DESIGN DATA				
Traffic	Average Daily			
Current	Pass: 990	Trucks: 630	Total: 1,620	RP 185.548 to RP 208.720
Forecast	Pass: 1,340	Trucks: 905	Total: 2,245	RP 185.548 to RP 208.720
Current	Pass: 1,470	Trucks: 765	Total: 2,235	RP 208.720 to RP 221.698
Forecast	Pass: 1,985	Trucks: 1,095	Total: 3,080	RP 208.720 to RP 221.698

Clear Zone Distance (Turn Lane):	22'	Design Speed (Turn Lane):	55 mph*
Clear Zone Distance (Passing Lane):	32'	Design Speed (Passing Lane):	65 mph
Minimum Sight Dist. for Stopping:	N/A	Bridges:	N/A
Sight Dist. for No Passing Zone:	N/A		
Pavement Design Life 20 (years)			
Design Accumulated One-way Flexible ESALs: 3,682,786			

*Turn Lane Extension in Fessenden (Work Area 1)

	STATE	PROJECT NO.	PCN	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	23151	1	1

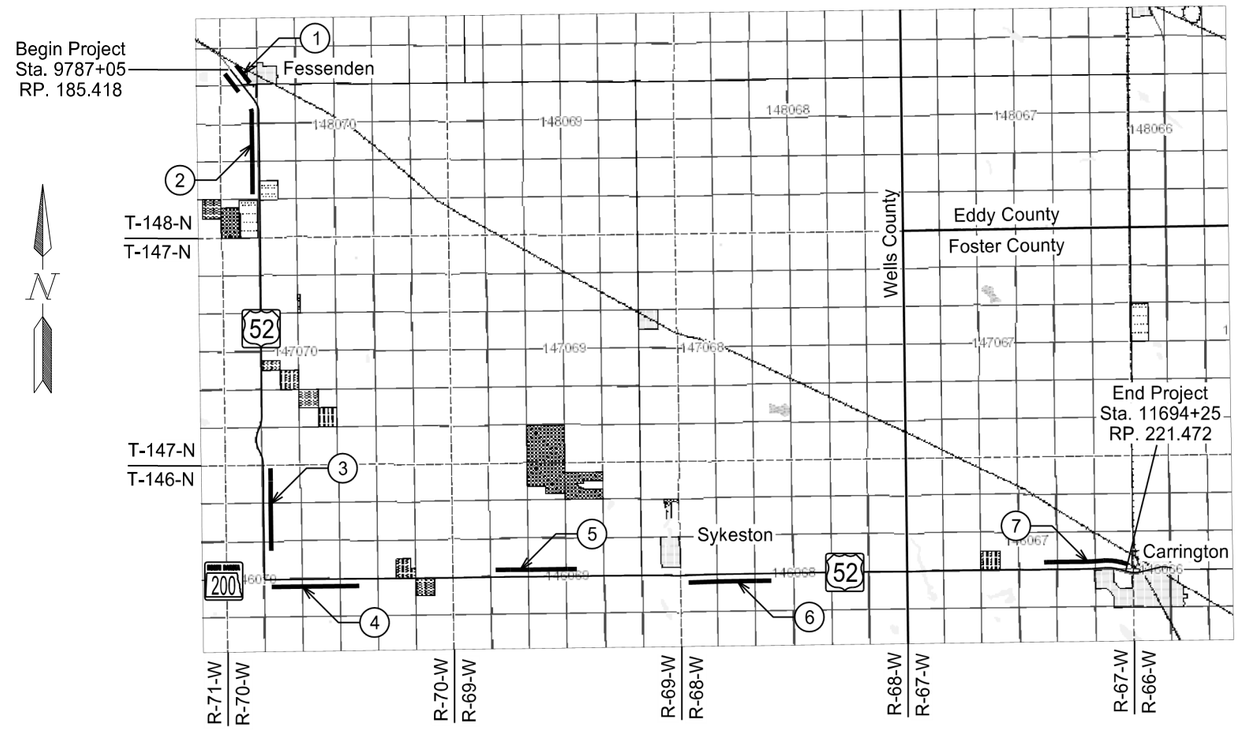
NORTH DAKOTA
DEPARTMENT OF TRANSPORTATION

INF-X-3-052(053)185

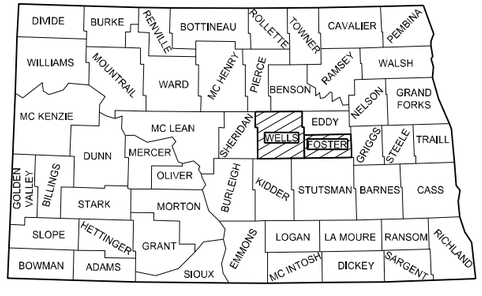
Wells County and Foster County
Fessenden to Carrington
Passing Lanes, Turn Lanes, Embankment, Pipe,
Aggregate, HMA, Signing, Pavement Markings, and Incidentals

GOVERNING SPECIFICATIONS	Date Published and Adopted by the North Dakota Department of Transportation
Standard Specifications	1/1/2022
Supplemental Specifications	NONE

PROJECT NUMBER \ DESCRIPTION	NET MILES	GROSS MILES
INF-X-3-052(053)185	13.470	36.121



1. EB Left Turn Lane Pavement Markings
   Sta. 9787+05 to Sta. 9796+50
   RP. 185.418 to RP. 185.587
2. EB Passing Lane
   Sta. 9832+05 to Sta. 9952+45
   RP. 186.260 to RP. 188.551
3. WB Passing Lane
   Sta. 10336+65 to Sta. 10451+65
   RP. 195.802 to RP. 197.998
4. EB Passing Lane
   Sta. 10503+90 to Sta. 10622+85
   RP. 198.976 to RP. 201.216
5. WB Passing Lane
   Sta. 10814+41 to Sta. 10932+05
   RP. 204.835 to RP. 207.057
6. EB Passing Lane
   Sta. 11079+15 to Sta. 11196+85
   RP. 209.843 to RP. 212.065
7. WB Passing Lane
   Sta. 11582+15 to Sta. 11694+25
   RP. 219.359 to RP. 221.472



STATE COUNTY MAP

DESIGNER
Josh Kueber, PE Mitchell Sforzini, EIT
DESIGNER
Kory Kleinknecht, PE Sawyer Kenney
DESIGNER
Melanie Muncy, EIT Thomas Fakler, PE

ND DEPARTMENT OF TRANSPORTATION
OFFICE OF PROJECT DEVELOPMENT
Hoff, Kirk J.
03/14/22

Ulteig Engineers, Inc.

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/10/2022
NORTH DAKOTA

3/10/2022 1:18:06 PM JOSH.KUEBER G:\2021\21.01304\30052185.053\Design\Sheets\001TS_001_Title.dgn

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	2	1

TABLE OF CONTENTS

PLAN SECTIONS

Section	Page(s)	Description
1	1	Title Sheet
2	1 - 2	Table of Contents
4	1 - 2	Scope of Work
6	1 - 2	Notes
6	3	Environmental Notes
8	1 - 2	Quantities
10	1 - 5	Basis of Estimate
11	1 - 3	Data Tables
20	1 - 10	General Details
30	1 - 8	Typical Sections
40	1 - 24	Removals
51	1 - 5	Allowable Pipe List
60	1 - 55	Plan & Profile
75	1 - 56	Wetland Impacts
76	1 - 27	Temporary Erosion Control
77	1 - 27	Permanent Erosion Control
81	1 - 6	Survey Coordinate and Curve Data
82	1 - 40	Survey Data Layouts
100	1 - 15	Work Zone Traffic Control
110	1 - 33	Signing
120	1 - 2	Pavement Marking
180	1 - 7	Pit Plats and Borrow Areas
200	1 - 499	Cross Sections

SPECIAL PROVISIONS

Number	Description
PSP 14(22)	Permits and Environmental Considerations
SP 13(22)	Utility Coordination
SP 18(22)	Soil Stabilization
SP 19(22)	Flexible Pavement Surface Tolerance
SSP 1	Temporary Erosion and Sediment Best Management Practices
SSP 10	E-Ticketing
SSP 2	Federal Migratory Bird Treaty Act

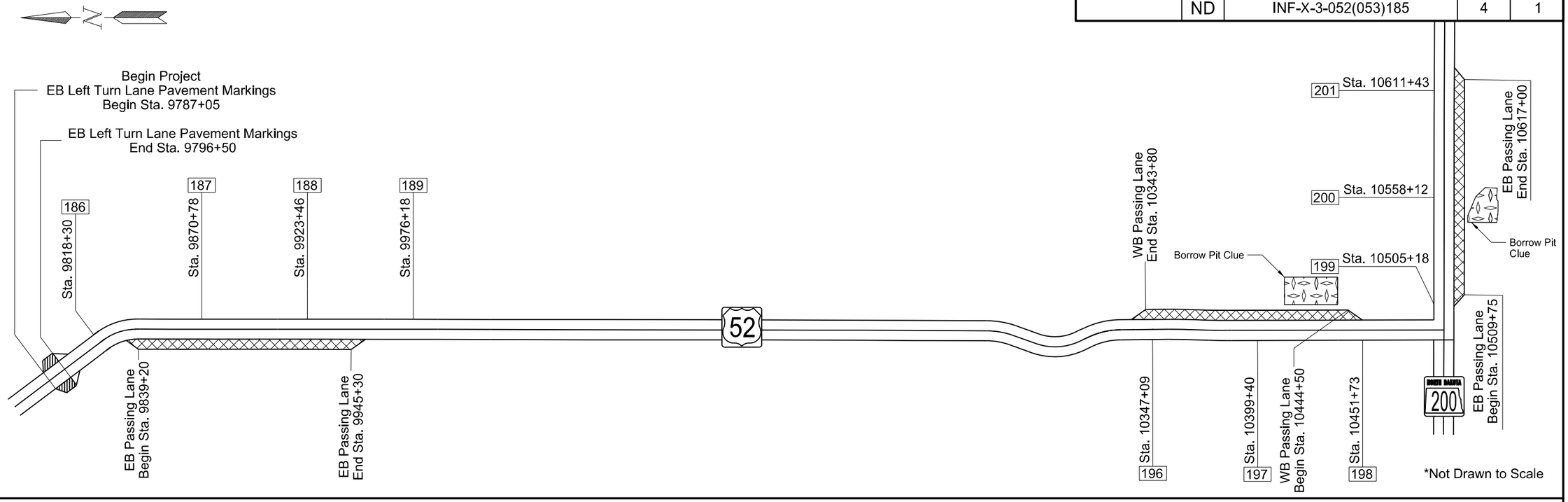
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	2	2

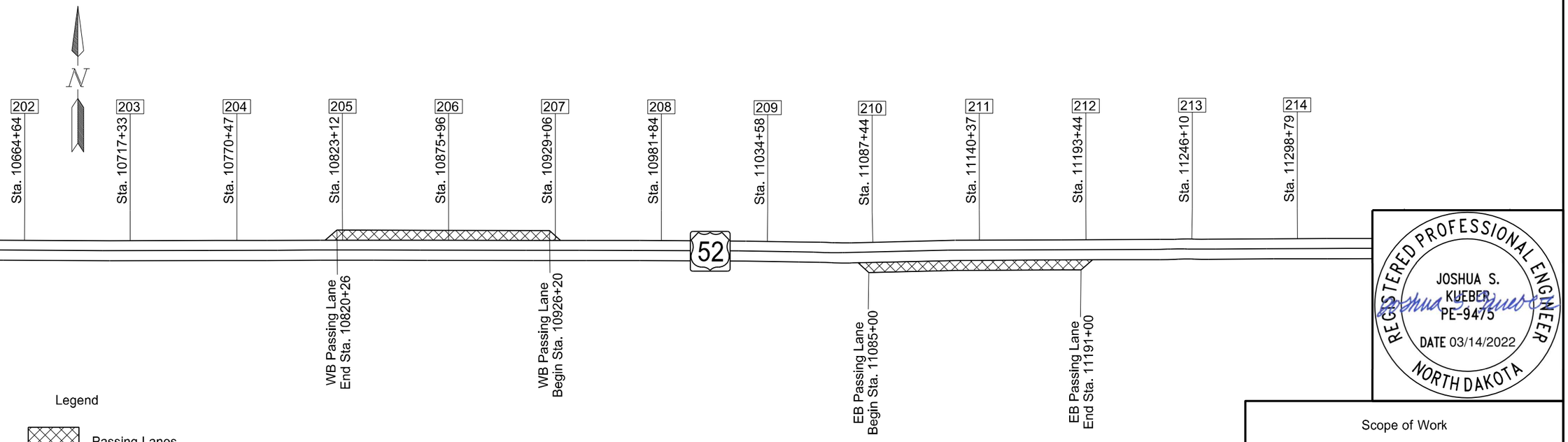
TABLE OF CONTENTS

LIST OF STANDARD DRAWINGS

Number	Description
D-101-1, 2, 3, 4	NDDOT Abbreviations
D-101-10	NDDOT Utility Company and Organization Abbreviations
D-101-20, 21	Line Styles
D-101-30, 31, 32, 33	Symbols
D-101-40	Cross Section Legend
D-203-8	Standard Rural Approaches
D-255-2	Erosion And Siltation Control - Erosion Control Blanket Installation
D-260-1	Erosion And Siltation Controls - Silt Fence
D-261-1	Erosion Control - Fiber Roll Placement Details
D-704-2	Traffic Control For Coring Of Hot Bituminous Pavement
D-704-5	Construction Sign Detail
D-704-6	Construction Sign Details - Poject Funding Sign
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-704-13	Barricade And Channelizing Device Details
D-704-14	Construction Sign Punching And Mounting Details
D-704-15	Road Closure Layouts
D-704-19	Road Closure And Lane Closure On A Two Way Road Layouts
D-704-20	Terminal And Seal Coat Sign Layouts
D-704-22	Construction Truck And Temporary Detour Layouts
D-704-24	Shoulder Closures And Bridge Painting Layouts
D-704-26	Miscellaneous Sign Layouts
D-704-27	Mobile Operation (Pavement Marking)
D-704-30	Windrow Marking
D-704-50	Portable Sign Support Assembly
D-704-56	Mobile Operation - Grinding Shoulder Rumble Strips
D-706-1	Bituminous Laboratory
D-708-6	Erosion And Siltation Controls - Median Or Ditch Inlet Protection
D-714-1	Reinforced Concrete Pipe Culverts And End Sections (Round Pipe)
D-714-4	Round Corrugated Steel Pipe Culverts And End Sections
D-714-22	Concrete Pipe, Cattle Pass, or Precast Concrete Box Culvert Ties
D-720-1	Standard Monuments And Right Of Way Markers
D-754-19	(Conventional Use) Reference Markers
D-754-21	Reflectorized Delineators
D-754-23	Perforated Tube Assembly Details
D-754-24, 25	Mounting Details Perforated Tube
D-754-24A	Breakaway Coupler System For Perforated Tubes
D-754-26, 27, 29	Sign Punching, Stringer and Support Location Details Regulatory, Warning and Guide Signs
D-754-59	Sign Punching, Stringer and Support Location Details - Route Marker Signs
D-754-83	Object Markers - Culverts
D-754-87	Sign Punching, Stringer And Support Location Details For Street Name Signs And 911 Signs
D-760-3	Rumble Strips Undivided Highways (Shoulders 4' Or Greater)
D-762-1	Pavement Marking Message Details
D-762-4	Pavement Marking
D-762-6	Pavement Marking for Standard 90 Degree Flared Intersection - (Center Left Turn Lane on Major Road)
D-762-11	Short-Term Pavement Marking
D-766-1	Mailbox Location Details

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	4	1



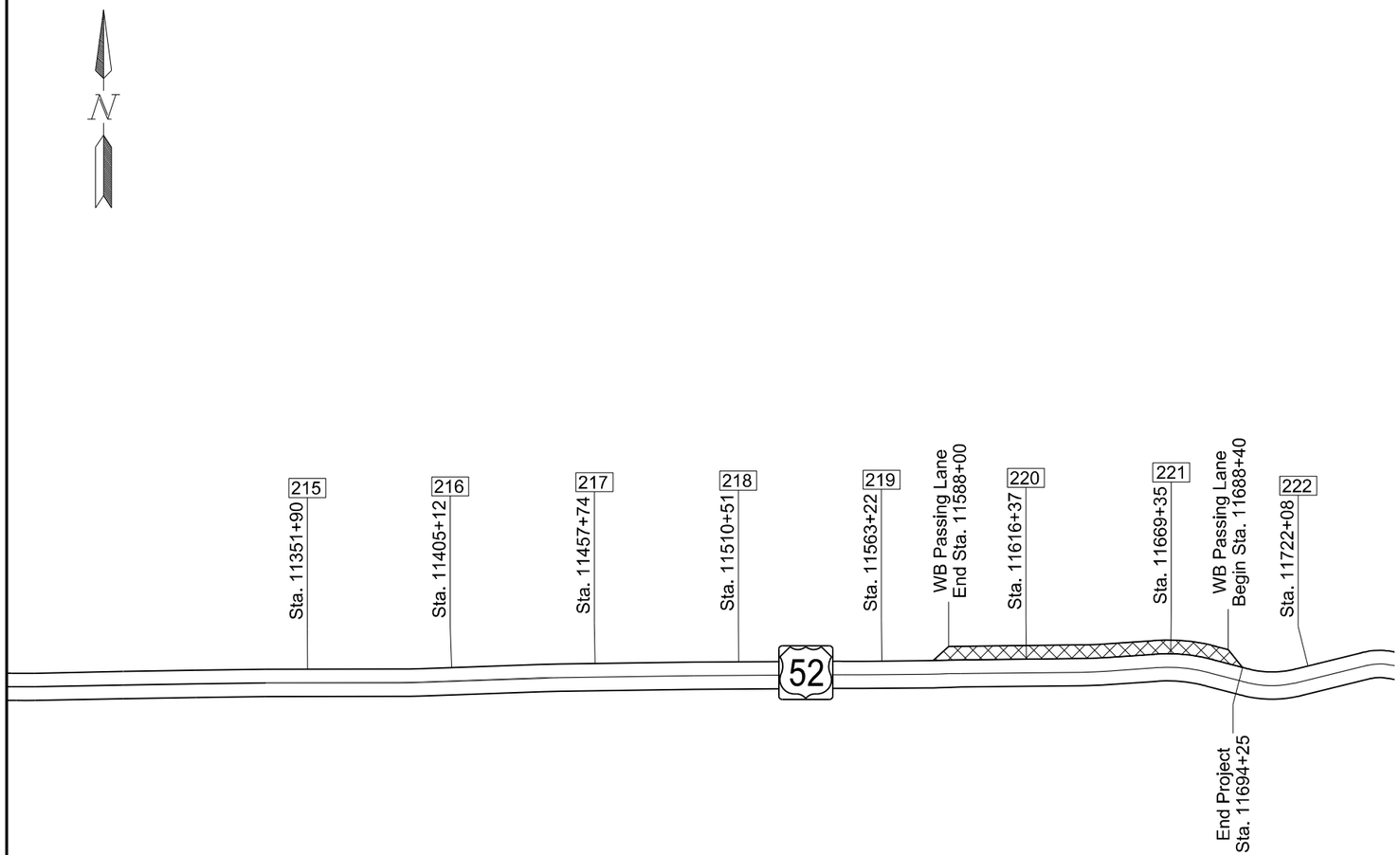


REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Scope of Work

US 52
Fessenden to Carrington
Wells County

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	4	2



Legend

Passing Lanes

Left Turn Lane Pavement Markings

*Not Drawn to Scale

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Scope of Work

US 52
Fessenden to Carrington
Foster County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	6	1

NOTES

100-P01 COORDINATION OF PROJECTS: Other projects in the vicinity of this project is under contract during the 2022 construction season.

- NDDOT project SS-3-030(036)088, PCN 22602 and is a structure replacement project on ND 30 at RP 88.503 over Pipestem Creek.
- NDDOT project HES-3-999(048), PCN 23360 is safety improvement project which will be installing delineators on US 52 from RP 185.548 to RP 244.865.

107-P01 MAINTAINING TRAFFIC - DROP-OFFS: 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 of 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 E.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 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.

The requirements of Section 704.04 O, "Traffic Control for Uneven Pavement" apply to drop-offs created by milling or the placement of hot mix asphalt.

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

202-P01 REMOVE AGGREGATE BASE & SURFACING: The existing bituminous pavement thickness are averages based on previous construction plans and maintenance data. Actual thickness may vary.

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

203-385 AVERAGE HAUL: No average haul has been computed for this project.

203-P01 DITCH BLOCKS: Include the cost for ditch blocks in the contract unit price for “Common Excavation – Type A.”

203-P02 CONTRACTOR FURNISHED BORROW: Obtain Certificate of Approval on all Contractor furnished borrow sites in accordance with Section 107.05 of the Standard Specifications. Identified below is a potential borrow material source.

- Borrow Clue: NW1/4, Section 21, T146N, R70W
- Borrow Clue: SW1/4, Section 8, T146N, R70W

203-P03 RESET DELINEATORS: Another project under contract during the 2022 construction season will be installing delineators within the limits of this project. If they are installed prior to the completion of the passing lane project, remove and reset the delineators. The delineators consist of a 9’ post with a reflector as shown in the Sec 20 Delineator Detail. Remove and salvage the delineator with a method that does not cause damage to the post or reflector. Stockpile the removed delineators at a location approved by the Engineer. Reset the delineators after the earthwork and topsoil operations are complete. Install the delineators in accordance with the uniform spacing dimensions shown in the Sec 20 Delineator Layout. Repair or replace any damaged delineators caused by Contractor negligence. Include the costs to remove, reset, repair or replace delineators in the price bid for “Reset Delineators”.

261-P01 PERMANENT FIBER ROLLS: For fiber rolls remaining on the project, use fiber rolls that are composed of netting that meets either of the following:

- Bio- or photo-degradable plastic netting that has a life expectancy between 6 and 24 months.
- 100 percent biodegradable natural netting that has a life expectancy between 6 and 24 months.

302-P01 SALVAGE & RELAY AGGREGATE BASE COURSE: Include all the costs for salvaging and relaying of the existing aggregate base course as Aggregate Base Course CL 5 in the price bid for “Salvage & Relay Aggregate Base Course”.

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

Place the following sign assembly at the locations listed below.

Sign Assembly: Sign No. W8-17-48 "Shoulder Drop Off" and supplemental plate Sign No. W20-52P-54 to identify the distance.

Locations:

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

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	6	2

NOTES

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

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

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

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: Provide traffic control consisting of shoulder closures, temporary lane closures and flagging. Quantities for traffic control signs and devices are based on all passing lane work areas (6 locations – approximately 2 miles each) being constructed at the same time and following Standard Drawings:

1. Standard D-704-15, Layout A
2. D-704-20, Layout G
3. D-704-22, Layout K and L for construction trucks hauling material.
4. D-704-22, Layout O at the intersection of US 52 and ND 200 east of Carrington.
5. D-704-24, Layout R, shoulder closures
6. D-704-56, For grinding shoulder rumble strips on two-lane roadway.

Reduce speeds in both direction when work is being performed.

Phase 1: Provide shoulder closures for pipe extensions and roadway widening or as directed by the engineer. Follow standard drawing D-704-24 Type U and Work Zone Traffic Control Section (WZTC Section 100) for shoulder closure.

Phase 2: Provide temporary lane closures as shown in the Sec 100 Work Zone Traffic Control layout sheets for pavement removals, delivery of material, milling, paving and operations that require a lane closure or as directed by the engineer.

Roadway widening areas may remain under shoulder closure according to drawing D-704-24 Type U until paving, striping, and signing are complete.

Place one Type III Barricade at the beginning of the passing lane and one at every private drive approach and road intersection to keep the newly constructed passing lane closed. The Type III Barricade is not required at field approaches.

714-P01 PIPE EXTENSIONS: Remove the silted-in material from the pipes before extending them. Assume all pipes require silt cleanout. Provide dewatering if necessary, according to site conditions. Include the cost of removing the silt, reshaping the flow line of the ditch, and the costs associated with dewater in the price bid for pipe installation.

754-P01 OBJECT MARKERS – CULVERTS: Remove existing object markers located at culvert end sections that are impacted by earthwork activities and pipe extensions. Include the cost for removal and disposal in the price bid for “Object Markers – Culverts”.

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

766-P01 MAILBOXES: Notify affected mailbox owners in advance of disturbing the existing mailboxes and supports. Provide written notifications 30 days in advance of disturbance and provide copies of the notifications to the Engineer. Just prior to removing the existing mailbox and support, coordinate verbally with the mailbox owner to discuss resetting the existing mailbox on a new support. Contact the U.S. Postal Service for the mailbox owners’ contact information.



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	6	3

ENVIRONMENTAL NOTES

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
Whooping Crane	Cropland/Wetland Associations	Spring: April 1 - May 15* Fall: September 15 - November 15
Gray Wolf	Forested/Wooded Areas, Open Areas	Year-Round – No known populations, sightings extremely rare

*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-4 WETLAND MITIGATION: Wetland mitigation is required for unavoidable permanent wetland impacts. The wetland mitigation plan is incorporated into the plans for this project. After completion of the mitigation area, the Engineer will complete the Onsite Mitigation Certification Form SFN 61042. Any sedimentation occurring within the mitigation area will be removed.

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	8	1

Estimated Quantities

SPEC	CODE	ITEM DESCRIPTION	UNIT	Mainline: Funding A				TOTAL
103	0100	CONTRACT BOND	L SUM	0.51				0.51
202	0021	REMOVE AGGREGATE BASE & SURFACING	TON	58947				58947
202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES	EA	2				2
202	0174	REMOVAL OF PIPE ALL TYPES AND SIZES	LF	541				541
203	0101	COMMON EXCAVATION-TYPE A	CY	25394				25394
203	0109	TOPSOIL	CY	69503				69503
203	0140	BORROW-EXCAVATION	CY	90697				90697
216	0100	WATER	M GAL	4287				4287
251	0200	SEEDING CLASS II	ACRE	85.64				85.64
251	1000	WETLAND SEED	ACRE	4.41				4.41
251	2000	TEMPORARY COVER CROP	ACRE	90.06				90.06
253	0061	SOIL STABILIZATION	ACRE	175.7				175.7
255	0102	ECB TYPE 2	SY	2546				2546
260	0200	SILT FENCE SUPPORTED	LF	15138				15138
260	0201	REMOVE SILT FENCE SUPPORTED	LF	15138				15138
261	0112	FIBER ROLLS 12IN	LF	76736				76736
261	0113	REMOVE FIBER ROLLS 12IN	LF	17721				17721
261	0120	FIBER ROLLS 20IN	LF	220				220
261	0121	REMOVE FIBER ROLLS 20IN	LF	220				220
302	0120	AGGREGATE BASE COURSE CL 5	TON	139438				139438
302	0410	SALVAGE & RELAY AGGREGATE BASE COURSE	MILE	8.87				8.87
401	0050	TACK COAT	GAL	14552				14552
401	0060	PRIME COAT	GAL	49010				49010
401	0160	BLOTTER MATERIAL CL 44	TON	1052				1052
411	0100	MILLING PAVEMENT SURFACE	TON	12387				12387
430	0045	SUPERPAVE FAA 45	TON	48512				48512
430	1000	CORED SAMPLE	EA	189				189
430	5818	PG 58H-34 ASPHALT CEMENT	TON	2912				2912
702	0100	MOBILIZATION	L SUM	0.51				0.51
704	0100	FLAGGING	MHR	3000				3000
704	1000	TRAFFIC CONTROL SIGNS	UNIT	6831				6831
704	1048	PORTABLE RUMBLE STRIPS	EA	12				12
704	1052	TYPE III BARRICADE	EA	22				22
704	1060	DELINEATOR DRUMS	EA	72				72
704	1080	STACKABLE VERTICAL PANELS	EA	271				271
704	1081	VERTICAL PANELS-BACK TO BACK	EA	534				534
704	1500	OBLITERATION OF PAVEMENT MARKING	SF	24722				24722
706	0500	AGGREGATE LABORATORY	EA	1				1
706	0550	BITUMINOUS LABORATORY	EA	0.51				0.51
706	0600	CONTRACTOR'S LABORATORY	EA	0.51				0.51
709	0100	GEOSYNTHETIC MATERIAL TYPE G	SY	180080				180080
714	0615	PIPE CONC REINF 24IN CL III	LF	196				196
714	0820	PIPE CONC REINF 30IN CL III	LF	74				74
714	0905	PIPE CONC REINF 36IN CL III	LF	36				36
714	1005	PIPE CONC REINF 42IN CL III	LF	58				58
714	1105	PIPE CONC REINF 48IN CL III	LF	24				24
714	1310	PIPE CONC REINF 60IN CL III	LF	40				40

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	8	2

Estimated Quantities

SPEC	CODE	ITEM DESCRIPTION	UNIT	Mainline: Funding A				TOTAL
714	4099	PIPE CONDUIT 18IN-APPROACH	LF	137				137
714	4106	PIPE CONDUIT 24IN-APPROACH	LF	417				417
714	5015	PIPE CORR STEEL .064IN 18IN	LF	125				125
714	5035	PIPE CORR STEEL .064IN 24IN	LF	4				4
714	5810	END SECT CORR STEEL .064IN 18IN	EA	2				2
714	9660	REMOVE & RELAY END SECTION-ALL TYPE & SIZES	EA	55				55
720	0110	RIGHT OF WAY MARKERS	EA	51				51
720	0125	ALIGNMENT MONUMENTS	EA	22				22
720	0130	IRON PIN R/W MONUMENTS	EA	36				36
720	0135	IRON PIN REFERENCE MONUMENTS	EA	31				31
754	0110	FLAT SHEET FOR SIGNS-TYPE XI REFL SHEETING	SF	274				274
754	0112	FLAT SHEET FOR SIGNS-TYPE IV REFL SHEETING	SF	133				133
754	0149	RESET DELINEATOR	EA	138				138
754	0150	DELINEATORS-TYPE A	EA	48				48
754	0206	STEEL GALV POSTS-TELESCOPING PERFORATED TUBE	LF	806				806
754	0563	REFERENCE MARKER-TYPE C	EA	5				5
754	0592	RESET SIGN PANEL	EA	13				13
754	0596	RESET MILE POST	EA	6				6
754	0805	OBJECT MARKERS - CULVERTS	EA	31				31
760	0005	RUMBLE STRIPS - ASPHALT SHOULDER	MILE	13.291				13.291
762	0103	PVMT MK PAINTED-MESSAGE	SF	684				684
762	0430	SHORT TERM 4IN LINE-TYPE NR	LF	249478				249478
762	1104	PVMT MK PAINTED 4IN LINE	LF	612663				612663
762	1108	PVMT MK PAINTED 8IN LINE	LF	2159				2159
762	1124	PVMT MK PAINTED 24IN LINE	LF	192				192
766	0100	MAILBOX-ALL TYPES	EA	4				4
990	0400	PIPE CLEANOUT	EA	1				1

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	10	1

HMA Cored Samples							
	A	B		C			
Specification Section	Distance (Ft)/1000	Lanes	Joints	Lifts	Sublots (AxBxC)	Quantity (1 per mile)	Unit
430.04 I.2.b(1), "General"							
Site 2 - EB Passing Lane - RP 186.260 to RP 188.551	12,040 / 1,000 = 12	1	N/A	3	36	N/A	EA
Site 3 - WB Passing Lane - RP 195.802 to RP 197.998	11,500 / 1,000 = 12	1	N/A	3	36	N/A	EA
Site 4 - EB Passing Lane - RP 198.976 to RP 201.216	11,895 / 1,000 = 12	1	N/A	3	36	N/A	EA
Site 5 - EB Passing Lane - RP 204.835 to RP 207.057	11,764 / 1,000 = 12	1	N/A	3	36	N/A	EA
Site 6 - EB Passing Lane - RP 209.843 to RP 212.065	11,770 / 1,000 = 12	1	N/A	3	36	N/A	EA
Site 7 - EB Passing Lane - RP 219.359 to RP 221.472	11,210 / 1,000 = 11	1	N/A	3	33	N/A	EA
430.04 I.2.b(2), "Pavement Thickness Determination Cores"						12	EA
				Total	177	12	EA

Rumble Strips - Asphalt Shoulder

Rumble Strips - Asphalt Shoulder	
Location	Length
Site 2 - EB Passing Lane - RP 186.260 to RP 188.551 Sta. 9832+05 to Sta. 9952+45 Rt	12,040'
Site 3 - WB Passing Lane - RP 195.802 to RP 197.998 Sta. 10336+65 to Sta. 10451+65 Lt	11,500'
Site 4 - EB Passing Lane - RP 198.976 to RP 201.216 Sta. 10503+90 to Sta. 10622+85 Rt	11,895'
Site 5 - EB Passing Lane - RP 204.835 to RP 207.057 Sta. 10814+41 to Sta. 10932+05 Lt	11,764'
Site 6 - EB Passing Lane - RP 209.843 to RP 212.065 Sta. 11079+15 to Sta. 11196+85 Rt	11,770'
Site 7 - EB Passing Lane - RP 219.359 to RP 221.472 Sta. 11582+15 to Sta. 11694+25 Lt	11,210'
Total (LF) =	70,179'
Total (MI) =	13.291

Mailboxes

Station	Type	Quantity	Work
Sta. 9920+05 Rt	Single	1	Replace
Sta. 10358+09 Lt	Single	1	Replace
Sta. 10615+32 Rt	Single	1	Replace
Sta. 11086+04 Rt	Single	1	Replace

Water

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

Short Term 4IN Line-Type NR			
Location		Quantity	Units
Site 2 - EB Passing Lane - RP 186.260 to RP 188.551 Sta. 9832+05 to Sta. 9952+45 Rt	4" Double Yellow Centerline @ 10,560 LF/Mile	26340	LF
	4" White Lane Line @ 1,320 LF/Mile	2623	LF
	4" White Edge Line @ 5,280 LF/Mile	13164	LF
Site 3 - WB Passing Lane - RP 195.802 to RP 197.998 Sta. 10336+65 to Sta. 10451+65 Lt	4" Double Yellow Centerline @ 10,560 LF/Mile	25260	LF
	4" White Lane Line @ 1,320 LF/Mile	2488	LF
	4" White Edge Line @ 5,280 LF/Mile	12630	LF
Site 4 - EB Passing Lane - RP 198.976 to RP 201.216 Sta. 10503+90 to Sta. 10622+85 Rt	4" Double Yellow Centerline @ 10,560 LF/Mile	26570	LF
	4" White Lane Line @ 1,320 LF/Mile	2651	LF
	4" White Edge Line @ 5,280 LF/Mile	13285	LF
Site 5 - EB Passing Lane - RP 204.835 to RP 207.057 Sta. 10814+41 to Sta. 10932+05 Lt	4" Double Yellow Centerline @ 10,560 LF/Mile	26308	LF
	4" White Lane Line @ 1,320 LF/Mile	2619	LF
	4" White Edge Line @ 5,280 LF/Mile	13154	LF
Site 6 - EB Passing Lane - RP 209.843 to RP 212.065 Sta. 11079+15 to Sta. 11196+85 Rt	4" Double Yellow Centerline @ 10,560 LF/Mile	26320	LF
	4" White Lane Line @ 1,320 LF/Mile	2620	LF
	4" White Edge Line @ 5,280 LF/Mile	13160	LF
Site 7 - EB Passing Lane - RP 219.359 to RP 221.472 Sta. 11582+15 to Sta. 11694+25 Lt	4" Double Yellow Centerline @ 10,560 LF/Mile	25200	LF
	4" White Lane Line @ 1,320 LF/Mile	2480	LF
	4" White Edge Line @ 5,280 LF/Mile	12606	LF
Total (LF) =		249478	LF

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE 27746
DATE 03/14/2022
NORTH DAKOTA

Basis of Estimate

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	10	2

US 52 Pavement Marking														
Description	Begin RP	End RP	PVMT MK Painted 4IN Line							PVMT MK Painted 8IN Line	PVMT MK Painted 24IN Line	PVMT MK Painted Message		Obliteration of Pavement Markings
			CL Skips (LF)	CL Skips (LF)	Extension Line (LF)	Left Edge Line (LF)	Right Edge Line (LF)	Single Barrier (LF)	Double Barrier (LF)	8" Channel (LF)	24" Stop Bar (LF)	LT Arrow - 16 SF Each	Merge - 41 SF Each	SF
			Yellow	White	White	White	White	Yellow	Yellow					
Site 1 Turn Lane to Site 2 Passing Lane	185.418	186.260	419			915	877	791	8186	435	18	48		720
Site 2 Passing Lane	186.260	188.551		2428	195	12096	12096		21220				82	4057
Site 2 Passing Lane to Site 3 Passing Lane	188.551	195.802	8302			38285	38285	5214	5120	530	50	48		
Site 3 Passing Lane	195.802	197.990		2293	195	11553	11553		20140				82	3877
Site 3 Passing Lane to Site 4 Passing Lane	197.990	198.976	686			5206	5206	1704	5150	122	24			
Site 4 Passing Lane	198.976	201.216		2456	195	11827	11827		21450				82	4095
Site 4 Passing Lane to Site 5 Passing Lane	201.216	204.835	2238			19108	19108	11519	5120					
Site 5 Passing Lane	204.835	207.057		2424	195	11732	11732		21188				82	4052
Site 5 Passing Lane to Site 6 Passing Lane	207.057	209.843	2934			14710	14710	2474	5120	1072	100	96		
Site 6 Passing Lane	209.843	212.065		2425	195	11732	11732		21200				82	4054
Site 6 Passing Lane to Site 7 Passing Lane	212.065	219.359	8006			38512	38512	1693	13360					
Site 7 Passing Lane	219.359	221.472		2285	195	11157	11157		30320				82	3867
		Sub-Total=	22585	14311	1170	186833	186795	23395	177574	2159	192	192	492	24722
		Total=	612663							2159	192	684		24722

Note: Refer to Section 120 for Pavement Marking Layouts.

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL
KLEINKNECHT
PE-27746
DATE 03/14/2022
NORTH DAKOTA

Basis of Estimate

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	10	3

				Typ 1			Transition From Typ 1 to Typ 2			Typ 2			Transition From Typ 2 to Typ 3			Typ 3		
				Station			Station			Station			Station			Station		
				9832+05	to	9832+05	9832+05	to	9837+19	9837+19	to	9837+19	9837+19	to	9841+45	9841+45	to	9945+30
				Length (LF)=		-	Length (LF)=		514.31	Length (LF)=		-	Length (LF)=		425.69	Length (LF)=		10385
Spec	Code	Description	Unit	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)
302	0120	Aggregate Base Course Cl 5 @ 1.875 Ton/CY	Ton	16.61	SF	-	22.54	SF	805.1	28.48	SF	-	29.14	SF	861.5	29.80	SF	21491.2
401	0060	Prime Coat @ 0.35 Gal/SY	Gal	4.65	LF	-	8.61	LF	172.3	12.57	LF	-	13.65	LF	226.0	14.72	LF	5945.6
401	0160	Blotter Material Cl 44 @ 15 lbs/SY	Ton	4.65	LF	-	8.61	LF	3.7	12.57	LF	-	13.65	LF	4.9	14.72	LF	127.5
401	0050	Tack Coat @ 0.05 Gal/SY (2nd Lift)	Gal	3.04	LF	-	7.00	LF	22.0	10.96	LF	-	12.13	LF	30.3	13.29	LF	805.3
401	0050	Tack Coat @ 0.05 Gal/SY (3rd Lift)	Gal	7.44	LF	-	11.40	LF	34.5	15.36	LF	-	16.75	LF	41.2	18.15	LF	1085.6
430	0045	Superpave FAA 45 @ 2 Ton/CY	Ton	2.26	SF	-	4.40	SF	167.7	6.54	SF	-	7.25	SF	228.7	7.97	SF	6127.5
430	5818	PG 58H-34 Asphalt Cement @ 6.0%	Ton	0.14		-	0.26		10.1	0.39		-	0.44		13.7	0.48		367.7
709	0100	Geosynthetic Material Type G	SY	17.52	LF	-	21.48	LF	1227.5	25.44	LF	-	25.23	LF	1193.4	25.02	LF	28872.1

				Transition From Typ 3 to Typ 4			Typ 4			Typ 5			Transition From Typ 5 to Typ 6			Typ 6		
				Station			Station			Station			Station			Station		
				9945+30	to	9952+45	9952+45	to	9952+45	10336+65	to	10336+65	10336+65	to	10343+80	10343+80	to	10444+50
				Length (LF)=		715	Length (LF)=		-	Length (LF)=		-	Length (LF)=		715	Length (LF)=		10070
Spec	Code	Description	Unit	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)
302	0120	Aggregate Base Course Cl 5 @ 1.875 Ton/CY	Ton	21.54	SF	1069.6	13.28	SF	-	13.28	SF	-	21.54	SF	1069.6	29.80	SF	20840.0
401	0060	Prime Coat @ 0.35 Gal/SY	Gal	9.22	LF	256.4	3.72	LF	-	3.72	LF	-	9.22	LF	256.4	14.72	LF	5765.3
401	0160	Blotter Material Cl 44 @ 15 lbs/SY	Ton	9.22	LF	5.5	3.72	LF	-	3.72	LF	-	9.22	LF	5.5	14.72	LF	123.6
401	0050	Tack Coat @ 0.05 Gal/SY (2nd Lift)	Gal	7.86	LF	33.9	2.43	LF	-	2.43	LF	-	7.85	LF	33.9	13.27	LF	779.6
401	0050	Tack Coat @ 0.05 Gal/SY (3rd Lift)	Gal	12.65	LF	52.9	7.15	LF	-	7.15	LF	-	12.65	LF	52.9	18.15	LF	1052.6
430	0045	Superpave FAA 45 @ 2 Ton/CY	Ton	4.99	SF	264.3	2.01	SF	-	2.01	SF	-	4.99	SF	264.3	7.97	SF	5941.6
430	5818	PG 58H-34 Asphalt Cement @ 6.0%	Ton	0.30		15.9	0.12		-	0.12		-	0.30		15.9	0.48		356.5
709	0100	Geosynthetic Material Type G	SY	19.51	LF	1550.0	14.00	LF	-	14.00	LF	-	19.51	LF	1550.0	25.02	LF	27996.3

				Transition From Typ 6 to Typ 5			Typ 5			Typ 7			Transition From Typ 7 to Typ 8			Typ 8		
				Station			Station			Station			Station			Station		
				10444+50	to	10451+65	10451+65	to	10451+65	10503+90	to	10503+90	10503+90	to	10509+75	10509+75	to	10617+00
				Length (LF)=		715	Length (LF)=		-	Length (LF)=		-	Length (LF)=		585	Length (LF)=		10725
Spec	Code	Description	Unit	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)
302	0120	Aggregate Base Course Cl 5 @ 1.875 Ton/CY	Ton	21.54	SF	1069.6	13.28	SF	-	13.28	SF	-	20.04	SF	814.2	26.80	SF	19960.8
401	0060	Prime Coat @ 0.35 Gal/SY	Gal	9.22	LF	256.4	3.72	LF	-	10.22	LF	-	14.72	LF	334.9	19.22	LF	8017.6
401	0160	Blotter Material Cl 44 @ 15 lbs/SY	Ton	9.22	LF	5.5	3.72	LF	-	10.22	LF	-	14.72	LF	7.2	19.22	LF	171.9
401	0050	Tack Coat @ 0.05 Gal/SY (2nd Lift)	Gal	7.85	LF	33.9	2.43	LF	-	10.96	LF	-	15.46	LF	52.5	19.96	LF	1229.0
401	0050	Tack Coat @ 0.05 Gal/SY (3rd Lift)	Gal	12.65	LF	52.9	7.15	LF	-	9.81	LF	-	14.31	LF	48.7	18.81	LF	1160.8
430	0045	Superpave FAA 45 @ 2 Ton/CY	Ton	4.99	SF	264.3	2.01	SF	-	5.03	SF	-	7.47	SF	323.7	9.90	SF	7868.0
430	5818	PG 58H-34 Asphalt Cement @ 6.0%	Ton	0.30		15.9	0.12		-	0.30		-	0.45		19.4	0.59		472.1
709	0100	Geosynthetic Material Type G	SY	19.51	LF	1550.0	14.00	LF	-	14.00	LF	-	18.51	LF	1203.2	23.02	LF	27432.2

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE 27746
DATE 03/14/2022
NORTH DAKOTA

Basis of Estimate
Paving Quantities

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	10	4

				Transition From Typ 8 to Typ 7			Typ 7			Typ 9			Transition From Typ 9 to Typ 10			Typ 10		
				Station			Station			Station			Station			Station		
				10617+00	to	10622+85	10622+85	to	10622+85	10814+41	to	10814+41	10814+41	to	10820+26	10820+26	to	10926+20
				Length (LF)=		585	Length (LF)=		-	Length (LF)=		-	Length (LF)=		585	Length (LF)=		10594
Spec	Code	Description	Unit	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)
302	0120	Aggregate Base Course Cl 5 @ 1.875 Ton/CY	Ton	20.04	SF	814.2	13.28	SF	-	13.28	SF	-	20.04	SF	814.2	26.80	SF	19717.0
401	0060	Prime Coat @ 0.35 Gal/SY	Gal	14.72	LF	334.9	10.22	LF	-	10.22	LF	-	14.72	LF	334.9	19.22	LF	7919.8
401	0160	Blotter Material Cl 44 @ 15 lbs/SY	Ton	14.72	LF	7.2	10.22	LF	-	10.22	LF	-	14.72	LF	7.2	19.22	LF	169.8
401	0050	Tack Coat @ 0.05 Gal/SY (2nd Lift)	Gal	15.46	LF	52.5	10.96	LF	-	10.96	LF	-	15.46	LF	52.5	19.96	LF	1214.0
401	0050	Tack Coat @ 0.05 Gal/SY (3rd Lift)	Gal	14.31	LF	48.7	9.81	LF	-	9.81	LF	-	14.31	LF	48.7	18.81	LF	1146.6
430	0045	Superpave FAA 45 @ 2 Ton/CY	Ton	7.47	SF	323.7	5.03	SF	-	5.03	SF	-	7.47	SF	323.7	9.90	SF	7771.3
430	5818	PG 58H-34 Asphalt Cement @ 6.0%	Ton	0.45		19.4	0.30		-	0.30		-	0.45		19.4	0.59		466.6
709	0100	Geosynthetic Material Type G	SY	18.51	LF	1203.2	14.00	LF	-	14.00	LF	-	18.51	LF	1203.2	23.02	LF	27097.1

				Transition From Typ 10 to Typ 9			Typ 9			Typ 7			Transition From Typ 7 to Typ 8			Typ 8		
				Station			Station			Station			Station			Station		
				10926+20	to	10932+05	10932+05	to	10932+05	11079+15	to	11079+15	11079+15	to	11085+00	11085+00	to	11191+00
				Length (LF)=		585	Length (LF)=		-	Length (LF)=		-	Length (LF)=		585	Length (LF)=		10600
Spec	Code	Description	Unit	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)
302	0120	Aggregate Base Course Cl 5 @ 1.875 Ton/CY	Ton	20.04	SF	814.2	13.28	SF	-	13.28	SF	-	20.04	SF	814.2	26.80	SF	19728.1
401	0060	Prime Coat @ 0.35 Gal/SY	Gal	14.72	LF	334.9	10.22	LF	-	10.22	LF	-	14.72	LF	334.9	19.22	LF	7924.1
401	0160	Blotter Material Cl 44 @ 15 lbs/SY	Ton	14.72	LF	7.2	10.22	LF	-	10.22	LF	-	14.72	LF	7.2	19.22	LF	169.9
401	0050	Tack Coat @ 0.05 Gal/SY (2nd Lift)	Gal	15.46	LF	52.5	10.96	LF	-	10.96	LF	-	15.46	LF	52.5	19.96	LF	1214.7
401	0050	Tack Coat @ 0.05 Gal/SY (3rd Lift)	Gal	14.31	LF	48.7	9.81	LF	-	9.81	LF	-	14.31	LF	48.7	18.81	LF	1147.3
430	0045	Superpave FAA 45 @ 2 Ton/CY	Ton	7.47	SF	323.7	5.03	SF	-	5.03	SF	-	7.47	SF	323.7	9.90	SF	7776.3
430	5818	PG 58H-34 Asphalt Cement @ 6.0%	Ton	0.45		19.4	0.30		-	0.30		-	0.45		19.4	0.59		466.6
709	0100	Geosynthetic Material Type G	SY	18.51	LF	1203.2	14.00	LF	-	14.00	LF	-	18.51	LF	1203.2	23.02	LF	27112.5

				Transition From Typ 8 to Typ 7			Typ 7			Typ 9			Transition From Typ 9 to Typ 10			Typ 10		
				Station			Station			Station			Station			Station		
				11191+00	to	11196+85	11196+85	to	11196+85	11582+15	to	11582+15	11582+15	to	11588+00	11588+00	to	11662+11
				Length (LF)=		585	Length (LF)=		-	Length (LF)=		-	Length (LF)=		585	Length (LF)=		7411
Spec	Code	Description	Unit	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)
302	0120	Aggregate Base Course Cl 5 @ 1.875 Ton/CY	Ton	20.04	SF	814.2	13.28	SF	-	13.28	SF	-	20.04	SF	814.2	26.80	SF	13793.0
401	0060	Prime Coat @ 0.35 Gal/SY	Gal	14.72	LF	334.9	10.22	LF	-	10.22	LF	-	14.72	LF	334.9	19.22	LF	5540.3
401	0160	Blotter Material Cl 44 @ 15 lbs/SY	Ton	14.72	LF	7.2	10.22	LF	-	10.22	LF	-	14.72	LF	7.2	19.22	LF	118.8
401	0050	Tack Coat @ 0.05 Gal/SY (2nd Lift)	Gal	15.46	LF	52.5	10.96	LF	-	10.96	LF	-	15.46	LF	52.5	19.96	LF	849.3
401	0050	Tack Coat @ 0.05 Gal/SY (3rd Lift)	Gal	14.31	LF	48.7	9.81	LF	-	9.81	LF	-	14.31	LF	48.7	18.81	LF	802.1
430	0045	Superpave FAA 45 @ 2 Ton/CY	Ton	7.47	SF	323.7	5.03	SF	-	5.03	SF	-	7.47	SF	323.7	9.90	SF	5436.4
430	5818	PG 58H-34 Asphalt Cement @ 6.0%	Ton	0.45		19.4	0.30		-	0.30		-	0.45		19.4	0.59		326.2
709	0100	Geosynthetic Material Type G	SY	18.51	LF	1203.2	14.00	LF	-	14.00	LF	-	18.51	LF	1203.2	23.02	LF	18955.7

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE 27746
DATE 03/14/2022
NORTH DAKOTA

Basis of Estimate
Paving Quantities

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	10	5

			Transition From Typ 10 to Typ 11			Typ 11			Transition From Typ 11 to Typ 10			Typ 10			Transition From Typ 10 to Typ 9		
			Station			Station			Station			Station			Station		
			11662+11	to	11665+51	11665+51	to	11682+13	11682+13	to	11685+53	11685+53	to	11688+40	11688+40	to	11694+25
			Length (LF)=		340	Length (LF)=		1662	Length (LF)=		340	Length (LF)=		287	Length (LF)=		585
Spec	Code	Description	Unit	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)	Cross Sectional Area (SF) or		Quantity (Ton/Gal/SY)
302	0120	Aggregate Base Course Cl 5 @ 1.875 Ton/CY	Ton	25.08	SF	592.2	23.35	SF	2695.2	25.08	SF	592.2	26.80	SF	534.2	20.04	SF	814.2
401	0060	Prime Coat @ 0.35 Gal/SY	Gal	18.74	LF	247.8	18.26	LF	1180.4	18.74	LF	247.8	19.22	LF	214.6	14.72	LF	334.9
401	0160	Blotter Material Cl 44 @ 15 lbs/SY	Ton	18.74	LF	5.4	18.26	LF	25.3	18.74	LF	5.4	19.22	LF	4.6	14.72	LF	7.2
401	0050	Tack Coat @ 0.05 Gal/SY (2nd Lift)	Gal	19.66	LF	38.4	19.37	LF	185.1	19.66	LF	38.4	19.96	LF	32.9	15.46	LF	52.5
401	0050	Tack Coat @ 0.05 Gal/SY (3rd Lift)	Gal	18.67	LF	36.6	18.52	LF	177.2	18.67	LF	36.6	18.81	LF	31.1	14.31	LF	48.7
430	0045	Superpave FAA 45 @ 2 Ton/CY	Ton	9.77	SF	246.1	9.64	SF	1187.1	9.77	SF	246.1	9.90	SF	210.6	7.47	SF	323.7
430	5818	PG 58H-34 Asphalt Cement @ 6.0%	Ton	0.59		14.8	0.58		71.2	0.59		14.8	0.59		12.6	0.45		19.4
709	0100	Geosynthetic Material Type G	SY	21.21	LF	801.3	19.39	LF	3580.8	21.21	LF	801.3	23.02	LF	734.1	18.51	LF	1203.2

			Typ 9		
			Station		
			11694+25	to	11694+25
			Length (LF)=		-
Spec	Code	Description	Unit	Cross Sectional Area (SF) or Width (LF)		Quantity (Ton/Gal/SY)
302	0120	Aggregate Base Course Cl 5 @ 1.875 Ton/CY	Ton	13.28	SF	-
401	0060	Prime Coat @ 0.35 Gal/SY	Gal	10.22	LF	-
401	0160	Blotter Material Cl 44 @ 15 lbs/SY	Ton	10.22	LF	-
401	0050	Tack Coat @ 0.05 Gal/SY (2nd Lift)	Gal	10.96	LF	-
401	0050	Tack Coat @ 0.05 Gal/SY (3rd Lift)	Gal	9.81	LF	-
430	0045	Superpave FAA 45 @ 2 Ton/CY	Ton	5.03	SF	-
430	5818	PG 58H-34 Asphalt Cement @ 6.0%	Ton	0.30		-
709	0100	Geosynthetic Material Type G	SY	14.00	LF	-

Spec	Code	Description	Unit	Sub-Total	Approach Sub-Total (See Sheet 20-3)	Total
302	0120	Aggregate Base Course Cl 5 @ 1.875 Ton/CY*	Ton	131333	8105	139438
401	0060	Prime Coat @ 0.35 Gal/SY	Gal	46850	2160	49010
401	0160	Blotter Material Cl 44 @ 15 lbs/SY	Ton	1005	47	1052
401	0050	Tack Coat @ 0.05 Gal/SY	Gal	14262	290	14552
430	0045	Superpave FAA 45 @ 2 Ton/CY	Ton	46590	1922	48512
430	5818	PG 58H-34 Asphalt Cement @ 6.0%	Ton	2796	116	2912
709	0100	Geosynthetic Material Type G	SY	180080		180080

*Quantity shown does not account for salvaged material.

