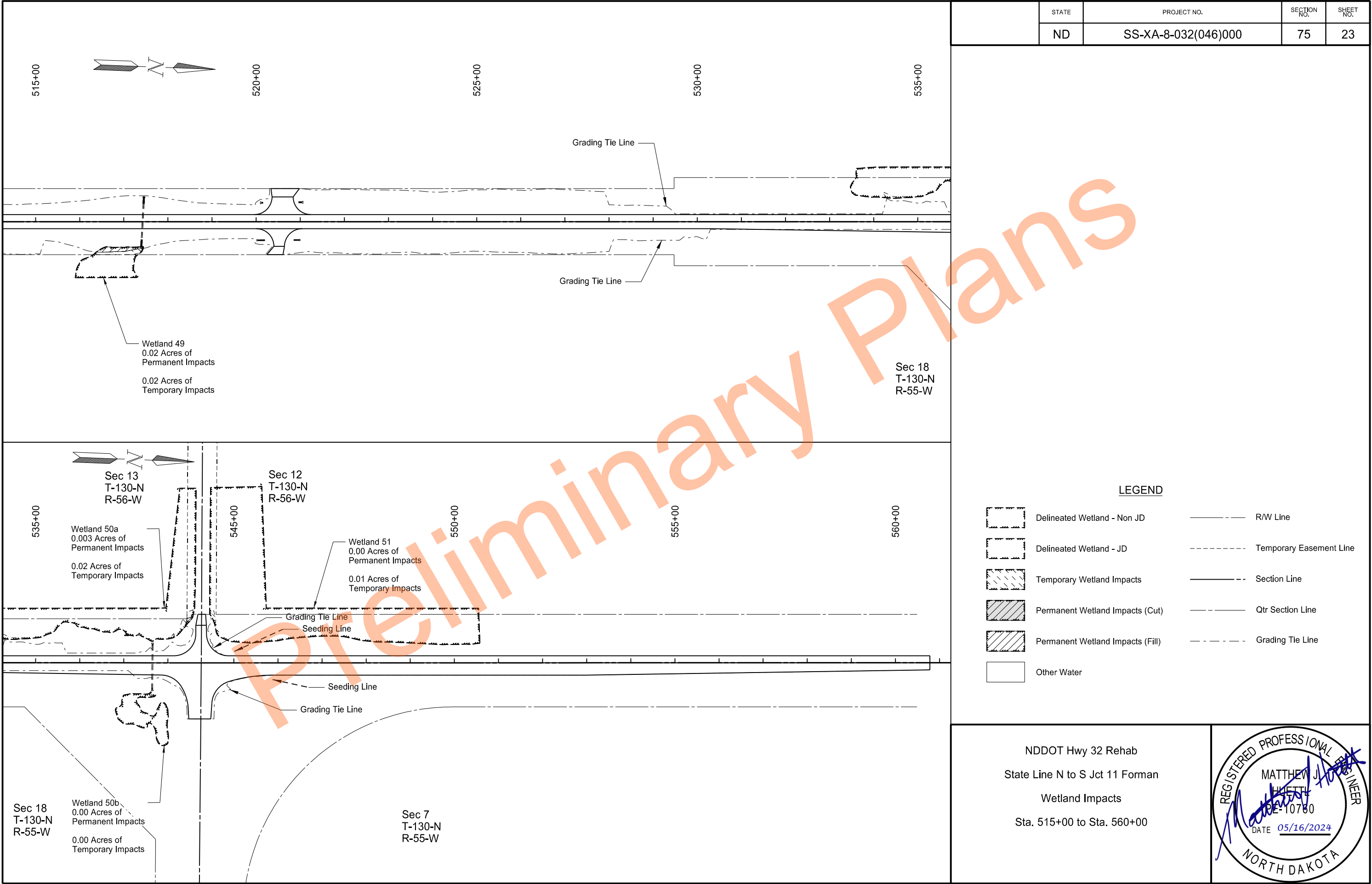
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-XA-8-032(046)000	75	22

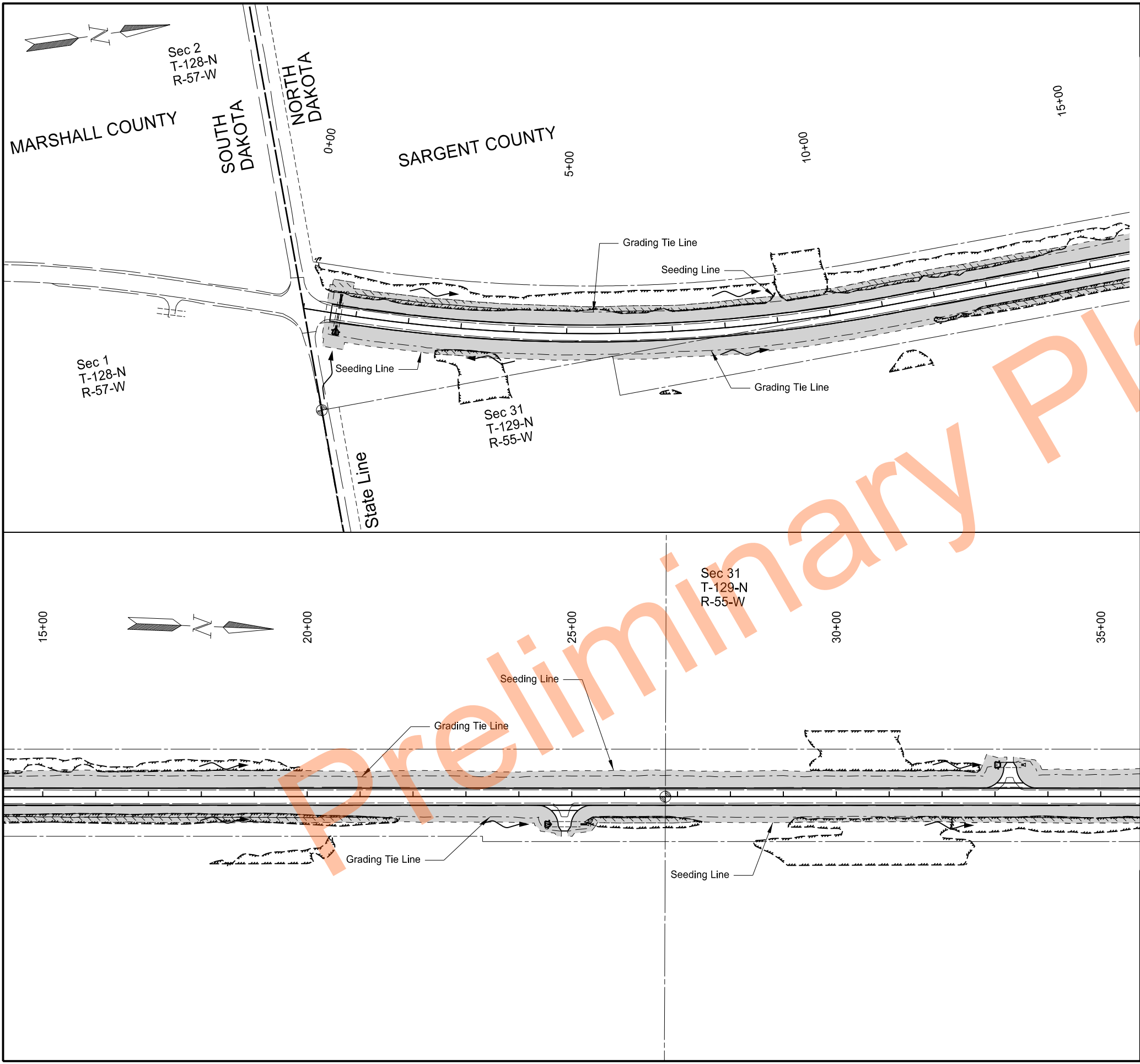
LEGEND

- Delineated Wetland - Non JD
- Delineated Wetland - JD
- Temporary Wetland Impacts
- Permanent Wetland Impacts (Cut)
- Permanent Wetland Impacts (Fill)
- Other Water
- R/W Line
- Temporary Easement Line
- Section Line
- Qtr Section Line
- Grading Tie Line

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Wetland Impacts
Sta. 475+00 to Sta. 515+00







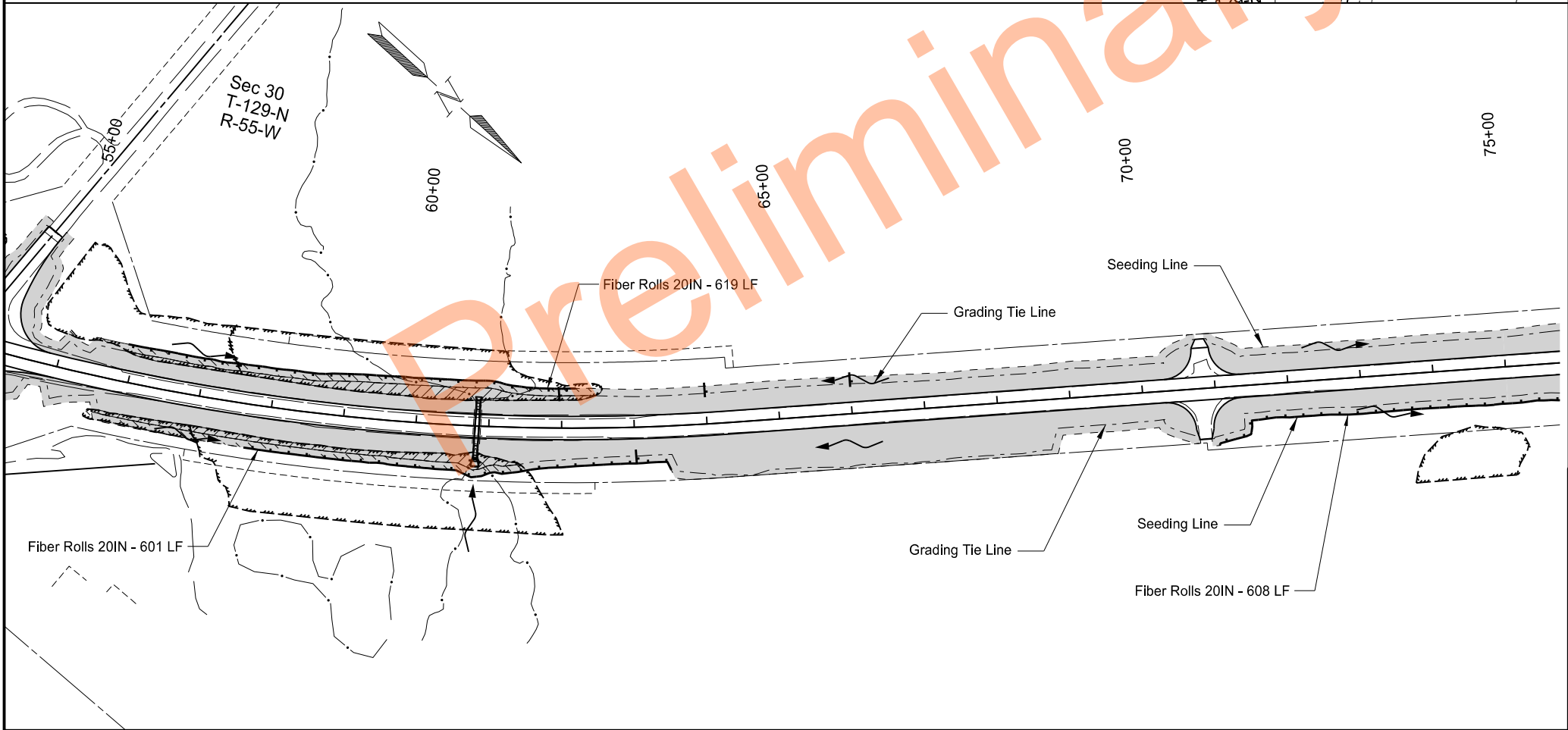
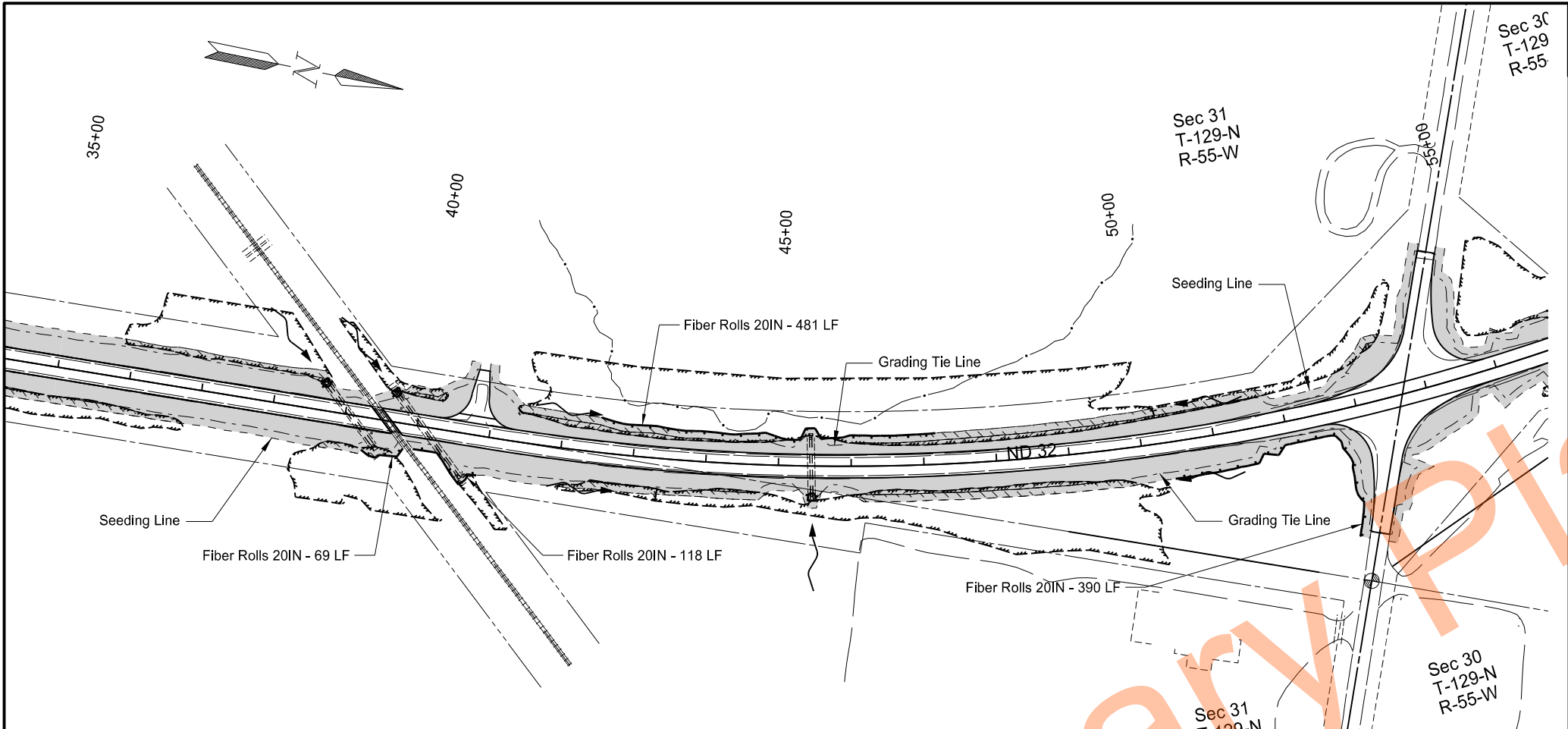
STATE		PROJECT NO.	SECTION NO.	SHEET NO.
ND		SS-XA-8-032(046)000	76	1

SPEC	CODE	BID ITEM	UNIT	QUANTITY
251	2000	TEMPORARY COVER CROP		
Sta 0+00 to 35+00			AC	5.5
253	0101	STRAW MULCH		
Sta 0+00 to 35+00			AC	5.5

LEGEND

	Delineated Wetland - Non JD		Grading Tie Line
	Delineated Wetland - JD		Seeding Line
	ECB Type 3		Fiber Rolls
	Seeding/Temporary Cover Crop		R/W Line
	Flow Arrow		Section Line
	Temporary Easement Line		
	Qtr Section Line		

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Temporary Erosion Control
Sta. 0+00 to Sta. 35+00



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SS-XA-8-032(046)000	76	2

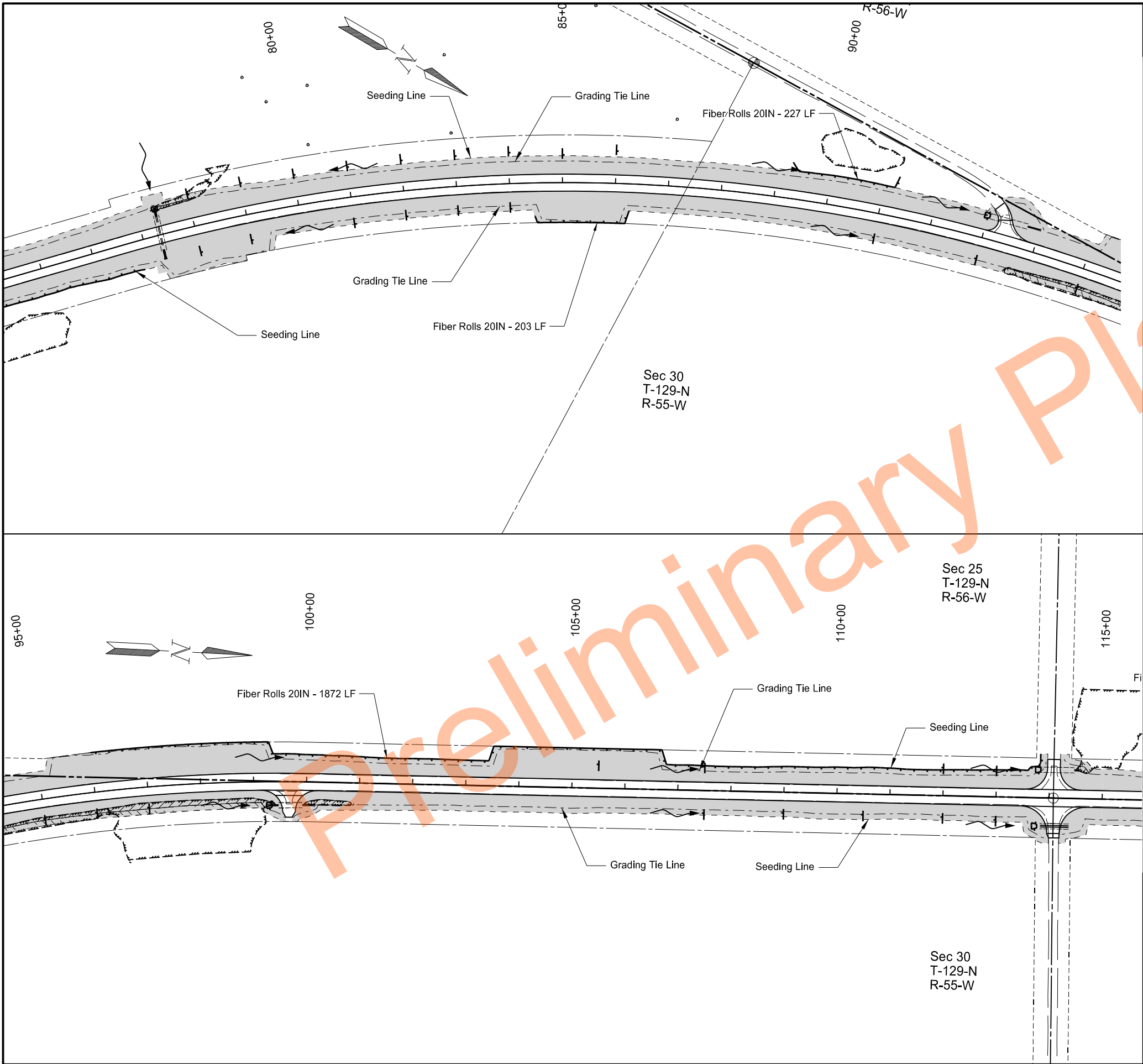
SPEC	CODE	BID ITEM	UNIT	QUANTITY
251	2000	TEMPORARY COVER CROP		
		Sta 35+00 to 75+00	AC	6.8
253	0101	STRAW MULCH		
		Sta 35+00 to 75+00	AC	6.8
261	0120	FIBER ROLLS 20IN		
		Sta 35+00 to 75+00	LF	2886
261	0121	REMOVE FIBER ROLLS 20IN		
		Sta 35+00 to 75+00	LF	2886

LEGEND

	Delineated Wetland - Non JD		Grading Tie Line
	Delineated Wetland - JD		Seeding Line
	ECB Type 3		Fiber Rolls
	Seeding/Temporary Cover Crop		R/W Line
	Flow Arrow		Section Line
	Temporary Easement Line		
	Qtr Section Line		

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Temporary Erosion Control
Sta. 35+00 to Sta. 75+00





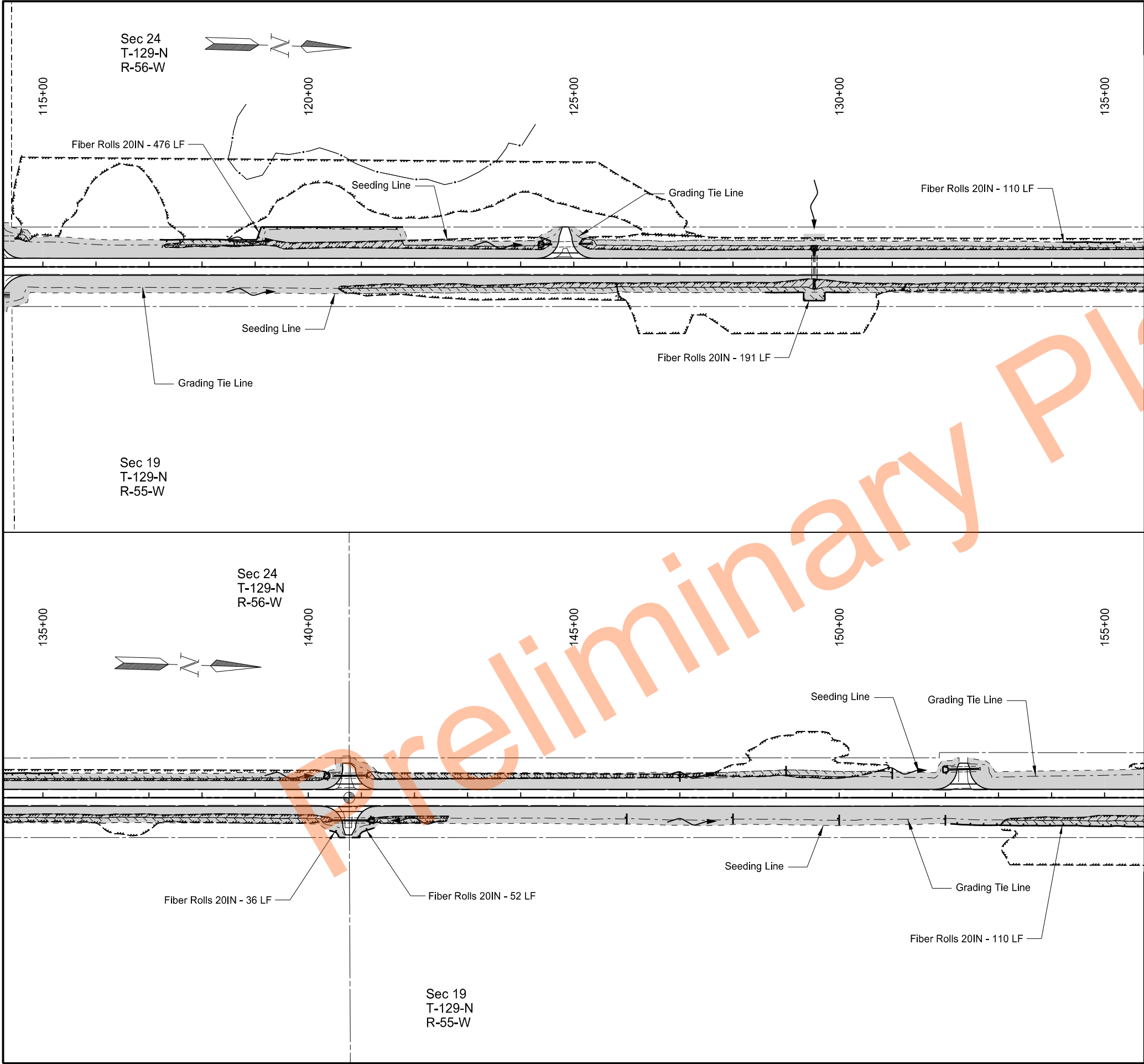
		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	76	3

SPEC	CODE	BID ITEM	UNIT	QUANTITY
251	2000	TEMPORARY COVER CROP		
		Sta 75+00 to 115+00	AC	7.2
253	0101	STRAW MULCH		
		Sta 75+00 to 115+00	AC	7.2
261	0120	FIBER ROLLS 20IN		
		Sta 75+00 to 115+00	LF	2302
261	0121	REMOVE FIBER ROLLS 20IN		
		Sta 75+00 to 115+00	LF	2302

LEGEND

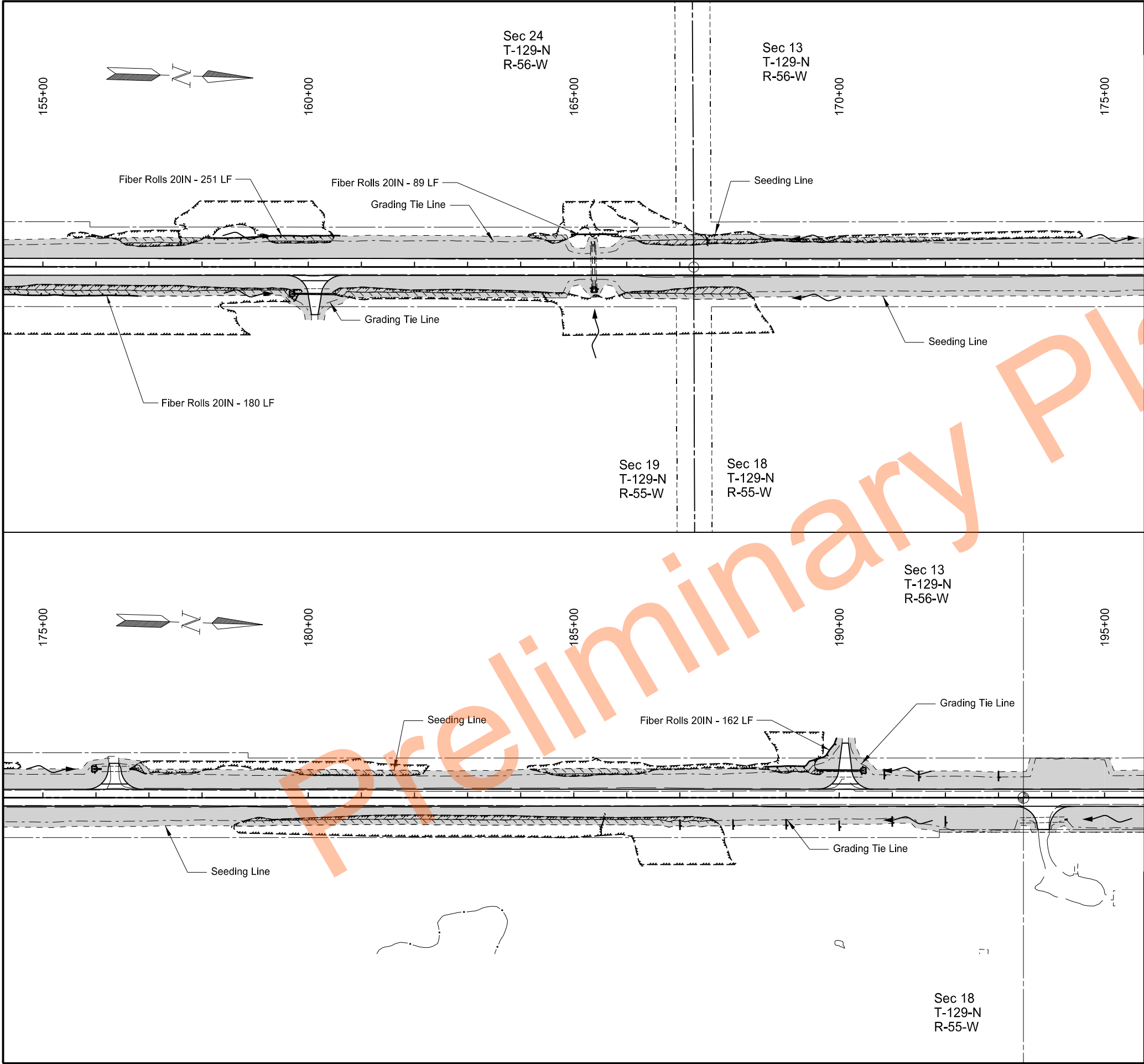
	Delineated Wetland - Non JD		Grading Tie Line
	Delineated Wetland - JD		Seeding Line
	ECB Type 3		Fiber Rolls
	Seeding/Temporary Cover Crop		R/W Line
	Flow Arrow		Section Line
	Temporary Easement Line		
	Qtr Section Line		

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Temporary Erosion Control
Sta. 75+00 to Sta. 115+00



		STATE	PROJECT NO.		SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000		76	4

SPEC	CODE	BID ITEM	UNIT	QUANTITY
251	2000	TEMPORARY COVER CROP		
		Sta 115+00 to 155+00	AC	6.3
253	0101	STRAW MULCH		
		Sta 115+00 to 155+00	AC	6.3
261	0120	FIBER ROLLS 20IN		
		Sta 115+00 to 155+00	LF	1156
261	0121	REMOVE FIBER ROLLS 20IN		
		Sta 115+00 to 155+00	LF	1156



		STATE	PROJECT NO.		SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000		76	5

SPEC	CODE	BID ITEM	UNIT	QUANTITY
251	2000	TEMPORARY COVER CROP		
		Sta 155+00 to 195+00	AC	7.3
253	0101	STRAW MULCH		
		Sta 155+00 to 195+00	AC	7.3
261	0120	FIBER ROLLS 20IN		
		Sta 155+00 to 195+00	LF	682
261	0121	REMOVE FIBER ROLLS 20IN		
		Sta 155+00 to 195+00	LF	682

LEGEND

Delineated Wetland - Non JD

Delineated Wetland - JD

ECB Type 3

Seeding/Temporary Cover Crop

Flow Arrow

Temporary Easement Line

Qtr Section Line

Grading Tie Line

Seeding Line

Fiber Rolls

R/W Line

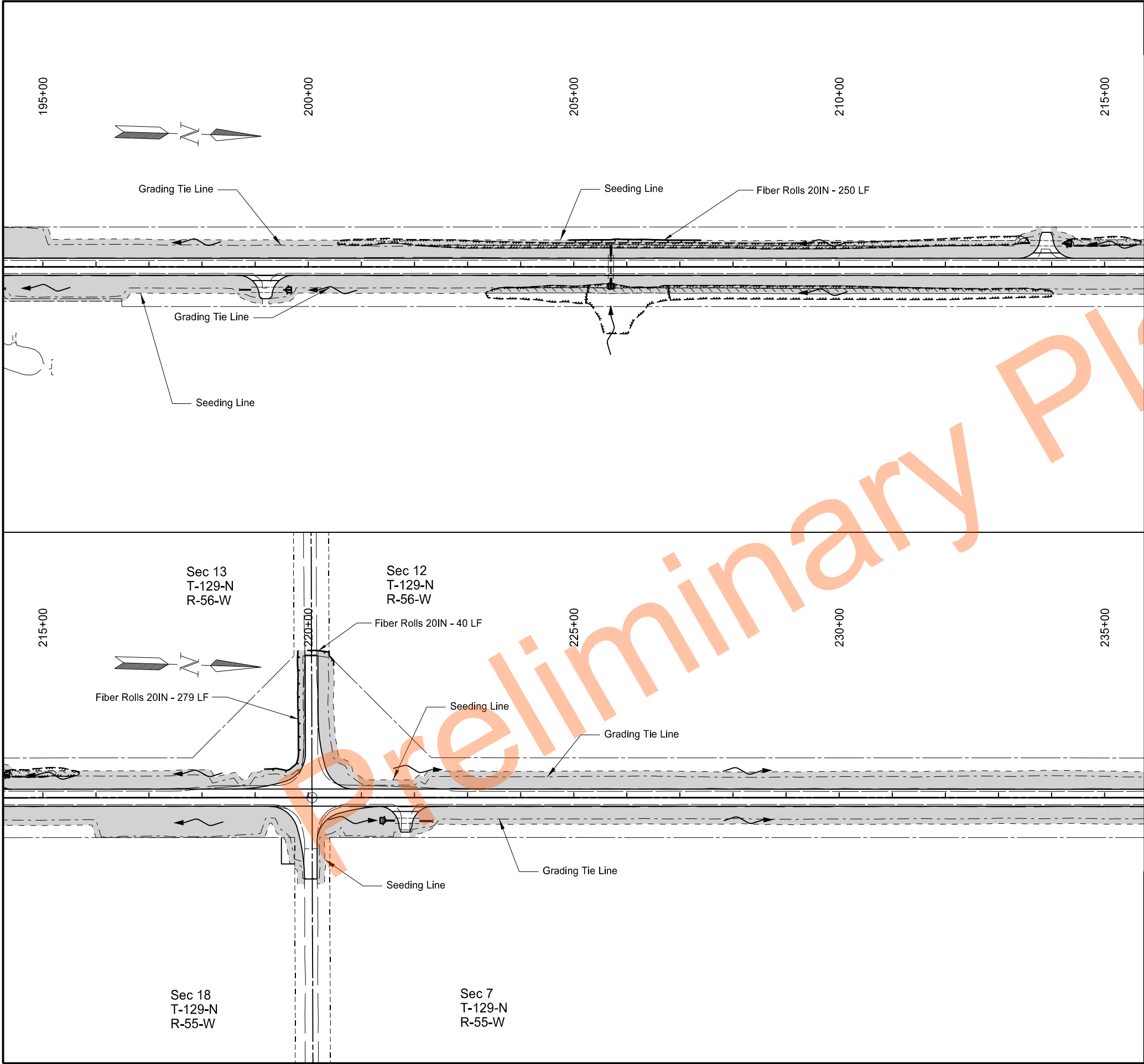
Section Line

NDDOT Hwy 32 Rehab

State Line N to S Jct 11 Forman

Temporary Erosion Control

Sta. 155+00 to Sta. 195+00



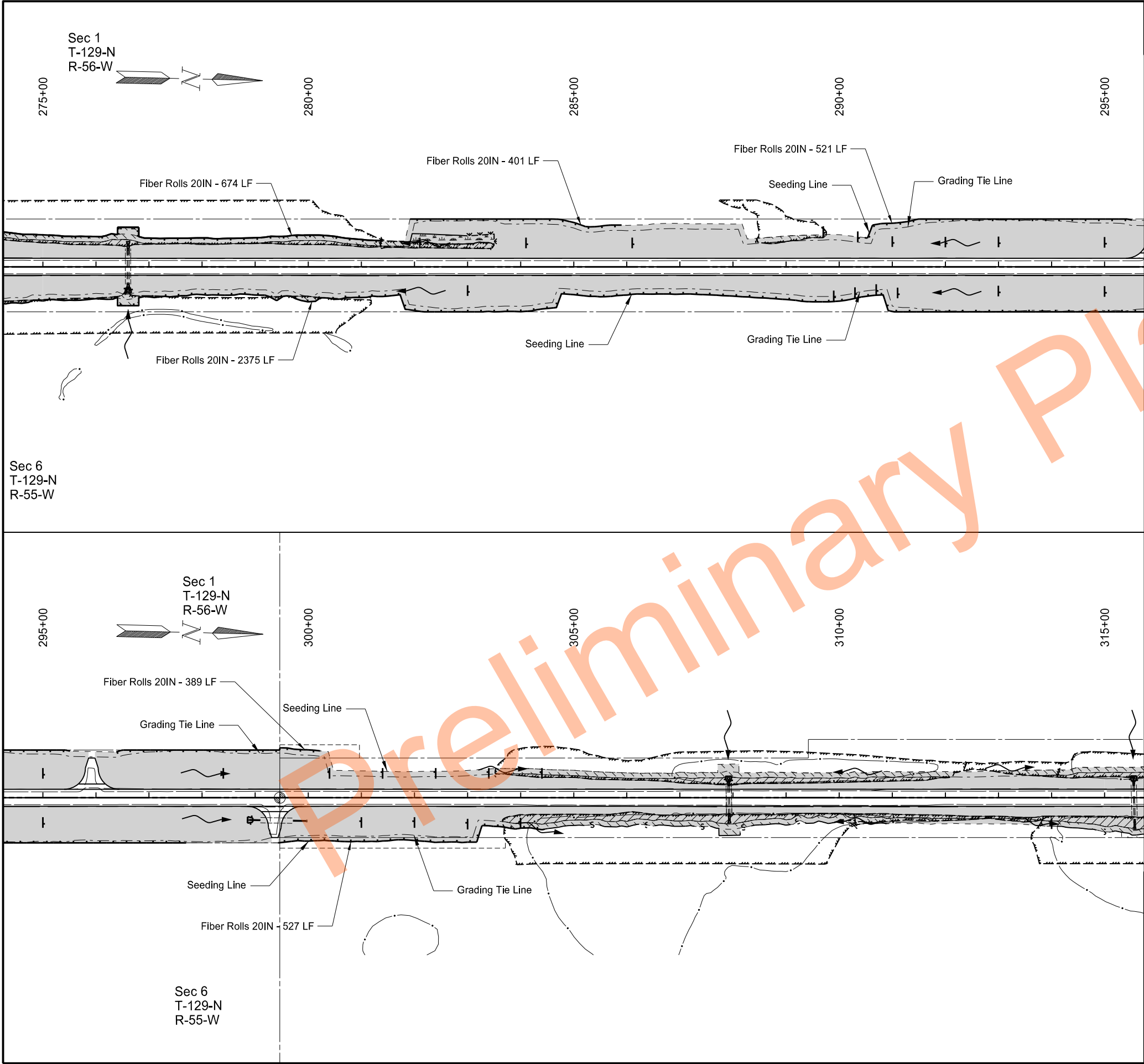
		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	76	6

SPEC	CODE	BID ITEM	UNIT	QUANTITY
251	2000	TEMPORARY COVER CROP		
		Sta 195+00 to 235+00	AC	6.8
253	0101	STRAW MULCH		
		Sta 195+00 to 235+00	AC	6.8
261	0120	FIBER ROLLS 20IN		
		Sta 195+00 to 235+00	LF	569
261	0121	REMOVE FIBER ROLLS 20IN		
		Sta 195+00 to 235+00	LF	569

LEGEND

	Delineated Wetland - Non JD		Grading Tie Line
	Delineated Wetland - JD		Seeding Line
	ECB Type 3		Fiber Rolls
	Seeding/Temporary Cover Crop		R/W Line
	Flow Arrow		Section Line
	Temporary Easement Line		
	Qtr Section Line		

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Temporary Erosion Control
Sta. 195+00 to Sta. 235+00



		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	76	8

SPEC	CODE	BID ITEM	UNIT	QUANTITY
251	2000	TEMPORARY COVER CROP		
		Sta 275+00 to 315+00	AC	9.2
253	0101	STRAW MULCH		
		Sta 275+00 to 315+00	AC	9.2
261	0120	FIBER ROLLS 20IN		
		Sta 275+00 to 315+00	LF	4887
261	0121	REMOVE FIBER ROLLS 20IN		
		Sta 275+00 to 315+00	LF	4887

LEGEND

	Delineated Wetland - Non JD		Grading Tie Line
	Delineated Wetland - JD		Seeding Line
	ECB Type 3		Fiber Rolls
	Seeding/Temporary Cover Crop		R/W Line
	Flow Arrow		Section Line
	Temporary Easement Line		
	Qtr Section Line		

NDDOT Hwy 32 Rehab

State Line N to S Jct 11 Forman

Temporary Erosion Control

Sta. 275+00 to Sta. 315+00

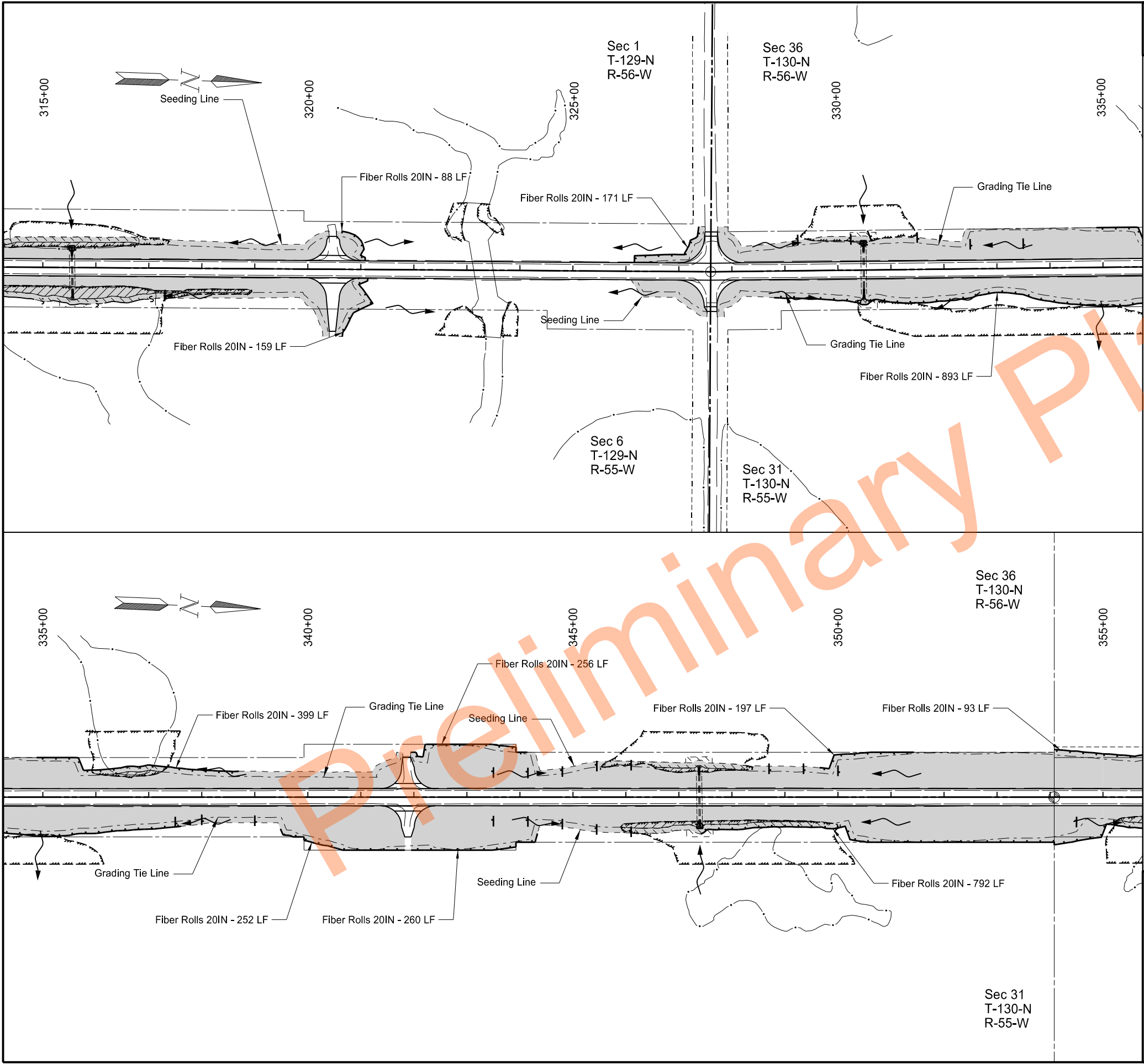
REGISTERED PROFESSIONAL ENGINEER

MATTHEW J. HESTER

PE-10780

DATE 05/16/2024

NORTH DAKOTA



		STATE	PROJECT NO.		SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000		76	9

SPEC	CODE	BID ITEM	UNIT	QUANTITY
251	2000	TEMPORARY COVER CROP		
		Sta 315+00 to 355+00	AC	7.9
253	0101	STRAW MULCH		
		Sta 315+00 to 355+00	AC	7.9
261	0120	FIBER ROLLS 20IN		
		Sta 315+00 to 355+00	LF	3560
261	0121	REMOVE FIBER ROLLS 20IN		
		Sta 315+00 to 355+00	LF	3560
626	0100	COFFERDAM		
		Sta 315+56 - CL (Lt & Rt)	EA	2
		Sta 330+49 - CL (Lt & Rt)	EA	2
		Sta 347+39 - CL (Lt & Rt)	EA	2

Delineated Wetland - Non JD

Delineated Wetland - JD

ECB Type 3

Seeding/Temporary Cover Crop

Flow Arrow

Temporary Easement Line

Qtr Section Line

Grading Tie Line

Seeding Line

Fiber Rolls

R/W Line

Section Line

NDDOT Hwy 32 Rehab

State Line N to S Jct 11 Forman

Temporary Erosion Control

Sta. 315+00 to Sta. 355+00

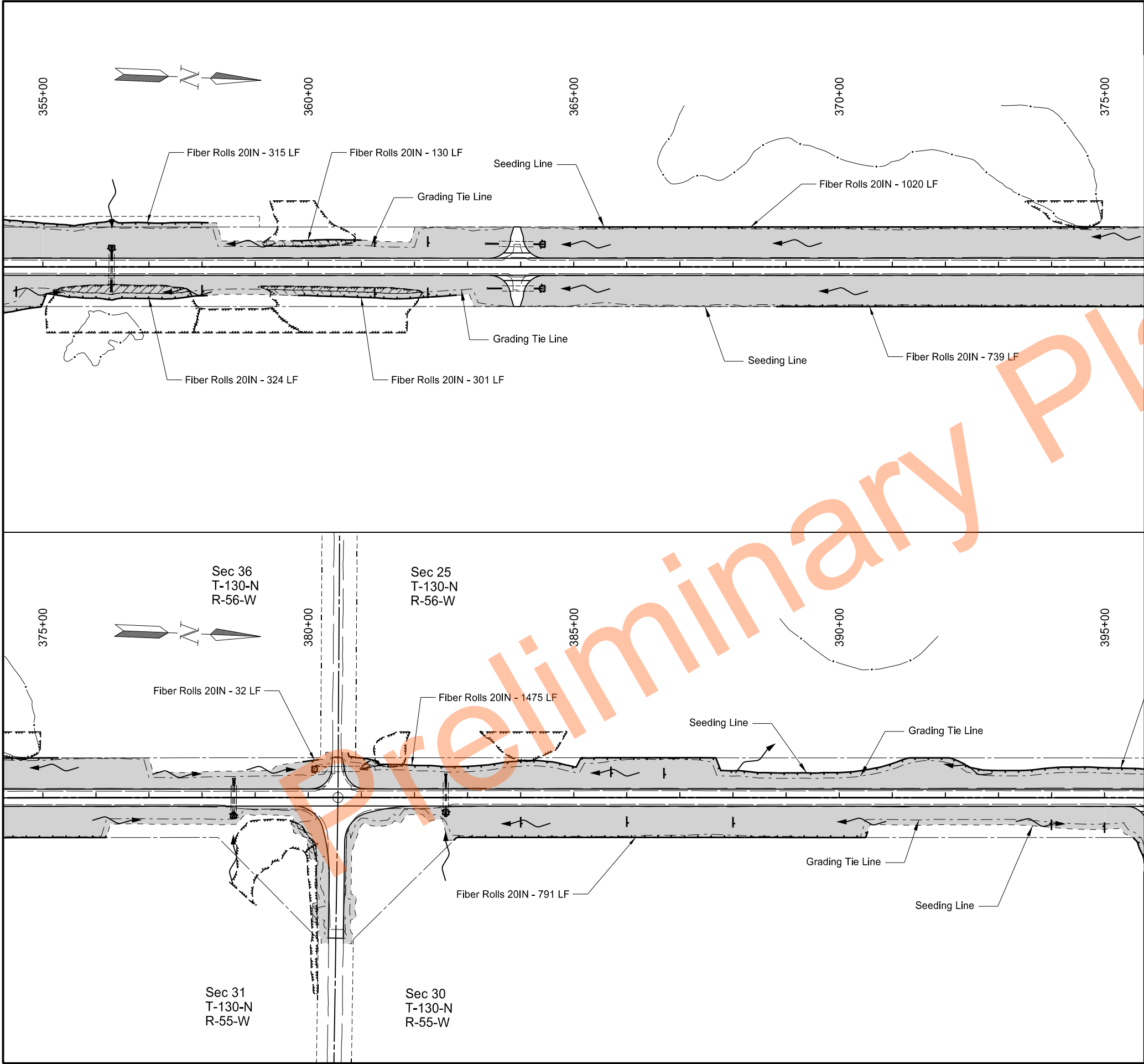
REGISTERED PROFESSIONAL ENGINEER

MATTHEW J. HETT

PE-10780

DATE 05/16/2024

NORTH DAKOTA



		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	76	10

SPEC	CODE	BID ITEM	UNIT	QUANTITY
251	2000	TEMPORARY COVER CROP		
		Sta 355+00 to 395+00	AC	9.2
253	0101	STRAW MULCH		
		Sta 355+00 to 395+00	AC	9.2
261	0120	FIBER ROLLS 20IN		
		Sta 355+00 to 395+00	LF	5127
261	0121	REMOVE FIBER ROLLS 20IN		
		Sta 355+00 to 395+00	LF	5127

Delineated Wetland - Non JD

Delineated Wetland - JD

ECB Type 3

Seeding/Temporary Cover Crop

Flow Arrow

Temporary Easement Line

Qtr Section Line

Grading Tie Line

Seeding Line

Fiber Rolls

R/W Line

Section Line

NDDOT Hwy 32 Rehab

State Line N to S Jct 11 Forman

Temporary Erosion Control

Sta. 355+00 to Sta. 395+00

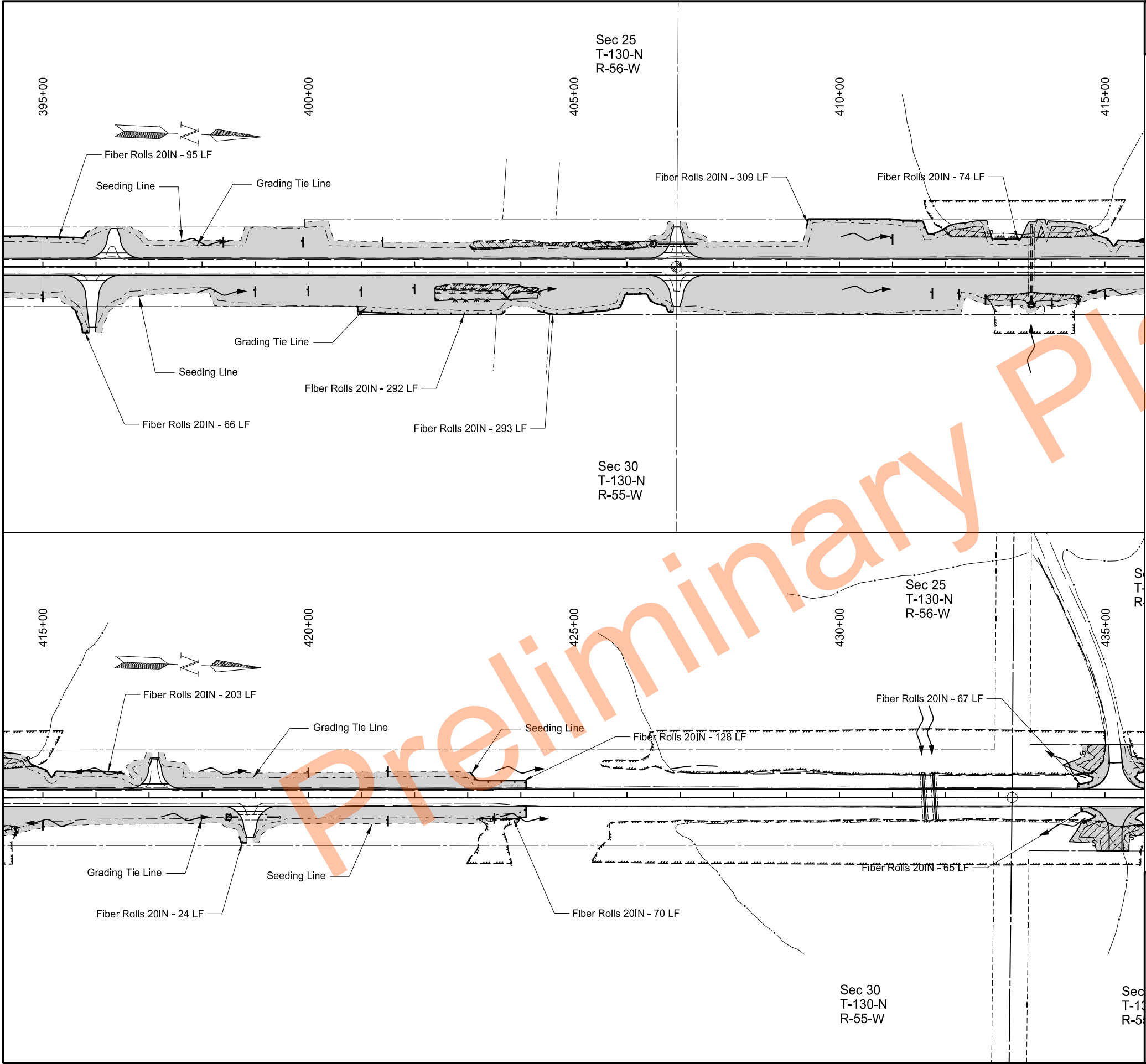
REGISTERED PROFESSIONAL ENGINEER

MATTHEW J. HUETT

PE-10780

DATE 05/16/2024

NORTH DAKOTA



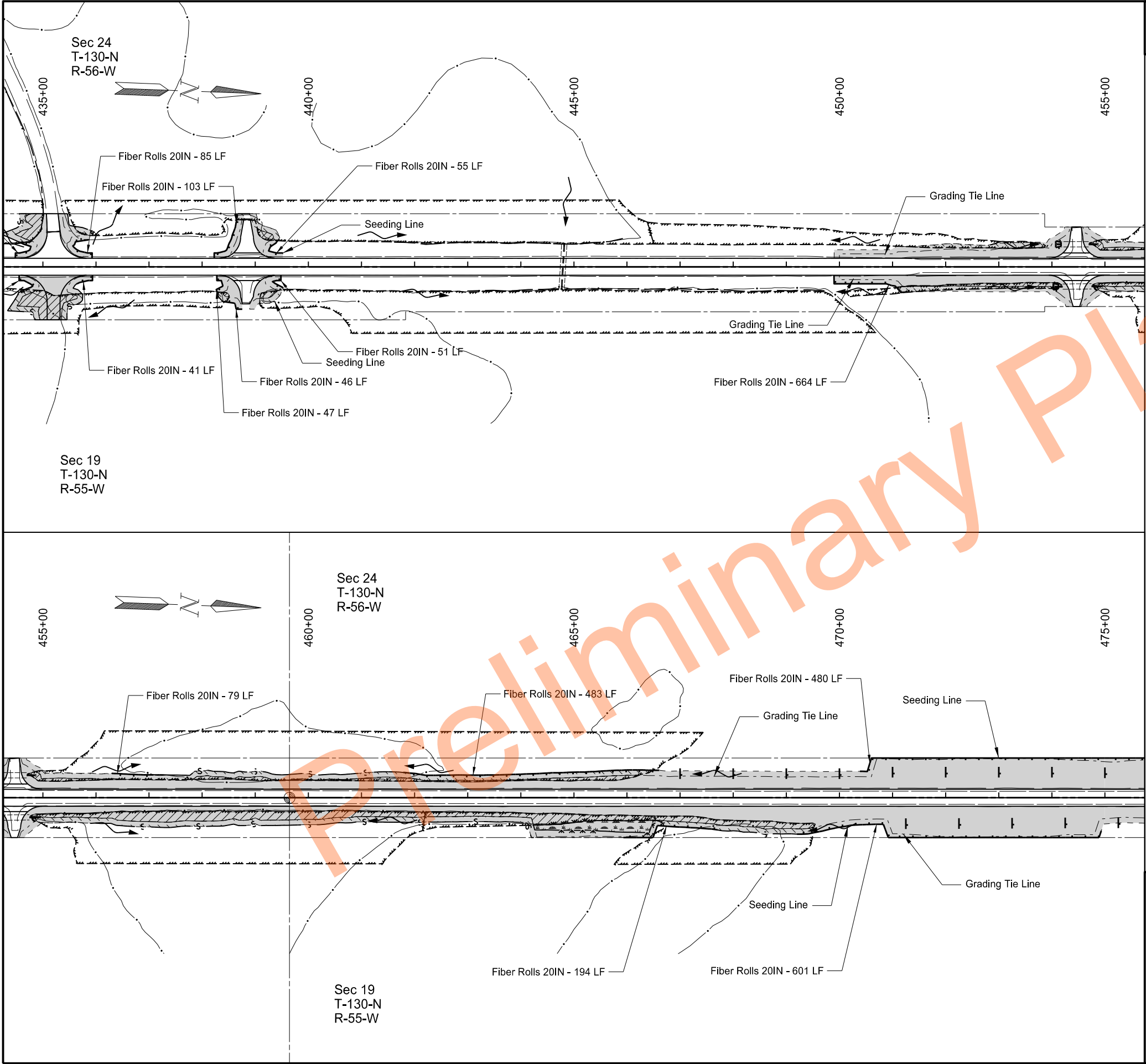
		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	76	11

SPEC	CODE	BID ITEM	UNIT	QUANTITY
251	2000	TEMPORARY COVER CROP		
		Sta 395+00 to 435+00	AC	6.4
253	0101	STRAW MULCH		
		Sta 395+00 to 435+00	AC	6.4
261	0120	FIBER ROLLS 20IN		
		Sta 395+00 to 435+00	LF	1686
261	0121	REMOVE FIBER ROLLS 20IN		
		Sta 395+00 to 435+00	LF	1686
626	0100	COFFERDAM		
		Sta 413+62 - CL (Lt & Rt)	EA	2

LEGEND

	Delineated Wetland - Non JD		Grading Tie Line
	Delineated Wetland - JD		Seeding Line
	ECB Type 3		Fiber Rolls
	Seeding/Temporary Cover Crop		R/W Line
	Flow Arrow		Section Line
	Temporary Easement Line		
	Qtr Section Line		

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Temporary Erosion Control
Sta. 395+00 to Sta. 435+00



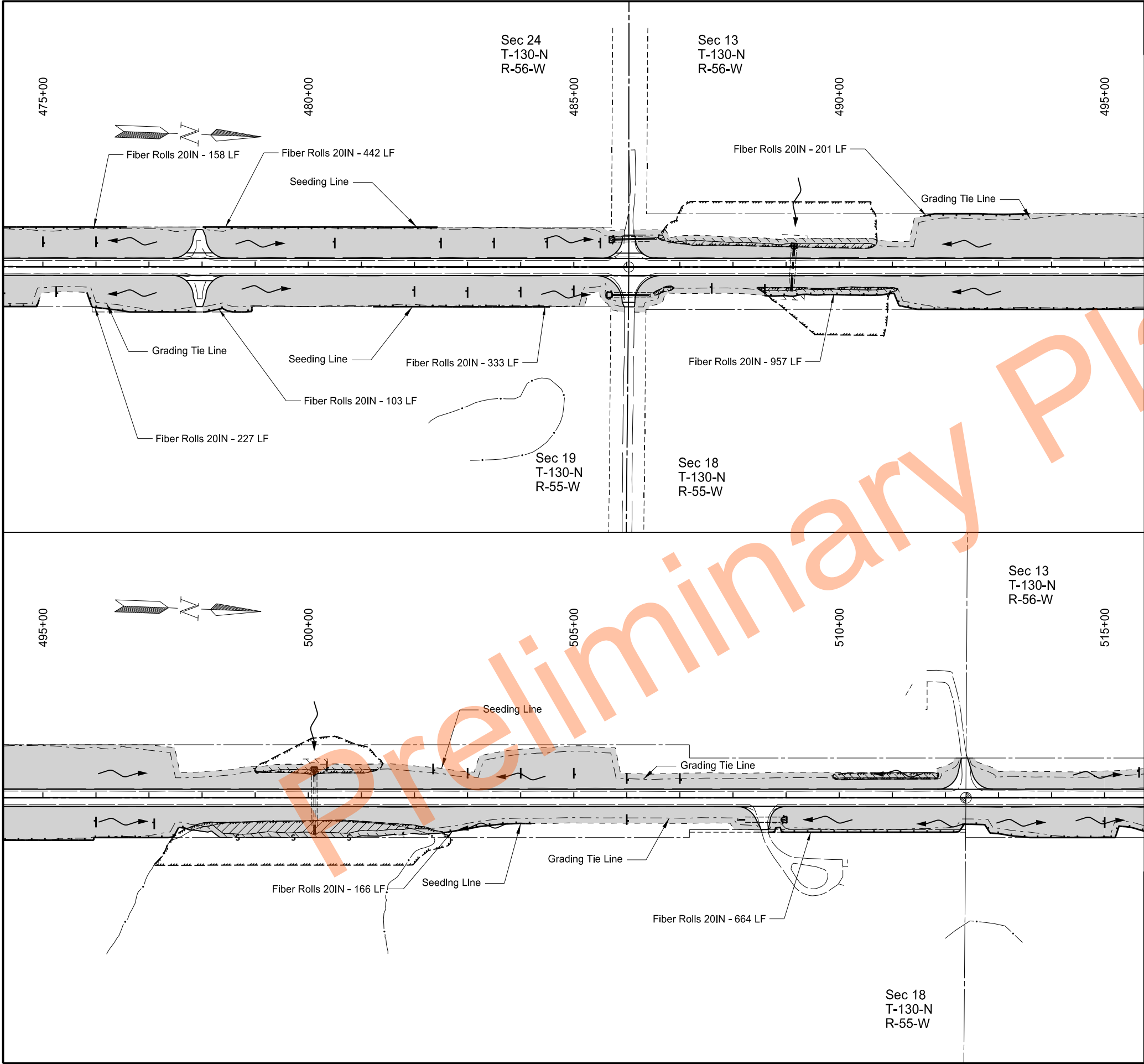
		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	76	12

SPEC	CODE	BID ITEM	UNIT	QUANTITY
251	2000	TEMPORARY COVER CROP		
		Sta 435+00 to 475+00	AC	4.8
253	0101	STRAW MULCH		
		Sta 435+00 to 475+00	AC	4.8
261	0120	FIBER ROLLS 20IN		
		Sta 435+00 to 475+00	LF	2429
261	0121	REMOVE FIBER ROLLS 20IN		
		Sta 435+00 to 475+00	LF	2429

LEGEND

	Delineated Wetland - Non JD		Grading Tie Line
	Delineated Wetland - JD		Seeding Line
	ECB Type 3		Fiber Rolls
	Seeding/Temporary Cover Crop		R/W Line
	Flow Arrow		Section Line
	Temporary Easement Line		
	Qtr Section Line		

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Temporary Erosion Control
Sta. 435+00 to Sta. 475+00



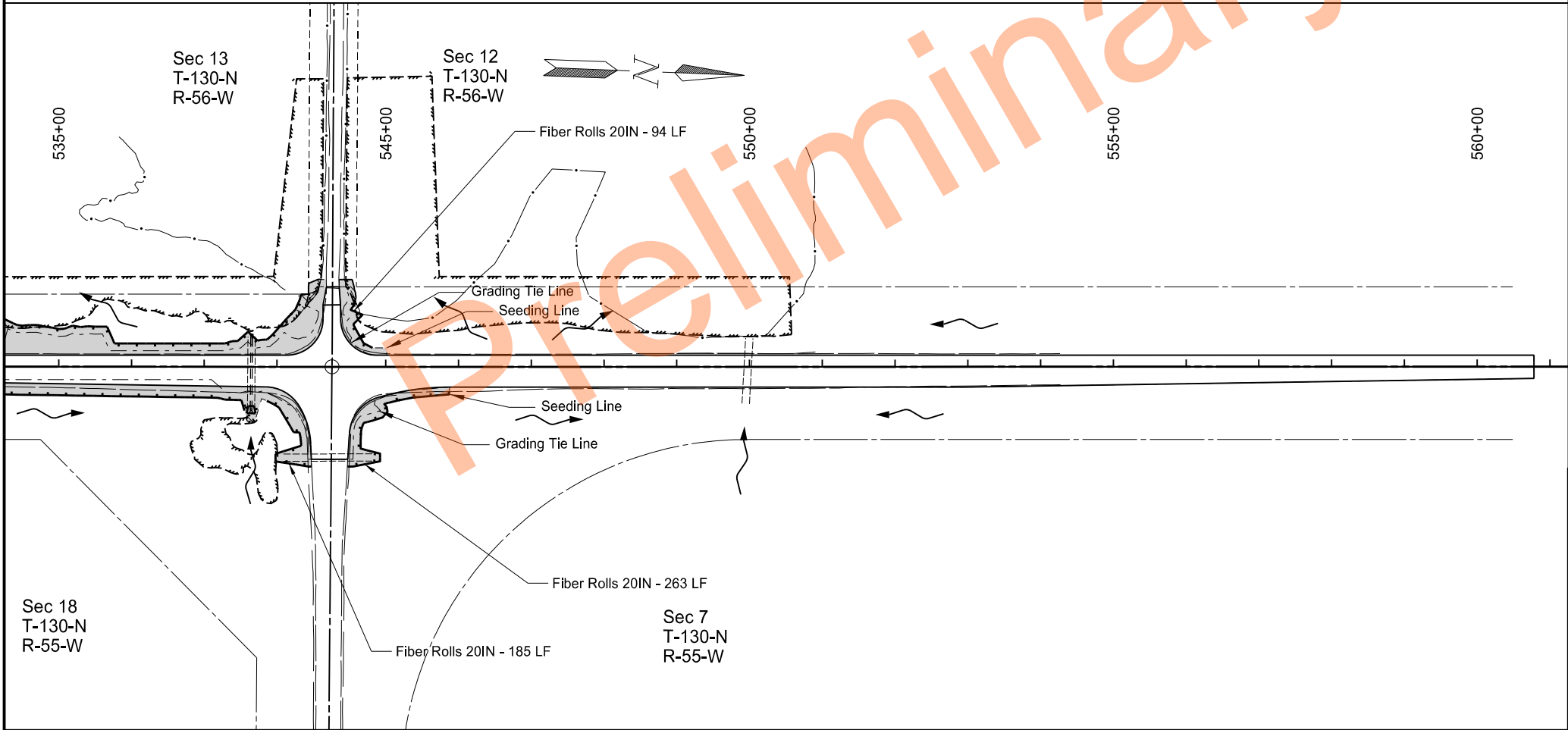
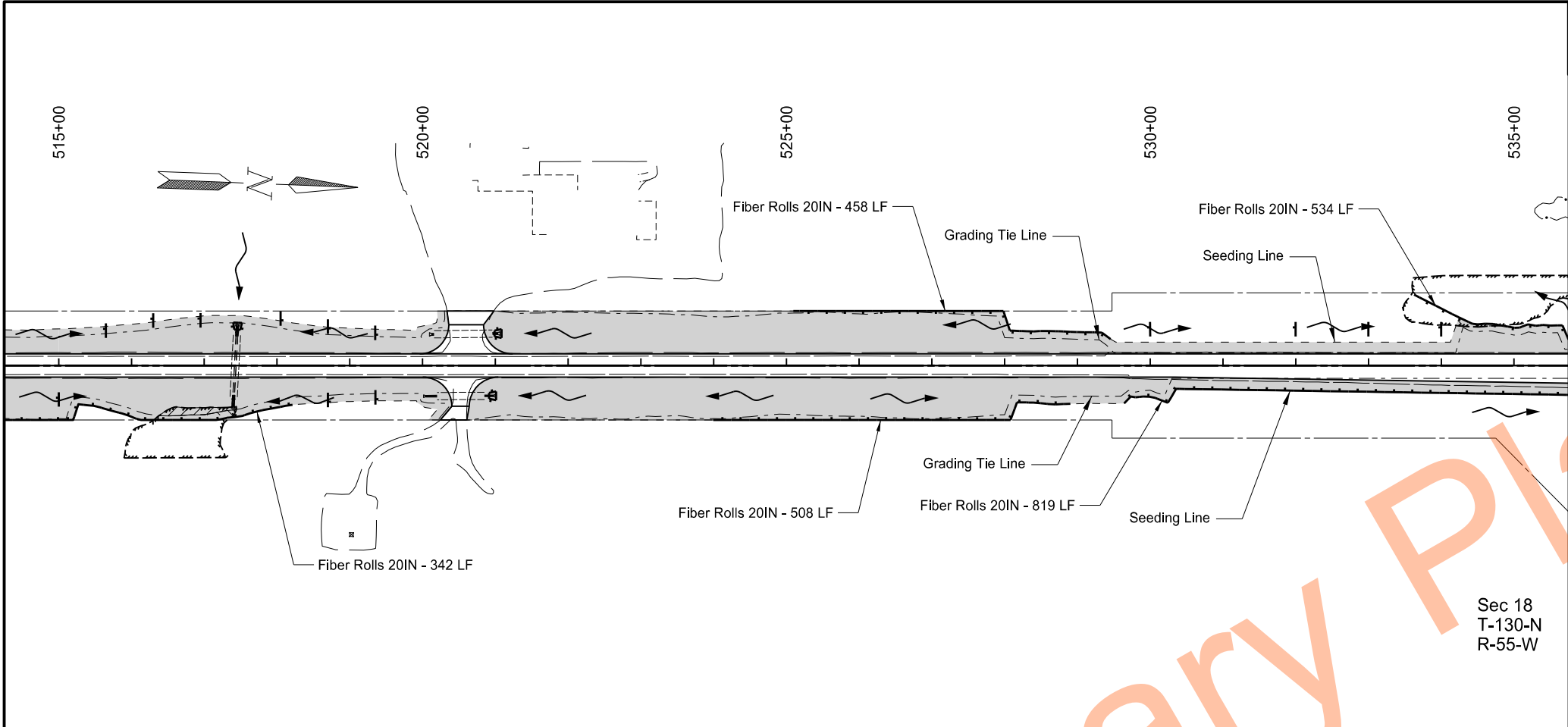
		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	76	13

SPEC	CODE	BID ITEM	UNIT	QUANTITY
251	2000	TEMPORARY COVER CROP		
		Sta 475+00 to 515+00	AC	9.4
253	0101	STRAW MULCH		
		Sta 475+00 to 515+00	AC	9.4
261	0120	FIBER ROLLS 20IN		
		Sta 475+00 to 515+00	LF	3251
261	0121	REMOVE FIBER ROLLS 20IN		
		Sta 475+00 to 515+00	LF	3251
626	0100	COFFERDAM		
		Sta 489+13 - CL (Lt & Rt)	EA	2
		Sta 500+11 - CL (Lt & Rt)	EA	2

LEGEND

	Delineated Wetland - Non JD		Grading Tie Line
	Delineated Wetland - JD		Seeding Line
	ECB Type 3		Fiber Rolls
	Seeding/Temporary Cover Crop		R/W Line
	Flow Arrow		Section Line
	Temporary Easement Line		
	Qtr Section Line		

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Temporary Erosion Control
Sta. 475+00 to Sta. 515+00



STATE		PROJECT NO.	SECTION NO.	SHEET NO.
ND		SS-XA-8-032(046)000	76	14

SPEC	CODE	BID ITEM	UNIT	QUANTITY
251	2000	TEMPORARY COVER CROP		
		Sta 535+00 to 580+00	AC	4.4
253	0101	STRAW MULCH		
		Sta 535+00 to 580+00	AC	4.4
261	0120	FIBER ROLLS 20IN		
		Sta 535+00 to 580+00	LF	3203
261	0121	REMOVE FIBER ROLLS 20IN		
		Sta 535+00 to 580+00	LF	3203

LEGEND

	Delineated Wetland - Non JD		Grading Tie Line
	Delineated Wetland - JD		Seeding Line
	ECB Type 3		Fiber Rolls
	Seeding/Temporary Cover Crop		R/W Line
	Flow Arrow		Section Line
	Temporary Easement Line		
	Qtr Section Line		

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Temporary Erosion Control
Sta. 515+00 to Sta. 560+00

REGISTERED PROFESSIONAL ENGINEER
MATTHEW J. HETT
PE-10780
DATE 05/16/2024
NORTH DAKOTA

261-0112 FIBER ROLLS 12IN - Ditch Checks											
Station	Offset	Quantity	Unit	Station	Offset	Quantity	Unit	Station	Offset	Quantity	Unit
62+00	Lt	20	LF	290+35	Lt	20	LF	412+25	Rt	20	LF
63+00	Rt	20	LF	290+70	Rt	20	LF	412+75	Rt	20	LF
64+00	Lt	20	LF	291+00	Lt	20	LF	413+25	Rt	20	LF
66+00	Lt	20	LF	291+10	Rt	20	LF	414+00	Rt	20	LF
78+00	Lt, Rt	40	LF	292+00	Lt	20	LF	414+50	Rt	20	LF
79+00	Lt, Rt	40	LF	293+00	Lt, Rt	40	LF	415+00	Rt	20	LF
80+00	Lt	20	LF	295+00	Lt, Rt	40	LF	420+00	Lt	20	LF
81+00	Lt, Rt	40	LF	298+40	Lt	20	LF	421+50	Lt, Rt	40	LF
82+00	Lt, Rt	40	LF	300+40	Lt	20	LF	423+50	Rt	20	LF
83+00	Lt, Rt	40	LF	301+00	Rt	20	LF	467+00	Lt	20	LF
84+00	Lt, Rt	40	LF	301+40	Lt	20	LF	468+00	Lt	20	LF
85+00	Lt	20	LF	302+00	Rt	20	LF	469+00	Lt	20	LF
86+00	Lt	20	LF	302+40	Lt	20	LF	470+00	Lt	20	LF
91+00	Rt	20	LF	303+00	Rt	20	LF	471+00	Lt	20	LF
93+00	Rt	20	LF	303+40	Lt	20	LF	471+25	Rt	20	LF
95+00	Rt	20	LF	304+00	RT	20	LF	472+00	Lt	20	LF
96+00	Rt	20	LF	304+40	Lt	20	LF	472+25	Rt	20	LF
97+00	Rt	20	LF	314+00	Rt	20	LF	473+00	Lt	20	LF
105+50	Lt	20	LF	317+30	Rt	20	LF	473+25	Rt	20	LF
107+50	Lt, Rt	40	LF	329+25	Lt	20	LF	474+00	Lt	20	LF
109+00	Rt	20	LF	330+25	Lt	20	LF	474+25	Rt	20	LF
110+50	Rt	20	LF	330+60	Lt	20	LF	475+00	Lt	20	LF
112+00	Lt, Rt	40	LF	331+60	Lt	20	LF	475+25	Rt	20	LF
113+00	Lt, Rt	40	LF	332+60	Lt	20	LF	476+00	Lt	20	LF
146+00	Rt	20	LF	333+60	Lt	20	LF	480+50	Lt	20	LF
147+00	Lt	20	LF	337+50	Rt	20	LF	482+00	Rt	20	LF
148+00	Rt	20	LF	338+00	Rt	20	LF	482+50	Lt	20	LF
149+00	Lt	20	LF	339+00	Rt	20	LF	483+00	Rt	20	LF
150+00	Rt	20	LF	343+50	Lt	20	LF	483+50	Lt	20	LF
151+00	Lt	20	LF	344+15	Lt, Rt	40	LF	484+00	Rt	20	LF
152+00	Rt	20	LF	344+80	Lt, Rt	40	LF	484+50	Lt	20	LF
187+00	Rt	20	LF	345+45	Lt, Rt	40	LF	485+00	Rt	20	LF
188+00	Rt	20	LF	346+10	Lt, Rt	40	LF	485+50	Lt	20	LF
189+00	Rt	20	LF	348+70	Lt	20	LF	487+60	Rt	20	LF
190+00	Rt	20	LF	349+35	Lt	20	LF	488+60	Rt	20	LF
190+85	Lt	20	LF	350+00	Lt	20	LF	497+10	Rt	20	LF
191+00	Rt	20	LF	354+50	Rt	20	LF	500+35	Lt	20	LF
191+50	Lt	20	LF	358+00	Rt	20	LF	502+35	Lt	20	LF
192+00	Rt	20	LF	361+25	Lt, Rt	40	LF	503+00	Lt	20	LF
193+00	Lt	20	LF	362+25	Lt, Rt	40	LF	504+00	Lt	20	LF
268+00	Lt	20	LF	384+00	Rt	20	LF	505+00	Lt	20	LF
269+00	Lt	20	LF	385+70	Lt	20	LF	506+00	Lt, Rt	40	LF
269+40	Rt	20	LF	386+00	Rt	20	LF	507+00	Lt	20	LF
270+00	Lt	20	LF	386+70	Lt	20	LF	515+00	Rt	20	LF
270+40	Rt	20	LF	388+00	Rt	20	LF	515+65	Lt	20	LF
271+00	Lt	20	LF	394+00	Rt	20	LF	516+30	Lt	20	LF
271+40	Rt	20	LF	395+00	Rt	20	LF	516+95	Lt	20	LF
272+00	Lt	20	LF	398+40	Lt	20	LF	518+05	Lt	20	LF
272+40	Rt	20	LF	399+00	Rt	20	LF	518+70	Lt, Rt	40	LF
282+10	Lt	20	LF	399+90	Lt	20	LF	519+35	Lt, Rt	40	LF
283+00	Rt	20	LF	400+00	Rt	20	LF	530+00	Lt	20	LF
284+10	Lt	20	LF	401+00	Rt	20	LF	532+00	Lt	20	LF
286+10	Lt	20	LF	401+40	Lt	20	LF	533+00	Lt	20	LF
289+70	Lt	20	LF	402+00	Rt	20	LF	534+00	Lt	20	LF
289+90	Rt	20	LF	411+00	Lt	20	LF				
290+30	Rt	20	LF	411+75	Rt	20	LF	TOTAL		3740	LF

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Temporary Erosion Control
Erosion Control Tables



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SS-XA-8-032(046)000	76	16

261-0120 FIBER ROLLS 20IN - Site Runoff Protection									
Station	to Station	Offset	Quantity	Unit	Station	to Station	Offset	Quantity	Unit
39+29	39+86	Rt	69	LF	359+80	362+80	Rt	301	LF
39+99	40+91	Rt	118	LF	365+41	675+61	Lt	1020	LF
42+51	47+17	Lt	481	LF	368+50	376+20	Rt	739	LF
50+40	52+67	Rt	390	LF	379+89	380+40	Lt	32	LF
55+90	62+20	Lt	619	LF	380+75	395+88	Lt	1475	LF
57+70	63+48	Rt	601	LF	382+74	390+54	Rt	791	LF
71+01	76+89	Rt	608	LF	395+00	395+88	Lt	95	LF
84+47	86+28	Rt	203	LF	395+54	395+87	Rt	66	LF
89+27	91+26	Lt	227	LF	400+91	403+71	Rt	292	LF
96+31	113+83	Lt	1872	LF	404+31	406+87	Rt	293	LF
117+20	121+79	Lt	476	LF	409+38	412+11	Lt	309	LF
128+60	130+20	Rt	191	LF	412+85	413+45	Lt	74	LF
134+20	135+30	Lt	110	LF	414+72	416+53	Lt	203	LF
140+40	140+70	Rt	36	LF	418+70	418+84	Rt	24	LF
140+82	141+24	Rt	52	LF	423+05	424+10	Lt	128	LF
152+10	155+00	Rt	291	LF	423+61	424+10	Rt	70	LF
155+00	156+80	Rt	180	LF	434+48	434+56	Lt	67	LF
158+10	160+60	Lt	251	LF	434+55	434+77	Rt	65	LF
164+94	165+84	Lt	89	LF	435+64	435+93	Rt	41	LF
188+60	189+95	Lt	162	LF	435+85	435+93	Lt	85	LF
204+90	207+40	Lt	250	LF	438+23	438+66	Lt	104	LF
219+17	219+80	Lt	279	LF	438+28	438+28	Rt	47	LF
220+29	220+48	Lt	40	LF	438+39	438+75	Rt	46	LF
240+46	245+63	Rt	536	LF	439+43	439+52	Lt	55	LF
256+80	260+20	Lt	371	LF	439+48	439+52	Rt	51	LF
272+46	272+87	Lt	43	LF	449+90	451+31	Rt	163	LF
273+11	275+00	Rt	195	LF	456+30	457+10	Lt	79	LF
273+25	275+00	Lt	202	LF	461+79	466+61	Lt	483	LF
275+00	297+38	Rt	2375	LF	465+62	467+40	Rt	194	LF
275+00	281+40	Lt	674	LF	468+89	474+93	Rt	601	LF
281+92	285+90	Lt	401	LF	470+58	475+00	Lt	480	LF
290+63	295+51	Lt	521	LF	475+00	476+58	Lt	158	LF
296+39	300+42	Lt	389	LF	475+83	477+87	Rt	227	LF
299+43	304+14	Rt	527	LF	478+01	478+94	Rt	103	LF
320+64	321+08	Lt	88	LF	478+01	482+44	Lt	442	LF
320+66	321+13	Rt	159	LF	480+91	484+24	Rt	333	LF
326+16	327+37	Lt	171	LF	488+59	497+82	Rt	957	LF
328+79	337+61	Rt	893	LF	491+58	493+58	Lt	201	LF
334+88	338+70	Lt	399	LF	502+55	504+20	Rt	166	LF
339+48	341+83	Rt	252	LF	508+66	515+00	Rt	664	LF
341+94	341+33	Lt	256	LF	515+00	518+21	Rt	342	LF
341+95	344+33	Rt	260	LF	524+00	528+90	Rt	508	LF
347+41	355+00	Rt	792	LF	525+10	529+46	Lt	458	LF
349+88	351+75	Lt	197	LF	529+64	537+55	Rt	819	LF
354+08	355+00	Lt	93	LF	533+63	538+33	Lt	534	LF
355+00	358+11	Rt	324	LF	537+86	538+47	Rt	185	LF
355+00	358+12	Lt	315	LF	544+48	545+88	Rt	263	LF
359+70	361+00	Lt	130	LF	544+58	544+82	Lt	94	LF
TOTAL								33085	LF

Approach Pipe Inlet Protection					
Station	Offset	Diameter (IN)	Fiber Roll	ECB Type 3	ECB Type 3
			12IN (LF)	(SY) Bk	(SY) Ahd
24+90	Rt	24	40	24	24
33+28	Lt	30	40	27	27
93+38	Lt	18	40	22	22
99+70	Rt	24	40	24	24
114+11	Lt	24	40	24	24
114+11	Rt	30	40	27	27
124+84	Lt	24	40	24	24
140+73	Lt	24	40	24	24
140+78	Rt	24	40	24	24
152+34	Lt	24	40	24	24
160+17	Rt	24	40	24	24
176+37	Lt	24	40	24	24
190+10	Lt	24	40	24	24
193+82	Rt	18	40	22	22
199+23	Rt	18	40	22	22
213+89	Lt	18	40	22	22
221+86	Rt	24	40	24	24
252+99	Rt	24	40	24	24
253+02	Lt	24	40	24	24
268+00	Rt	24	40	24	24
273+00	Lt	24	40	24	24
273+08	Rt	24	40	24	24
299+40	Rt	18	40	22	22
363+92	Lt	18	40	22	22
363+95	Rt	18	40	22	22
380+55	Rt	30	40	27	27
406+90	Lt	24	40	24	24
418+95	Rt	18	40	22	22
454+43	Lt	18	40	22	22
454+48	Rt	18	40	22	22
486+08	Lt	24	40	24	24
486+08	Rt	24	40	24	24
508+86	Rt	18	40	22	22
520+53	Rt	18	40	22	22
520+56	Lt	24	40	24	24
538+70	Rt	24	40	24	24
Total			1440	849	849

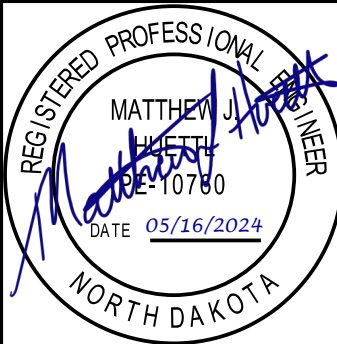
Temporary Erosion Controls Totals			
251-2000	TEMPORARY COVER CROP	96.9	ACRE
253-0101	STRAW MULCH	96.9	ACRE
260-0200	SILT FENCE SUPPORTED	4,015	LF
260-0201	REMOVE SILT FENCE SUPPORTED	4,015	LF
261-0112	FIBER ROLLS 12IN		
	Ditch Checks	3,740	LF
	Inlet Protection	2,240	LF
	Additional	200	LF
	Total	6,180	LF
261-0113	REMOVE FIBER ROLLS 12IN	6,180	LF
261-0120	FIBER ROLLS 20IN		
	Site Runoff Protection	33,085	LF
	Inlet Protection	120	LF
	*Topsoil Berm and Weir	1,000	LF
	Total	34,205	LF
261-0121	REMOVE FIBER ROLLS 20IN	34,205	LF
626-0100	COFFERDAM	12	EA

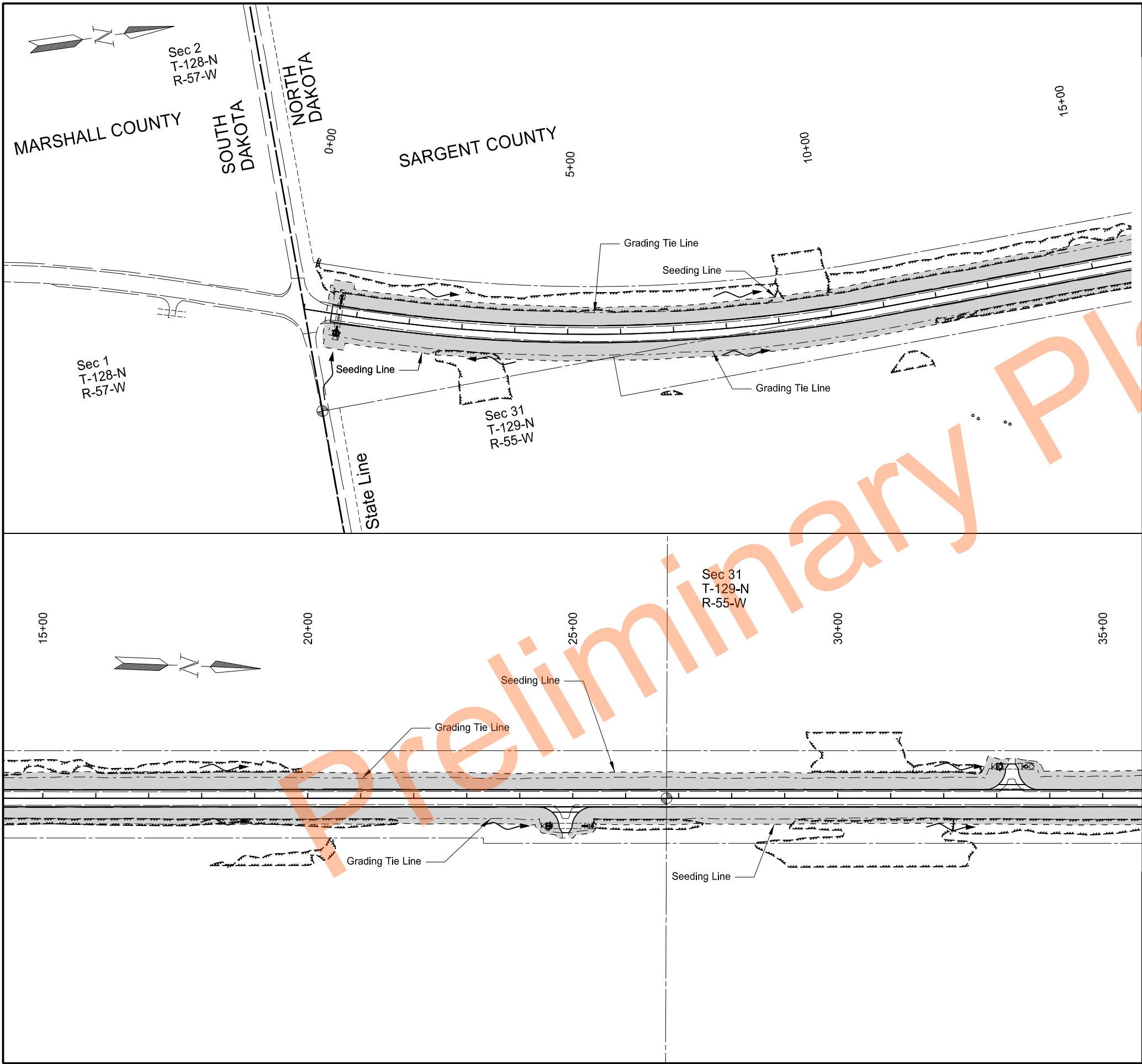
*See Section 20 Sheet 4

Mainline Pipe Inlet Protection					
Station	Diameter (IN)	Fiber Roll	Fiber Roll	ECB Type 3	ECB Type 3
		12IN (LF)	20IN (LF)	(SY) Lt	(SY) Rt
0+67	24	40		20	20
39+07	48		40	27	27
40+07	30	40		22	22
45+45	36	40		24	24
60+84	48		40	27	27
77+34	24	40		20	20
129+53	30	40		22	22
165+37	48		40	27	27
205+70	24	40		20	20
258+70	36	40		24	24
276+61	36	40		24	24
307+92	36	40		24	24
315+56	24	40		20	20
330+49	24	40		20	20
347+39	24	40		20	20
356+29	24	40		20	20
378+60	30	40		22	22
382+59	24	40		20	20
413+62	30	40		22	22
489+13	24	40		20	20
500+11	24	40		20	20
517+43	24	40		20	20
537+64	24	40		20	20
Total		800	120	505	505

260-0200 SILT FENCE SUPPORTED - Site Runoff Protection									
Station	to Station	Offset	Quantity	Unit	Station	to Station	Offset	Quantity	Unit
304+14	310+89	Rt	689	LF	439+26	439+51	Rt	40	LF
314+10	317+13	Rt	315	LF	444+62	444+88	Rt	37	LF
412+11	412+85	Lt	93	LF	455+69	464+13	Rt	850	LF
413+45	414+72	Lt	163	LF	457+10	462+10	Lt	507	LF
434+56	435+00	Lt	158	LF	467+40	468+89	Rt	151	LF
434+57	435+74	Rt	235	LF	497+82	502+24	Rt	449	LF
435+40	435+85	Lt	107	LF	538+33	538+61	Lt	38	LF
438+28	438+39	Rt	22	LF	544+41	544+58	Lt	47	LF
439+02	439+43	Lt	86	LF	549+90	550+10	Lt	28	LF
TOTAL								4013	LF

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Temporary Erosion Control
Erosion Control Tables





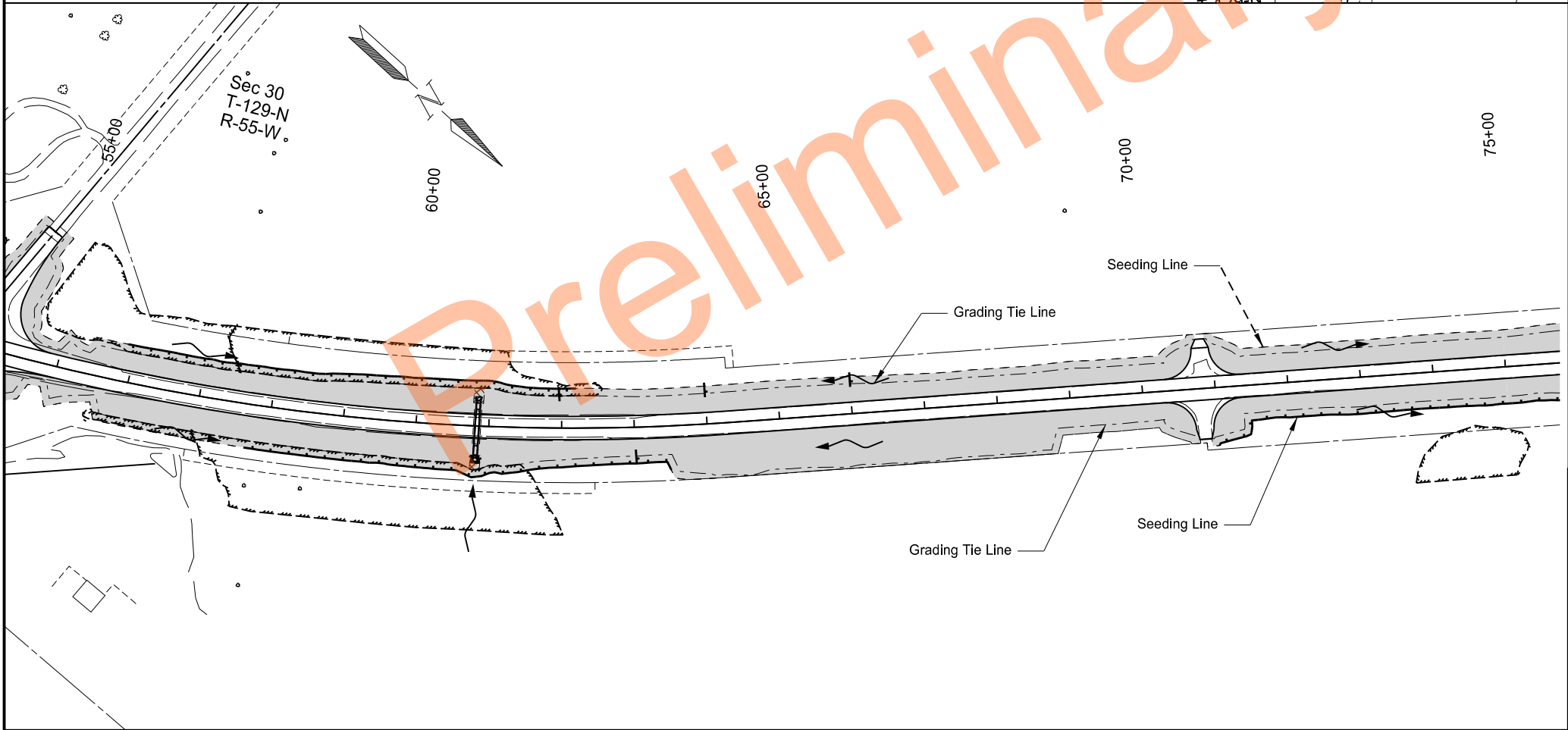
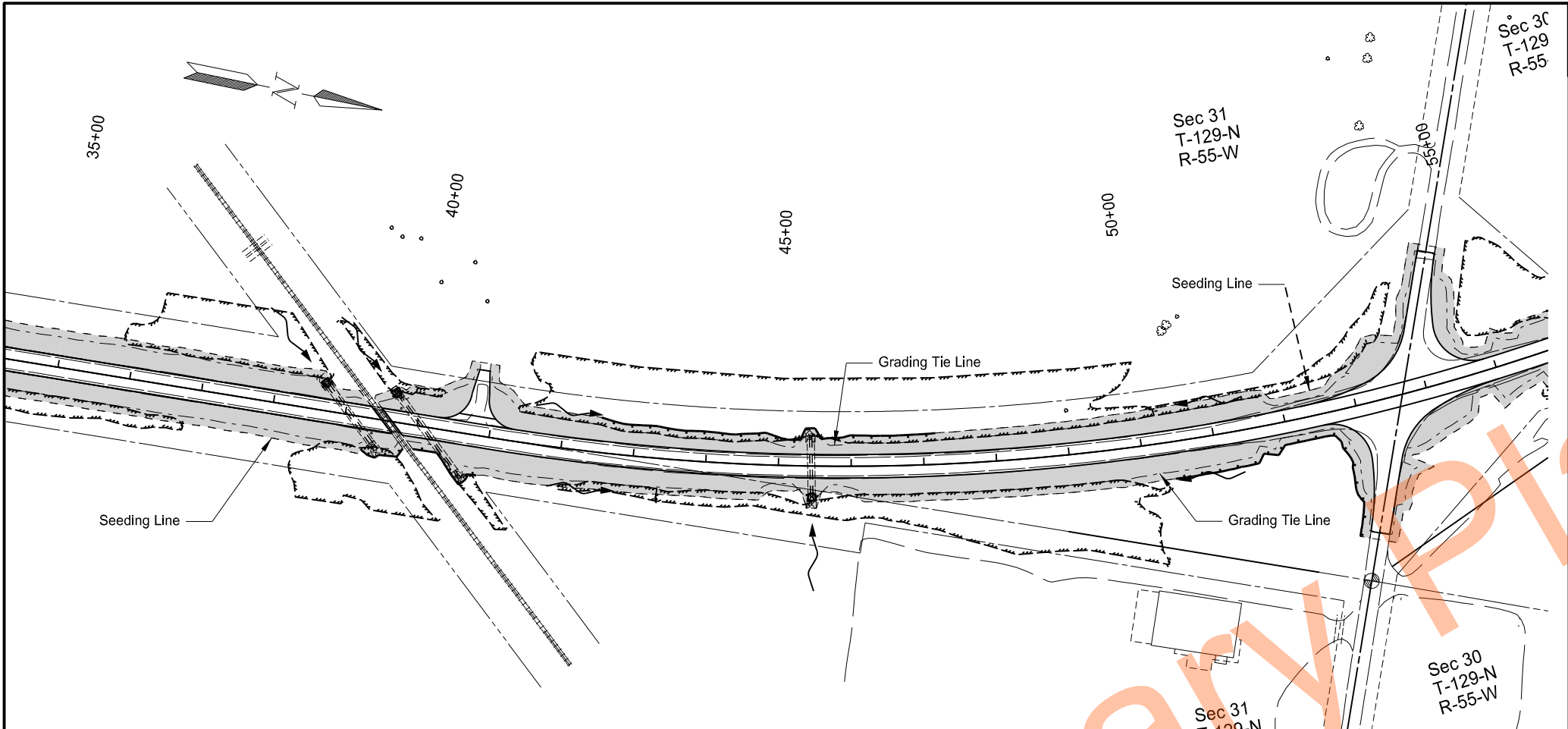
STATE		PROJECT NO.	SECTION NO.	SHEET NO.
ND		SS-XA-8-032(046)000	77	1

SPEC	CODE	BID ITEM	UNIT	QUANTITY
251	0200	SEEDING CLASS II		
Sta 0+00 to 35+00			AC	5.5
253	0101	STRAW MULCH		
Sta 0+00 to 35+00			AC	5.5

LEGEND

	Delineated Wetland - Non JD		Grading Tie Line
	Delineated Wetland - JD		Seeding Line
	ECB Type 3		Fiber Rolls
	Seeding Class II		R/W Line
	Flow Arrow		Section Line
	Temporary Easement Line		
	Qtr Section Line		

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Permanent Erosion Control
Sta. 0+00 to Sta. 35+00



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SS-XA-8-032(046)000	77	2

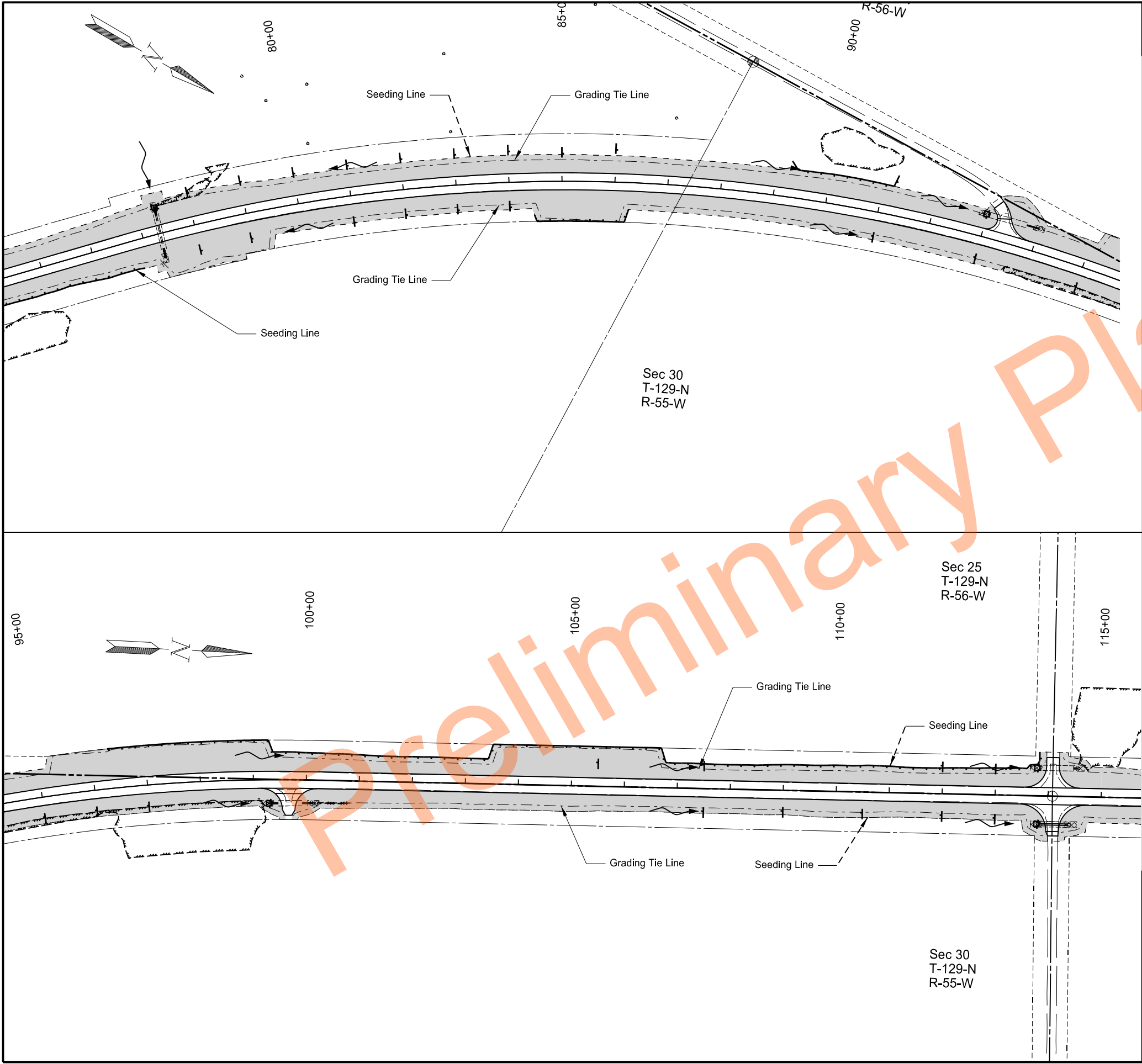
SPEC	CODE	BID ITEM	UNIT	QUANTITY
251	0200	SEEDING CLASS II		
		Sta 35+00 to 75+00	AC	6.8
253	0101	STRAW MULCH		
		Sta 35+00 to 75+00	AC	6.8
261	0120	FIBER ROLLS 20IN		
		Sta 35+00 to 75+00	LF	2886