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE 27746
DATE 03/14/2022
NORTH DAKOTA

Basis of Estimate
Paving Quantities

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	11	1

Earthwork Summary				
Location	Common Excavation-Type A (Pay Item)	Embankment Volume*	Borrow-Excavation (Pay Item)	Topsoil (Pay Item)
	CY	CY	CY	CY
Site 2 - EB Passing Lane - RP 186.260 to RP 188.551	1,547	26,411	24,864	11,768
Site 3 - WB Passing Lane - RP 195.802 to RP 197.998	1,475	24,473	22,998	11,150
Site 4 - EB Passing Lane - RP 198.976 to RP 201.216	2,000	20,531	18,531	10,530
Site 5 - WB Passing Lane - RP 204.835 to RP 207.057	11,552	14,298	2,746	13,320
Site 6 - EB Passing Lane - RP 209.843 to RP 212.065	5,440	14,863	9,423	11,816
Site 7 - WB Passing Lane - RP 219.359 to RP 221.472	3,380	15,515	12,135	10,919
Totals=	**25,394**	**116,091**	**90,697**	**69,503**

*Embankment Volume has been increased by 25%

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL
KLEINKNECHT
PE-27746
DATE 03/14/2022
NORTH DAKOTA

Earthwork Summary

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	11	2

Iron Pin R/W Monument (EX_HWY52_RP185)

Point	Northing	Easting	Station	Offset	Desc	Include Iron Pin	Include R/W Marker
6000	236937.79	2181466.06	9796+42.99	-100.00	IPN R/W MON	x	
6001	236735.56	2181369.70	9797+43.89	100.00	IPN R/W MON	x	
6002	236745.47	2181808.82	9800+04.90	-253.28	IPN R/W MON	x	x
6003	236600.36	2181765.27	9800+92.97	-130.00	IPN R/W MON	x	
6010	233754.28	2183492.39	9834+08.57	-100.00	IPN R/W MON	x	x
6011	233422.57	2183330.32	9837+19.23	100.00	CS R/W MON	x	x
6012	233127.89	2183338.51	9840+19.30	100.00	ST R/W MON	x	
6017	231002.90	2183542.16	9861+46.50	-80.00	IPN R/W MON	x	

Iron Pin R/W Monument (EX_HWY52_RP195)

Point	Northing	Easting	Station	Offset	Desc	Include Iron Pin	Include R/W Marker
6100	181428.82	2183937.98	10359+86.31	158.56	IPN R/W MON	x	
6101	181000.45	2183994.69	10364+16.38	100.00	IPN R/W MON	x	x
6102	180865.58	2183992.77	10365+51.73	100.00	PT R/W MON	x	x
6103	179897.15	2184186.76	10375+16.82	-110.00	PC R/W MON	x	x
6105	174856.46	2184030.47	10425+58.15	110.00	IPN R/W MON	x	

Iron Pin R/W Monument (EX_HWY52_RP198)

Point	Northing	Easting	Station	Offset	Desc	Include Iron Pin	Include R/W Marker
6200	168305.27	2185383.18	10503+68.80	-100.00	IPN R/W MON	x	x
6310	168804.47	2228318.70	10933+07.61	-90.00	IPN R/W MON	x	
6311	168789.47	2228318.91	10933+07.61	-75.00	IPN R/W MON	x	
6312	168806.60	2228468.69	10934+57.61	-90.00	IPN R/W MON	x	x
6313	168791.60	2228468.90	10934+57.61	-75.00	IPN R/W MON	x	x
6314	168820.03	2228710.52	10936+99.61	-100.00	IPN R/W MON	x	x
6315	168810.03	2228710.66	10936+99.61	-90.00	IPN R/W MON	x	x
6400	168888.85	2242635.66	11076+26.48	-100.00	IPN R/W MON	x	x
6401	168878.85	2242635.79	11076+26.24	-90.00	IPN R/W MON	x	x
6402	168972.80	2244918.17	11099+10.53	-100.00	IPN R/W MON	x	x
6405	168973.53	2244938.15	11099+30.53	-100.00	IPN R/W MON	x	x
6407	168942.50	2251775.13	11167+64.46	100.00	IPN R/W MON	x	x
6410	168942.85	2251795.13	11167+84.46	100.00	IPN R/W MON	x	x
6415	169209.53	2255716.80	11207+10.13	-100.00	IPN R/W MON	x	x
6418	169209.87	2255736.79	11207+30.13	-100.00	IPN R/W MON	x	x

Iron Pin R/W Monument (EX_HWY52_RP215)

Point	Northing	Easting	Station	Offset	Desc	Include Iron Pin	Include R/W Marker
6504	169825.17	2298562.19	11636+32.34	-100.00	PC R/W MON	x	x
6505	169625.18	2298564.48	11636+32.34	100.00	PC R/W MON	x	x
6506	169865.62	2299558.20	11646+35.14	-100.00	PT R/W MON	x	x
6507	169666.11	2299572.14	11646+35.14	100.00	PT R/W MON	x	x
6508	169680.55	2299778.83	11648+42.34	100.00	IPN R/W MON	x	x
6511	169985.21	2301269.59	11663+50.72	-100.00	TS R/W MON	x	x
6512	169998.10	2301470.93	11665+50.72	-100.00	SC R/W MON	x	x
6513	169755.45	2302529.04	11676+19.42	100.00	IPN R/W MON	x	x
					TOTAL:	36	27

Iron Pin Reference Monument (EX_HWY52_RP185)

Point	Northing	Easting	Station	Offset	Desc	Include Iron Pin	Include R/W Marker
6013	231689.84	2183563.57	9854+59.62	-110.00	SEC XING R/W	x	
6014	231677.65	2183353.68	9854+69.62	100.00	SEC XING R/W	x	
6015	231477.90	2183356.02	9856+69.14	100.00	SEC XING R/W	x	
6016	226396.73	2183631.55	9907+53.44	-110.00	SEC XING R/W	x	

Iron Pin Reference Monument (EX_HWY52_RP195)

Point	Northing	Easting	Station	Offset	Desc	Include Iron Pin	Include R/W Marker
6104	178874.60	2184187.96	10385+42.96	-110.00	SEC XING R/W	x	x

Iron Pin Reference Monument (EX_HWY52_RP198)

Point	Northing	Easting	Station	Offset	Desc	Include Iron Pin	Include R/W Marker
6201	168154.42	2189411.02	10543+94.50	100.00	SEC XING R/W	x	x
6202	168422.52	2194689.39	10596+75.83	-100.00	SEC XING R/W	x	
6203	168222.53	2194691.98	10596+75.83	100.00	SEC XING R/W	x	x
6300	168661.60	2215769.40	10807+57.88	-100.00	SEC XING R/W	x	x
6301	168461.63	2215772.99	10807+57.88	100.00	SEC XING R/W	x	x
6302	168464.86	2215973.33	10809+58.60	100.00	SEC XING R/W	x	x
6303	168501.46	2218529.58	10835+15.61	100.00	1/4 XING MON	x	x
6304	168525.55	2221082.40	10860+68.54	100.00	SEC XING R/W	x	x
6305	168727.65	2221280.72	10862+68.99	-100.00	SEC XING R/W	x	x
6306	168527.66	2221282.16	10862+68.09	100.00	SEC XING R/W	x	x
6307	168787.05	2226366.10	10913+54.72	-100.00	SEC XING R/W	x	x
6308	168587.07	2226368.44	10913+54.72	100.00	SEC XING R/W	x	x
6309	168789.64	2226566.34	10915+55.22	-100.00	SEC XING R/W	x	x
6316	168825.65	2229106.96	10940+96.10	-100.00	1/4 XING MON	x	x
6317	168625.67	2229109.80	10940+96.10	100.00	1/4 XING MON	x	x
6406	168869.00	2247591.36	11125+80.04	100.00	SEC XING R/W	x	x
6411	169158.36	2252675.88	11176+68.86	-100.00	SEC XING R/W	x	x
6412	168958.39	2252679.40	11176+68.86	100.00	SEC XING R/W	x	x
6413	169161.79	2252875.78	11178+68.71	-100.00	SEC XING R/W	x	x
6414	168961.83	2252879.44	11178+69.02	100.00	SEC XING R/W	x	x

Iron Pin Reference Monument (EX_HWY52_RP215)

Point	Northing	Easting	Station	Offset	Desc	Include Iron Pin	Include R/W Marker
6500	169782.38	2294807.29	11598+77.08	-100.00	SEC XING R/W	x	
6501	169582.39	2294809.34	11598+77.08	100.00	SEC XING R/W	x	x
6502	169813.67	2297556.05	11626+26.14	-100.00	1/4 XING MON	x	
6503	169613.68	2297558.34	11626+26.14	100.00	1/4 XING MON	x	x
6509	169899.88	2300048.46	11651+26.61	-100.00	SEC XING R/W	x	x
6510	169923.01	2300379.43	11654+58.38	-100.00	SEC XING R/W	x	x
					TOTAL:	31	24

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 03/14/2022
NORTH DAKOTA

Iron Pin R/W and Reference Monuments

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	11	3

Alignment Monument (EX_HWY52_RP185)

Point	Northing	Easting	Station	Offset	Desc	Include Iron Pin
8100	233428.78	2183430.13	9837+19.30	0.00	CS MON	x
8101	233128.93	2183438.50	9840+19.30	0.00	ST MON	x

Alignment Monument (EX_HWY52_RP195)

Point	Northing	Easting	Station	Offset	Desc	Include Iron Pin
8110	181930.03	2184090.57	10354+85.56	0.00	PC MON	x
8111	181397.00	2184101.59	10360+18.65	-4.96	PI MON	x
8112	180863.92	2184092.76	10365+51.73	0.00	PT MON	x
8113	179898.97	2184076.78	10375+16.82	0.00	PC MON	x
8114	179437.74	2184069.14	10379+78.07	3.71	PI MON	x
8115	178976.50	2184076.36	10384+39.33	0.00	PT MON	x

Alignment Monument (EX_HWY52_RP215)

Point	Northing	Easting	Station	Offset	Desc	Include Iron Pin
8200	169648.48	2292913.85	11579+82.26	0.00	PC MON	x
8201	169650.57	2293128.66	11581+97.07	1.01	PI MON	x
8202	169656.69	2293343.39	11584+11.89	0.00	PT MON	x
8203	169667.41	2293719.77	11587+88.42	0.00	PC MON	x
8204	169672.41	2293928.68	11589+97.39	0.00	PI MON	x
8205	169675.51	2294137.63	11592+06.36	0.00	PT MON	x
8206	169725.17	2298563.33	11636+32.34	0.00	PC MON	x
8207	169730.90	2299064.84	11641+33.74	7.32	PI MON	x
8208	169765.86	2299565.17	11646+35.14	0.00	PT MON	x
8209	169885.45	2301276.57	11663+50.72	0.00	TS MON	x
8210	169898.23	2301476.16	11665+50.72	0.00	SC MON	x
8211	169957.93	2302313.73	11673+82.07	-76.83	PI MON	x
8212	169744.72	2303125.91	11682+13.42	0.00	CS MON	x
8213	169695.34	2303319.71	11684+13.42	0.00	ST MON	x
					TOTAL:	22

SPEC	CODE	BID ITEM	QTY	UNIT
720	0110	Right of Way Markers	51	EA
720	0125	Alignment Monuments	22	EA
720	0130	Iron Pin R/W Monuments	36	EA
720	0135	Iron Pin Reference Monuments	31	EA

Note:

1. See Standard Drawing D-720-1 for additional information

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 03/14/2022
NORTH DAKOTA

Alignment Monuments

US 52
Fessenden to Carrington

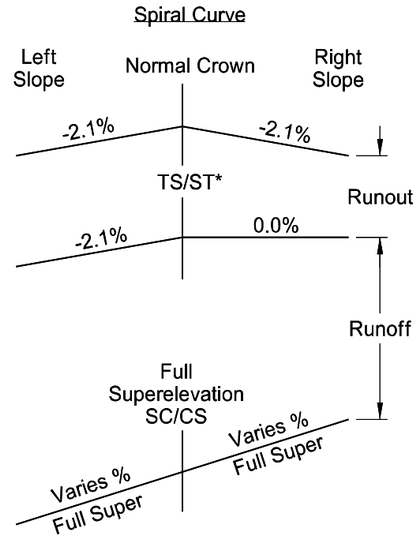
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	20	1

Curve SCS140098		65 mph
T.S. Station		9818+61.68
S.C. Station		9821+61.68
P.I. Station (Total Combination)		9829+74.89
Delta (Total Combination)	37° 09' 02.42"	RT
Degree		1° 59' 59.65"
Tangent		1113.21
Length (Simple Curve)		1557.63
L_s		300.00
Radius		2,864.93
C.S. Station		9837+19.30
S.T. Station		9840+19.30

Station	Left Slope	Right Slope
9817+35.68	-2.1%	-2.1%
9818+61.68	0.0%	-2.1%
9819+87.68	2.1%	-2.1%
9820+61.68	3.3%	-3.3%
9821+61.68	5.0%	-5.0%
9837+19.30	5.0%	-5.0%
9838+19.30	3.3%	-3.3%
9838+93.30	2.1%	-2.1%
9840+19.30	0.0%	-2.1%
9841+45.30	-2.1%	-2.1%
		eProposed = 5%
Runoff Length = 300 ft		Runout Length = 126 ft

Curve C200407		65 mph
T.S. Station		11663+50.72
S.C. Station		11665+50.72
P.I. Station (Total Combination)		11673+90.41
Delta (Total Combination)	18° 37' 36.50"	RT
Degree		0° 59' 59.95"
Tangent		1039.69
Length (Simple Curve)		1662.7
L_s		200.00
Radius		5,729.65
C.S. Station		11682+13.42
S.T. Station		11684+13.42

Station	Left Slope	Right Slope
11662+10.72	-2.1%	-2.1%
11663+50.72	0.0%	-2.1%
11664+90.72	2.1%	-2.1%
11665+50.72	3.0%	-3.0%
11682+13.42	3.0%	-3.0%
11682+73.42	2.1%	-2.1%
11684+13.42	0.0%	-2.1%
11685+53.42	-2.1%	-2.1%
		eProposed = 3%
Runoff Length = 200 ft		Runout Length = 140 ft



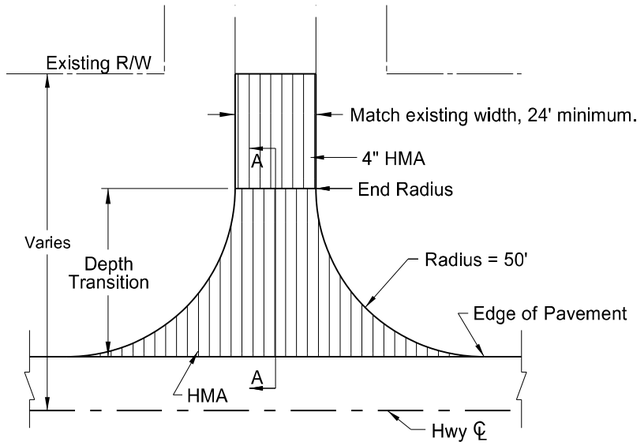
NOTE: Calculations are based on AASHTO method five, a mainline design speed 65mph, and a maximum superelevation of 6%.

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

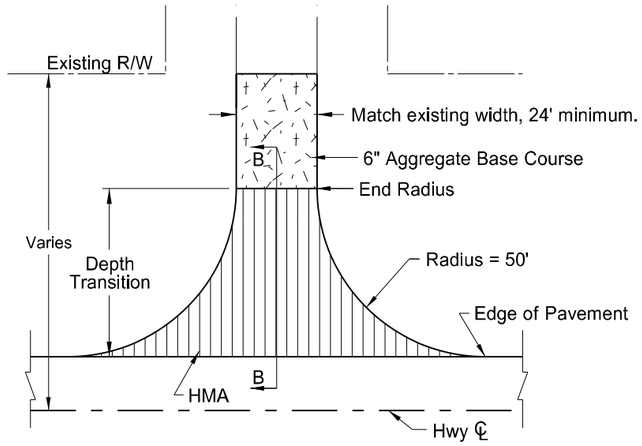
Superelevation Tables

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	20	2



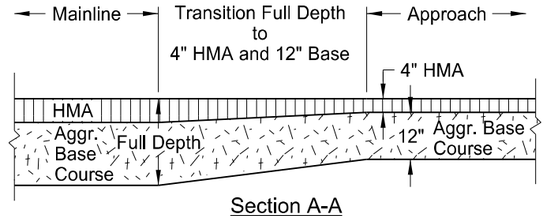
(1) Paved Section Line, County Road, or Street Approach



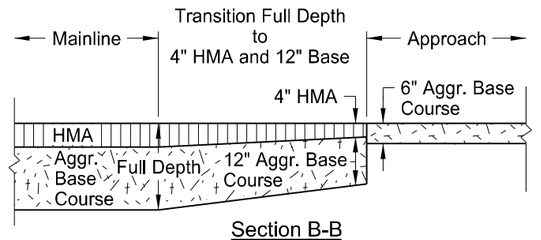
(2) Gravel Section Line, County Road, or Street Approach

Notes:

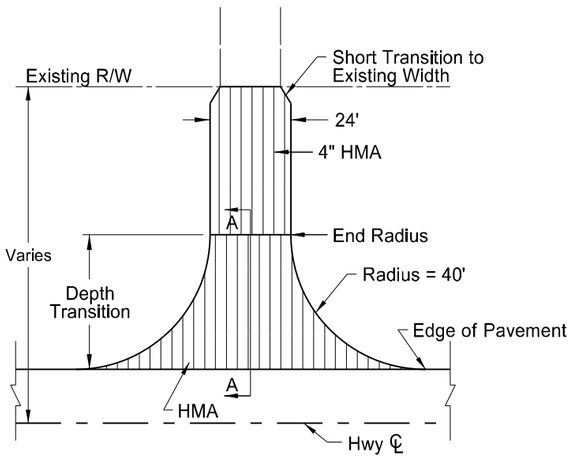
1. Actual HMA paving and aggregate base course locations may vary in the field, as approved by the Engineer.
2. Quantity totals have been included in the bid items of the "Estimate of Quantities" of the plans.



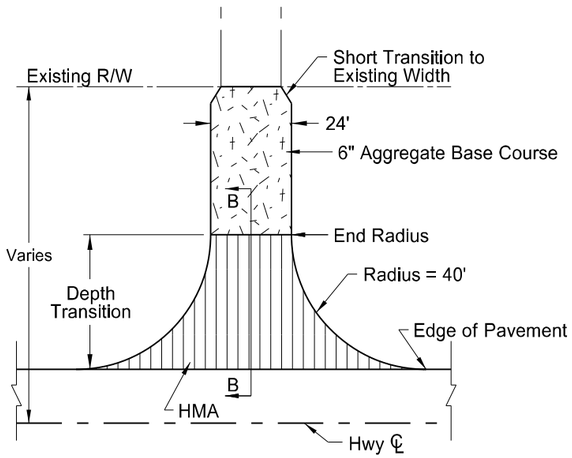
Section A-A
(not to scale)



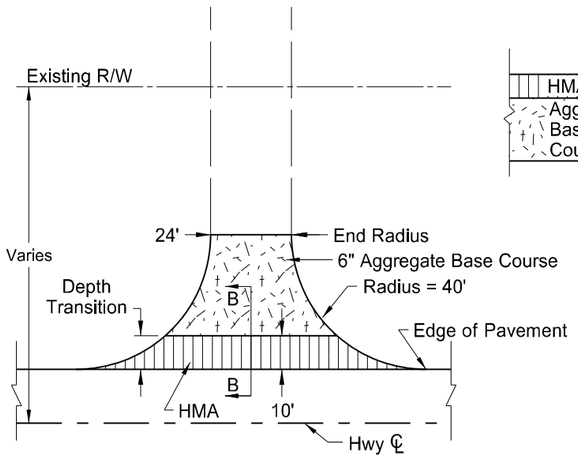
Section B-B
(not to scale)



(3) Paved Private Drive Approach



(4) Gravel Private Drive Approach



(5) Field Drive Approach



Approach Paving Details for
New or Regrading Rural Approaches
(Approach Grading)
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	20	3

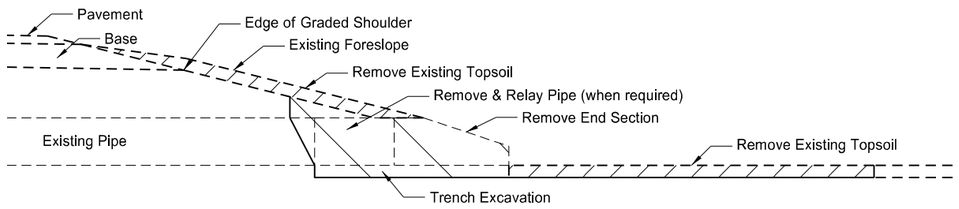
Approach				302-0120	401-0050	401-0060	401-0160	430-0045	430-5818
Station	Offset	Type	Description	Aggregate Base Course Cl 5	Tack Coat	Prime Coat	Blotter Material Cl 44	Superpave FAA 45	PG 58H-34 Asphalt Cement
				TON	GAL	GAL	TON	TON	TON
9846+49.00	RT	Type 5	Field Drive	134	3.9	28	0.6	26	1.6
9855+67.00	RT	Type 2	Gravel Section Line	295	13.1	96	2.1	84	5.0
9865+53.00	RT	Type 5	Field Drive	132	3.9	28	0.6	26	1.6
9887+83.00	RT	Type 5	Field Drive	143	3.8	28	0.6	26	1.6
9908+61.00	RT	Type 2	Gravel Section Line	284	12.8	96	2.1	84	5.0
9920+35.00	RT	Type 4	Gravel Private Drive	226	10.6	70	1.5	61	3.7
9929+59.00	RT	Type 5	Field Drive	133	4.0	28	0.6	26	1.6
9944+74.00	RT	Type 5	Field Drive	154	3.8	28	0.6	26	1.6
10347+31.00	LT	Type 5	Field Drive	153	3.8	28	0.6	26	1.6
10359+82.00	LT	Type 5	Field Drive	134	3.8	28	0.6	26	1.6
10375+98.00	LT	Type 5	Field Drive	130	3.8	28	0.6	26	1.5
10386+53.00	LT	Type 2	Gravel Section Line	311	12.6	96	2.1	84	5.0
10398+10.00	LT	Type 5	Field Drive	143	3.8	28	0.6	26	1.6
10407+58.00	LT	Type 5	Field Drive	143	3.8	28	0.6	26	1.6
10410+08.00	LT	Type 5	Field Drive	133	3.8	28	0.6	26	1.6
10415+41.00	LT	Type 5	Field Drive	128	3.8	28	0.6	26	1.6
10422+62.00	LT	Type 5	Field Drive	161	3.8	28	0.6	26	1.5
10439+39.00	LT	Type 2	Gravel Section Line	313	12.6	96	2.1	84	5.0
10516+50.00	RT	Type 5	Field Drive	187	3.8	28	0.6	26	1.6
10536+38.00	RT	Type 5	Field Drive	132	3.8	28	0.6	26	1.6
10544+91.00	RT	Type 2	Gravel Section Line	286	12.6	96	2.1	84	5.0
10571+29.00	RT	Type 5	Field Drive	148	3.8	28	0.6	26	1.5
10597+78.00	RT	Type 2	Gravel Section Line	288	12.7	96	2.1	84	5.0
10614+63.00	RT	Type 4	Gravel Private Drive	222	9.1	70	1.5	61	3.7
10832+72.00	LT	Type 5	Field Drive	144	3.8	28	0.6	26	1.6
10861+69.00	LT	Type 2	Gravel Section Line	312	12.8	97	2.1	85	5.1
10873+77.00	LT	Type 5	Field Drive	132	3.8	28	0.6	26	1.6
10889+23.00	LT	Type 5	Field Drive	150	3.8	28	0.6	26	1.6
10914+52.00	LT	Type 2	Gravel Section Line	286	12.6	96	2.1	84	5.0
10920+27.00	LT	Type 5	Field Drive	139	3.8	28	0.6	26	1.6
11085+91.00	RT	Type 3	Paved Private Drive	256	12.4	95	2.0	76	4.5
11098+33.00	RT	Type 5	Field Drive	137	3.8	28	0.6	26	1.6
11124+74.00	RT	Type 2	Gravel Section Line	288	12.7	96	2.1	84	5.1
11150+91.00	RT	Type 5	Field Drive	142	3.8	28	0.6	26	1.6
11177+72.00	RT	Type 2	Gravel Section Line	310	12.6	96	2.1	84	5.0
11599+79.00	LT	Type 2	Gravel Section Line	264	9.2	70	1.5	61	3.7
11612+20.00	LT	Type 5	Field Drive	145	3.8	28	0.6	26	1.6
11626+26.00	LT	Type 5	Field Drive	135	3.8	28	0.6	26	1.6
11652+80.00	LT	Type 2	Gravel Section Line	271	12.6	96	2.1	84	5.0
11678+10.00	LT	Type 4	Gravel Private Drive	224	7.9	60	1.3	52	3.1
11693+26.00	LT	Type 5	Field Drive	257	9.3	71	1.5	62	3.7
			Total=	8105	290	2160	47	1922	116

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

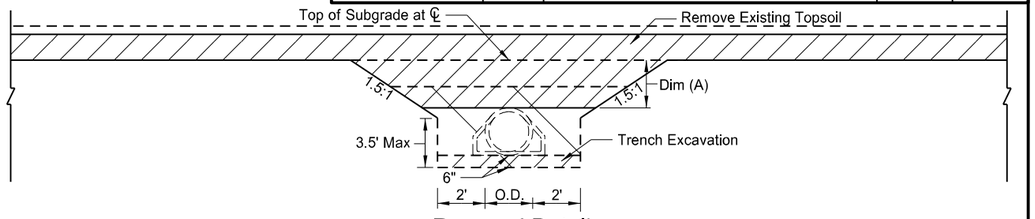
Approach Paving Quantities

US 52
Fessenden to Carrington

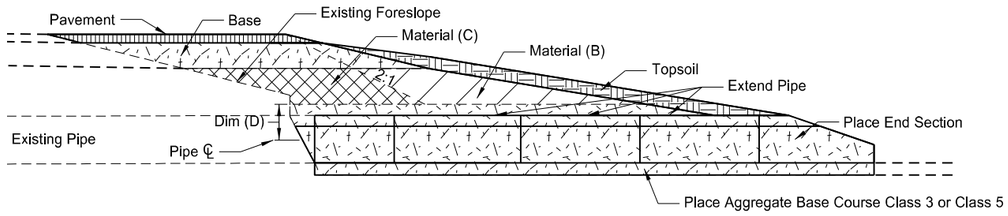
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	20	4



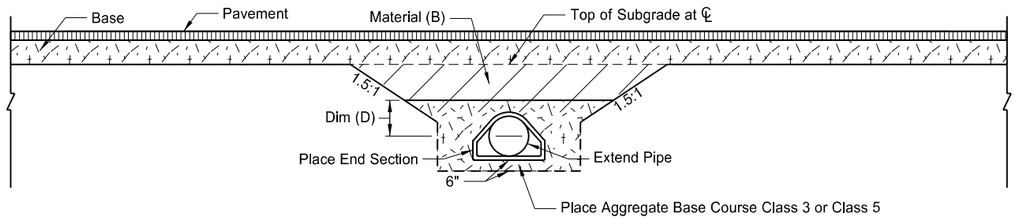
Removal Section
Cross Section View



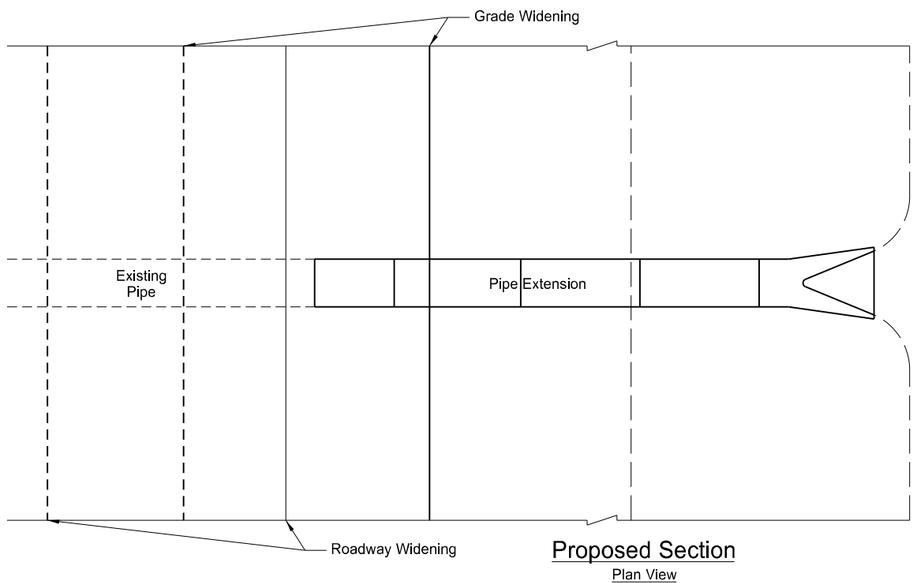
Removal Detail
Side View



Proposed Section
Cross Section View



Backfill Detail
Side View (Topsoil not shown)



Proposed Section
Plan View

Pay Items
1) Pipe*
2) Remove & Relay Pipe - All Types & Sizes (when required)
3) Remove & Reset End Section or
   Remove End Section and Place New End Section
4) 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.

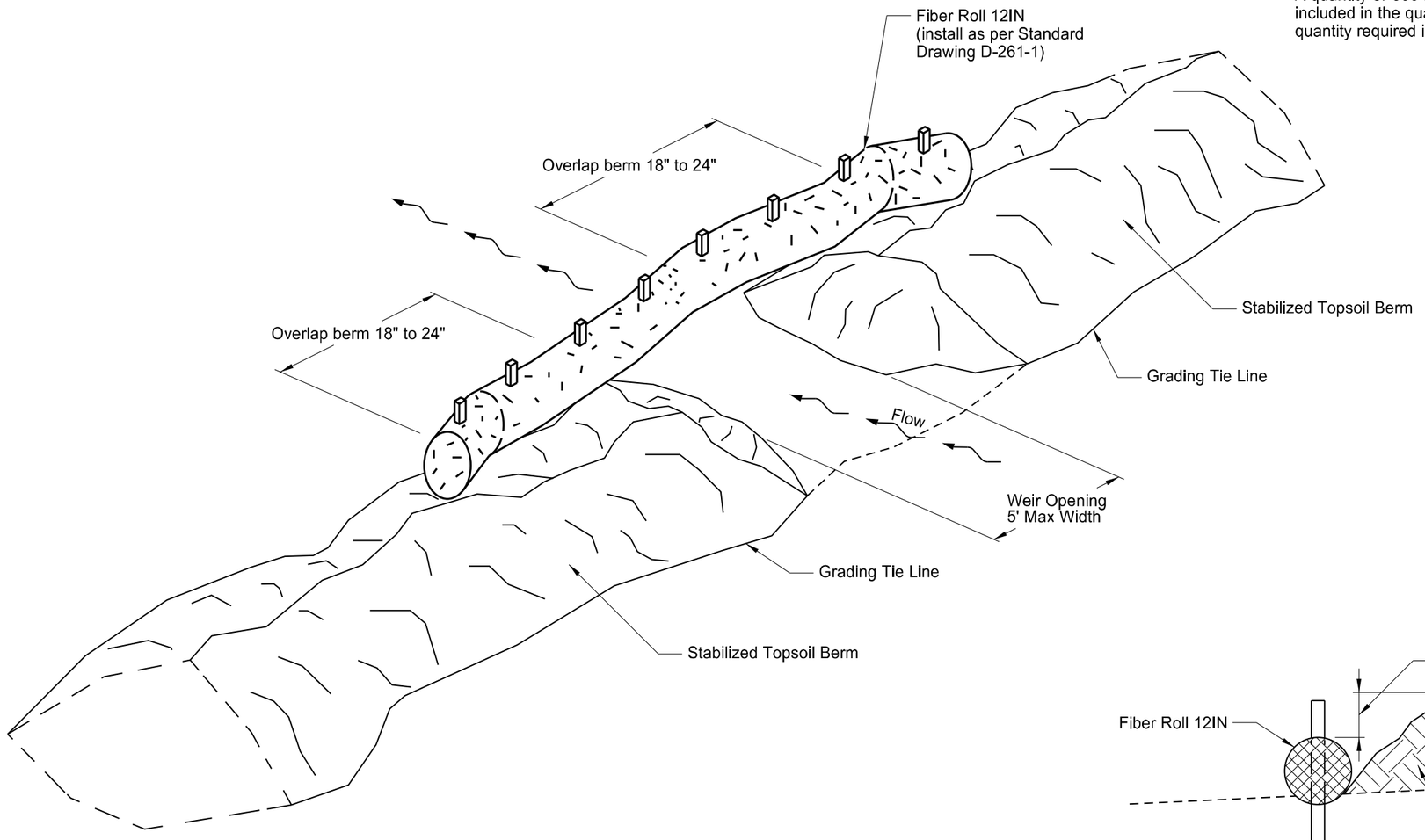
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

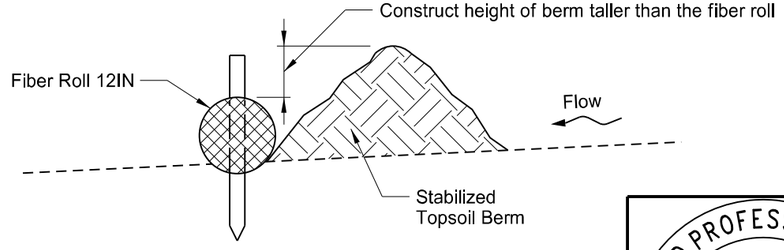
Mainline Widening CL Pipe Extension Detail

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	20	5

A quantity of 600 LF of "Fiber Roll 12IN" and "Remove Fiber Rolls 12IN" has been included in the quantities for use at weirs. The Engineer will measure the actual quantity required in the field.





Topsoil Berm Detail

Notes:

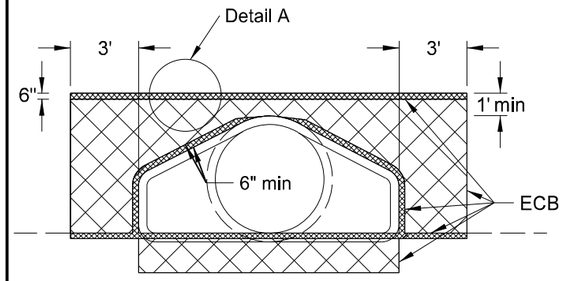
1. Windrow the existing topsoil from the foreslope to create a berm at the grading tie line.
2. Stabilize berms in accordance with the Construction General Permit.
3. Place weirs intermittently throughout the length of the berm to allow stormwater to drain through the berm.
4. Avoid placing weirs adjacent 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 12IN".

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

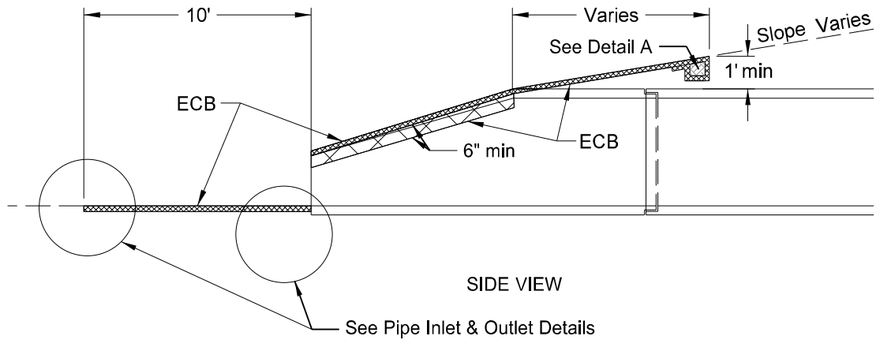
Temporary Topsoil Berm and Weir Detail

US 52
Fessenden to Carrington

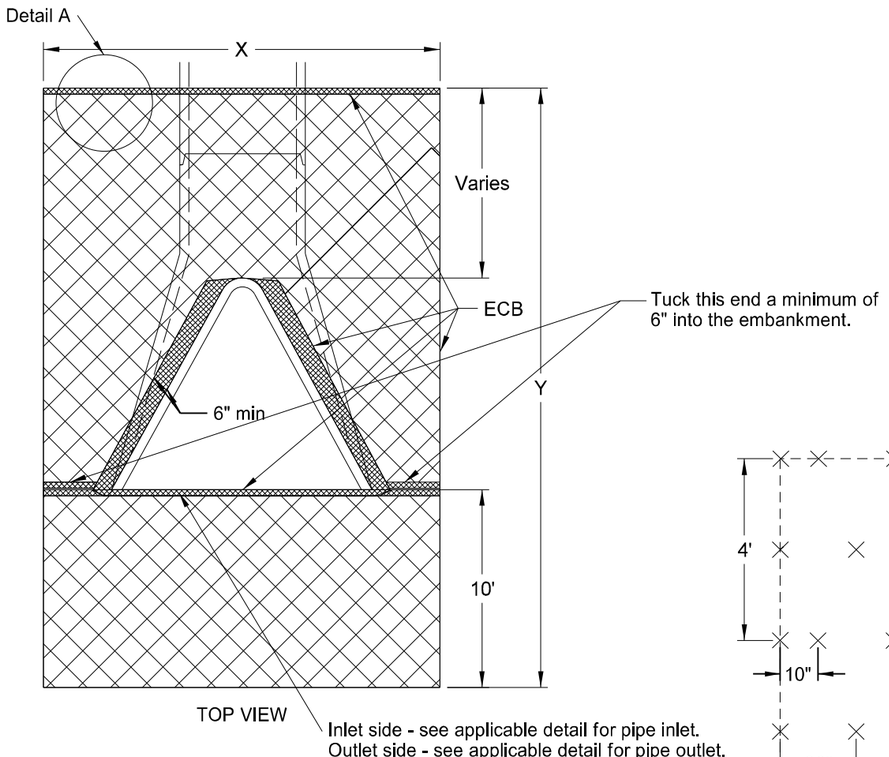
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	20	6



FRONT VIEW

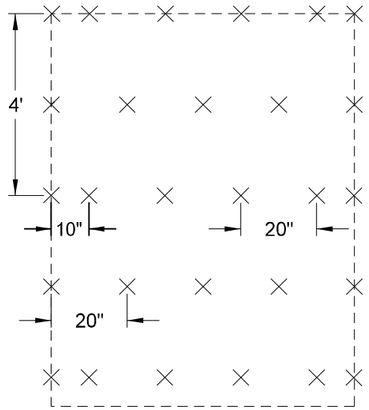


SIDE VIEW



TOP VIEW

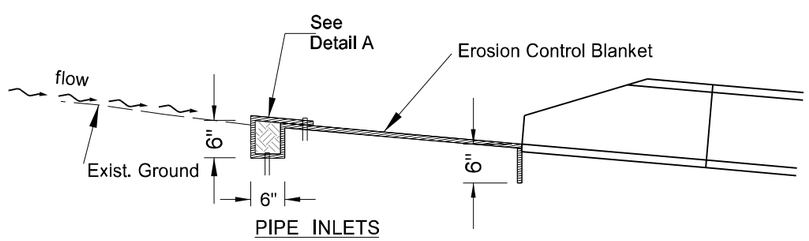
NOTE: Tuck the ECB a minimum of 6" into the embankment (against the flared end section) around the opening of the flared end section.



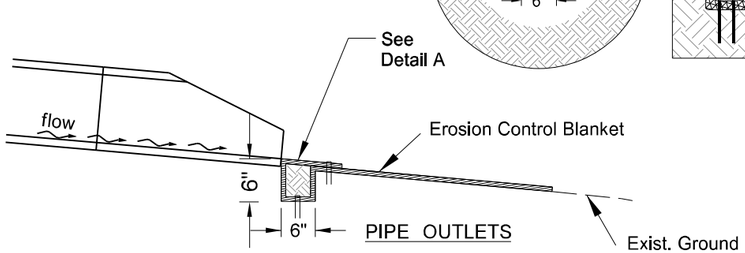
STAPLE PATTERN

CENTERLINE CULVERTS									
DIA	X	Y	Surface area to be protected	ECB	DIA	X	Y	Surface area to be protected	ECB
In	Ft	Ft	SF	SY	In	Ft	Ft	SF	SY
24	10.5	19.6	193.1	22	24	10.5	17.6	172.1	20
27	11.0	20.0	204.3	23	27	11.0	18.0	182.3	21
30	11.6	20.5	218.3	25	30	11.6	18.5	195.1	22
36	12.7	21.2	242.1	27	36	12.7	19.2	216.7	24
42	13.3	21.2	251.8	28	42	13.3	19.2	225.2	25
48	13.8	22.0	265.6	30	48	13.8	20.0	238.0	27
54	14.5	21.5	273.7	31	54	14.5	19.5	244.7	28
60	15.0	21.0	278.3	31	60	15.0	19.0	248.3	28
66	15.6	22.0	295.7	33	66	15.6	20.0	264.5	30
72	16.2	22.5	309.2	35	72	16.2	20.5	276.8	31
Note: Quantities based on 6:1 slope.					Note: Quantities based on 4:1 slope.				

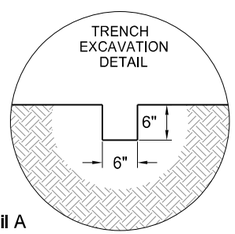
APPROACH CULVERTS				
DIA	X	Y	Surface area to be protected	ECB
In	Ft	Ft	SF	SY
15	9.0	20.0	176.0	20
18	9.5	20.7	190.7	22
21	9.5	21.0	190.9	22
24	10.5	21.6	214.1	24
27	11.0	22.0	226.3	25
30	11.6	22.5	241.5	27
36	12.7	23.3	268.8	30
42	13.3	23.3	279.7	31
48	13.8	24.0	293.2	33
54	14.5	23.4	300.6	34
60	15.0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

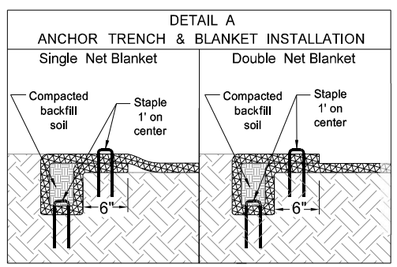


PIPE INLETS



PIPE OUTLETS





REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Erosion Control at Culvert Flared End Sections

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	20	7

Erosion Control Blanket (ECB)

Location to be Protected Station	Culvert Type Appr/CL	Pipe Diam. (inch)	No.	Unit Quantity (SY)	Total Quantiy ECB Type 2 (SY)
SITE 2 EB PASSING LANE - RP 186.260 TO RP 188.551					
9844+66	CL	24	1	22	22
9861+05	CL	24	1	22	22
9869+48	CL	24	1	22	22
9887+56 RT	Appr	18	1	22	22
9888+11 RT	Appr	18	1	22	22
9891+73	CL	36	1	27	27
9892+22	CL	48	1	30	30
9908+32 RT	Appr	24	1	24	24
9908+91 RT	Appr	24	1	24	24
9929+31 RT	Appr	18	1	22	22
9929+85 RT	Appr	18	1	22	22
9937+70	CL	24	1	22	22
9944+52 RT	Appr	18	1	22	22
9944+98 RT	Appr	18	1	22	22
SITE 3 WB PASSING LANE - RP 195.802 TO RP 197.998					
10347+10 LT	Appr	18	1	22	22
10347+52 LT	Appr	18	1	22	22
10364+85	CL	36	1	27	27
10386+22 LT	Appr	18	1	22	22
10386+81 LT	Appr	18	1	22	22
10397+85 LT	Appr	18	1	22	22
10398+30 LT	Appr	18	1	22	22
10412+72	CL	30	1	25	25
10449+46	CL	30	1	25	25

Location to be Protected Station	Culvert Type Appr/CL	Pipe Diam. (inch)	No.	Unit Quantity (SY)	Total Quantiy ECB Type 2 (SY)
SITE 4 EB PASSING LANE - RP 198.976 TO RP 201.216					
10516+25 RT	Appr	24	1	24	24
10516+75 RT	Appr	24	1	24	24
10522+15	CL	42	1	28	28
10521+99	CL	42	1	28	28
10544+55 RT	Appr	18	1	22	22
10545+29 RT	Appr	18	1	22	22
10556+42	CL	24	1	22	22
10568+49	CL	42	1	28	28
10571+09 RT	Appr	24	1	24	24
10571+48 RT	Appr	24	1	24	24
10580+54	CL	24	1	22	22
10597+37 RT	Appr	24	1	24	24
10598+14 RT	Appr	24	1	24	24
10604+04	CL	60	1	31	31
10604+17	CL	60	1	31	31
10604+31	CL	60	1	31	31
10604+45	CL	60	1	31	31
10614+23 RT	Appr	18	1	22	22
10615+01 RT	Appr	18	1	22	22
SITE 5 WB PASSING LANE - RP 204.835 TO RP 207.057					
10808+93 RT	Appr	18	1	22	22
10808+87 LT	Appr	18	1	22	22
10832+54 RT	Appr	24	1	24	24
10832+56 LT	Appr	24	1	24	24
10832+91 LT	Appr	24	1	24	24
10835+16	CL	24	1	22	22
10850+86	CL	24	1	22	22
10861+39 LT	Appr	24	1	24	24
10861+96 LT	Appr	24	1	24	24
10873+55 RT	Appr	18	1	22	22
10873+49 LT	Appr	18	1	22	22
10874+11 LT	Appr	18	1	22	22
10879+37	CL	30	1	25	25
10889+05 LT	Appr	36	1	30	30
10889+52 LT	Appr	36	1	30	30
10907+41	CL	30	1	25	25
10919+99 LT	Appr	18	1	22	22
10920+52 LT	Appr	18	1	22	22
10929+17	CL	24	1	22	22

Location to be Protected Station	Culvert Type Appr/CL	Pipe Diam. (inch)	No.	Unit Quantity (SY)	Total Quantiy ECB Type 2 (SY)
SITE 6 EB PASSING LANE - RP 209.843 TO RP 212.065					
11081+13	CL	24	1	22	22
11085+62 RT	Appr	18	1	22	22
11086+19 RT	Appr	18	1	22	22
11098+09 RT	Appr	18	1	22	22
11098+52 RT	Appr	18	1	22	22
11108+26	CL	24	1	22	22
11120+66	CL	24	1	22	22
11124+35 RT	Appr	18	1	22	22
11125+12 RT	Appr	18	1	22	22
11132+16	CL	24	1	22	22
11150+67 RT	Appr	18	1	22	22
11151+18 RT	Appr	18	1	22	22
11167+74	CL	24	1	22	22
11167+79	CL	24	1	22	22
11177+40 RT	Appr	24	1	24	24
11178+02 RT	Appr	24	1	24	24
SITE 7 WB PASSING LANE - RP 219.359 TO RP 221.472					
11599+14	CL	24	1	22	22
11609+18	CL	24	1	22	22
11612+02 LT	Appr	18	1	22	22
11612+41 LT	Appr	18	1	22	22
11626+04 LT	Appr	18	1	22	22
11626+50 LT	Appr	18	1	22	22
11634+37	CL	24	1	22	22
11652+42 LT	Appr	18	1	22	22
11653+18 LT	Appr	18	1	22	22
11677+44	CL	30	1	25	25
11677+76 LT	Appr	24	1	24	24
11678+45 LT	Appr	24	1	24	24
11677+79 LT	Appr	24	1	24	24
11678+48 LT	Appr	24	1	24	24
11693+04 LT	Appr	18	1	22	22
11693+46 LT	Appr	18	1	22	22

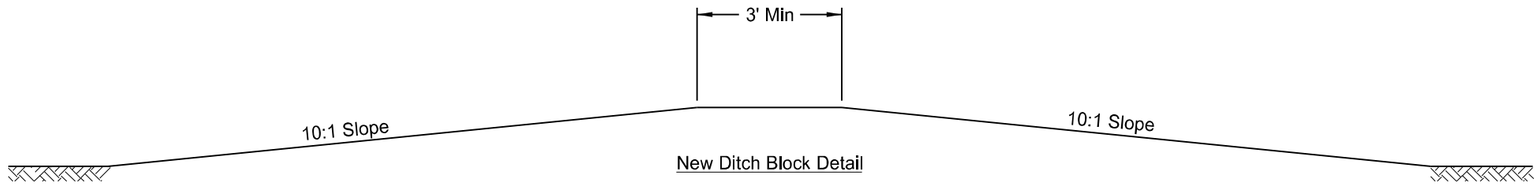
ECB TYPE 2 TOTAL = 2187 SY

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Erosion Control at Culvert Flared End Sections

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	20	8



New Ditch Block Detail

DITCH BLOCK

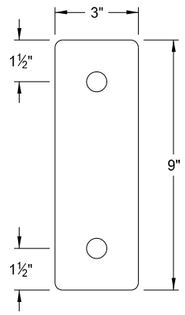
Location	Top Elevation	Qnty
Sta 9838+50 Rt.	1613.20	1
Sta 10447+76 Lt.	1765.53	1
Sta 10580+27 Rt.	1746.38	1
Sta 10843+63 Rt.	1688.30	1
Sta 10853+96 Lt.	1685.75	1

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

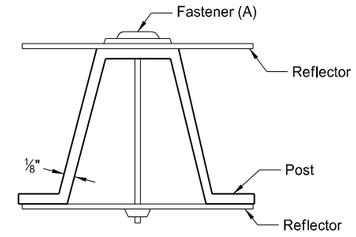
Ditch Block Detail

US 52
Fessenden to Carrington

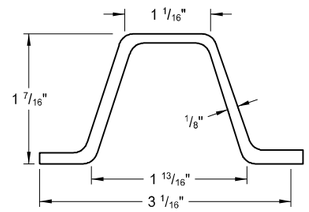
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	20	9



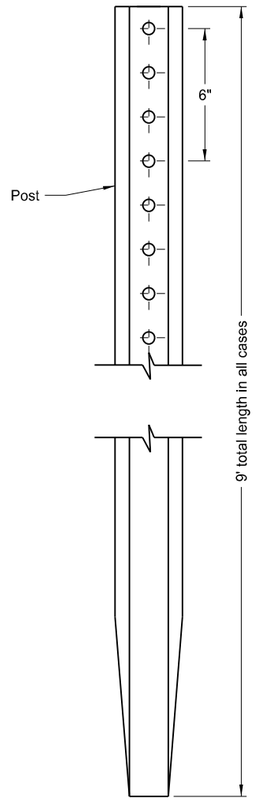
Reflector Detail
(Type A Delineator)



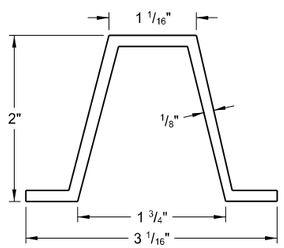
Delineator Attachment Detail



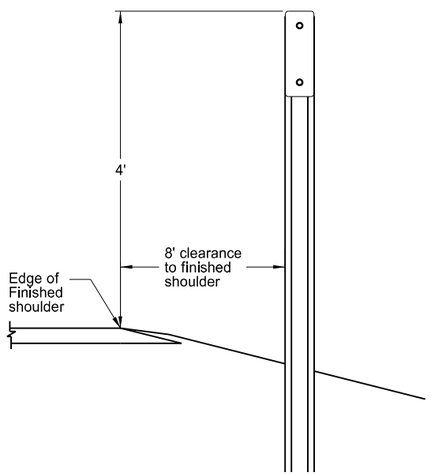
Steel Post Detail
Approx. 2.0 lbs/ft



U-type Post



Aluminum Post Detail
Approx. 0.88 lbs/ft



Installation

Delineator Details

Installation: Install posts along the shoulder line unless shown otherwise on the plans.

Reflectors: Use Reflectors the same color as the adjacent pavement marking.
Use 0.080 inch minimum thickness sign backing material.

(A) Use fasteners that are a minimum 1/4" diameter. Use double headed rivet or other non-rust vandal resistant fastener.