LEGEND

	Delineated Wetland - Non JD		Grading Tie Line
	Delineated Wetland - JD		Seeding Line
	ECB Type 3		Fiber Rolls
	Seeding Class II		R/W Line
	Flow Arrow		Section Line
	Temporary Easement Line		
	Qtr Section Line		

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Permanent Erosion Control
Sta. 35+00 to Sta. 75+00





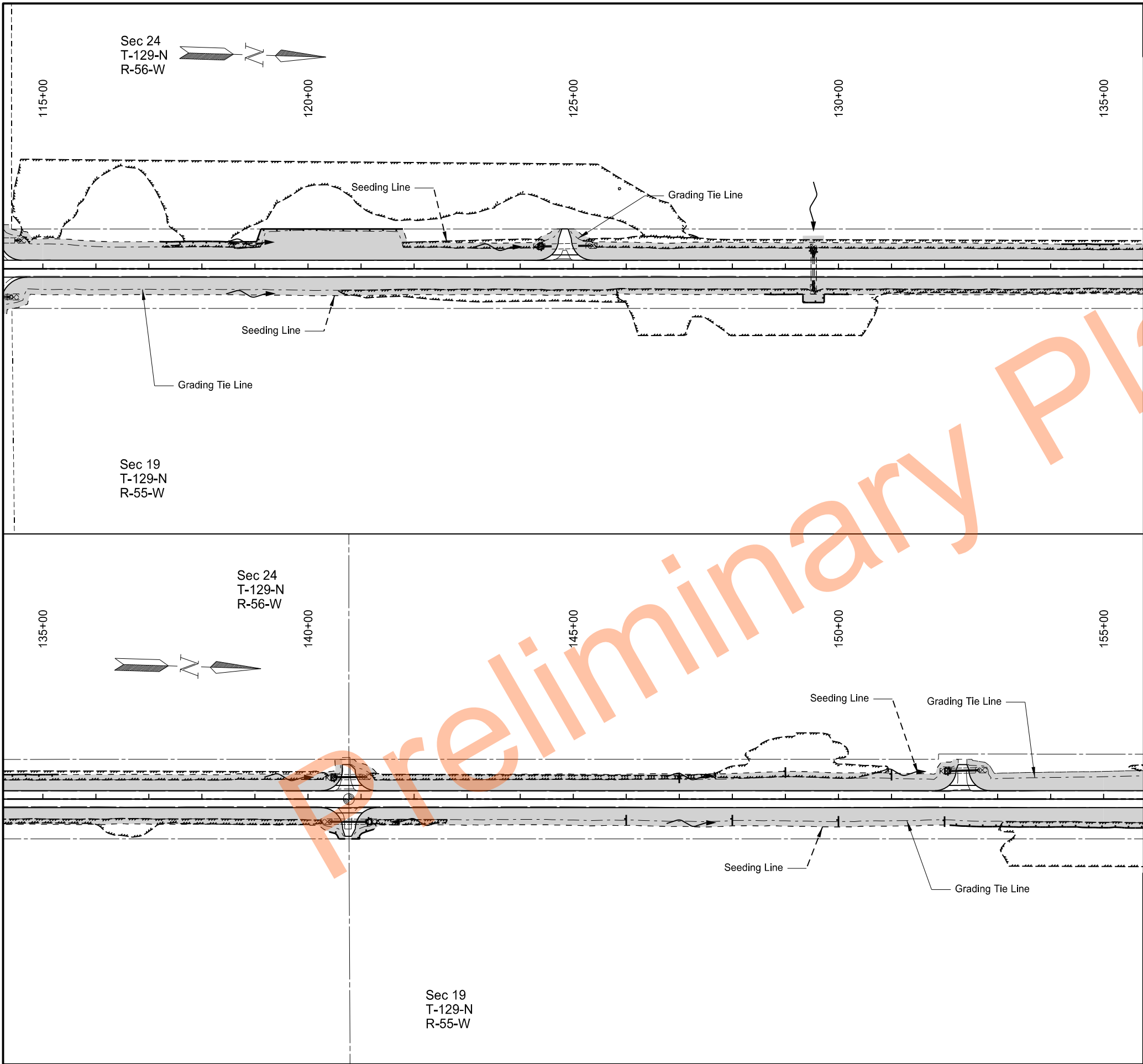
		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	77	3

SPEC	CODE	BID ITEM	UNIT	QUANTITY
251	0200	SEEDING CLASS II		
		Sta 75+00 to 115+00	AC	7.2
253	0101	STRAW MULCH		
		Sta 75+00 to 115+00	AC	7.2
261	0120	FIBER ROLLS 20IN		
		Sta 75+00 to 115+00	LF	2302

LEGEND

	Delineated Wetland - Non JD		Grading Tie Line
	Delineated Wetland - JD		Seeding Line
	ECB Type 3		Fiber Rolls
	Seeding Class II		R/W Line
	Flow Arrow		Section Line
	Temporary Easement Line		
	Qtr Section Line		

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Permanent Erosion Control
Sta. 75+00 to Sta. 115+00



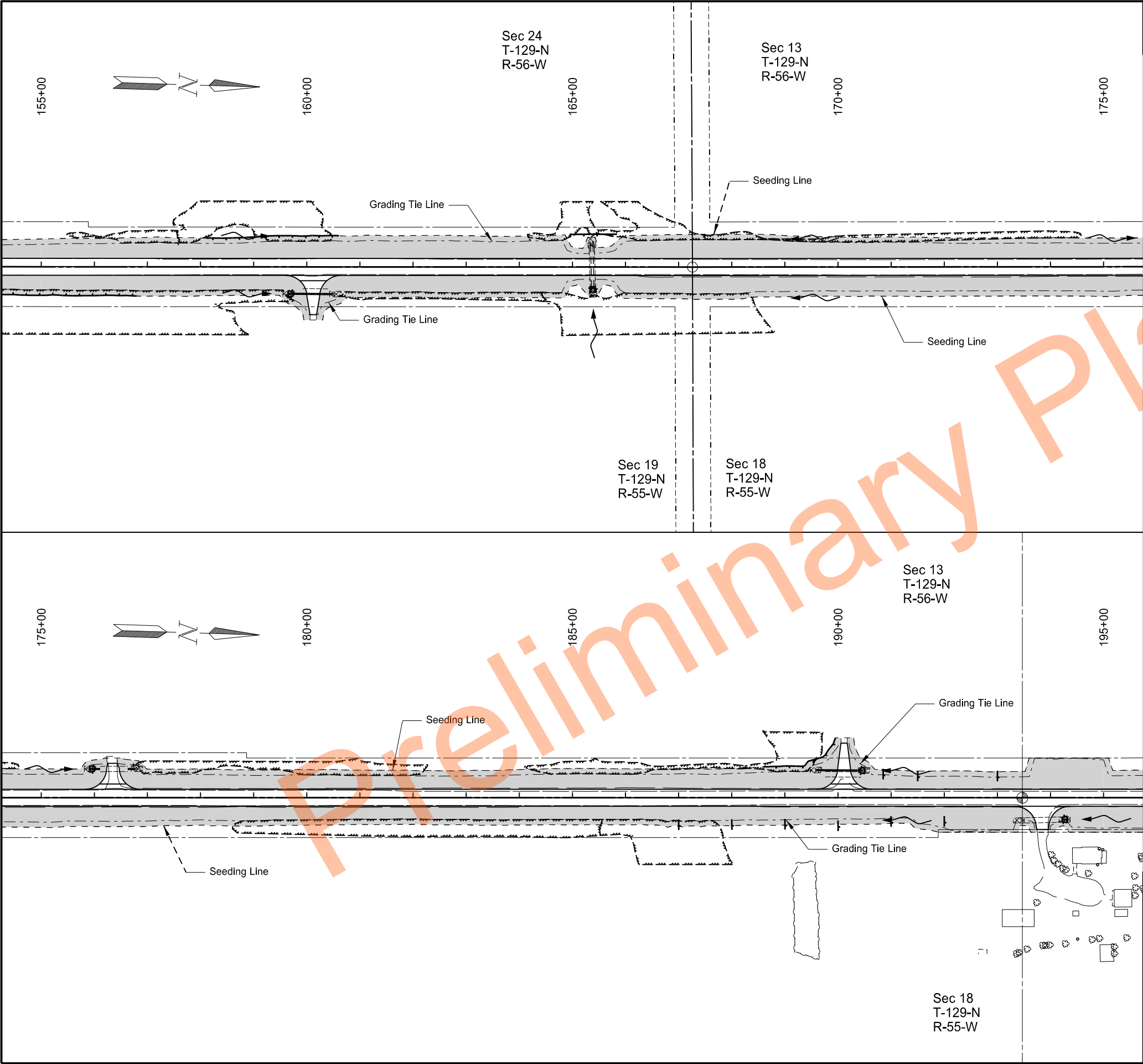
		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	77	4

SPEC	CODE	BID ITEM	UNIT	QUANTITY
251	0200	SEEDING CLASS II		
Sta 115+00 to 155+00			AC	6.3
253	0101	STRAW MULCH		
Sta 115+00 to 155+00			AC	6.3
261	0120	FIBER ROLLS 20IN		
Sta 115+00 to 155+00			LF	1156

LEGEND

	Delineated Wetland - Non JD		Grading Tie Line
	Delineated Wetland - JD		Seeding Line
	ECB Type 3		Fiber Rolls
	Seeding Class II		R/W Line
	Flow Arrow		Section Line
	Temporary Easement Line		
	Qtr Section Line		

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Permanent Erosion Control
Sta. 115+00 to Sta. 155+00



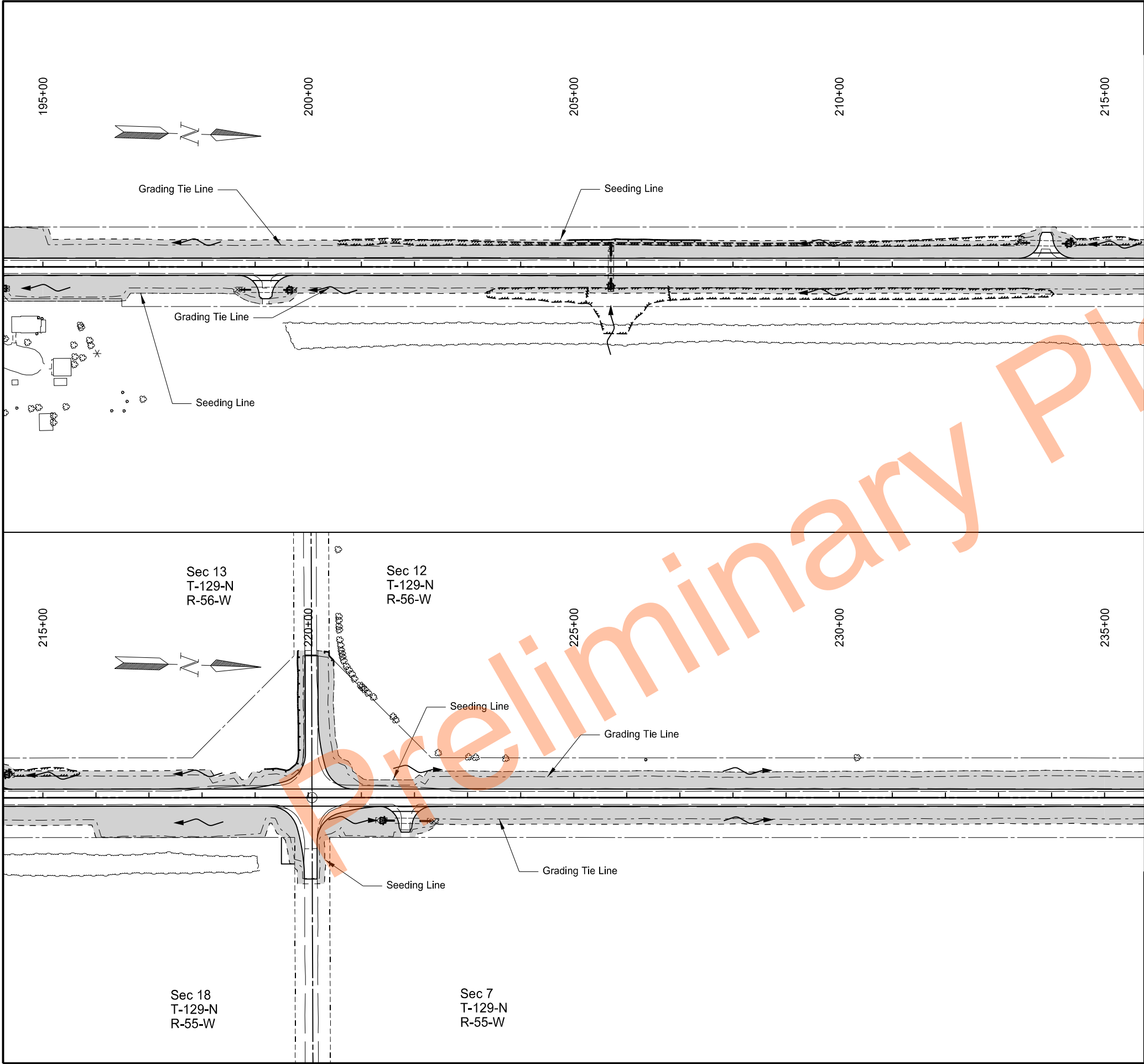
		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	77	5

SPEC	CODE	BID ITEM	UNIT	QUANTITY
251	0200	SEEDING CLASS II		
Sta 155+00 to 195+00			AC	7.3
253	0101	STRAW MULCH		
Sta 155+00 to 195+00			AC	7.3
261	0120	FIBER ROLLS 20IN		
Sta 155+00 to 195+00			LF	682

LEGEND

	Delineated Wetland - Non JD		Grading Tie Line
	Delineated Wetland - JD		Seeding Line
	ECB Type 3		Fiber Rolls
	Seeding Class II		R/W Line
	Flow Arrow		Section Line
	Temporary Easement Line		
	Qtr Section Line		

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Permanent Erosion Control
Sta. 155+00 to Sta. 195+00



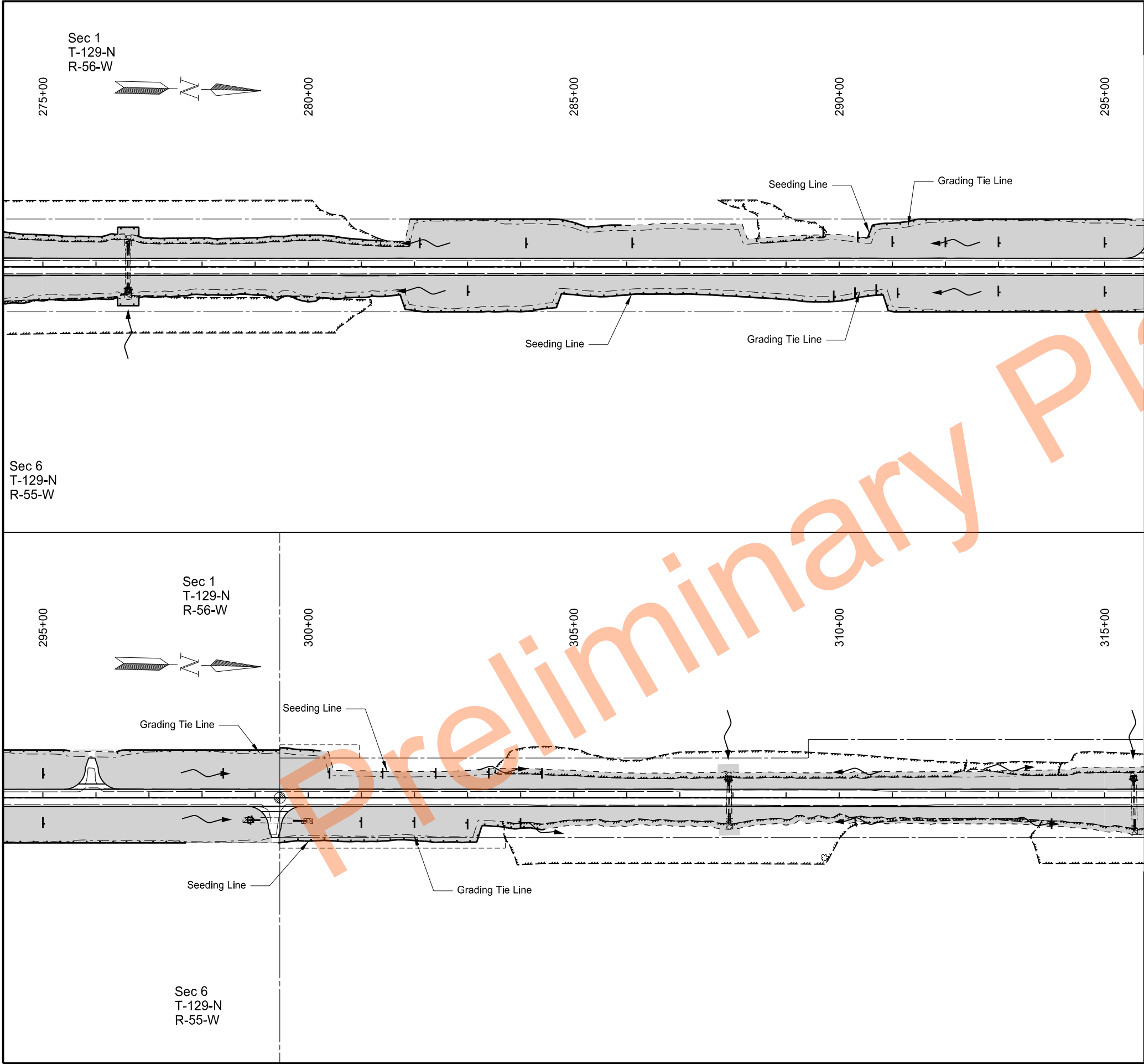
STATE		PROJECT NO.	SECTION NO.	SHEET NO.
ND		SS-XA-8-032(046)000	77	6

SPEC	CODE	BID ITEM	UNIT	QUANTITY
251	0200	SEEDING CLASS II		
		Sta 195+00 to 235+00	AC	6.8
253	0101	STRAW MULCH		
		Sta 195+00 to 235+00	AC	6.8
261	0120	FIBER ROLLS 20IN		
		Sta 195+00 to 235+00	LF	569

LEGEND

	Delineated Wetland - Non JD		Grading Tie Line
	Delineated Wetland - JD		Seeding Line
	ECB Type 3		Fiber Rolls
	Seeding Class II		R/W Line
	Flow Arrow		Section Line
	Temporary Easement Line		
	Qtr Section Line		

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Permanent Erosion Control
Sta. 195+00 to Sta. 235+00



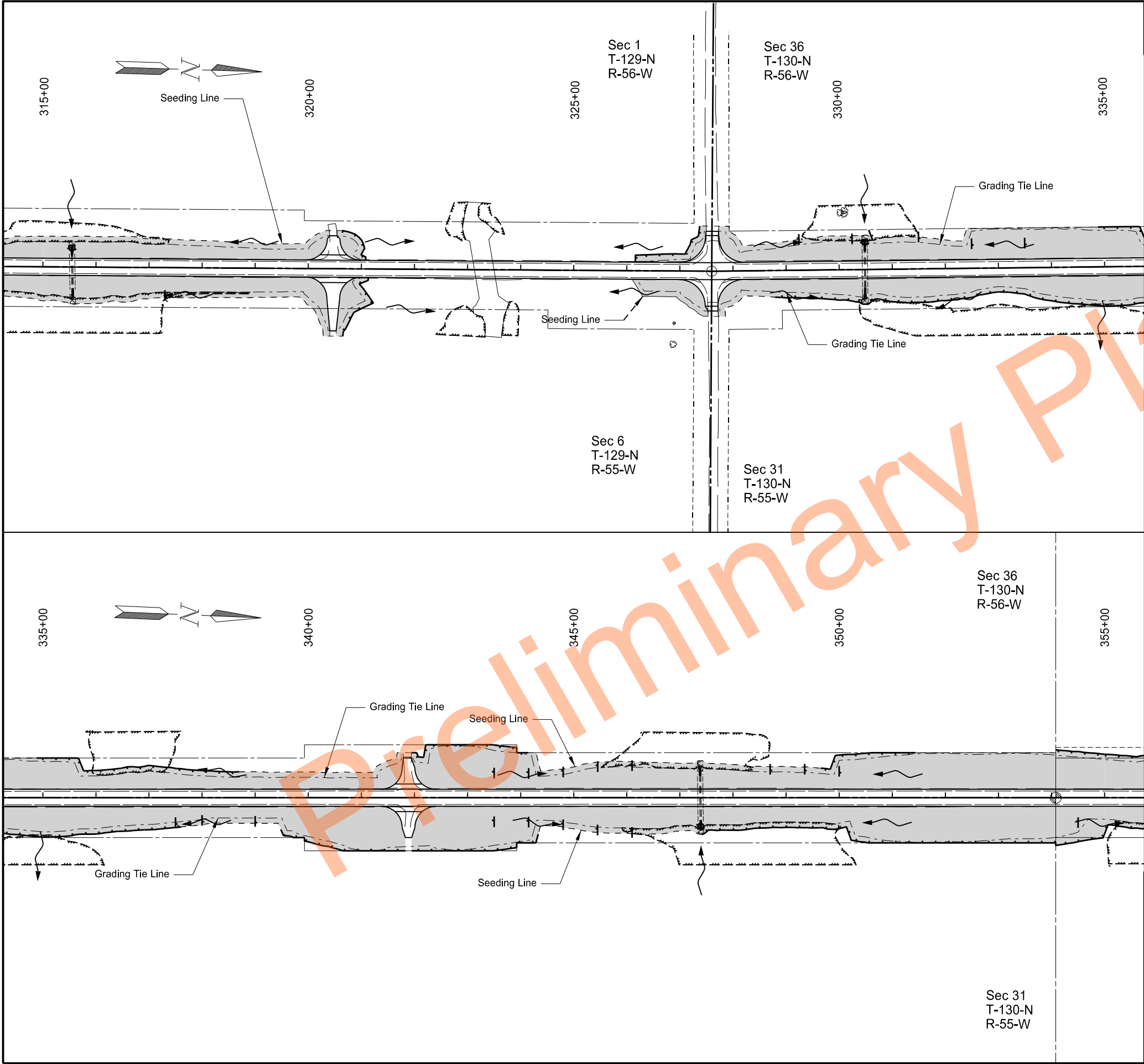
STATE		PROJECT NO.	SECTION NO.	SHEET NO.
ND		SS-XA-8-032(046)000	77	8

SPEC	CODE	BID ITEM	UNIT	QUANTITY
251	0200	SEEDING CLASS II		
Sta 275+00 to 315+00			AC	9.2
253	0101	STRAW MULCH		
Sta 275+00 to 315+00			AC	9.2
261	0120	FIBER ROLLS 20IN		
Sta 275+00 to 315+00			LF	4887

LEGEND

	Delineated Wetland - Non JD		Grading Tie Line
	Delineated Wetland - JD		Seeding Line
	ECB Type 3		Fiber Rolls
	Seeding Class II		R/W Line
	Flow Arrow		Section Line
	Temporary Easement Line		
	Qtr Section Line		

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Permanent Erosion Control
Sta. 275+00 to Sta. 315+00



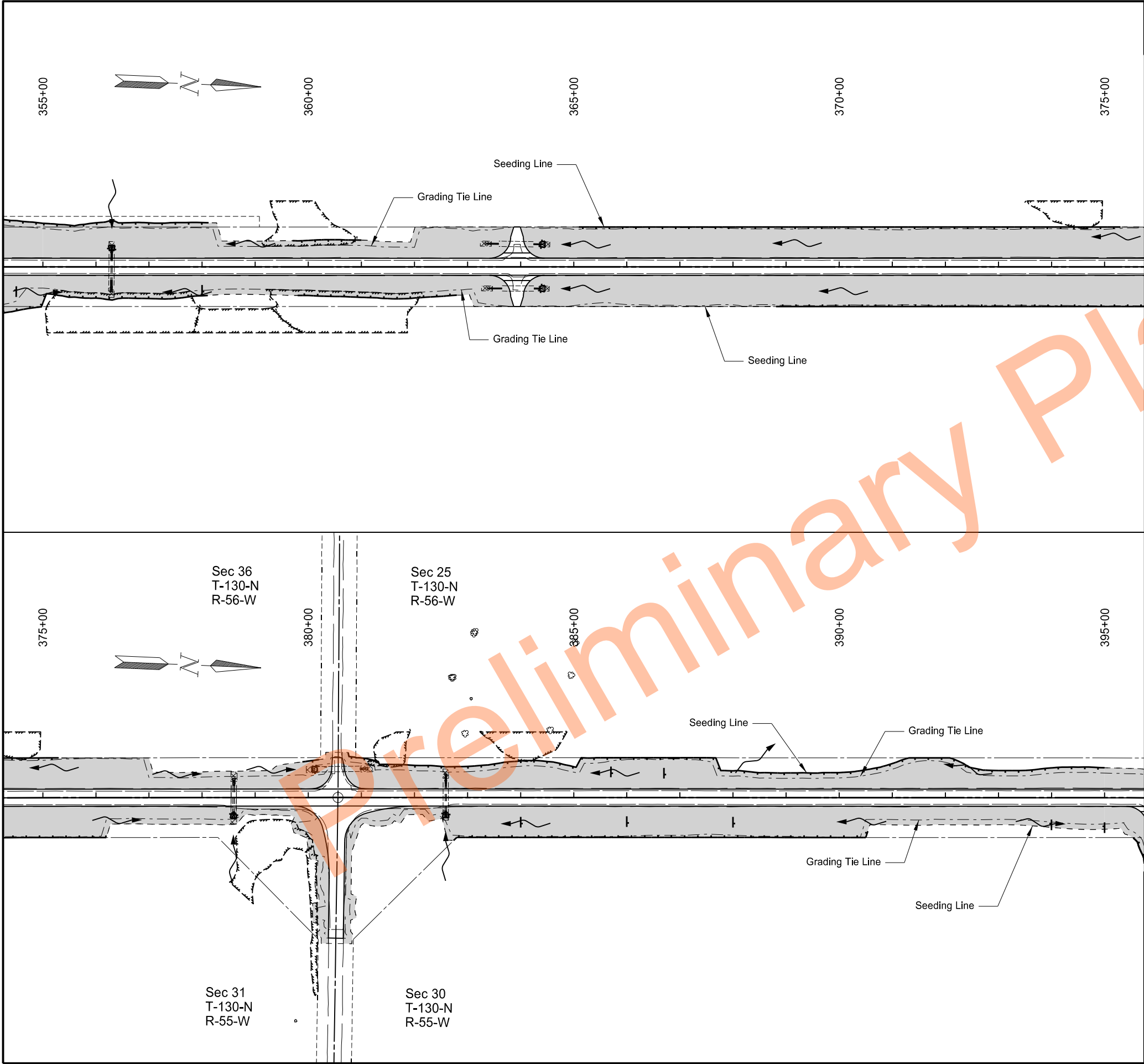
		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	77	9

SPEC	CODE	BID ITEM	UNIT	QUANTITY
251	0200	SEEDING CLASS II		
Sta 315+00 to 355+00			AC	7.9
253	0101	STRAW MULCH		
Sta 315+00 to 355+00			AC	7.9
261	0120	FIBER ROLLS 20IN		
Sta 315+00 to 355+00			LF	3560

LEGEND

	Delineated Wetland - Non JD		Grading Tie Line
	Delineated Wetland - JD		Seeding Line
	ECB Type 3		Fiber Rolls
	Seeding Class II		R/W Line
	Flow Arrow		Section Line
	Temporary Easement Line		
	Qtr Section Line		

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Permanent Erosion Control
Sta. 315+00 to Sta. 355+00



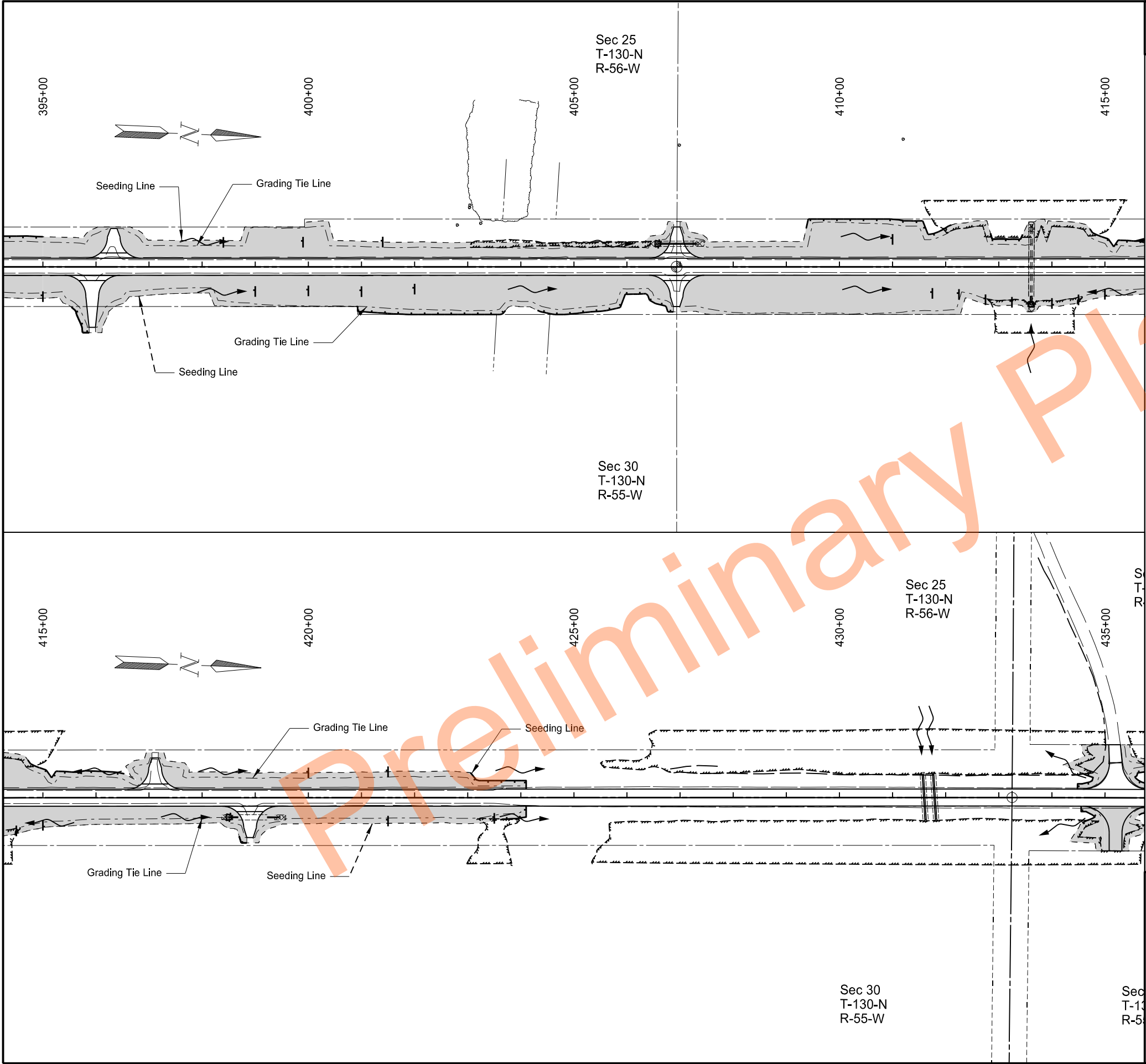
STATE		PROJECT NO.	SECTION NO.	SHEET NO.
ND		SS-XA-8-032(046)000	77	10

SPEC	CODE	BID ITEM	UNIT	QUANTITY
251	0200	SEEDING CLASS II		
Sta 355+00 to 395+00			AC	9.2
253	0101	STRAW MULCH		
Sta 355+00 to 395+00			AC	9.2
261	0120	FIBER ROLLS 20IN		
Sta 355+00 to 395+00			LF	5127

LEGEND

	Delineated Wetland - Non JD		Grading Tie Line
	Delineated Wetland - JD		Seeding Line
	ECB Type 3		Fiber Rolls
	Seeding Class II		R/W Line
	Flow Arrow		Section Line
	Temporary Easement Line		
	Qtr Section Line		

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Permanent Erosion Control
Sta. 355+00 to Sta. 395+00



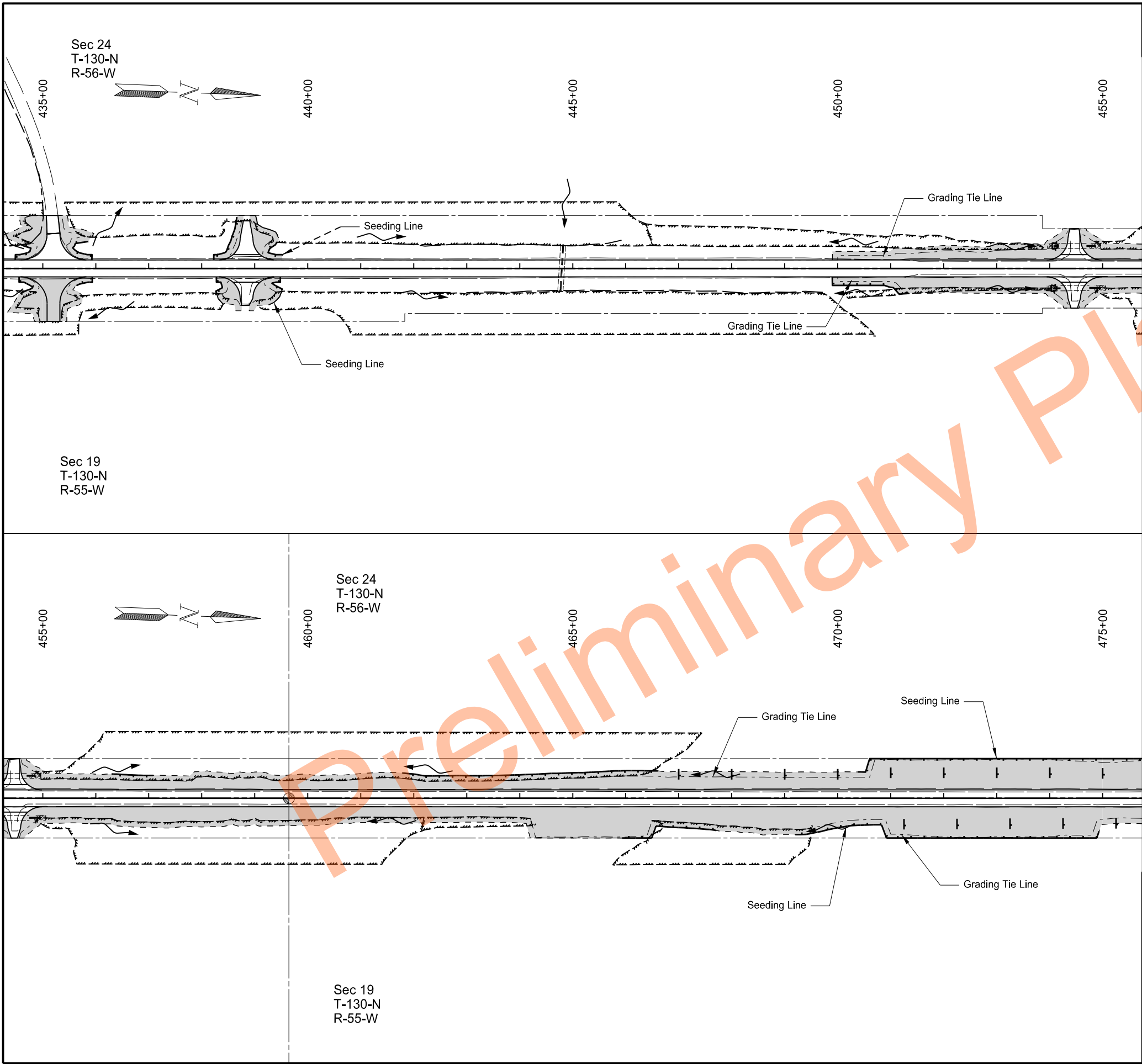
		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	77	11

SPEC	CODE	BID ITEM	UNIT	QUANTITY
251	0200	SEEDING CLASS II		
Sta 395+00 to 435+00			AC	6.4
253	0101	STRAW MULCH		
Sta 395+00 to 435+00			AC	6.4
261	0120	FIBER ROLLS 20IN		
Sta 395+00 to 435+00			LF	1686

LEGEND

	Delineated Wetland - Non JD		Grading Tie Line
	Delineated Wetland - JD		Seeding Line
	ECB Type 3		Fiber Rolls
	Seeding Class II		R/W Line
	Flow Arrow		Section Line
	Temporary Easement Line		
	Qtr Section Line		

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Permanent Erosion Control
Sta. 395+00 to Sta. 435+00



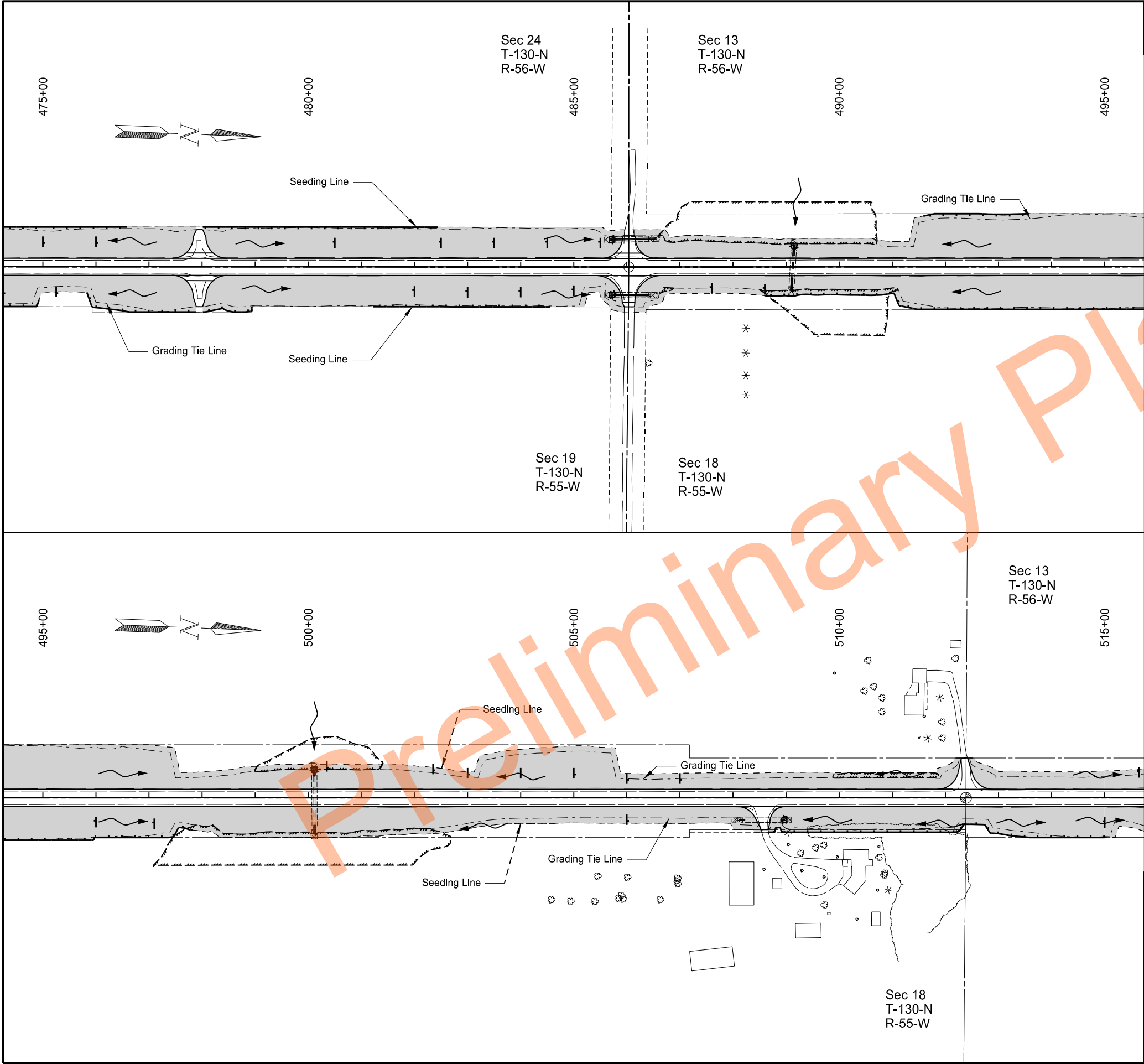
		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SS-XA-8-032(046)000	77	12

SPEC	CODE	BID ITEM	UNIT	QUANTITY
251	0200	SEEDING CLASS II Sta 435+00 to 495+00	AC	4.8
253	0101	STRAW MULCH Sta 435+00 to 495+00	AC	4.8
261	0120	FIBER ROLLS 20IN Sta 435+00 to 495+00	LF	2429

LEGEND

	Delineated Wetland - Non JD		Grading Tie Line
	Delineated Wetland - JD		Seeding Line
	ECB Type 3		Fiber Rolls
	Seeding Class II		R/W Line
	Flow Arrow		Section Line
	Temporary Easement Line		
	Qtr Section Line		

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Permanent Erosion Control
Sta. 435+00 to Sta. 475+00



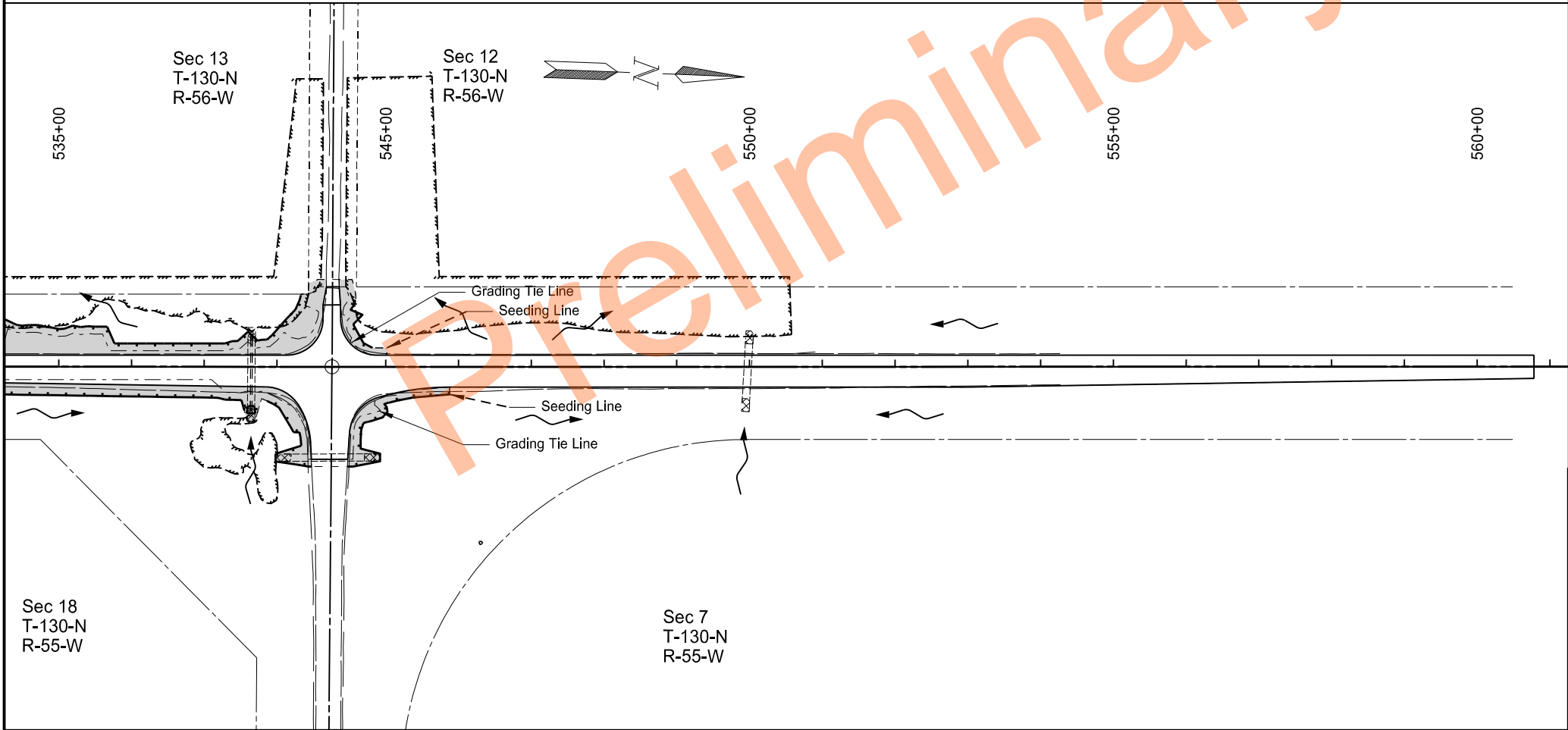
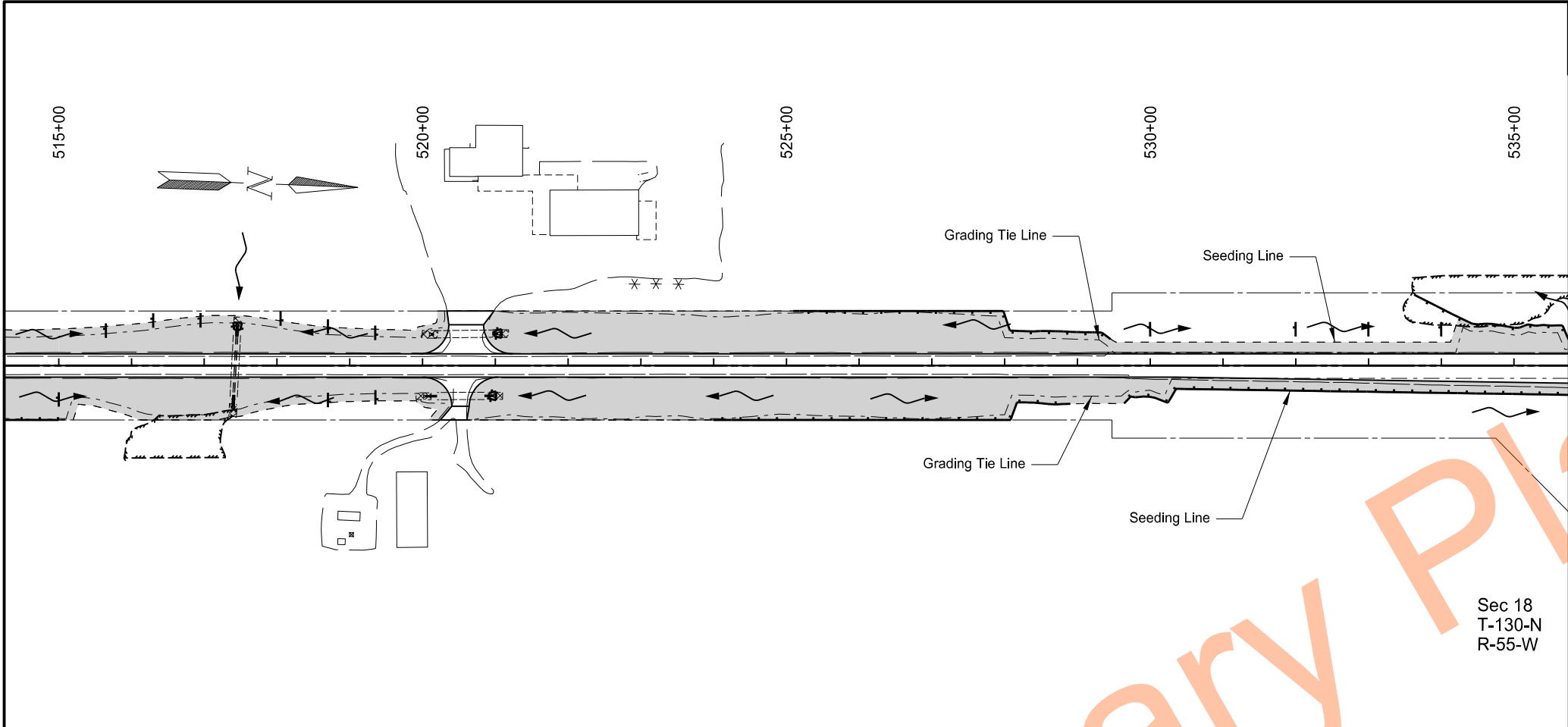
STATE		PROJECT NO.	SECTION NO.	SHEET NO.
ND		SS-XA-8-032(046)000	77	13

SPEC	CODE	BID ITEM	UNIT	QUANTITY
251	0200	SEEDING CLASS II Sta 495+00 to 535+00	AC	9.4
253	0101	STRAW MULCH Sta 495+00 to 535+00	AC	9.4
261	0120	FIBER ROLLS 20IN Sta 495+00 to 535+00	LF	3251

LEGEND

	Delineated Wetland - Non JD		Grading Tie Line
	Delineated Wetland - JD		Seeding Line
	ECB Type 3		Fiber Rolls
	Seeding Class II		R/W Line
	Flow Arrow		Section Line
	Temporary Easement Line		
	Qtr Section Line		

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Permanent Erosion Control
Sta. 475+00 to Sta. 515+00



STATE		PROJECT NO.	SECTION NO.	SHEET NO.
ND		SS-XA-8-032(046)000	77	14

SPEC	CODE	BID ITEM	UNIT	QUANTITY
251	0200	SEEDING CLASS II Sta 535+00 to 580+00	AC	4.4
253	0101	STRAW MULCH Sta 535+00 to 580+00	AC	4.4
261	0120	FIBER ROLLS 20IN Sta 535+00 to 580+00	LF	3203

LEGEND

	Delineated Wetland - Non JD		Grading Tie Line
	Delineated Wetland - JD		Seeding Line
	ECB Type 3		Fiber Rolls
	Seeding Class II		R/W Line
	Flow Arrow		Section Line
	Temporary Easement Line		
	Qtr Section Line		

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Permanent Erosion Control
Sta. 515+00 to Sta. 560+00

261-0112 FIBER ROLLS 12IN - Ditch Checks											
Station	Offset	Quantity	Unit	Station	Offset	Quantity	Unit	Station	Offset	Quantity	Unit
62+00	Lt	20	LF	290+35	Lt	20	LF	412+25	Rt	20	LF
63+00	Rt	20	LF	290+70	Rt	20	LF	412+75	Rt	20	LF
64+00	Lt	20	LF	291+00	Lt	20	LF	413+25	Rt	20	LF
66+00	Lt	20	LF	291+10	Rt	20	LF	414+00	Rt	20	LF
78+00	Lt, Rt	40	LF	292+00	Lt	20	LF	414+50	Rt	20	LF
79+00	Lt, Rt	40	LF	293+00	Lt, Rt	40	LF	415+00	Rt	20	LF
80+00	Lt	20	LF	295+00	Lt, Rt	40	LF	420+00	Lt	20	LF
81+00	Lt, Rt	40	LF	298+40	Lt	20	LF	421+50	Lt, Rt	40	LF
82+00	Lt, Rt	40	LF	300+40	Lt	20	LF	423+50	Rt	20	LF
83+00	Lt, Rt	40	LF	301+00	Rt	20	LF	467+00	Lt	20	LF
84+00	Lt, Rt	40	LF	301+40	Lt	20	LF	468+00	Lt	20	LF
85+00	Lt	20	LF	302+00	Rt	20	LF	469+00	Lt	20	LF
86+00	Lt	20	LF	302+40	Lt	20	LF	470+00	Lt	20	LF
91+00	Rt	20	LF	303+00	Rt	20	LF	471+00	Lt	20	LF
93+00	Rt	20	LF	303+40	Lt	20	LF	471+25	Rt	20	LF
95+00	Rt	20	LF	304+00	RT	20	LF	472+00	Lt	20	LF
96+00	Rt	20	LF	304+40	Lt	20	LF	472+25	Rt	20	LF
97+00	Rt	20	LF	314+00	Rt	20	LF	473+00	Lt	20	LF
105+50	Lt	20	LF	317+30	Rt	20	LF	473+25	Rt	20	LF
107+50	Lt, Rt	40	LF	329+25	Lt	20	LF	474+00	Lt	20	LF
109+00	Rt	20	LF	330+25	Lt	20	LF	474+25	Rt	20	LF
110+50	Rt	20	LF	330+60	Lt	20	LF	475+00	Lt	20	LF
112+00	Lt, Rt	40	LF	331+60	Lt	20	LF	475+25	Rt	20	LF
113+00	Lt, Rt	40	LF	332+60	Lt	20	LF	476+00	Lt	20	LF
146+00	Rt	20	LF	333+60	Lt	20	LF	480+50	Lt	20	LF
147+00	Lt	20	LF	337+50	Rt	20	LF	482+00	Rt	20	LF
148+00	Rt	20	LF	338+00	Rt	20	LF	482+50	Lt	20	LF
149+00	Lt	20	LF	339+00	Rt	20	LF	483+00	Rt	20	LF
150+00	Rt	20	LF	343+50	Lt	20	LF	483+50	Lt	20	LF
151+00	Lt	20	LF	344+15	Lt, Rt	40	LF	484+00	Rt	20	LF
152+00	Rt	20	LF	344+80	Lt, Rt	40	LF	484+50	Lt	20	LF
187+00	Rt	20	LF	345+45	Lt, Rt	40	LF	485+00	Rt	20	LF
188+00	Rt	20	LF	346+10	Lt, Rt	40	LF	485+50	Lt	20	LF
189+00	Rt	20	LF	348+70	Lt	20	LF	487+60	Rt	20	LF
190+00	Rt	20	LF	349+35	Lt	20	LF	488+60	Rt	20	LF
190+85	Lt	20	LF	350+00	Lt	20	LF	497+10	Rt	20	LF
191+00	Rt	20	LF	354+50	Rt	20	LF	500+35	Lt	20	LF
191+50	Lt	20	LF	358+00	Rt	20	LF	502+35	Lt	20	LF
192+00	Rt	20	LF	361+25	Lt, Rt	40	LF	503+00	Lt	20	LF
193+00	Lt	20	LF	362+25	Lt, Rt	40	LF	504+00	Lt	20	LF
268+00	Lt	20	LF	384+00	Rt	20	LF	505+00	Lt	20	LF
269+00	Lt	20	LF	385+70	Lt	20	LF	506+00	Lt, Rt	40	LF
269+40	Rt	20	LF	386+00	Rt	20	LF	507+00	Lt	20	LF
270+00	Lt	20	LF	386+70	Lt	20	LF	515+00	Rt	20	LF
270+40	Rt	20	LF	388+00	Rt	20	LF	515+65	Lt	20	LF
271+00	Lt	20	LF	394+00	Rt	20	LF	516+30	Lt	20	LF
271+40	Rt	20	LF	395+00	Rt	20	LF	516+95	Lt	20	LF
272+00	Lt	20	LF	398+40	Lt	20	LF	518+05	Lt	20	LF
272+40	Rt	20	LF	399+00	Rt	20	LF	518+70	Lt, Rt	40	LF
282+10	Lt	20	LF	399+90	Lt	20	LF	519+35	Lt, Rt	40	LF
283+00	Rt	20	LF	400+00	Rt	20	LF	530+00	Lt	20	LF
284+10	Lt	20	LF	401+00	Rt	20	LF	532+00	Lt	20	LF
286+10	Lt	20	LF	401+40	Lt	20	LF	533+00	Lt	20	LF
289+70	Lt	20	LF	402+00	Rt	20	LF	534+00	Lt	20	LF
289+90	Rt	20	LF	411+00	Lt	20	LF				
290+30	Rt	20	LF	411+75	Rt	20	LF	TOTAL		3740	LF

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Permanent Erosion Control
Erosion Control Tables



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SS-XA-8-032(046)000	77	16

261-0120 FIBER ROLLS 20IN - Site Runoff Protection									
Station	to Station	Offset	Quantity	Unit	Station	to Station	Offset	Quantity	Unit
39+29	39+86	Rt	69	LF	359+80	362+80	Rt	301	LF
39+99	40+91	Rt	118	LF	365+41	675+61	Lt	1020	LF
42+51	47+17	Lt	481	LF	368+50	376+20	Rt	739	LF
50+40	52+67	Rt	390	LF	379+89	380+40	Lt	32	LF
55+90	62+20	Lt	619	LF	380+75	395+88	Lt	1475	LF
57+70	63+48	Rt	601	LF	382+74	390+54	Rt	791	LF
71+01	76+89	Rt	608	LF	395+00	395+88	Lt	95	LF
84+47	86+28	Rt	203	LF	395+54	395+87	Rt	66	LF
89+27	91+26	Lt	227	LF	400+91	403+71	Rt	292	LF
96+31	113+83	Lt	1872	LF	404+31	406+87	Rt	293	LF
117+20	121+79	Lt	476	LF	409+38	412+11	Lt	309	LF
128+60	130+20	Rt	191	LF	412+85	413+45	Lt	74	LF
134+20	135+30	Lt	110	LF	414+72	416+53	Lt	203	LF
140+40	140+70	Rt	36	LF	418+70	418+84	Rt	24	LF
140+82	141+24	Rt	52	LF	423+05	424+10	Lt	128	LF
152+10	155+00	Rt	291	LF	423+61	424+10	Rt	70	LF
155+00	156+80	Rt	180	LF	434+48	434+56	Lt	67	LF
158+10	160+60	Lt	251	LF	434+55	434+57	Rt	65	LF
164+94	165+84	Lt	89	LF	435+64	435+93	Rt	41	LF
188+60	189+95	Lt	162	LF	435+85	435+93	Lt	85	LF
204+90	207+40	Lt	250	LF	438+23	438+66	Lt	104	LF
219+17	219+80	Lt	279	LF	438+28	438+28	Rt	47	LF
220+29	220+48	Lt	40	LF	438+39	438+75	Rt	46	LF
240+46	245+63	Rt	536	LF	439+43	439+52	Lt	55	LF
256+80	260+20	Lt	371	LF	439+48	439+52	Rt	51	LF
272+46	272+87	Lt	43	LF	449+90	451+31	Rt	163	LF
273+11	275+00	Rt	195	LF	456+30	457+10	Lt	79	LF
273+25	275+00	Lt	202	LF	461+79	466+61	Lt	483	LF
275+00	297+38	Rt	2375	LF	465+62	467+40	Rt	194	LF
275+00	281+40	Lt	674	LF	468+89	474+93	Rt	601	LF
281+92	285+90	Lt	401	LF	470+58	475+00	Lt	480	LF
290+63	295+51	Lt	521	LF	475+00	476+58	Lt	158	LF
296+39	300+42	Lt	389	LF	475+83	477+87	Rt	227	LF
299+43	304+14	Rt	527	LF	478+01	478+94	Rt	103	LF
320+64	321+08	Lt	88	LF	478+01	482+44	Lt	442	LF
320+66	321+13	Rt	159	LF	480+91	484+24	Rt	333	LF
326+16	327+37	Lt	171	LF	488+59	497+82	Rt	957	LF
328+79	337+61	Rt	893	LF	491+58	493+58	Lt	201	LF
334+88	338+70	Lt	399	LF	502+55	504+20	Rt	166	LF
339+48	341+83	Rt	252	LF	508+66	515+00	Rt	664	LF
341+94	341+33	Lt	256	LF	515+00	518+21	Rt	342	LF
341+95	344+33	Rt	260	LF	524+00	528+90	Rt	508	LF
347+41	355+00	Rt	792	LF	525+10	529+46	Lt	458	LF
349+88	351+75	Lt	197	LF	529+64	537+55	Rt	819	LF
354+08	355+00	Lt	93	LF	533+63	538+33	Lt	534	LF
355+00	358+11	Rt	324	LF	537+86	538+47	Rt	185	LF
355+00	358+12	Lt	315	LF	544+48	545+88	Rt	263	LF
359+70	361+00	Lt	130	LF	544+58	544+82	Lt	94	LF
TOTAL								33085	LF

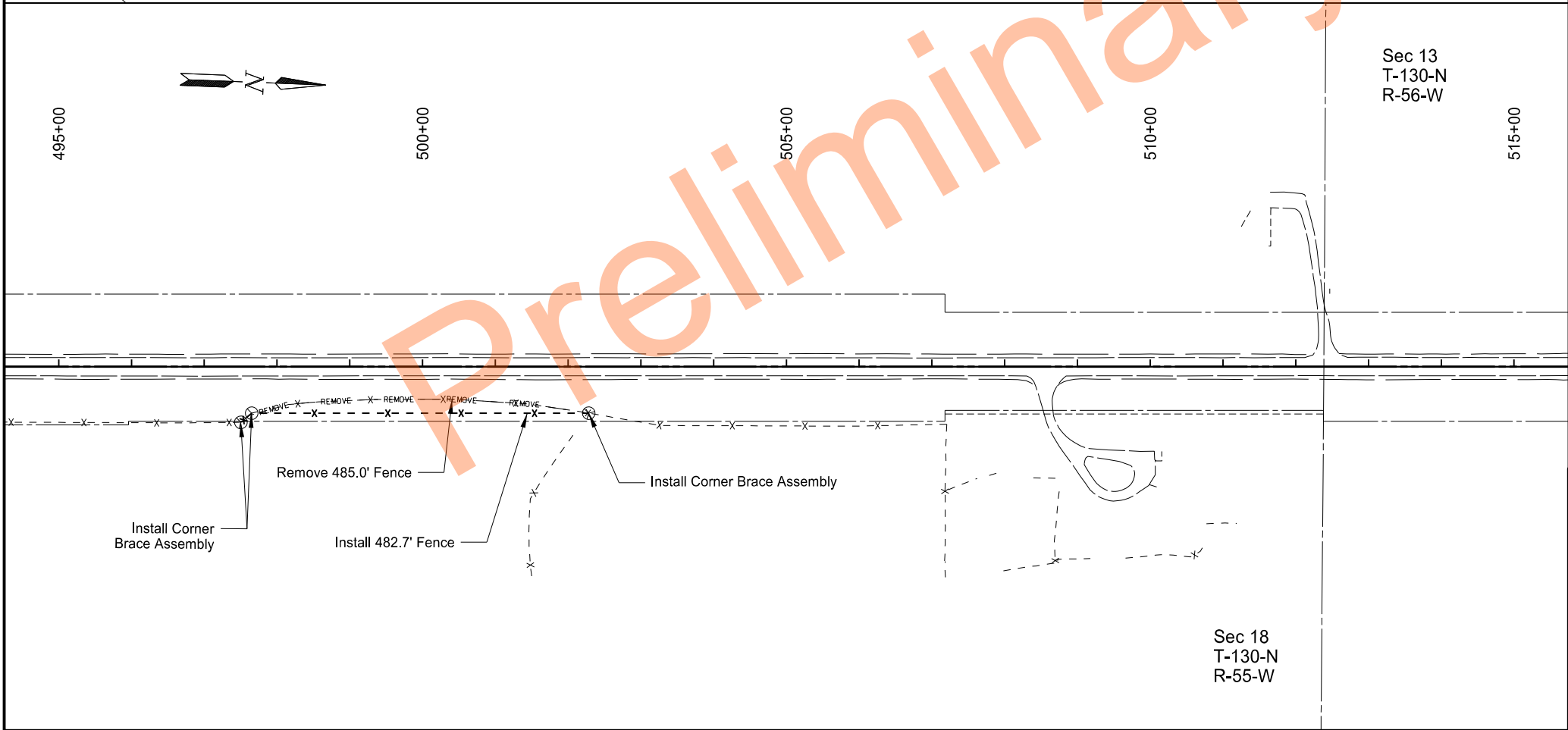
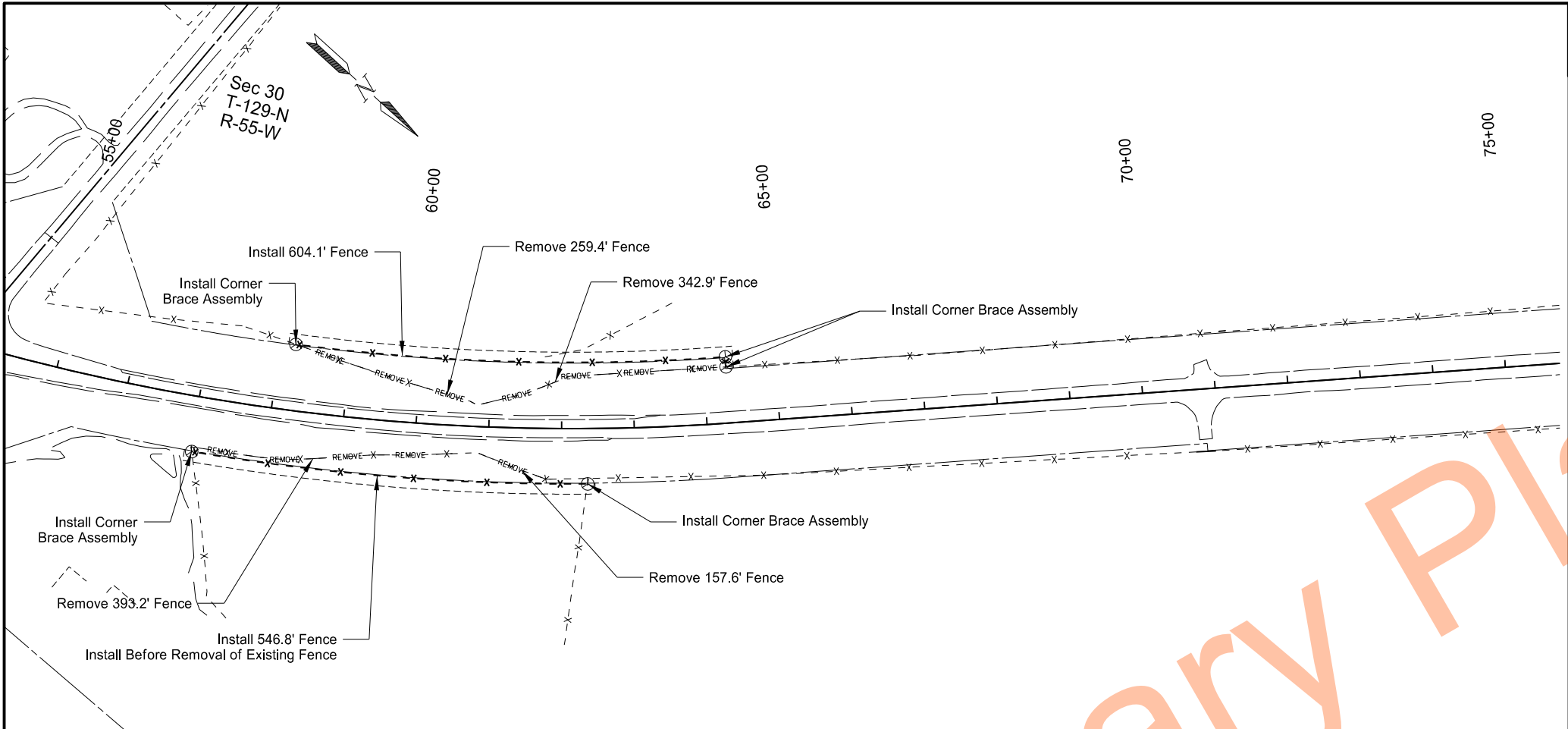
Approach Pipe Inlet Protection					
Station	Offset	Diameter (IN)	Fiber Roll	ECB Type 3	ECB Type 3
			12IN (LF)	(SY) Bk	(SY) Ahd
24+90	Rt	24	40	24	24
33+28	Lt	30	40	27	27
93+38	Lt	18	40	22	22
99+70	Rt	24	40	24	24
114+11	Lt	24	40	24	24
114+11	Rt	30	40	27	27
124+84	Lt	24	40	24	24
140+73	Lt	24	40	24	24
140+78	Rt	24	40	24	24
152+34	Lt	24	40	24	24
160+17	Rt	24	40	24	24
176+37	Lt	24	40	24	24
190+10	Lt	24	40	24	24
193+82	Rt	18	40	22	22
199+23	Rt	18	40	22	22
213+89	Lt	18	40	22	22
221+86	Rt	24	40	24	24
252+99	Rt	24	40	24	24
253+02	Lt	24	40	24	24
268+00	Rt	24	40	24	24
273+00	Lt	24	40	24	24
273+08	Rt	24	40	24	24
299+40	Rt	18	40	22	22
363+92	Lt	18	40	22	22
363+95	Rt	18	40	22	22
380+55	Rt	30	40	27	27
406+90	Lt	24	40	24	24
418+95	Rt	18	40	22	22
454+43	Lt	18	40	22	22
454+48	Rt	18	40	22	22
486+08	Lt	24	40	24	24
486+08	Rt	24	40	24	24
508+86	Rt	18	40	22	22
520+53	Rt	18	40	22	22
520+56	Lt	24	40	24	24
538+70	Rt	24	40	24	24
Total			1440	849	849

Permanent Erosion Controls Totals			
251-0200	SEEDING CLASS II	96.9	ACRE
253-0101	STRAW MULCH	96.9	ACRE
255-0103	ECB TYPE 3		
	Pipe Inlet/Outlet Protection	2,708	SY
	Additional	-	SY
	Total	2,708	SY
261-0112	FIBER ROLLS 12IN		
	Ditch Checks	3,740	LF
	Inlet Protection	2,240	LF
	Additional	200	LF
	Total	6,180	LF
261-0120	FIBER ROLLS 20IN		
	Site Runoff Protection	33,085	LF
	Inlet Protection	120	LF
	Total	33,205	LF

Mainline Pipe Inlet Protection					
Station	Diameter (IN)	Fiber Roll	Fiber Roll	ECB Type 3	ECB Type 3
		12IN (LF)	20IN (LF)	(SY) Lt	(SY) Rt
0+67	24	40		20	20
39+07	48		40	27	27
40+07	30	40		22	22
45+45	36	40		24	24
60+84	48		40	27	27
77+34	24	40		20	20
129+53	30	40		22	22
165+37	48		40	27	27
205+70	24	40		20	20
258+70	36	40		24	24
276+61	36	40		24	24
307+92	36	40		24	24
315+56	24	40		20	20
330+49	24	40		20	20
347+39	24	40		20	20
356+29	24	40		20	20
378+60	30	40		22	22
382+59	24	40		20	20
413+62	30	40		22	22
489+13	24	40		20	20
500+11	24	40		20	20
517+43	24	40		20	20
537+64	24	40		20	20
Total		800	120	505	505

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Permanent Erosion Control
Erosion Control Tables





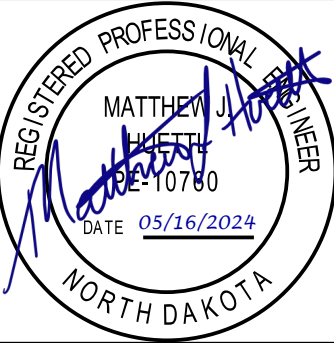
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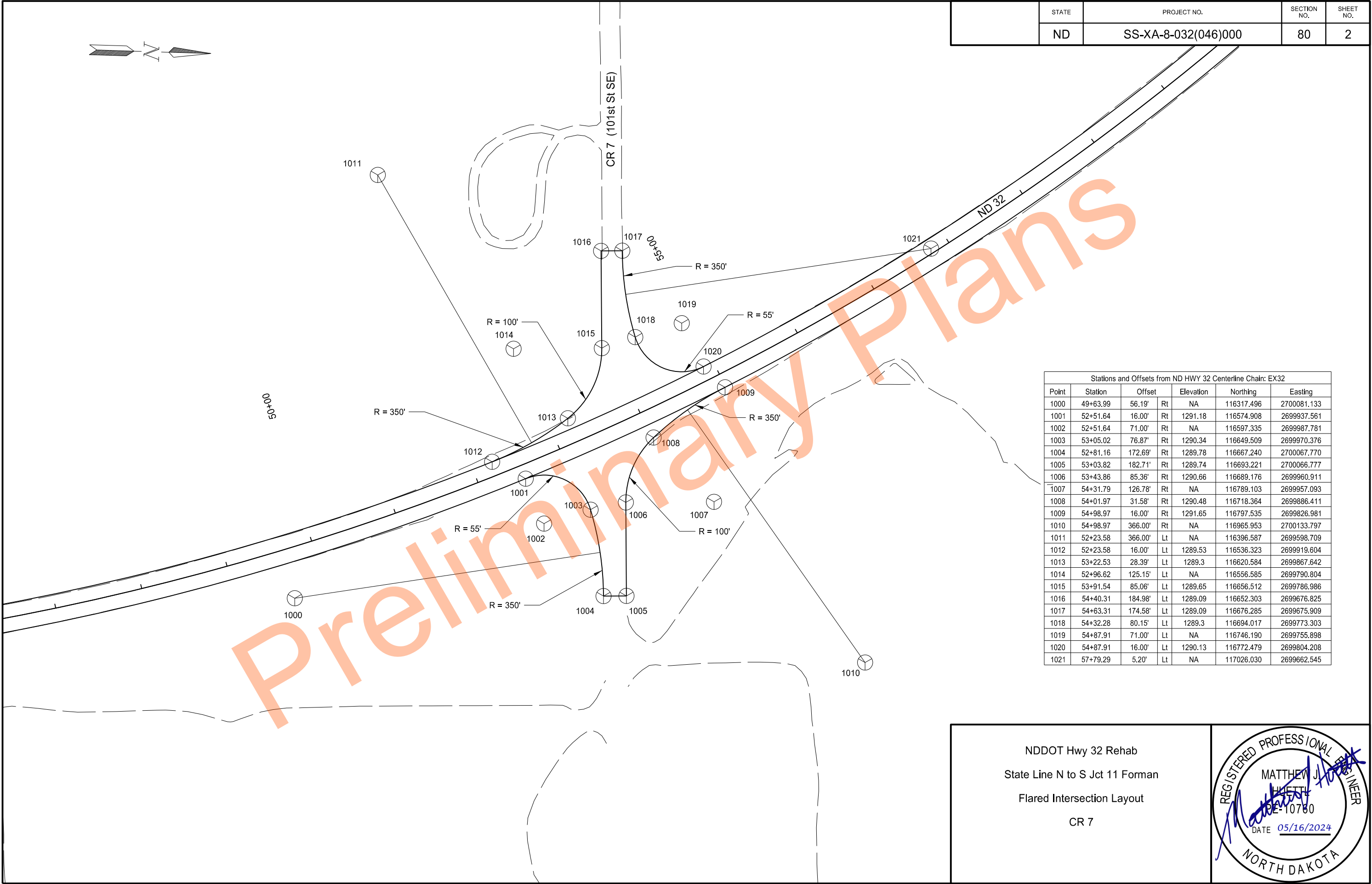
SPEC	CODE	BID ITEM	UNIT	QUANTITY
202	0312	REMOVE EXISTING FENCE		
		Sta 57+02.1 - 76.00' Rt to Sta 60+77.8 - 36.5' Rt	LF	393.2
		Sta 58+22.1 - 91.0' Lt to Sta 60+79.6 - 31.1' Lt	LF	259.4
		Sta 60+87.8 - 36.7' Rt to Sta 62+36.8 - 68.5' Rt	LF	157.6
		Sta 60+88.5 - 30.9' Lt to Sta 64+31.8 - 77.2' Lt	LF	342.9
		Sta 497+50.3 - 76.4' Rt to Sta 502+28.3 - 63.8' Rt	LF	485.0
752	0320	FENCE BARBED WITH WIRE 4 STRAND-STEEL POST		
		Sta 57+02.1 - 76.0' Rt to Sta 62+35.5 - 76.0' Rt	LF	546.8
		Sta 58+22.1 - 91.0' Lt to Sta 64+31.8 - 77.2' Lt	LF	604.1
		Sta 497+50.3 - 76.4' Rt to Sta 502+28.3 - 63.8' Rt	LF	482.7
752	3150	CORNER ASSEMBLY BARBED WIRE-WOOD POST		
		Sta 57+02.1 - 76.0' Rt	EA	1
		Sta 58+22.1 - 91.0' Lt	EA	1
		Sta 62+35.5 - 76.0' Rt	EA	1
		Sta 64+31.8 - 91.0' Lt	EA	1
		Sta 64+31.8 - 77.2' Lt	EA	1
		Sta 497+50.3 - 76.4' Rt	EA	1
		Sta 497+65.2 - 63.8' Rt	EA	1
		Sta 502+28.3 - 63.8' Rt	EA	1

LEGEND

- REMOVE — Remove Existing Fence
- x- - - - Fence Barbed Wire
- • — Temporary Fence
- ⊙ Corner and Double Brace Assemblies
Cattle Guards, Vehicle Gates

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Fencing Layouts
Sta. 55+00 to Sta. 95+00
Sta. 495+00 to Sta. 515+00

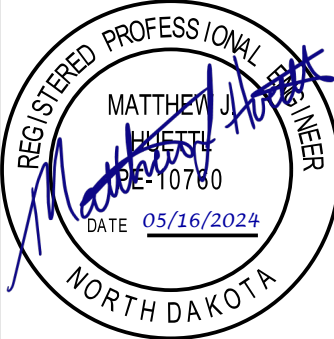


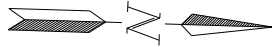


	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SS-XA-8-032(046)000	80	2

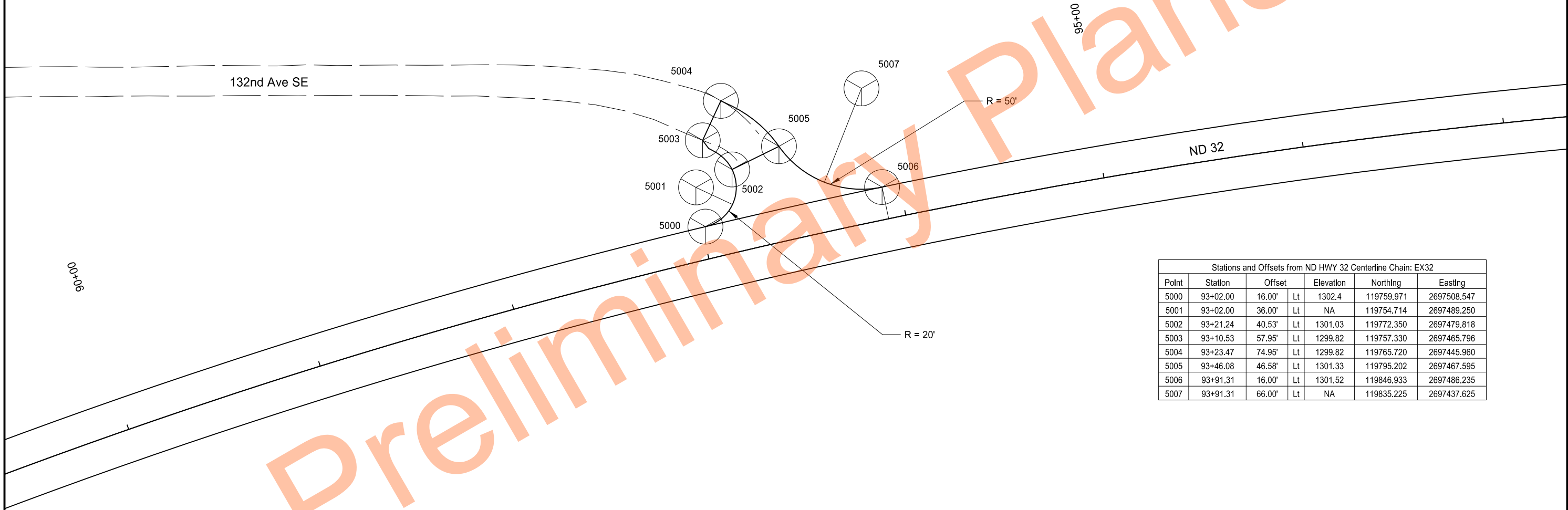
Stations and Offsets from ND HWY 32 Centerline Chain: EX32					
Point	Station	Offset	Elevation	Northing	Easting
1000	49+63.99	56.19'	Rt	NA	116317.496
1001	52+51.64	16.00'	Rt	1291.18	116574.908
1002	52+51.64	71.00'	Rt	NA	116597.335
1003	53+05.02	76.87'	Rt	1290.34	116649.509
1004	52+81.16	172.69'	Rt	1289.78	116667.240
1005	53+03.82	182.71'	Rt	1289.74	116693.221
1006	53+43.86	85.36'	Rt	1290.66	116689.176
1007	54+31.79	126.78'	Rt	NA	116789.103
1008	54+01.97	31.58'	Rt	1290.48	116718.364
1009	54+98.97	16.00'	Rt	1291.65	116797.535
1010	54+98.97	366.00'	Rt	NA	116965.953
1011	52+23.58	366.00'	Lt	NA	116396.587
1012	52+23.58	16.00'	Lt	1289.53	116536.323
1013	53+22.53	28.39'	Lt	1289.3	116620.584
1014	52+96.62	125.15'	Lt	NA	116556.585
1015	53+91.54	85.06'	Lt	1289.65	116656.512
1016	54+40.31	184.98'	Lt	1289.09	116652.303
1017	54+63.31	174.58'	Lt	1289.09	116676.285
1018	54+32.28	80.15'	Lt	1289.3	116694.017
1019	54+87.91	71.00'	Lt	NA	116746.190
1020	54+87.91	16.00'	Lt	1290.13	116772.479
1021	57+79.29	5.20'	Lt	NA	117026.030

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Flared Intersection Layout
CR 7





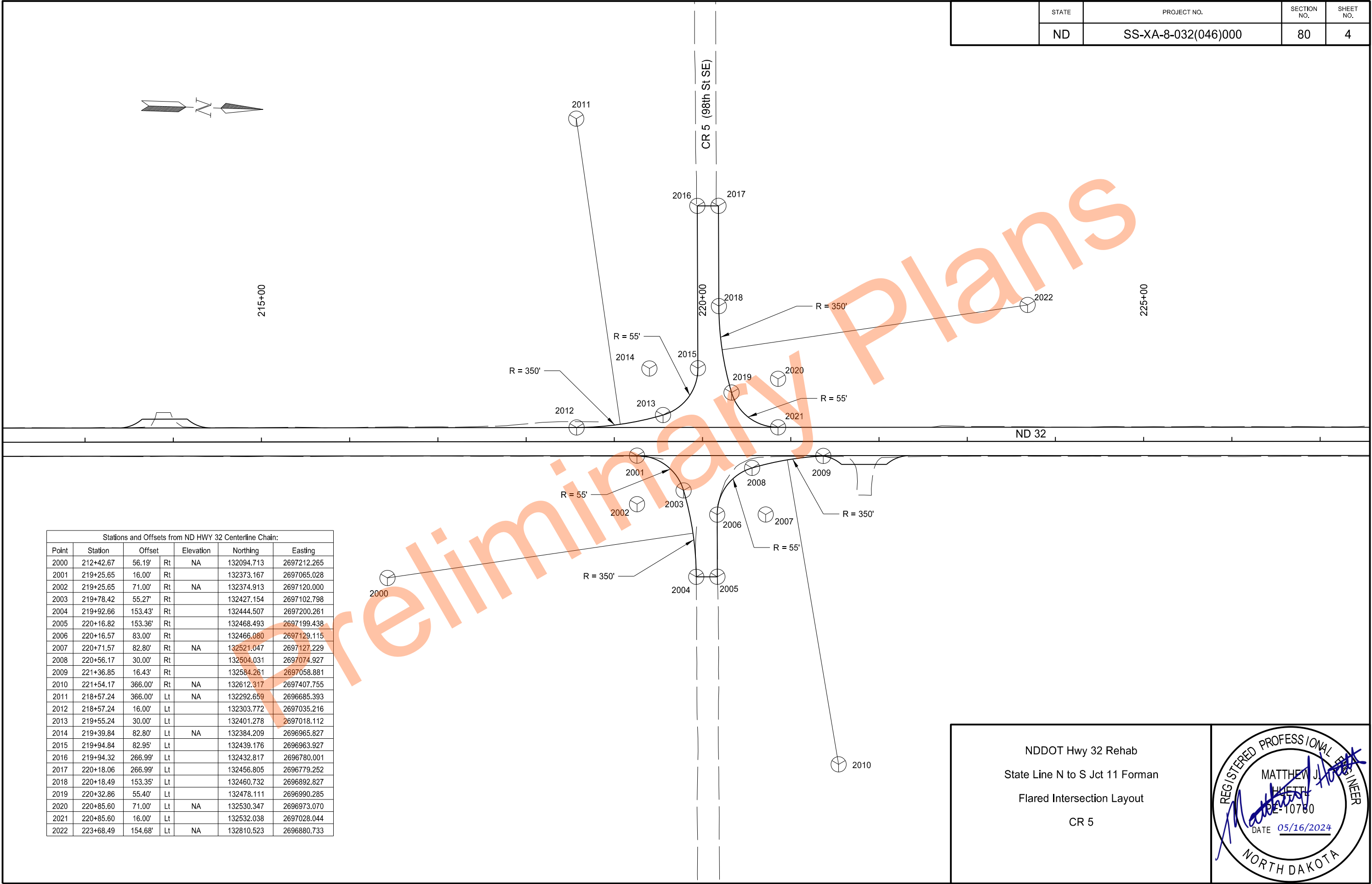
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	ND	SS-XA-8-032(046)000	80	3

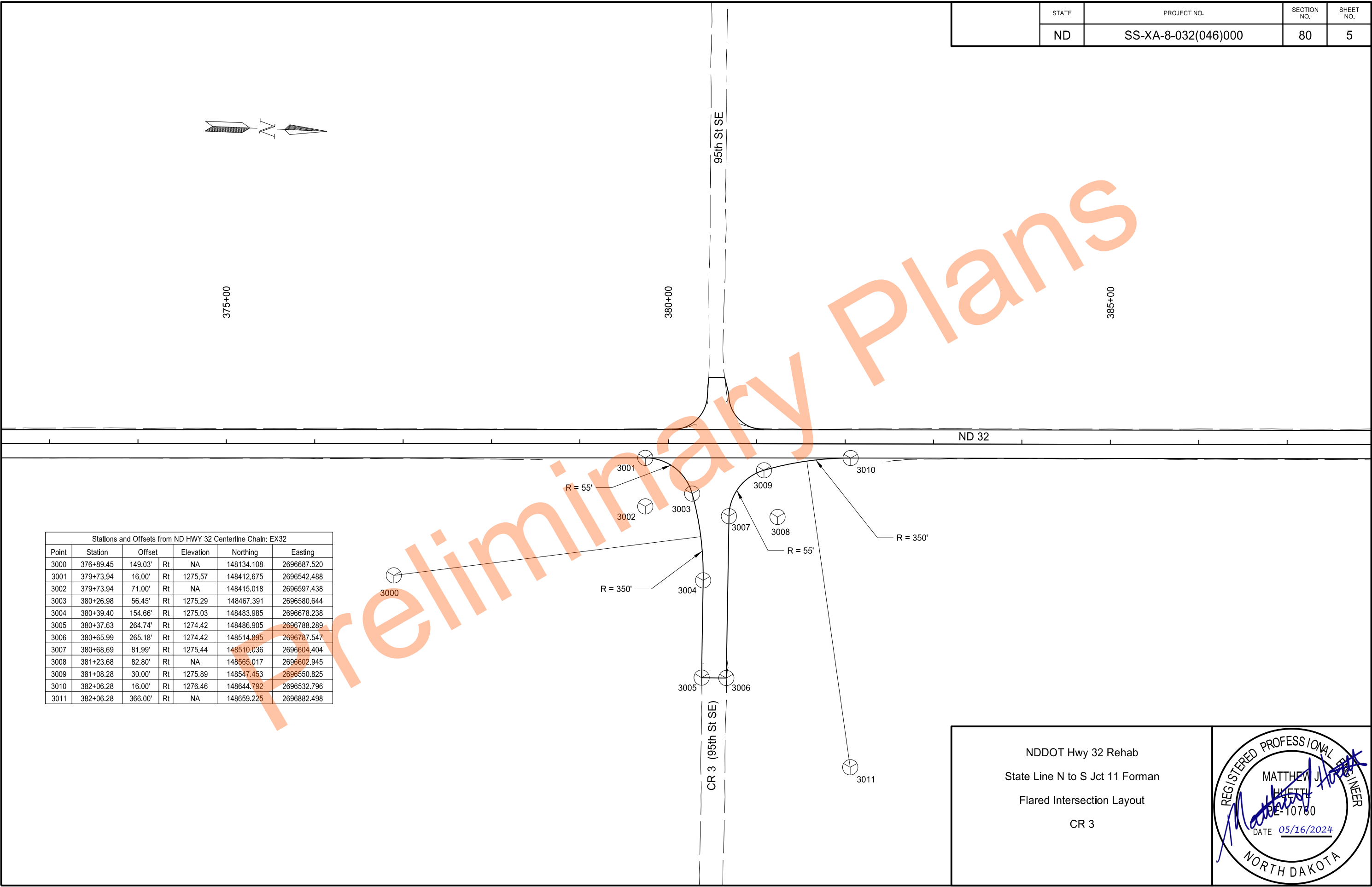


Stations and Offsets from ND HWY 32 Centerline Chain: EX32						
Point	Station	Offset		Elevation	Northling	Easting
5000	93+02.00	16.00'	Lt	1302.4	119759.971	2697508.547
5001	93+02.00	36.00'	Lt	NA	119754.714	2697489.250
5002	93+21.24	40.53'	Lt	1301.03	119772.350	2697479.818
5003	93+10.53	57.95'	Lt	1299.82	119757.330	2697465.796
5004	93+23.47	74.95'	Lt	1299.82	119765.720	2697445.960
5005	93+46.08	46.58'	Lt	1301.33	119795.202	2697467.595
5006	93+91.31	16.00'	Lt	1301.52	119846.933	2697486.235
5007	93+91.31	66.00'	Lt	NA	119835.225	2697437.625

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Flared Intersection Layout
132nd Ave SE







Stations and Offsets from ND HWY 32 Centerline Chain: EX32						
Point	Station	Offset		Elevation	Northing	Easting
3000	376+89.45	149.03'	Rt	NA	148134.108	2696687.520
3001	379+73.94	16.00'	Rt	1275.57	148412.675	2696542.488
3002	379+73.94	71.00'	Rt	NA	148415.018	2696597.438
3003	380+26.98	56.45'	Rt	1275.29	148467.391	2696580.644
3004	380+39.40	154.66'	Rt	1275.03	148483.985	2696678.238
3005	380+37.63	264.74'	Rt	1274.42	148486.905	2696788.289
3006	380+65.99	265.18'	Rt	1274.42	148514.895	2696787.547
3007	380+68.69	81.99'	Rt	1275.44	148510.036	2696604.404
3008	381+23.68	82.80'	Rt	NA	148565.017	2696602.945
3009	381+08.28	30.00'	Rt	1275.89	148547.453	2696550.825
3010	382+06.28	16.00'	Rt	1276.46	148644.792	2696532.796
3011	382+06.28	366.00'	Rt	NA	148659.225	2696882.498

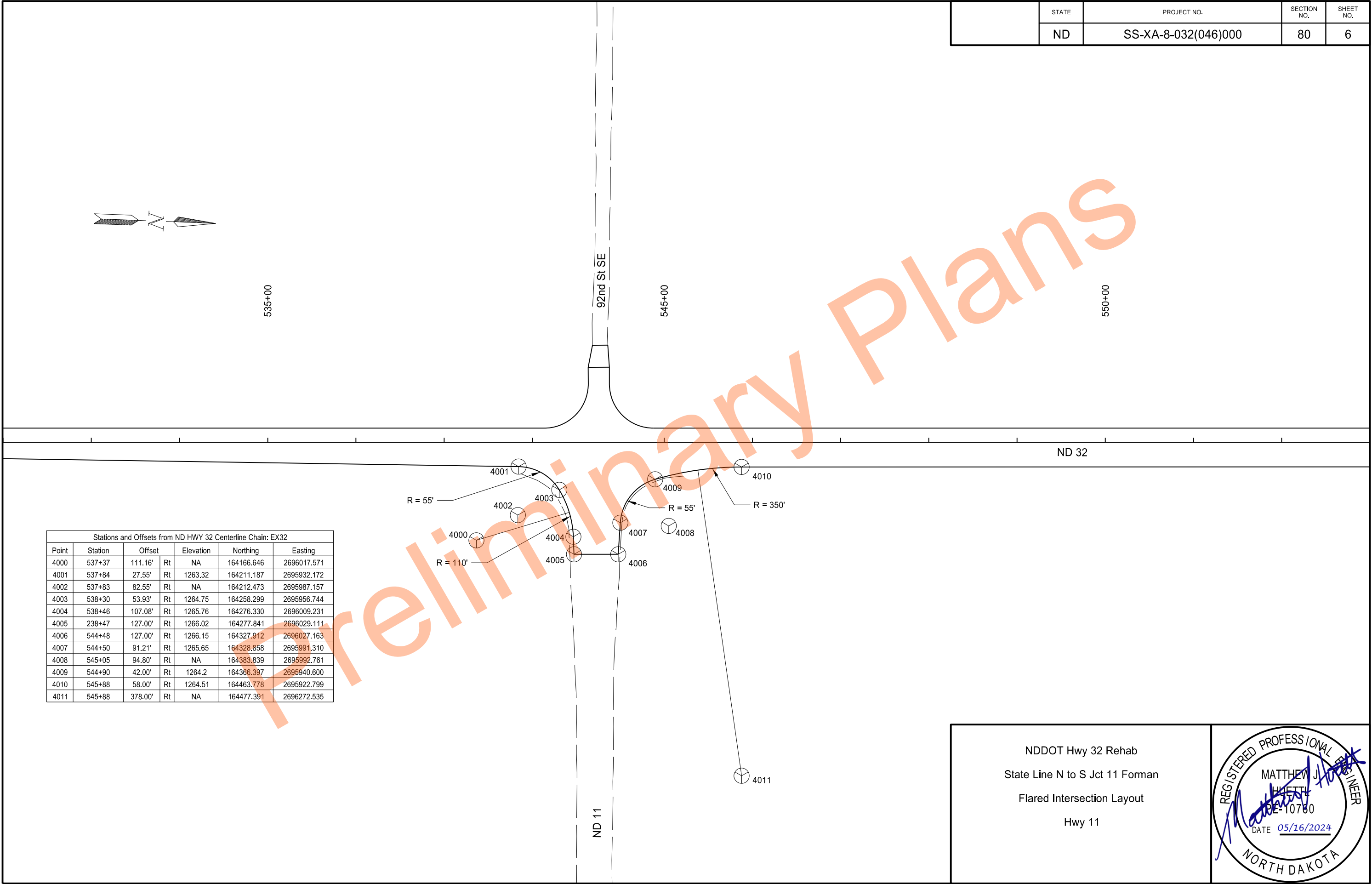
ND 32

95th St SE

CR 3 (95th St SE)

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Flared Intersection Layout
CR 3





Stations and Offsets from ND HWY 32 Centerline Chain: EX32						
Point	Station	Offset		Elevation	Northing	Easting
4000	537+37	111.16'	Rt	NA	164166.646	2696017.571
4001	537+84	27.55'	Rt	1263.32	164211.187	2695932.172
4002	537+83	82.55'	Rt	NA	164212.473	2695987.157
4003	538+30	53.93'	Rt	1264.75	164258.299	2695956.744
4004	538+46	107.08'	Rt	1265.76	164276.330	2696009.231
4005	238+47	127.00'	Rt	1266.02	164277.841	2696029.111
4006	544+48	127.00'	Rt	1266.15	164327.912	2696027.163
4007	544+50	91.21'	Rt	1265.65	164328.858	2695991.310
4008	545+05	94.80'	Rt	NA	164383.839	2695992.761
4009	544+90	42.00'	Rt	1264.2	164366.397	2695940.600
4010	545+88	58.00'	Rt	1264.51	164463.778	2695922.799
4011	545+88	378.00'	Rt	NA	164477.391	2696272.535

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Flared Intersection Layout
Hwy 11



PRELIMINARY SURVEY COORDINATE AND CURVE DATA - STATE LINE N TO S JCT 11 FORMAN											STATE	PROJECT NO.			SECTION NO.	SHEET NO.		
										ND	SS-XA-8-032(046)000			81	1			
HORIZONTAL ALIGNMENT				CURVE DATA		US PUBLIC LAND SURVEY DATA				SURVEY CONTROL POINTS								
PNT	STATION	NORTHING	EASTING	ARC DEFINITION		CORNER	IRN	NORTHING	EASTING	PNT	NORTHING	EASTING	ELEV	STATION	OFFSET			
ND 32 (Chain: EX32)						T-129-N R-55-W				MONUMENT DESCRIPTION								
Begin/State Line	0+00.00	111,372.61	2,700,149.32	Curve 1		NW Cor Sec 6	1-A	143,202.69	2,696,748.66	GPS 10	111,276.74	2,699,999.35	1292.75	-1+36	178' Lt			
PC	0+78.03	111,447.22	2,700,172.19	PI STA = 5+91.20		NW Cor Sec 7	1-C	137,750.41	2,696,883.36	#5 x 30" Rebar w/Alum cap Stamped "CP 10"								
PI Curve 1	5+91.20	111,937.86	2,700,322.56	Delta = 19° 18' 52" LT		W 1/4 Cor Sec 7	1-D	135,105.59	2,696,964.87	GPS 11	137,682.67	2,696,806.07	1256.16	272+41	79' Lt			
PT	10+94.63	112,450.62	2,7003,02.18	Da = 1° 54' 00"		NW Cor Sec 30	1-J	121,860.06	2,697,376.48	#5 x 30" Rebar w/Alum cap Stamped "CP 11"								
Center 1/4 Cor	26+77.07	114,031.82	2,700,239.36	R = 3015.71'		W 1/4 Cor Sec 30	1-K	119,224.66	2,697,457.46	GPS 12	164,259.27	2,696,970.04	1265.80	537+92	1067' Rt			
PC	41+04.81	115,458.43	2,700,182.67	T = 513.17'		SW Cor Sec 30	1-L	116,582.66	2,697,539.86	#5 x 30" Rebar w/Alum cap Stamped "CP 12"								
PI Curve 2	53+29.12	116,681.78	2,700,134.06	L = 1016.60'		N 1/4 Cor Sec 7	2-C	137,833.06	2,699,416.60	REFERENCE MARKERS								
Sec Line Xing	53+65.96	116,671.86	2,699,874.37			S 1/4 Cor Sec 7	2-E	132,541.68	2,699,600.33									
PT	64+30.83	117,525.05	2,699,246.45	Curve 2		N 1/4 Cor Sec 30	2-J	121,968.04	2,699,968.94	R MKR #	NORTHING	EASTING	STATION	O/S	ALIGNMENT			
PC	76+58.31	118,370.49	2,698,356.54	PI STA = 53+29.12		S 1/4 Cor Sec 30	2-L	116,681.78	2,700,134.06	1	116,604.89	2,699,948.77	52+74	39' Rt	EX32			
1/4 Line Xing	87+35.67	119,234.89	2,697,723.13	Delta = 44° 11' 32" LT		C 1/4 Cor Sec 31	2-M	114,031.82	2,700,239.36	2	121,015.38	2,697,430.96	105+62	29' Rt	EX32			
PI Curve 3	88+98.45	119,224.66	2,697,457.46	Da = 1° 54' 00"		S 1/4 Cor Sec 31	2-N	111,379.22	2,700,344.75	3	126,295.57	2,697,270.12	158+45	29' Rt	EX32			
PT	100+11.46	120,464.22	2,697,419.37	R = 3015.71'		NE Cor Sec 7	3-C	137,918.93	2,702,048.54	4	131,580.47	2,697,104.71	211+32	30' Rt	EX32			
Sec Cor	114+07.95	121,860.06	2,697,376.48	T = 1224.32'		E 1/4 Cor Sec 7	3-D	135,275.35	2,702,144.18	5	136,891.49	2,696,940.94	264+46	31' Rt	EX32			
1/4 Cor	140+76.97	124,527.82	2,697,294.68	L = 2326.02'		SE Cor Sec 7	3-E	132,631.77	2,702,239.82	6	142,154.33	2,696,804.45	317+10	30' Rt	EX32			
Sec Cor	167+26.09	127,175.71	2,697,213.94			NW Cor Sec 20	3-G	127,353.92	2,702,423.42	7	147,448.96	2,696,594.20	370+09	27' Rt	EX32			
1/4 Cor	193+47.03	129,795.33	2,697,130.91	Curve 3		W 1/4 Cor Sec 20	3-H	124,711.07	2,702,515.36	8	152,749.61	2,696,372.41	423+14	25' Rt	EX32			
Sec Cor	220+07.07	132,454.04	2,697,046.45	PI STA = 88+98.45		SW Cor Sec 20	3-J	122,068.22	2,702,607.29	9	158,013.10	2,696,169.89	475+82	26' Rt	EX32			
1/4 Cor	246+59.88	135,105.59	2,696,964.87	Delta = 44° 42' 28" RT		W 1/4 Cor Sec 29	3-K	119,426.38	2,702,694.17	10	163,273.27	2,695,970.72	528+46	30' Rt	EX32			
Sec Cor	273+05.96	137,750.41	2,696,883.36	Da = 1° 54' 00"		SE Cor Sec 30	3-L	116,784.53	2,702,780.92									
1/4 Cor	299+46.31	140,389.95	2,696,818.15	R = 3015.71'		SE Cor Sec 31	3-N	111,468.53	2,702,988.37									
Twp Cor	327+59.90	143,202.69	2,696,748.66	T = 1240.15'														
1/4 Cor	354+07.89	145,848.28	2,696,635.84	L = 2353.15'		T-129-N R-56-W												
Sec Cor	380+55.89	148,493.87	2,696,523.01			SW Cor Sec 12	11-E	132,272.23	2,691,783.85									
1/4 Cor	406+93.49	151,129.23	2,696,414.25			SE Cor Sec 14	11-G	126,985.06	2,691,952.91									
Sec Cor	433+25.12	153,758.62	2,696,305.73			SE Cor Sec 23	11-J	121,697.26	2,692,104.64									
1/4 Cor	459+64.45	156,396.05	2,696,205.58			S 1/4 Cor Sec 12	12-E	132,363.06	2,694,415.22									
Sec Cor	486+03.78	159,033.48	2,696,105.44			SE Cor Sec 12	13-E	132,454.04	2,697,046.45									
1/4 Cor	512+38.71	161,666.43	2,696,003.30															
Continued on Sheet 2																		
						☐ Assumed Coordinates				INITIALIZING BENCH MARK NDGPS Stations (OPUS)		REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR THOMAS D. WEIGEL LS-10871 PE-28797 DATE 11/10/2023 THOMAS D. WEIGEL NORTH DAKOTA						
						☒ All coordinates on this sheet are Sargent County ground coordinates. They are derived from the NAD83(2011) reference frame; North Dakota South Zone Combination Factor (cf) = 0.9999595												
NOTES: Sheet 1 of 2				Date Survey Completed 10/20/22						☒ NAVD-88								
										☐ _____								
										☐ GEOID12B	☐ _____							
										☒ GEOID18								