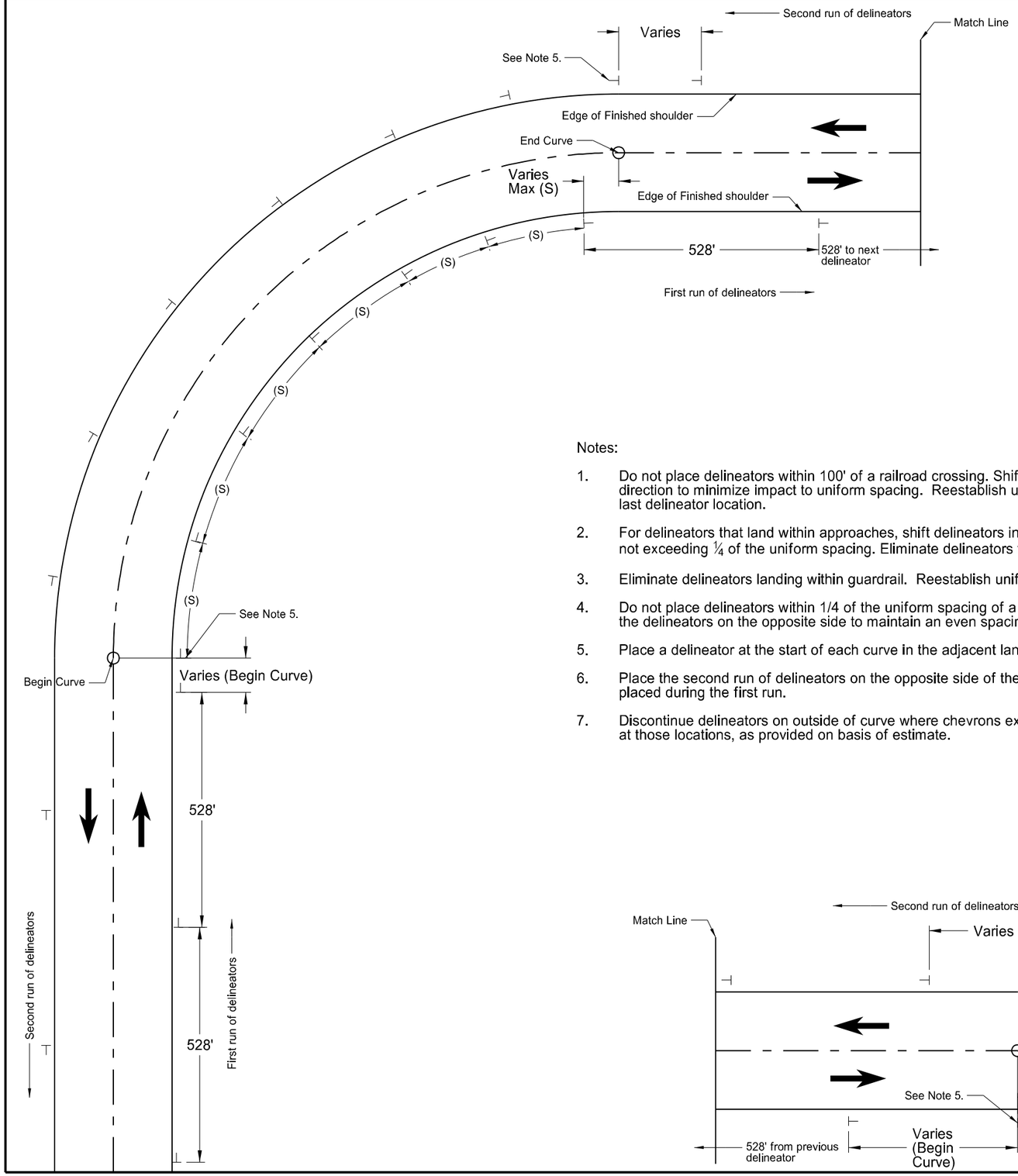
(B) Single sided delineator - Mount reflectors facing the adjacent lane of traffic at an angle of 93° away from oncoming traffic.
Double sided delineator - Mount reflectors back to back at an angle of 90° away from oncoming traffic.

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Delineator Detail

US 52
Fessenden to Carrington

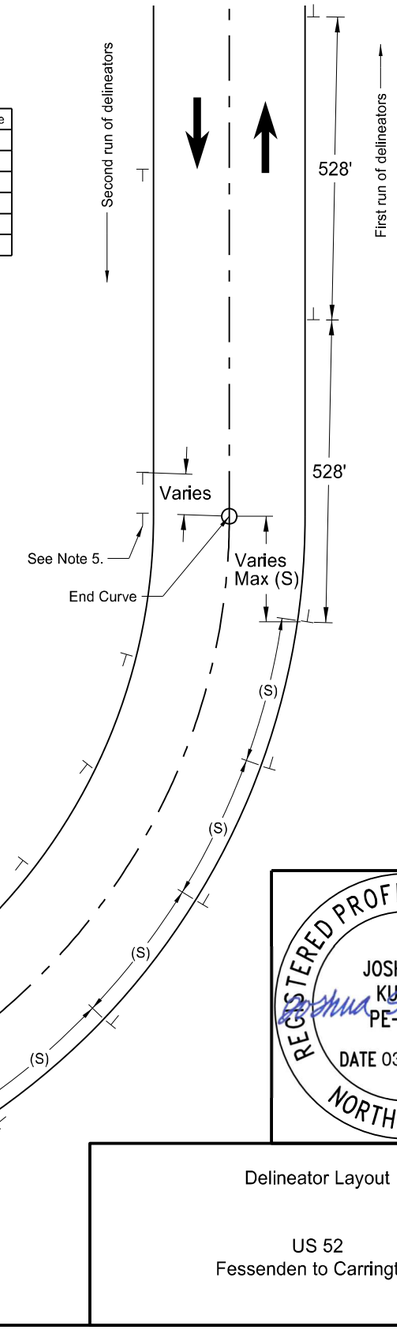
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	20	10



Spacing:

Curve Radius	Spacing (S) on Center
R > 11,500'	528'
11,500' ≤ R > 1,200'	264'
1,200' ≤ R	See table below

Radius (R) of Curve	Approx. Spacing (S) on Curve
1,200' ≤ R > 1,000'	90'
1,000' ≤ R > 800'	80'
800' ≤ R > 500'	65'
500' ≤ R > 300'	50'
300' ≤ R > 180'	35'
180' ≤ R > 50'	20'



Notes:

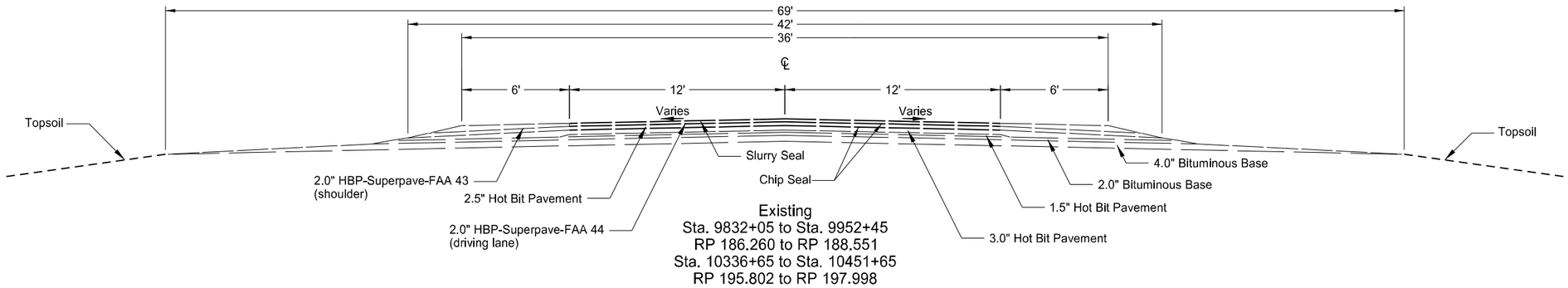
1. Do not place delineators within 100' of a railroad crossing. Shift delineators in either direction to minimize impact to uniform spacing. Reestablish uniform spacing based on the last delineator location.
2. For delineators that land within approaches, shift delineators in either direction a distance not exceeding ¼ of the uniform spacing. Eliminate delineators that still fall within approaches.
3. Eliminate delineators landing within guardrail. Reestablish uniform spacing based on last delineator.
4. Do not place delineators within 1/4 of the uniform spacing of a reference point marker. Adjust the delineators on the opposite side to maintain an even spacing between opposing sides.
5. Place a delineator at the start of each curve in the adjacent lane's direction of travel.
6. Place the second run of delineators on the opposite side of the road midpoint between delineators placed during the first run.
7. Discontinue delineators on outside of curve where chevrons exist. Place delineators on inside of curve, at those locations, as provided on basis of estimate.



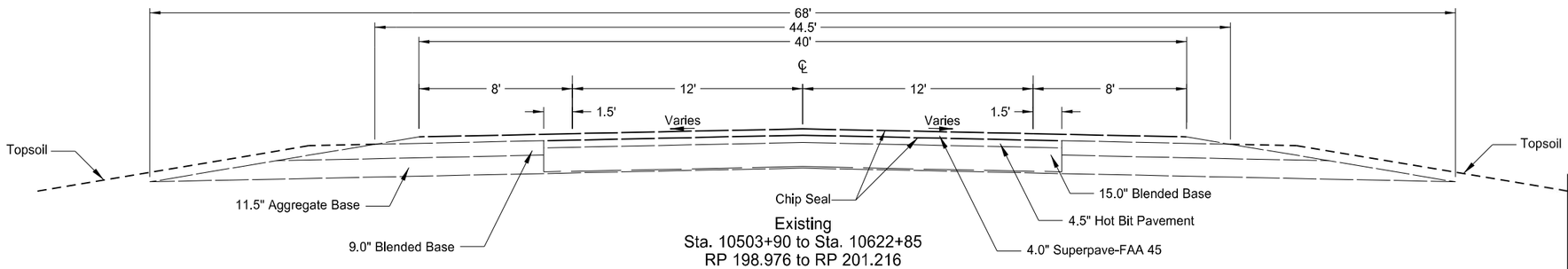
Delineator Layout

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	30	1



Existing
Sta. 9832+05 to Sta. 9952+45
RP 186.260 to RP 188.551
Sta. 10336+65 to Sta. 10451+65
RP 195.802 to RP 197.998



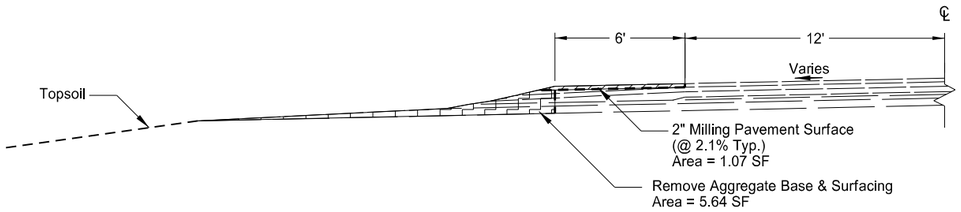
Existing
Sta. 10503+90 to Sta. 10622+85
RP 198.976 to RP 201.216
Sta. 10814+41 to Sta. 10932+05
RP 204.835 to RP 207.057
Sta. 11079+15 to Sta. 11196+85
RP 209.843 to RP 212.065
Sta. 11582+15 to Sta. 11694+25
RP 219.359 to RP 221.472

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE 27746
DATE 03/14/2022
NORTH DAKOTA

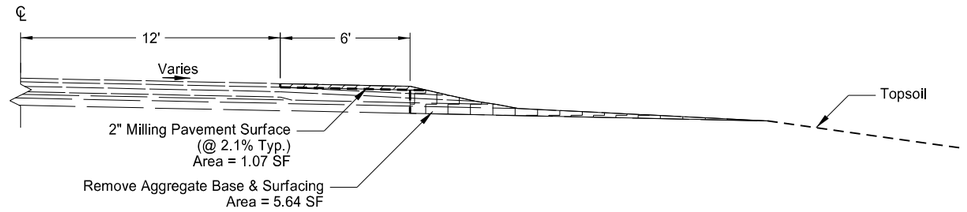
Existing Typical Sections

US 52
Fessenden to Carrington

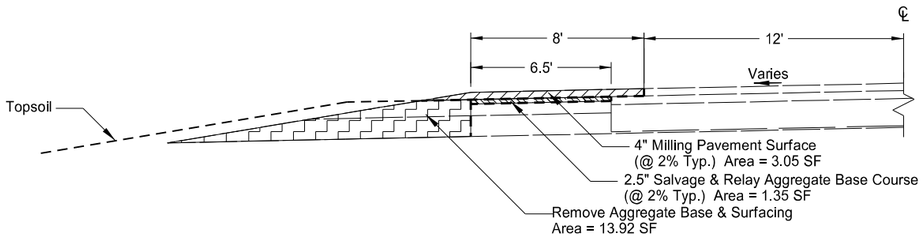
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	30	2



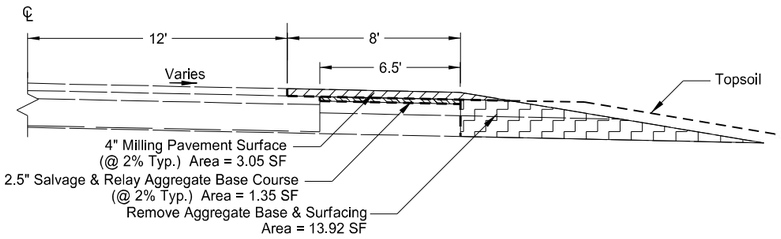
Removals - Left
Sta. 10336+65 to Sta. 10451+65
RP 195.802 to RP 197.998



Removals - Right
Sta. 9832+05 to Sta. 9952+45
RP 186.260 to RP 188.551



Removals - Left
Sta. 10814+41 to Sta. 10932+05
RP 204.835 to RP 207.057
Sta. 11582+15 to Sta. 11694+25
RP 219.359 to RP 221.472



Removals - Right
Sta. 10503+90 to Sta. 10622+85
RP 198.976 to RP 201.216
Sta. 11079+15 to Sta. 11196+85
RP 209.843 to RP 212.065

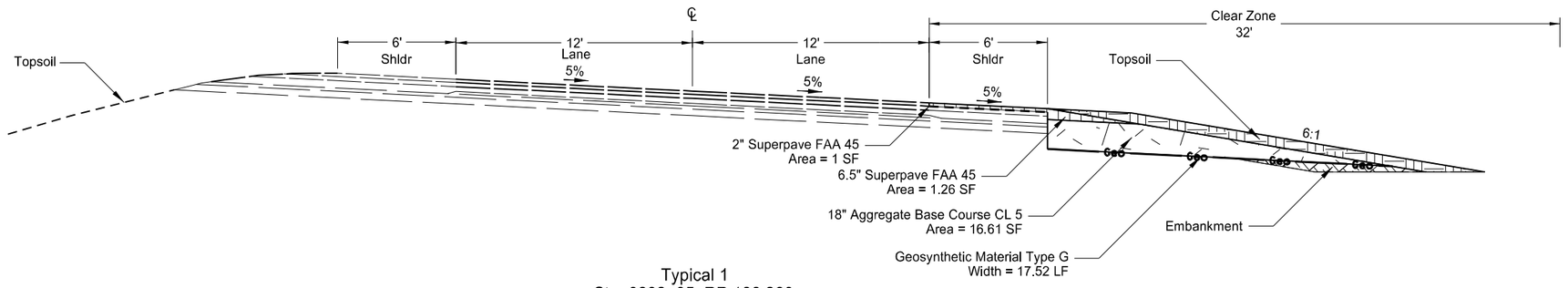
Note: Salvage and Relay Aggregate Base Course will be paid by the mile

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL
KLEINKNECHT
PE 27746
DATE 03/14/2022
NORTH DAKOTA

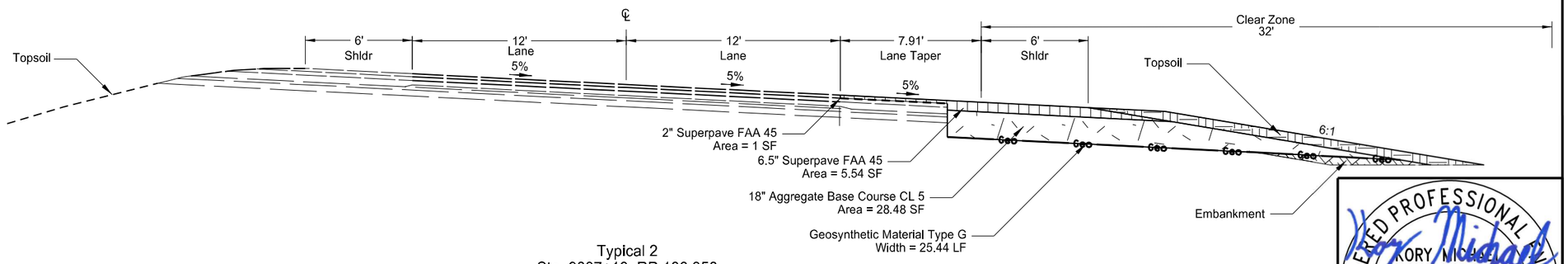
Removal Typical Sections

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	30	3



Typical 1
Sta. 9832+05, RP 186.260



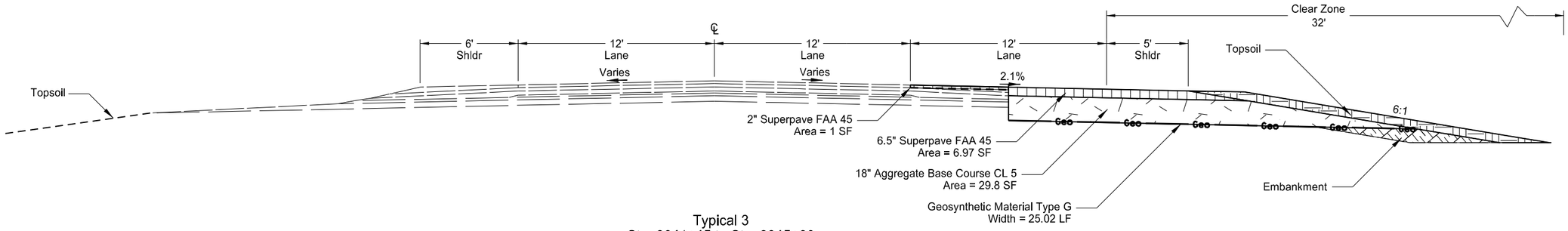
Typical 2
Sta. 9837+19, RP 186.358

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 03/14/2022
NORTH DAKOTA

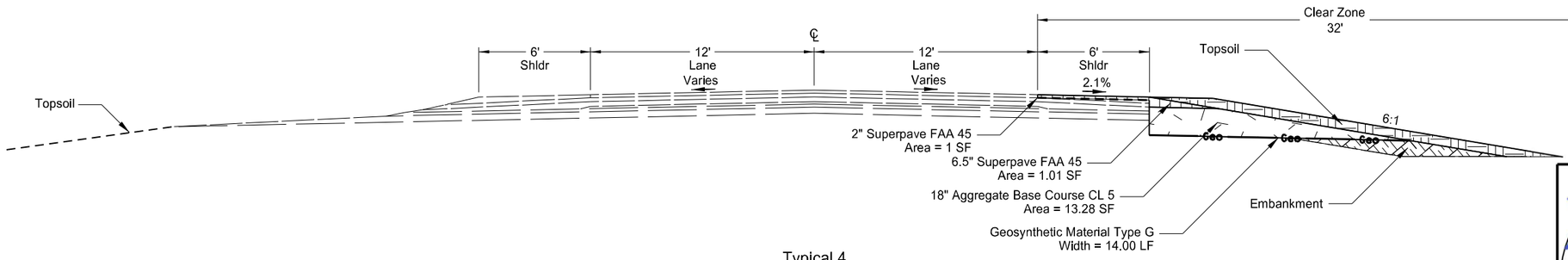
Proposed Typical Sections

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	30	4



Typical 3
Sta. 9841+45 to Sta. 9945+30
RP 186.438 to RP 188.414



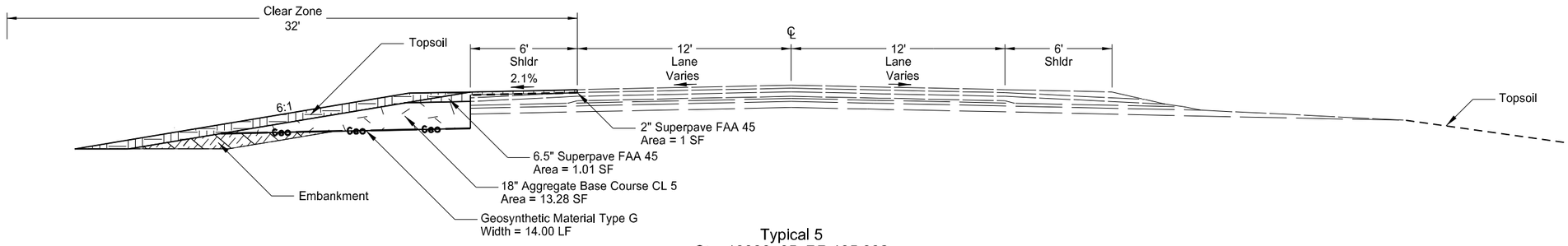
Typical 4
Sta. 9952+45, RP 188.551

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 03/14/2022
NORTH DAKOTA

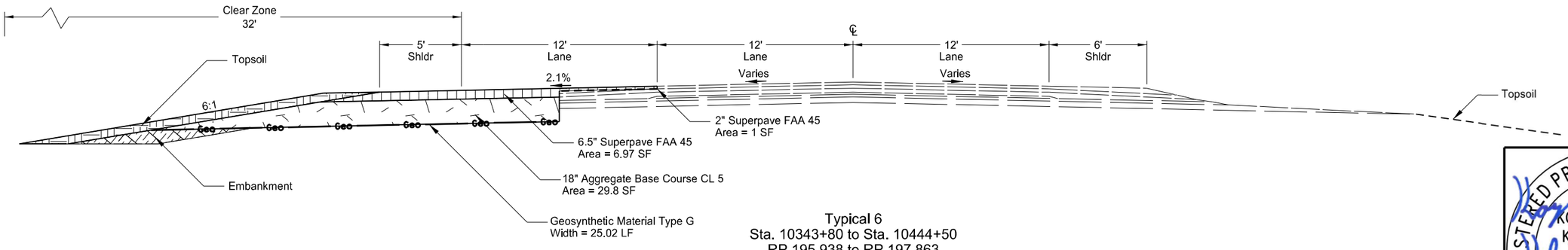
Proposed Typical Sections

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	30	5



Typical 5
Sta. 10336+65, RP 195.802
Sta. 10451+65, RP 197.998



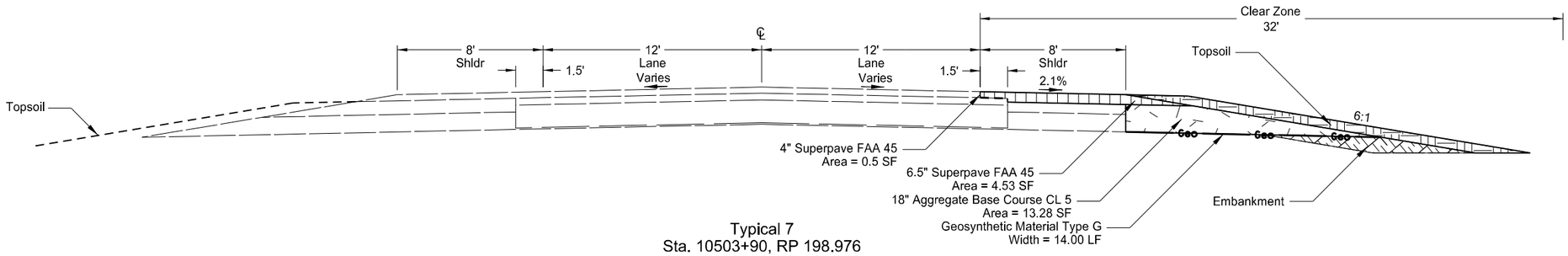
Typical 6
Sta. 10343+80 to Sta. 10444+50
RP 195.938 to RP 197.863

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 03/14/2022
NORTH DAKOTA

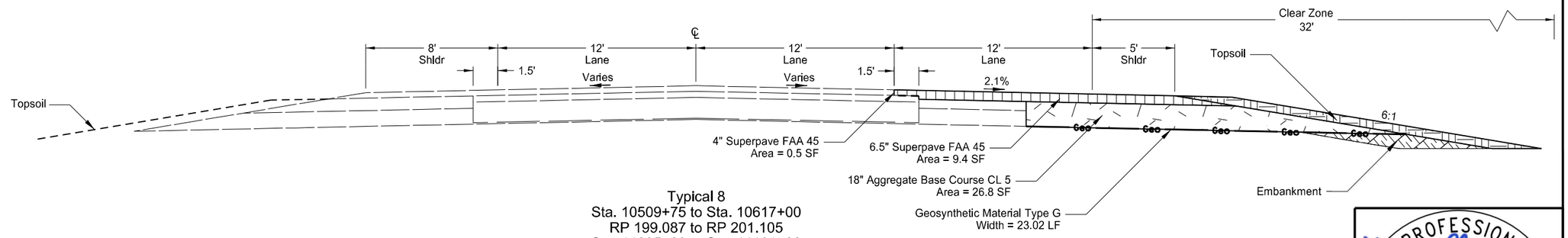
Proposed Typical Sections

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	30	6



Typical 7
Sta. 10503+90, RP 198.976
Sta. 10622+85, RP 201.216
Sta. 11079+15, RP 209.843
Sta. 11196+85, RP 212.065



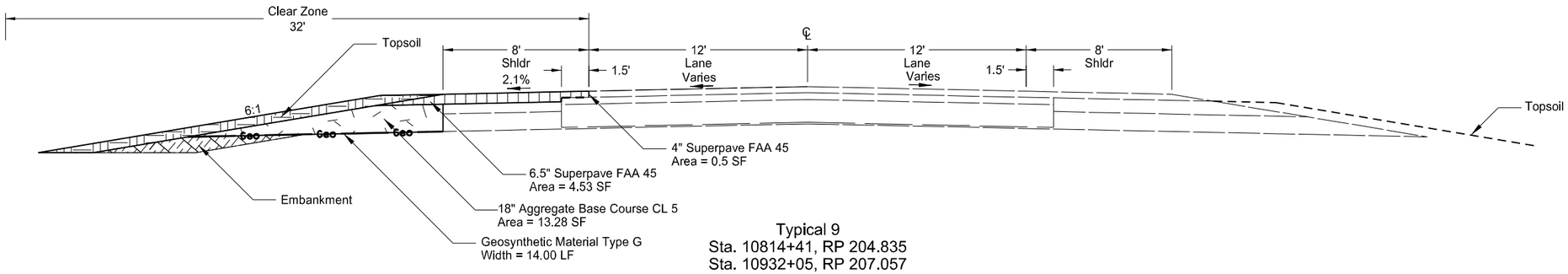
Typical 8
Sta. 10509+75 to Sta. 10617+00
RP 199.087 to RP 201.105
Sta. 11085+00 to Sta. 11191+00
RP 209.954 to 211.954

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE 27746
DATE 03/14/2022
NORTH DAKOTA

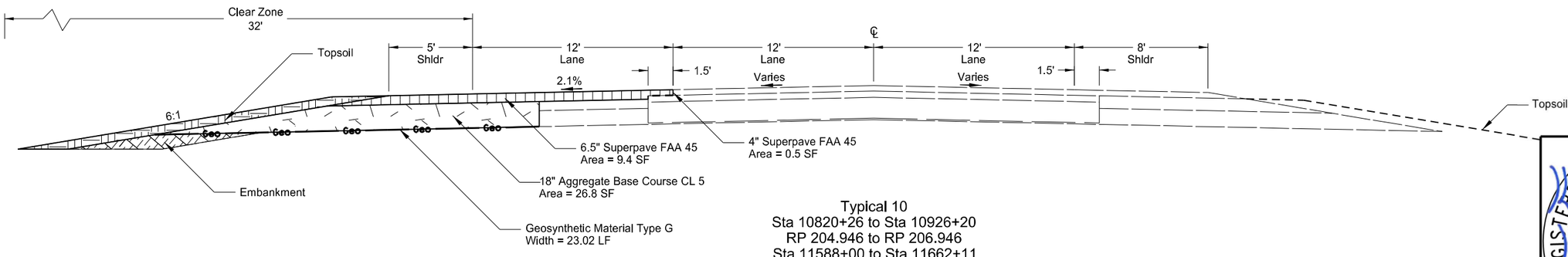
Proposed Typical Sections

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	30	7



Typical 9
Sta. 10814+41, RP 204.835
Sta. 10932+05, RP 207.057
Sta. 11582+15, RP 219.359
Sta. 11694+25, RP 221.472



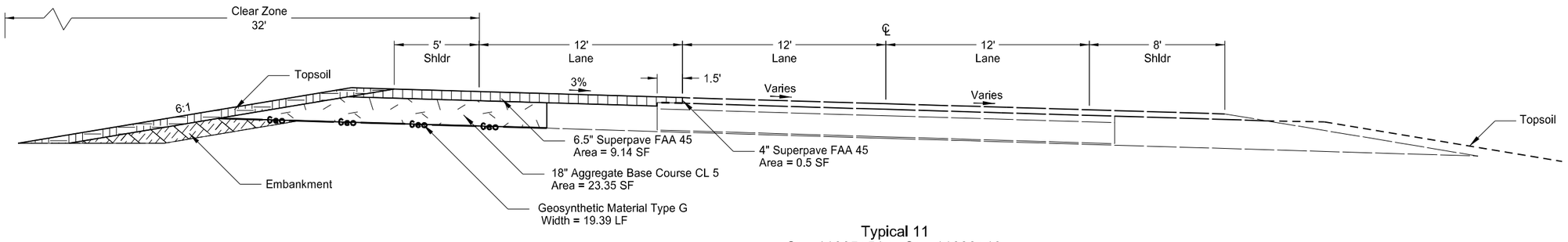
Typical 10
Sta 10820+26 to Sta 10926+20
RP 204.946 to RP 206.946
Sta 11588+00 to Sta 11662+11
RP 219.469 to RP 220.863
Sta 11685+53 to Sta 11688+40
RP 221.306 to RP 221.361

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL
KLEINKNECHT
PE 27746
DATE 03/14/2022
NORTH DAKOTA

Proposed Typical Sections

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	30	8



Typical 11
Sta. 11665+51 to Sta. 11682+13
RP 220.927 to RP 221.242

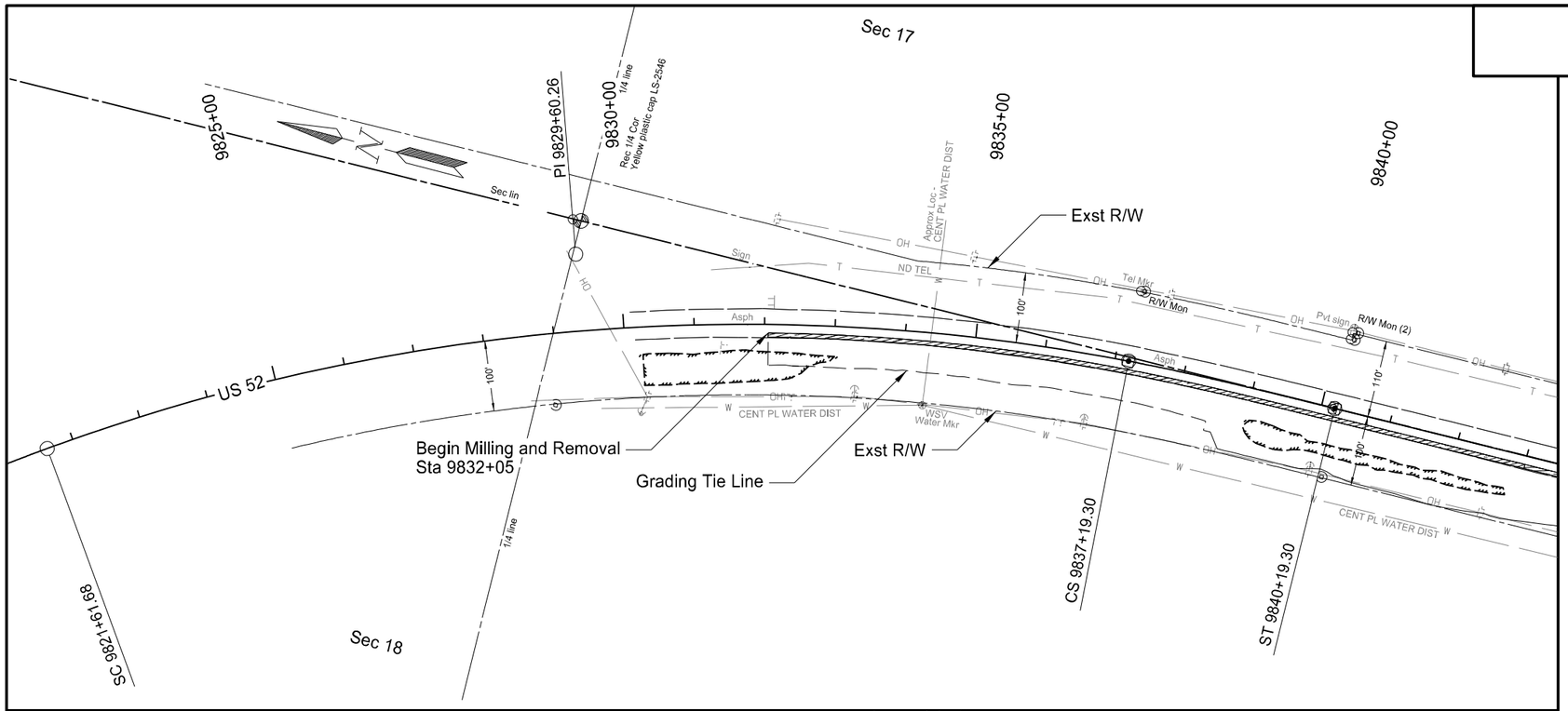
REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL
KLEINKNECHT
PE 27746
DATE 03/14/2022
NORTH DAKOTA

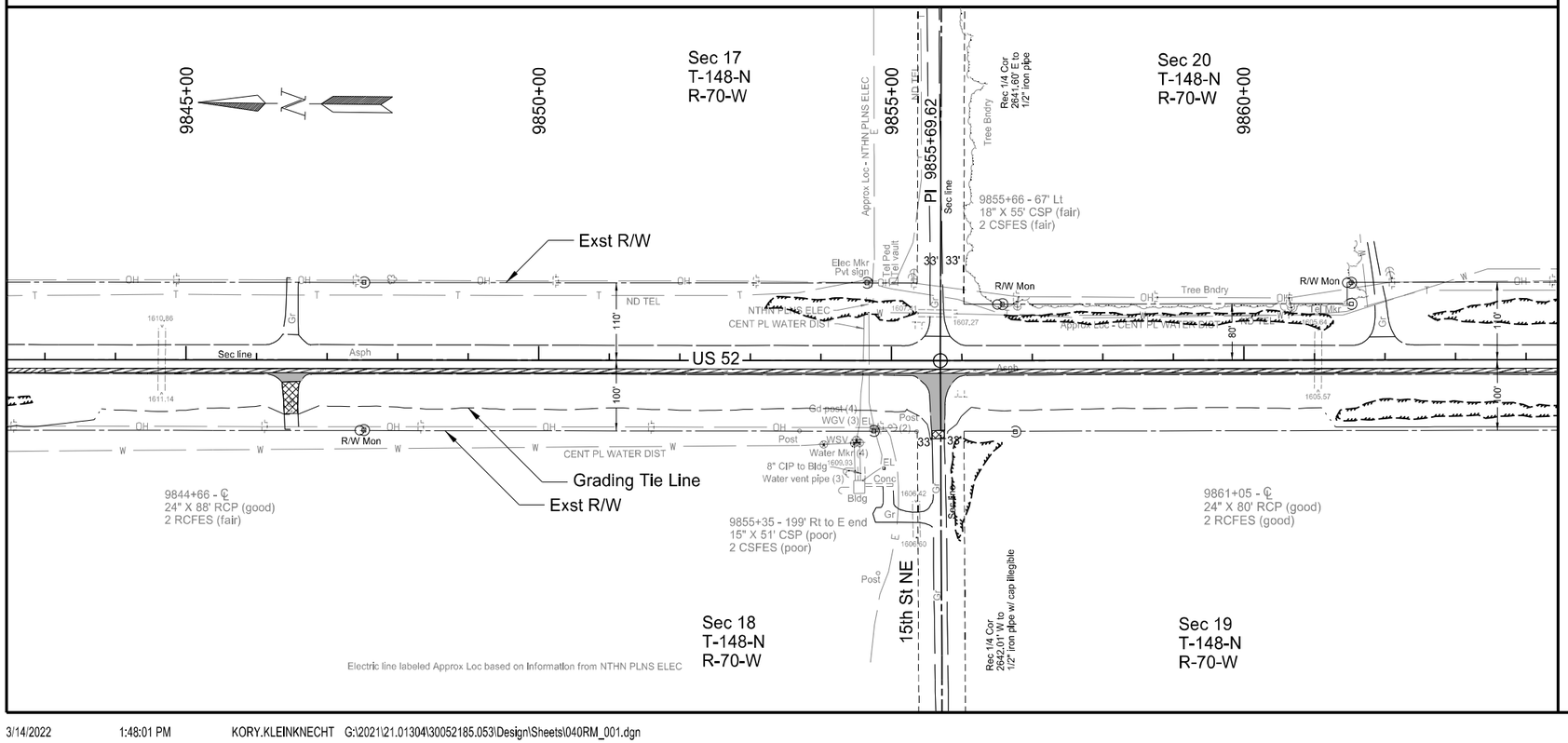
Proposed Typical Sections

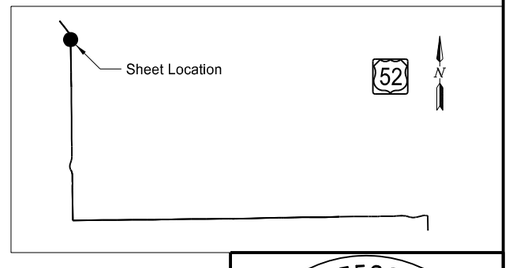
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	40	1

SPEC	CODE	BID ITEM	QTY	UNIT
202	0021	Remove Aggregate Base & Surfacing		
		9832+05 to 9864+00		
		Bituminous Pavement	309	TON
		Aggregate Base	961	TON
		Approach		
		9846+50	83	TON
		9855+66	228	TON
411	0100	Milling Pavement Surface		
		9832+05 to 9864+00	252	TON







Legend

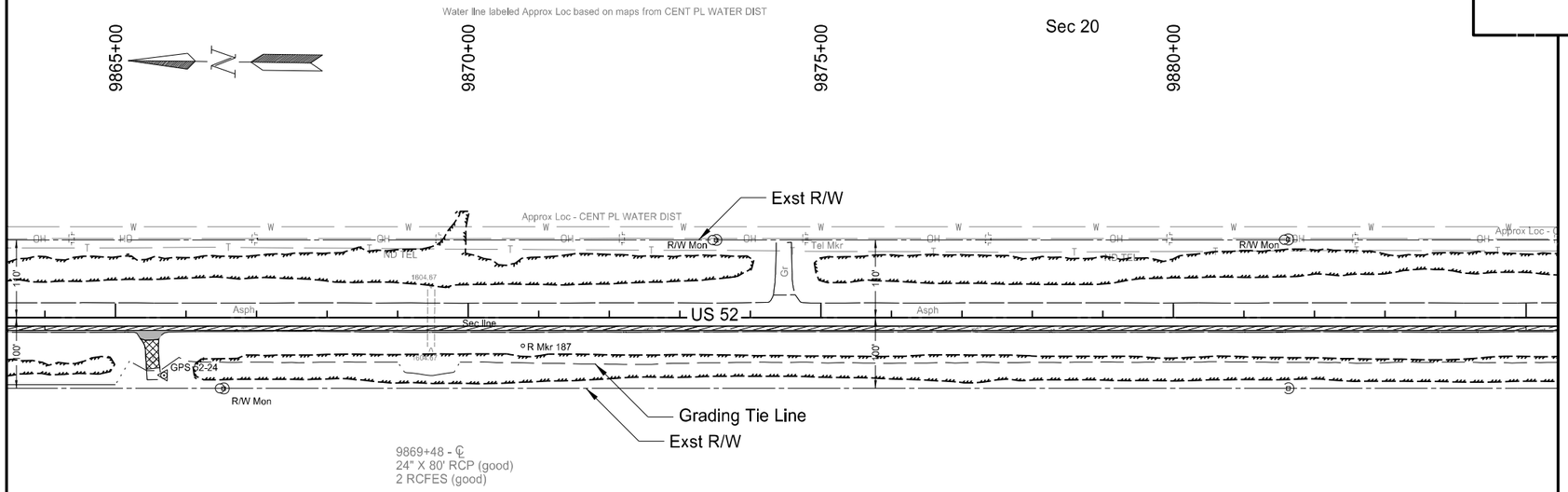
- Milling Pavement Surface
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)

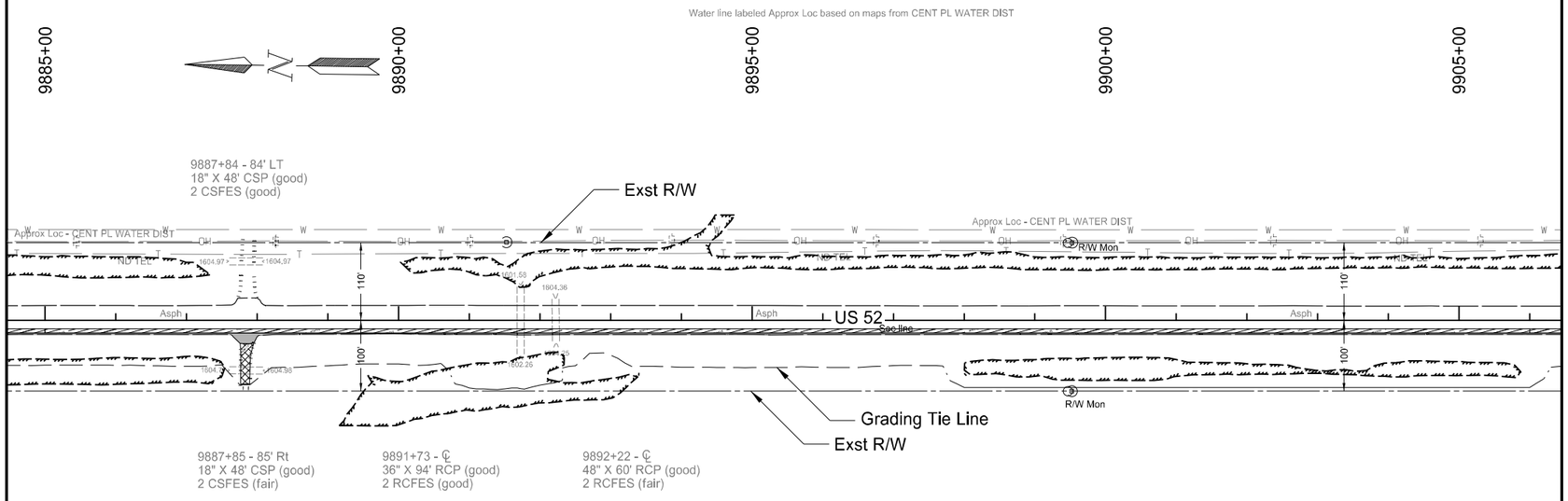
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Removals

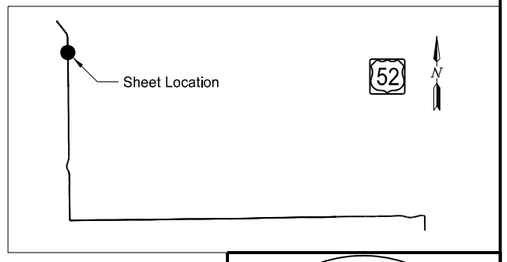
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	40	2





SPEC	CODE	BID ITEM	QTY	UNIT
202	0021	Remove Aggregate Base & Surfacing		
		9864+00 to 9906+00		
		Bituminous Pavement	406	TON
		Aggregate Base	1264	TON
		Approach		
		9865+53	73	TON
		9887+83	71	TON
411	0100	Milling Pavement Surface		
		9864+00 to 9906+00	332	TON



Legend

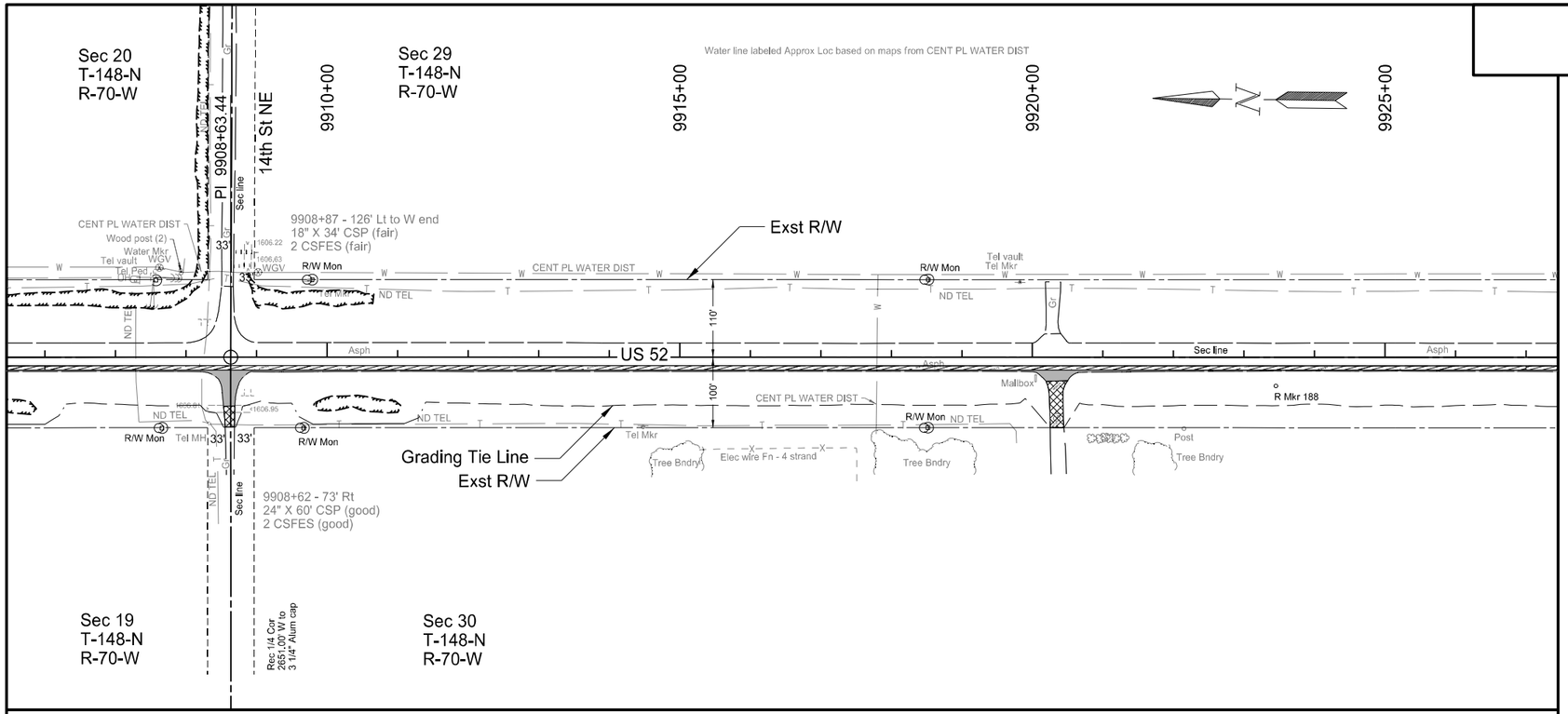
- Milling Pavement Surface
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)

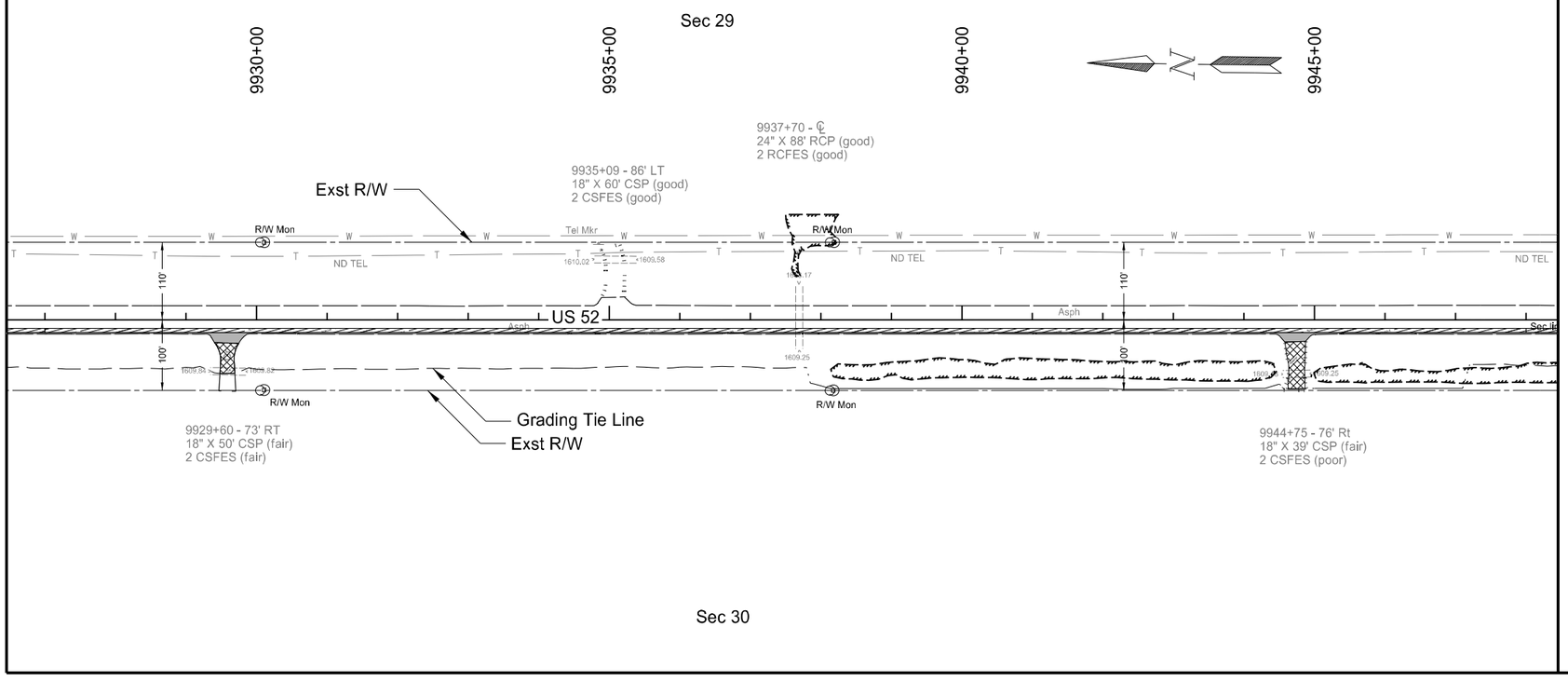
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Removals

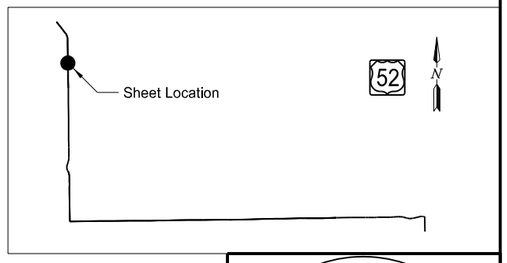
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	40	3





SPEC	CODE	BID ITEM	QTY	UNIT
202	0021	Remove Aggregate Base & Surfacing		
		9906+00 to 9948+00		
		Bituminous Pavement	406	TON
		Aggregate Base	1264	TON
		Approach		
		9908+62	153	TON
		9920+35	117	TON
		9929+59	97	TON
		9944+75	109	TON
411	0100	Milling Pavement Surface		
		9906+00 to 9948+00	332	TON



Legend

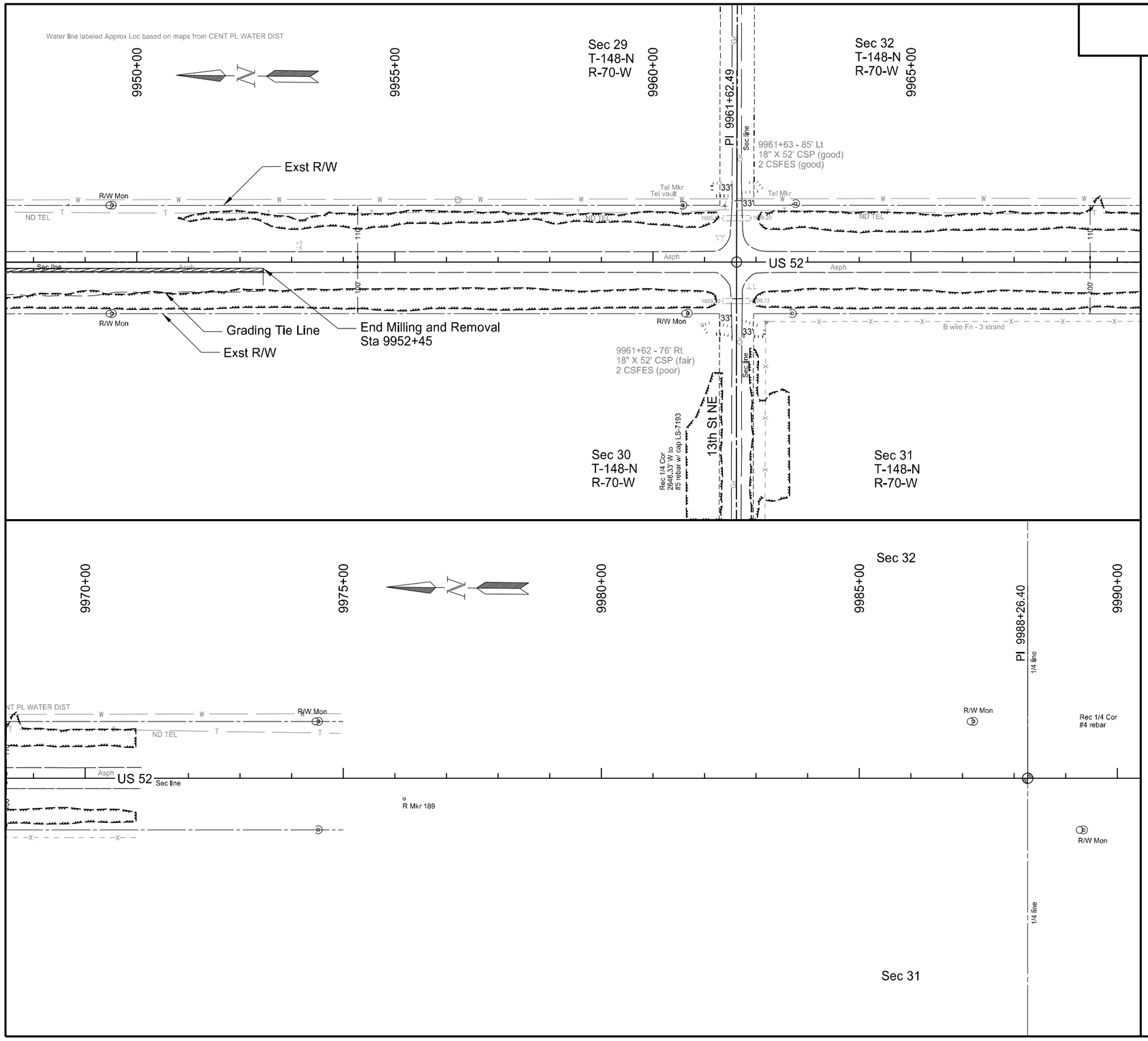
- Milling Pavement Surface
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