PRELIMINARY SURVEY COORDINATE AND CURVE DATA - STATE LINE N TO S JCT 11 FORMAN									STATE	PROJECT NO.	SECTION NO.	SHEET NO.			
									ND	SS-XA-8-032(046)000	81	2			
HORIZONTAL ALIGNMENT				CURVE DATA		US PUBLIC LAND SURVEY DATA			SURVEY CONTROL POINTS						
PNT	STATION	NORTHING	EASTING	ARC DEFINITION		CORNER	IRN	NORTHING	EASTING	PNT	NORTHING	EASTING	ELEV	STATION	OFFSET
continued ND 32 (Chain: EX32)						T-130-N R-55-W			MONUMENT DESCRIPTION						
Station Equation ND 32(EX32) at ND 11(EX11)						SW Cor Sec 6 1-C 169,581.83 2,695,695.88									
ND 32 BK Sec Cor 538+75.60 164,301.33 2,695,901.10						W 1/4 Cor Sec 7 1-D 166,940.78 2,695,798.37									
ND 32 AHD Sec Cor 544+26.24 164,301.33 2,695,901.10						W 1/4 Cor Sec 18 1-F 161,666.43 2,696,003.30									
ND 11 Sec Cor 6835+85.76 164,301.33 2,695,901.10						SW Cor Sec 18 1-G 159,033.48 2,696,105.44									
1/4 Cor 570+67.68 166,940.78 2,695,798.37						S 1/4 Cor Sec 7 2-E 164,379.42 2,698,464.72									
End/Sec Cor 597+10.72 169,581.83 2,695,695.88						S 1/4 Cor Sec 18 2-G 159,106.19 2,698,648.65									
						S 1/4 Cor Sec 31 2-N 143,266.26 2,699,211.71									
ND 11 (Chain: EX11)						SE Cor Sec 6 3-C 169,738.18 2,700,909.32									
Begin/Sec Cor 6835+85.76 164,301.33 2,695,901.10						SE Cor Sec 7 3-E 164,461.49 2,701,100.56									
1/4 Cor 6861+50.57 164,379.42 2,698,464.72						E 1/4 Cor Sec 18 3-F 161,826.19 2,701,192.95									
End/Sec Cor 6887+87.68 164,461.49 2,701,100.56						SW Cor Sec 17 3-G 159,182.03 2,701,284.96									
						NE Cor Sec 30 3-J 153,912.15 2,701,473.74									
						SE Cor Sec 30 3-L 148,630.20 2,701,661.80									
						SE Cor Sec 31 3-N 143,334.35 2,701,849.52									
						T-130-N R-56-W									
						SE Cor Sec 2 11-C 169,404.89 2,690,433.36									
						W 1/4 Cor Sec 12 11-D 166,780.84 2,690,524.32									
						E 1/4 Cor Sec 14 11-F 161,490.54 2,690,730.27									
						NW Cor Sec 25 11-J 153,579.97 2,691,035.14									
						W 1/4 Cor Sec 25 11-K 150,943.00 2,691,142.30									
						SW Cor Sec 25 11-L 148,306.07 2,691,249.50									
						S 1/4 Cor Sec 1 12-C 169,493.37 2,693,064.46									
						S 1/4 Cor Sec 12 12-E 164,213.18 2,693,265.81									
						N 1/4 Cor Sec 25 12-J 153,669.30 2,693,670.45									
						S 1/4 Cor Sec 25 12-L 148,400.15 2,693,886.21									
						E 1/4 Cor Sec 12 13-D 166,940.78 2,695,798.37									
						SE Cor Sec 12 13-E 164,301.33 2,695,901.10									
						NE Cor Sec 25 13-J 153,758.62 2,696,305.73									
						E 1/4 Cor Sec 25 13-K 151,129.23 2,696,414.25									
						SE Cor Sec 25 13-L 148,493.87 2,696,523.01									
						☐ Assumed Coordinates			All coordinates and measurements on this document derived from the International Foot definition.						
						☒ All coordinates on this sheet are Sargent County ground coordinates. They are derived from the NAD83(2011) reference frame; North Dakota South Zone Combination Factor (cf) = 0.9999595			INITIALIZING BENCH MARK NDGPS Stations (OPUS)						
									☒ NAVD-88						
									☐ _____						
									☐ GEOID12B ☐ _____						
									☒ GEOID18						
NOTES: Sheet 2 of 2				Date Survey Completed 10/20/22					REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR THOMAS D. WEIGEL LS-10871 PE-28797 DATE 11/10/2023 NORTH DAKOTA						

Station	Offset		Northing	Easting	720-0110 R/W Markers	720-0125 ALIGNMENT MONUMENTS	720-0130 IRON PIN R/W MONUMENTS	720-0130 IRON PIN R/W MONUMENTS
0+00.00	0.00	CL	111372.615	2700149.324	-	X	-	-
0+78.03	-90.00	LT	111473.591	2700086.138	X	-	X	-
0+78.03	0.00	CL	111447.219	2700172.188	-	X	-	-
0+90.39	-90.00	LT	111485.067	2700089.630	X	-	-	X
5+86.33	43.35	RT	111937.860	2700322.558	-	X	-	-
10+94.63	-90.00	LT	112447.049	2700212.254	X	-	X	-
10+94.63	75.00	RT	112453.600	2700377.124	X	-	X	-
10+94.63	0.00	CL	112450.623	2700302.183	-	X	-	-
26+77.07	85.00	RT	114035.196	2700324.289	X	-	-	X
26+77.07	-90.00	LT	114028.248	2700149.427	X	-	-	X
41+04.81	0.00	CL	115458.432	2700182.671	-	X	-	-
41+04.81	-75.00	LT	115455.454	2700107.730	X	-	X	-
51+59.60	229.49	RT	116570.918	2700171.493	X	-	-	X
52+37.57	-120.59	LT	116506.867	2699818.317	X	-	-	X
54+74.72	114.92	RT	116823.013	2699925.721	X	-	-	X
55+61.54	-177.95	LT	116755.524	2699628.101	X	-	-	X
64+30.83	-75.00	LT	117470.672	2699194.794	X	-	X	-
64+30.83	75.00	RT	117579.420	2699298.108	X	-	X	-
64+30.83	0.00	CL	117525.046	2699246.451	-	X	-	-
64+30.83	-90.00	LT	117459.798	2699184.462	X	-	X	-
76+58.31	-75.00	LT	118316.117	2698304.887	X	-	X	-
76+58.31	-90.00	LT	118305.243	2698294.556	X	-	X	-
76+58.31	85.00	RT	118432.115	2698415.090	X	-	X	-
76+58.31	0.00	CL	118370.491	2698356.545	-	X	-	-
87+35.66	75.00	RT	119267.761	2697790.542	X	-	-	X
87+35.67	0.00	CL	119234.894	2697723.128	-	X	-	-
87+35.68	-90.00	LT	119195.452	2697642.230	X	-	-	X
100+11.46	75.00	RT	120466.525	2697494.334	X	-	X	-
100+11.46	0.00	CL	120464.222	2697419.370	-	X	-	-
100+11.46	-75.00	LT	120461.919	2697344.405	X	-	X	-
114+82.95	75.00	RT	121937.319	2697449.148	X	-	-	X
140+76.98	-75.00	LT	124525.546	2697219.715	X	-	-	X
193+47.03	60.00	RT	129797.236	2697190.877	X	-	-	X
219+49.27	75.00	RT	132398.641	2697123.312	X	-	X	-
219+49.39	125.00	RT	132400.353	2697173.219	X	-	X	-
219+74.27	125.00	RT	132425.213	2697172.430	X	-	X	-
220+82.22	75.00	RT	132531.458	2697119.105	X	-	-	X
246+59.88	-75.00	LT	135103.280	2696889.909	X	-	-	X
246+59.88	75.00	RT	135107.896	2697039.838	X	-	-	X
272+21.99	-85.00	LT	137663.863	2696800.989	X	-	-	X
272+24.97	80.00	RT	137671.928	2696965.819	X	-	-	X
273+90.96	85.00	RT	137837.482	2696966.237	X	-	-	X
273+95.96	-90.00	LT	137838.159	2696791.167	X	-	-	X
299+46.31	85.00	RT	140392.052	2696903.126	X	-	X	-
299+46.31	75.00	RT	140391.805	2696893.129	X	-	X	-
299+46.31	-90.00	LT	140387.730	2696728.179	X	-	X	-
299+46.31	-75.00	LT	140388.101	2696743.175	X	-	X	-
326+53.15	110.00	RT	143098.691	2696861.266	X	-	-	X
326+67.15	-90.00	LT	143107.749	2696660.981	X	-	-	X
328+35.34	-75.00	LT	143274.860	2696670.517	X	-	-	X
354+07.90	75.00	RT	145851.475	2696710.769	X	-	X	-

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SS-XA-8-032(046)000	82	1

SPEC	CODE	BID ITEM	UNIT	QUANTITY
720	0110	RIGHT OF WAY MARKERS Sta 0+52.43 to 560+77.97	EA	59
720	0125	ALIGNMENT MONUMENTS Sta 0+52.43 to 560+77.97	EA	9
720	0130	IRON PIN R/W MONUMENTS Sta 0+52.43 to 560+77.97	EA	25
720	0135	IRON PIN REFERENCE MONUMENTS Sta 0+52.43 to 560+77.97	EA	34

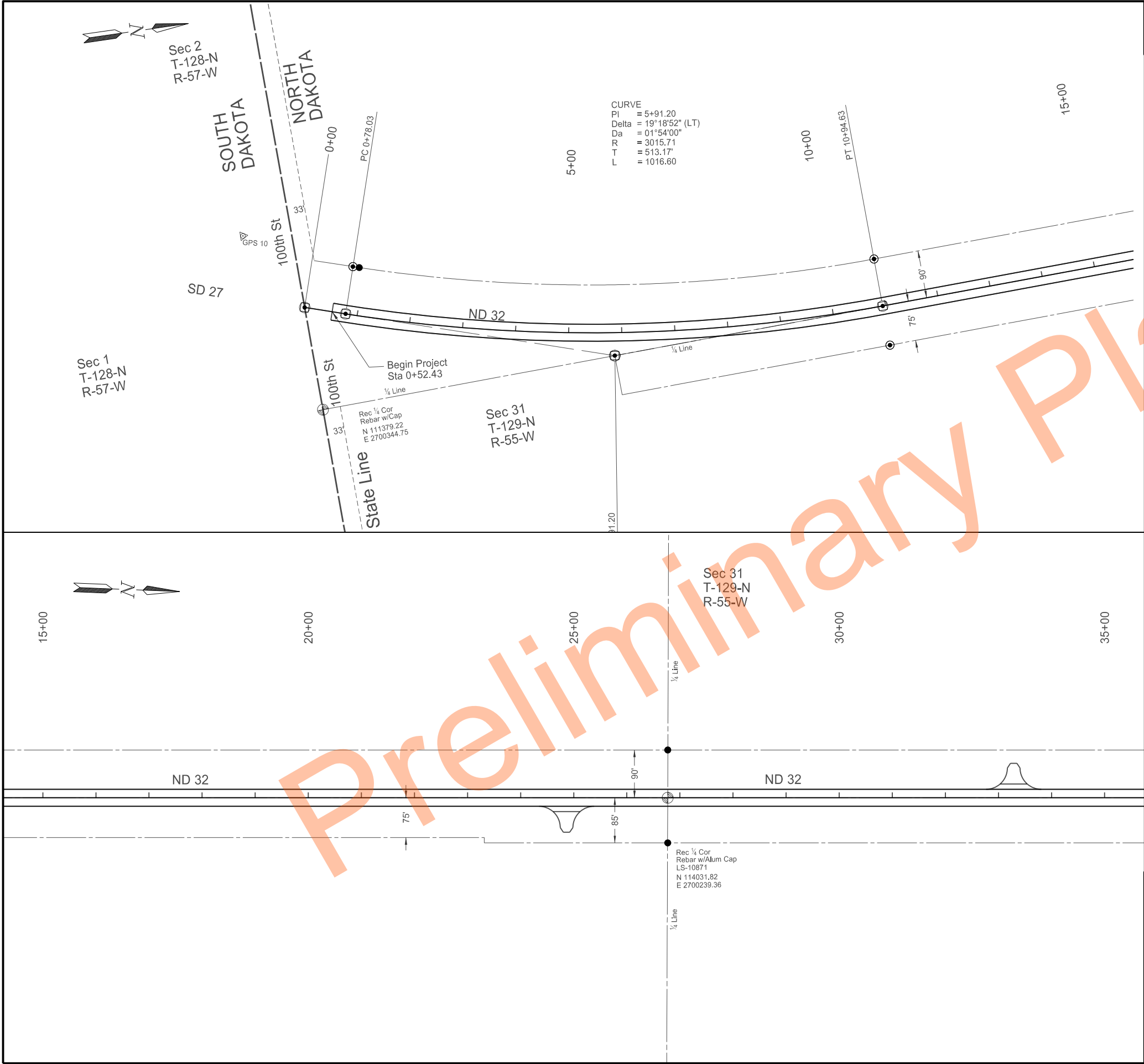
Station	Offset		Northing	Easting	720-0110 R/W Markers	720-0125 ALIGNMENT MONUMENTS	720-0130 IRON PIN R/W MONUMENTS	720-0130 IRON PIN R/W MONUMENTS
354+07.90	-85.00	LT	145844.658	2696550.914	X	-	X	-
354+07.90	85.00	RT	145851.901	2696720.760	X	-	X	-
354+07.90	-75.00	LT	145845.084	2696560.905	X	-	X	-
379+04.69	151.21	RT	148349.245	2696680.524	X	-	-	X
379+80.89	-75.00	LT	148415.745	2696451.275	X	-	-	X
381+30.69	-75.00	LT	148565.510	2696444.991	X	-	-	X
382+04.99	148.69	RT	148648.978	2696665.429	X	-	-	X
406+93.49	90.00	RT	151132.942	2696504.171	X	-	-	X
406+93.49	-90.00	LT	151125.520	2696324.324	X	-	-	X
486+83.65	80.00	RT	159116.391	2696182.279	X	-	-	X
487+03.95	-100.00	LT	159129.693	2696001.628	X	-	-	X
512+38.71	75.00	RT	161669.333	2696078.248	X	-	X	-
512+38.71	60.00	RT	161668.752	2696063.259	X	-	X	-
512+38.71	-75.00	LT	161663.519	2695928.360	X	-	-	X
536+24.56	251.04	RT	164060.211	2696161.686	X	-	-	X
537+75.59	-100.00	LT	164197.528	2695805.052	X	-	-	X
546+62.54	236.37	RT	164546.646	2696128.098	X	-	-	X

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Survey Data Layouts
Right of Way and Alignment Monuments

REGISTERED PROFESSIONAL ENGINEER

MATTHEW J. HETT
PE 10780
DATE 05/16/2024

NORTH DAKOTA



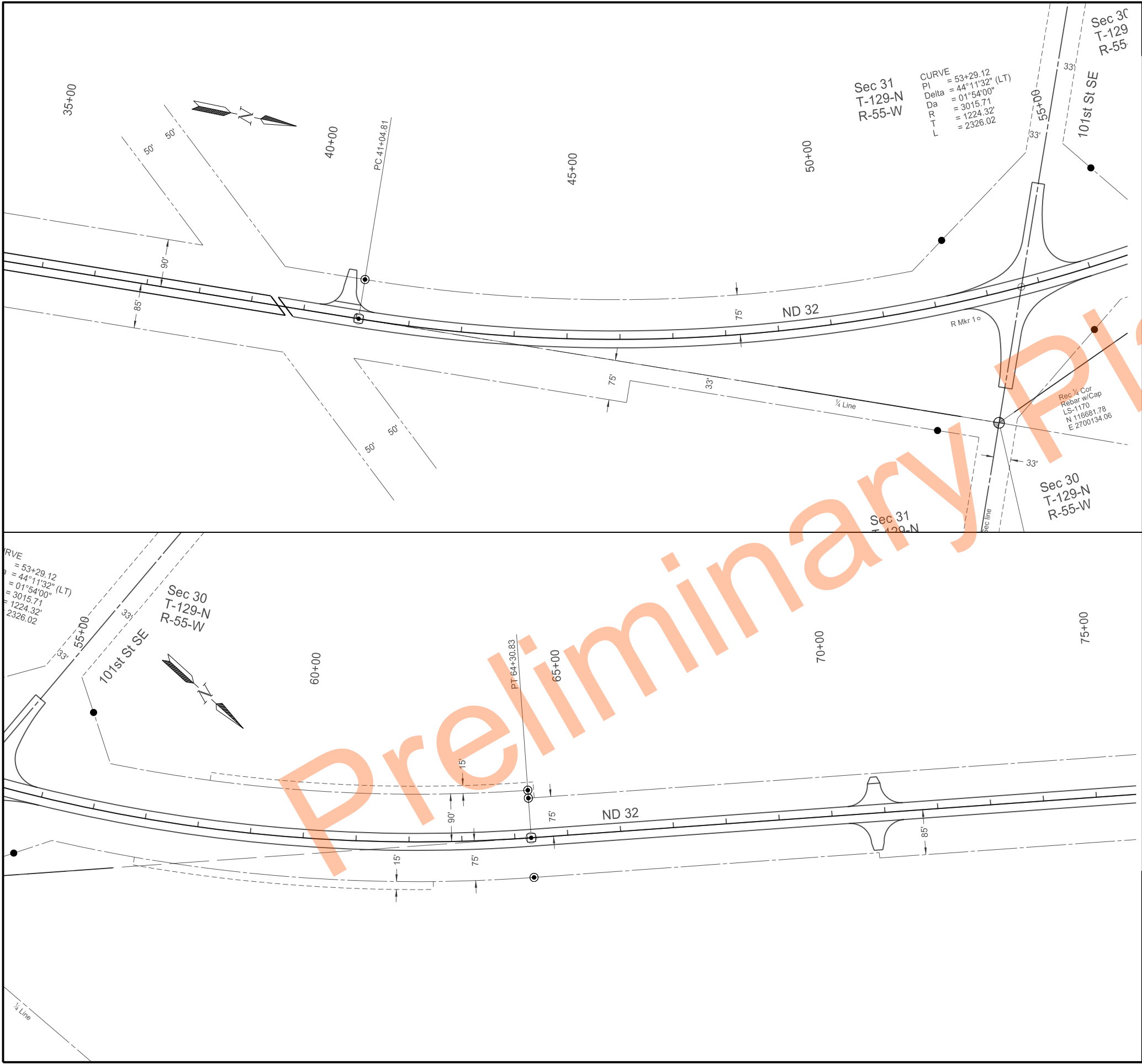
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ND	SS-XA-8-032(046)000	82	2

LEGEND

- Alignment Monument
- Iron Pin R/W Monument
- Iron Pin Reference Monument
- R/W Line
- Permanent Eastment Line
- Temporary Easement Line

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Survey Data Layouts
Right of Way and Alignment Monuments

REGISTERED PROFESSIONAL ENGINEER
MATTHEW J. HUNTER
PE-10780
DATE 05/16/2024
NORTH DAKOTA



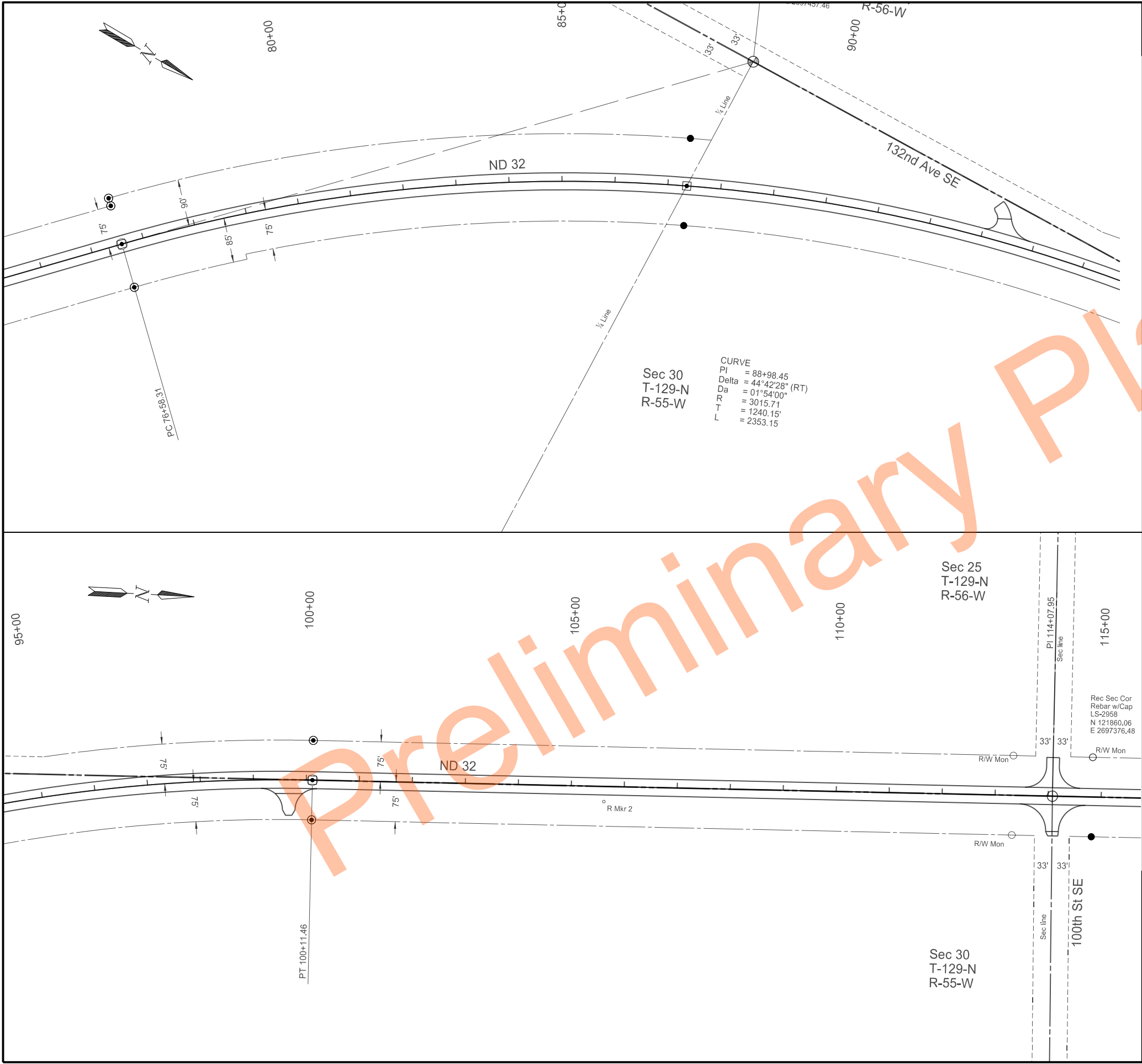
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ND	SS-XA-8-032(046)000	82	3

LEGEND

- Alignment Monument
- Iron Pin R/W Monument
- Iron Pin Reference Monument
- R/W Line
- Permanent Eastment Line
- Temporary Easement Line

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Survey Data Layouts
Right of Way and Alignment Monuments





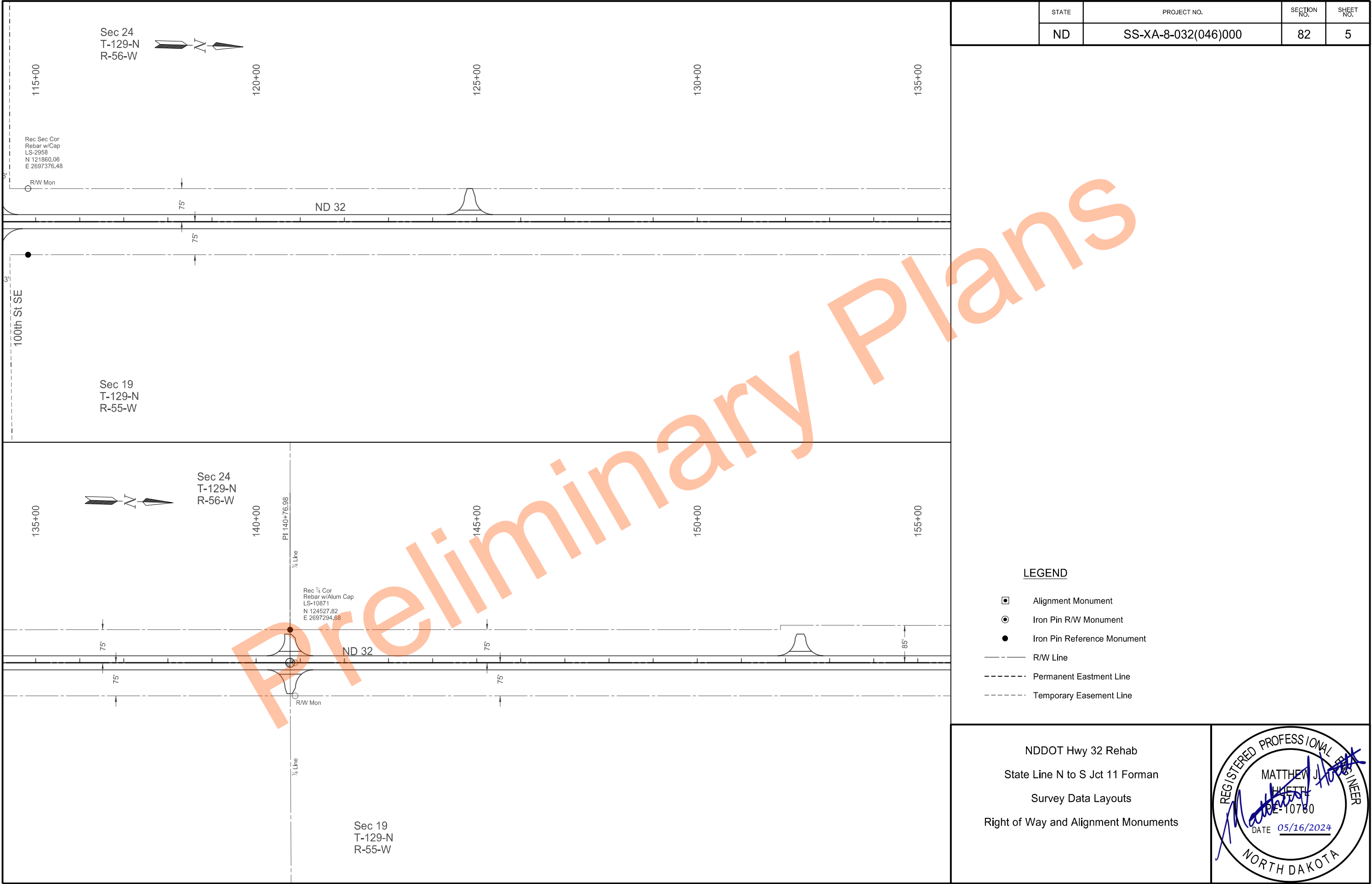
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ND	SS-XA-8-032(046)000	82	4

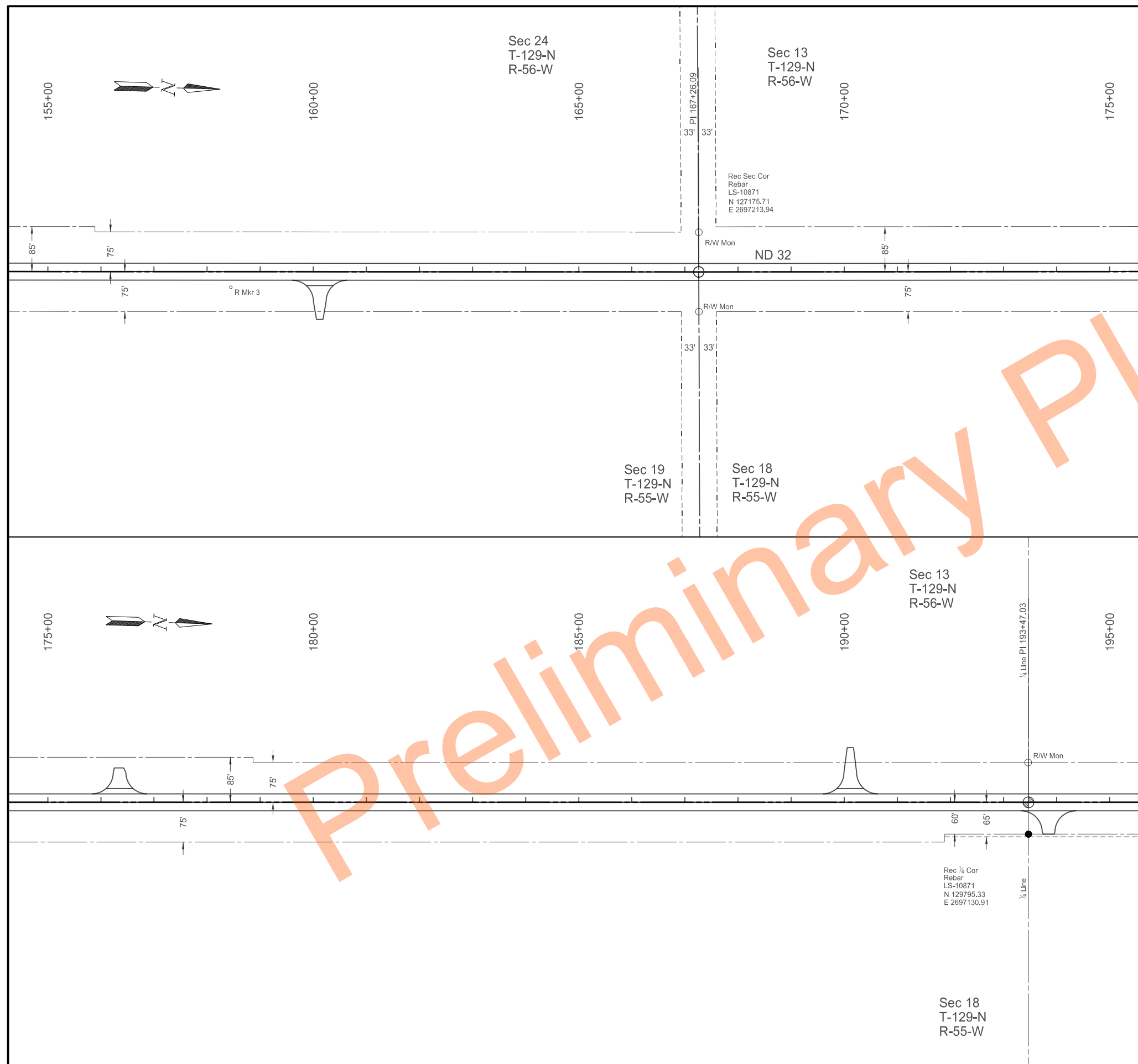
LEGEND

- Alignment Monument
- Iron Pin R/W Monument
- Iron Pin Reference Monument
- R/W Line
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- Temporary Easement Line

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
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PE-10780
DATE 05/16/2024
NORTH DAKOTA





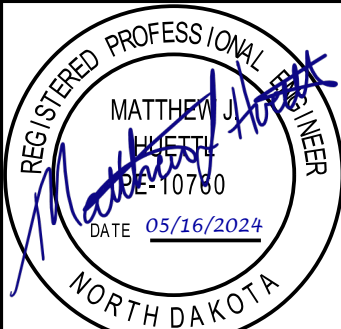
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	ND	SS-XA-8-032(046)000	82	6

Plans

LEGEND

- Alignment Monument
- Iron Pin R/W Monument
- Iron Pin Reference Monument
- R/W Line
- Permanent Easement Line
- Temporary Easement Line

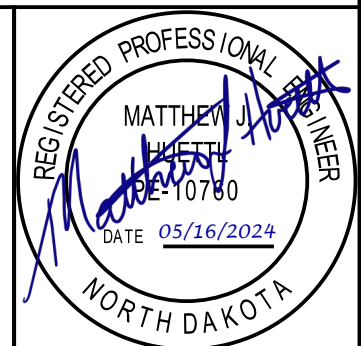
NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Survey Data Layouts
Right of Way and Alignment Monuments

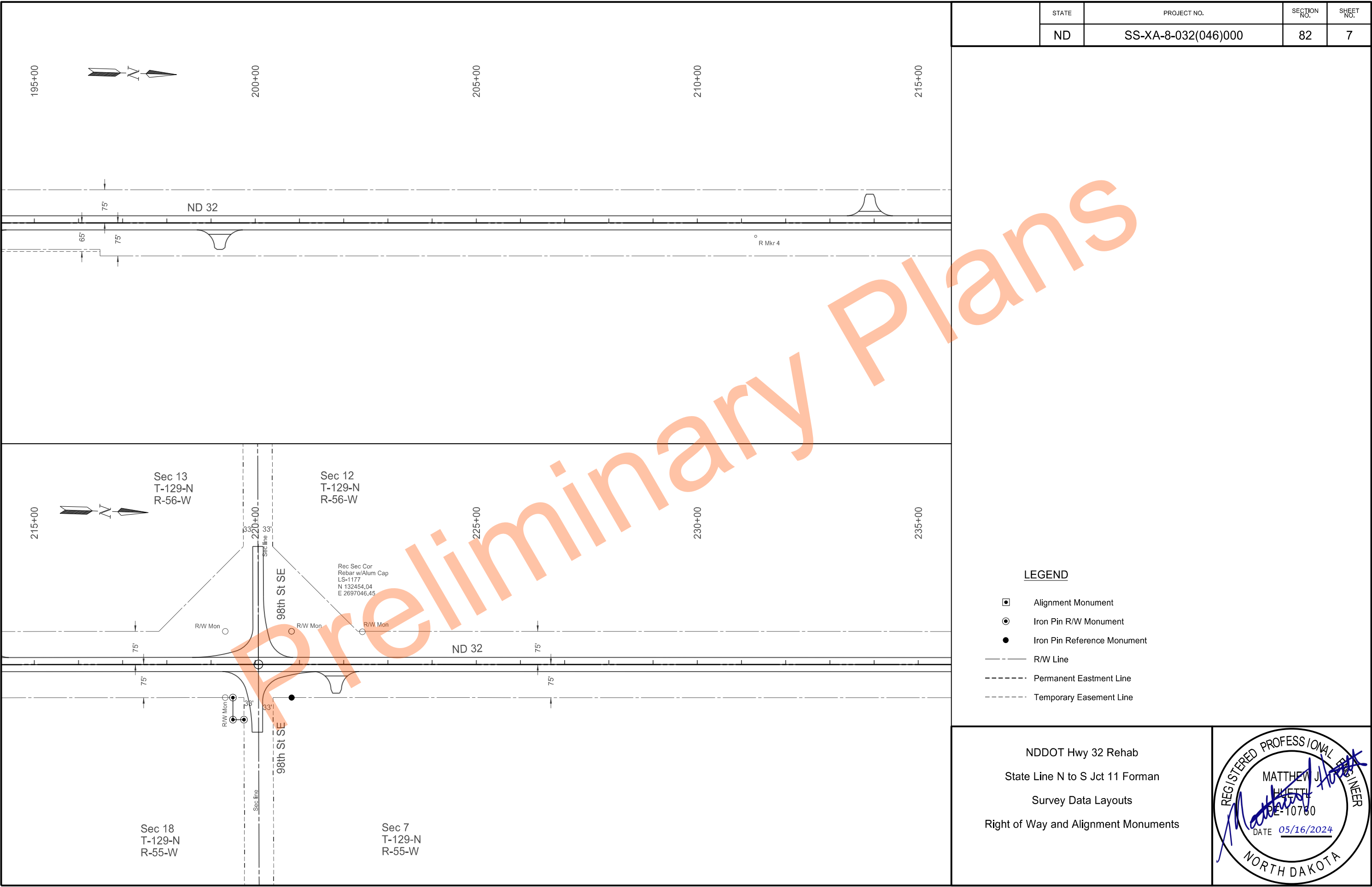


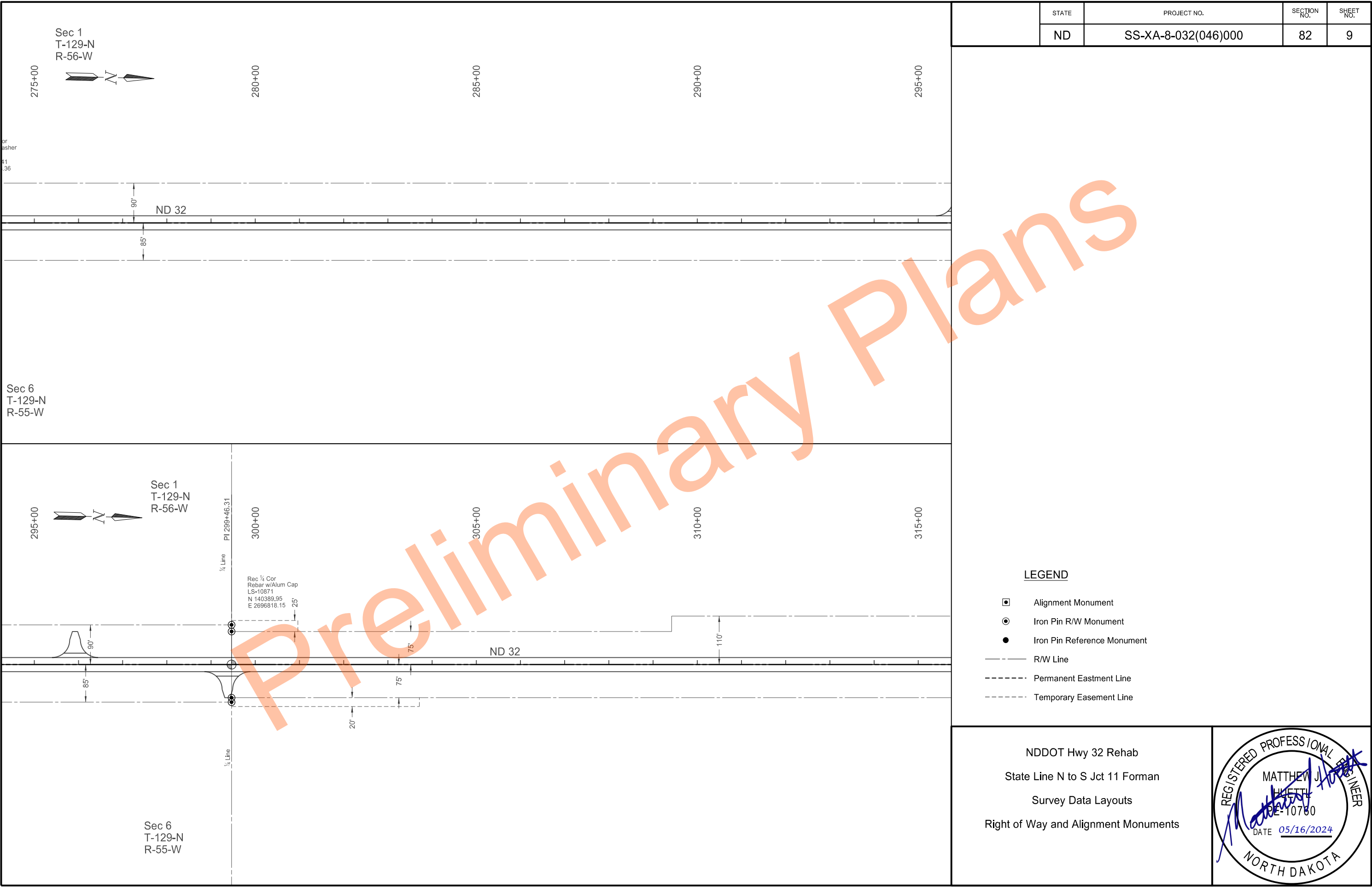
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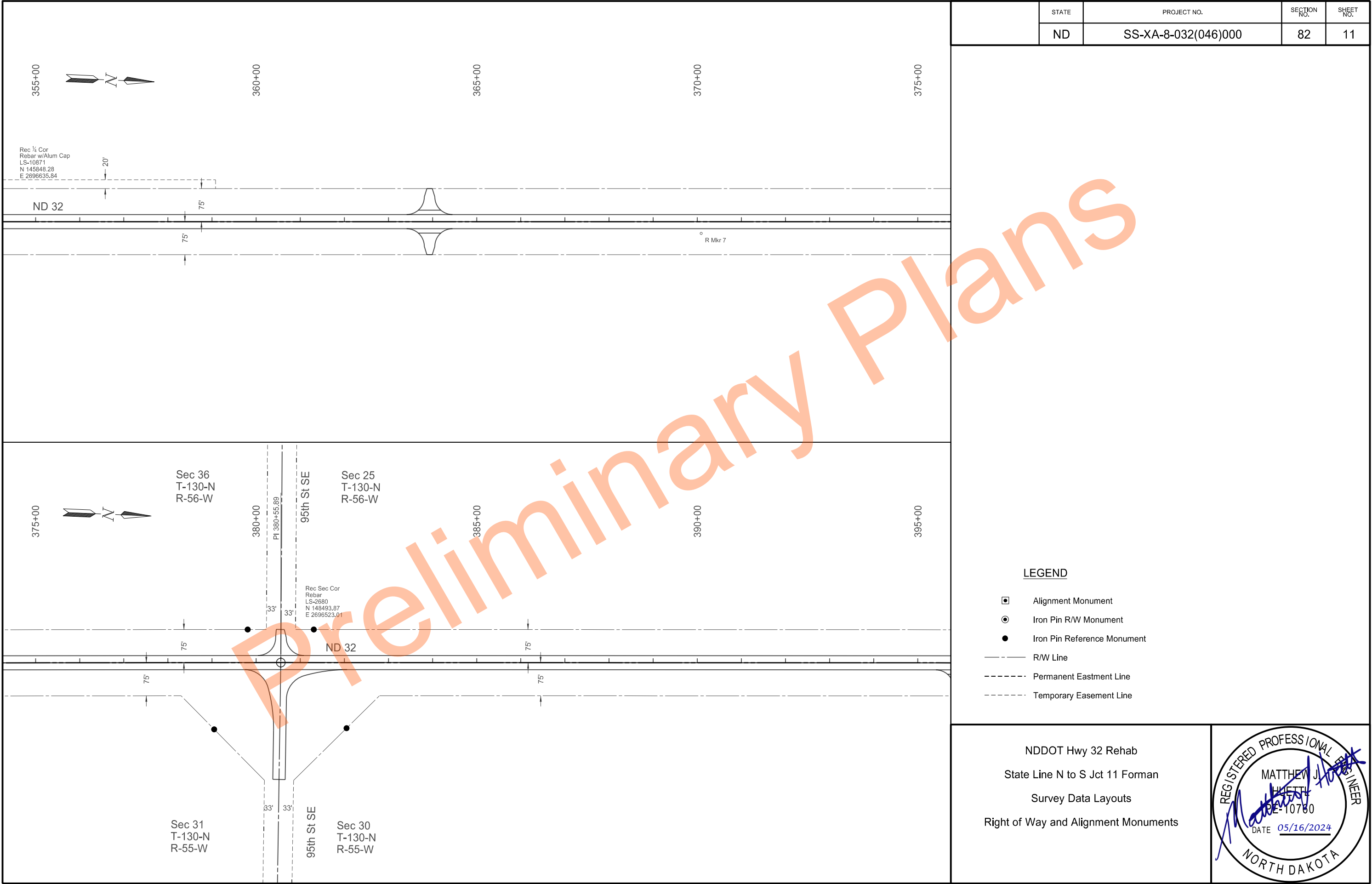
-  Alignment Monument
-  Iron Pin R/W Monument
-  Iron Pin Reference Monument
-  R/W Line
-  Permanent Easement Line
-  Temporary Easement Line

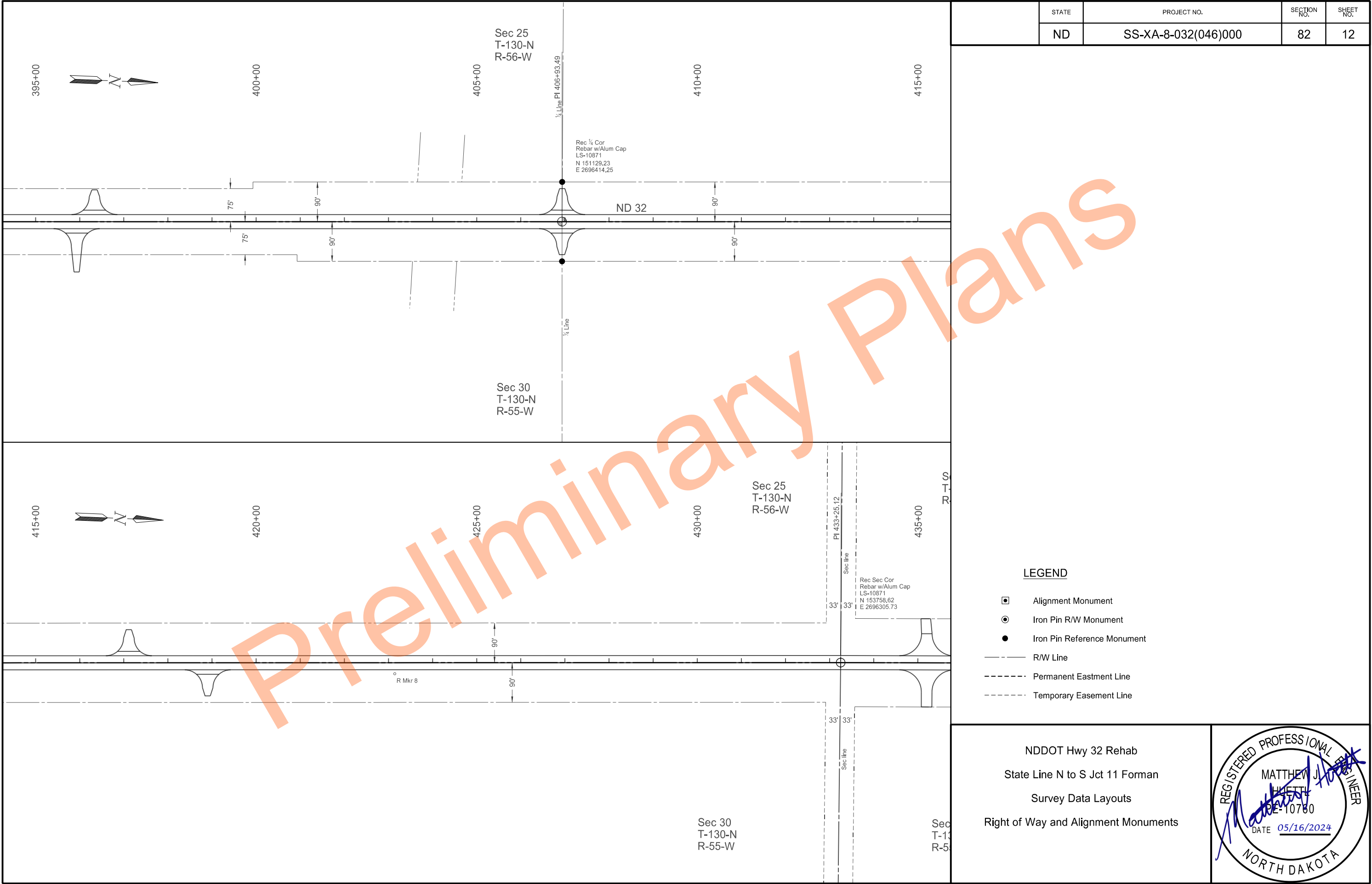
NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
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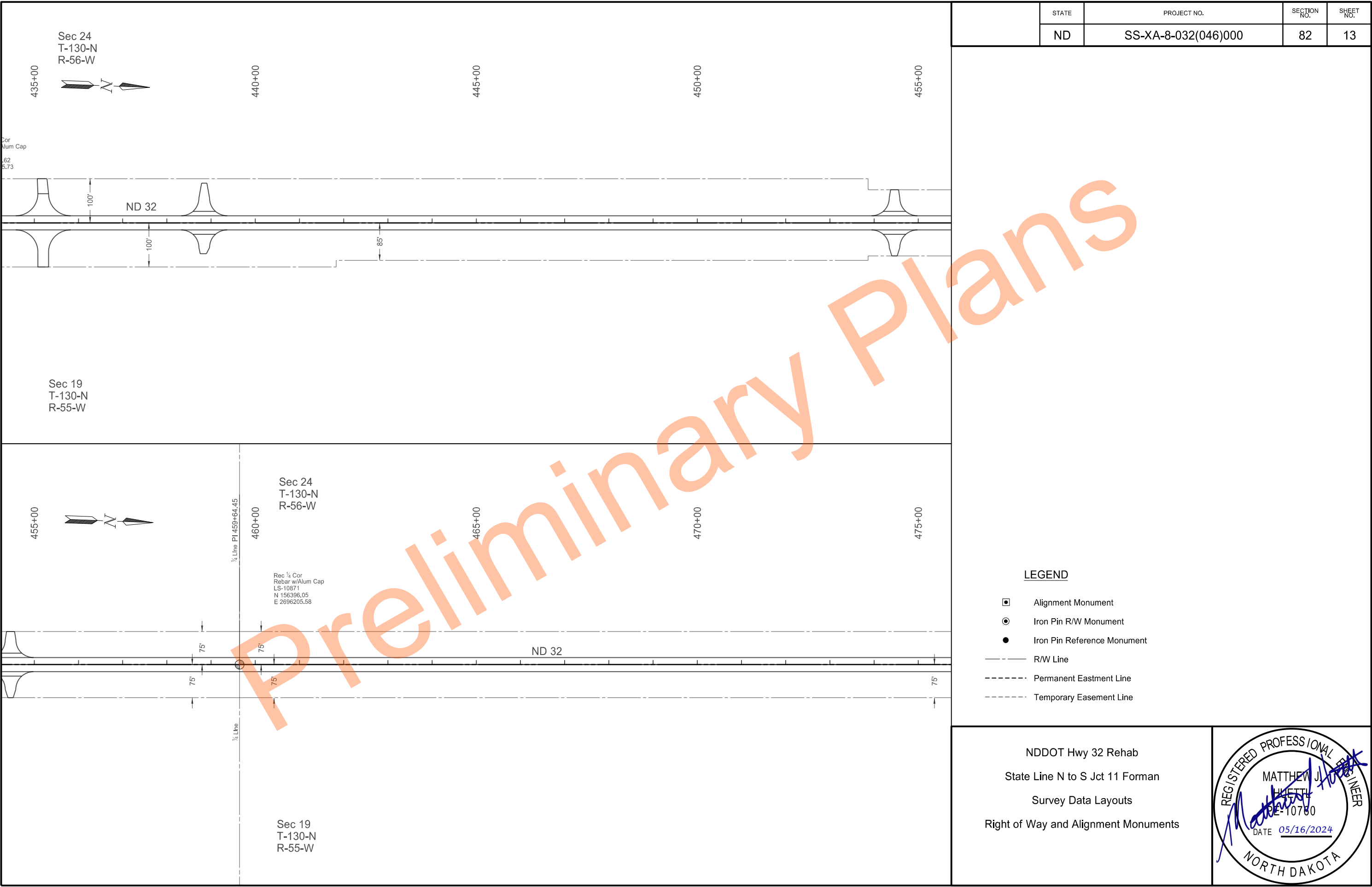


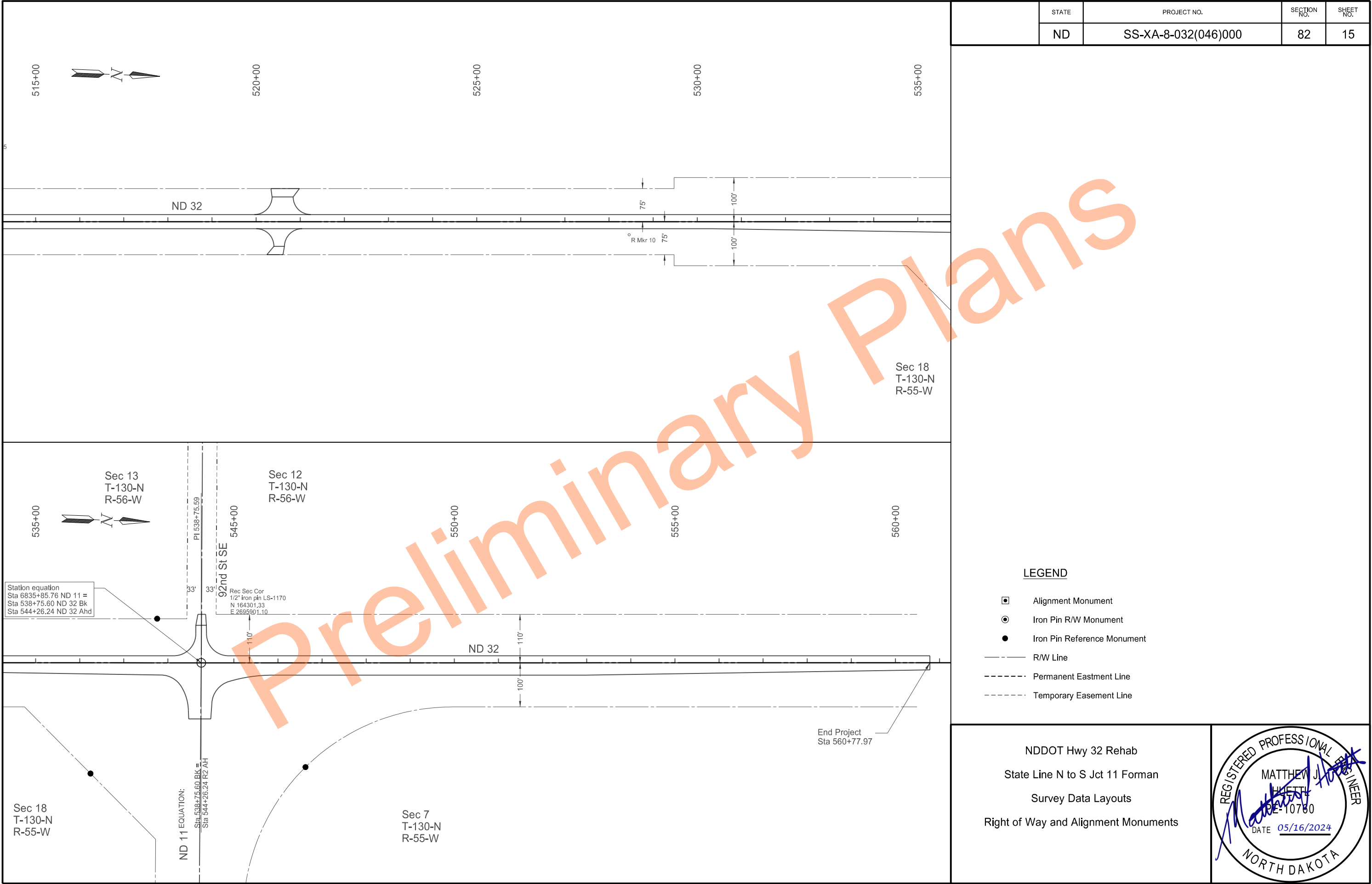












STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-XA-8-032(046)000	100	1

SIGN NUMBER	SIGN SIZE	DESCRIPTION	AMOUNT REQUIRED		TOTAL AMOUNT REQUIRED	UNITS PER AMOUNT	UNITS SUB TOTAL
			BY PHASE NO.				
			1	2			
E5-1-48	48"x48"	EXIT GORE				35	
G20-1-60	60"x24"	ROAD WORK NEXT __ MILES		1	1	28	28
G20-1b-60	60"x24"	NO WORK IN PROGRESS (Sign and installation only)				18	
G20-2-48	48"x24"	END ROAD WORK	2	2	2	26	52
G20-4-36	36"x18"	PILOT CAR FOLLOW ME (Mounted to back of pilot car)	1	1	1	18	18
G20-4b-36	36"x30"	WAIT FOR PILOT CAR				18	
G20-50a-72	72"x36"	ROAD WORK NEXT __ MILES RT & LT ARROWS	15	15	15	43	645
G20-52a-72	72"x24"	ROAD WORK NEXT __ MILES RT or LT ARROW				36	
G20-55-96	96"x48"	SPEED LIMIT ENFORCED - MINIMUM FEE \$80 WHEN WORKERS PRESENT	4	2	4	59	236
M1-1-36	36"x36"	INTERSTATE ROUTE MARKER (Post and installation only)				11	
M1-4-24	24"x24"	U.S. ROUTE MARKER (Post and installation only)				10	
M1-5-24	24"x24"	STATE ROUTE MARKER (Post and installation only)				10	
M3-1-24	24"x12"	NORTH (Mounted on route marker post)				7	
M3-2-24	24"x12"	EAST (Mounted on route marker post)				7	
M3-3-24	24"x12"	SOUTH (Mounted on route marker post)				7	
M3-4-24	24"x12"	WEST (Mounted on route marker post)				7	
M4-8-24	24"x12"	DETOUR (Mounted on route marker post)				7	
M4-9-30	30"x24"	DETOUR ARROW RIGHT or LEFT/AHD AND RT or LT				15	
M4-10-48	48"x18"	DETOUR (INSIDE ARROW) RIGHT or LEFT (Mounted on barricade)				7	
M5-1-21	21"x15"	ADVANCE TURN ARROW RT or LT(Mounted on route marker post)				7	
M5-1-30	30"x21"	ADVANCE TURN ARROW RT or LT(Mounted on route marker post)				9	
M6-1-21	21"x15"	DIRECTIONAL ARROW RT or LT (Mounted on route marker post)				7	
M6-1-30	30"x21"	DIRECTIONAL ARROW RT or LT (Mounted on route marker post)				9	
M6-3-21	21"x15"	DIRECTIONAL ARROW UP (Mounted on route marker post)				7	
R1-1-48	48"x48"	STOP	8	8	8	32	256
R1-2-60	60"x60"	YIELD				29	
R2-1-36	36"x48"	SPEED LIMIT __ (Portable only)	2	10	10	30	300
R2-1-48	48"x60"	SPEED LIMIT __	4		4	39	156
R2-1aP-24	24"x18"	MINIMUM FEE \$80 (Mounted on Speed Limit post)	3	7	7	10	70
R3-2-48	48"x48"	NO LEFT TURN				35	
R4-1-36	36"x48"	DO NOT PASS (Portable only)		10	10	30	300
R4-1-48	48"x60"	DO NOT PASS				39	
R4-7-48	48"x60"	KEEP RIGHT				39	
R5-1-48	48"x48"	DO NOT ENTER				35	
R6-1-54	54"x18"	ONE WAY RIGHT or LEFT (Mounted on STOP or DO NOT ENTER post)				14	
R7-1-12	12"x18"	NO PARKING ANY TIME				11	
R10-6-24	24"x36"	STOP HERE ON RED				16	
R11-2-48	48"x30"	ROAD CLOSED (Mounted on barricade)				12	
R11-2a-48	48"x30"	STREET CLOSED (Mounted on barricade)				12	
R11-3a-60	60"x30"	ROAD CLOSED __ MILES AHEAD LOCAL TRAFFIC ONLY (Mtd on barricade)				15	
R11-3c-60	60"x30"	STREET CLOSED __ MILES AHEAD LOCAL TRAFFIC ONLY (Mtd on barricade)				15	
R11-4a-60	60"x30"	STREET CLOSED TO THRU TRAFFIC (Mounted on barricade)				15	
W1-3-48	48"x48"	REVERSE TURN RIGHT or LEFT				35	
W1-4-48	48"x48"	REVERSE CURVE RIGHT or LEFT				35	
W1-4b-48	48"x48"	TWO LANE REVERSE CURVE RIGHT or LEFT				35	
W1-6-48	48"x24"	ONE DIRECTION LARGE ARROW				26	
W3-1-48	48"x48"	STOP AHEAD				35	
W3-3-48	48"x48"	SIGNAL AHEAD				35	
W3-4-48	48"x48"	BE PREPARED TO STOP		6	6	35	210
W3-5-48	48"x48"	SPEED REDUCTION AHEAD	3	7	7	35	245
W4-2-48	48"x48"	LANE ENDS RIGHT or LEFT				35	
W5-1-48	48"x48"	ROAD NARROWS	1		1	35	35
W5-8-48	48"x48"	THRU TRAFFIC RIGHT LANE				35	
W5-9-48	48"x48"	ROAD WORK TRAFFIC ONLY DOWN & LT or RT ARROW				35	
W6-3-48	48"x48"	TWO WAY TRAFFIC				35	
W8-1-48	48"x48"	BUMP	4	4	4	35	140
W8-3-48	48"x48"	PAVEMENT ENDS	2	2	2	35	70
W8-7-48	48"x48"	LOOSE GRAVEL	8		8	35	280
W8-11-48	48"x48"	UNEVEN LANES		10	10	35	350
W8-12-48	48"x48"	NO CENTER LINE	2		2	35	70
W8-17-48	48"x48"	SHOULDER DROP-OFF SYMBOL				35	
W8-53-48	48"x48"	TRUCKS ENTERING HIGHWAY				35	
W8-54-48	48"x48"	TRUCKS ENTERING AHEAD or __ FT or __ MILE	4	4	4	35	140
W8-55-48	48"x48"	TRUCKS CROSSING AHEAD or __ FT or __ MILE	4	4	4	35	140
W8-56-48	48"x48"	TRUCKS EXITING HIGHWAY				35	
W9-3a-48	48"x48"	CENTER LANE CLOSED SYMBOL				35	
W13-1P-30	30"x30"	__ MPH ADVISORY SPEED PLAQUE (Mounted on warning sign post)				14	
W14-3-64	64"x48"	NO PASSING ZONE				28	
W16-2P-30	30"x24"	__ FEET PLAQUE (Mounted on warning sign post)	2		2	10	20
W20-1-48	48"x48"	ROAD WORK AHEAD or __ FT or __ MILE	7	10	10	35	350
W20-2-48	48"x48"	DETOUR AHEAD or __ FT or __ MILE				35	
W20-3-48	48"x48"	ROAD or STREET CLOSED AHEAD or __ FT or __ MILE				35	
W20-4-48	48"x48"	ONE LANE ROAD AHEAD or __ FT or __ MILE	2		2	35	70
W20-5-48	48"x48"	RIGHT or CENTER or LEFT LANE CLOSED AHEAD or __ FT or __ MILE				35	
W20-7-48	48"x48"	FLAGGER	2	6	6	35	210
W20-8-18	18"x18"	STOP - SLOW PADDLE Back to Back	2	6	6	5	30
W20-52P-54	54"x12"	NEXT __ MILES (Mounted on warning sign post)				12	
W21-1-48	48"x48"	WORKERS				35	
W21-2-48	48"x48"	FRESH OIL		4	4	35	140
W21-3-48	48"x48"	ROAD MACHINERY AHEAD or __ FT or __ MILE				35	
W21-5-48	48"x48"	SHOULDER WORK	2	1	2	35	70
W21-5a-48	48"x48"	RIGHT or LEFT SHOULDER CLOSED				35	

[illegible]

SPECIAL SIGNS

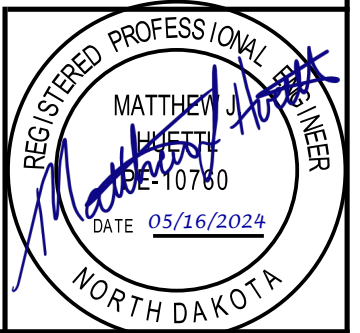
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SPEC & CODE

704-1000	TRAFFIC CONTROL SIGNS	TOTAL UNITS	4631
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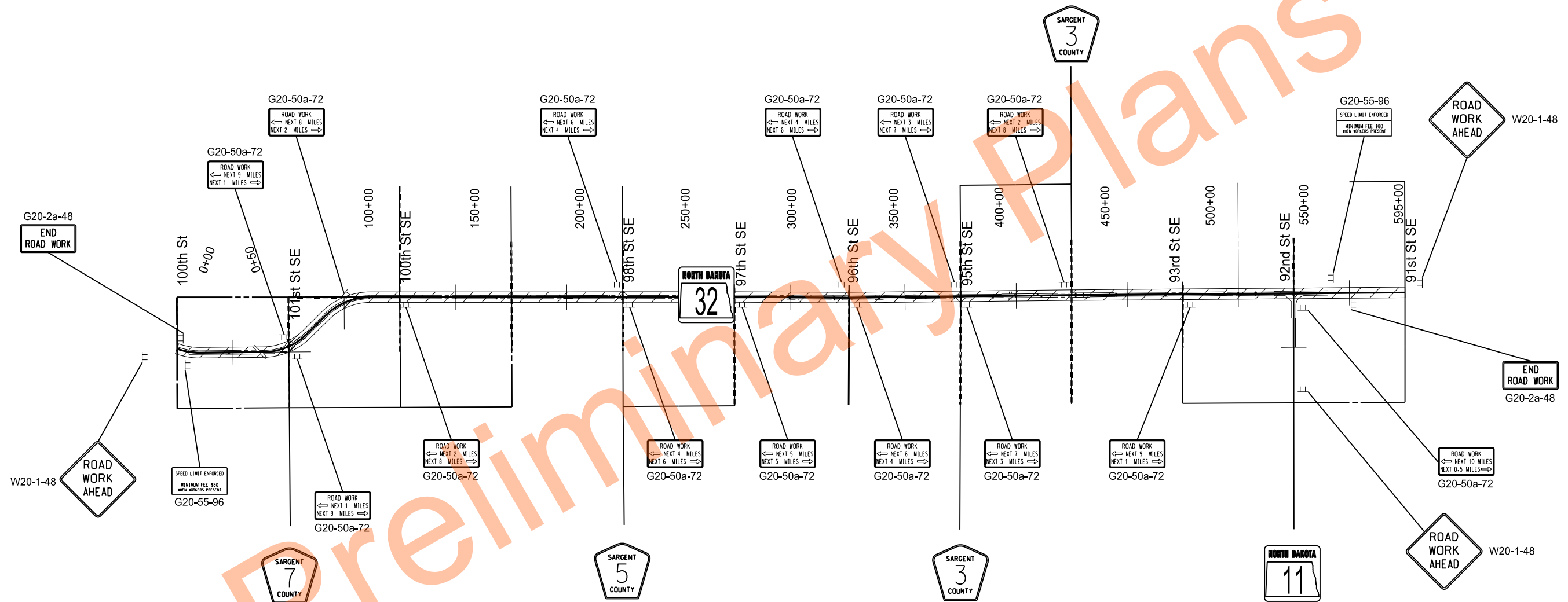
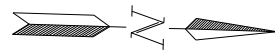
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NOTE:
If additional signs are required, units will be calculated using the formula from Section III-18.06 of the Design Manual.
<http://www.dot.nd.gov/>



Traffic Control Devices List
NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Workzone Traffic Control

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SS-XA-8-032(046)000	100	2

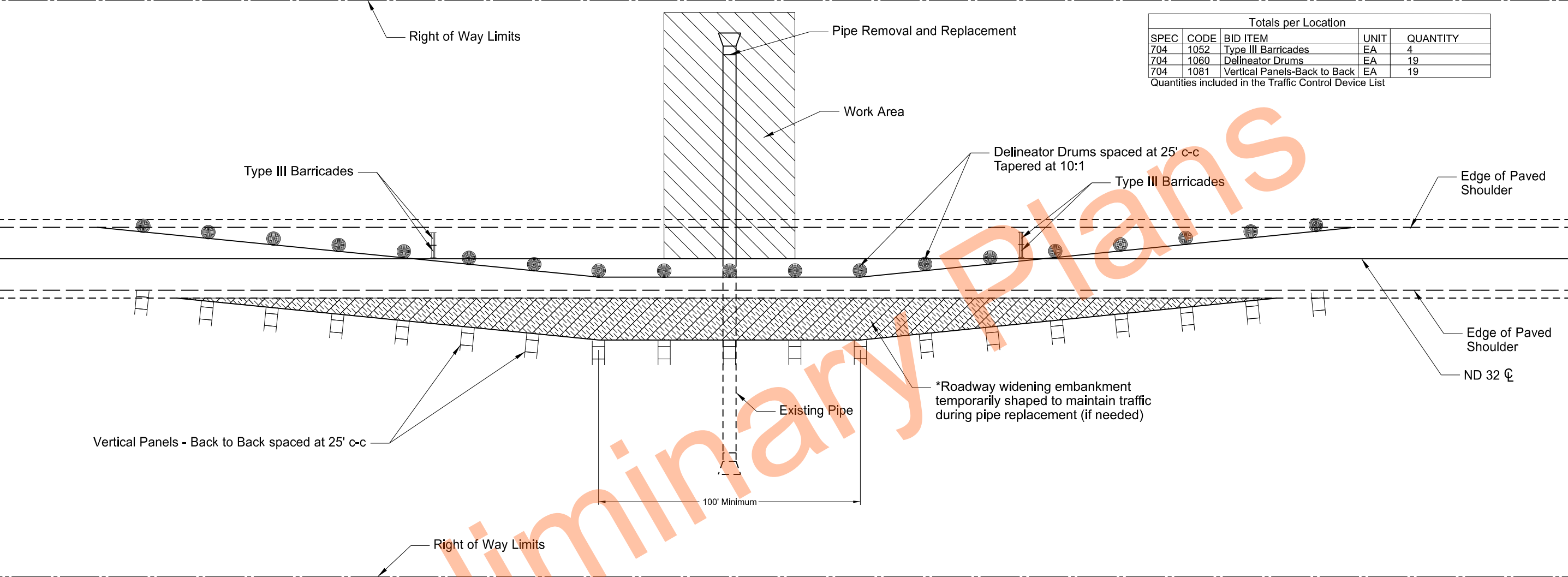


Work Zone

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Work Zone Traffic Control
Work Zone Overview



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SS-XA-8-032(046)000	100	3



Totals per Location				
SPEC	CODE	BID ITEM	UNIT	QUANTITY
704	1052	Type III Barricades	EA	4
704	1060	Delineator Drums	EA	19
704	1081	Vertical Panels-Back to Back	EA	19

Quantities included in the Traffic Control Device List

NOTES:
This detail is to be used in conjunction with Standard Drawing D-704-21 Layout Type J.

(*) Placement of material and construction of temporary widening is incidental to Borrow Excavation. If aggregate surfacing is required by the Engineer, "TEMPORARY TRAFFIC SURFACE AGGREGATE" will be used as temporary surfacing.

Temporary embankment inslopes shall be 4:1 or flatter.

Estimated quantity of salvaged base course required for temporary widening during pipe replacement is 250 TON.

Contractor can reuse this quantity of salvaged base course as needed for pipe installation.

Removal of widening and placement into mainline embankment is included in "REMOVAL OF TEMPORARY BYPASS" bid item.

Approximate quantities are shown. Field conditions may vary. All costs associated with maintaining existing drainage at pipe replacement locations is incidental to the contract unit price bid for "PIPE CONDUIT __IN".

Temporary Bypass

Station	Aggregate Surfacing (TON)	Embankment 25% Shrinkage (CY)
60+84	250	700

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Work Zone Traffic Control
Temporary Widening for Pipe Replacement



																					STATE		PROJECT NO.		SECTION NO.	SHEET NO.
																					N.D.		SS-XA-8-032(046)000		110	1
Station / RP	Sign No.	Assembly No.	Flat Sheet For Signs		Sign Support Length				Vert Clearance FT	Support Size	Max Post Len LF	Sleeve Length				Sleeve Size	Anchor EA	Anchor LF	Anchor Size	Reset Sign Panel EA	Reset Sign Support EA	Break-Away EA	Comments			
			IV SF	XI SF	1st LF	2nd LF	3rd LF	4th LF				1st LF	2nd LF	3rd LF	4th LF											
1+48 Rt								5.0	2 x 2 12 ga												1					
2+49 Rt		371		6.0	13.3			5.0	2.5 x 2.5 12 ga	16.2						1	4	3 x 3 7 ga								
2+72 Lt		19		6.3	13.4			5.0	2.5 x 2.5 12 ga	14.5						1	4	3 x 3 7 ga								
3+81 Rt	SN-2			12.1	12.4			5.0	2.5 x 2.5 10 ga	13.7	4.1				2.19 x 2.19 10 ga	1	4	3 x 3 7 ga			1					
7+83 Rt		9		5.0	12.7			5.0	2.25 x 2.25 12 ga	15.0						1	4	2.5 x 2.5 12 ga								
15+05 Lt		19		6.3	13.4			5.0	2.5 x 2.5 12 ga	14.5						1	4	3 x 3 7 ga								
26+66 Rt	SN-1	40		12.0	12.7			5.0	2.25 x 2.25 12 ga	13.5	4.5				2.5 x 2.5 12 ga	1	4	3 x 3 7 ga			1					
34+57 Rt		63		7.1	12.3			5.0	2.5 x 2.5 10 ga	15.3						1	4	3 x 3 7 ga			1					
36+62 Rt		19		6.3	13.4			5.0	2.5 x 2.5 12 ga	14.5						1	4	3 x 3 7 ga								
44+61 Lt		63		7.1	12.3			5.0	2.5 x 2.5 10 ga	15.3						1	4	3 x 3 7 ga			1					
46+56 Rt		437		8.4	14.3			5.0	2.5 x 2.5 10 ga	15.2						1	4	3 x 3 7 ga			1					
49+89 Rt	SN-3			6.8	11.5			5.0	2.5 x 2.5 12 ga	12.3						1	4	3 x 3 7 ga								
52+09 Lt	SN-1	40		12.0	12.7			5.0	2.25 x 2.25 12 ga	13.5	4.5				2.5 x 2.5 12 ga	1	4	3 x 3 7 ga			1					
52+97 Rt		405		12.4	13.3			5.0	2.5 x 2.5 10 ga	16.0	3.4				2.19 x 2.19 10 ga	1	4	3 x 3 7 ga			1					
53+59 Lt	SA-4B			7.5	12.8			5.0	2.5 x 2.5 10 ga	15.0						1	4	3 x 3 7 ga	1		1					
53+66 Rt		2		7.5	12.3			5.0	2.5 x 2.5 10 ga	14.6						1	4	3 x 3 7 ga			1					
54+31 Lt		405		12.4	13.3			5.0	2.5 x 2.5 10 ga	16.0	3.4				2.19 x 2.19 10 ga	1	4	3 x 3 7 ga			1					
56+55 Lt	SN-4			6.8	11.5			5.0	2.5 x 2.5 12 ga	12.3						1	4	3 x 3 7 ga								
69+66 Lt		19		6.3	13.4			5.0	2.5 x 2.5 12 ga	14.5						1	4	3 x 3 7 ga								
72+25 Rt		19		6.3	13.4			5.0	2.5 x 2.5 12 ga	14.5						1	4	3 x 3 7 ga								
93+14 Lt		1		5.2	12.8			5.0	2.25 x 2.25 12 ga	13.7						1	4	2.5 x 2.5 12 ga								
107+06 Lt		19		6.3	13.4			5.0	2.5 x 2.5 12 ga	14.5						1	4	3 x 3 7 ga								
114+32 Rt	SA-2B			5.2	13.4			5.0	2.5 x 2.5 12 ga	15.2						1	4	3 x 3 7 ga	1							
212+59 Rt		437		8.4	14.3			5.0	2.5 x 2.5 10 ga	15.2						1	4	3 x 3 7 ga			1					
214+55 Rt	SN-5			10.5	11.3	12.3		5.0	2.25 x 2.25 12 ga	12.4						2	4	2.5 x 2.5 12 ga								
217+10 Rt	SN-7			33.5	12.2	13.0	13.7	7.2	5.0	2.25 x 2.25 12 ga	15.0	3.3	4.1	4.8	2.5 x 2.5 12 ga	4	4	3 x 3 7 ga			4					
219+69 Lt	SA-2B			5.2	13.4			5.0	2.5 x 2.5 12 ga	15.2						1	4	3 x 3 7 ga	1							
219+75 Rt		405		12.4	13.3			5.0	2.5 x 2.5 10 ga	16.0	3.4				2.19 x 2.19 10 ga	1	4	3 x 3 7 ga			1					
220+35 Lt		405		12.4	13.3			5.0	2.5 x 2.5 10 ga	16.0	3.4				2.19 x 2.19 10 ga	1	4	3 x 3 7 ga			1					
220+35 Lt		14		4.0	12.2			5.0	2 x 2 12 ga	13.0						1	4	2.25 x 2.25 12 ga								
220+42 Rt		1		5.2	12.8			5.0	2.25 x 2.25 12 ga	13.7						1	4	2.5 x 2.5 12 ga								
222+90 Lt	SN-8			33.5	12.0	12.7	13.5	6.9	5.0	2.5 x 2.5 10 ga	15.6					4	4	3 x 3 7 ga			4					
225+60 Lt	SN-6			10.5	11.3	12.3		5.0	2.25 x 2.25 12 ga	12.4						2	4	2.5 x 2.5 12 ga								
227+53 Lt		437		8.4	12.8			5.0	2.25 x 2.25 12 ga	13.7						1	4	2.5 x 2.5 12 ga								
																					Sign Summary Perforated Tube ND Highway 32					
4/22/24 9:53:44AM Page 1 of 2																										

																				STATE		PROJECT NO.		SECTION NO.	SHEET NO.	
																				N.D.		SS-XA-8-032(046)000		110	2	
Station / RP	Sign No.	Assembly No.	Flat Sheet For Signs IV SF	XI SF	Sign Support Length				Vert Clearance FT	Support Size	Max Post Len LF	Sleeve Length				Sleeve Size	Anchor EA	Anchor LF	Anchor Size	Reset Sign Panel EA	Reset Sign Support EA	Break-Away EA	Comments			
					1st LF	2nd LF	3rd LF	4th LF				1st LF	2nd LF	3rd LF	4th LF											
273+26 Rt	SA-2B			5.2	13.4				5.0	2.5 x 2.5 12 ga	15.2							1	4	3 x 3 7 ga	1					
322+31 Rt	SN-9			9.8	11.3	12.3			5.0	2.25 x 2.25 12 ga	13.3							2	4	2.5 x 2.5 12 ga						
324+33 Lt	SN-9			9.8	11.3	12.3			5.0	2.25 x 2.25 12 ga	13.3							2	4	2.5 x 2.5 12 ga						
327+81 Rt		1		5.2	12.8				5.0	2.25 x 2.25 12 ga	13.7							1	4	2.5 x 2.5 12 ga						
373+14 Rt		437		8.4	14.3				5.0	2.5 x 2.5 10 ga	15.2							1	4	3 x 3 7 ga		1				
376+52 Rt	SN-10			30.0	12.4	13.2	14.0		5.0	2.25 x 2.25 12 ga	15.7	3.1	4.0	4.8		2.5 x 2.5 12 ga		3	4	3 x 3 7 ga		3				
380+23 Rt		14		4.0	12.2				5.0	2 x 2 12 ga	13.0							1	4	2.25 x 2.25 12 ga						
380+35 Lt	SA-2B			5.2	13.4				5.0	2.5 x 2.5 12 ga	15.2							1	4	3 x 3 7 ga	1					
380+88 Lt		405		12.4	13.3				5.0	2.5 x 2.5 10 ga	16.0	3.4				2.19 x 2.19 10 ga		1	4	3 x 3 7 ga		1				
380+93 Rt		1		5.2	12.8				5.0	2.25 x 2.25 12 ga	13.7							1	4	2.5 x 2.5 12 ga						
384+78 Lt	SN-11			30.0	12.4	13.2	14.0		5.0	2.25 x 2.25 12 ga	15.7	3.1	4.0	4.8		2.5 x 2.5 12 ga		3	4	3 x 3 7 ga		3				
388+16 Lt		391		6.2	13.5				5.0	2.5 x 2.5 12 ga	15.9							1	4	3 x 3 7 ga						
426+59 Rt		391		6.2	13.5				5.0	2.5 x 2.5 12 ga	15.9							1	4	3 x 3 7 ga						
434+89 Lt	SA-2B			5.2	13.4				5.0	2.5 x 2.5 12 ga	15.2							1	4	3 x 3 7 ga	1					
440+40 Lt		437		8.4	14.3				5.0	2.5 x 2.5 10 ga	15.2							1	4	3 x 3 7 ga		1				
486+37 Rt		1		5.2	12.8				5.0	2.25 x 2.25 12 ga	13.7							1	4	2.5 x 2.5 12 ga						
526+56 Rt		391		6.2	13.5				5.0	2.5 x 2.5 12 ga	15.9							1	4	3 x 3 7 ga						
530+52 Rt	SN-12			26.3	12.8	13.4	14.0		5.0	2.25 x 2.25 12 ga	14.6	4.1	4.6	5.2		2.5 x 2.5 12 ga		3	4	3 x 3 7 ga		3				
534+50 Rt		405		12.4	13.3				5.0	2.5 x 2.5 10 ga	16.0	3.4				2.19 x 2.19 10 ga		1	4	3 x 3 7 ga		1				
534+54 Lt		9		5.0	12.7				5.0	2.25 x 2.25 12 ga	15.0							1	4	2.5 x 2.5 12 ga						
536+52 Lt		371		6.0	13.3				5.0	2.5 x 2.5 12 ga	16.2							1	4	3 x 3 7 ga						
538+49 Lt	SA-2B			5.2	13.3				5.0	2.5 x 2.5 10 ga	14.0							1	4	3 x 3 7 ga	1		1			
544+67 Rt		3		13.3	13.2				5.0	2.5 x 2.5 10 ga	14.6	4.3				2.19 x 2.19 10 ga		1	4	3 x 3 7 ga		1				
544+75 Lt		405		12.4	13.3				5.0	2.5 x 2.5 10 ga	16.0	3.4				2.19 x 2.19 10 ga		1	4	3 x 3 7 ga		1				
Sub Total			0.0	558.5	Total		933.4											Total	292.0			8	0	37		
Grand Total			0.0	558.5	Total		933.4											Total	292	0		8	0	37		

4/22/24 9:53:44AM

Page 2 of 2

REGISTERED PROFESSIONAL ENGINEER

MATTHEW J. HETTE

RE-10780

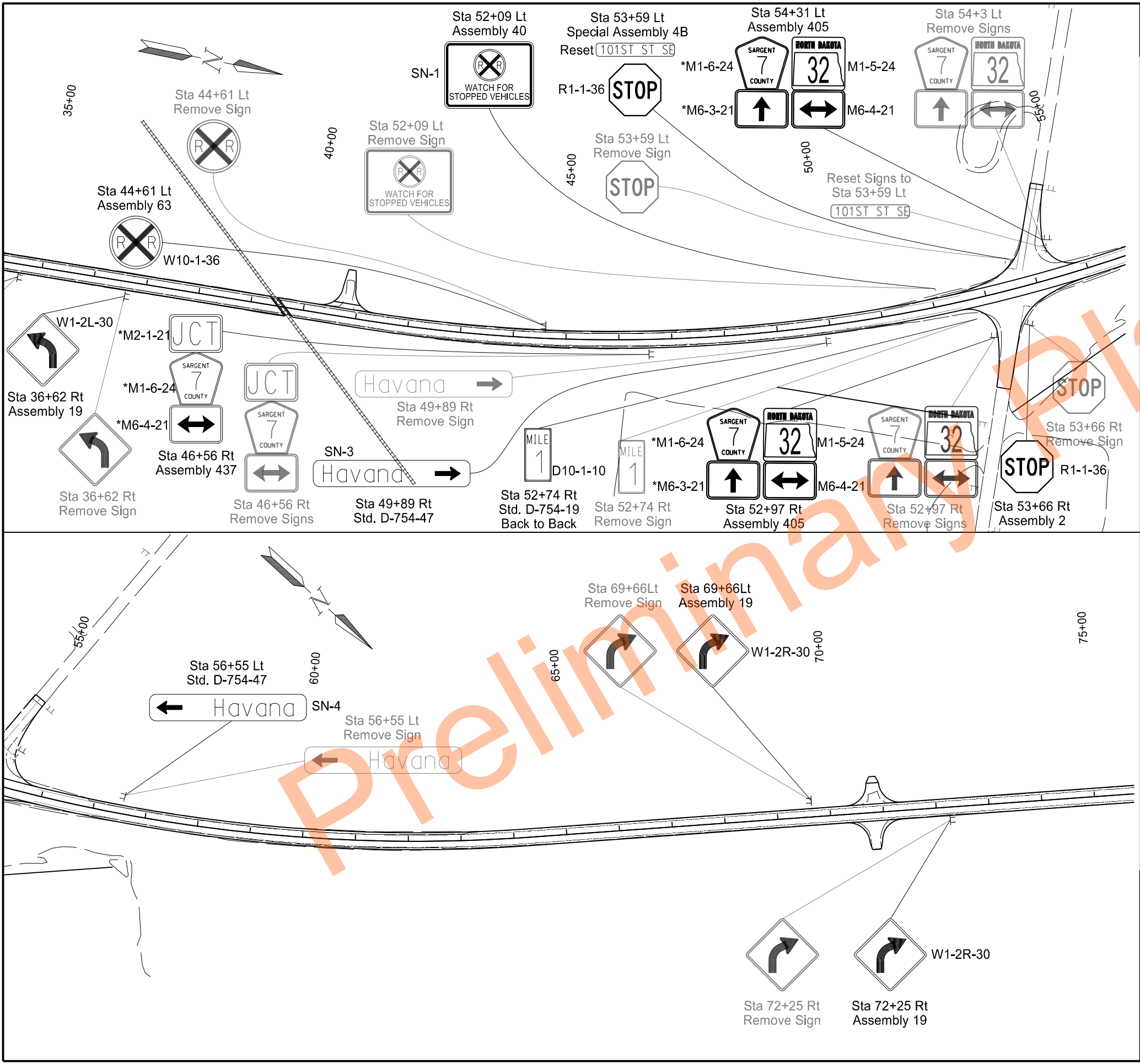
DATE 05/16/2024

NORTH DAKOTA

Sign Summary

Perforated Tube

ND Highway 32



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SS-XA-8-032(046)000	110	4

SPEC	CODE	BID ITEM	UNIT	QUANTITY
754	0561	REFERENCE MARKER-TYPE A		
		Sta 52+74 - Rt	EA	1

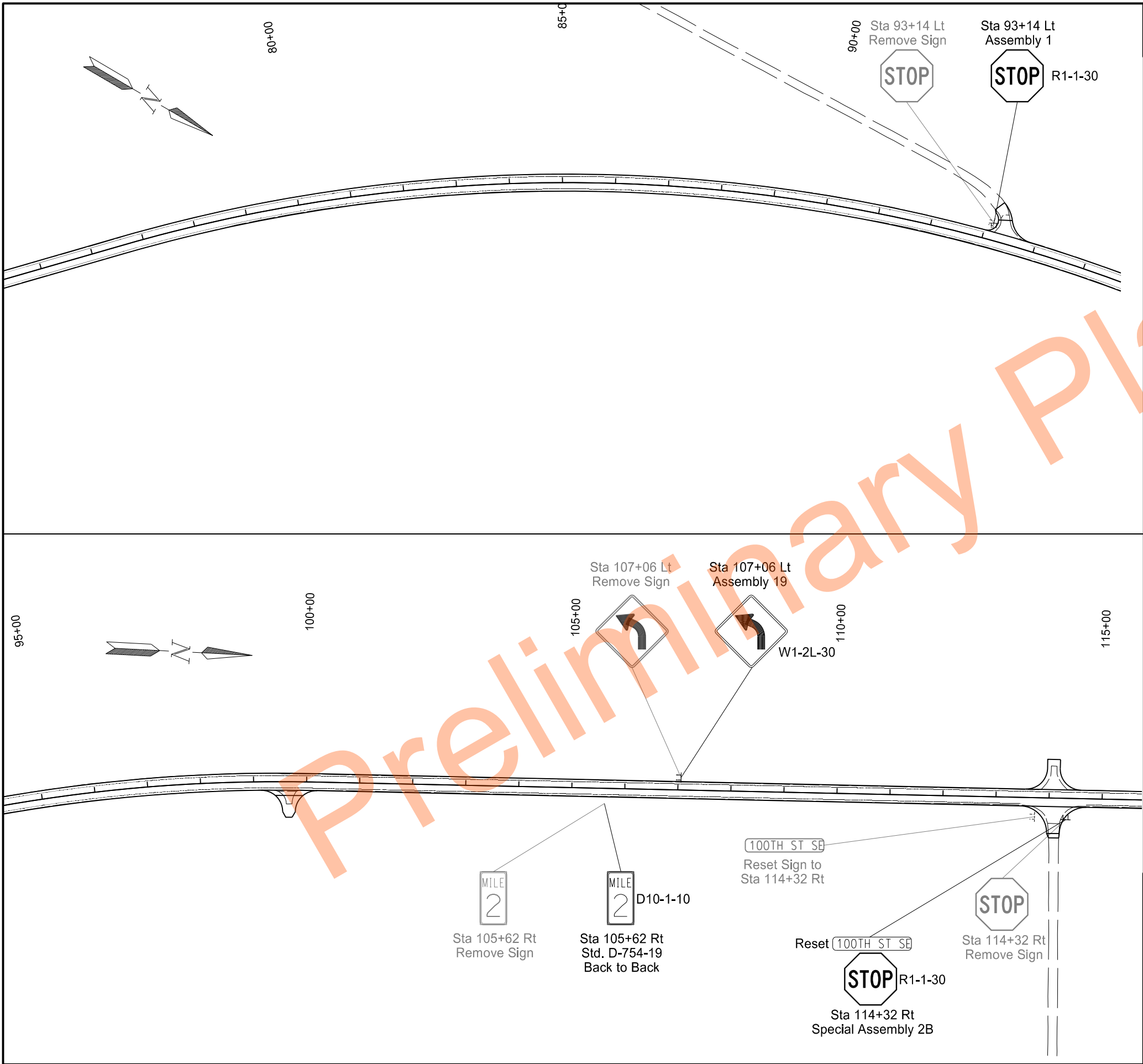
*NOTE: County Route related signs will have a Yellow Legend & Border on a Blue background

NDDOT Hwy 32 Rehab

State Line N to S Jct 11 Forman

Sign Layout

Sta. 35+00 Sta. 75+00



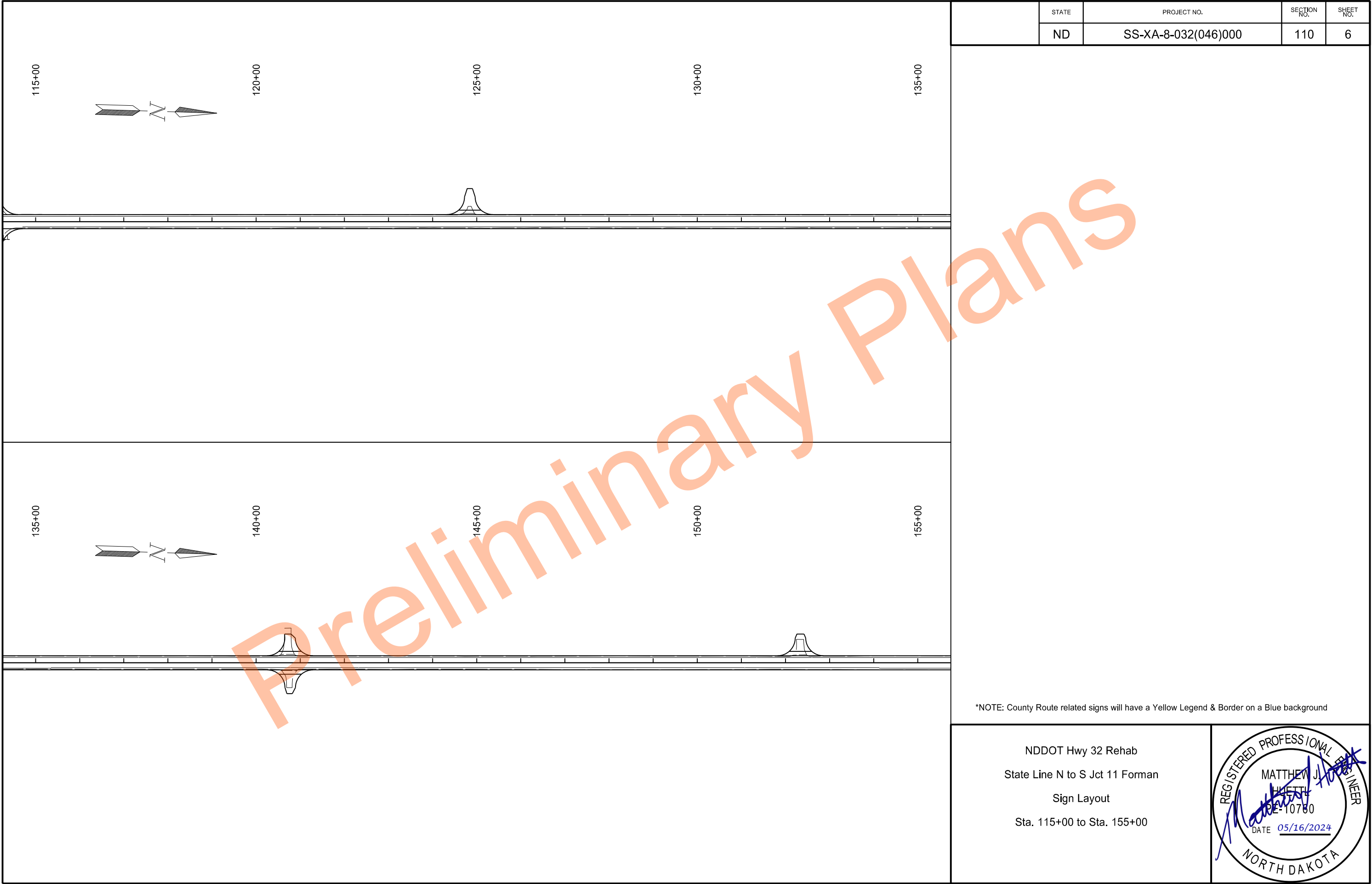
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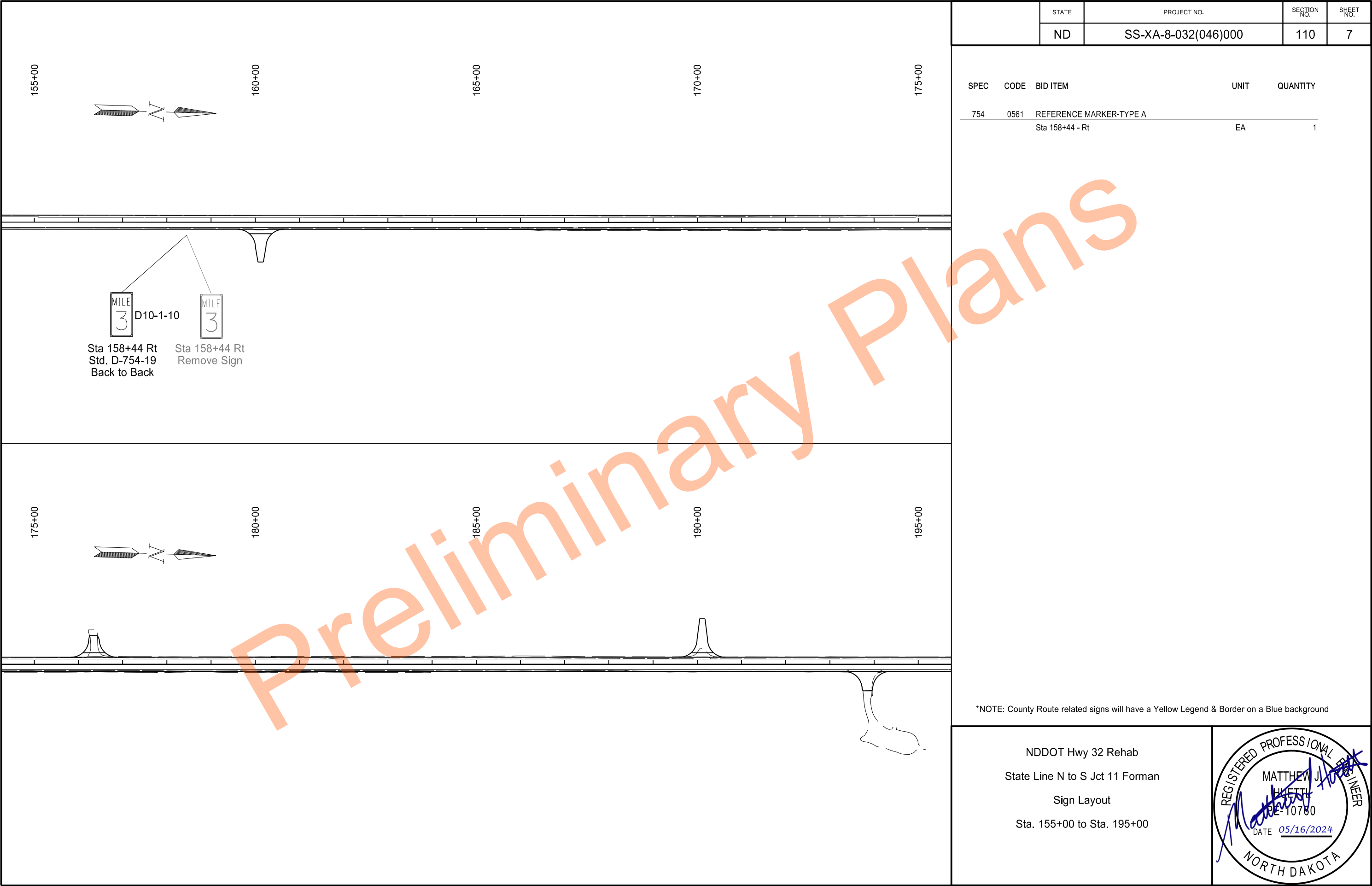
SPEC	CODE	BID ITEM	UNIT	QUANTITY
754	0561	REFERENCE MARKER-TYPE A		
		Sta 105+62 - Rt	EA	1

*NOTE: County Route related signs will have a Yellow Legend & Border on a Blue background

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Sign Layout
Sta. 75+00 to Sta. 115+00

REGISTERED PROFESSIONAL ENGINEER
MATTHEW J. HUETT
PE-10780
DATE 05/16/2024
NORTH DAKOTA





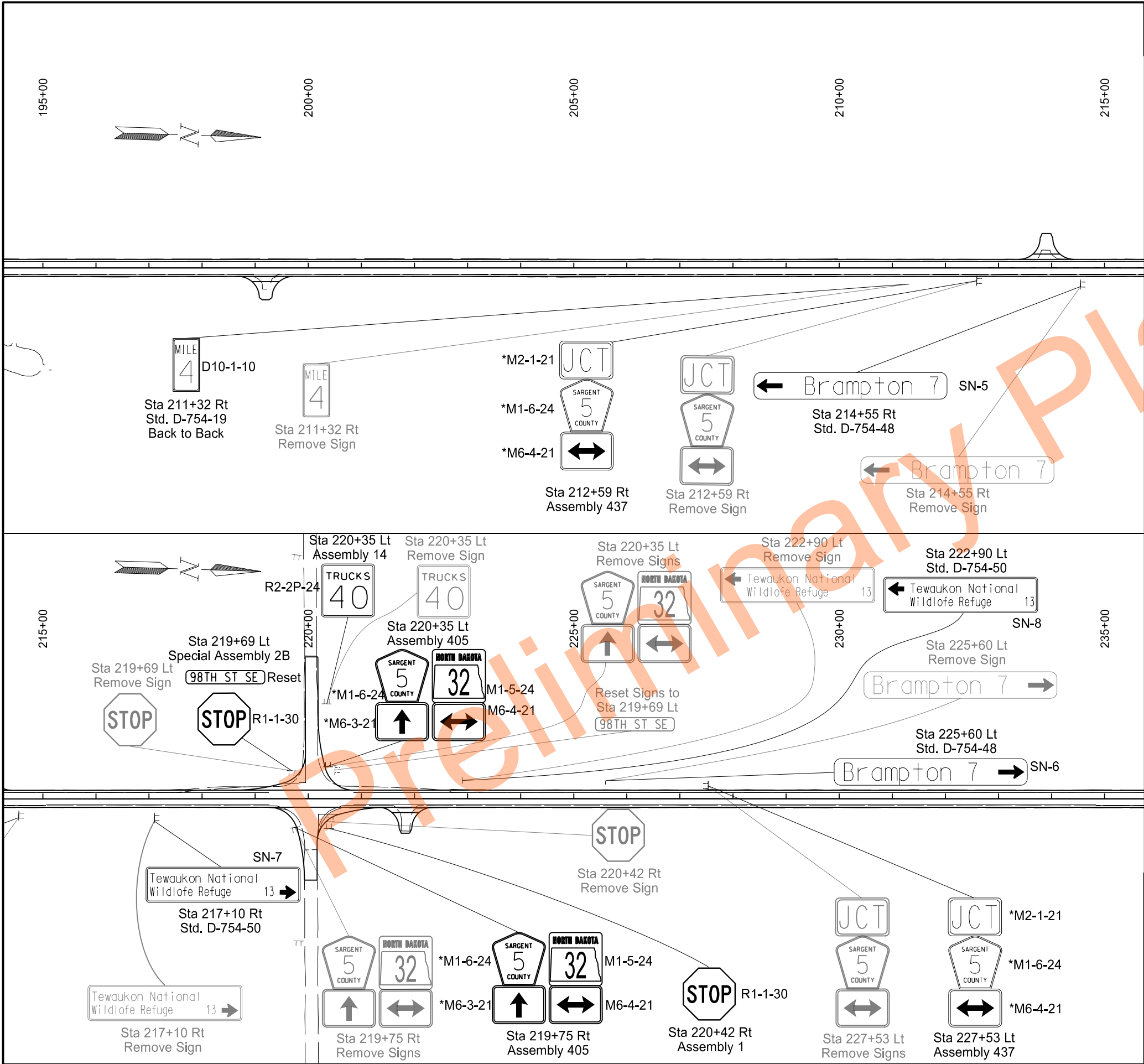
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	ND	SS-XA-8-032(046)000	110	7

SPEC	CODE	BID ITEM	UNIT	QUANTITY
754	0561	REFERENCE MARKER-TYPE A Sta 158+44 - Rt	EA	1

*NOTE: County Route related signs will have a Yellow Legend & Border on a Blue background

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Sign Layout
Sta. 155+00 to Sta. 195+00