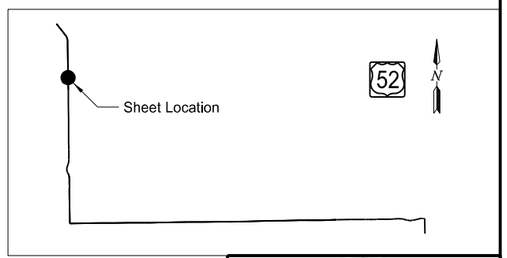
Removals

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	40	4



SPEC	CODE	BID ITEM	QTY	UNIT
202	0021	Remove Aggregate Base & Surfacing		
		9948+00 to 9952+45		
		Bituminous Pavement	43	TON
		Aggregate Base	134	TON
		Approach	0	TON
411	0100	Milling Pavement Surface		
		9948+00 to 9952+45	35	TON



Legend

- Milling Pavement Surface
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)

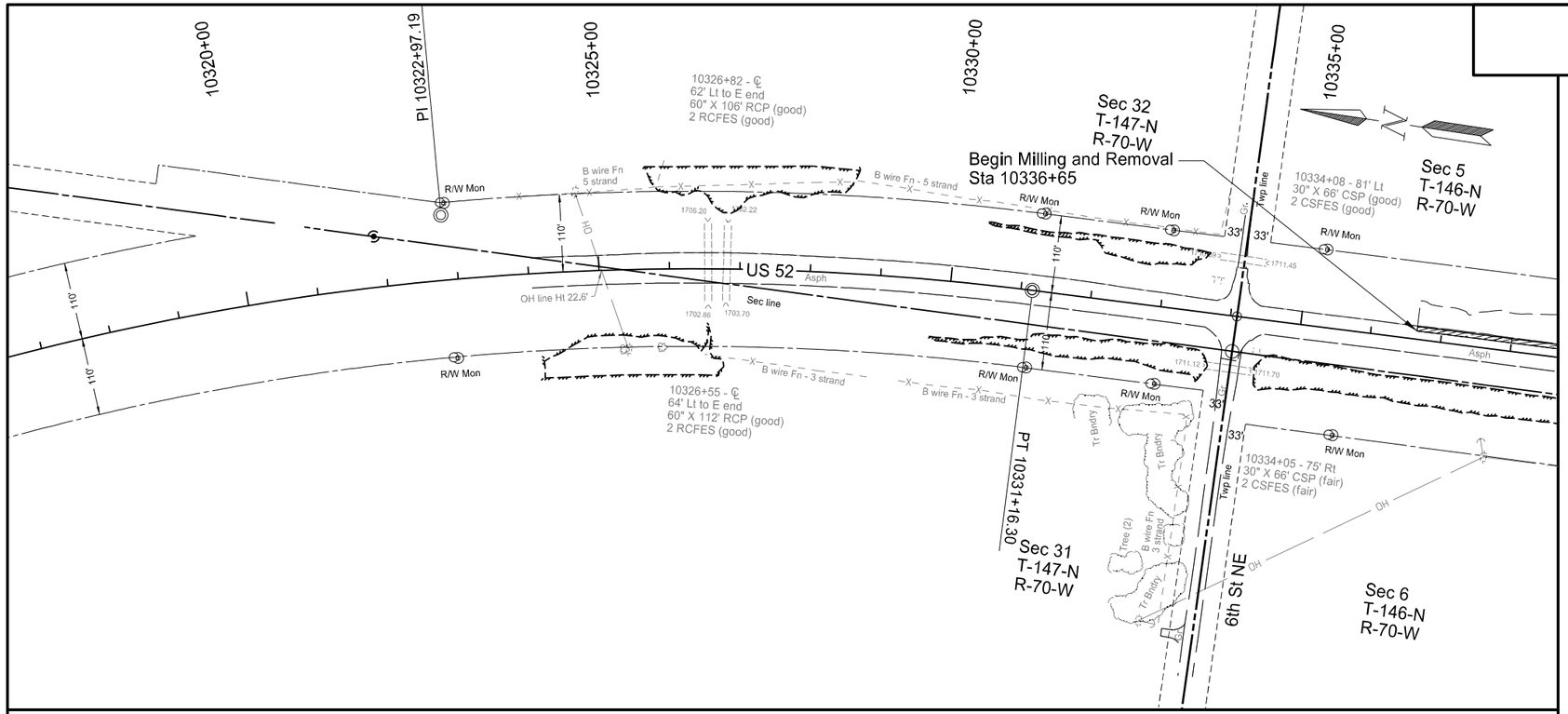
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

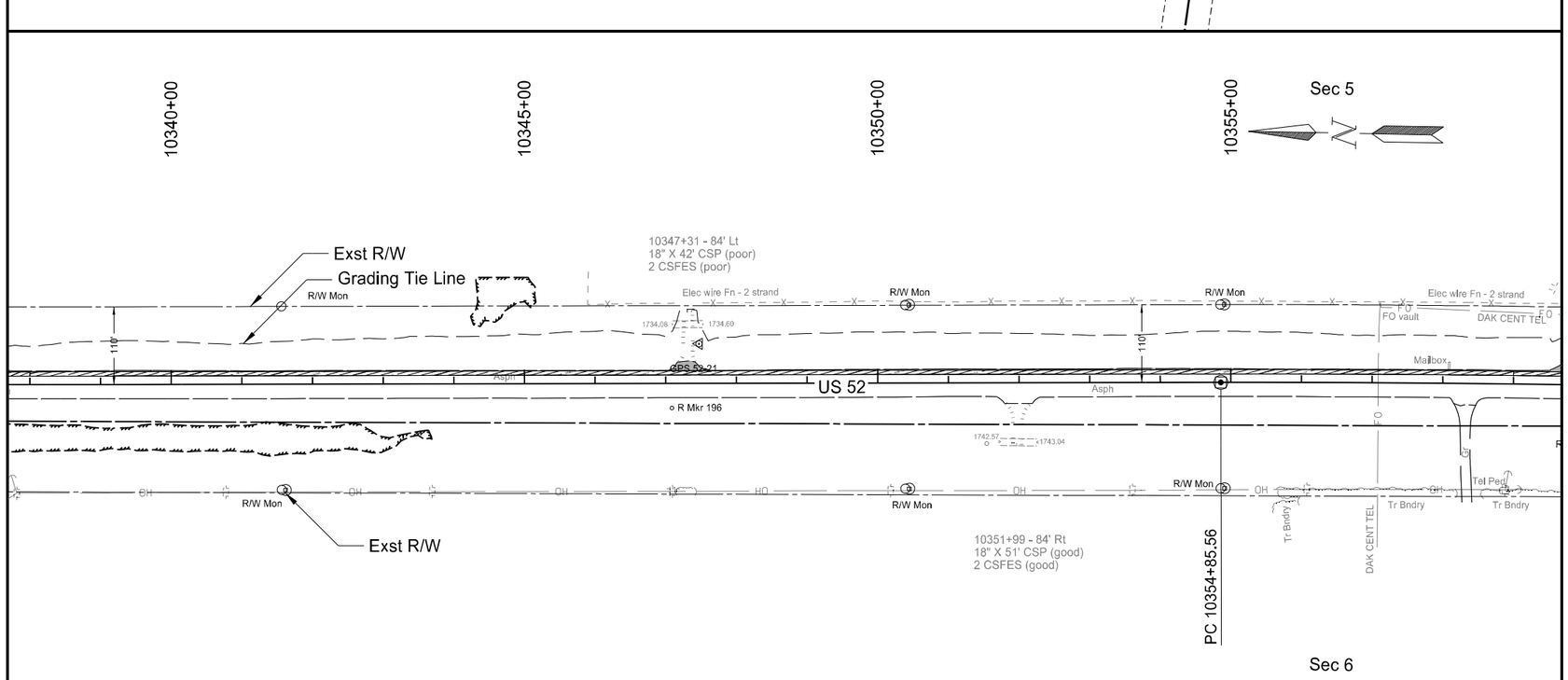
Removals

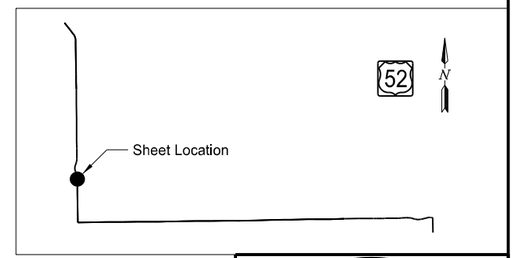
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	40	5

SPEC	CODE	BID ITEM	QTY	UNIT
202	0021	Remove Aggregate Base & Surfacing		
		10336+65 to 10359+00		
		Bituminous Pavement	216	TON
		Aggregate Base	673	TON
		Approach		
		10347+29	44	TON
411	0100	Milling Pavement Surface		
		10336+65 to 10359+00	177	TON







Legend

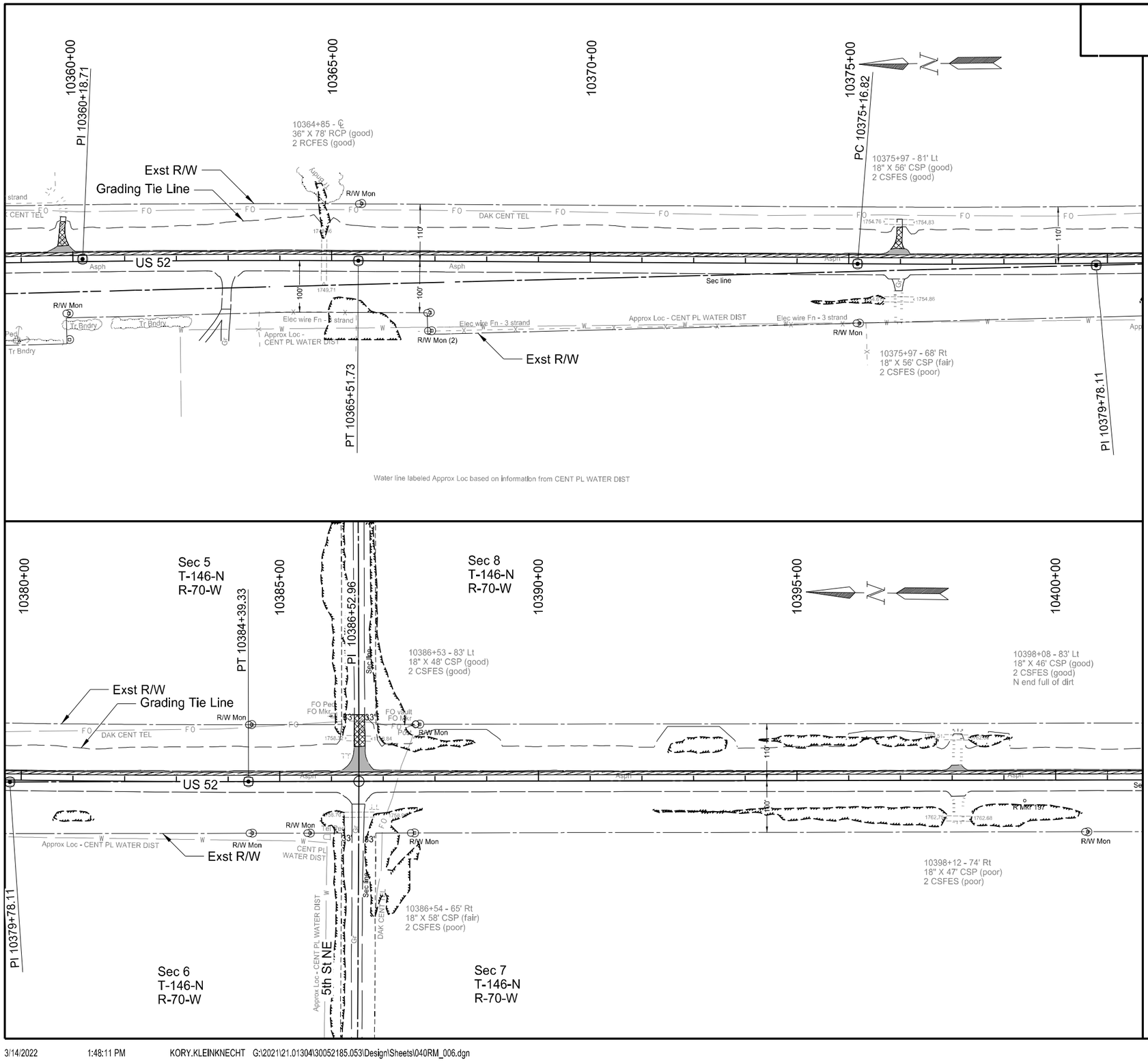
- Milling Pavement Surface
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

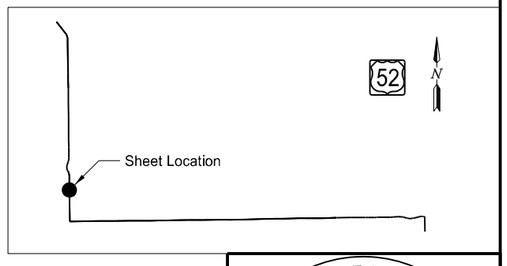
Removals

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	40	6



SPEC	CODE	BID ITEM	QTY	UNIT
202	0021	Remove Aggregate Base & Surfacing		
		10359+00 to 10401+00		
		Bituminous Pavement	406	TON
		Aggregate Base	1264	TON
		Approach		
		10359+82	69	TON
		10375+98	65	TON
		10386+54	212	TON
		10398+09	35	TON
411	0100	Milling Pavement Surface		
		10359+00 to 10401+00	332	TON



Legend

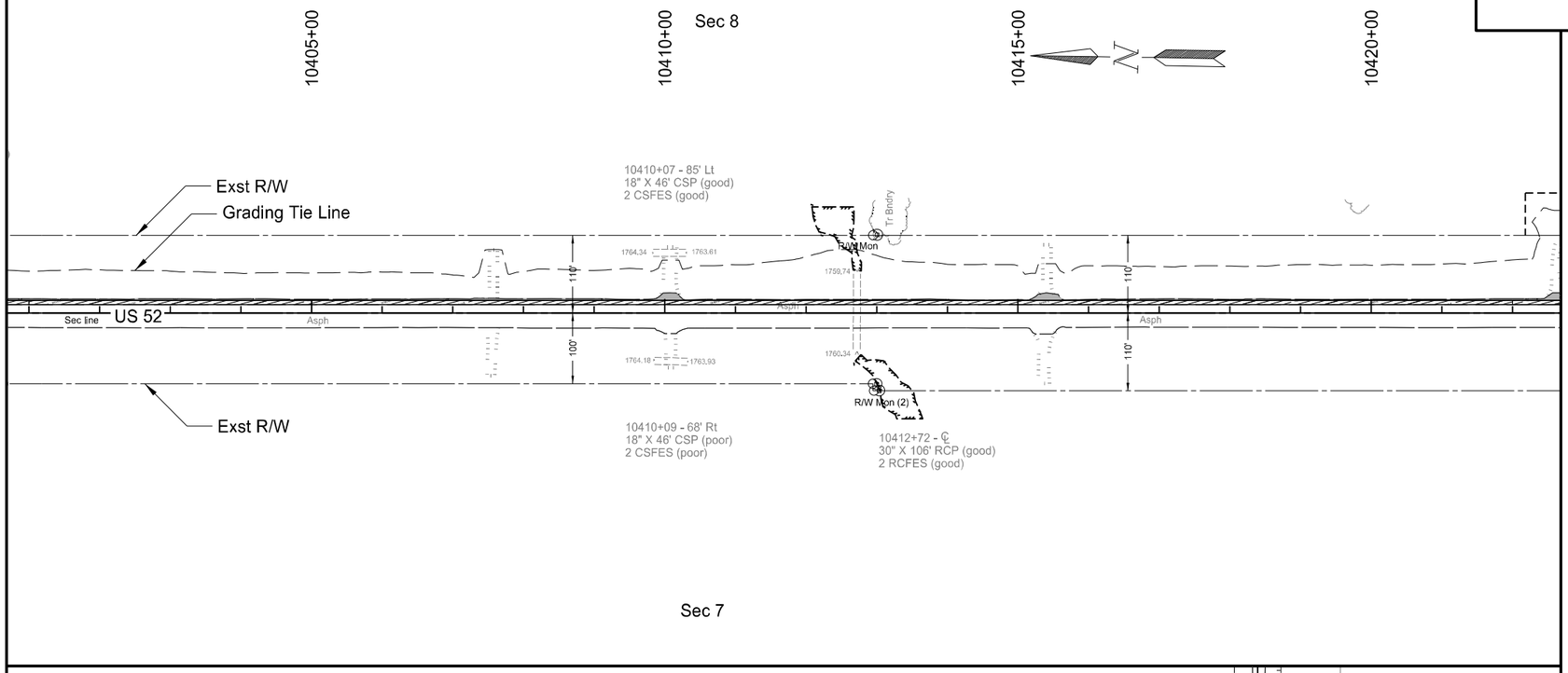
- Milling Pavement Surface
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

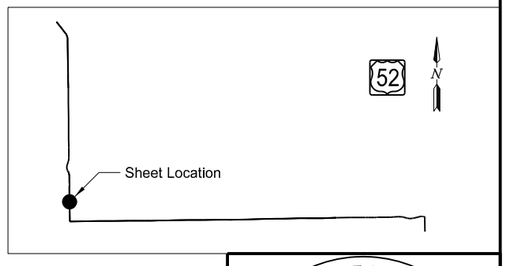
Removals

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	40	7



SPEC	CODE	BID ITEM	QTY	UNIT
202	0021	Remove Aggregate Base & Surfacing		
		10401+00 to 10443+00		
		Bituminous Pavement	406	TON
		Aggregate Base	1264	TON
		Approach		
		10410+08	31	TON
		10415+40	33	TON
		10422+66	32	TON
		10439+38	228	TON
411	0100	Milling Pavement Surface		
		10401+00 to 10443+00	332	TON



Legend

- Milling Pavement Surface
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)

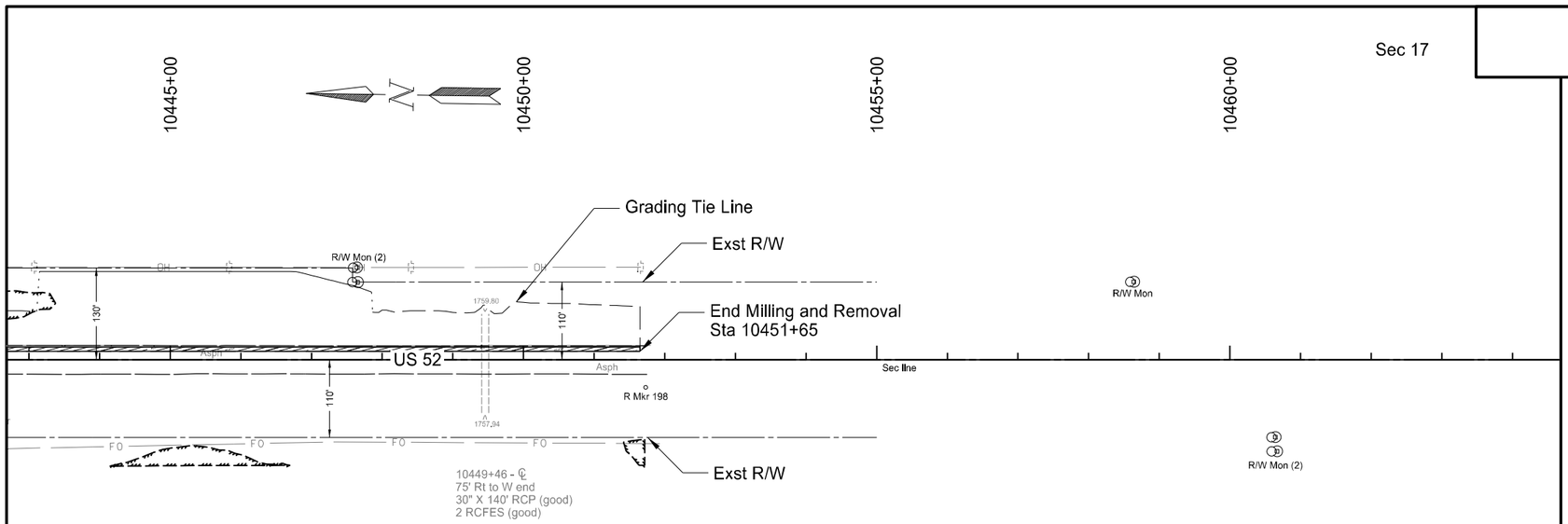
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

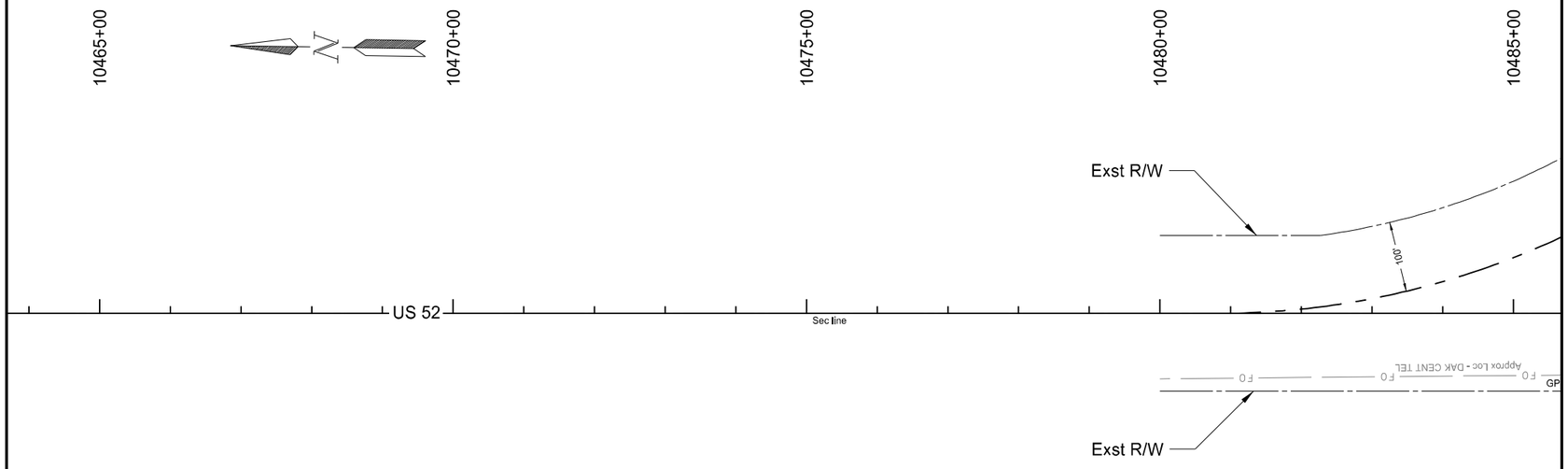
Removals

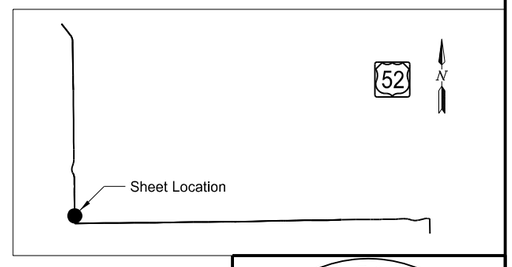
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	40	8

SPEC	CODE	BID ITEM	QTY	UNIT
202	0021	Remove Aggregate Base & Surfacing		
		10443+00 to 10451+65		
		Bituminous Pavement	84	TON
		Aggregate Base	260	TON
		Approach	0	TON
411	0100	Milling Pavement Surface		
		10443+00 to 10451+65	68	TON







Legend

- Milling Pavement Surface
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)

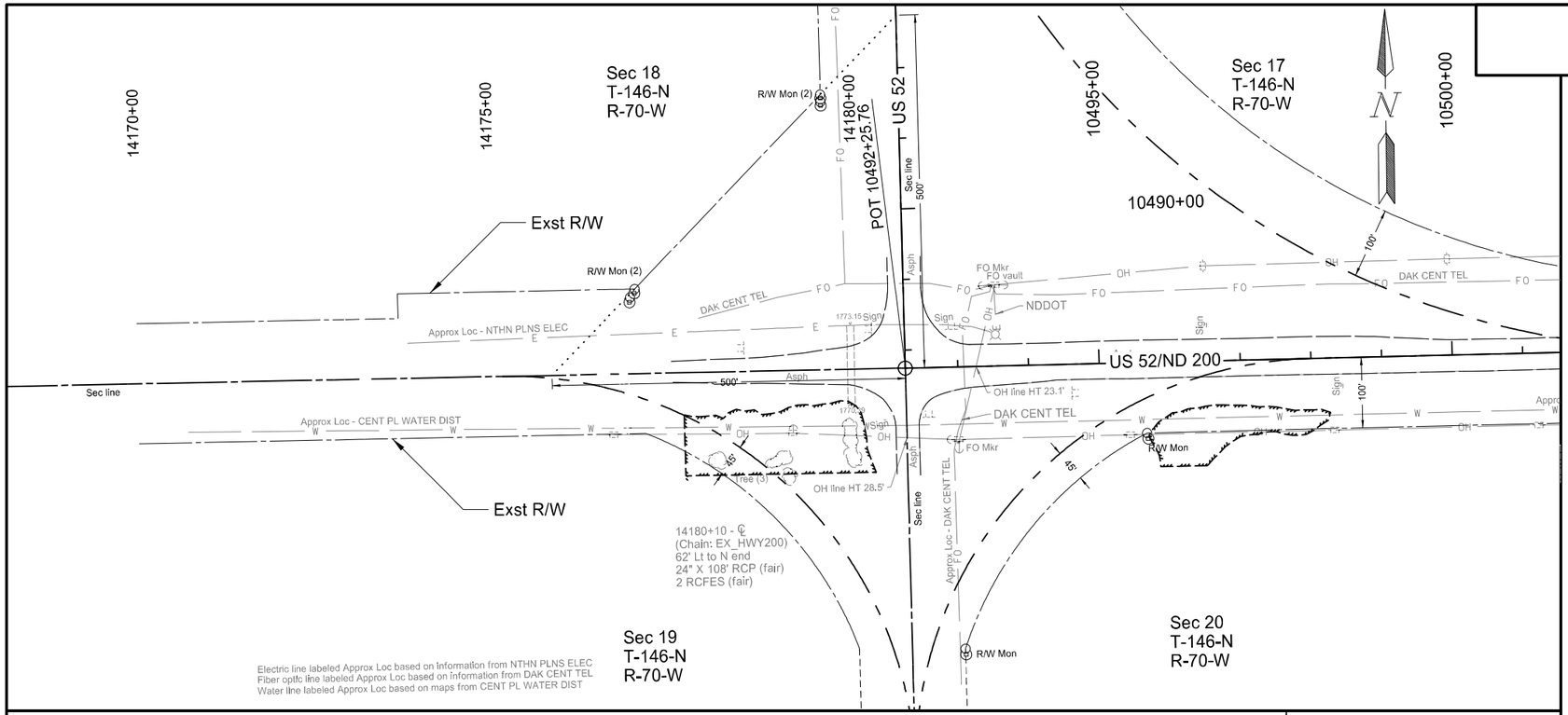
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

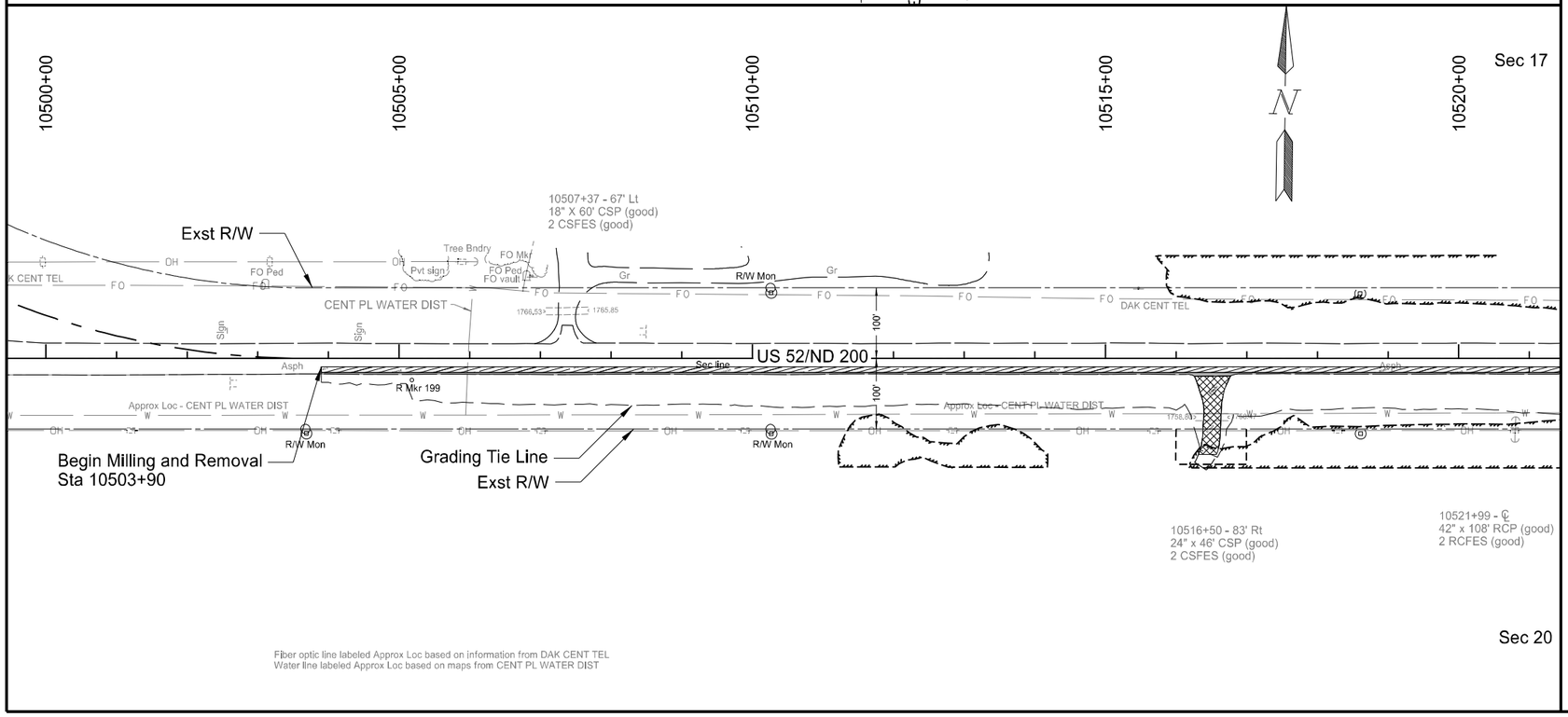
Removals

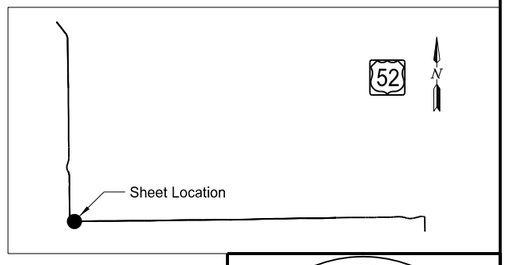
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	40	9

SPEC	CODE	BID ITEM	QTY	UNIT
202	0021	Remove Aggregate Base & Surfacing		
		10503+90 to 10521+00		
		Aggregate Base	1653	TON
		Approach		
		10516+44	143	TON
302	0410	Salvage & Relay Aggregate Base Course		
		10503+90 to 10521+00	0.32	MILE
411	0100	Milling Pavement Surface		
		10503+90 to 10521+00	386	TON







Legend

- Milling Pavement Surface & Salvage and Relay Aggregate Base
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)

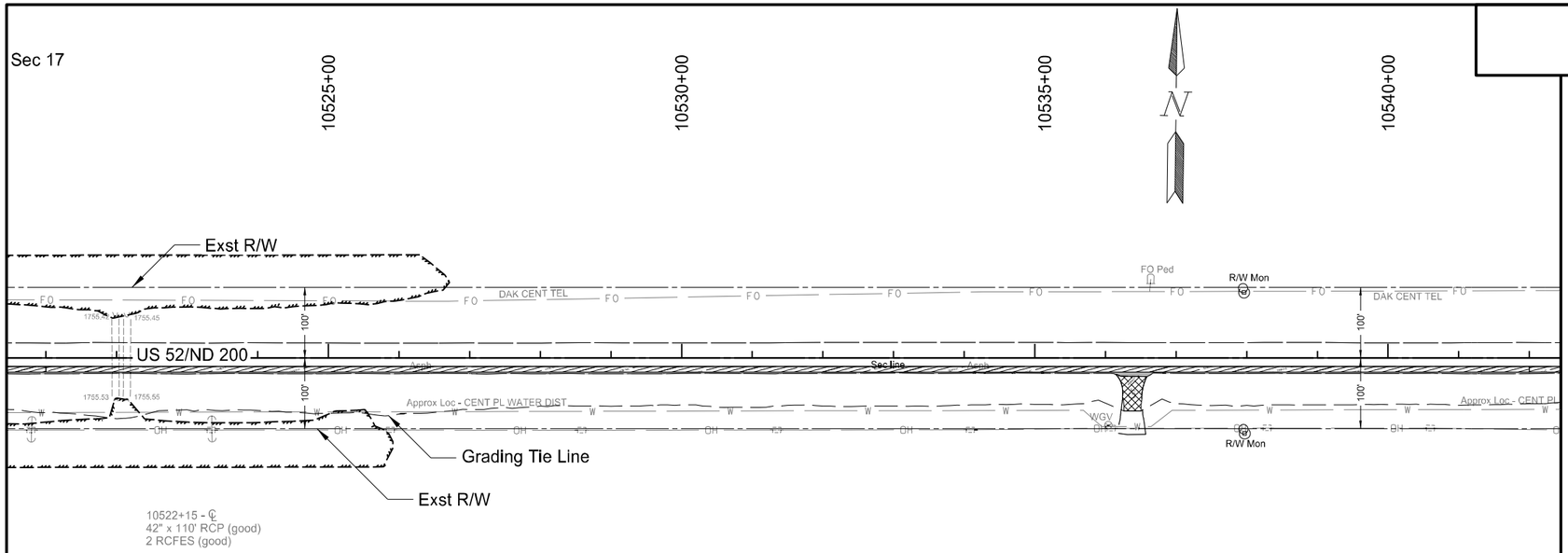
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

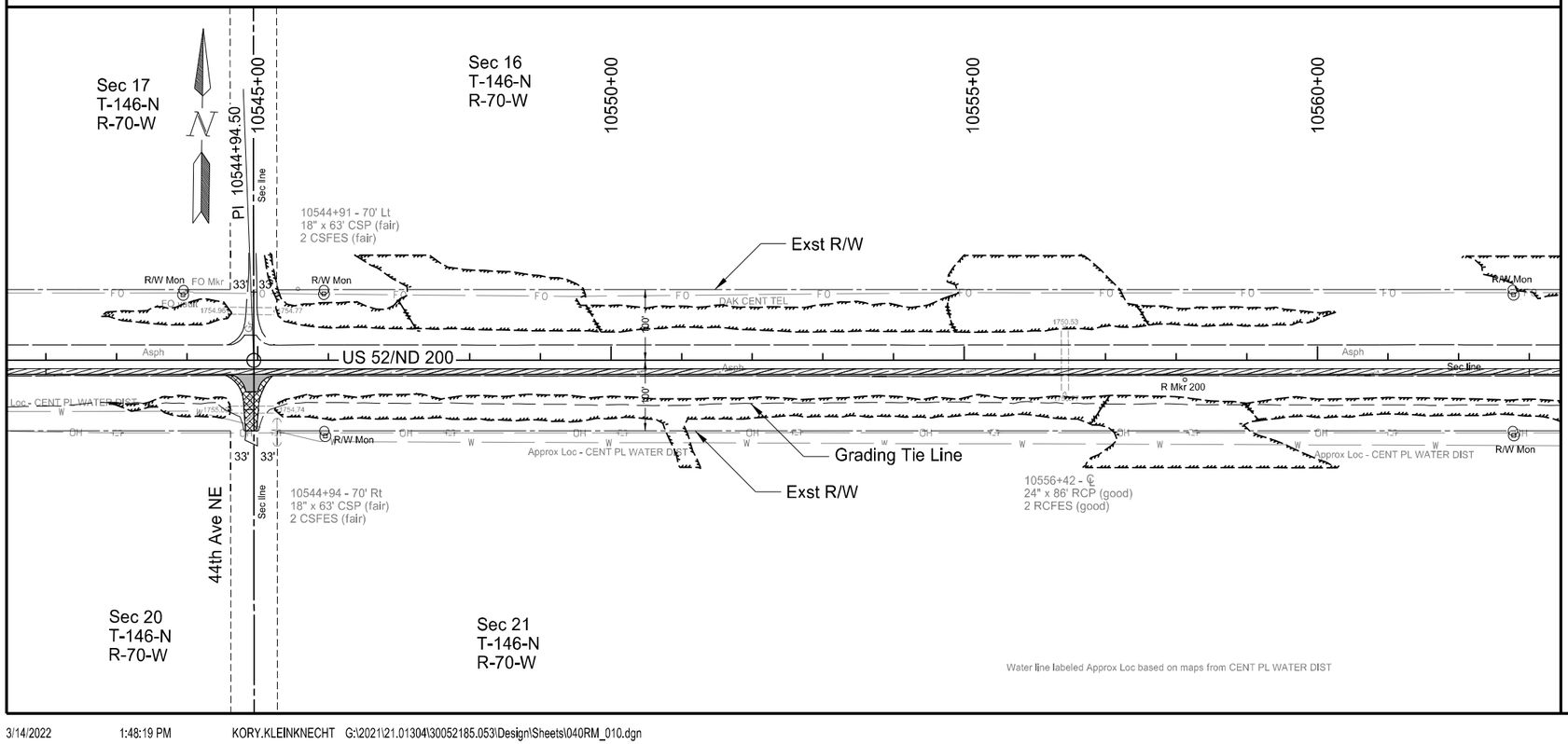
Removals

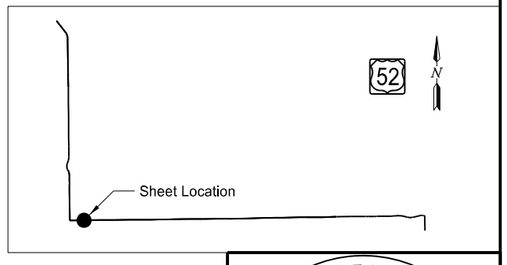
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	40	10

SPEC	CODE	BID ITEM	QTY	UNIT
202	0021	Remove Aggregate Base & Surfacing		
		10521+00 to 10563+00		
		Aggregate Base	4060	TON
		Approach		
		10536+38	78	TON
		10544+91	121	TON
302	0410	Salvage & Relay Aggregate Base Course		
		10521+00 to 10563+00	0.80	MILE
411	0100	Milling Pavement Surface		
		10521+00 to 10563+00	948	TON







Legend

- Milling Pavement Surface & Salvage and Relay Aggregate Base
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)

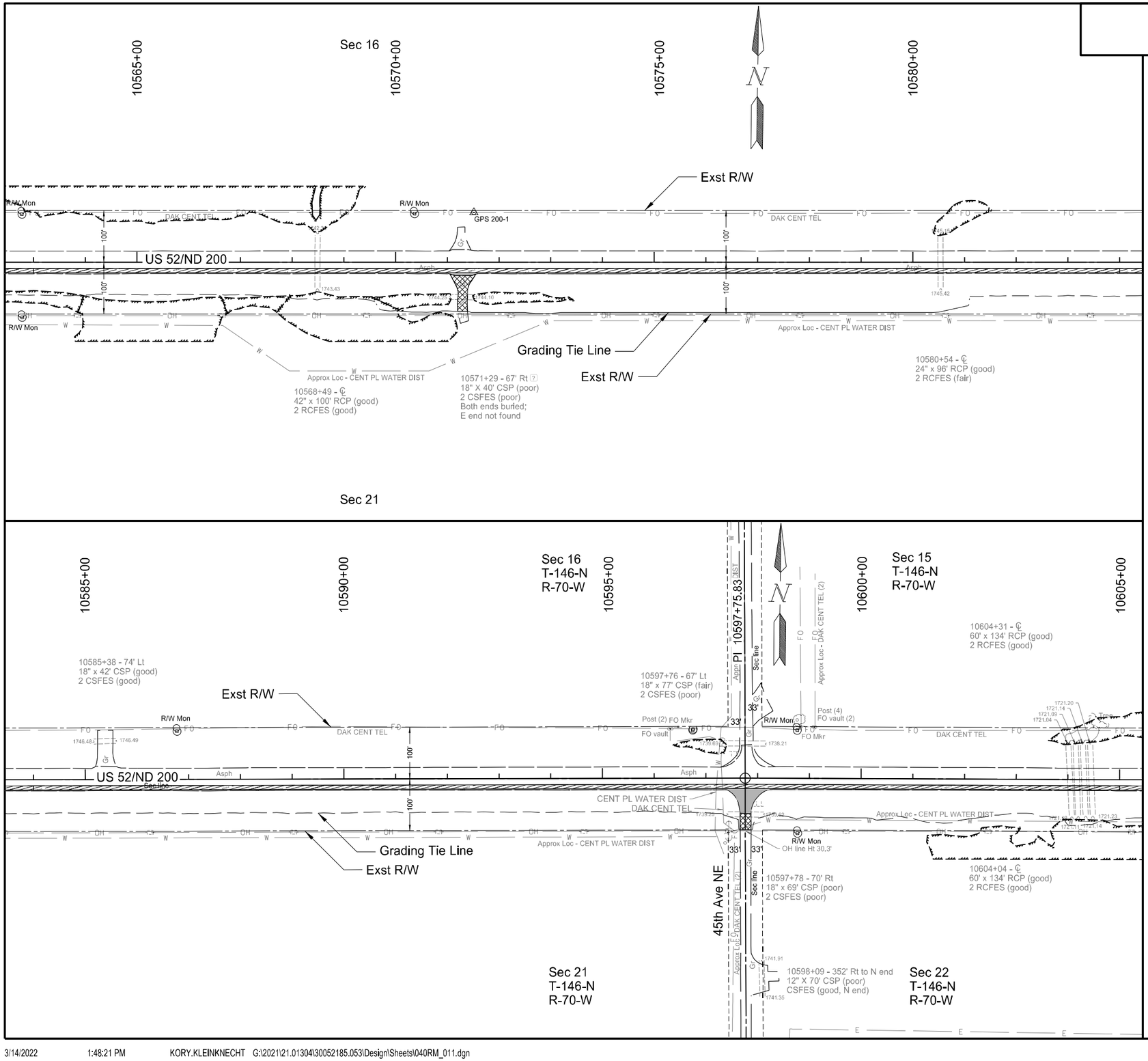
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

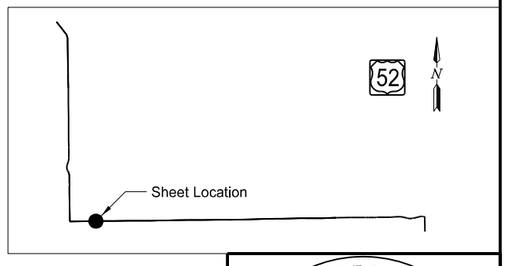
Removals

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	40	11

SPEC	CODE	BID ITEM	QTY	UNIT
202	0021	Remove Aggregate Base & Surfacing		
		10563+00 to 10605+00		
		Aggregate Base	4060	TON
		Approach		
		10571+30	83	TON
		10597+77	205	TON
302	0410	Salvage & Relay Aggregate Base Course		
		10563+00 to 10605+00	0.80	MILE
411	0100	Milling Pavement Surface		
		10563+00 to 10605+00	948	TON





Legend

- Milling Pavement Surface & Salvage and Relay Aggregate Base
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)

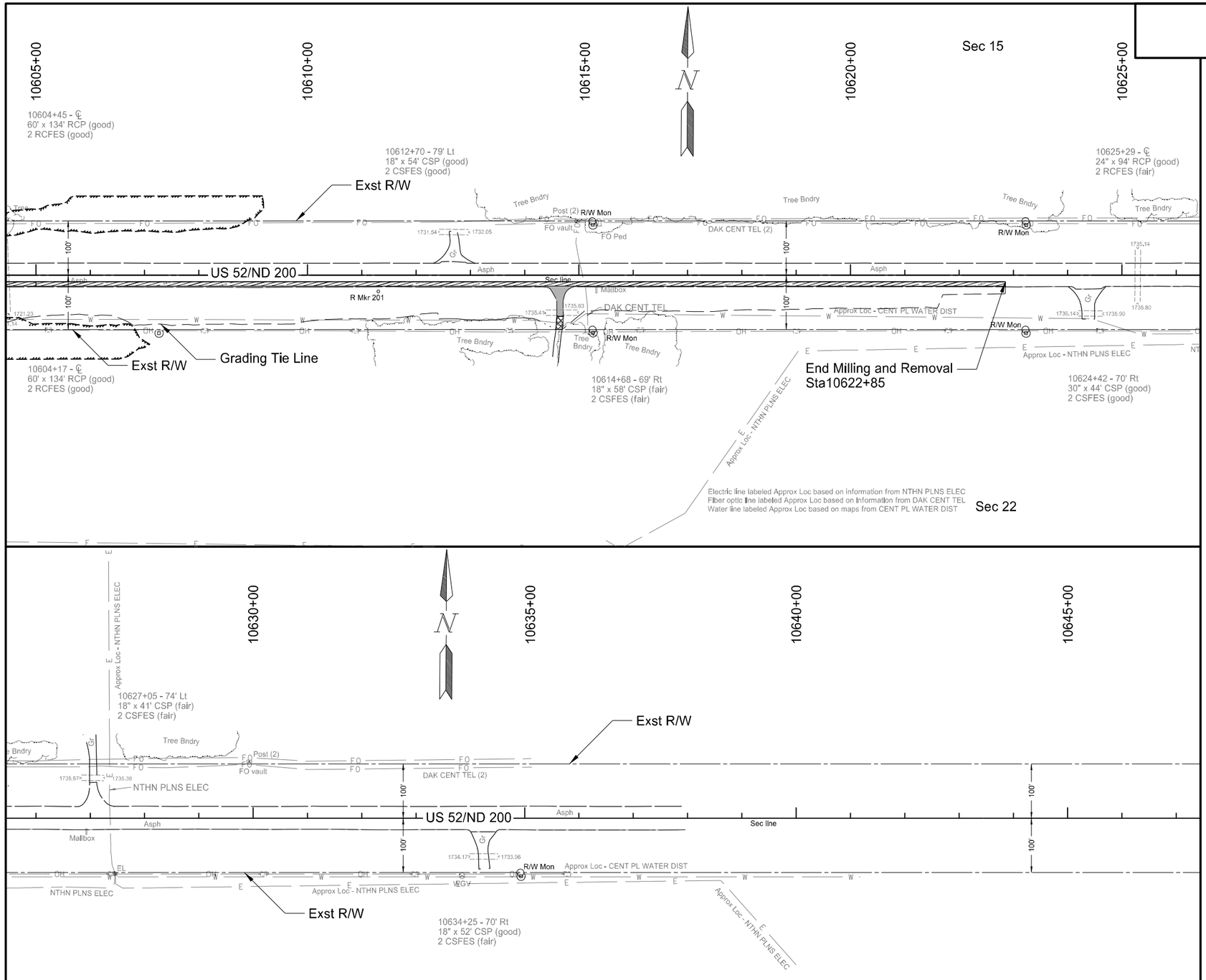
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

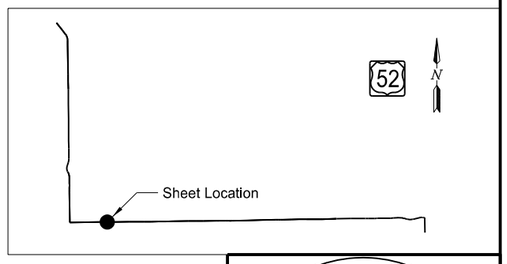
Removals

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	40	12

SPEC	CODE	BID ITEM	QTY	UNIT
202	0021	Remove Aggregate Base & Surfacing		
		10605+00 to 10622+85		
		Aggregate Base	1726	TON
		Approach		
		10614+63	106	TON
302	0410	Salvage & Relay Aggregate Base Course		
		10605+00 to 10622+85	0.34	MILE
411	0100	Milling Pavement Surface		
		10605+00 to 10622+85	403	TON





Legend

- Milling Pavement Surface & Salvage and Relay Aggregate Base
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)

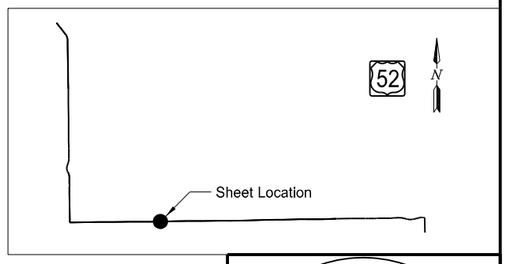
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KIEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Removals

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	40	13

SPEC	CODE	BID ITEM	QTY	UNIT
202	0021	Remove Aggregate Base & Surfacing		
		10814+41 to 10836+00		
		Aggregate Base	2087	TON
		Approach		
		10832+70	71	TON
302	0410	Salvage & Relay Aggregate Base Course		
		10814+41 to 10836+00	0.41	MILE
411	0100	Milling Pavement Surface		
		10814+41 to 10836+00	487	TON



Legend

- Milling Pavement Surface & Salvage and Relay Aggregate Base
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)

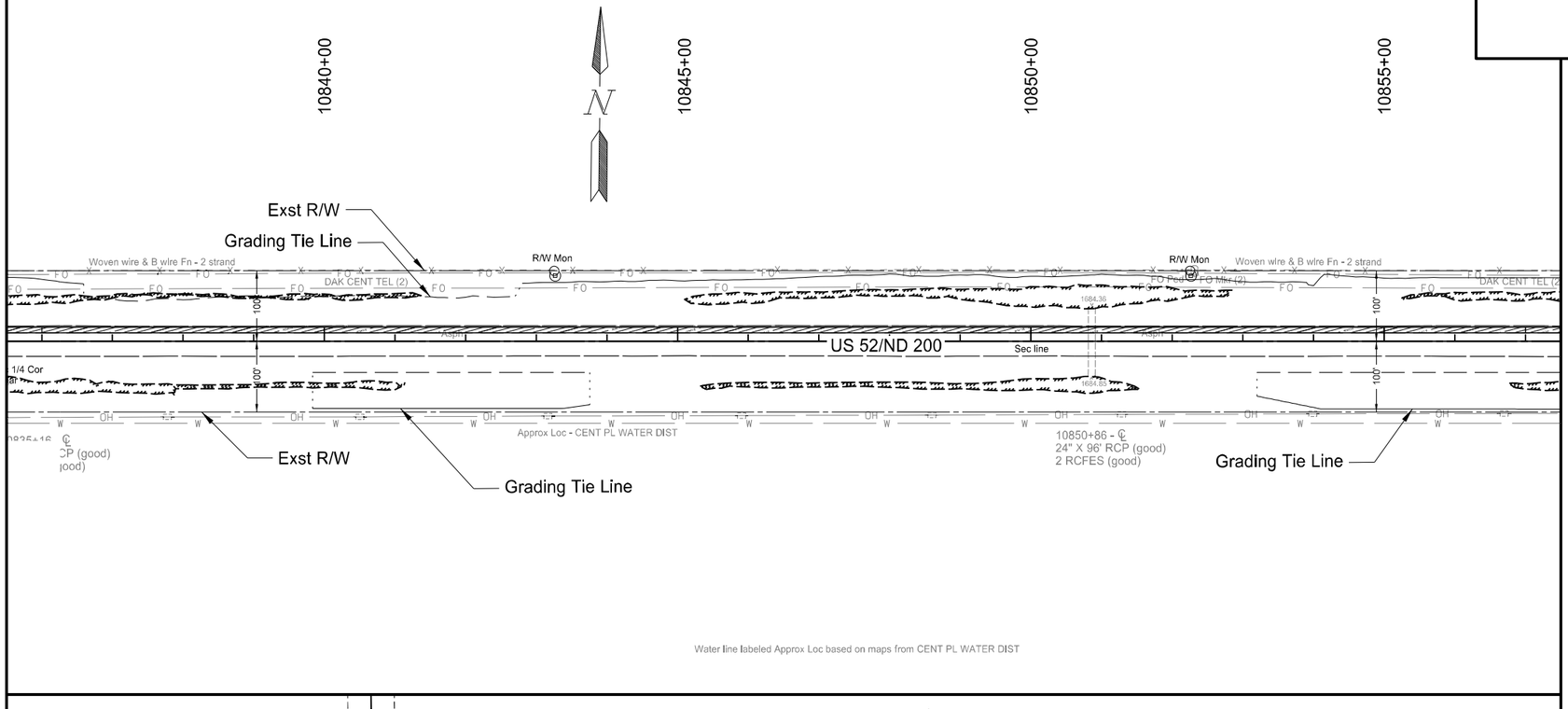
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

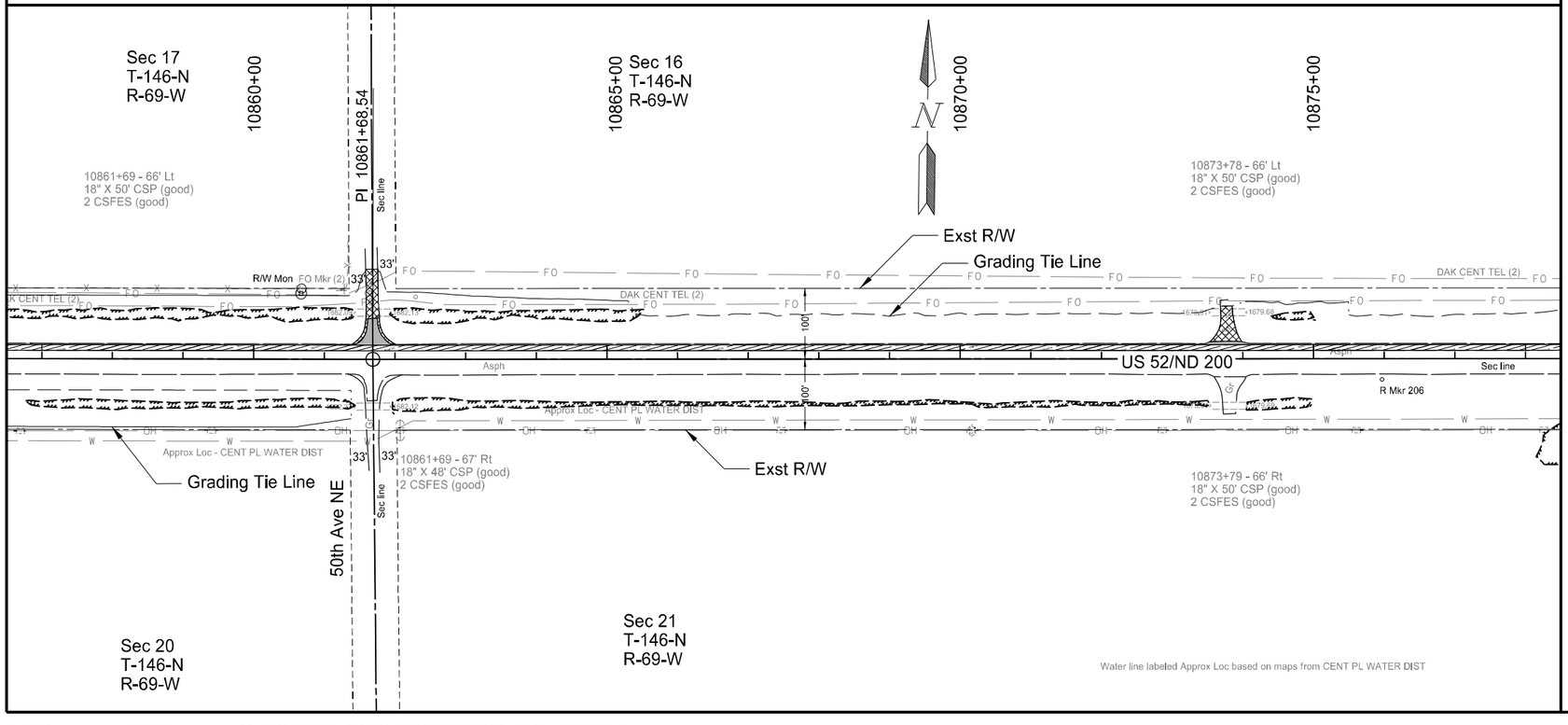
Removals

US 52
Fessenden to Carrington

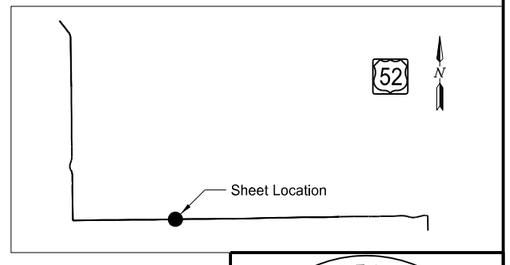
3/14/2022 1:48:25 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\040RM_013.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	40	14





SPEC	CODE	BID ITEM	QTY	UNIT
202	0021	Remove Aggregate Base & Surfacing		
		10836+00 to 10878+00		
		Aggregate Base	4060	TON
		Approach		
		10861+67	139	TON
		10873+77	66	TON
302	0410	Salvage & Relay Aggregate Base Course		
		10836+00 to 10878+00	0.80	MILE
411	0100	Milling Pavement Surface		
		10836+00 to 10878+00	948	TON



Legend

- Milling Pavement Surface & Salvage and Relay Aggregate Base
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)

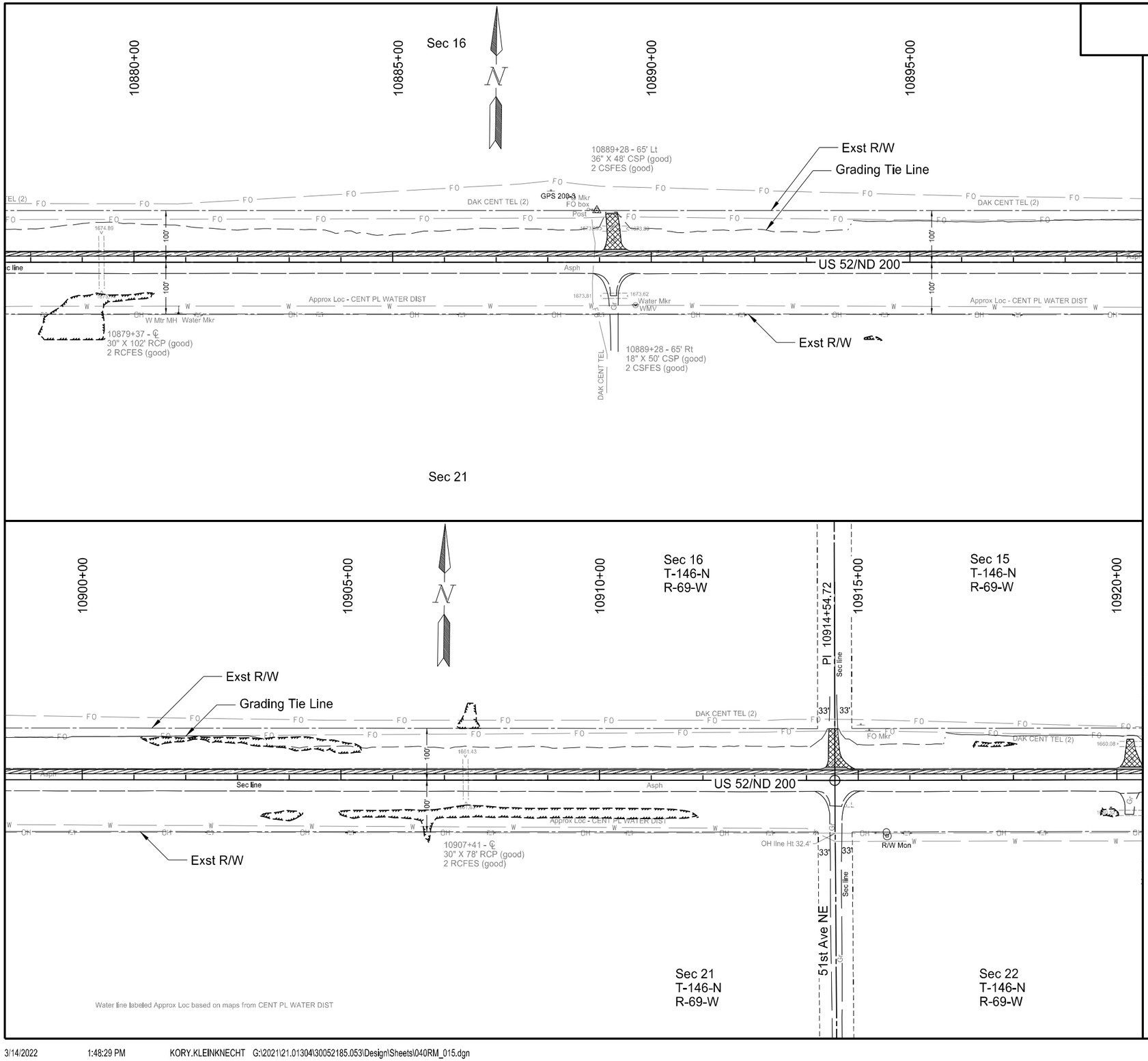
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

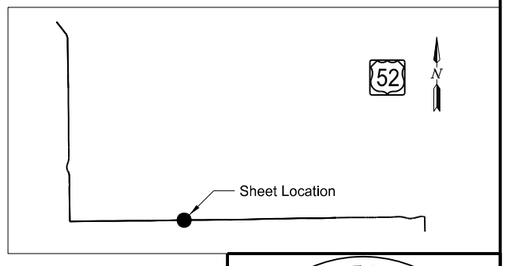
Removals

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	40	15

SPEC	CODE	BID ITEM	QTY	UNIT
202	0021	Remove Aggregate Base & Surfacing		
		10878+00 to 10920+00		
		Aggregate Base	4060	TON
		Approach		
		10889+23	90	TON
		10914+52	90	TON
302	0410	Salvage & Relay Aggregate Base Course		
		10878+00 to 10920+00	0.80	MILE
411	0100	Milling Pavement Surface		
		10878+00 to 10920+00	948	TON





Legend

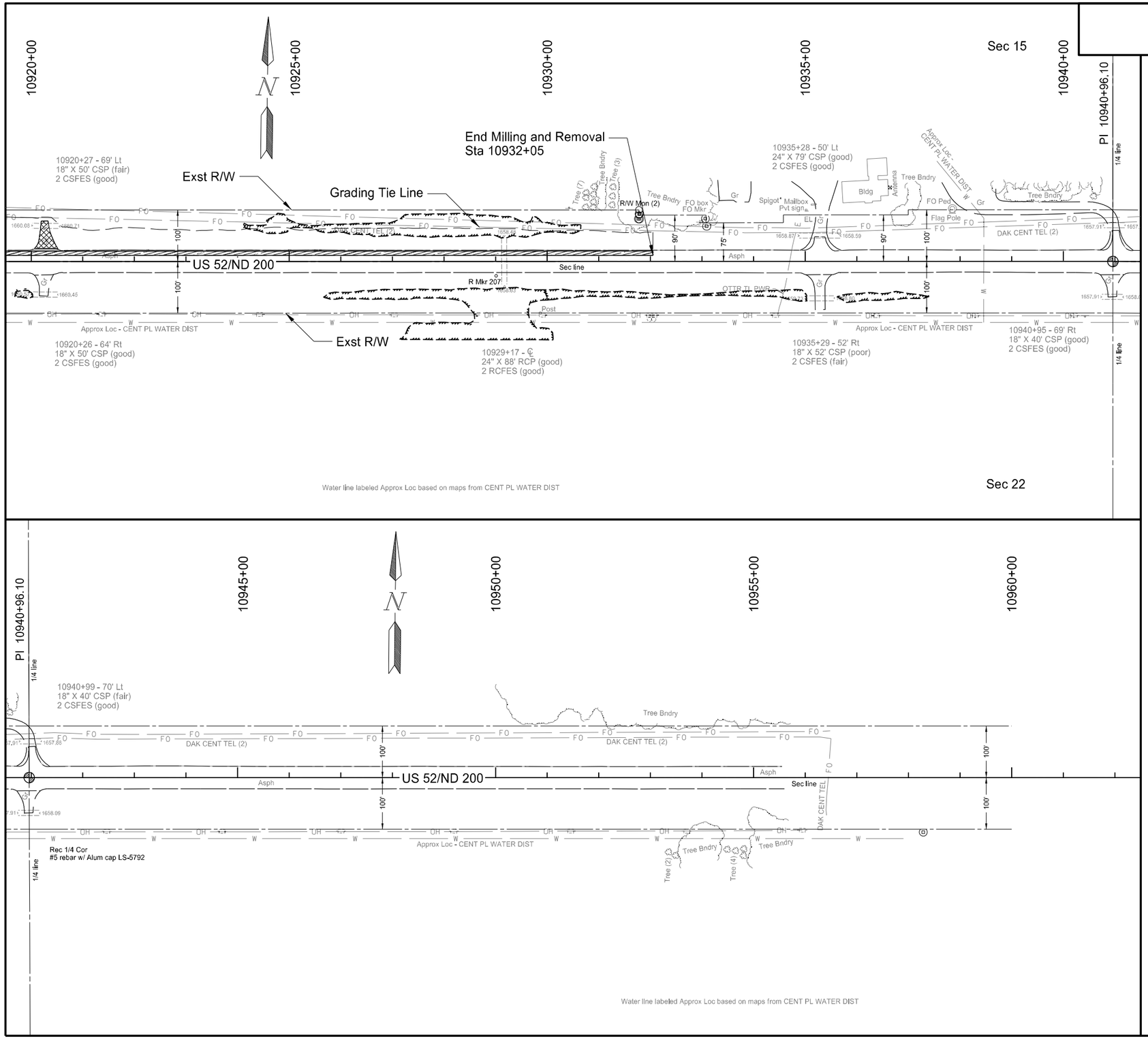
- Milling Pavement Surface & Salvage and Relay Aggregate Base
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

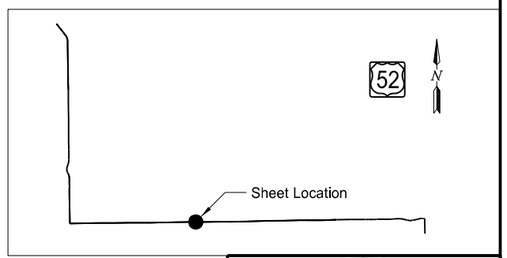
Removals

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	40	16



SPEC	CODE	BID ITEM	QTY	UNIT
202	0021	Remove Aggregate Base & Surfacing		
		10920+00 to 10932+05		
		Aggregate Base	1165	TON
		Approach		
		10920+26	71	TON
302	0410	Salvage & Relay Aggregate Base Course		
		10920+00 to 10932+05	0.23	MILE
411	0100	Milling Pavement Surface		
		10920+00 to 10932+05	272	TON



Legend

- Milling Pavement Surface & Salvage and Relay Aggregate Base
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

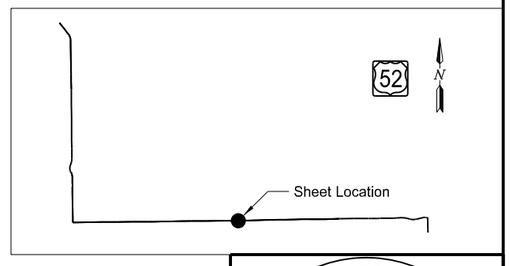
Removals

US 52
Fessenden to Carrington

3/14/2022 1:48:31 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\040RM_016.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	40	17

SPEC	CODE	BID ITEM	QTY	UNIT
202	0021	Remove Aggregate Base & Surfacing		
		11079+15 to 11104+00		
		Aggregate Base	2402	TON
		Approach		
		11085+90	119	TON
		11098+32	75	TON
302	0410	Salvage & Relay Aggregate Base Course		
		11079+15 to 11104+00	0.47	MILE
411	0100	Milling Pavement Surface		
		11079+15 to 11104+00	561	TON



Legend

- Milling Pavement Surface & Salvage and Relay Aggregate Base
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

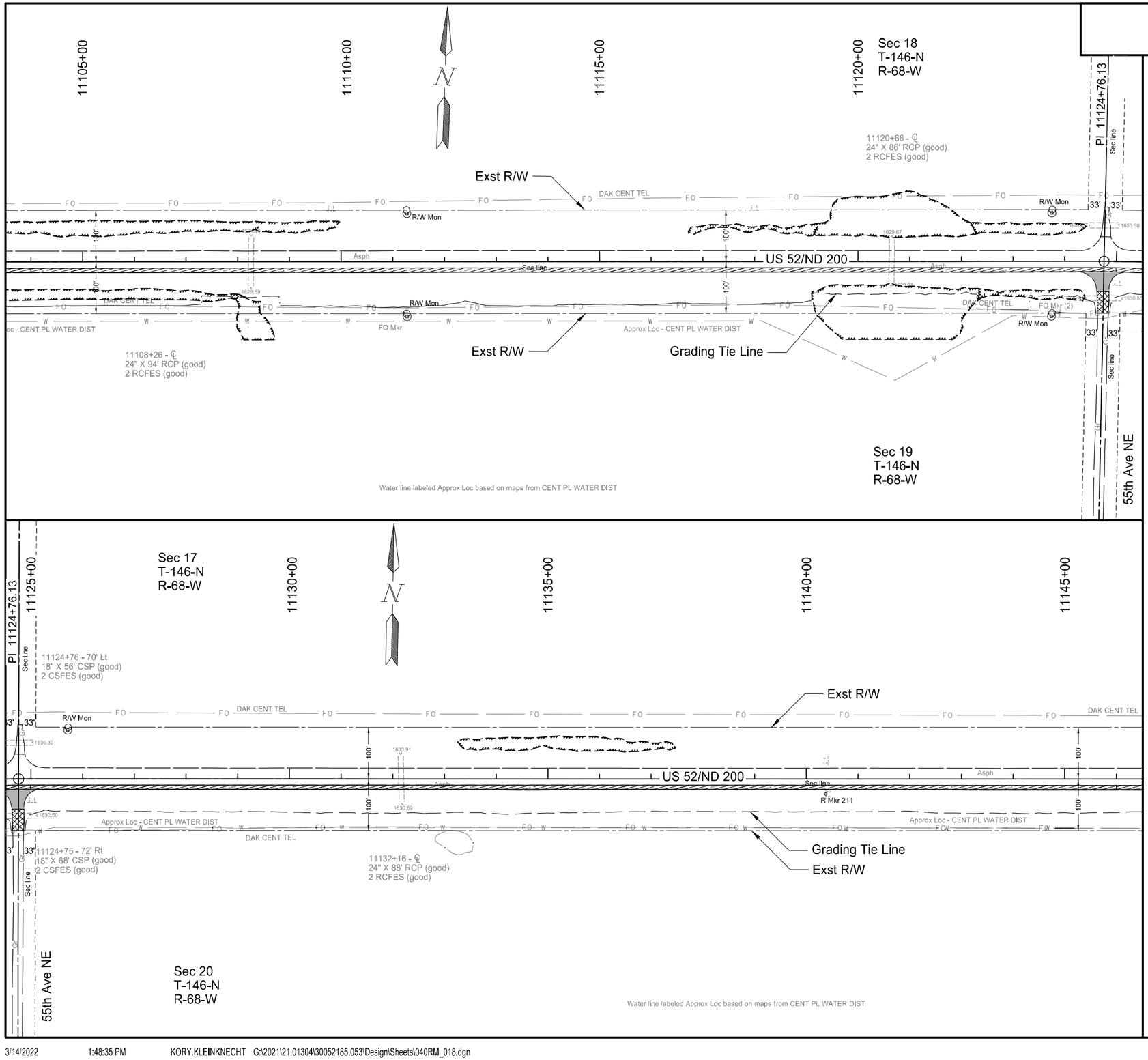
Removals

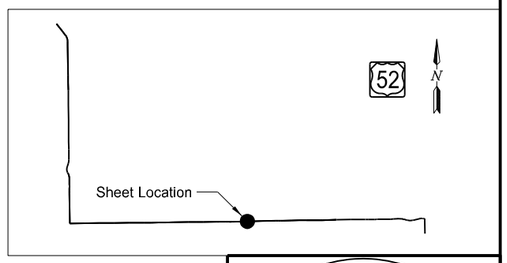
US 52
Fessenden to Carrington

3/14/2022 1:48:33 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\040RM_017.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	40	18

SPEC	CODE	BID ITEM	QTY	UNIT
202	0021	Remove Aggregate Base & Surfacing		
		11104+00 to 11146+00		
		Aggregate Base	4060	TON
		Approach		
		11124+74	170	TON
302	0410	Salvage & Relay Aggregate Base Course		
		11104+00 to 11146+00	0.80	MILE
411	0100	Milling Pavement Surface		
		11104+00 to 11146+00	948	TON





Legend

- Milling Pavement Surface & Salvage and Relay Aggregate Base
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)

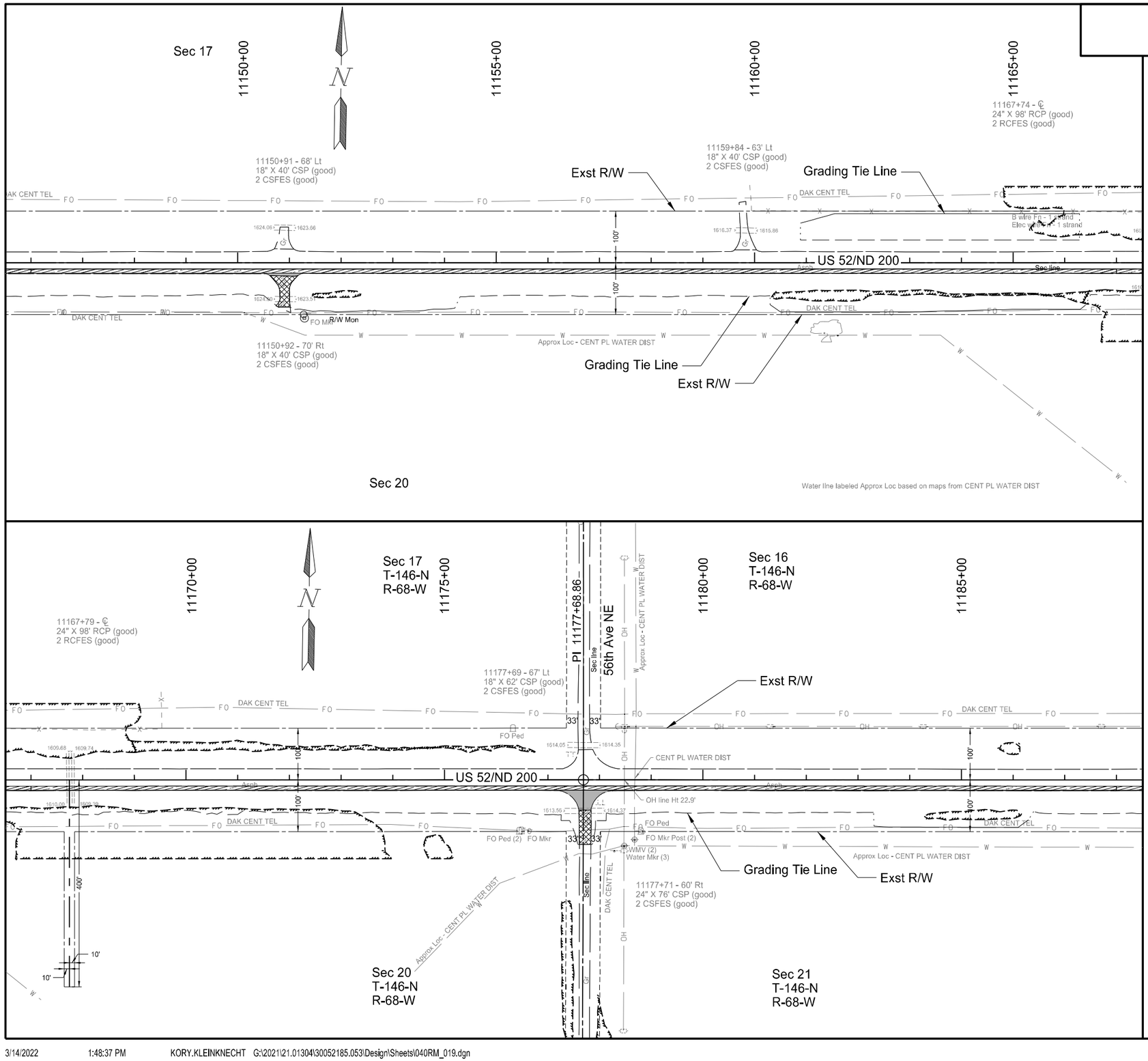
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

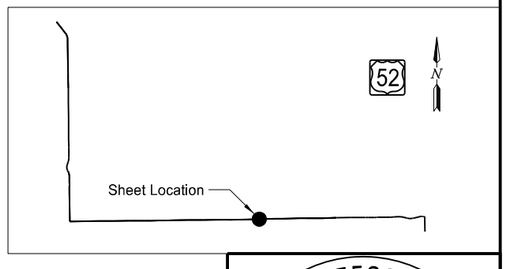
Removals

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	40	19

SPEC	CODE	BID ITEM	QTY	UNIT
202	0021	Remove Aggregate Base & Surfacing		
		11146+00 to 11188+00		
		Aggregate Base	4060	TON
		Approach		
		11150+90	84	TON
		11177+72	222	TON
302	0410	Salvage & Relay Aggregate Base Course		
		11146+00 to 11188+00	0.80	MILE
411	0100	Milling Pavement Surface		
		11146+00 to 11188+00	948	TON





Legend

- Milling Pavement Surface & Salvage and Relay Aggregate Base
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)

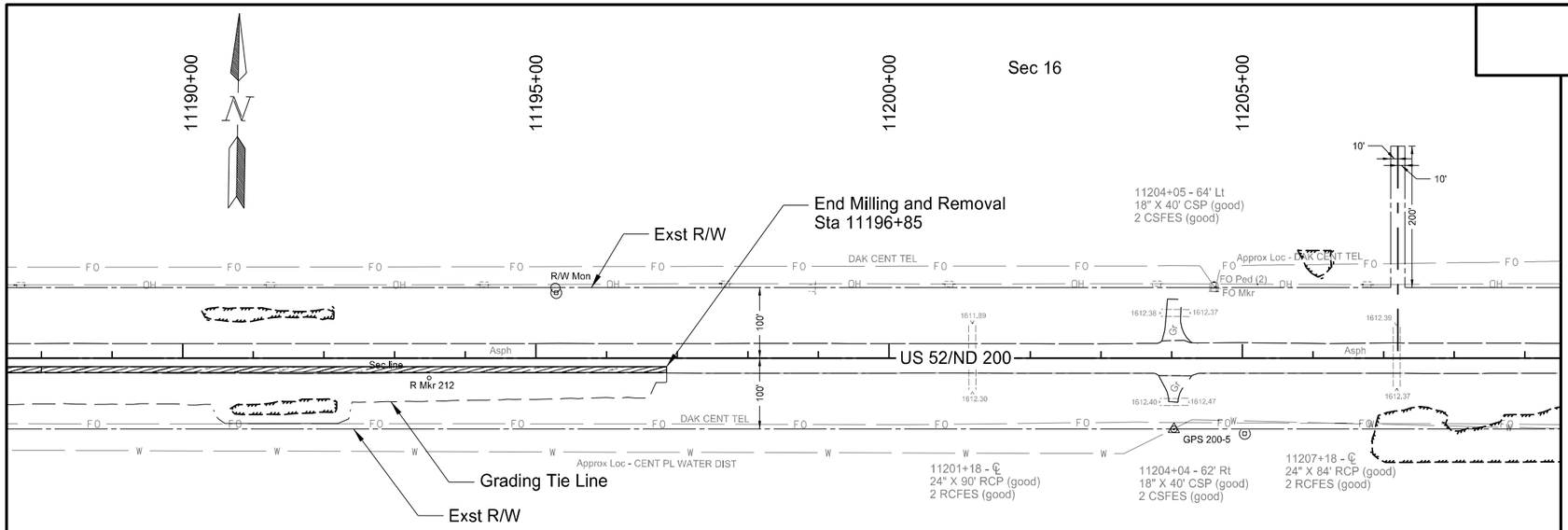
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Removals

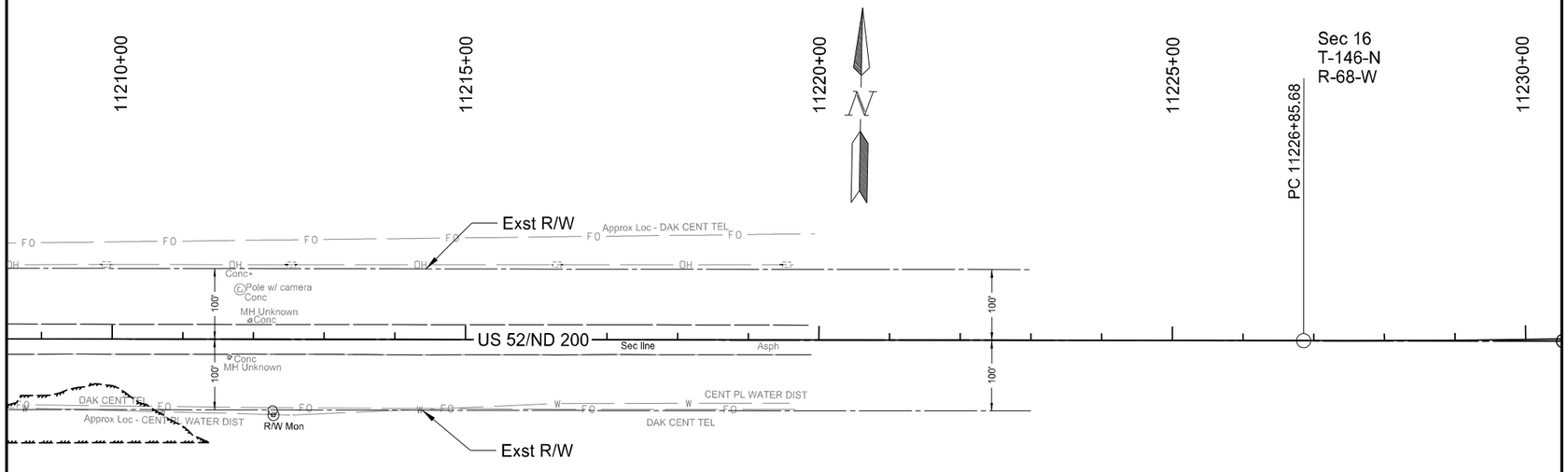
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	40	20

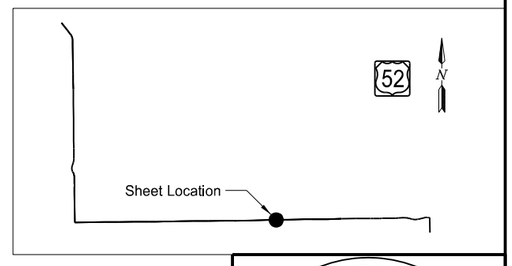
SPEC	CODE	BID ITEM	QTY	UNIT
202	0021	Remove Aggregate Base & Surfacing		
		11188+00 to 11196+85		
		Aggregate Base	856	TON
		Approach	0	TON
302	0410	Salvage & Relay Aggregate Base Course		
		11188+00 to 11196+85	0.17	MILE
411	0100	Milling Pavement Surface		
		11188+00 to 11196+85	200	TON



Water line labeled Approx Loc based on maps from CENT PL WATER DIST



Fiber optic line labeled Approx Loc based on information from DAK CENT TEL
Water line labeled Approx Loc based on maps from CENT PL WATER DIST



Legend

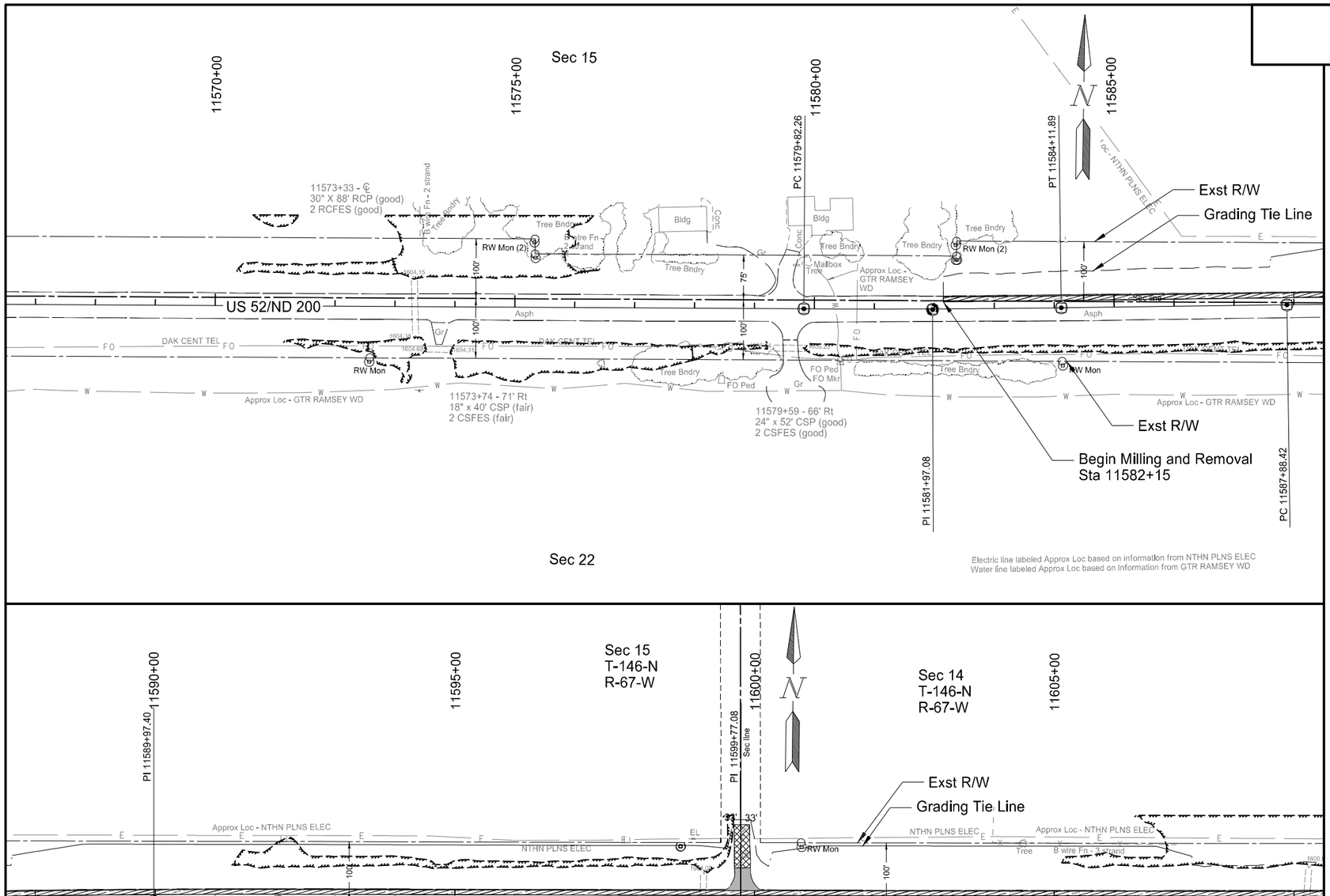
- Milling Pavement Surface & Salvage and Relay Aggregate Base
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

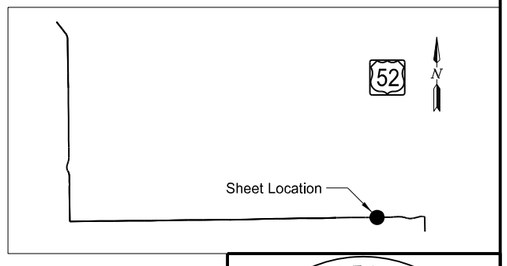
Removals

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	40	21



SPEC	CODE	BID ITEM	QTY	UNIT
202	0021	Remove Aggregate Base & Surfacing		
		11582+15 to 11609+00		
		Aggregate Base	2596	TON
		Approach		
		11599+78	190	TON
302	0410	Salvage & Relay Aggregate Base Course		
		11582+15 to 11609+00	0.51	MILE
411	0100	Milling Pavement Surface		
		11582+15 to 11609+00	606	TON



Legend

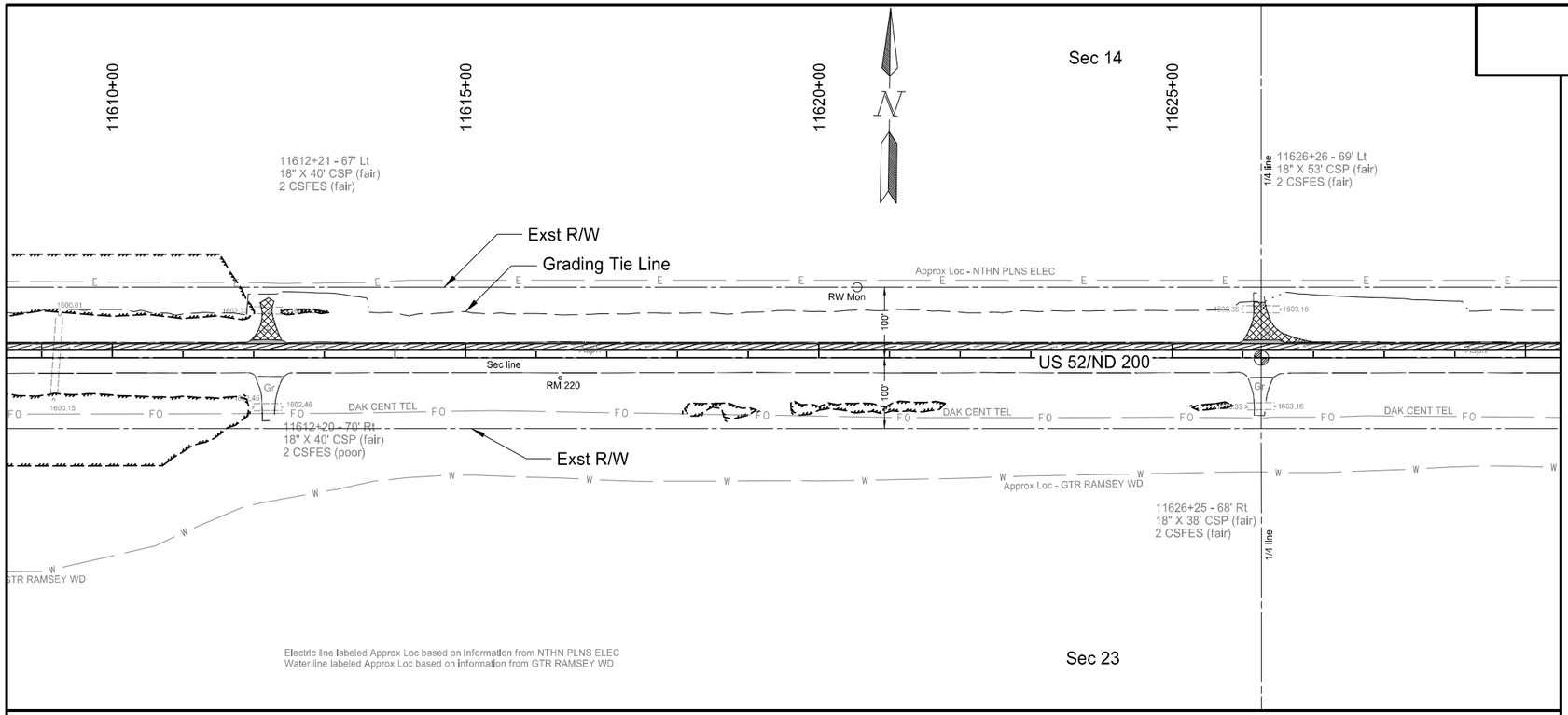
- Milling Pavement Surface & Salvage and Relay Aggregate Base
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)

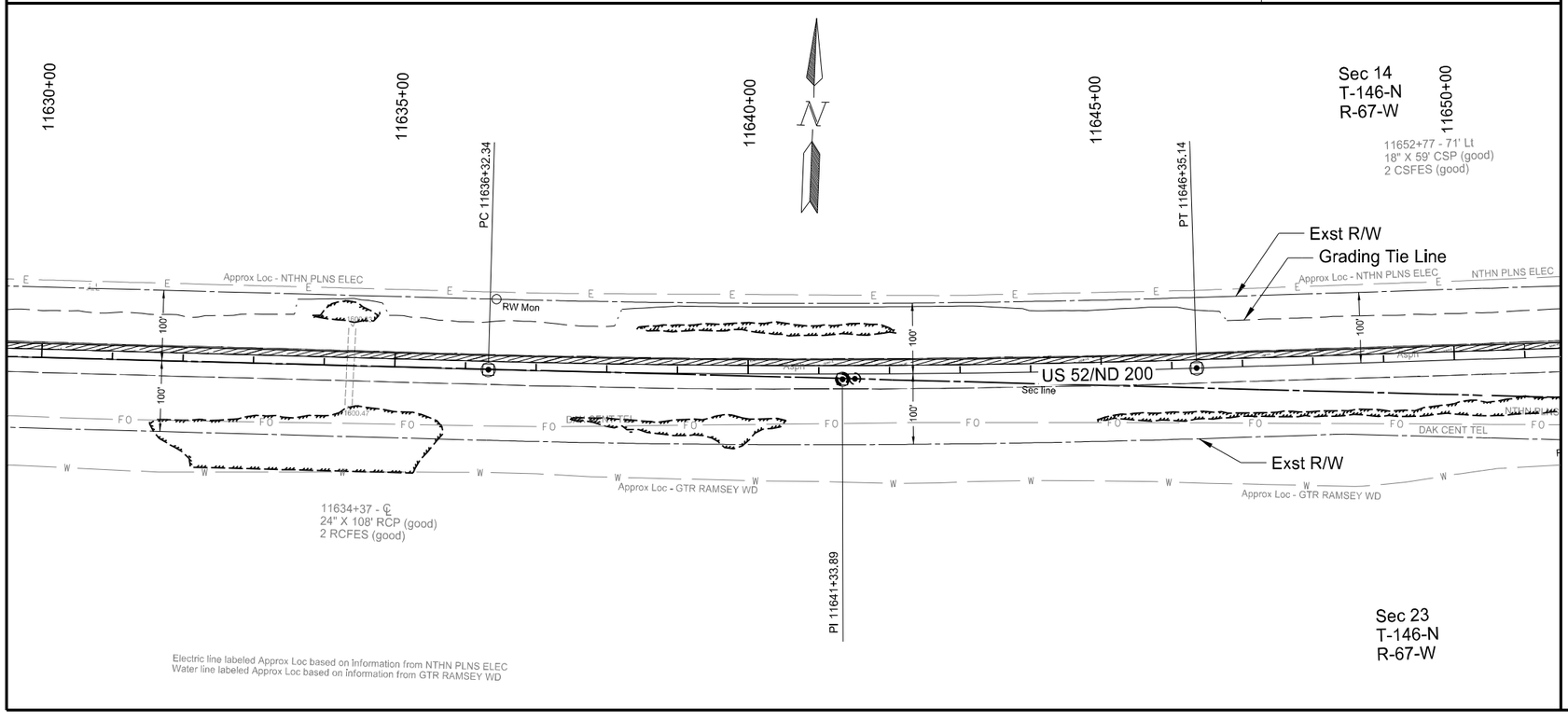
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Removals

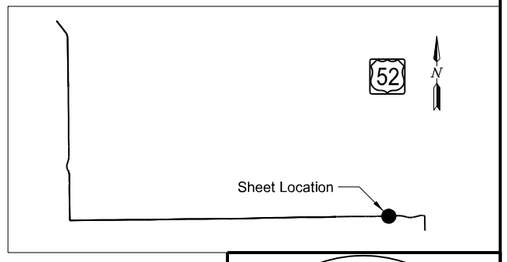
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	40	22





SPEC	CODE	BID ITEM	QTY	UNIT
202	0021	Remove Aggregate Base & Surfacing		
		11609+00 to 11651+00		
		Aggregate Base	4060	TON
		Approach		
		11612+21	70	TON
		11626+23	96	TON
302	0410	Salvage & Relay Aggregate Base Course		
		11609+00 to 11651+00	0.80	MILE
411	0100	Milling Pavement Surface		
		11609+00 to 11651+00	948	TON



Legend

- Milling Pavement Surface & Salvage and Relay Aggregate Base
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)

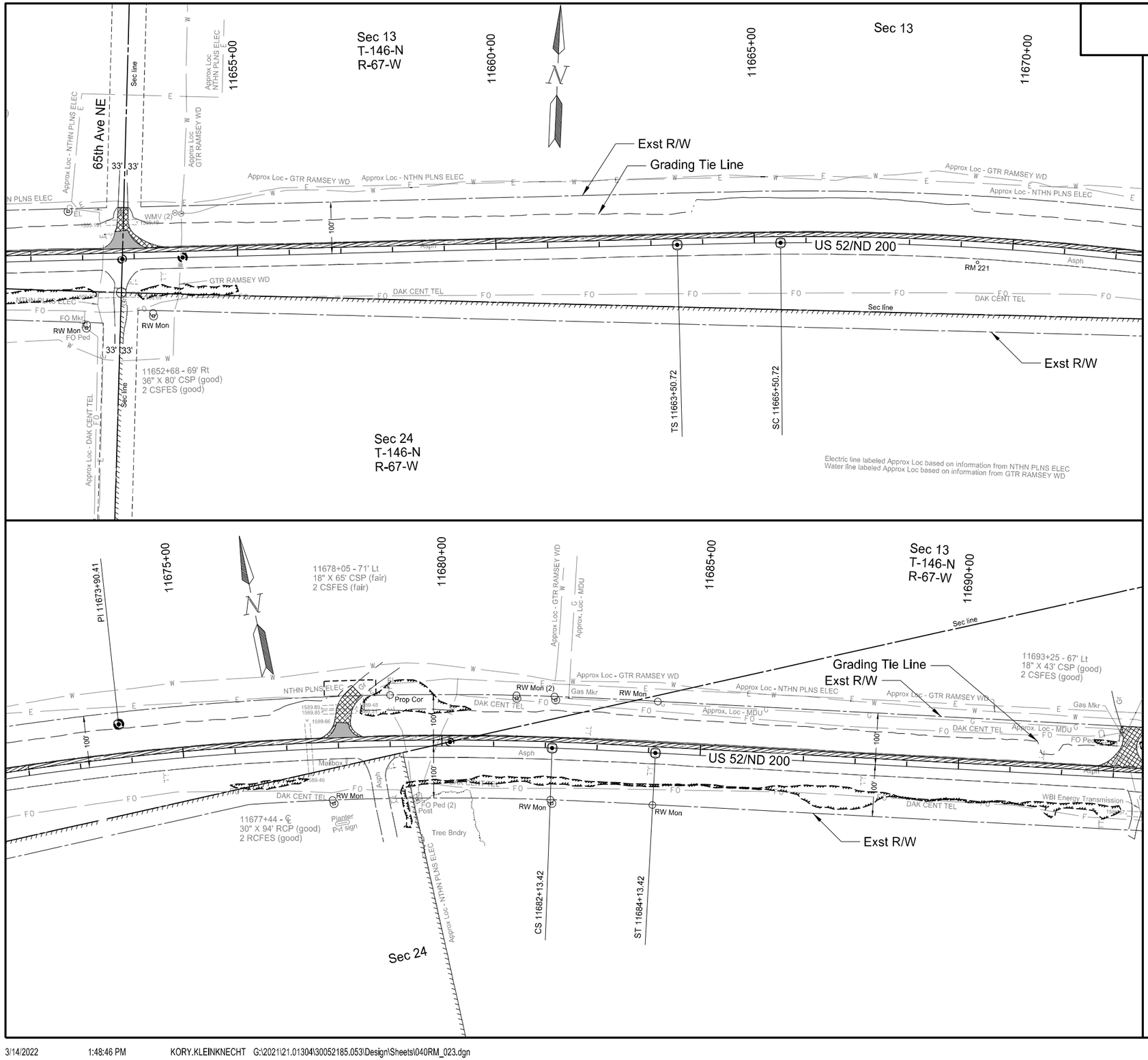
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

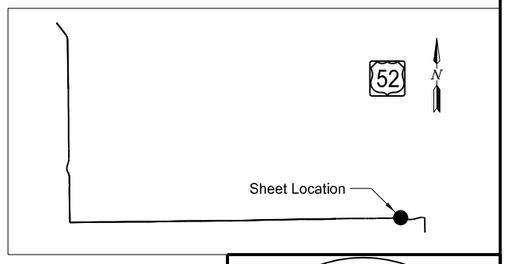
Removals

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	40	23

SPEC	CODE	BID ITEM	QTY	UNIT
202	0021	Remove Aggregate Base & Surfacing		
		11651+00 to 11693+00		
		Aggregate Base	4060	TON
		Approach		
		11652+81	204	TON
		1178+39	178	TON
302	0410	Salvage & Relay Aggregate Base Course		
		11651+00 to 11693+00	0.80	MILE
411	0100	Milling Pavement Surface		
		11651+00 to 11693+00	948	TON





Legend

- Milling Pavement Surface & Salvage and Relay Aggregate Base
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)

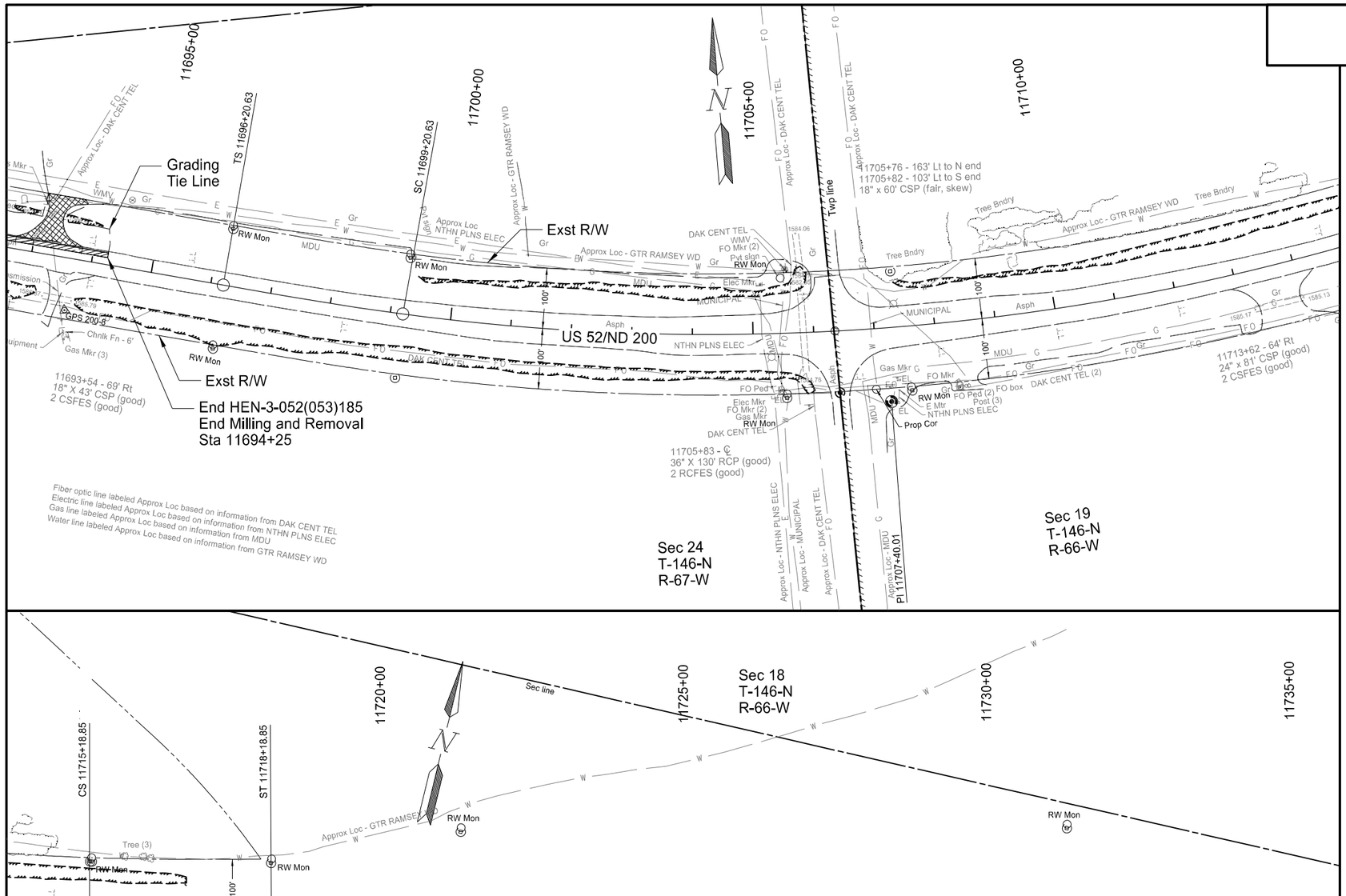
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