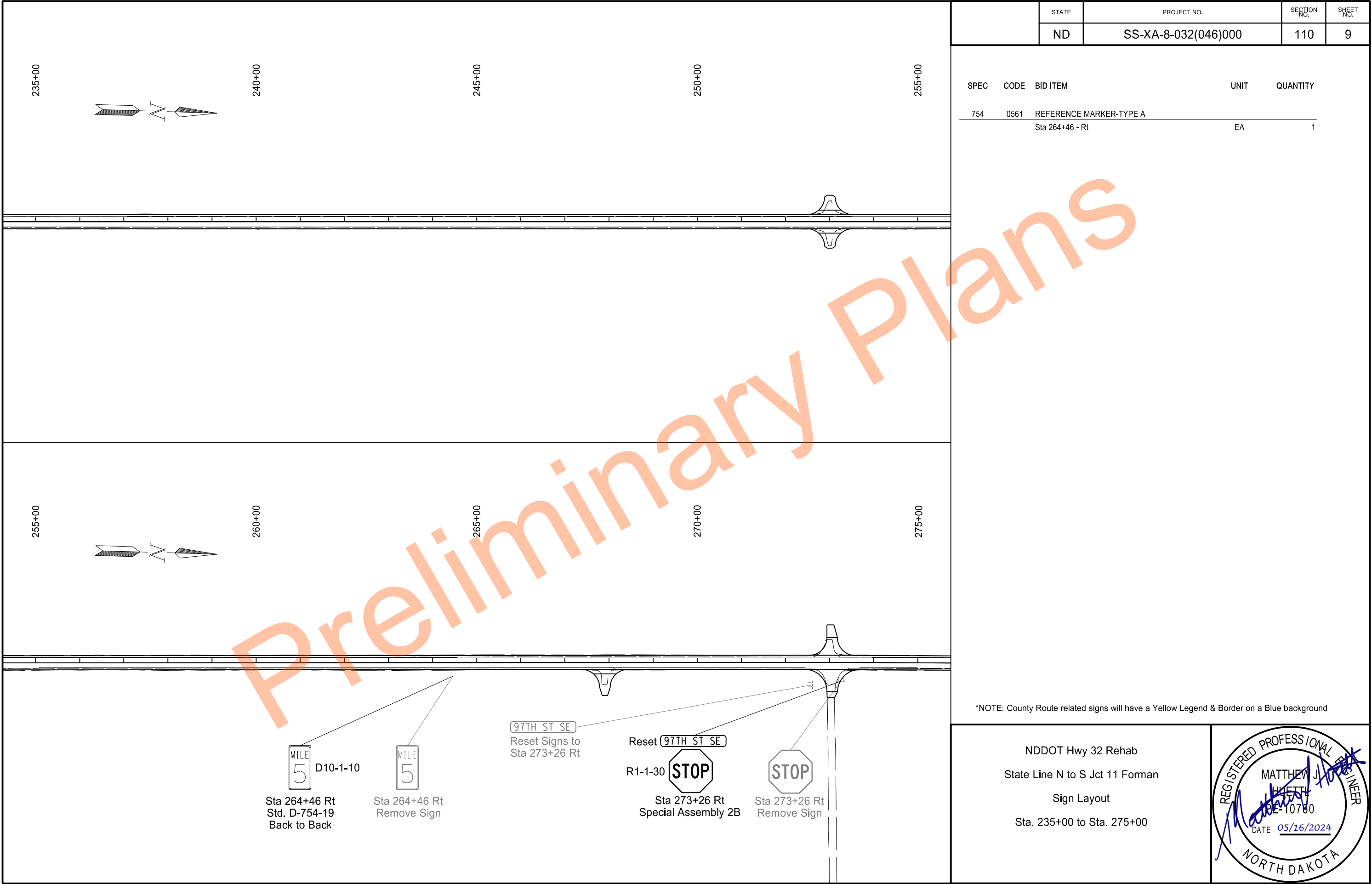
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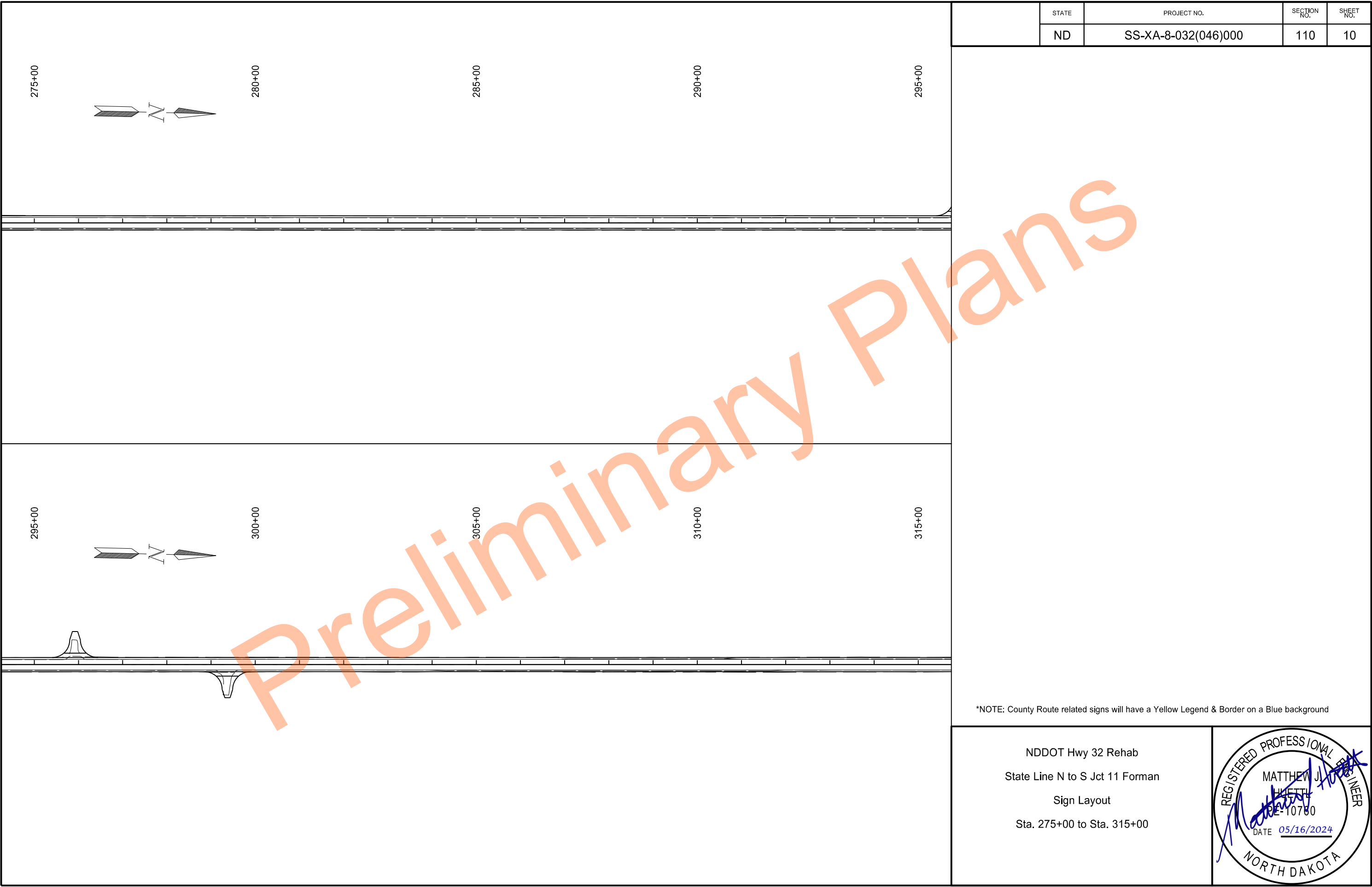
SPEC	CODE	BID ITEM	UNIT	QUANTITY
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*NOTE: County Route related signs will have a Yellow Legend & Border on a Blue background

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Sign Layout
Sta. 195+00 to Sta. 235+00





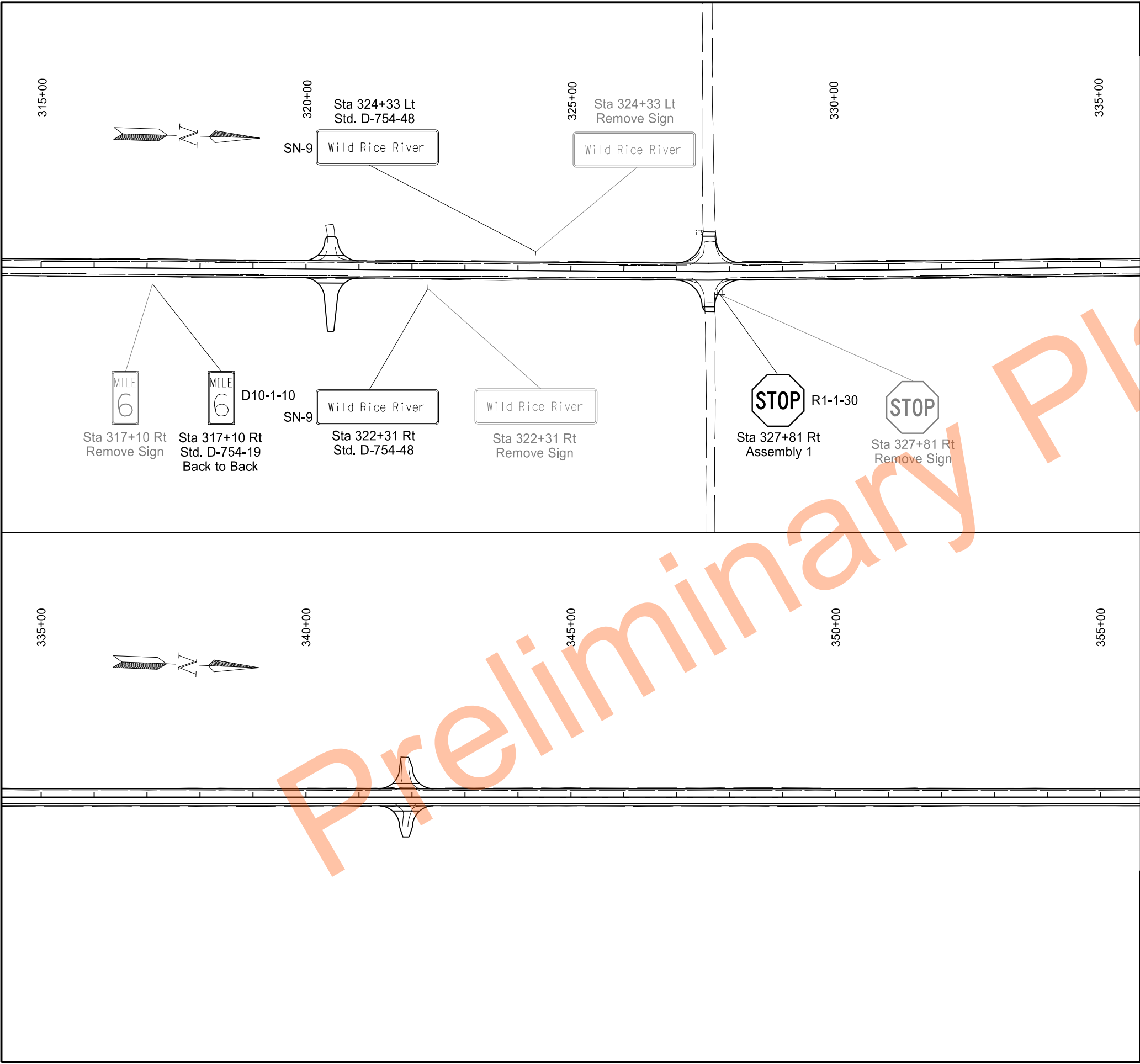


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-XA-8-032(046)000	110	10

*NOTE: County Route related signs will have a Yellow Legend & Border on a Blue background

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Sign Layout
Sta. 275+00 to Sta. 315+00





	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SS-XA-8-032(046)000	110	11

SPEC	CODE	BID ITEM	UNIT	QUANTITY
754	0561	REFERENCE MARKER-TYPE A		
		Sta 317+10 - Rt	EA	1

*NOTE: County Route related signs will have a Yellow Legend & Border on a Blue background

NDDOT Hwy 32 Rehab

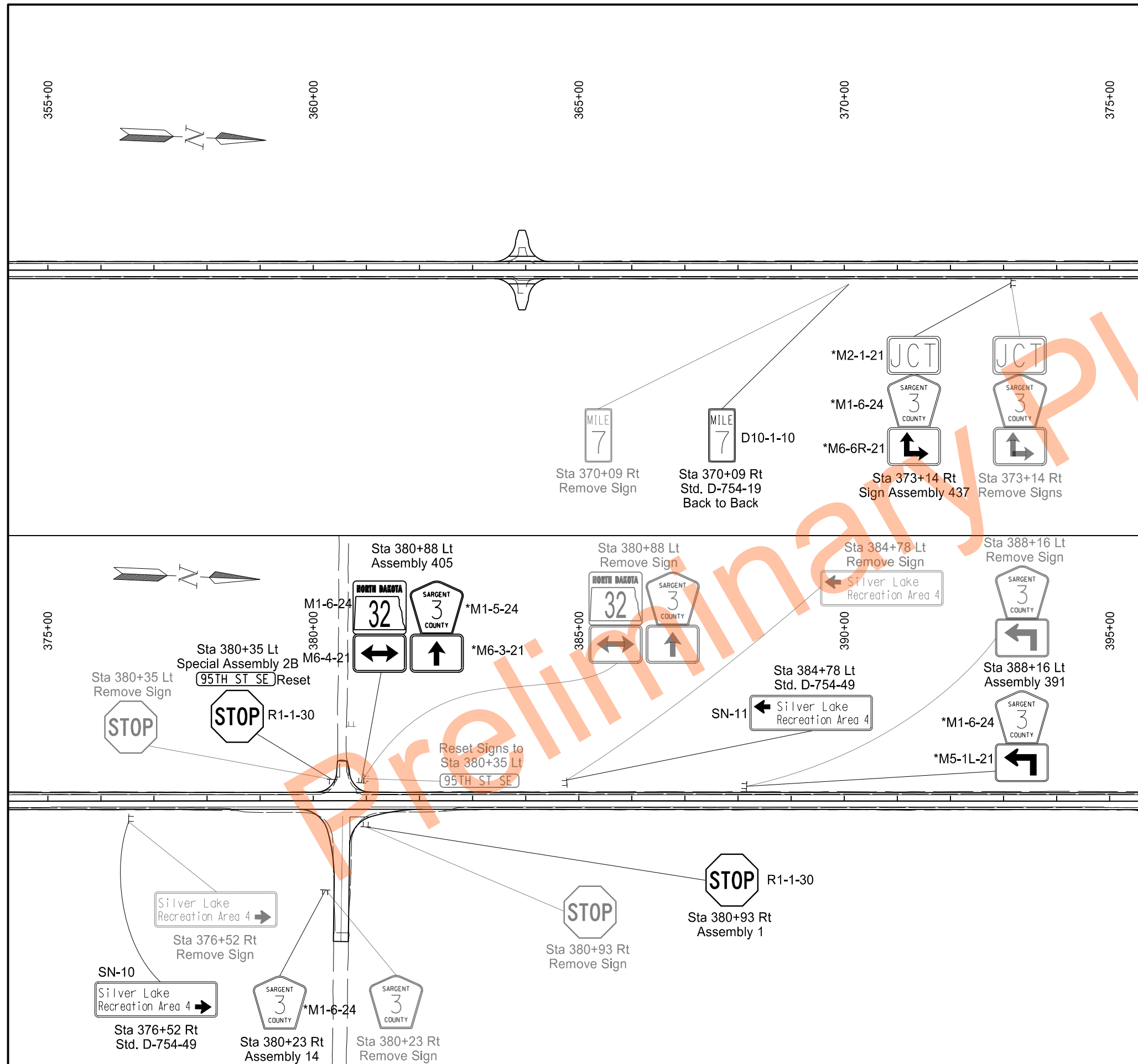
State Line N to S Jct 11 Forman

Sign Layout

Sta. 315+00 to Sta. 355+00

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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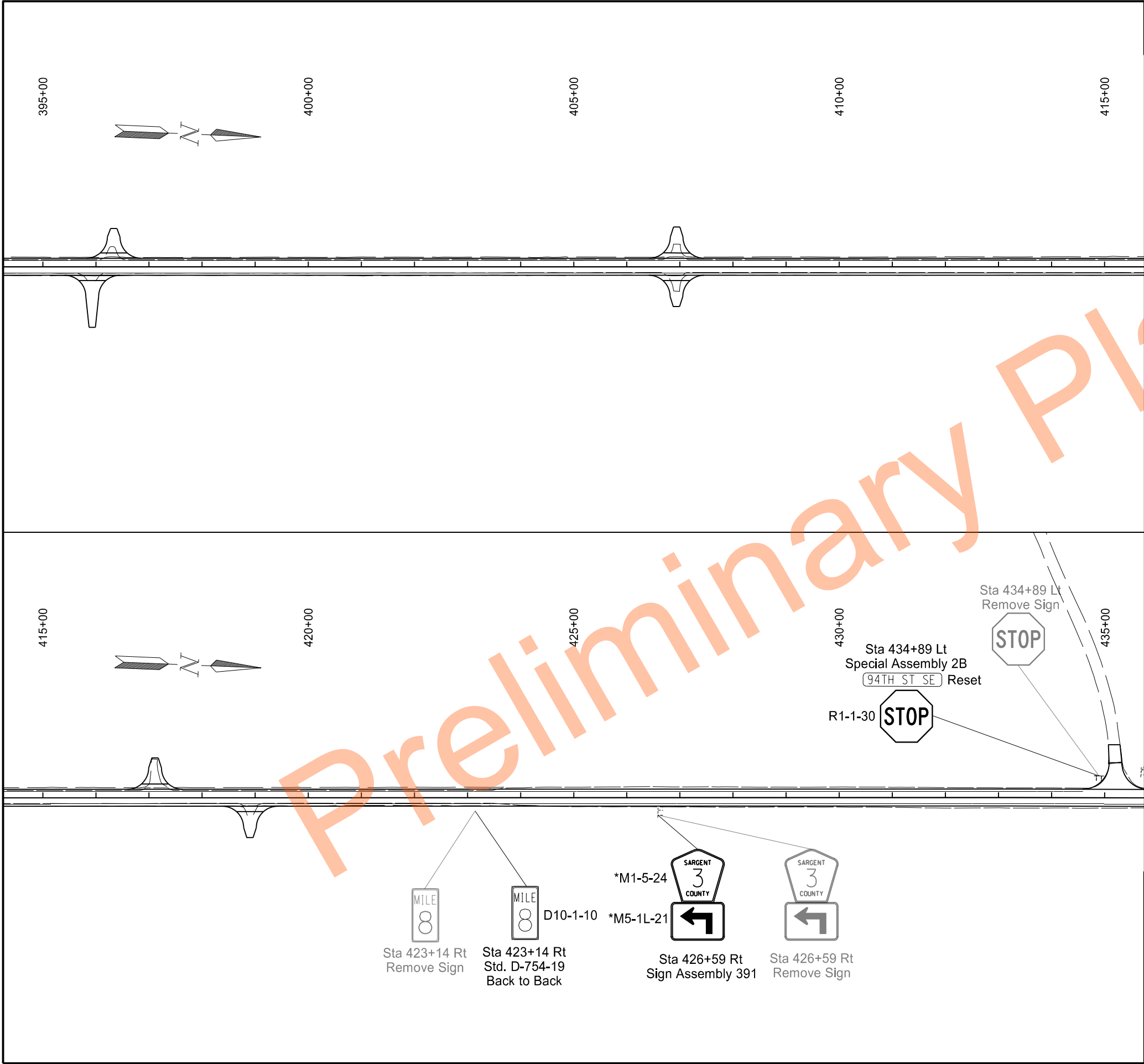
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754	0561	REFERENCE MARKER-TYPE A		
		Sta 370+09 - Rt	EA	1



*NOTE: County Route related signs will have a Yellow Legend & Border on a Blue background

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Sign Layout
Sta. 355+00 to Sta. 395+00





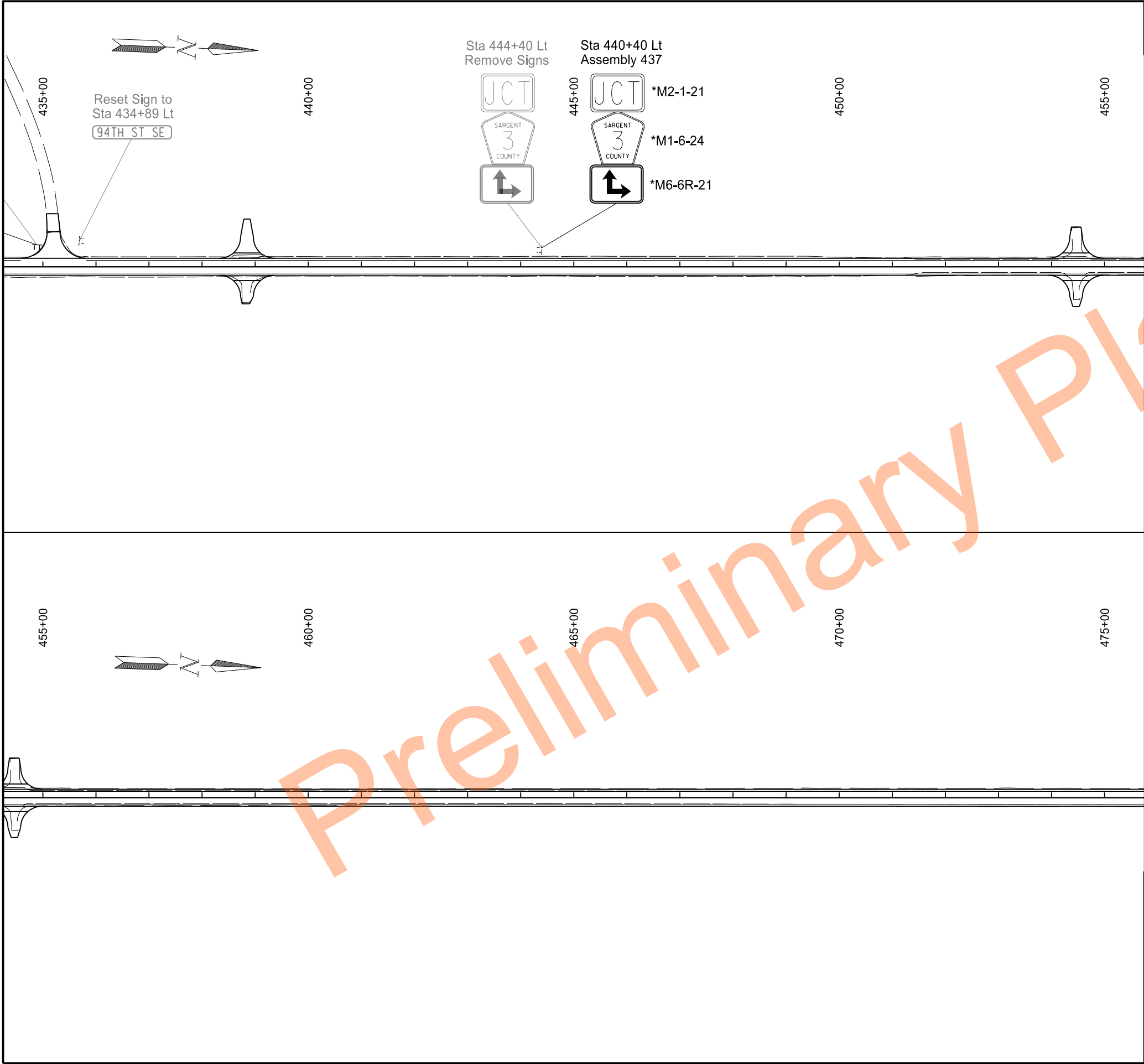
STATE		PROJECT NO.	SECTION NO.	SHEET NO.
ND		SS-XA-8-032(046)000	110	13

SPEC	CODE	BID ITEM	UNIT	QUANTITY
754	0561	REFERENCE MARKER-TYPE A		
		Sta 423+14 - Rt	EA	1

*NOTE: County Route related signs will have a Yellow Legend & Border on a Blue background

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Sign Layout
Sta. 395+00 to Sta. 435+00

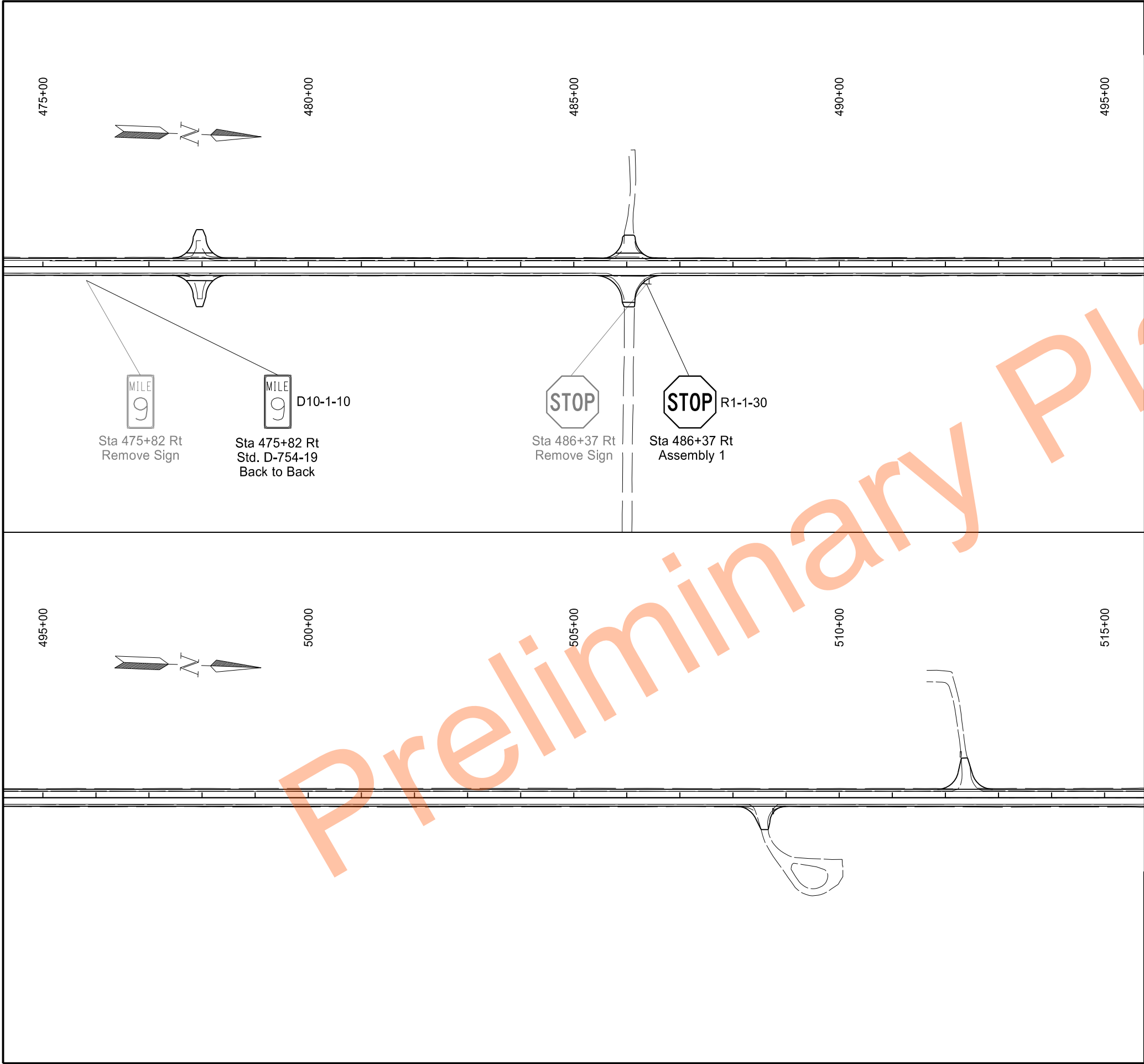
REGISTERED PROFESSIONAL ENGINEER
MATTHEW J. HUETT
PE-10780
DATE 05/16/2024
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SS-XA-8-032(046)000	110	14

*NOTE: County Route related signs will have a Yellow Legend & Border on a Blue background

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Sign Layout
Sta. 435+00 to Sta. 475+00



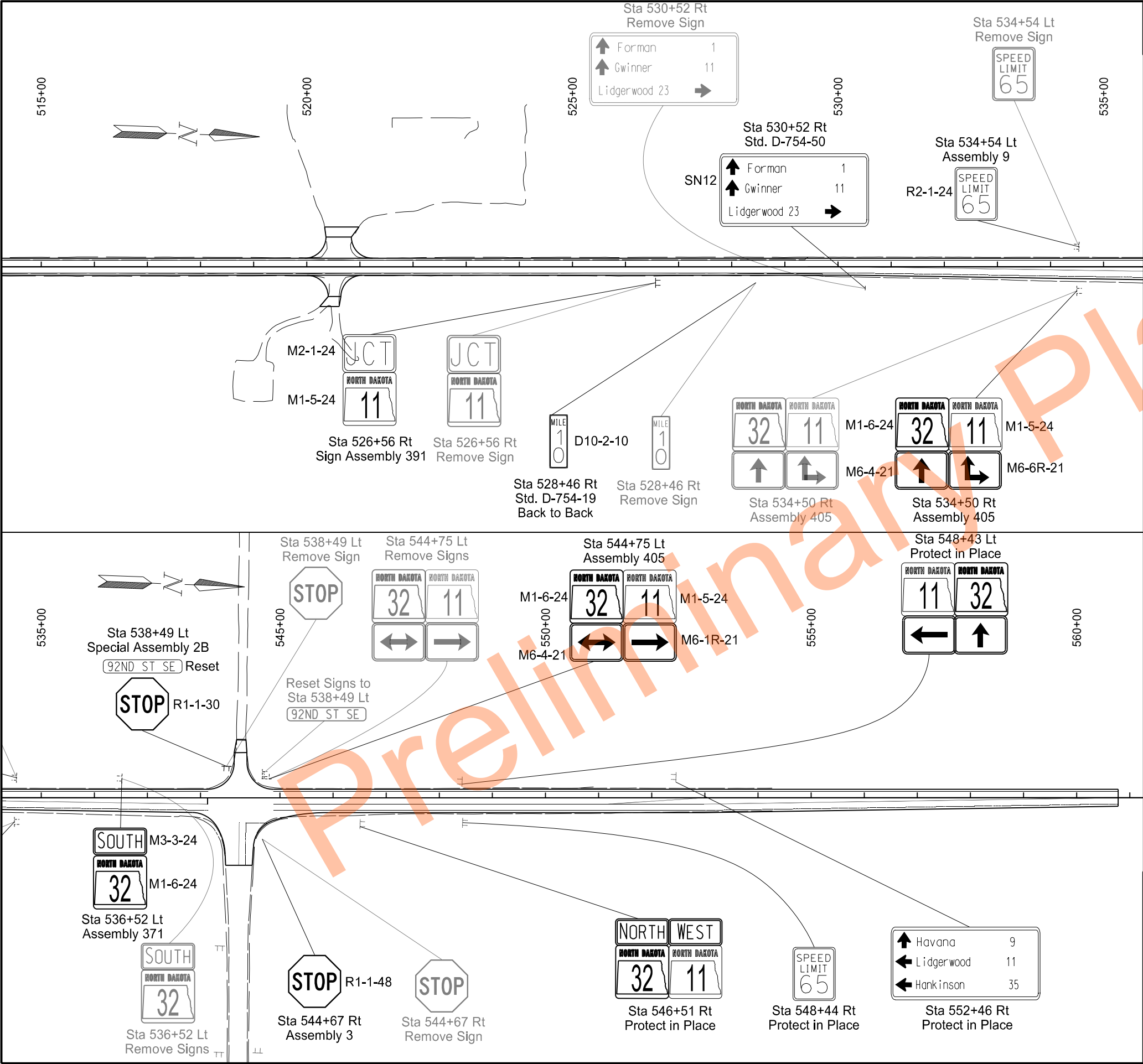
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	ND	SS-XA-8-032(046)000	110	15

SPEC	CODE	BID ITEM	UNIT	QUANTITY
754	0561	REFERENCE MARKER-TYPE A		
		Sta 475+82 - Rt	EA	1

*NOTE: County Route related signs will have a Yellow Legend & Border on a Blue background

NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Sign Layout
Sta. 475+00 to Sta. 515+00

REGISTERED PROFESSIONAL ENGINEER
MATTHEW J. HETTL
PE-10780
DATE 05/16/2024
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SS-XA-8-032(046)000	110	16

SPEC	CODE	BID ITEM	UNIT	QUANTITY
754	0561	REFERENCE MARKER-TYPE B		
		Sta 528+46 - Rt	EA	1

*NOTE: County Route related signs will have a Yellow Legend & Border on a Blue background

NDDOT Hwy 32 Rehab

State Line N to S Jct 11 Forman

Sign Layout

Sta. 515+00 to Sta. 560+00

REGISTERED PROFESSIONAL ENGINEER

MATTHEW J. HUETT

PE-10780

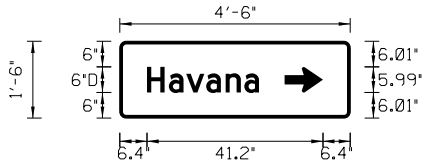
DATE 05/16/2024

NORTH DAKOTA

SIGN NUMBER	SN-3
WIDTH X HEIGHT	4'-6" x 1'-6"
BORDER WIDTH	0.75" (inset 0")
CORNER RADIUS	1.5"
MOUNTING	Ground
BACKGROUND	TYPE: IV Reflective
	COLOR: Green
LEGEND/BORDER	TYPE: IV Reflective
	COLOR: White

SYMBOL	X	Y	WID	HT	ANGLE
AR_Type D	38.6	6	6	9	270

STATION(S): 49+89 Rt
AREA: 6.8 Sq.Ft.



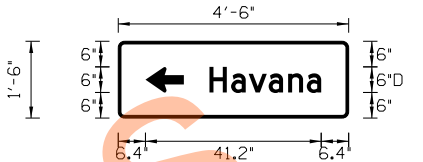
Dimensions are in inches.tenths
Letter locations are panel edge to lower left corner

LETTER POSITION (X)										LENGTH	SIZE	SERIES
H	a	v	a	n	a					26.2	6/4.5	D 2000
6.4	11.5	15.6	20.2	24.8	29.2							

SIGN NUMBER	SN-4
WIDTH X HEIGHT	4'-6" x 1'-6"
BORDER WIDTH	0.75" (inset 0")
CORNER RADIUS	1.5"
MOUNTING	Ground
BACKGROUND	TYPE: IV Reflective
	COLOR: Green
LEGEND/BORDER	TYPE: IV Reflective
	COLOR: White

SYMBOL	X	Y	WID	HT	ANGLE
AR_Type D	6.4	6	6	9	90

STATION(S): 56+55 Lt
AREA: 6.8 Sq.Ft.



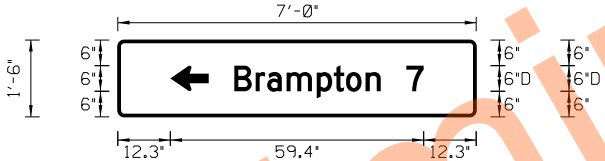
Dimensions are in inches.tenths
Letter locations are panel edge to lower left corner

LETTER POSITION (X)										LENGTH	SIZE	SERIES
H	a	v	a	n	a					26.2	6/4.5	D 2000
21.4	26.5	30.6	35.3	39.8	44.2							

SIGN NUMBER	SN-5
WIDTH X HEIGHT	7'-0" x 1'-6"
BORDER WIDTH	0.75" (inset 0")
CORNER RADIUS	1.5"
MOUNTING	Ground
BACKGROUND	TYPE: IV Reflective
	COLOR: Green
LEGEND/BORDER	TYPE: IV Reflective
	COLOR: White

SYMBOL	X	Y	WID	HT	ANGLE
AR_Type D	12.3	6	6	9	90

STATION(S): 214+55 Rt
AREA: 10.5 Sq.Ft.



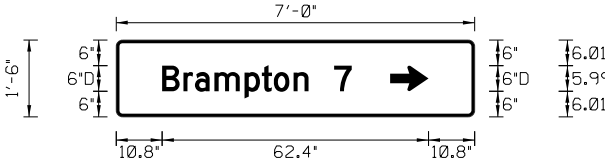
Dimensions are in inches.tenths
Letter locations are panel edge to lower left corner

LETTER POSITION (X)										LENGTH	SIZE	SERIES
B	r	a	m	p	t	o	n			34.3	6/4.5	D 2000
27.3	32.3	35	39.5	46.6	50.6	53.5	58.1					
7										4.1	6	D 2000
67.6												

SIGN NUMBER	SN-6
WIDTH X HEIGHT	7'-0" x 1'-6"
BORDER WIDTH	0.75" (inset 0")
CORNER RADIUS	1.5"
MOUNTING	Ground
BACKGROUND	TYPE: IV Reflective
	COLOR: Green
LEGEND/BORDER	TYPE: IV Reflective
	COLOR: White

SYMBOL	X	Y	WID	HT	ANGLE
AR_Type D	64.2	6	6	9	270

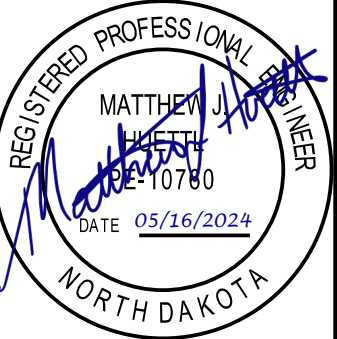
STATION(S): 225+60 Lt
AREA: 10.5 Sq.Ft.



Dimensions are in inches.tenths
Letter locations are panel edge to lower left corner

LETTER POSITION (X)										LENGTH	SIZE	SERIES
B	r	a	m	p	t	o	n			34.3	6/4.5	D 2000
10.8	15.8	18.5	23	30.1	34.1	37	41.6					
7										4.1	6	D 2000
51.1												

NDDOT Hwy 32 Rehab
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SIGN NUMBER	SN-7
WIDTH X HEIGHT	11'-0" x 2'-6"
BORDER WIDTH	0.75" (inset 0")
CORNER RADIUS	3"
MOUNTING	Ground
BACKGROUND	TYPE: IV Reflective COLOR: Brown
LEGEND/BORDER	TYPE: IV Reflective COLOR: White

SYMBOL	X	Y	WID	HT	ANGLE
AR_Type D	117	6.8	6	9	270

STATION(S): 217+10 Rt
AREA: 27.5 Sq.Ft.



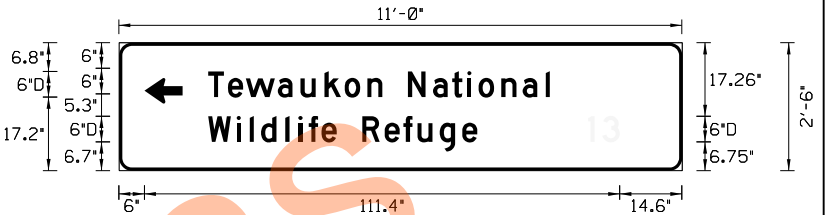
Dimensions are in inches.tenths
Letter locations are panel edge to lower left corner
PANEL STYLE: ND_Conv_Recreation_Cultural.ssl

LETTER POSITION (X)														LENGTH	SIZE	SERIES
T	e	w	a	u	k	o	n		N	a	t	i	o	n	a	l
14.6	19.2	23.4	30.9	36.2	41.9	46.6	51.9	55.4	61.4	67.3	71.8	75.3	78	83.3	88.3	93.7
W	i	l	d		i	f	e		R	e	f	u	g	e		
14.6	21.3	24.3	27	32.7	35.7	38.2	41.2	44.7	50.7	55.9	60.3	63.6	68.9	74.1		
1	3															
103.7	107														7.4	6

SIGN NUMBER	SN-8
WIDTH X HEIGHT	11'-0" x 2'-6"
BORDER WIDTH	0.75" (inset 0")
CORNER RADIUS	3"
MOUNTING	Ground
BACKGROUND	TYPE: IV Reflective COLOR: Brown
LEGEND/BORDER	TYPE: IV Reflective COLOR: White

SYMBOL	X	Y	WID	HT	ANGLE
AR_Type D	6	15.8	6	9	90

STATION(S): 220+90 Lt
AREA: 27.5 Sq.Ft.



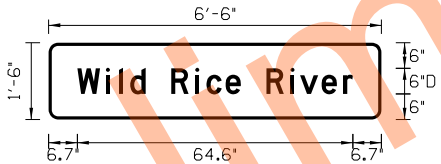
Dimensions are in inches.tenths
Letter locations are panel edge to lower left corner
PANEL STYLE: ND_Conv_Recreation_Cultural.ssl

LETTER POSITION (X)														LENGTH	SIZE	SERIES
T	e	w	a	u	k	o	n		N	a	t	i	o	n	a	l
20.9	25.6	29.8	37.3	42.6	48.2	52.9	58.3	61.8	67.8	73.7	78.1	81.7	84.3	89.7	94.7	100.1
W	i	l	d		i	f	e		R	e	f	u	g	e		
20.9	27.6	30.7	33.3	39	42.1	44.5	47.5	51.1	57.1	62.3	66.7	70	75.2	80.5		
1	3															
110.1	113.4														7.4	6

SIGN NUMBER	SN-9
WIDTH X HEIGHT	6'-6" x 1'-6"
BORDER WIDTH	0.75" (inset 0")
CORNER RADIUS	2.25"
MOUNTING	Ground
BACKGROUND	TYPE: IV Reflective COLOR: Green
LEGEND/BORDER	TYPE: IV Reflective COLOR: White

SYMBOL	X	Y	WID	HT	ANGLE

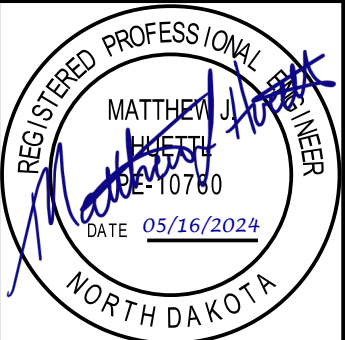
STATION(S): 322+31 Rt
324+33 Lt
AREA: 9.8 Sq.Ft.



Dimensions are in inches.tenths
Letter locations are panel edge to lower left corner
PANEL STYLE: ND_Conv_Geographic_Features.ssl

LETTER POSITION (X)														LENGTH	SIZE	SERIES
W	i	l	d		R	i	c	e		R	i	v	e	r		
6.7	13.4	16.5	19.1	22.7	28.7	34.4	37	41.5	45	51	56.7	58.9	64	69	64.6	6/4.5

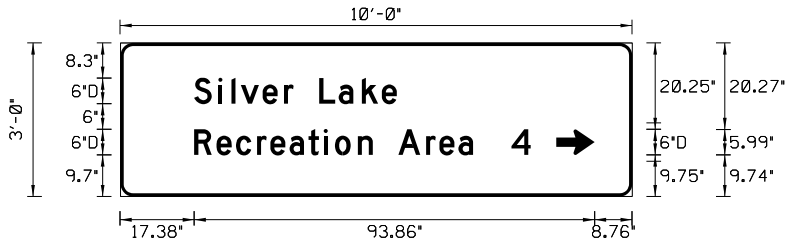
NDDOT Hwy 32 Rehab
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Sign Details



SIGN NUMBER	SN-10
WIDTH X HEIGHT	10'-0" x 3'-0"
BORDER WIDTH	0.75" (inset 0")
CORNER RADIUS	3"
MOUNTING	Ground
BACKGROUND	TYPE: IV Reflective COLOR: Brown
LEGEND/BORDER	TYPE: IV Reflective COLOR: White

SYMBOL	X	Y	WID	HT	ANGLE
AR_Type D	102.3	9.7	6	9	270
Arrow	102.3	8.3	9	0.4	270

STATION(S): 376+52 Rt AREA: 30.0 Sq.Ft.



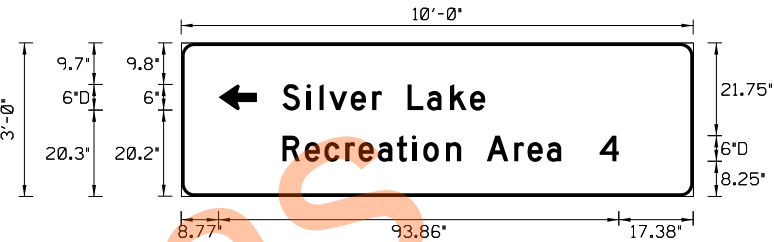
Dimensions are in inches.tenths Letter locations are panel edge to lower left corner
PANEL STYLE: ND_Conv_Recreation_Cultural.ssi

LETTER POSITION (X)															LENGTH	SIZE	SERIES
S	i	l	v	e	r	L	a	k	e						47.5	6/4.5	D 2000
17.4	23	26.1	28.3	33.4	38.4	40.7	46.7	51.3	56.7	61.4							
R	e	c	r	e	a	t	i	o	n	A	r	e	a		65.4	6/4.5	D 2000
17.4	22.6	27.2	32.1	35.2	39.7	44.2	47.7	50.4	55.7	59.3	65.3	71.7	74.8	79.3			
4															4.5	6	D 2000
91.8																	

SIGN NUMBER	SN-11
WIDTH X HEIGHT	10'-0" x 3'-0"
BORDER WIDTH	0.75" (inset 0")
CORNER RADIUS	3"
MOUNTING	Ground
BACKGROUND	TYPE: IV Reflective COLOR: Brown
LEGEND/BORDER	TYPE: IV Reflective COLOR: White

SYMBOL	X	Y	WID	HT	ANGLE
AR_Type D	8.8	20.3	6	9	90
Arrow	17.4	18.8	9	0.4	90

STATION(S): 384+78 Lt AREA: 30.0 Sq.Ft.



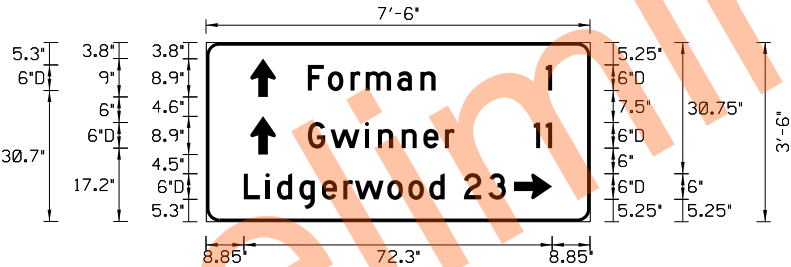
Dimensions are in inches.tenths Letter locations are panel edge to lower left corner
PANEL STYLE: ND_Conv_Recreation_Cultural.ssi

LETTER POSITION (X)															LENGTH	SIZE	SERIES
S	i	l	v	e	r	L	a	k	e						47.5	6/4.5	D 2000
23.8	29.4	32.5	34.7	39.8	44.8	47.1	53.1	57.6	63.1	67.7							
R	e	c	r	e	a	t	i	o	n	A	r	e	a		65.4	6/4.5	D 2000
23.8	29	33.6	38.5	41.6	46.1	50.6	54.1	56.8	62.1	65.6	71.6	78.1	81.2	85.7			
4															4.5	6	D 2000
98.1																	

SIGN NUMBER	SN-12
WIDTH X HEIGHT	7'-6" x 3'-6"
BORDER WIDTH	0.75" (inset 0")
CORNER RADIUS	3"
MOUNTING	Ground
BACKGROUND	TYPE: IV Reflective COLOR: Green
LEGEND/BORDER	TYPE: IV Reflective COLOR: White

SYMBOL	X	Y	WID	HT	ANGLE
Arrow	8.9	29.2	9	8.9	0
AR_Type D	10.4	29.2	6	9	0
Arrow	8.9	15.7	9	8.9	0
AR_Type D	10.4	15.7	6	9	0
AR_Type D	72.2	5.3	6	9	270

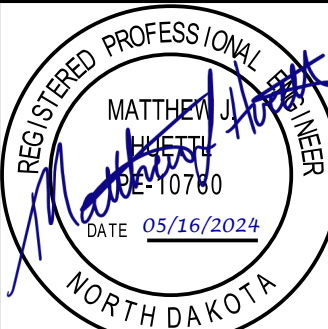
STATION(S): 530+52 Rt AREA: 26.3 Sq.Ft.