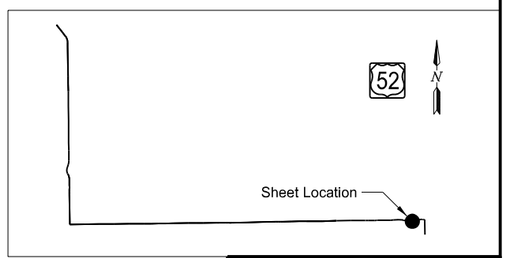
Removals

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	40	24

SPEC	CODE	BID ITEM	QTY	UNIT
202	0021	Remove Aggregate Base & Surfacing		
		11693+00 to 11694+25		
		Aggregate Base	121	TON
		Approach		
		11693+00	150	TON
302	0410	Salvage & Relay Aggregate Base Course		
		11693+00 to 11694+25	0.02	MILE
411	0100	Milling Pavement Surface		
		11693+00 to 11694+25	28	TON





Legend

- Milling Pavement Surface & Salvage and Relay Aggregate Base
- Remove Aggregate Base & Surfacing - Paved
- Remove Aggregate Base & Surfacing - Gravel
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Removals

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	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 R1 (Pay Item)	(*) End Sections		Applicable Backfill
													Begin	End	
				IN	Bid Item	LF		In	Type		In	SY	EA	EA	
9844+65.3	43.7' Rt	9844+65.2	62.2' Rt	24	Reinforced Concrete Pipe (Extension)	16	Reinforced Concrete Pipe - Class III (barrel length = 16 LF)	24						*Remove and Relay	Section 20 Sheet 4
9861+04.8	40.6' Rt	9861+04.6	59.1' Rt	24	Reinforced Concrete Pipe (Extension)	16	Reinforced Concrete Pipe - Class III (barrel length = 16 LF)	24						*Remove and Relay	Section 20 Sheet 4
9869+47.4	41.1' Rt	9869+47.4	59.6' Rt	24	Reinforced Concrete Pipe (Extension)	16	Reinforced Concrete Pipe - Class III (barrel length = 16 LF)	24						*Remove and Relay	Section 20 Sheet 4
9887+56.5	70.7' Rt	9887+60.5	70.7' Rt	18	Pipe Corr. Steel - Approach (Extension)	4	Corrugated Steel Pipe	18	Z, A, P	2	0.064		*Remove and Relay		Specification 714.04 A
9888+08.9	71.0' Rt	9888+10.9	71.0' Rt	18	Pipe Corr. Steel - Approach (Extension)	2	Corrugated Steel Pipe	18	Z, A, P	2	0.064			*Remove and Relay	Specification 714.04 A
9891+72.8	47.9' Rt	9891+72.8	66.8' Rt	36	Reinforced Concrete Pipe (Extension)	16	Reinforced Concrete Pipe - Class III (barrel length = 16 LF)	36						*Remove and Relay	Section 20 Sheet 4
9892+22.8	30.8' Rt	9892+23.0	57.0' Rt	48	Reinforced Concrete Pipe (Extension)	24	Reinforced Concrete Pipe - Class III (barrel length = 24 LF)	48						*Remove and Relay	Section 20 Sheet 4
9929+30.3	72.4' Rt	9929+34.3	72.5' Rt	18	Pipe Corr. Steel - Approach (Extension)	4	Corrugated Steel Pipe	18	Z, A, P	2	0.064		*Remove and Relay		Specification 714.04 A
9937+69.6	41.0' Rt	9937+69.6	59.5' Rt	24	Reinforced Concrete Pipe (Extension)	16	Reinforced Concrete Pipe - Class III (barrel length = 16 LF)	24						*Remove and Relay	Section 20 Sheet 4
9944+51.0	76.6' Rt	9944+55.0	76.6' Rt	18	Pipe Corr. Steel - Approach (Extension)	4	Corrugated Steel Pipe	18	Z, A, P	2	0.064		FES		Specification 714.04 A
9944+94.4	76.0' Rt	9944+98.4	76.0' Rt	18	Pipe Corr. Steel - Approach (Extension)	4	Corrugated Steel Pipe	18	Z, A, P	2	0.064			FES	Specification 714.04 A
10364+85.6	40.7' Lt	10364+85.6	63.6' Lt	36	Reinforced Concrete Pipe (Extension)	20	Reinforced Concrete Pipe - Class III (barrel length = 20 LF)	36						*Remove and Relay	Section 20 Sheet 4
10386+21.7	84.0' Lt	10386+28.7	83.8' Lt	18	Pipe Corr. Steel - Approach (Extension)	7	Corrugated Steel Pipe	18	Z, A, P	2	0.064		*Remove and Relay		Specification 714.04 A
10386+76.8	82.3' Lt	10386+81.8	82.1' Lt	18	Pipe Corr. Steel - Approach (Extension)	5	Corrugated Steel Pipe	18	Z, A, P	2	0.064			*Remove and Relay	Specification 714.04 A
10412+72.2	55.7' Lt	10412+72.2	75.4' Lt	30	Reinforced Concrete Pipe (Extension)	18	Reinforced Concrete Pipe - Class III (barrel length = 18 LF)	30						*Remove and Relay	Section 20 Sheet 4
10449+45.8	65.0' Lt	10449+45.8	75.0' Lt	30	Reinforced Concrete Pipe (Extension)	10	Reinforced Concrete Pipe - Class III (barrel length = 10 LF)	30						*Remove and Relay	Section 20 Sheet 4
10516+24.9	83.2' Rt	10516+26.9	83.2' Rt	24	Pipe Corr. Steel - Approach (Extension)	2	Corrugated Steel Pipe	24	Z, A, P	2	0.064		*Remove and Relay		Specification 714.04 A
10516+73.8	83.2' Rt	10516+75.8	83.2' Rt	24	Pipe Corr. Steel - Approach (Extension)	2	Corrugated Steel Pipe	24	Z, A, P	2	0.064			*Remove and Relay	Specification 714.04 A
10521+99.2	54.1' Rt	10521+99.3	79.0' Rt	42	Reinforced Concrete Pipe (Extension)	22	Reinforced Concrete Pipe - Class III (barrel length = 22 LF)	42						*Remove and Relay	Section 20 Sheet 4
10522+14.7	54.9' Rt	10522+14.6	79.8' Rt	42	Reinforced Concrete Pipe (Extension)	22	Reinforced Concrete Pipe - Class III (barrel length = 22 LF)	42						*Remove and Relay	Section 20 Sheet 4

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

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

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

(*) End sections are measured and paid for separately for pipe extensions.
FES = Flared End Section
TES = Traversable End Section

REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Allowable Pipe List

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	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 R1 (Pay Item)	(*) End Sections		Applicable Backfill
													Begin	End	
				IN	Bid Item	LF		In	Type		In	SY	EA	EA	
10544+54.9	69.5' Rt	10544+62.9	69.6' Rt	18	Pipe Corr. Steel - Approach (Extension)	8	Corrugated Steel Pipe	18	Z, A, P	2	0.064		*Remove and Relay		Specification 714.04 A
10545+25.9	70.0' Rt	10545+29.9	70.0' Rt	18	Pipe Corr. Steel - Approach (Extension)	4	Corrugated Steel Pipe	18	Z, A, P	2	0.064			*Remove and Relay	Specification 714.04 A
10556+42.6	42.7' Rt	10556+42.6	57.2' Rt	24	Reinforced Concrete Pipe (Extension)	12	Reinforced Concrete Pipe - Class III (barrel length = 12 LF)	24						*Remove and Relay	Section 20 Sheet 4
10568+48.9	48.8' Rt	10568+48.8	65.8' Rt	42	Reinforced Concrete Pipe (Extension)	14	Reinforced Concrete Pipe - Class III (barrel length = 14 LF)	42						*Remove and Relay	Section 20 Sheet 4
10571+08.4	83.4' Rt	10571+48.4	82.7' Rt	24	Pipe Conduit - Approach	40	Reinforced Concrete Pipe - Class III (barrel length = 34 LF)	24					FES	FES	Specification 714.04 A
							Corrugated Steel Pipe	24	Z, A, P	2	0.064				
							Spiral Rib Steel Pipe	24	Z, A, P	3/4, 1	0.064				
							High-Density Polyethylene (HDPE)	24							
							Polypropylene Pipe (AASHTO M330, Type S)	24							
10580+53.8	48.4' Rt	10580+53.8	58.9' Rt	24	Reinforced Concrete Pipe (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8 LF)	24						*Remove and Relay	Section 20 Sheet 4
10597+39.6	69.6' Rt	10598+15.0	70.4' Rt	24	Pipe Conduit - Approach	75	Reinforced Concrete Pipe - Class III (barrel length = 70 LF)	24					FES	FES	Specification 714.04 A
							Corrugated Steel Pipe	24	Z, A, P	2	0.064				
							Spiral Rib Steel Pipe	24	Z, A, P	3/4, 1	0.064				
							High-Density Polyethylene (HDPE)	24							
							Polypropylene Pipe (AASHTO M330, Type S)	24							
10604+07.6	69.2' Rt	10604+08.3	82.4' Rt	60	Reinforced Concrete Pipe (Extension)	10	Reinforced Concrete Pipe - Class III (barrel length = 10 LF)	60						*Remove and Relay	Section 20 Sheet 4
10604+19.8	68.8' Rt	10604+20.3	82.0' Rt	60	Reinforced Concrete Pipe (Extension)	10	Reinforced Concrete Pipe - Class III (barrel length = 10 LF)	60						*Remove and Relay	Section 20 Sheet 4
10604+34.3	68.0' Rt	10604+34.8	81.2' Rt	60	Reinforced Concrete Pipe (Extension)	10	Reinforced Concrete Pipe - Class III (barrel length = 10 LF)	60						*Remove and Relay	Section 20 Sheet 4
10604+48.0	67.8' Rt	10604+48.6	81.0' Rt	60	Reinforced Concrete Pipe (Extension)	10	Reinforced Concrete Pipe - Class III (barrel length = 10 LF)	60						*Remove and Relay	Section 20 Sheet 4
10614+22.8	69.0' Rt	10614+38.8	69.0' Rt	18	Pipe Corr. Steel - Approach (Extension)	16	Corrugated Steel Pipe	18	Z, A, P	2	0.064		*Remove and Relay		Specification 714.04 A
10614+97.7	68.9' Rt	10615+01.7	68.8' Rt	18	Pipe Corr. Steel - Approach (Extension)	4	Corrugated Steel Pipe	18	Z, A, P	2	0.064			*Remove and Relay	Specification 714.04 A
10832+55.2	76.0' Lt	10832+91.1	78.0' Lt	24	Pipe Conduit - Approach	36	Reinforced Concrete Pipe - Class III (barrel length = 30 LF)	24					FES	FES	Specification 714.04 A
							Corrugated Steel Pipe	24	Z, A, P	2	0.064				
							Spiral Rib Steel Pipe	24	Z, A, P	3/4, 1	0.064				
							High-Density Polyethylene (HDPE)	24							
							Polypropylene Pipe (AASHTO M330, Type S)	24							

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

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

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

(*) End sections are measured and paid for separately for pipe extensions.
FES = Flared End Section
TES = Traversable End Section

REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Allowable Pipe List

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	51	3

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 R1 (Pay Item)	(*) End Sections		Applicable Backfill
													Begin	End	
				IN	Bid Item	LF		In	Type		In	SY	EA	EA	
10835+15.6	59.7' Lt	10835+15.8	47.2' Lt	24	Reinforced Concrete Pipe (Extension)	10	Reinforced Concrete Pipe - Class III (barrel length = 10 LF)	24					*Remove and Relay		Section 20 Sheet 4
10850+86.3	60.8' Lt	10850+86.3	48.3' Lt	24	Reinforced Concrete Pipe (Extension)	10	Reinforced Concrete Pipe - Class III (barrel length = 10 LF)	24					*Remove and Relay		Section 20 Sheet 4
10861+38.8	77.9' Lt	10861+97.0	78.1' Lt	24	Pipe Conduit - Approach	58	Reinforced Concrete Pipe - Class III (barrel length = 52 LF)	24					FES	FES	Specification 714.04 A
							Corrugated Steel Pipe	24	Z, A, P	2	0.064				
							Spiral Rib Steel Pipe	24	Z, A, P	3/4, 1	0.064				
							High-Density Polyethylene (HDPE)	24							
							Polypropylene Pipe (AASHTO M330, Type S)	24							
10873+48.2	65.9' Lt	10873+53.2	65.9' Lt	18	Pipe Corr. Steel - Approach (Extension)	5	Corrugated Steel Pipe	18	Z, A, P	2	0.064		*Remove and Relay		Specification 714.04 A
10874+03.6	66.0' Lt	10874+11.6	66.0' Lt	18	Pipe Corr. Steel - Approach (Extension)	8	Corrugated Steel Pipe	18	Z, A, P	2	0.064			*Remove and Relay	Specification 714.04 A
10879+36.5	68.9' Lt	10879+36.7	51.2' Lt	30	Reinforced Concrete Pipe (Extension)	16	Reinforced Concrete Pipe - Class III (barrel length = 16 LF)	30					*Remove and Relay		Section 20 Sheet 4
10907+40.4	56.3' Lt	10907+40.6	40.6' Lt	30	Reinforced Concrete Pipe (Extension)	14	Reinforced Concrete Pipe - Class III (barrel length = 14 LF)	30					*Remove and Relay		Section 20 Sheet 4
10919+98.2	69.3' Lt	10920+02.2	69.3' Lt	18	Pipe Corr. Steel - Approach (Extension)	4	Corrugated Steel Pipe	18	Z, A, P	2	0.064		*Remove and Relay		Specification 714.04 A
10929+16.4	57.5' Lt	10929+16.4	45.0' Lt	24	Reinforced Concrete Pipe (Extension)	10	Reinforced Concrete Pipe - Class III (barrel length = 10 LF)	24					*Remove and Relay		Section 20 Sheet 4
11081+11.5	41.9' Rt	11081+11.3	50.4' Rt	24	Reinforced Concrete Pipe (Extension)	6	Reinforced Concrete Pipe - Class III (barrel length = 6 LF)	24						*Remove and Relay	Section 20 Sheet 4
11085+61.1	69.2' Rt	11085+64.1	69.2' Rt	18	Pipe Corr. Steel - Approach (Extension)	3	Corrugated Steel Pipe	18	Z, A, P	2	0.064		*Remove and Relay		Specification 714.04 A
11086+14.8	68.9' Rt	11086+19.8	68.9' Rt	18	Pipe Corr. Steel - Approach (Extension)	5	Corrugated Steel Pipe	18	Z, A, P	2	0.064			*Remove and Relay	Specification 714.04 A
11098+08.8	75.0' Rt	11098+52.8	75.0' Rt	18	Pipe Conduit - Approach	44	Reinforced Concrete Pipe - Class III (barrel length = 36 LF)	18					FES	FES	Specification 714.04 A
							Corrugated Steel Pipe	18	Z, A, P	2	0.064				
							Spiral Rib Steel Pipe	18	Z, A, P	3/4, 1	0.064				
							High-Density Polyethylene (HDPE)	18							
							Polypropylene Pipe (AASHTO M330, Type S)	18							
11108+25.4	47.2' Rt	11108+25.2	59.7' Rt	24	Reinforced Concrete Pipe (Extension)	10	Reinforced Concrete Pipe - Class III (barrel length = 10 LF)	24						*Remove and Relay	Section 20 Sheet 4
11120+64.7	42.4' Rt	11120+64.5	56.9' Rt	24	Reinforced Concrete Pipe (Extension)	12	Reinforced Concrete Pipe - Class III (barrel length = 12 LF)	24						*Remove and Relay	Section 20 Sheet 4
11124+34.6	71.7' Rt	11124+40.6	71.7' Rt	18	Pipe Corr. Steel - Approach (Extension)	6	Corrugated Steel Pipe	18	Z, A, P	2	0.064		*Remove and Relay		Specification 714.04 A

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

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

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

(*) End sections are measured and paid for separately for pipe extensions.
FES = Flared End Section
TES = Traversable End Section

REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Allowable Pipe List

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	51	4

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 R1 (Pay Item)	(*) End Sections		Applicable Backfill
													Begin	End	
				IN	Bid Item	LF		In	Type		In	SY	EA	EA	
11125+10.8	71.0' Rt	11125+12.8	71.0' Rt	18	Pipe Corr. Steel - Approach (Extension)	2	Corrugated Steel Pipe	18	Z, A, P	2	0.064			*Remove and Relay	Specification 714.04 A
11132+17.4	44.2' Rt	11132+17.7	56.7' Rt	24	Reinforced Concrete Pipe (Extension)	10	Reinforced Concrete Pipe - Class III (barrel length = 10 LF)	24						*Remove and Relay	Section 20 Sheet 4
11150+66.3	70.1' Rt	11150+72.2	70.2' Rt	18	Pipe Corr. Steel - Approach (Extension)	6	Corrugated Steel Pipe	18	Z, A, P	2	0.064		*Remove and Relay		Specification 714.04 A
11151+12.7	70.4' Rt	11151+18.7	70.5' Rt	18	Pipe Corr. Steel - Approach (Extension)	6	Corrugated Steel Pipe	18	Z, A, P	2	0.064			*Remove and Relay	Specification 714.04 A
11167+75.0	47.4' Rt	11167+75.1	57.9' Rt	24	Reinforced Concrete Pipe (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8 LF)	24						*Remove and Relay	Section 20 Sheet 4
11167+79.2	46.4' Rt	11167+79.3	56.9' Rt	24	Reinforced Concrete Pipe (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8 LF)	24						*Remove and Relay	Section 20 Sheet 4
11177+39.0	70.0' Rt	11178+03.0	70.0' Rt	24	Pipe Conduit - Approach	64	Reinforced Concrete Pipe - Class III (barrel length = 58 LF)	24					FES	FES	Specification 714.04 A
							Corrugated Steel Pipe	24	Z, A, P	2	0.064				
							Spiral Rib Steel Pipe	24	Z, A, P	3/4, 1	0.064				
							High-Density Polyethylene (HDPE)	24							
							Polypropylene Pipe (AASHTO M330, Type S)	24							
11599+15.3	60.4' Lt	11599+15.0	56.0' Lt	24	Reinforced Concrete Pipe (Extension)	12	Reinforced Concrete Pipe - Class III (barrel length = 12 LF)	24					*Remove and Relay		Section 20 Sheet 4
11609+25.2	65.1' Lt	11609+24.7	56.7' Lt	24	Reinforced Concrete Pipe (Extension)	6	Reinforced Concrete Pipe - Class III (barrel length = 6 LF)	24					*Remove and Relay		Section 20 Sheet 4
11612+01.2	75.3' Lt	11612+41.2	74.6' Lt	18	Pipe Conduit - Approach	40	Reinforced Concrete Pipe - Class III (barrel length = 32 LF)	18					FES	FES	Specification 714.04 A
							Corrugated Steel Pipe	18	Z, A, P	2	0.064				
							Spiral Rib Steel Pipe	18	Z, A, P	3/4, 1	0.064				
							High-Density Polyethylene (HDPE)	18							
							Polypropylene Pipe (AASHTO M330, Type S)	18							
11626+00.3	75.0' Lt	11626+53.3	75.0' Lt	18	Pipe Conduit - Approach	53	Reinforced Concrete Pipe - Class III (barrel length = 46 LF)	18					FES	FES	Specification 714.04 A
							Corrugated Steel Pipe	18	Z, A, P	2	0.064				
							Spiral Rib Steel Pipe	18	Z, A, P	3/4, 1	0.064				
							High-Density Polyethylene (HDPE)	18							
							Polypropylene Pipe (AASHTO M330, Type S)	18							
11634+38.6	66.2' Lt	11634+38.3	53.7' Lt	24	Reinforced Concrete Pipe (Extension)	10	Reinforced Concrete Pipe - Class III (barrel length = 10 LF)	24					*Remove and Relay		Section 20 Sheet 4
11652+41.5	70.9' Lt	11652+47.5	70.9' Lt	18	Pipe Corr. Steel - Approach (Extension)	6	Corrugated Steel Pipe	18	Z, A, P	2	0.064		*Remove and Relay		Specification 714.04 A
11653+06.5	70.5' Lt	11653+18.5	70.4' Lt	18	Pipe Corr. Steel - Approach (Extension)	12	Corrugated Steel Pipe	18	Z, A, P	2	0.064			*Remove and Relay	Specification 714.04 A

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

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

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

(*) End sections are measured and paid for separately for pipe extensions.
FES = Flared End Section
TES = Traversable End Section

REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Allowable Pipe List

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	51	5

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 R1 (Pay Item)	(*) End Sections		Applicable Backfill
													Begin	End	
				IN	Bid Item	LF		In	Type		In	SY	EA	EA	
11677+41.6	67.7' Lt	11677+42.1	50.1' Lt	30	Reinforced Concrete Pipe (Extension)	16	Reinforced Concrete Pipe - Class III (barrel length = 16 LF)	30					*Remove and Relay		Section 20 Sheet 4
11677+75.0	74.9' Lt	11678+46.0	74.2' Lt	24	Pipe Conduit - Approach	72	Reinforced Concrete Pipe - Class III (barrel length = 66 LF)	24					FES	FES	Specification 714.04 A
							Corrugated Steel Pipe	24	Z, A, P	2	0.064				
							Spiral Rib Steel Pipe	24	Z, A, P	3/4, 1	0.064				
							High-Density Polyethylene (HDPE)	24							
							Polypropylene Pipe (AASHTO M330, Type S)	24							
11677+78.0	82.7' Lt	11678+49.0	82.1' Lt	24	Pipe Conduit - Approach	72	Reinforced Concrete Pipe - Class III (barrel length = 66 LF)	24					FES	FES	Specification 714.04 A
							Corrugated Steel Pipe	24	Z, A, P	2	0.064				
							Spiral Rib Steel Pipe	24	Z, A, P	3/4, 1	0.064				
							High-Density Polyethylene (HDPE)	24							
							Polypropylene Pipe (AASHTO M330, Type S)	24							

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

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

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

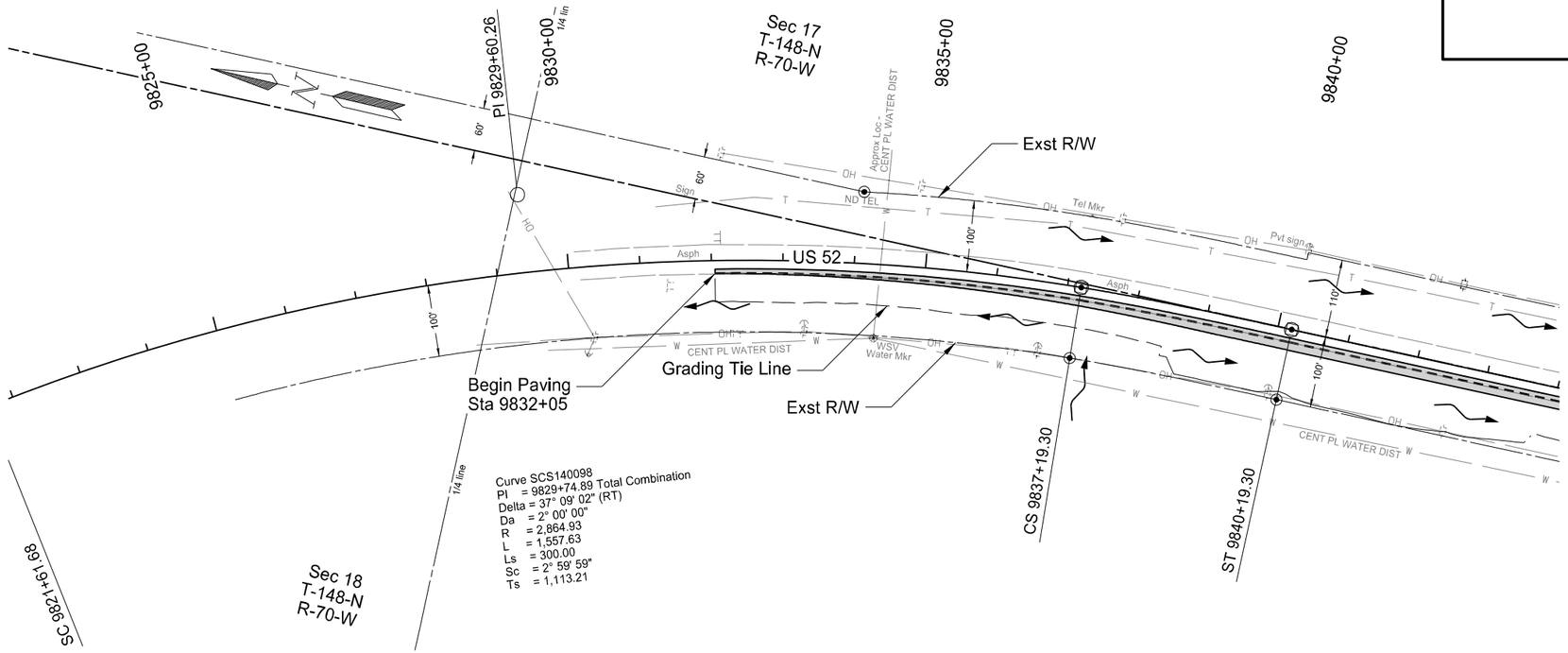
(*) End sections are measured and paid for separately for pipe extensions.
FES = Flared End Section
TES = Traversable End Section

REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

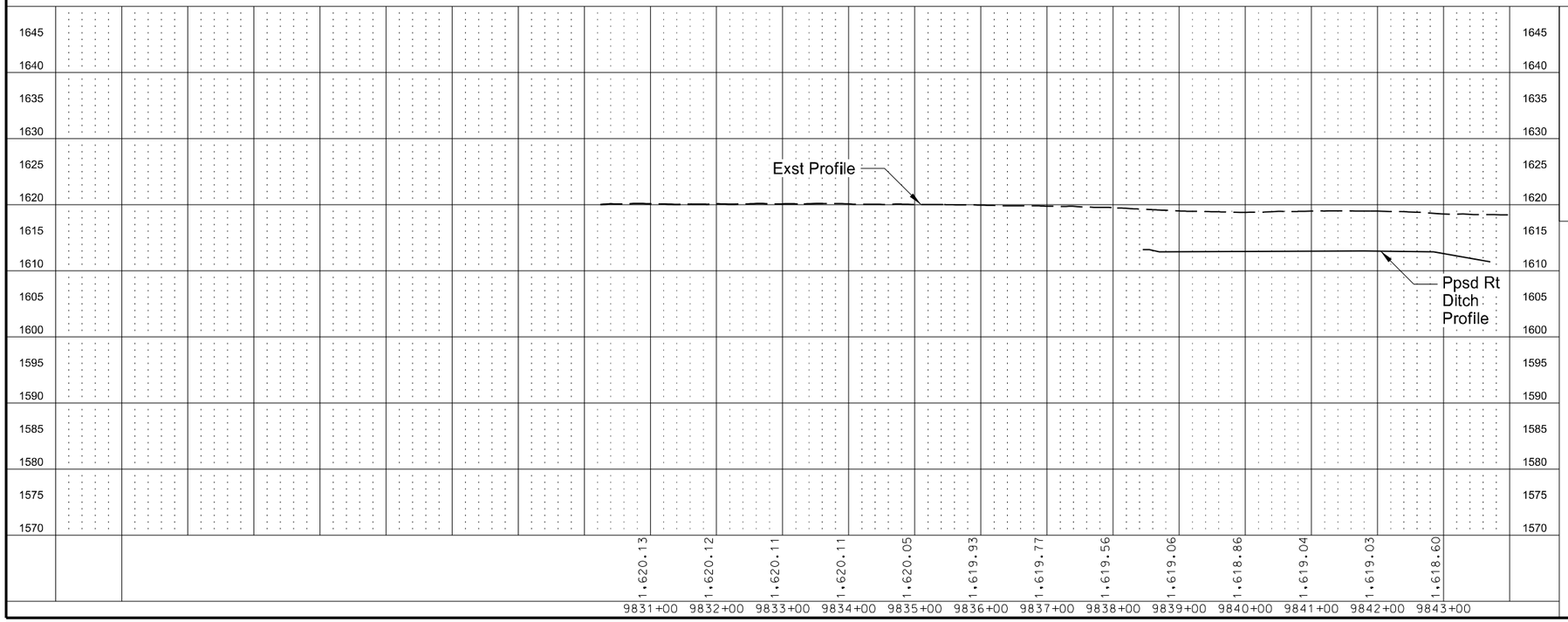
Allowable Pipe List

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	60	1

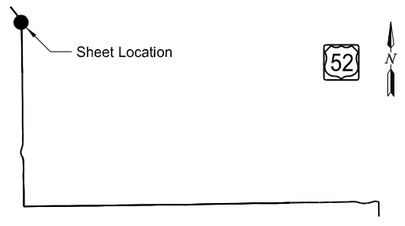


Water line labeled Approx Loc based on information from CENT PL WATER DIST



Legend

Surfacing Improvements



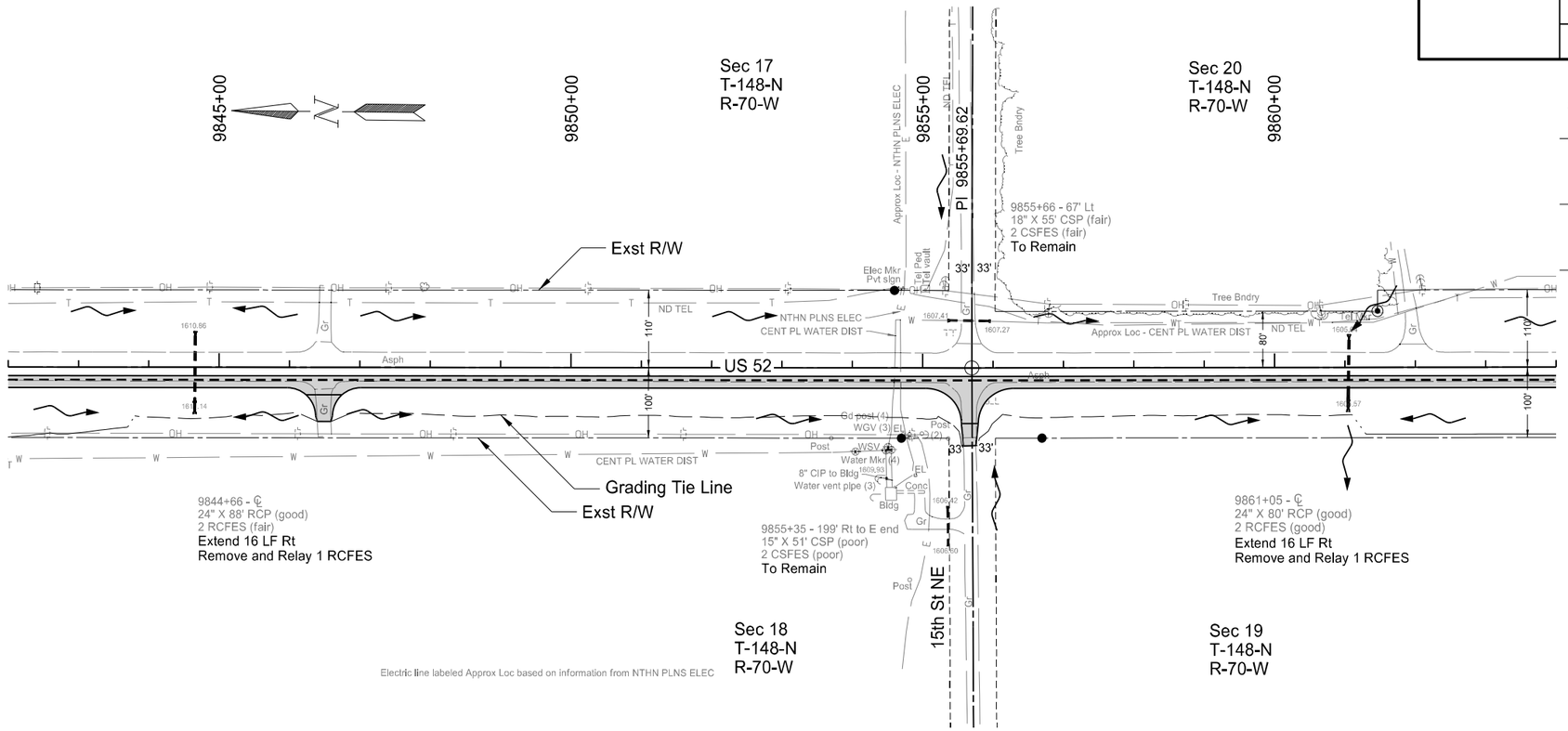
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	2

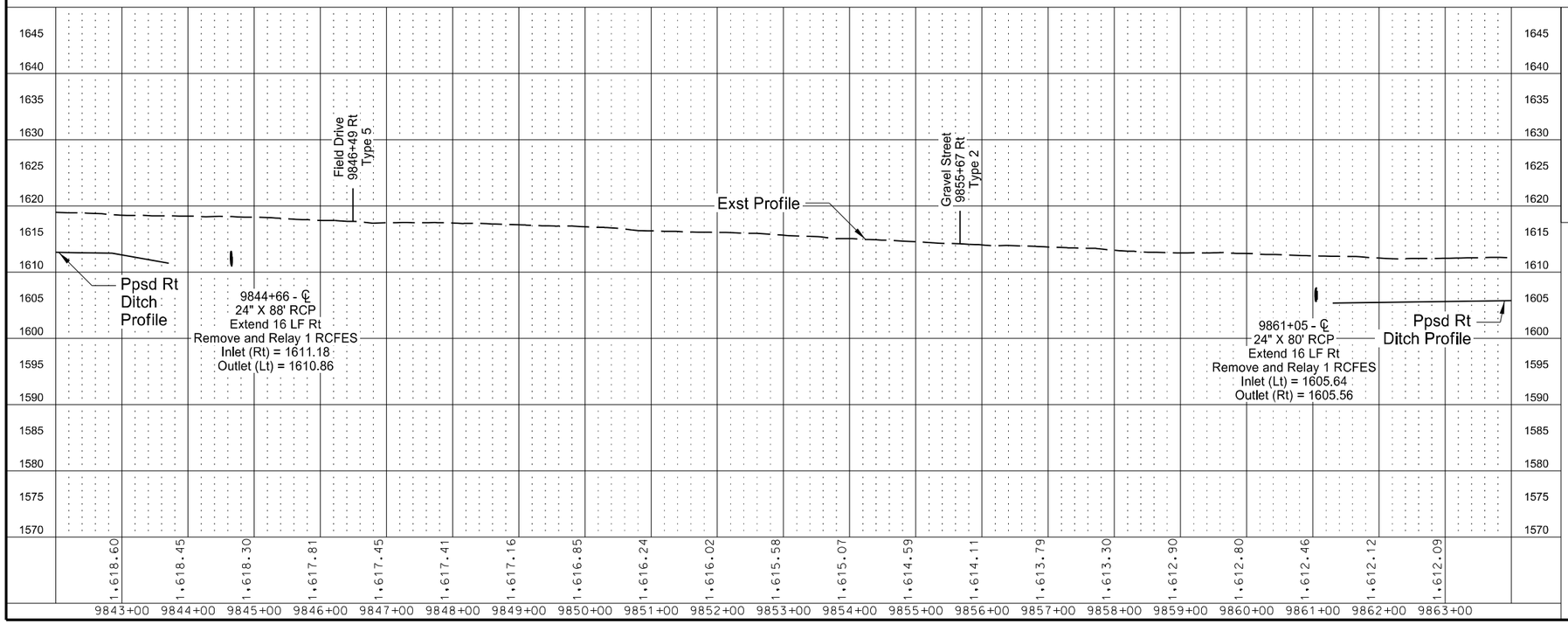
SPEC	CODE	BID ITEM	QTY	UNIT
714	0615	Pipe Conc Reinf 24IN CL III		
		9844+66 RT	16	LF
		9861+05 RT	16	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		9844+66 RT	1	EA
		9861+05 RT	1	EA
754	0805	Object Markers - Culverts		
		9844+66 RT	1	EA
		9861+05 RT	1	EA

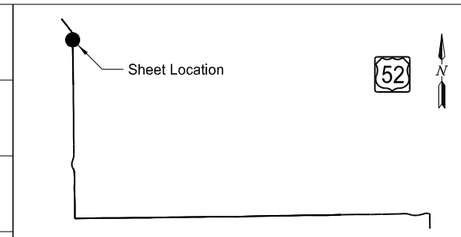


Electric line labeled Approx Loc based on information from NTHN PLNS ELEC

Legend

Surfacing Improvements





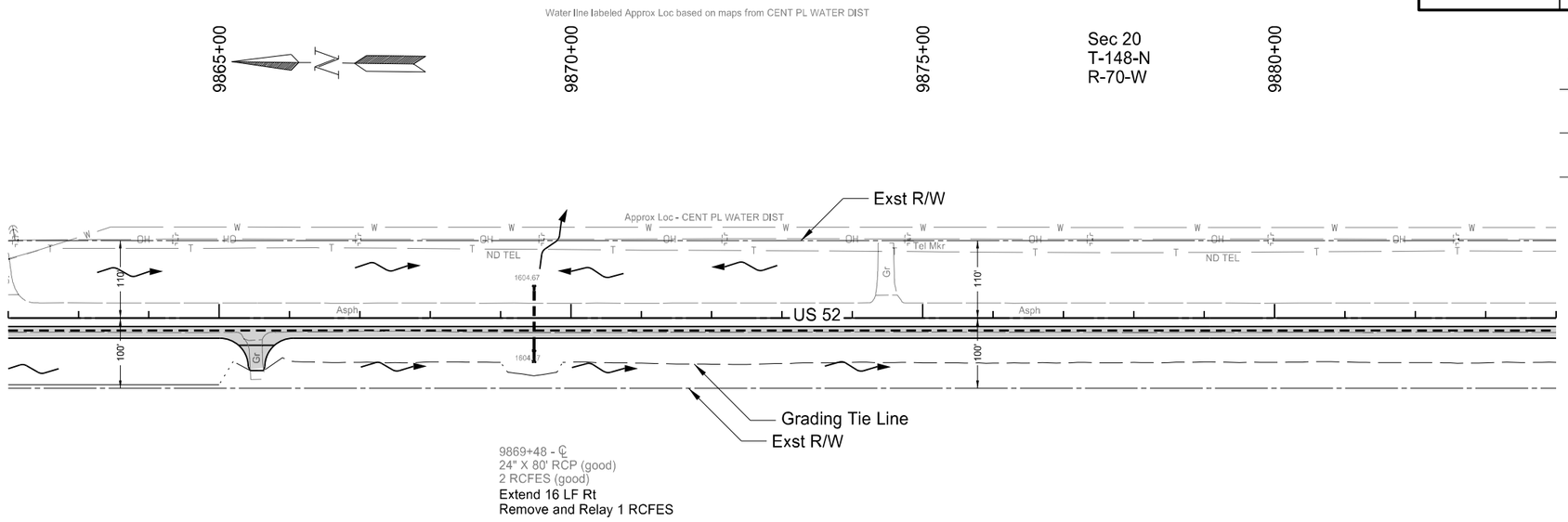
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	3

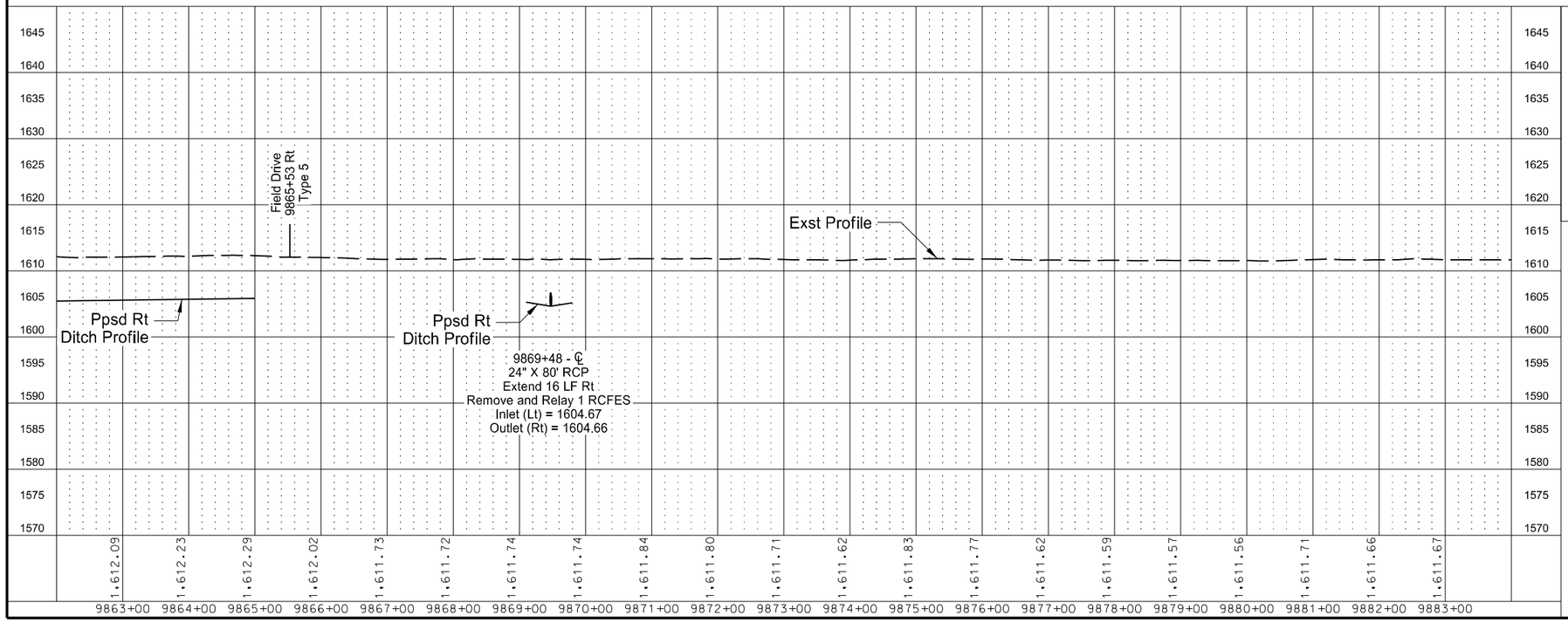
SPEC	CODE	BID ITEM	QTY	UNIT
714	0615	Pipe Conc Reinf 24IN CL III		
		9869+48 RT	16	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		9869+48 RT	1	EA
754	0805	Object Markers - Culverts		
		9869+48 RT	1	EA

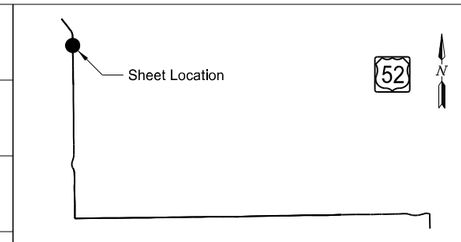


Sec 19
T-148-N
R-70-W

Legend

Surfacing Improvements



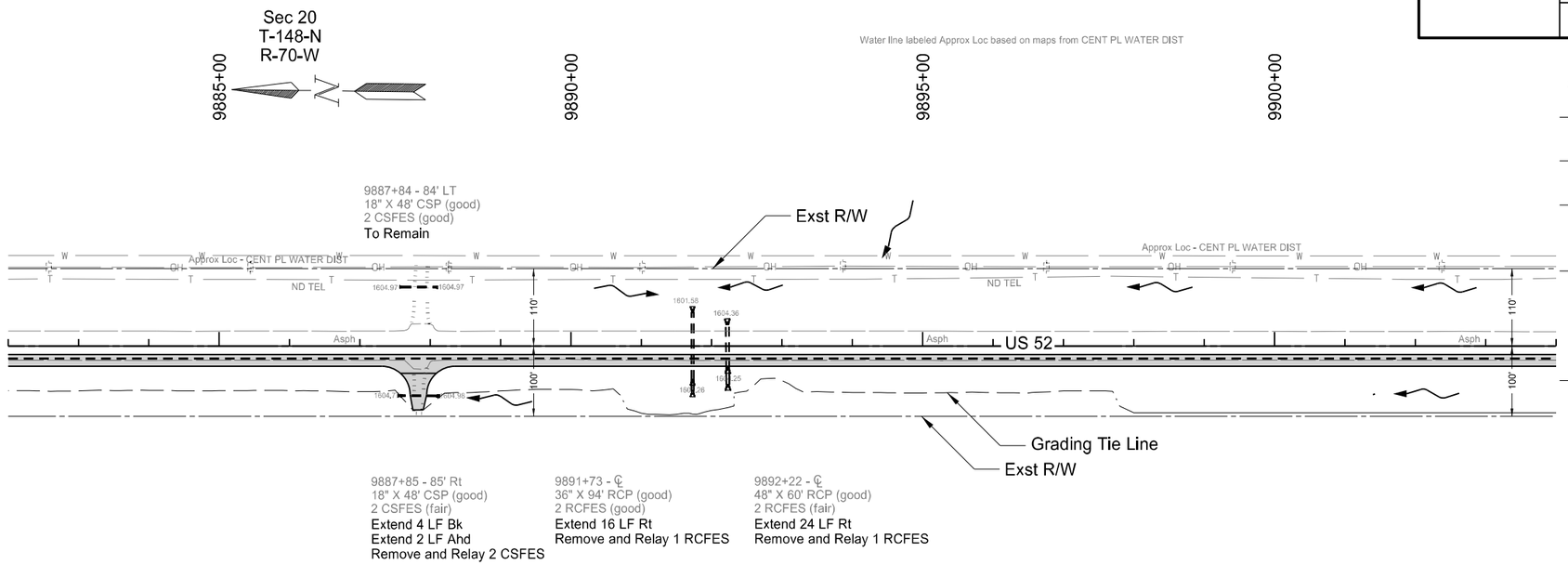


REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile

US 52
Fessenden to Carrington

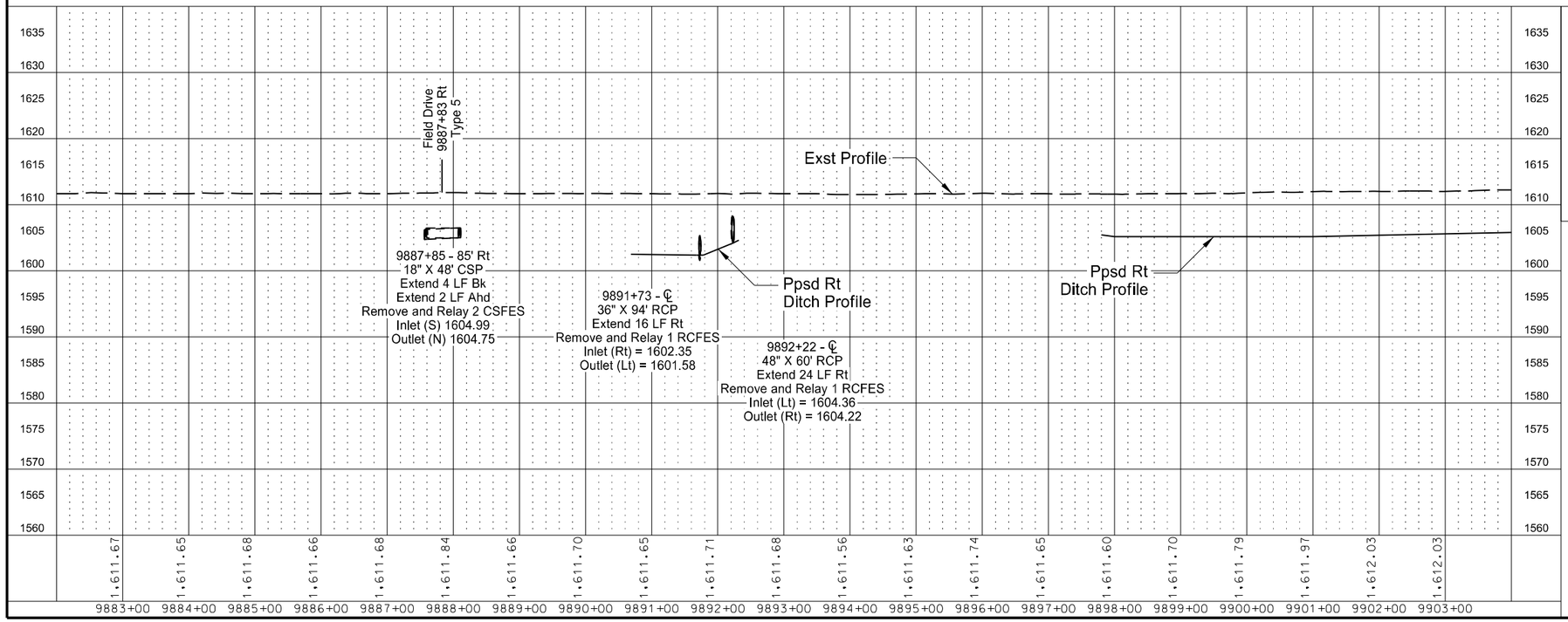
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	4

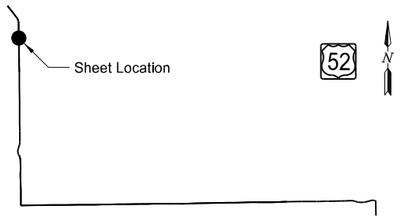


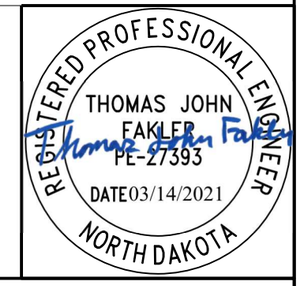
SPEC	CODE	BID ITEM	QTY	UNIT
714	0905	Pipe Conc Reinf 36IN CL III		
		9891+73 RT	16	LF
714	1105	Pipe Conc Reinf 48IN CL III		
		9892+22 RT	24	LF
714	5015	Pipe Corr Steel .064IN 18IN		
		9887+85 RT (Bk)	4	LF
		9887+85 RT (Ahd)	2	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		9887+85 RT (Bk)	1	EA
		9887+85 RT (Ahd)	1	EA
		9891+73 RT	1	EA
		9892+22 RT	1	EA
754	0805	Object Markers - Culverts		
		9891+73 RT	1	EA
		9892+22 RT	1	EA

Legend

Surfacing Improvements



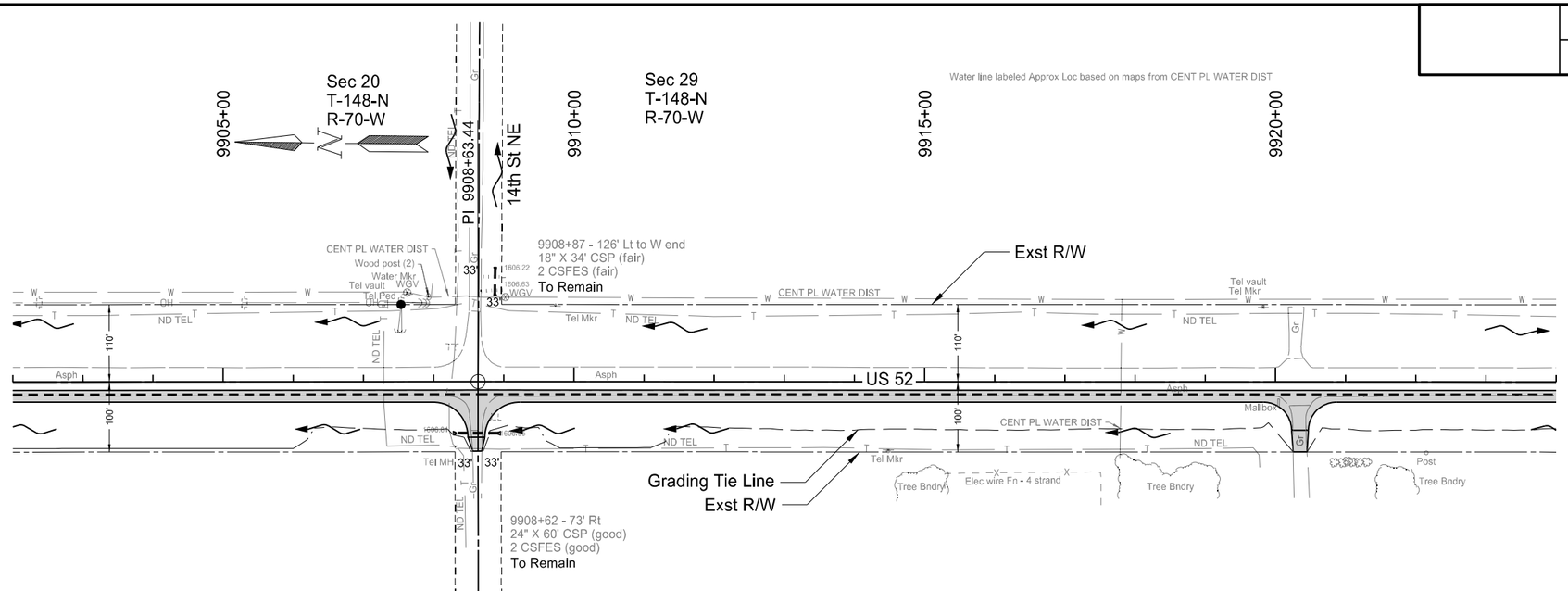


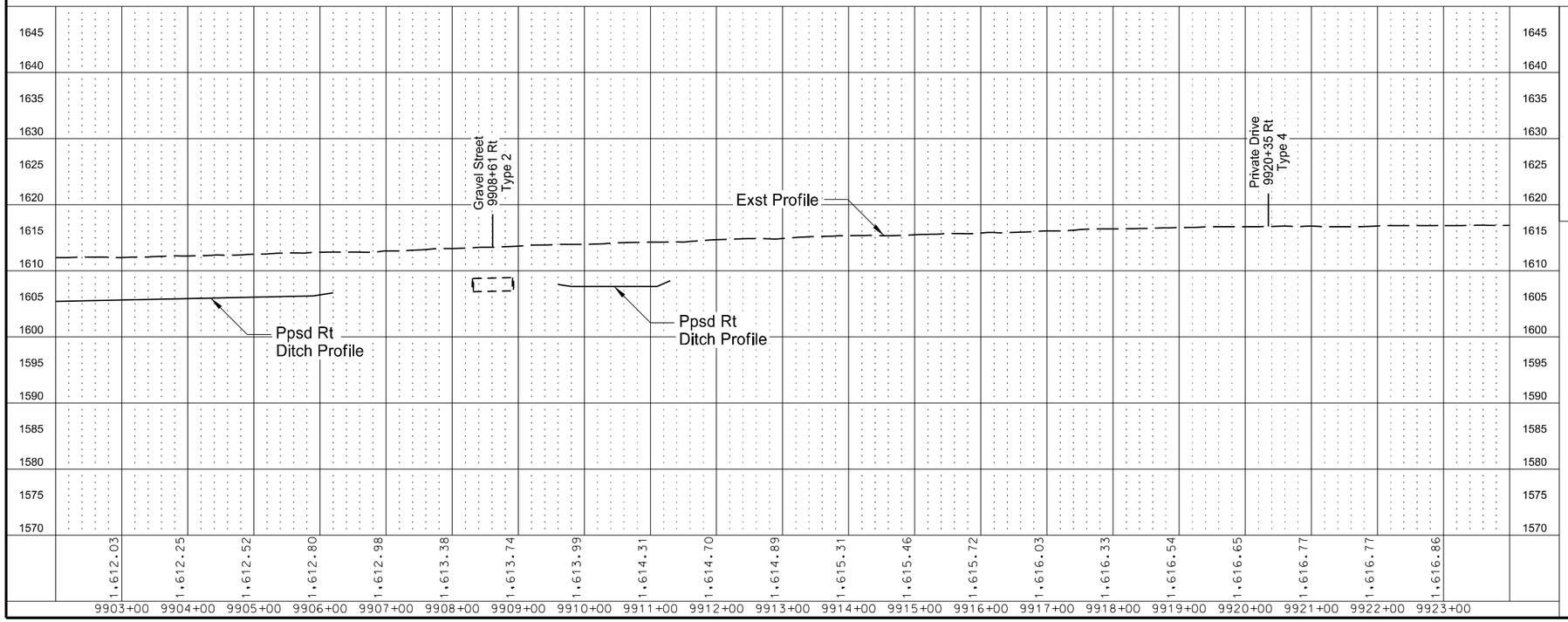


Plan and Profile

US 52
Fessenden to Carrington

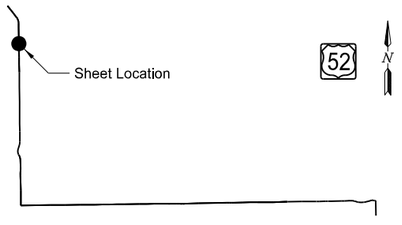
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	60	5





Legend

Surfacing Improvements



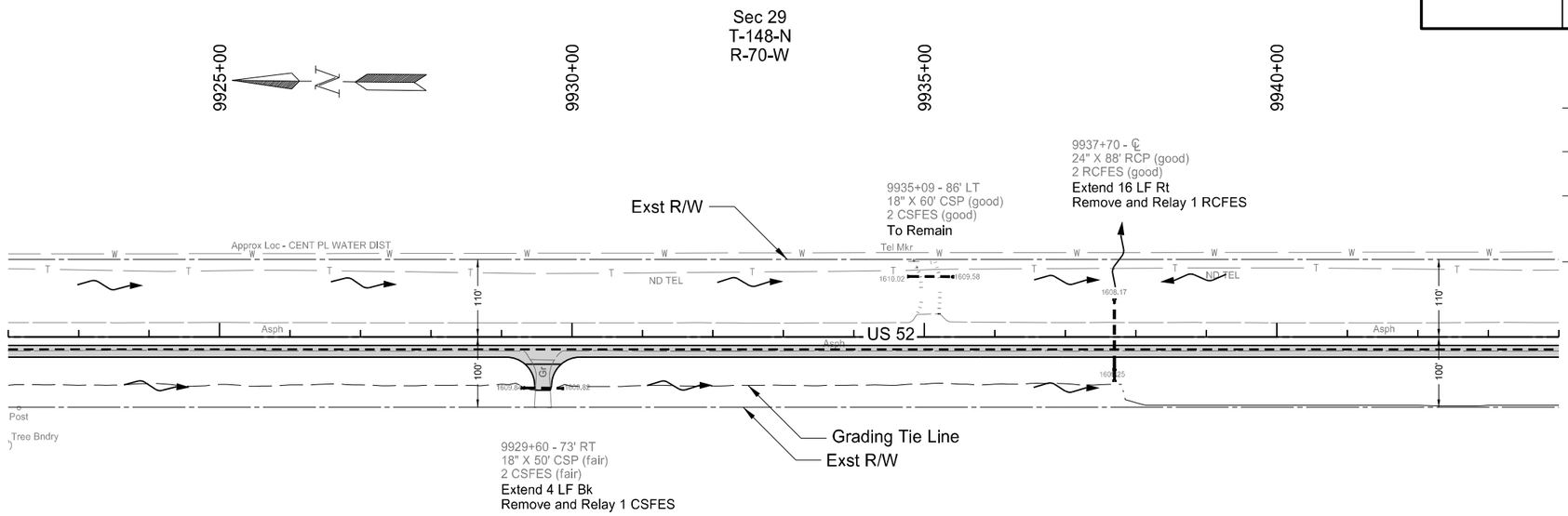
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	6

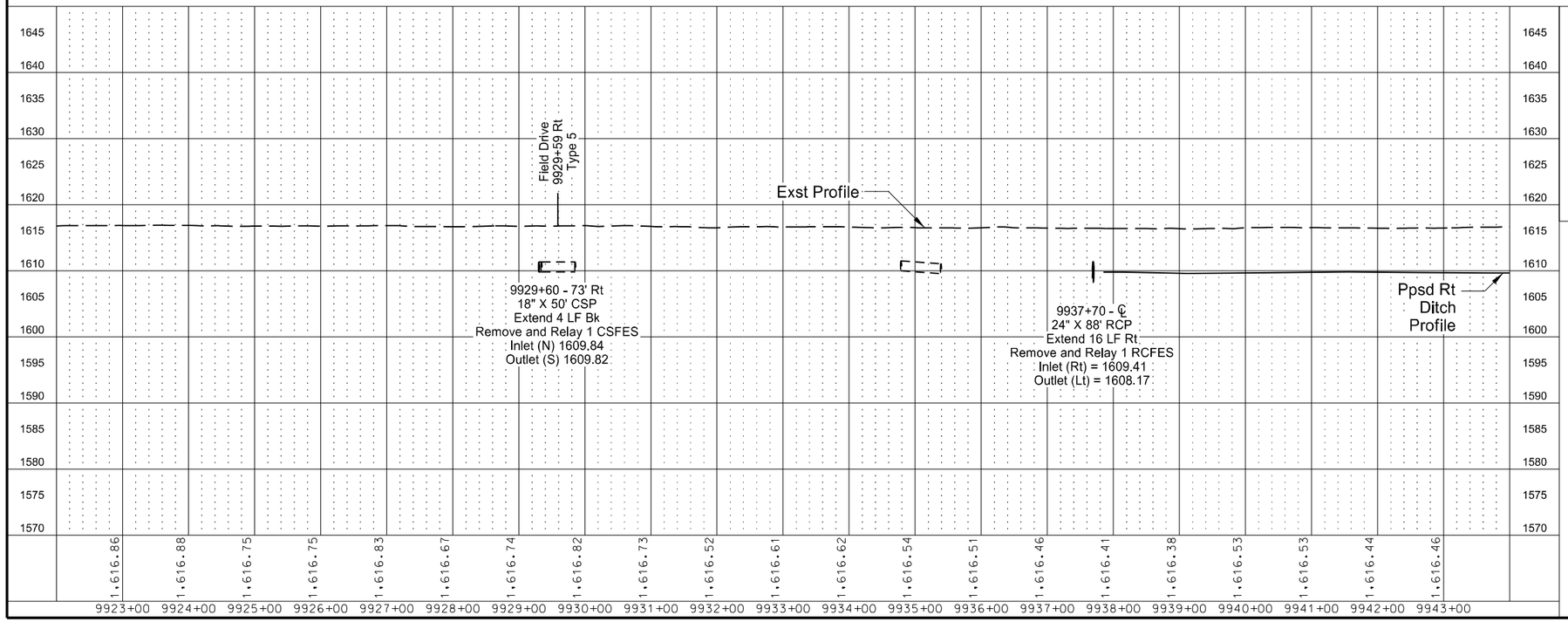
SPEC	CODE	BID ITEM	QTY	UNIT
714	0615	Pipe Conc Reinf 24IN CL III		
		9937+70 RT	16	LF
714	5015	Pipe Corr Steel .064IN 18IN		
		9929+60 RT (Bk)	4	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		9929+60 RT (Bk)	1	EA
		9937+70 RT	1	EA
754	0805	Object Markers - Culverts		
		9937+70 RT	1	EA

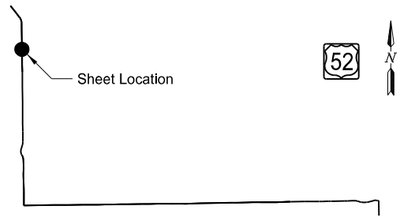


Sec 30
T-148-N
R-70-W

Legend

Surfacing Improvements



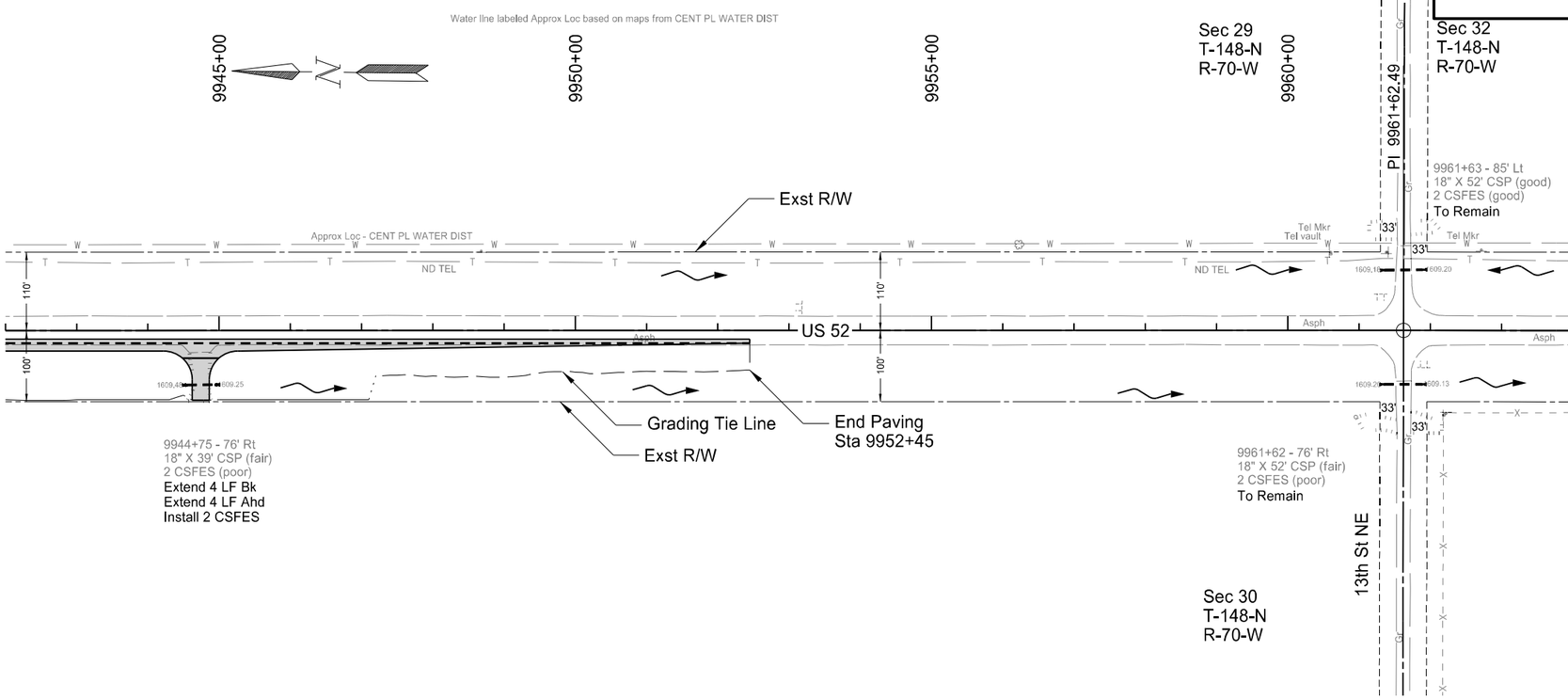


REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile

US 52
Fessenden to Carrington

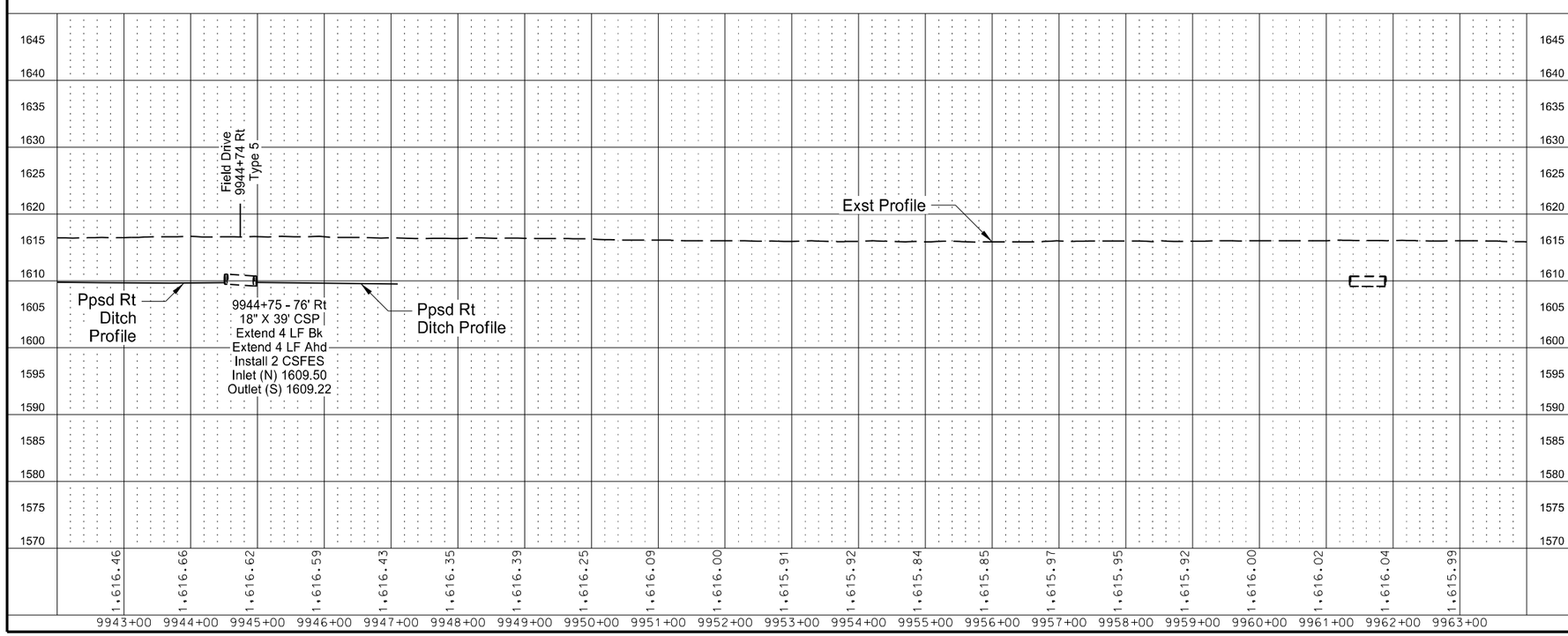
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	7

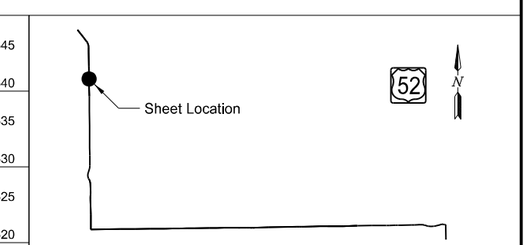


SPEC	CODE	BID ITEM	QTY	UNIT
202	0169	Removal of End Section-All Types & Sizes		
		9944+75 RT (Bk)	1	EA
		9944+75 RT (Ahd)	1	EA
714	5015	Pipe Corr Steel .064IN 18IN		
		9944+75 RT (Bk)	4	LF
		9944+75 RT (Ahd)	4	LF
714	5810	End Sect Corr Steel .064IN 18IN		
		9944+75 RT (Bk)	1	EA
		9944+75 RT (Ahd)	1	EA

Legend

Surfacing Improvements





REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

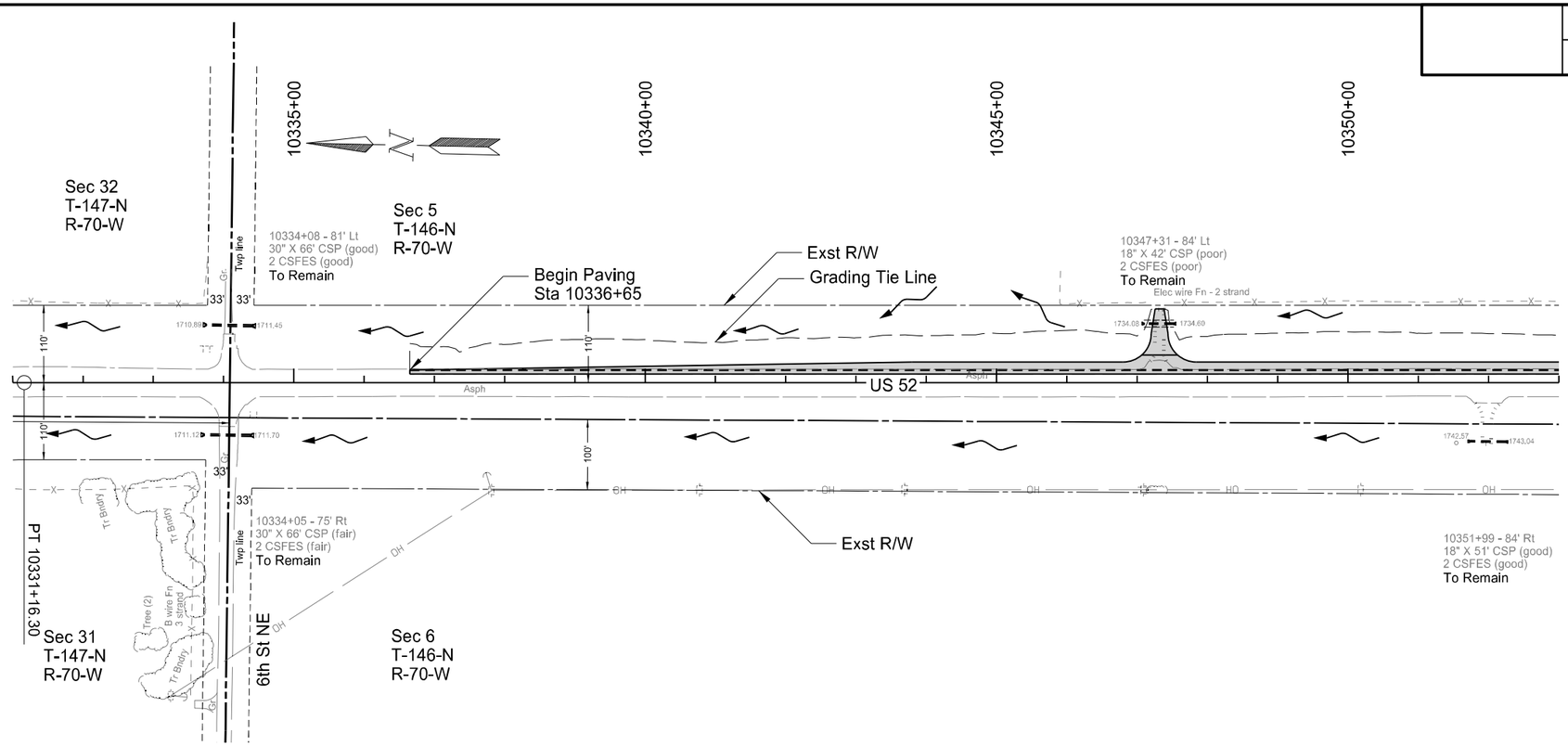
Thomas John Fakler

Plan and Profile

US 52
Fessenden to Carrington

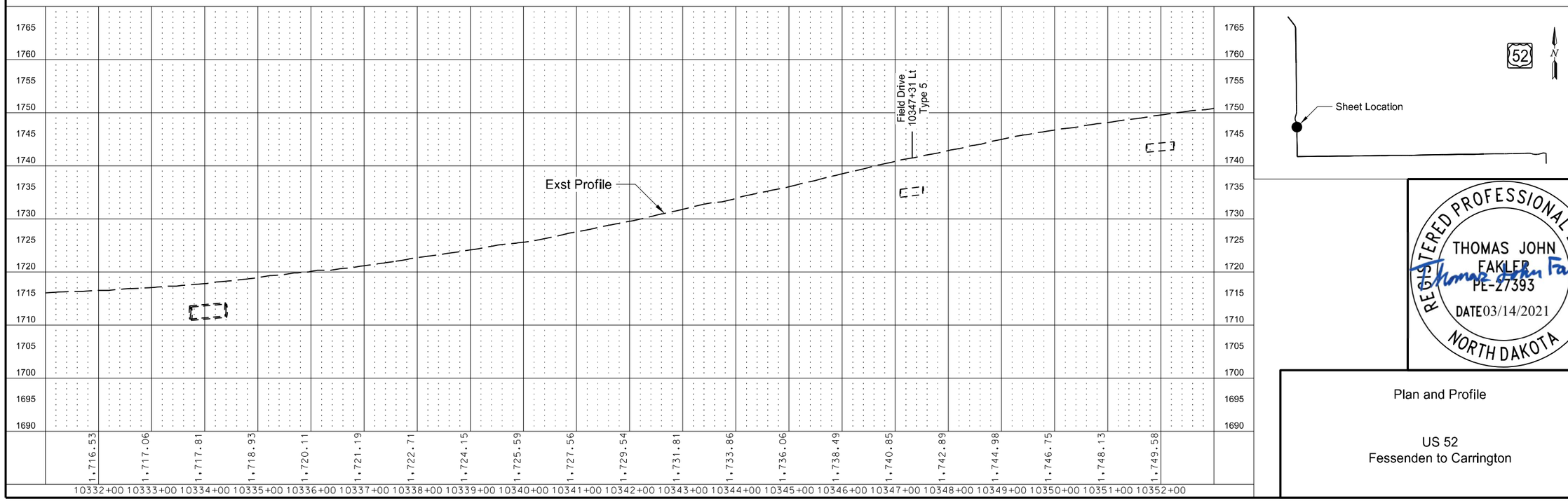
3/14/2022 2:17:44 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\060PP_007_W.dgn

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	60	8



Legend

Surfacing Improvements



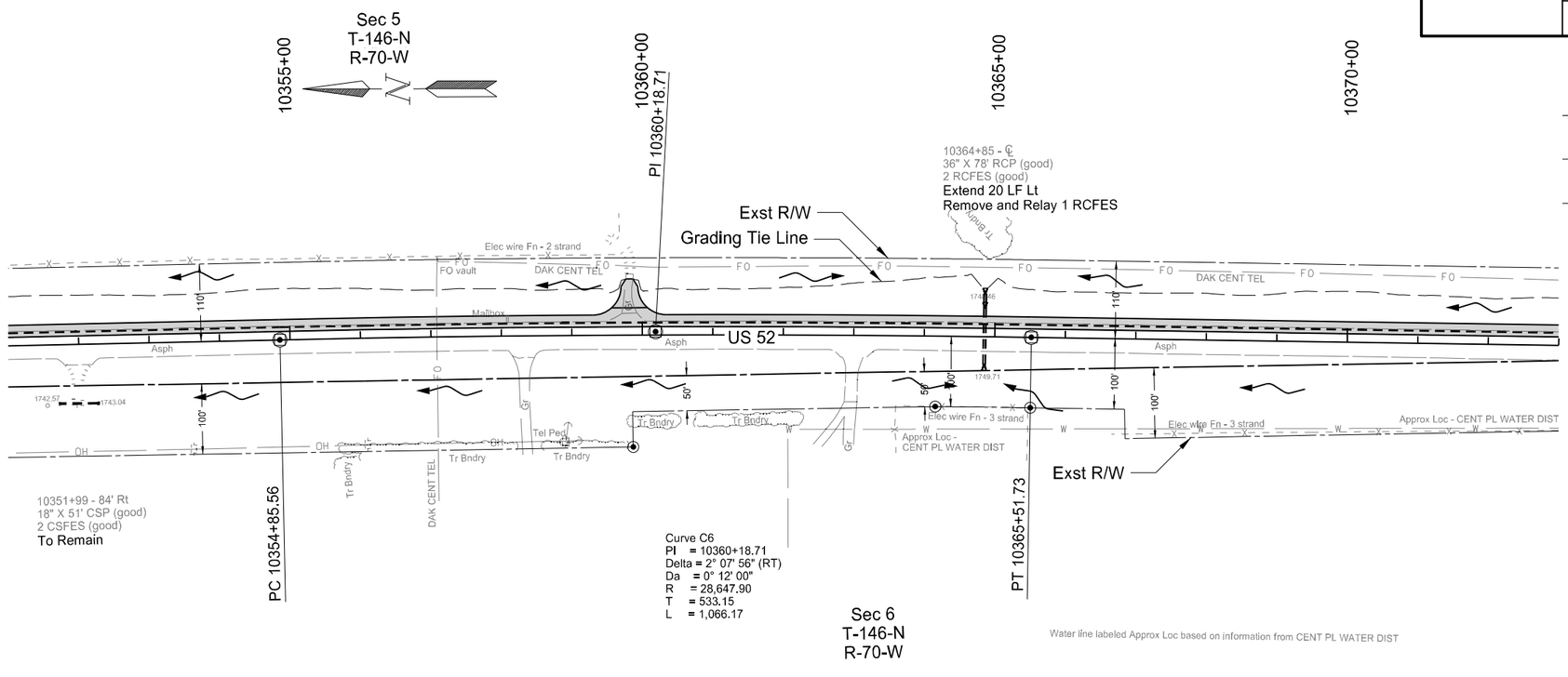
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile

US 52
Fessenden to Carrington

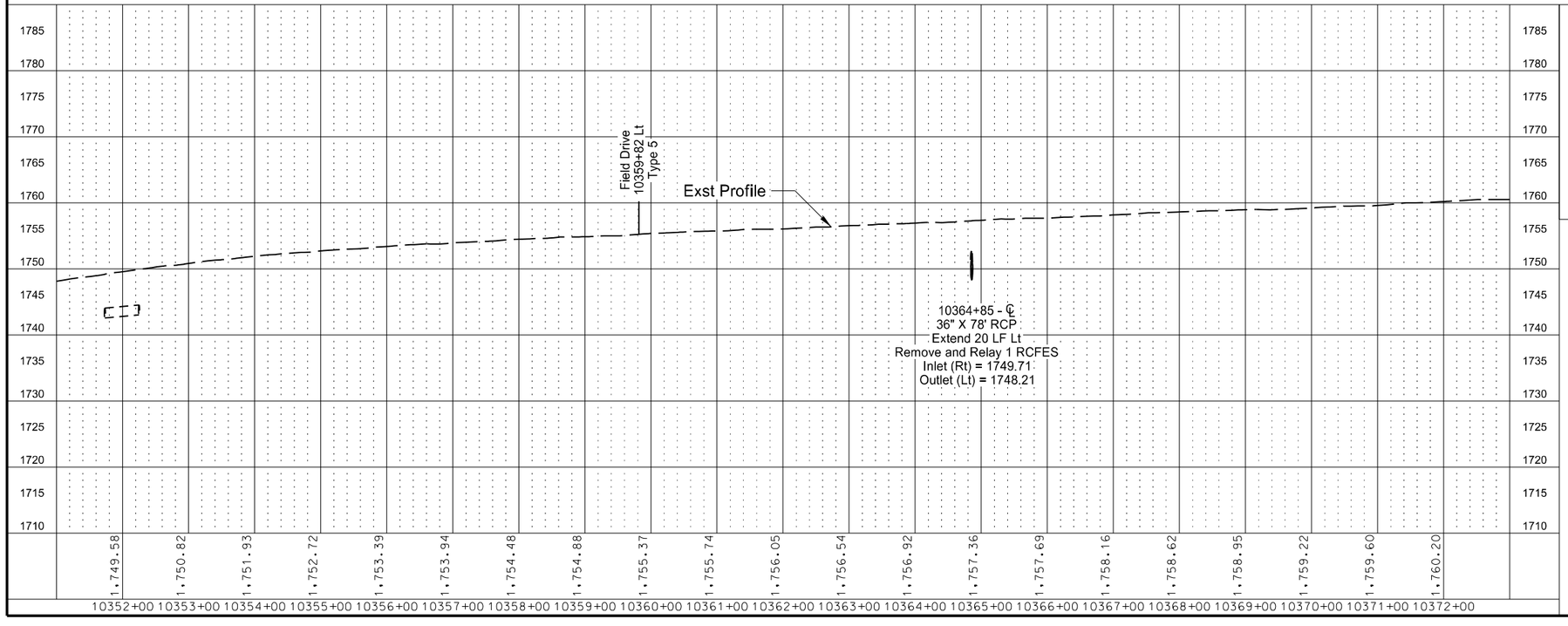
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	9

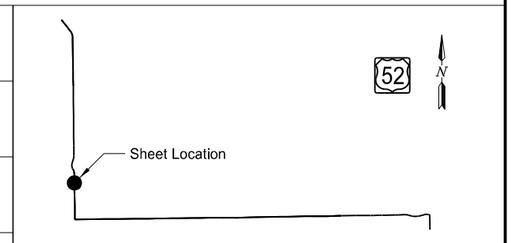
SPEC	CODE	BID ITEM	QTY	UNIT
714	0905	Pipe Conc Reinf 36IN CL III		
		10364+85 LT	20	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		10364+85 LT	1	EA
754	0805	Object Markers - Culverts		
		10364+85 LT	1	EA



Legend

Surfacing Improvements





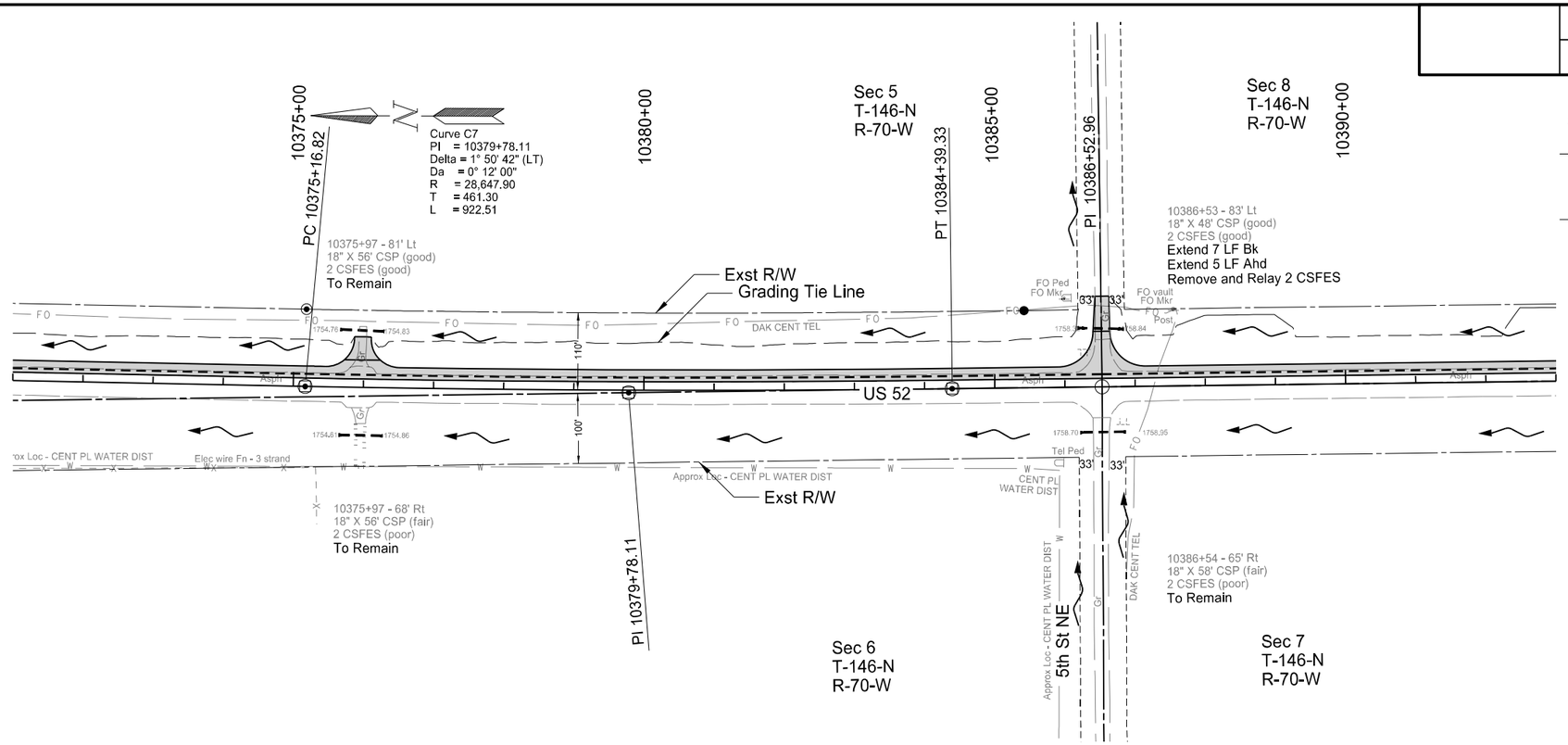
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

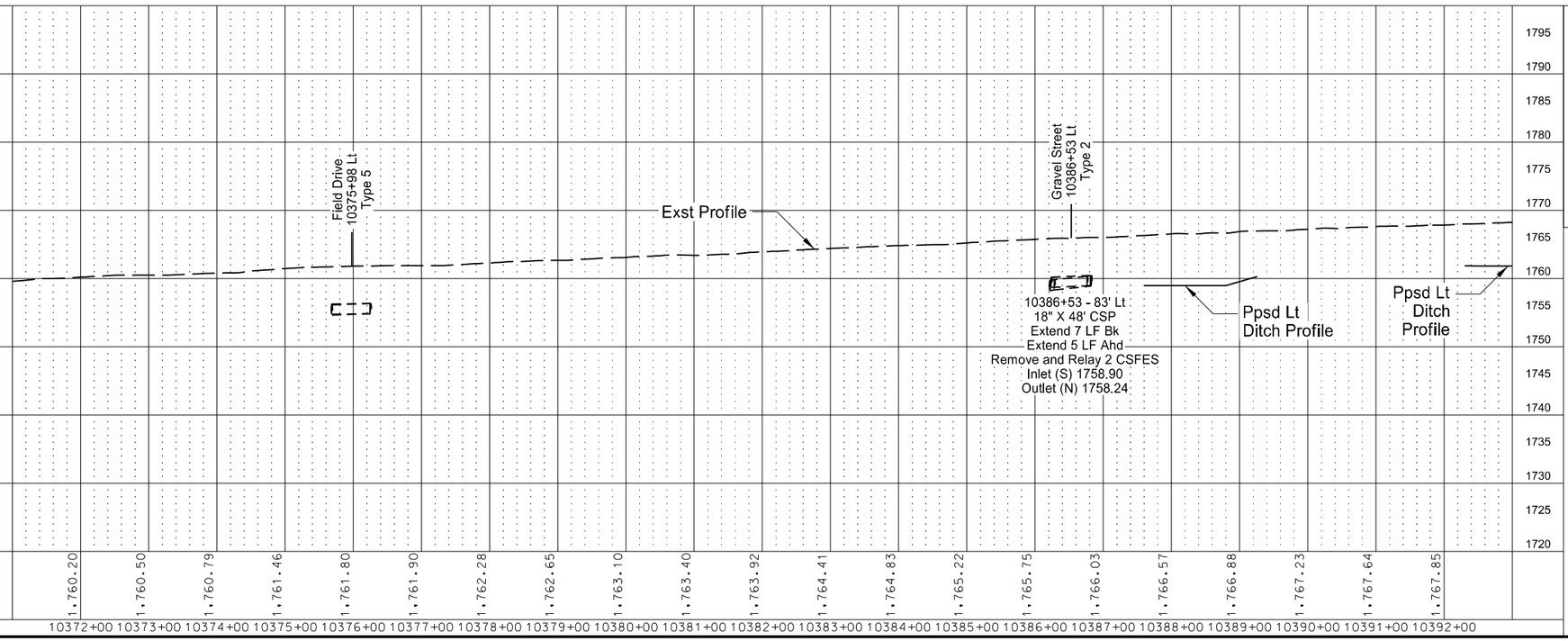
Plan and Profile

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	10

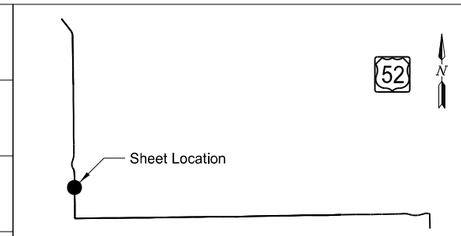
SPEC	CODE	BID ITEM	QTY	UNIT
714	5015	Pipe Corr Steel .064IN 18IN		
		10386+53 LT (Bk)	7	LF
		10386+53 LT (Ahd)	5	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		10386+53 LT (Bk)	1	EA
		10386+53 LT (Ahd)	1	EA





Legend

Surfacing Improvements



REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

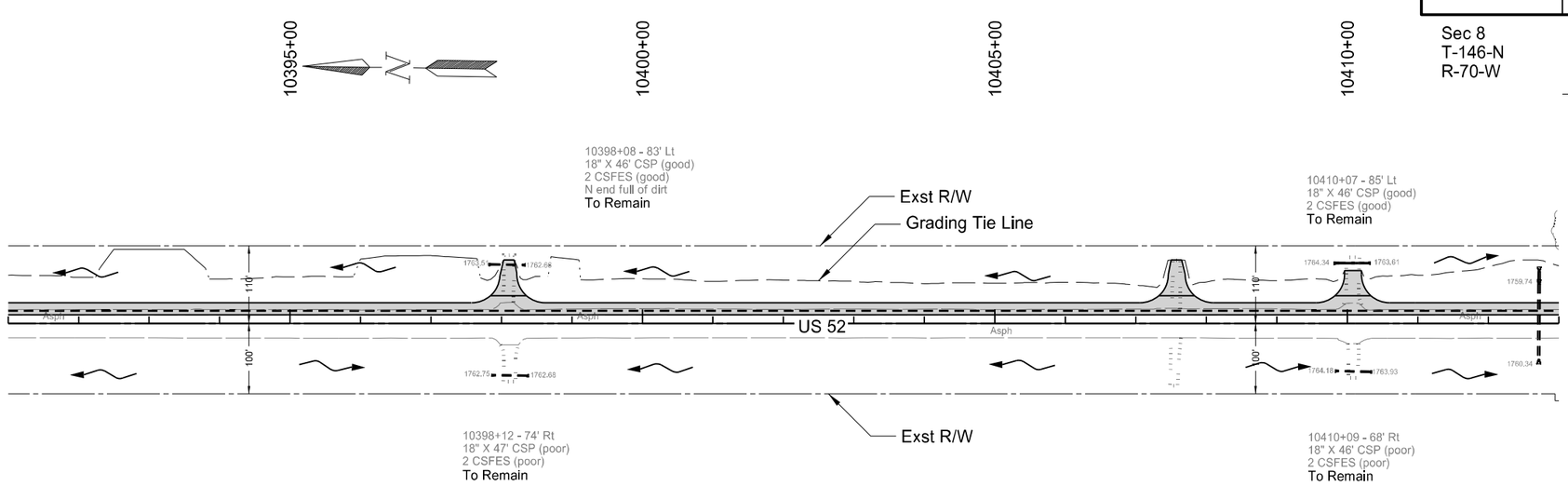
Plan and Profile

US 52
Fessenden to Carrington

3/14/2022 2:17:51 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\060PP_010_W.dgn

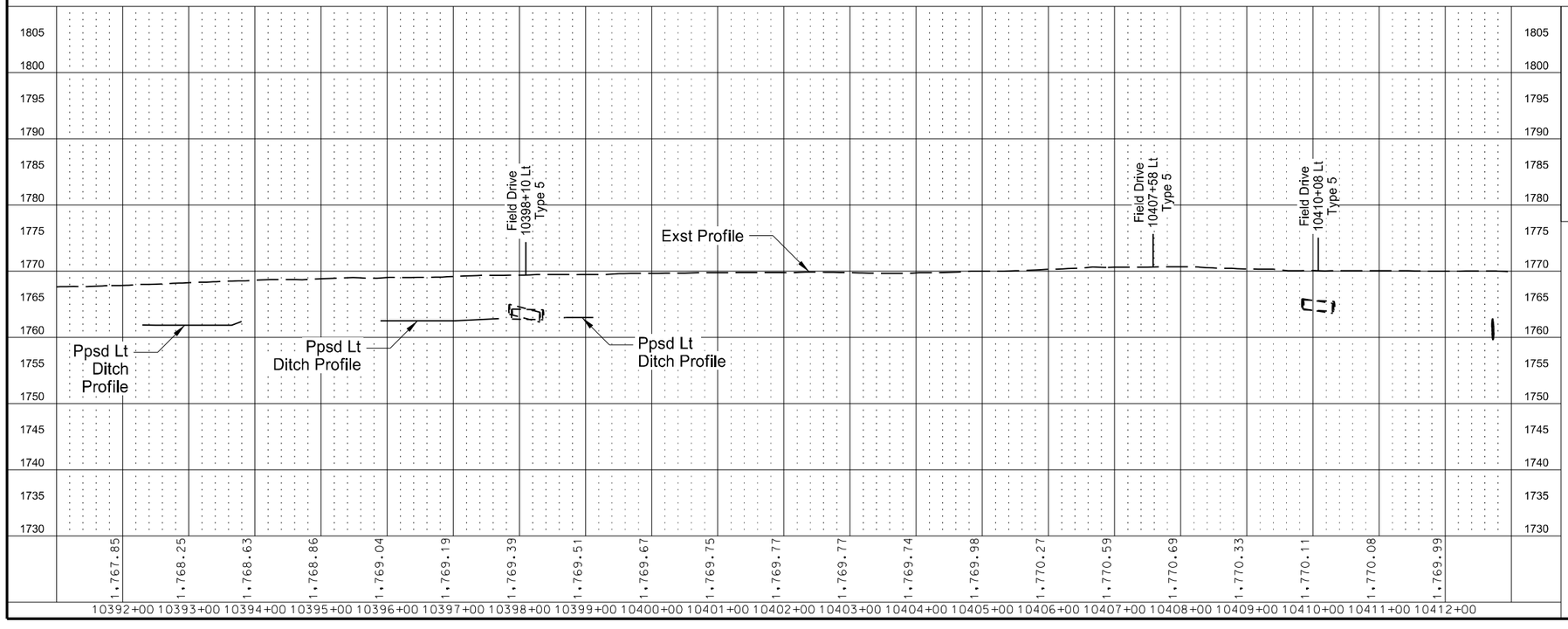
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	60	11

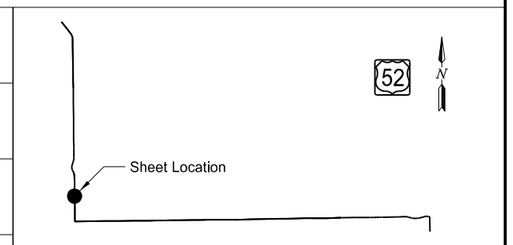
SPEC	CODE	BID ITEM	QTY	UNIT
990	0400	Pipe Cleanout		
		10398+08-83' LT	1	EA



Legend

Surfacing Improvements





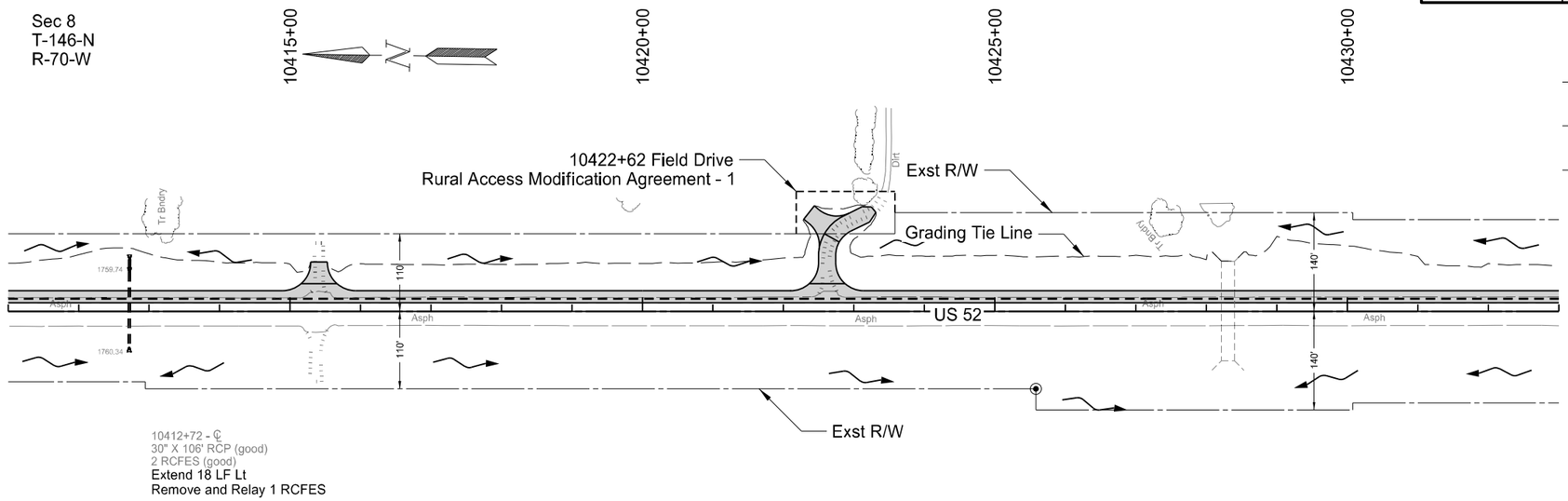
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile

US 52
Fessenden to Carrington

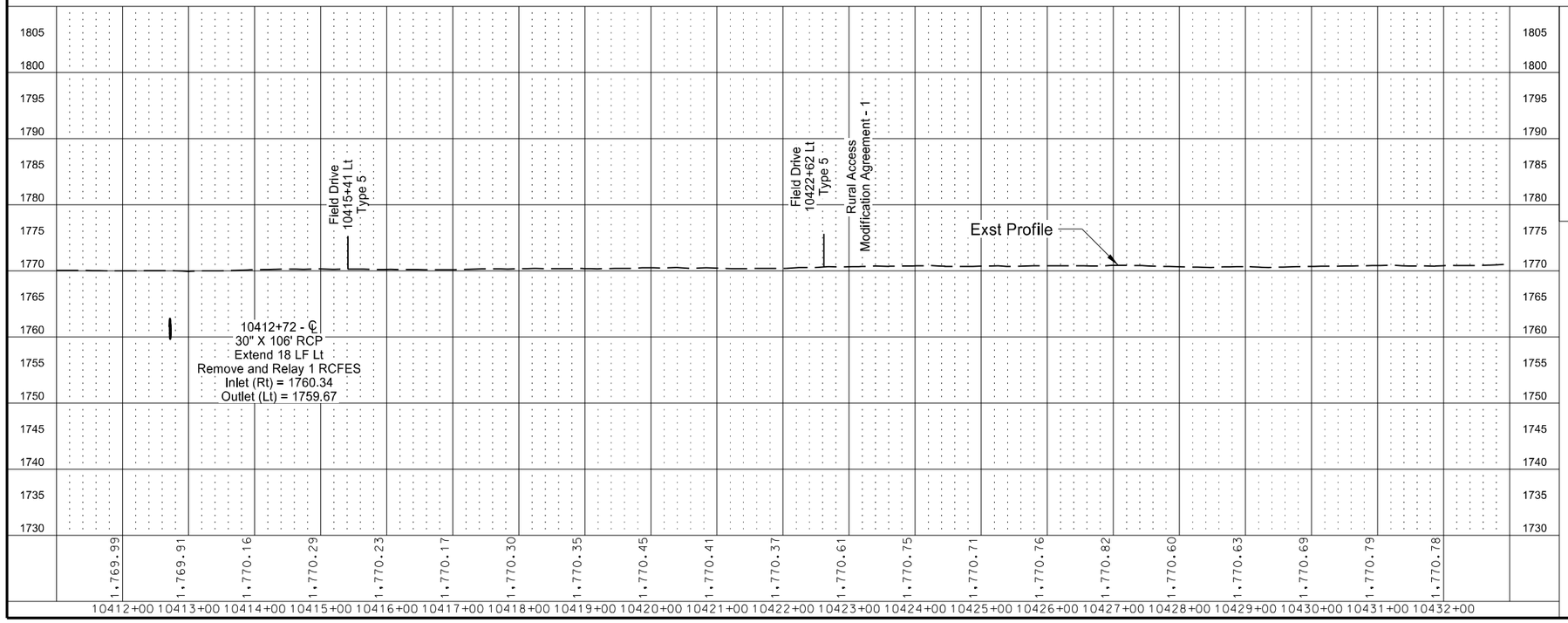
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	12

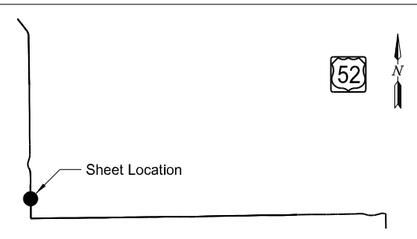
SPEC	CODE	BID ITEM	QTY	UNIT
714	0820	Pipe Conc Reinf 30IN CL III		
		10412+72 LT	18	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		10412+72 LT	1	EA
754	0805	Object Markers - Culverts		
		10412+72 LT	1	EA



Legend

Surfacing Improvements





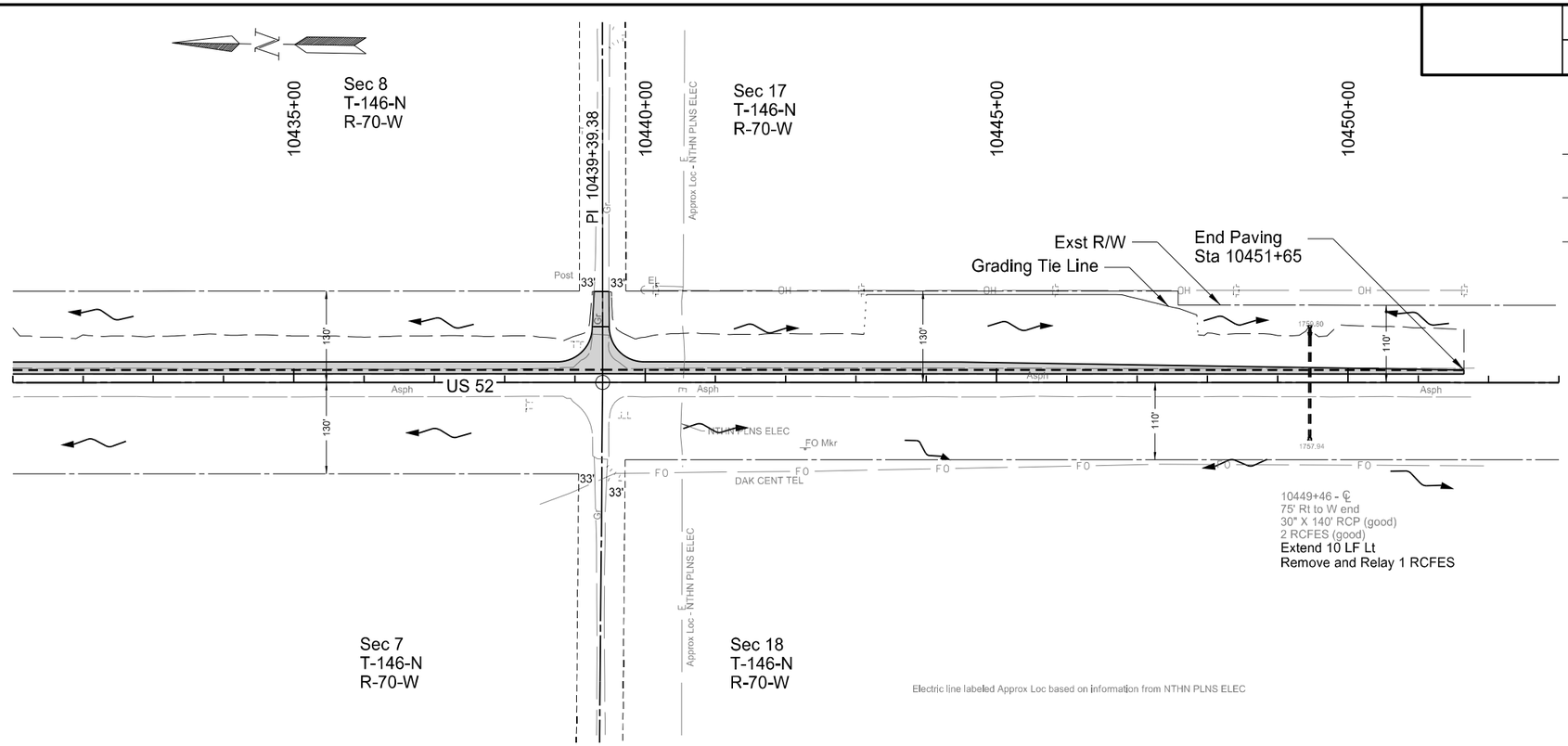
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile