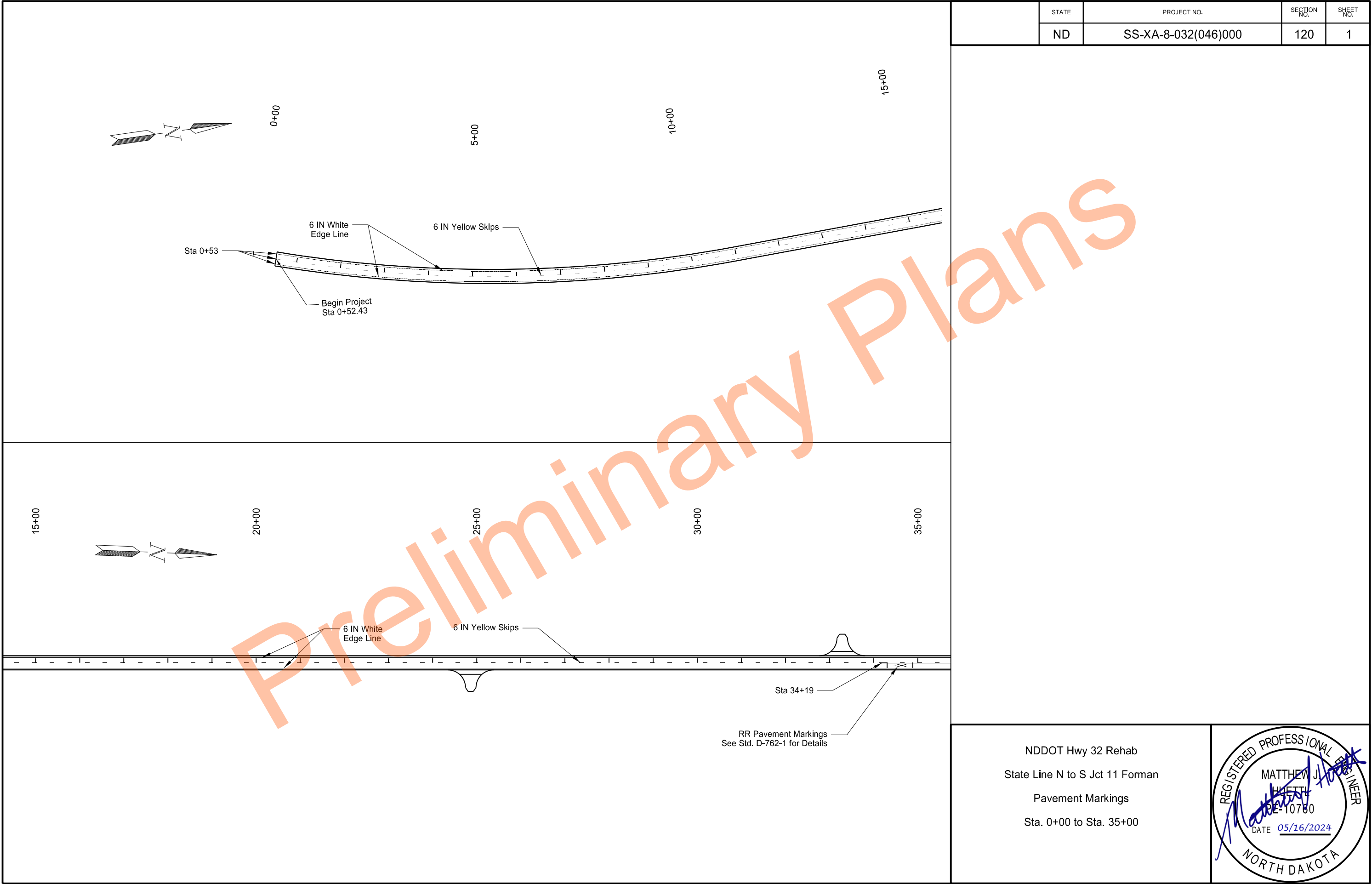


Dimensions are in inches.tenths Letter locations are panel edge to lower left corner
PANEL STYLE: ND_Conv_Destination.ssi

LETTER POSITION (X)															LENGTH	SIZE	SERIES
F	o	r	m	a	n										29.9	6/4.5	D 2000
23.9	28.5	33.9	37.4	44.8	50.2												
1															1.5	6	D 2000
79.6																	
G	w	i	n	n	e	r									34.4	6/4.5	D 2000
23.9	29.2	37.2	40.3	45.8	51	56											
1	1														4.3	6	D 2000
76.8	79.6																
L	i	d	g	e	r	w	o	o	d						47.1	6/4.5	D 2000
8.9	14	16.6	21.9	27.2	32.2	34.9	42.5	47.4	52.3								
2	3														9.8	6	D 2000
60.4	66.2																

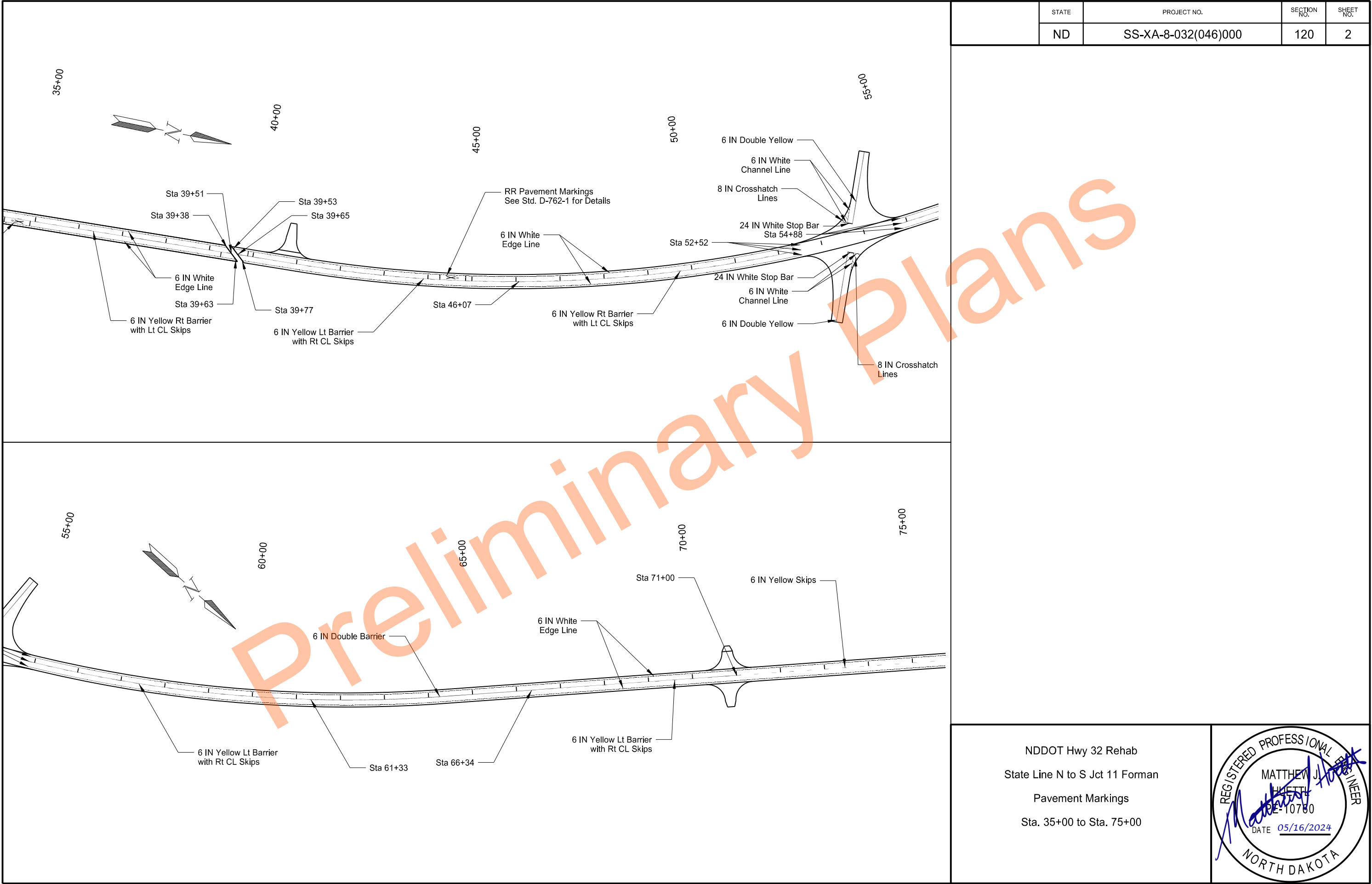
NDDOT Hwy 32 Rehab
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Sign Details

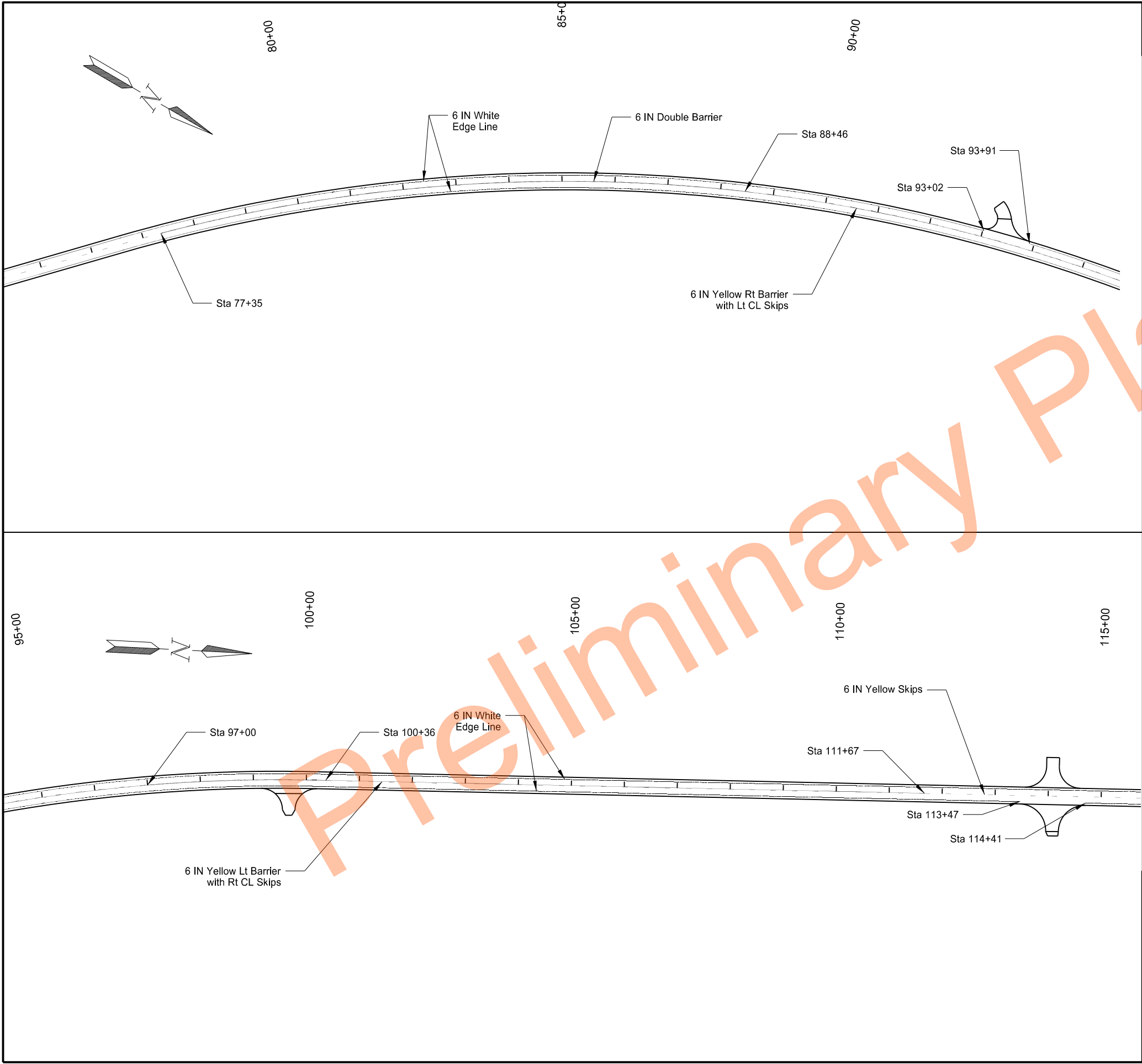




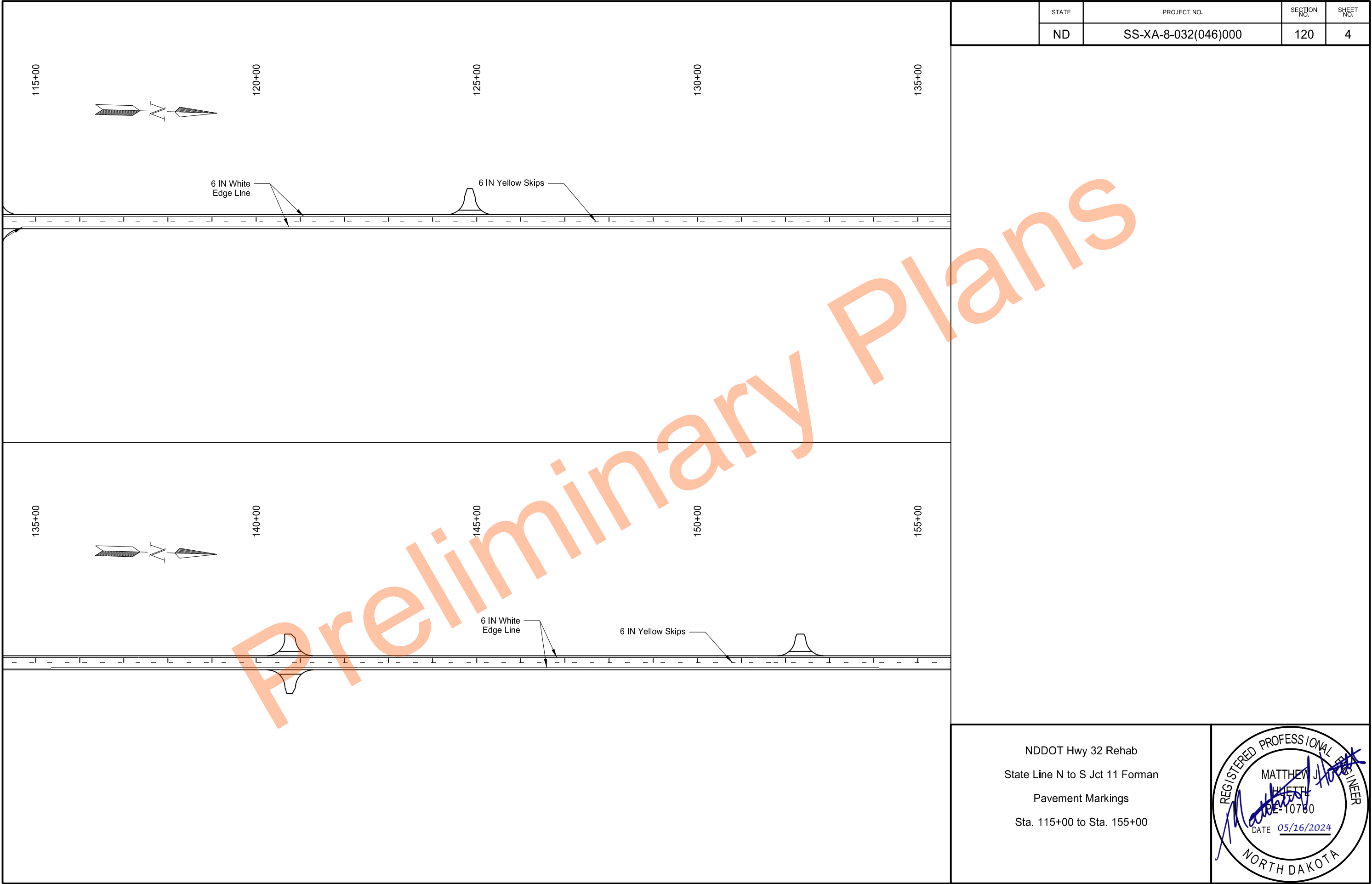
NDDOT Hwy 32 Rehab
State Line N to S Jct 11 Forman
Pavement Markings
Sta. 0+00 to Sta. 35+00

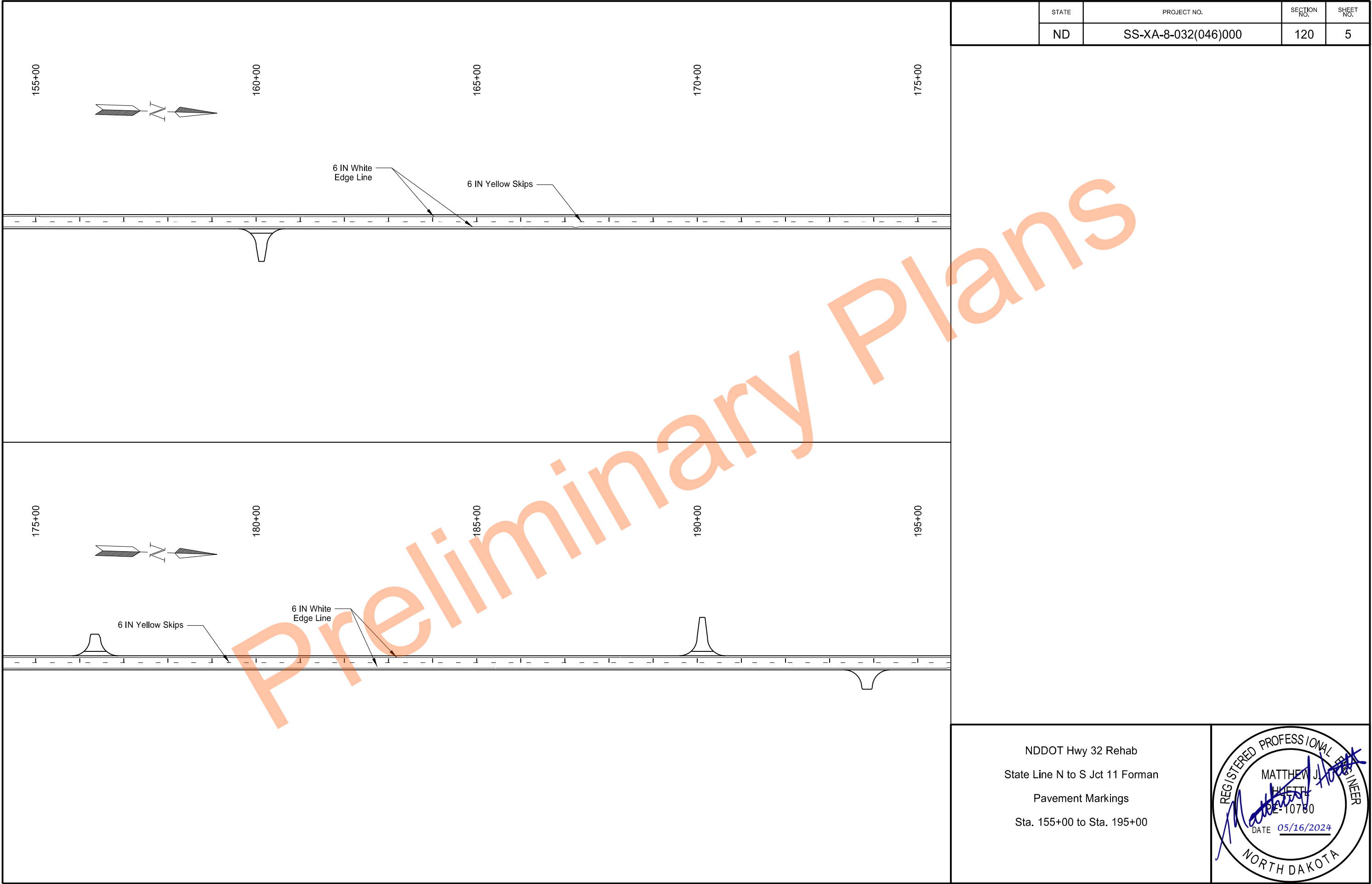


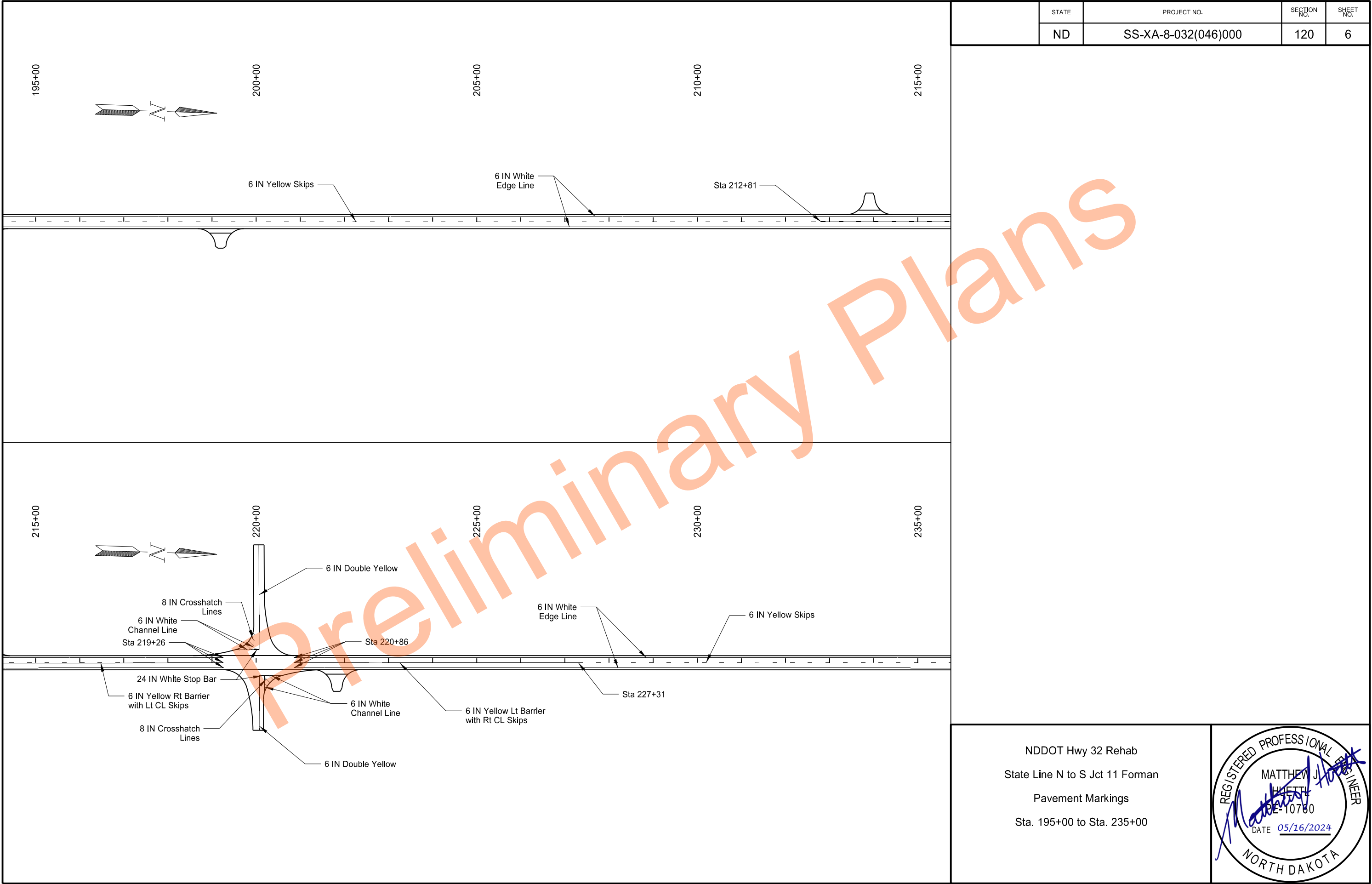


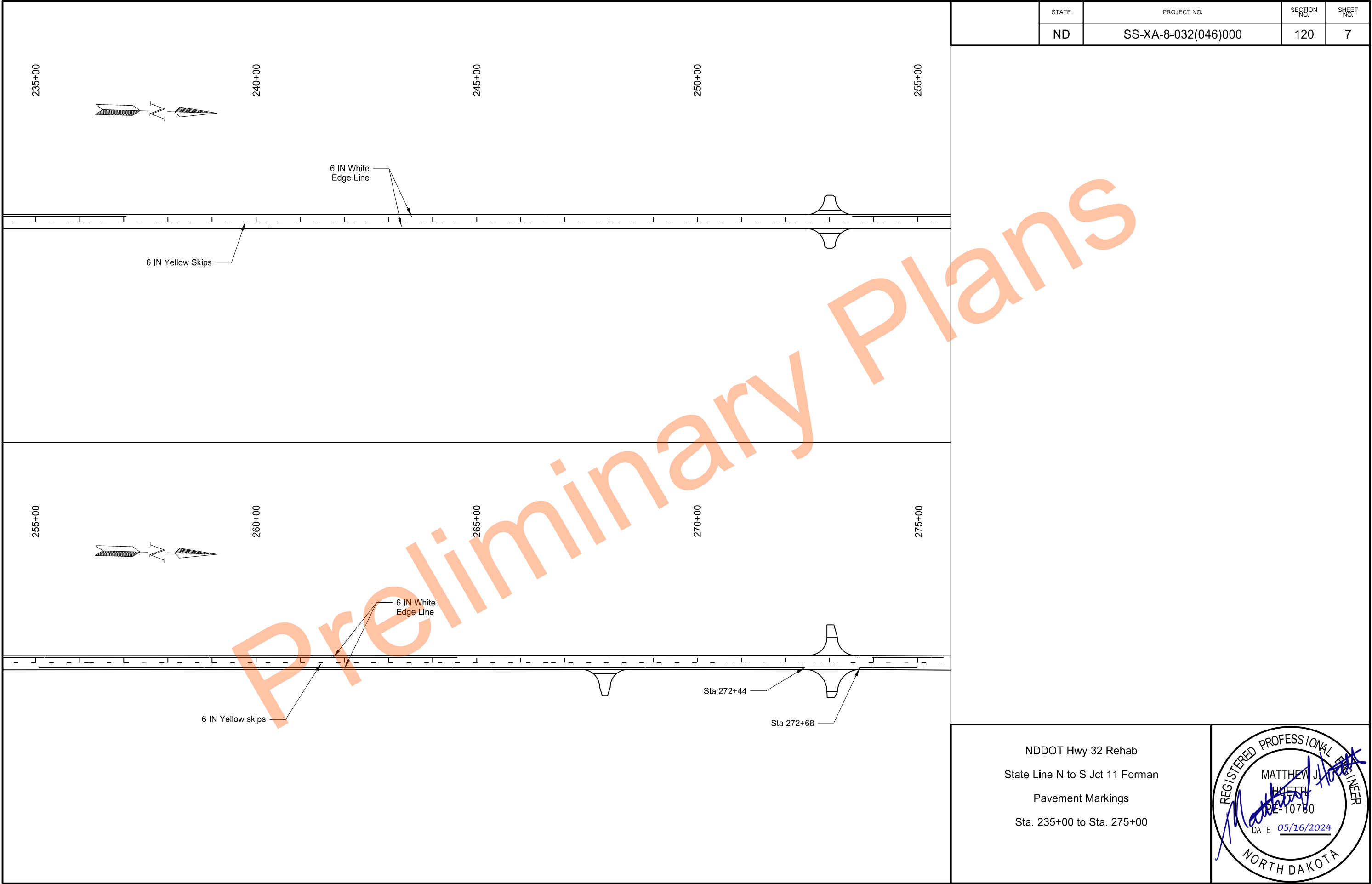


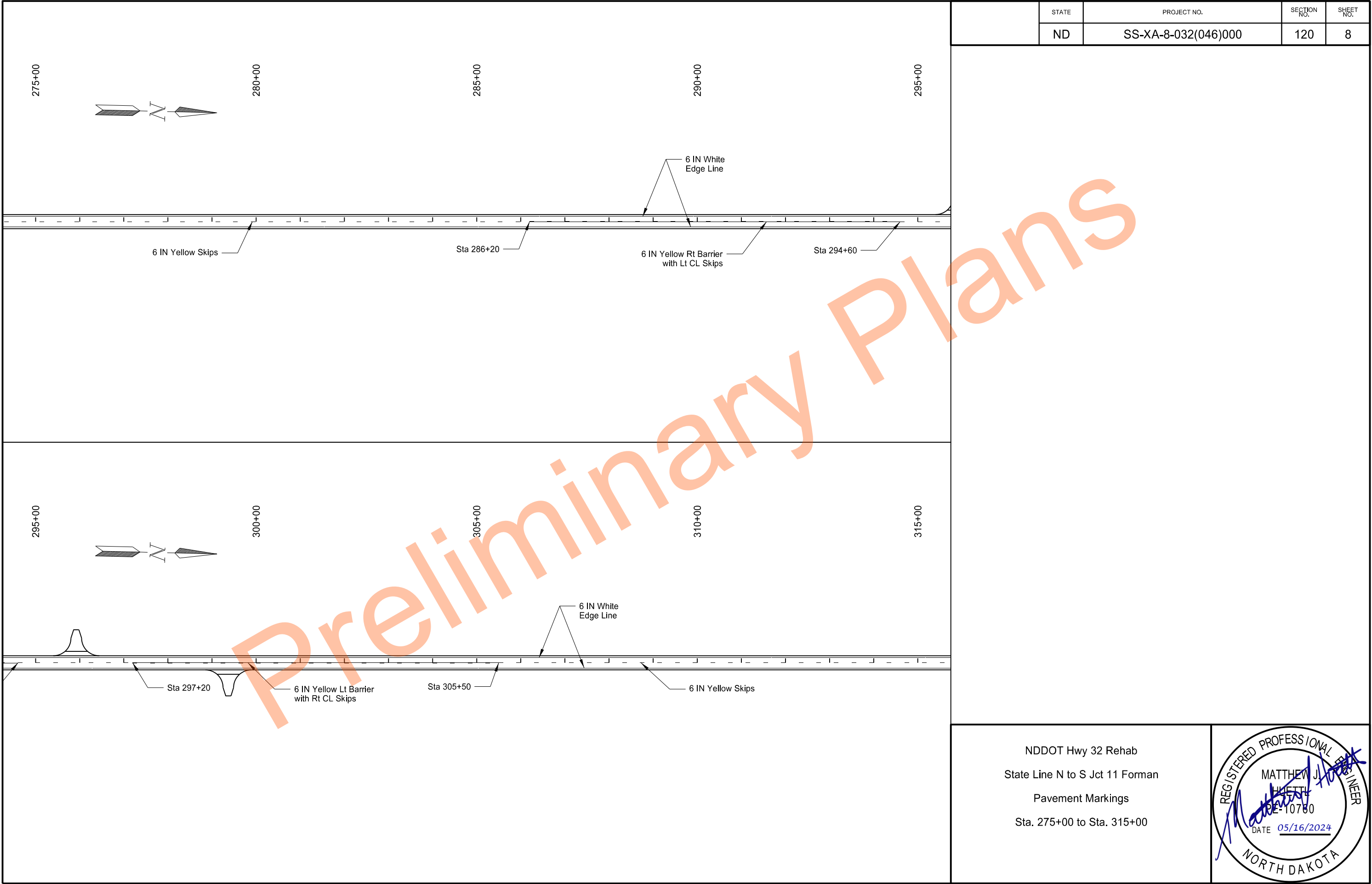
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		120	3
ND	SS-XA-8-032(046)000		
NDDOT Hwy 32 Rehab State Line N to S Jct 11 Forman Pavement Markings Sta. 75+00 to Sta. 115+00			
REGISTERED PROFESSIONAL ENGINEER MATTHEW J. HETTL PE-10780 DATE 05/16/2024 NORTH DAKOTA			

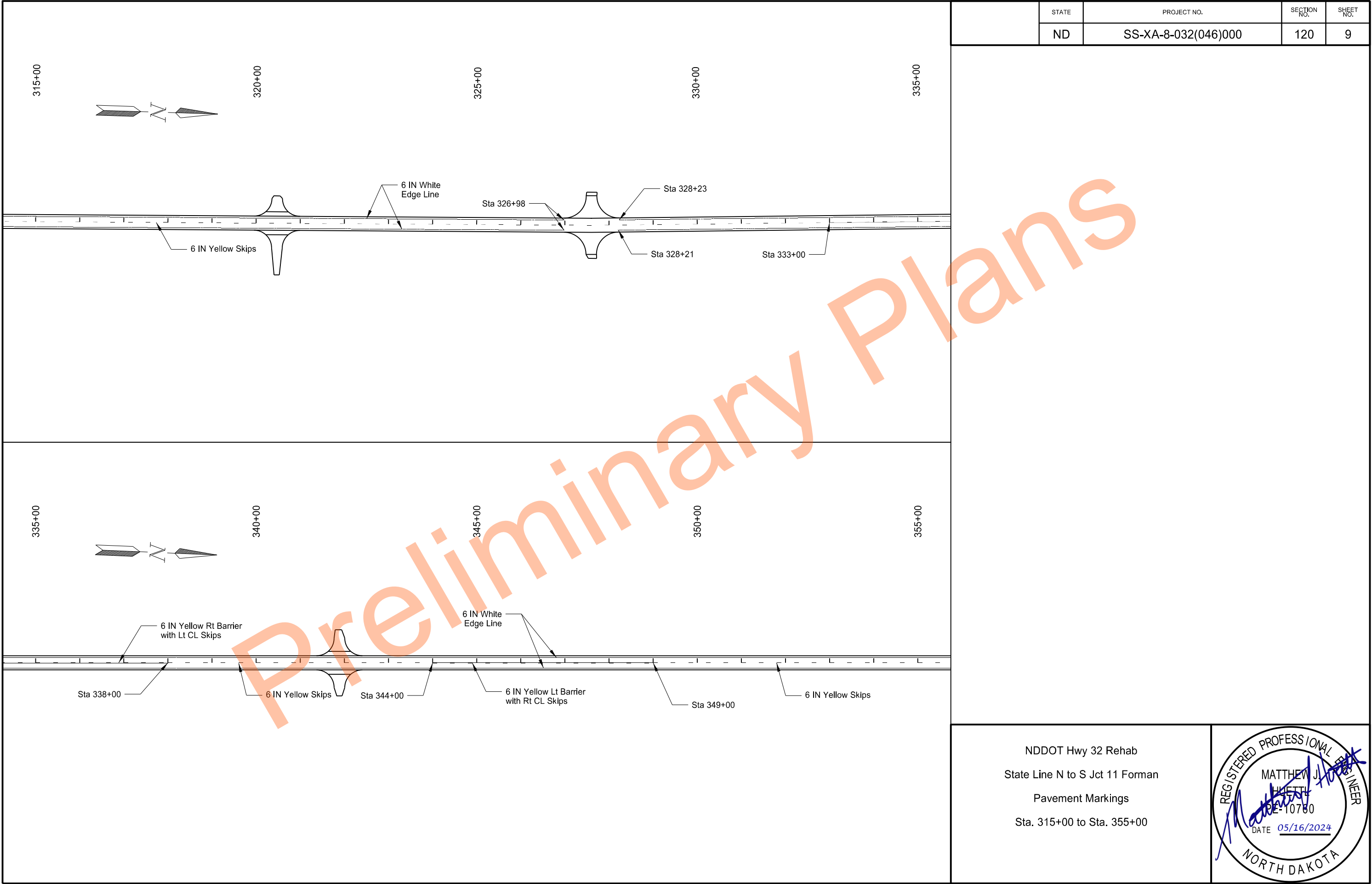


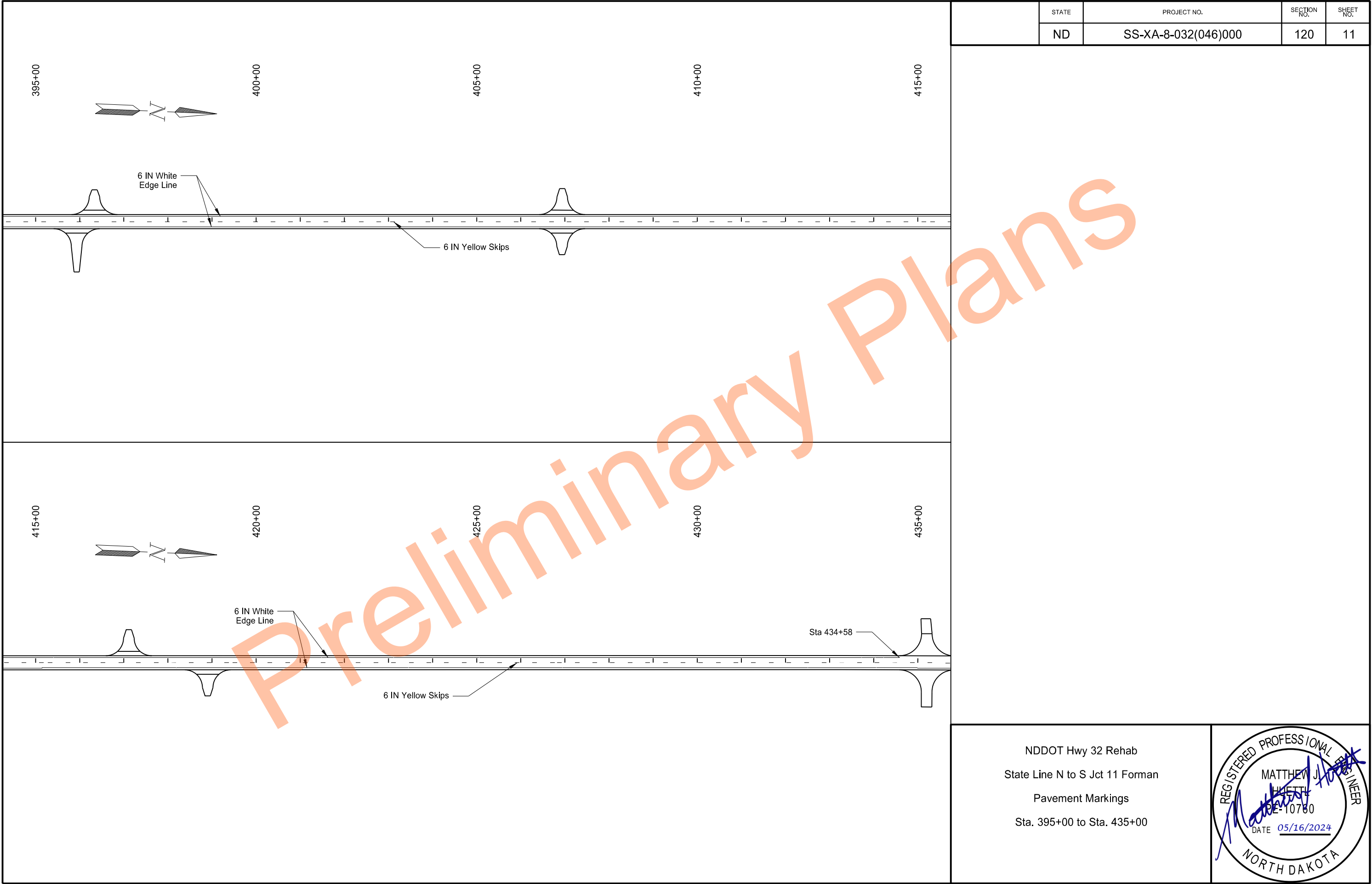


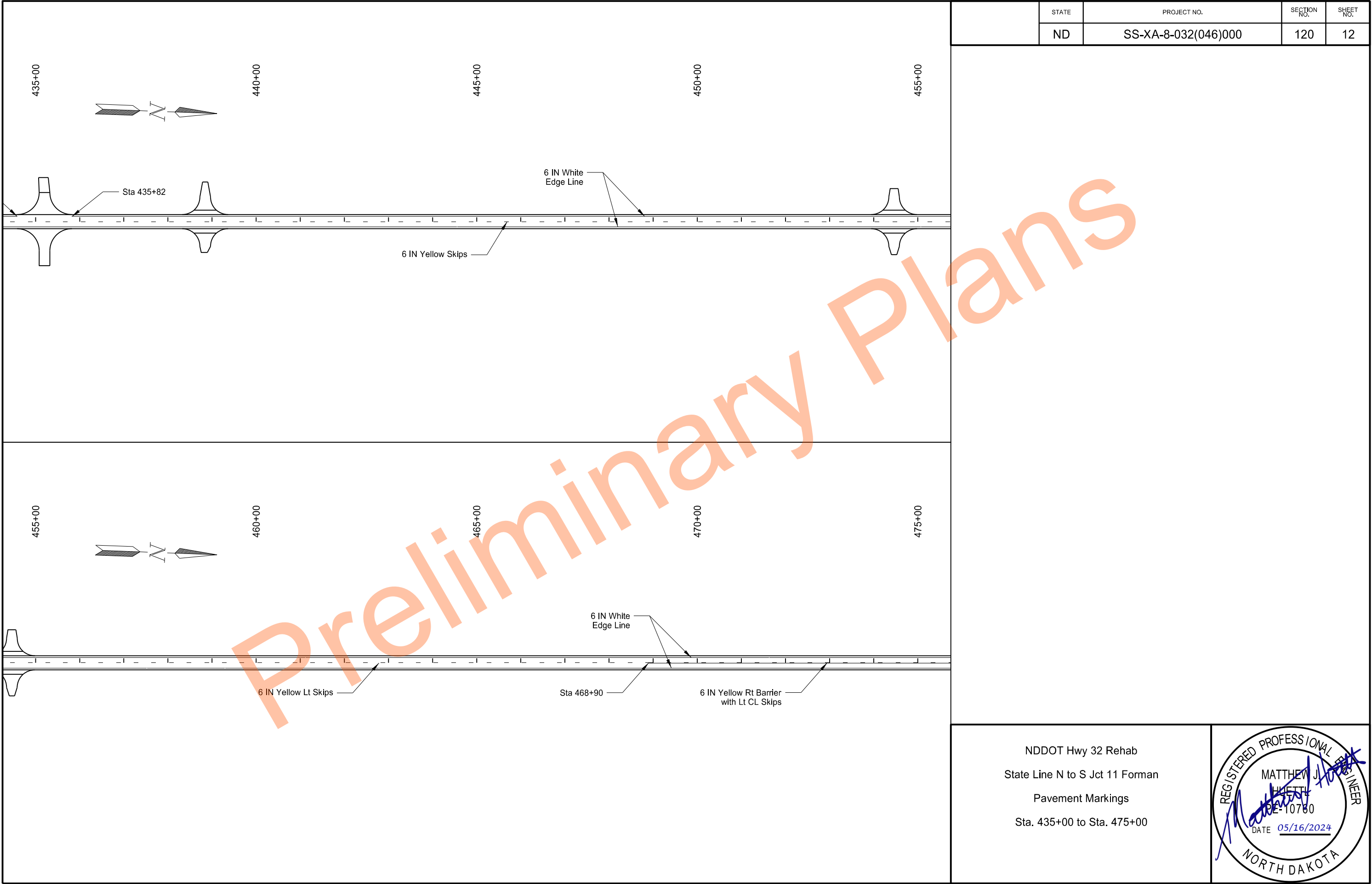


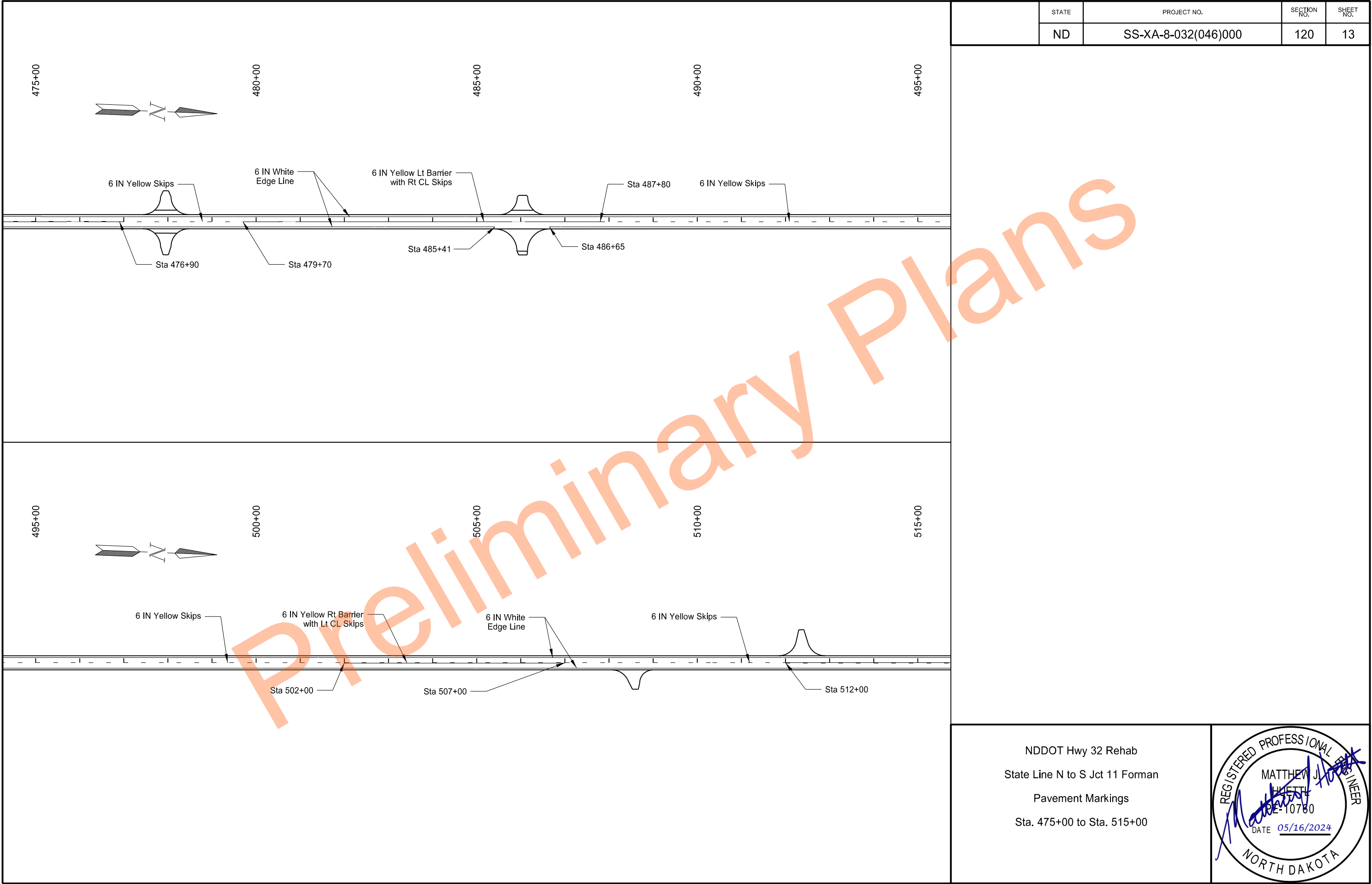


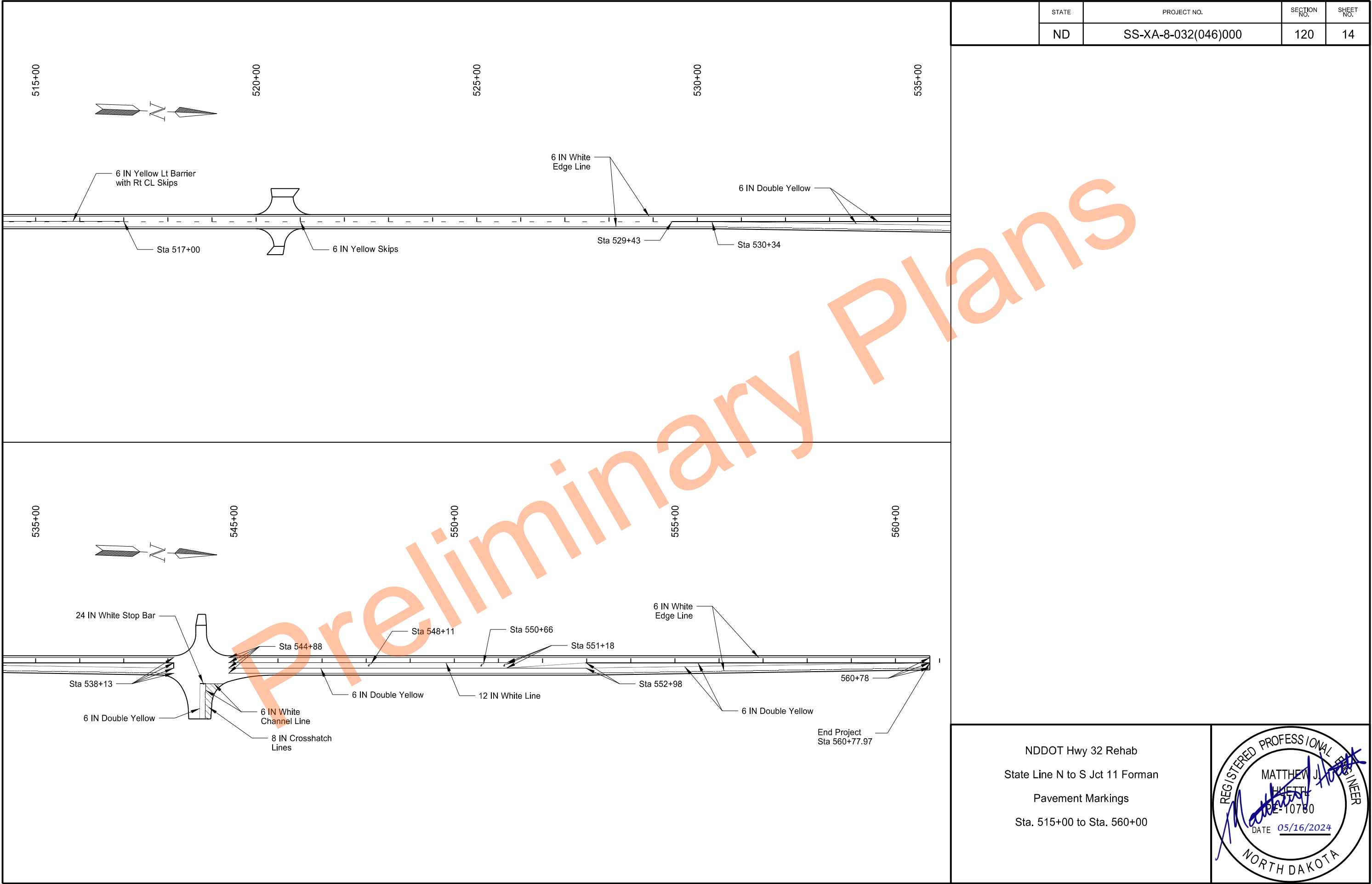












																										STATE	PROJECT NO.		SECTION NO.	SHEET NO.	
																										ND	SS-XA-8-032(046)000		180	3	
PIT LOGGING BY TEST HOLES								PIT LOGGING BY TEST HOLES								PIT LOGGING BY TEST HOLES								PIT LOGGING BY TEST HOLES							
Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole	Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole	Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole	Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole
33	0.5	3.5 sd	1	9	17	30	+	39	3.0	1.0 Fgr	0	7	16	30	+	45		2.0 gr						55	5.0	2.0 gr	0	10	21	34	+
		4.0 gr								3.5 gr						46	0.5	2.5 Fgr	0	2	11	22	+			1.0 sd					
		1.0 sd								2.5 Fgr								1.0 gr								10.0 Fgr					
		1.0 Fgr								1.0 gr								2.0 sd								2.0 sd					
		1.0 gr								2.0 sd								3.0 FS SiCl						56	7.0	4.0 Fgr	0	7	18	32	+
		1.0 Fgr SiCl								1.0 gr								1.0 sd sh								2.0 gr					
		2.0 Fgr								1.0 Fgr								4.0 gr								7.0 Fgr					
		2.0 sd								1.5 FS								3.0 FS SiCl													
		2.0 FS								1.5 Fgr								3.0 Fgr													
		1.0 FS SiCl								2.0 CS						47	0.5	2.5 FS	0	4	14	25	+	A	17.0	1.0 sd	0	4	12	18	+
		1.0 sd sh						40	2.0	8.0 sd	0	5	13	24	+			3.0 Fgr						B	0.0	2.0 Fgr					
34	0.5	3.5 CS	1	6	16	27	+			1.0 CS								2.0 sd					C	0.0	2.0 sd						+WL 2.0
		1.5 Fgr								6.0 Fgr								1.0 Fgr								5.0 Fgr (DM)	0	8	16	24	rk
		2.5 FS								1.0 sd								1.0 CS								1.0 gr					
		3.0 gr								1.0 gr								5.0 gr								1.0 gr Si Cl					
		2.0 Fgr								1.0 sd								1.0 sd								3.0 FS Si Cl					
		3.0 CS						41	0.5	0.5 sd	0	3	8	15	+			1.0 CS						D	0.0	4.0 sd (DM)	0	0	3	6	rk
		1.5 gr								2.0 Fgr								3.0 sd						E	0.0	3.0 gr (DM)	0	2	8	15	+
		2.5 CS								1.0 sd						48	0.5	0.5 gr	0	5	17	28	+			4.0 sd (DM)					
35	1.0	1.0 sd	0	8	19	32	+			3.0 FS SiCl								2.0 FS Si Cl								3.0 Fgr Si Cl					
		1.0 gr								3.0 sd sh								2.0 FS sh								2.0 sd Si Cl					
		1.0 sd								5.0 gr								3.0 Fgr								1.0 sd sh					
		2.0 Fgr								2.0 sd sh								2.0 FS								3.0 Fgr sh					
		1.0 sd								3.0 sd								7.0 Fgr sh								1.0 FS					
		10.0 gr						42	0.5	0.5 FS	0	7	14	24	+			1.0 sd								1.0 gr sh					
		1.5 Fgr								1.0 CS								2.0 Fgr								2.0 FS					
		1.5 sd								2.0 gr						49	6.0	2.0 Fgr	0	4	12	22	+	F	0.0	7.0 Fgr (DM)	1	11	25	42	+ CAVE
36	0.5	1.5 Fgr	1	11	20	33	+			1.0 sd CoS								2.0 sd								1.0 Fgr					
		1.0 sd sh								3.0 FS SiCl								2.0 Fgr								9.0 gr					
		3.0 Fgr sh								4.0 gr								5.0 sd						G	0.0	7.0 sd (DM)					
		5.0 gr								4.0 sd CoS								2.0 gr								2.0 Si Cl (DM)					
		2.0 Fgr								1.0 Fgr								1.0 CS								3.0 gr					
		1.0 sd								2.0 CS						50	14.0	2.0 gr	2	8	14	22	+			4.0 Fgr					
		2.0 Fgr								1.0 Fgr								4.0 sd								3.0 gr sh					
		4.0 sd						43	0.5	2.5 Fgr	1	10	21	33	+	51	13.0	4.0 Fgr	0	6	14	26	+			1.0 sd					
37	0.5	3.5 sd	0	2	9	20	+			1.0 gr								1.0 gr													
		6.0 Fgr								1.0 FS								1.0 Fgr													
		3.0 FS SiCl								5.0 gr								1.0 sd													
		4.0 Fgr sh								3.0 Fgr						52	9.0	5.0 Fgr	1	11	24	38	+								
		3.0 sd								7.0 sd								6.0 gr													
38	1.0	1.0 sd	2	11	23	37	+	44	6.0	9.5 gr	0	11	27	44	+ cave	53	12.0	1.0 sd	0	2	11	25	+								
		1.0 gr SiCl								0.5 FS								6.0 Fgr													
		11.0 Fgr						45	0.5	3.5 sd	0	0	6	14	+			1.0 sd sh													
		6.0 gr								2.0 FS SiCl						54	5.0	3.0 Fgr	0	0	5	11	+								
										2.0 Fgr								4.0 sd													
										1.0 CS								1.5 Fgr													
										1.0 sd SiCl								1.5 CS													
										3.0 CS								1.0 sd													
										4.0 sd								1.0 Fgr													
										1.0 Fgr								3.0 sd													
RANGE 50 TWP 130 SEC S1/2 SW1/4 27																															
COUNTY Richland Nov-06																															
PROSPECTED BY Volk / Dalzell																															
INSPECTED & APPROVED Carter																															

[illegible]