US 52
Fessenden to Carrington

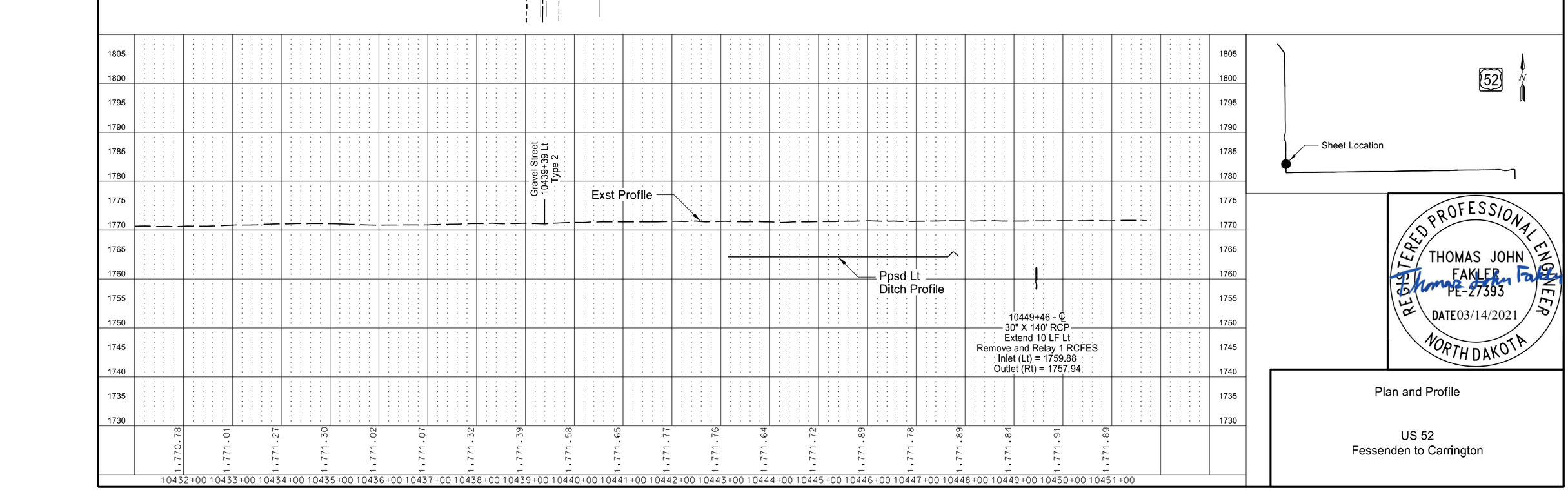
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	13

SPEC	CODE	BID ITEM	QTY	UNIT
714	0820	Pipe Conc Reinf 30IN CL III		
		10449+46 LT	10	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		10449+46 LT	1	EA
754	0805	Object Markers - Culverts		
		10449+46 LT	1	EA



Legend

Surfacing Improvements



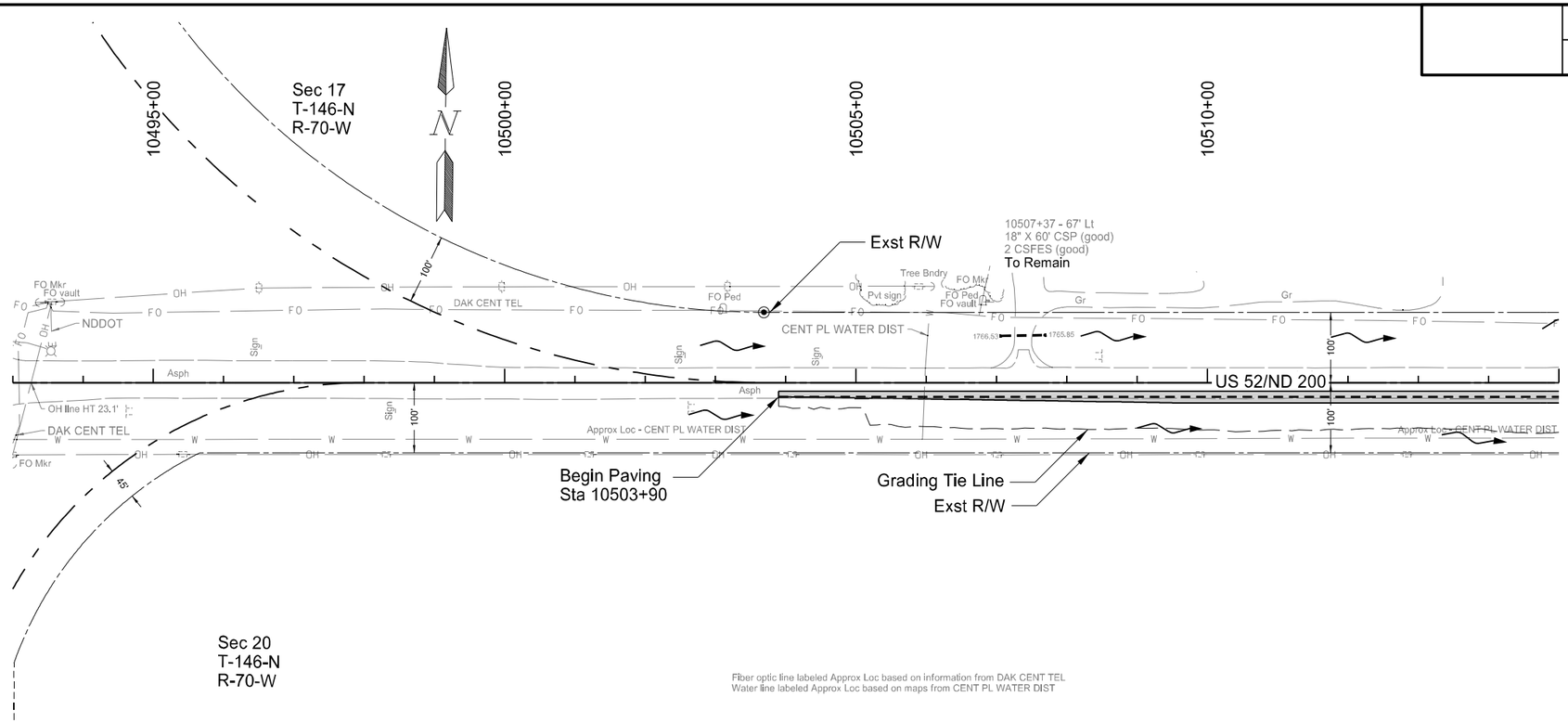
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile

US 52
Fessenden to Carrington

3/14/2022 2:17:57 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\060PP_013_W.dgn

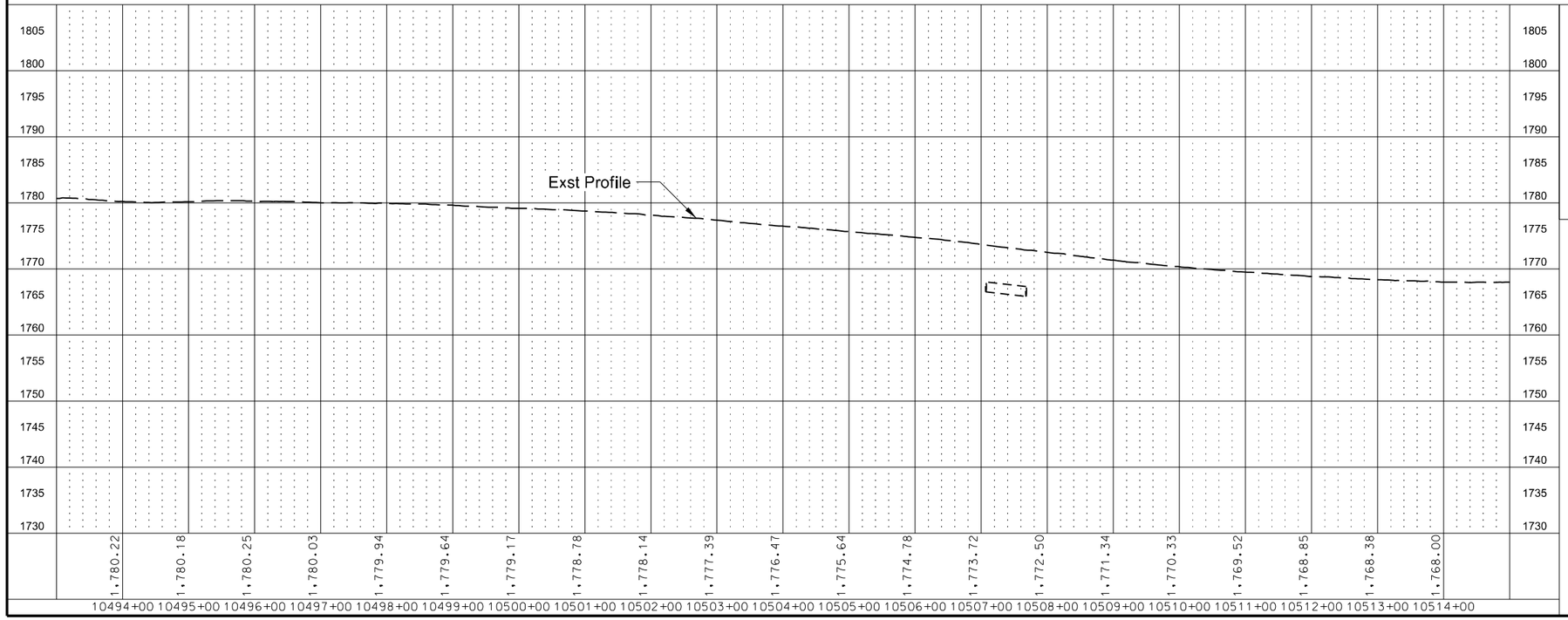
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	60	14

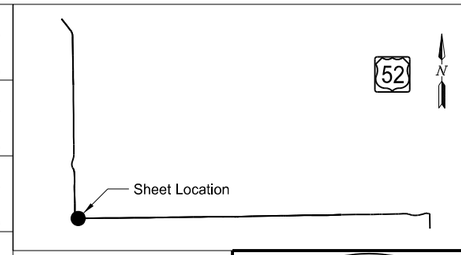


Fiber optic line labeled Approx Loc based on information from DAK CENT TEL
Water line labeled Approx Loc based on maps from CENT PL WATER DIST

Legend

Surfacing Improvements





REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

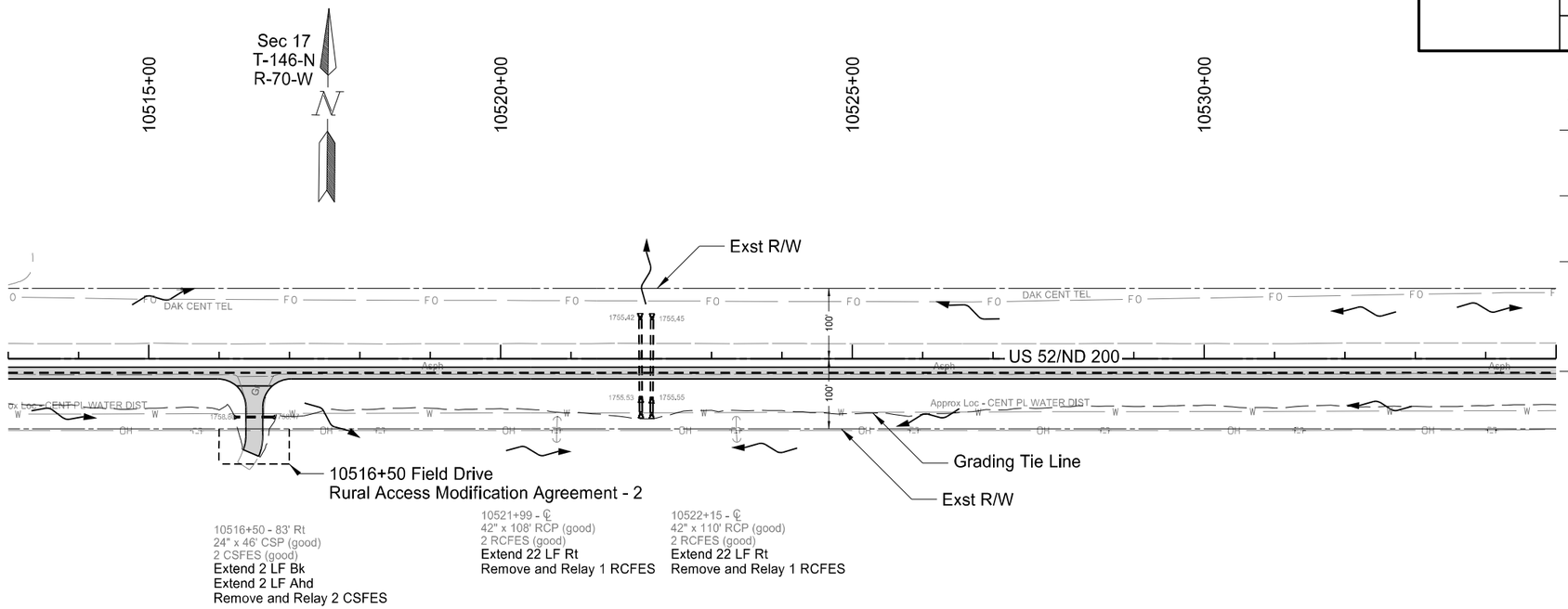
Plan and Profile

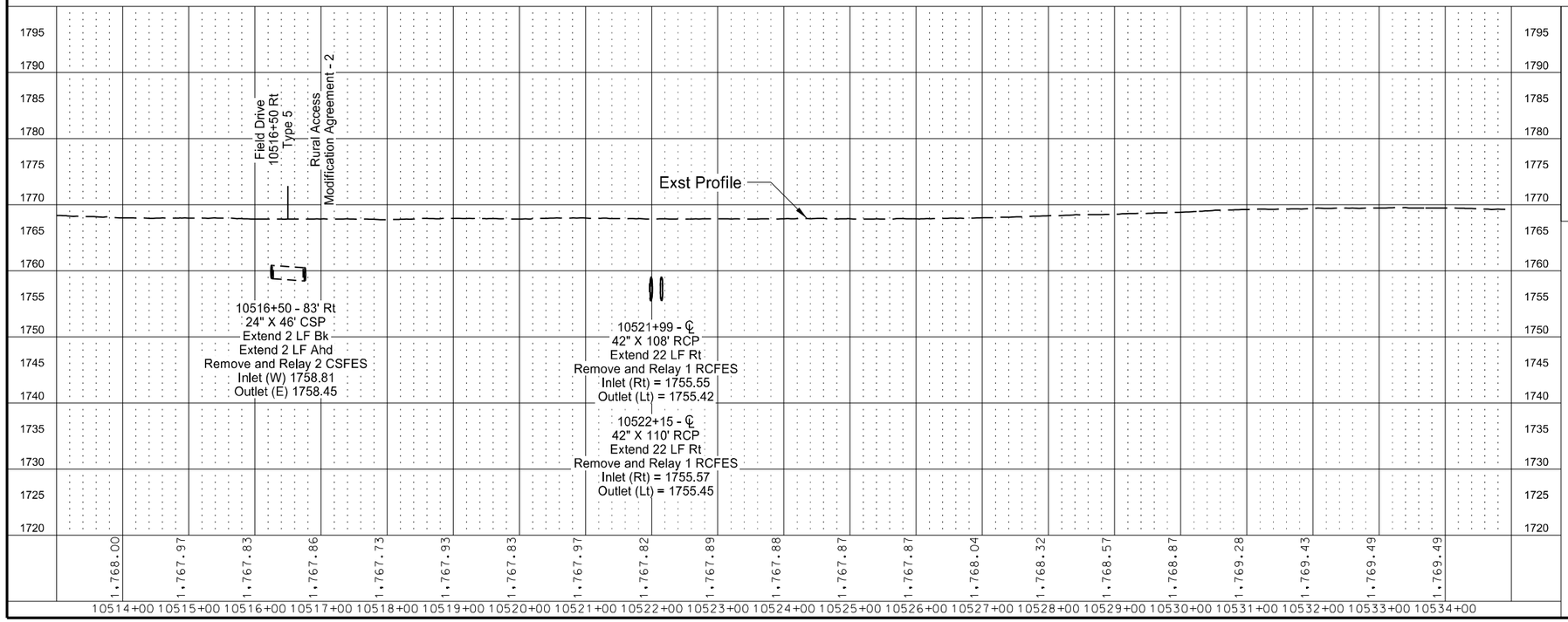
US 52
Fessenden to Carrington

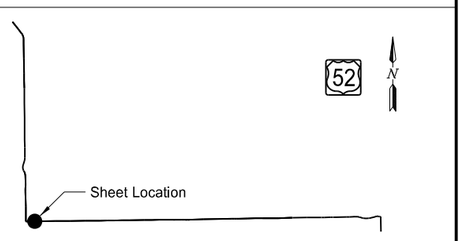
3/14/2022 2:17:59 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\060PP_014_W.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	15

SPEC	CODE	BID ITEM	QTY	UNIT
714	1005	Pipe Conc Reinf 42IN CL III		
		10521+99 RT	22	LF
		10522+15 RT	22	LF
714	5035	Pipe Corr Steel .064IN 24IN		
		10516+50 RT (Bk)	2	LF
		10516+50 RT (Ahd)	2	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		10516+50 RT (Bk)	1	EA
		10516+50 RT (Ahd)	1	EA
		10521+99 RT	1	EA
		10522+15 RT	1	EA
754	0805	Object Markers - Culverts		
		10521+99 RT	1	EA
		10522+15 RT	1	EA







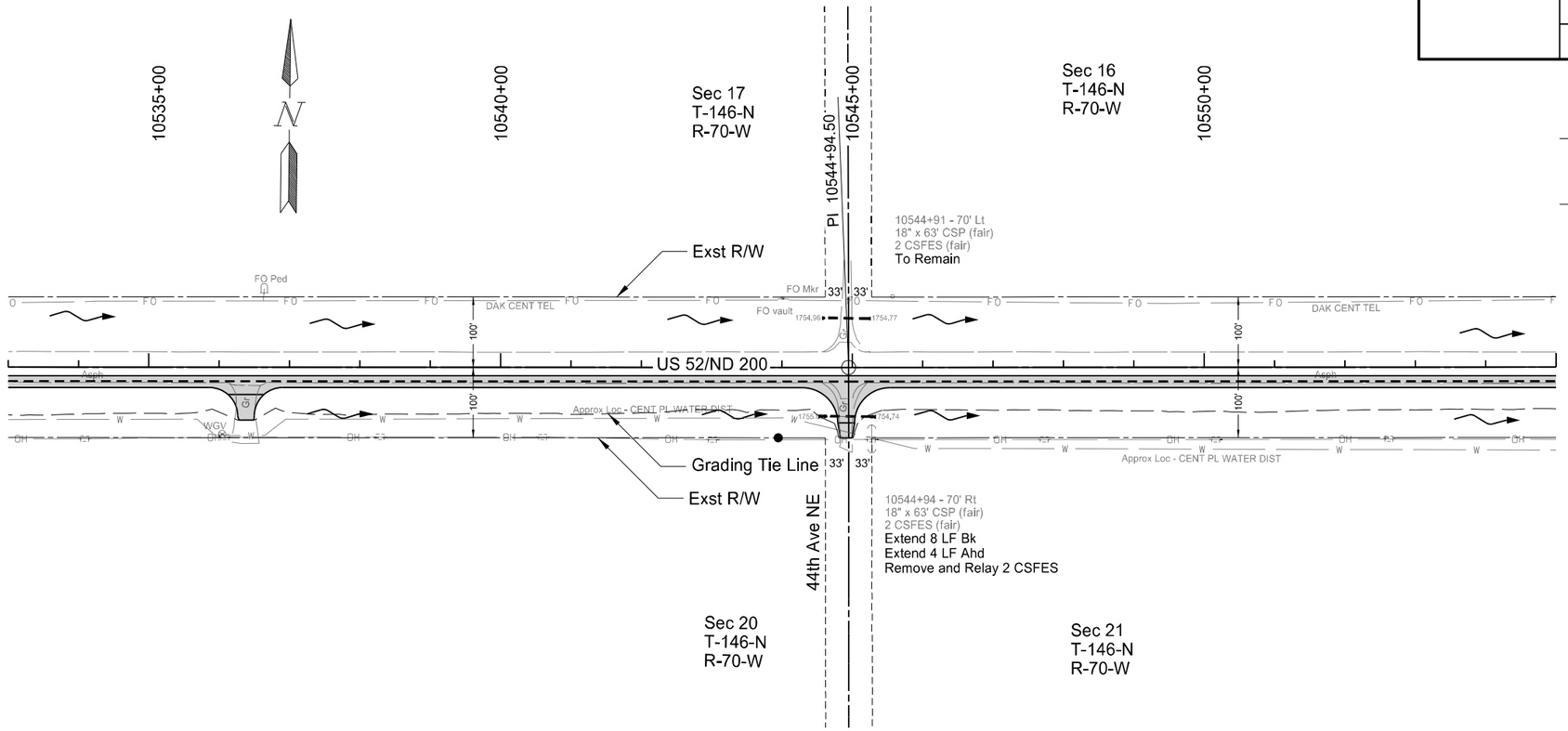
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile

US 52
Fessenden to Carrington

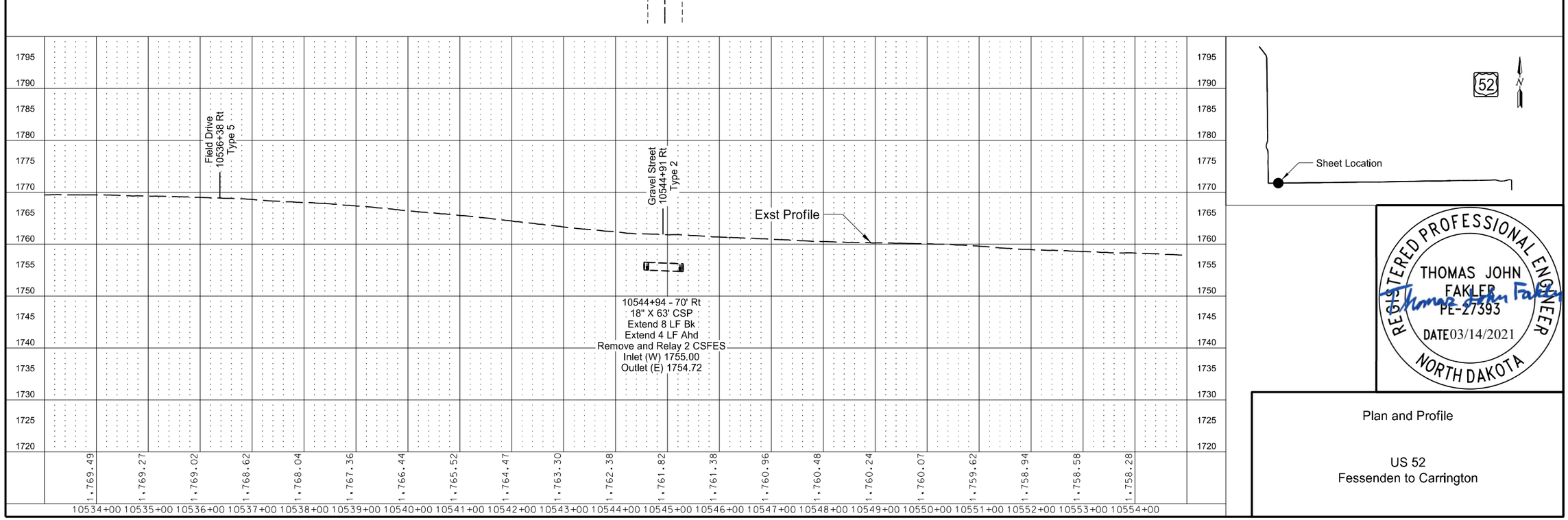
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	16

SPEC	CODE	BID ITEM	QTY	UNIT
714	5015	Pipe Corr Steel .064IN 18IN		
		10544+94 RT (Bk)	8	LF
		10544+94 RT (Ahd)	4	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		10544+94 RT (Bk)	1	EA
		10544+94 RT (Ahd)	1	EA



Legend

Surfacing Improvements



REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

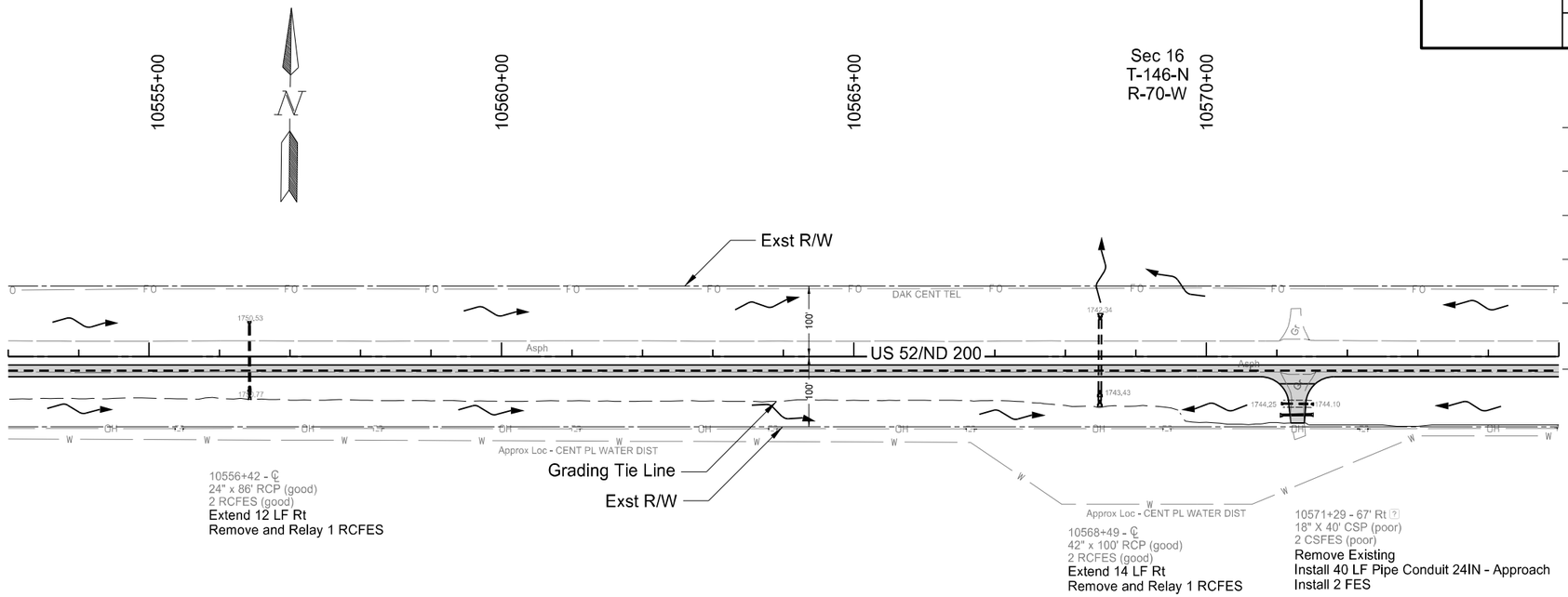
Plan and Profile

US 52
Fessenden to Carrington

3/14/2022 2:18:03 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\060PP_016_W.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	17

SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	Removal of Pipe-All Types & Sizes		
		10571+29 - 67' RT	40	LF
714	0615	Pipe Conc Reinf 24IN CL III		
		10556+42 RT	12	LF
714	1005	Pipe Conc Reinf 42IN CL III		
		10568+49 RT	14	LF
714	4106	Pipe Conduit 24IN-Approach		
		10571+28 - 83' RT	40	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		10556+42 RT	1	EA
		10568+49 RT	1	EA
754	0805	Object Markers - Culverts		
		10556+42 RT	1	EA
		10568+49 RT	1	EA

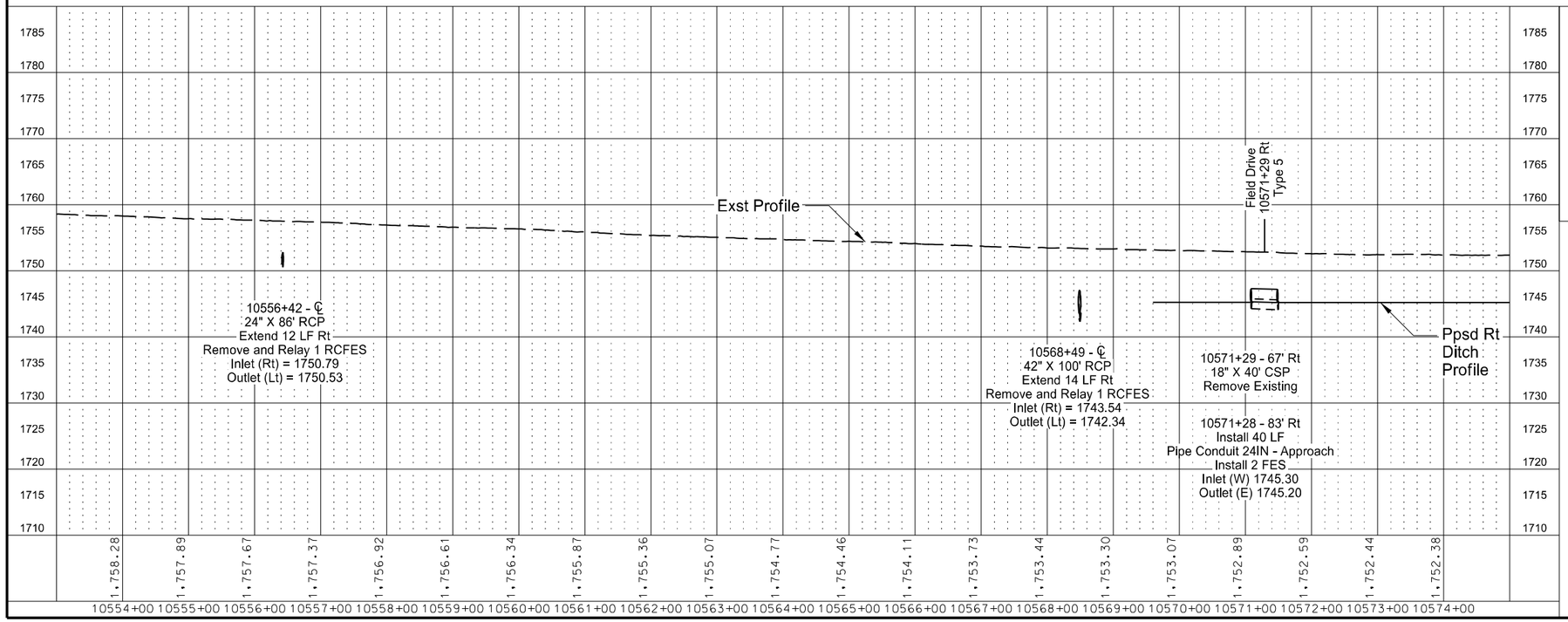


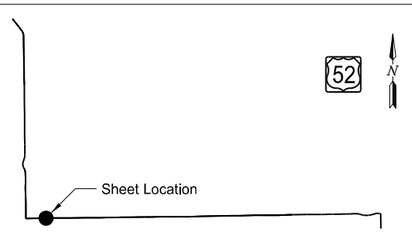
Water line labeled Approx Loc based on maps from CENT PL WATER DIST

Sec 21
T-146-N
R-70-W

Legend

Surfacing Improvements





REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

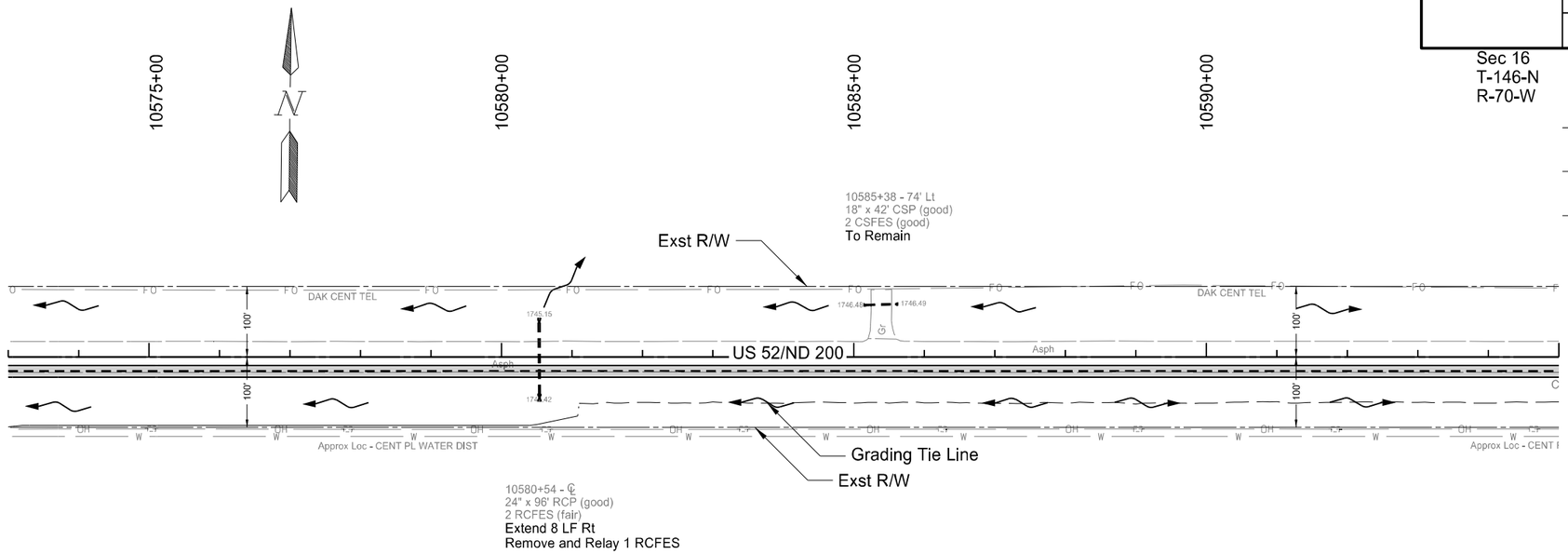
Plan and Profile

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	60	18

Sec 16
T-146-N
R-70-W

SPEC	CODE	BID ITEM	QTY	UNIT
714	0615	Pipe Conc Reinf 24IN CL III		
		10580+54 RT	8	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		10580+54 RT	1	EA
754	0805	Object Markers - Culverts		
		10580+54 RT	1	EA

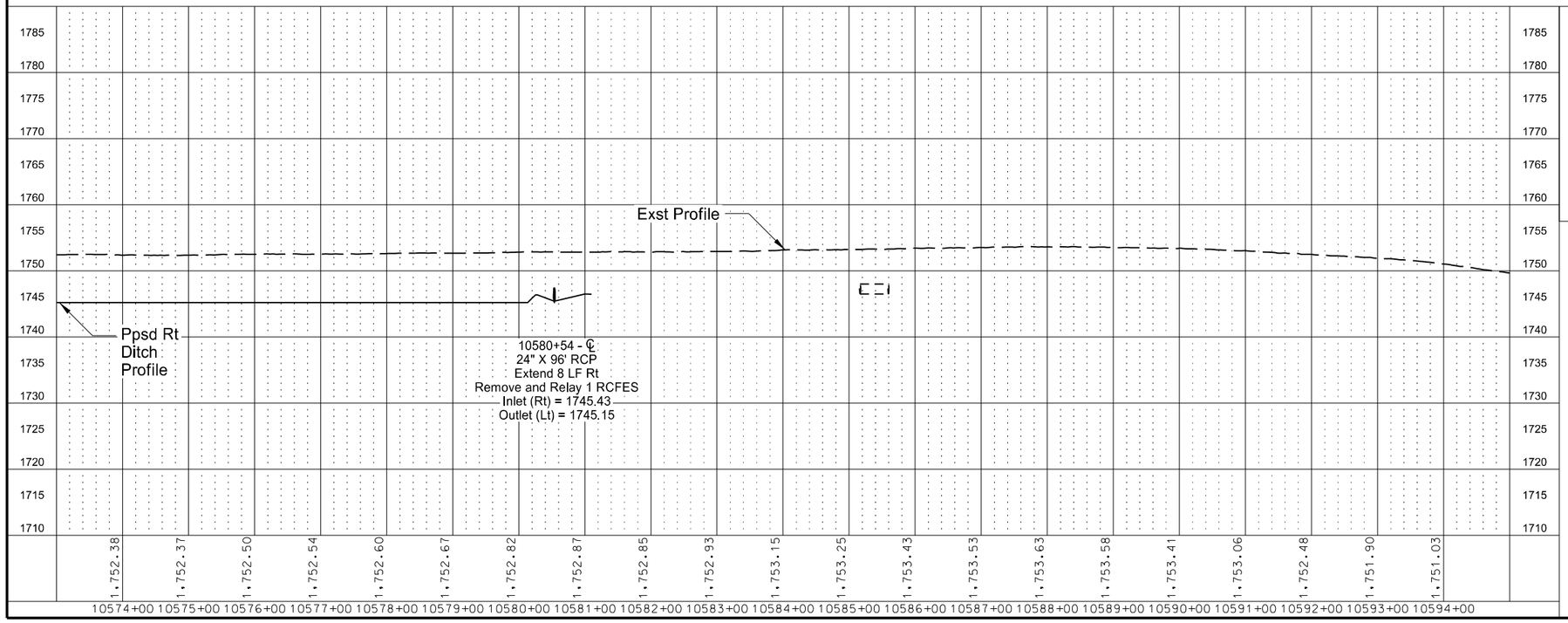


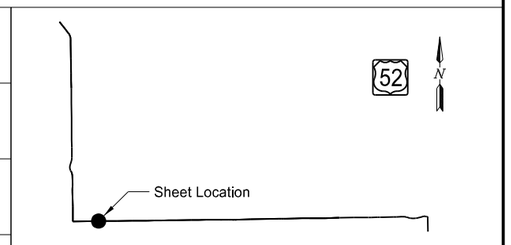
Fiber optic line labeled Approx Loc based on information from DAK CENT TEL
Water line labeled Approx Loc based on maps from CENT PL WATER DIST

Sec 21
T-146-N
R-70-W

Legend

Surfacing Improvements





REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile

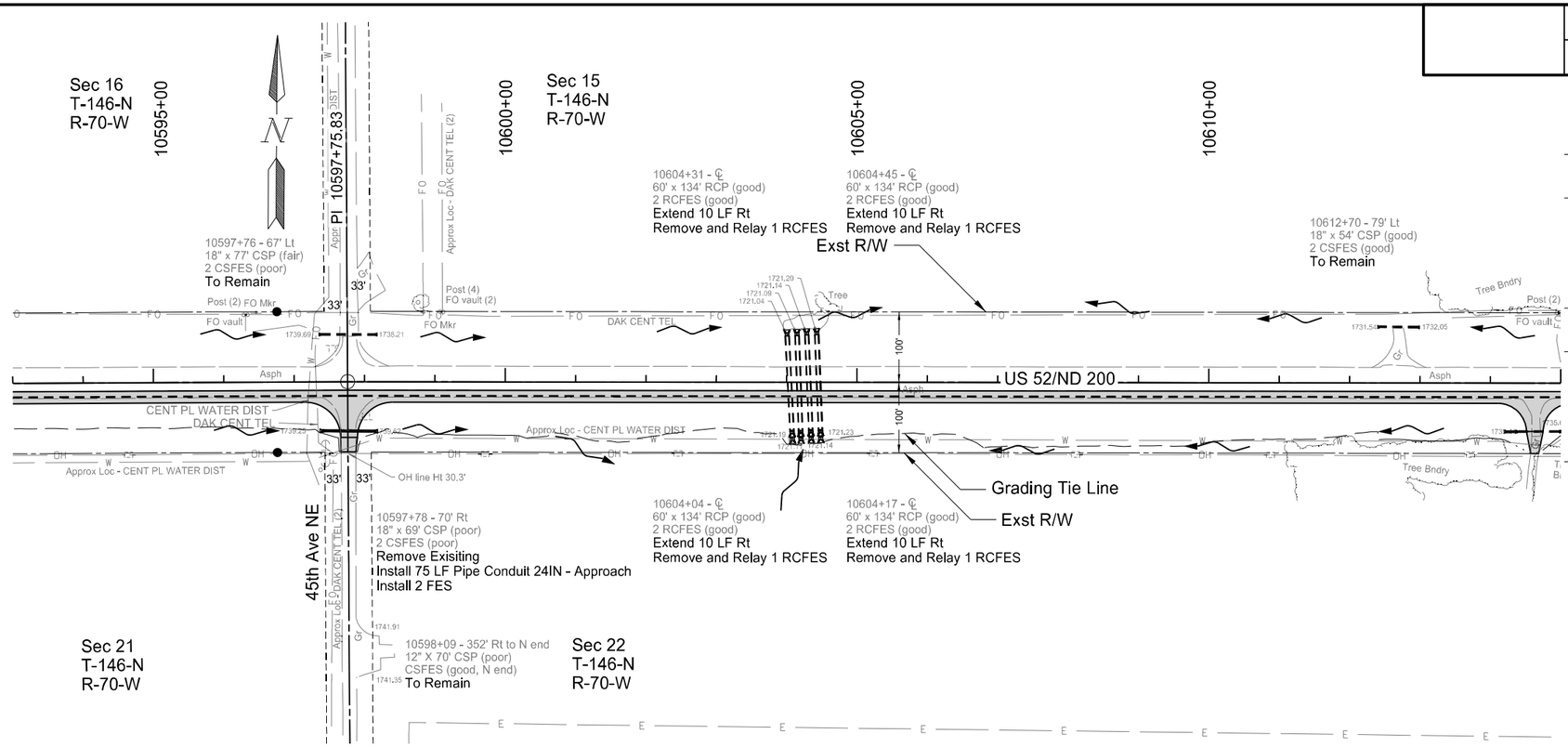
US 52
Fessenden to Carrington

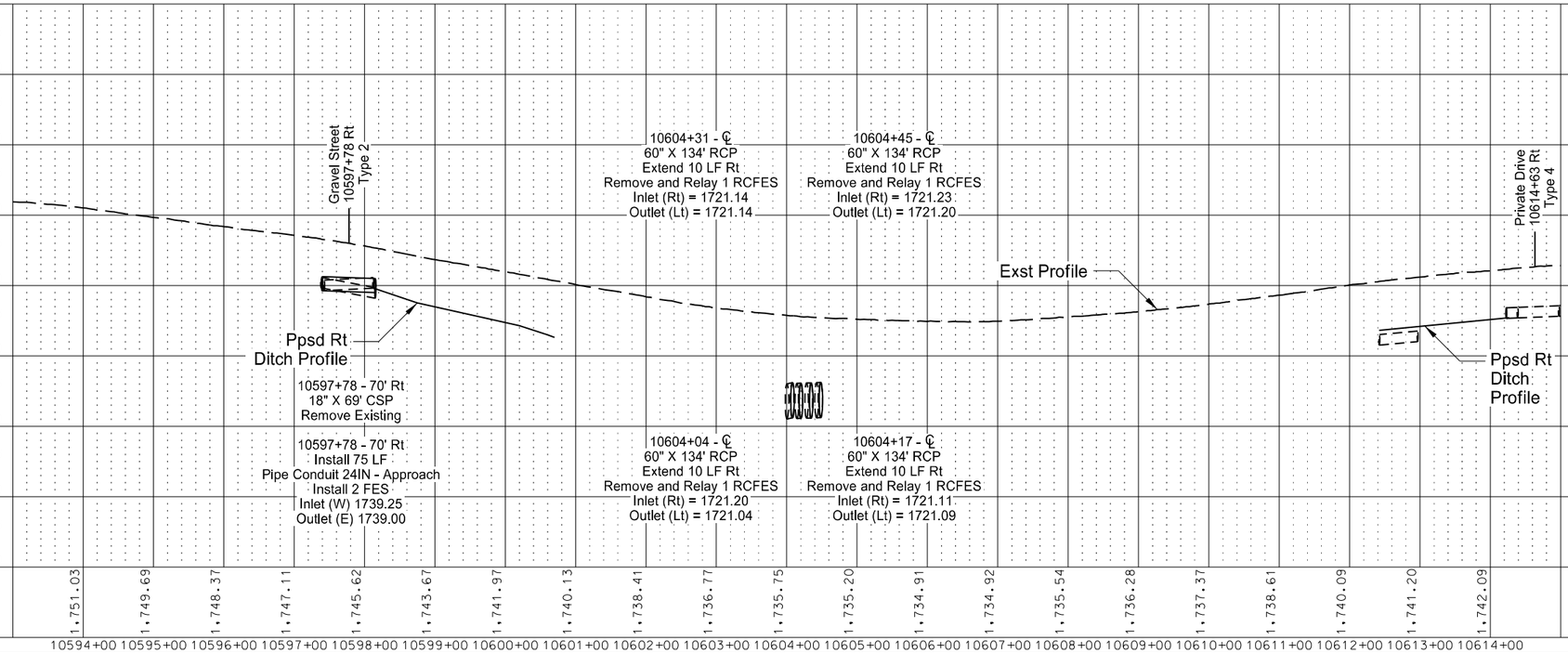
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	19

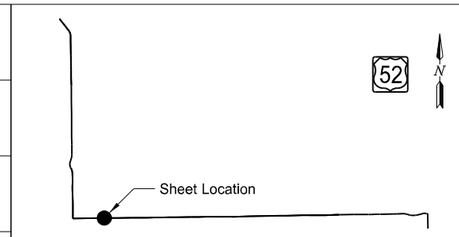
SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	Removal of Pipe-All Types & Sizes		
		10597+78 - 70' RT	69	LF
714	1310	Pipe Conc Reinf 60IN CL III		
		10604+04 RT	10	LF
		10604+17 RT	10	LF
		10604+31 RT	10	LF
		10604+45 RT	10	LF
714	4106	Pipe Conduit 24IN-Approach		
		10597+78 - 70' RT	75	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		10604+04 RT	1	EA
		10604+17 RT	1	EA
		10604+31 RT	1	EA
		10604+45 RT	1	EA
754	0805	Object Markers - Culverts		
		10604+04 RT	1	EA
		10604+45 RT	1	EA

Legend

Surfacing Improvements







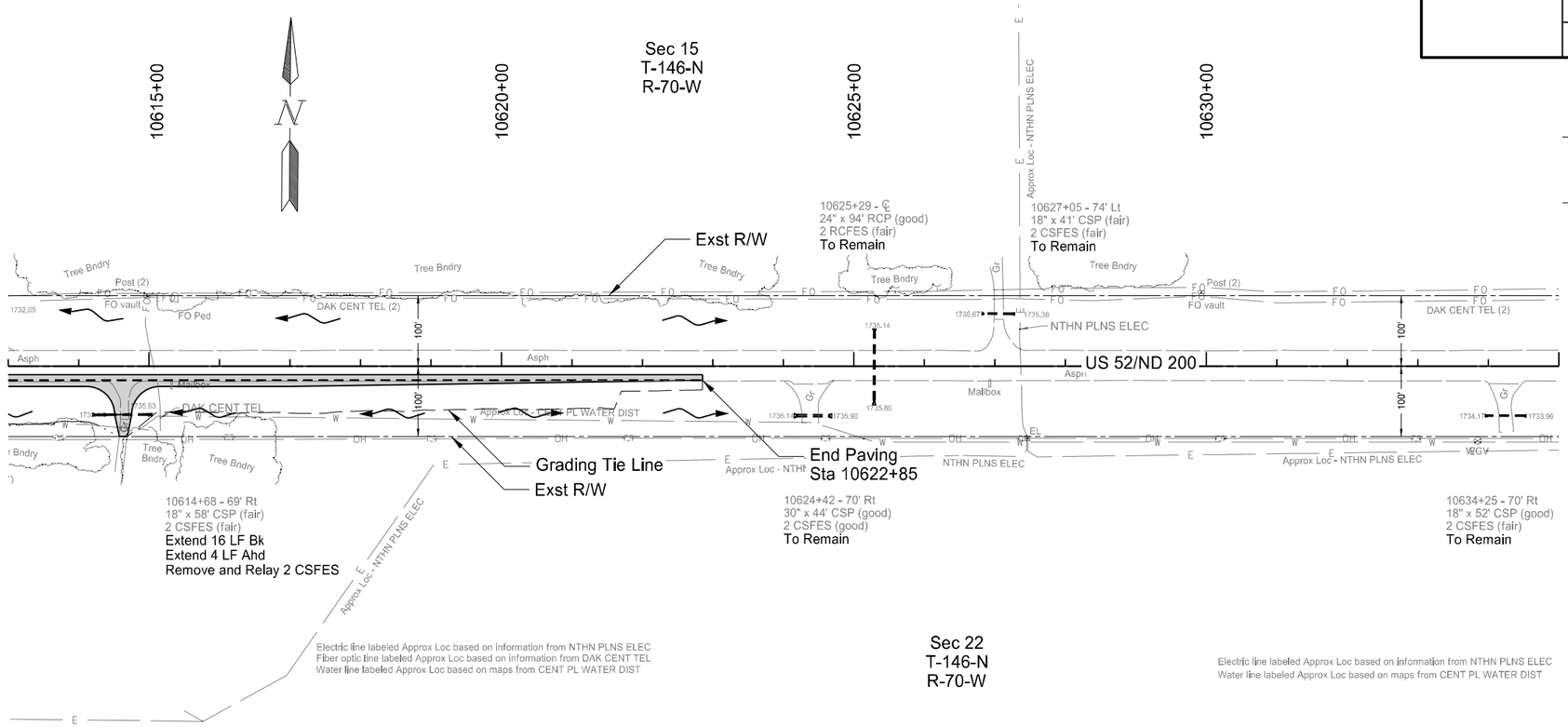
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile

US 52
Fessenden to Carrington

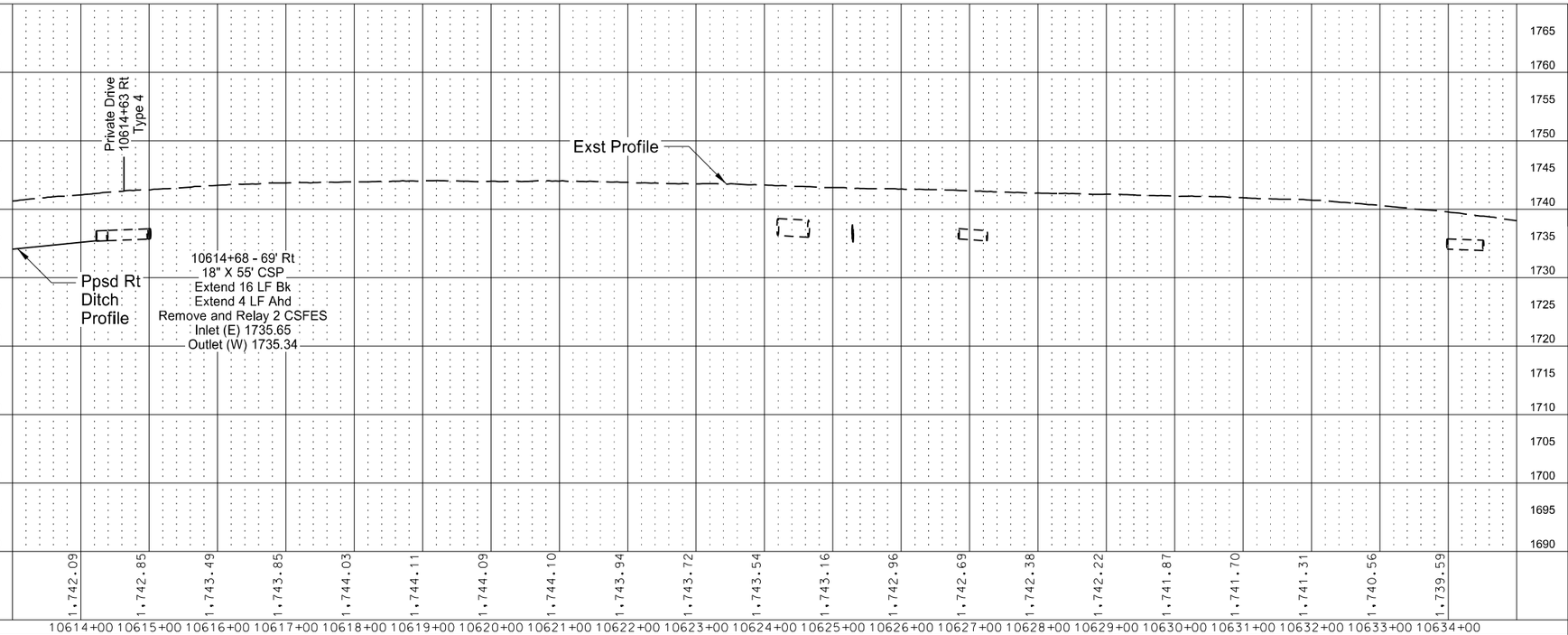
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	20

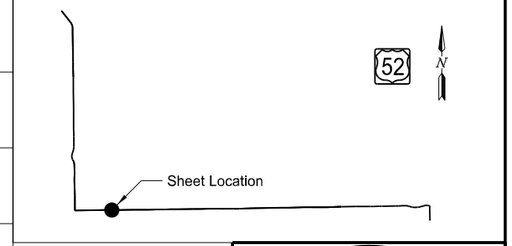
SPEC	CODE	BID ITEM	QTY	UNIT
714	5015	Pipe Corr Steel .064IN 18IN		
		10614+68 RT (Bk)	16	LF
		10614+68 RT (Ahd)	4	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		10614+68 RT (Bk)	1	EA
		10614+68 RT (Ahd)	1	EA



Legend

Surfacing Improvements





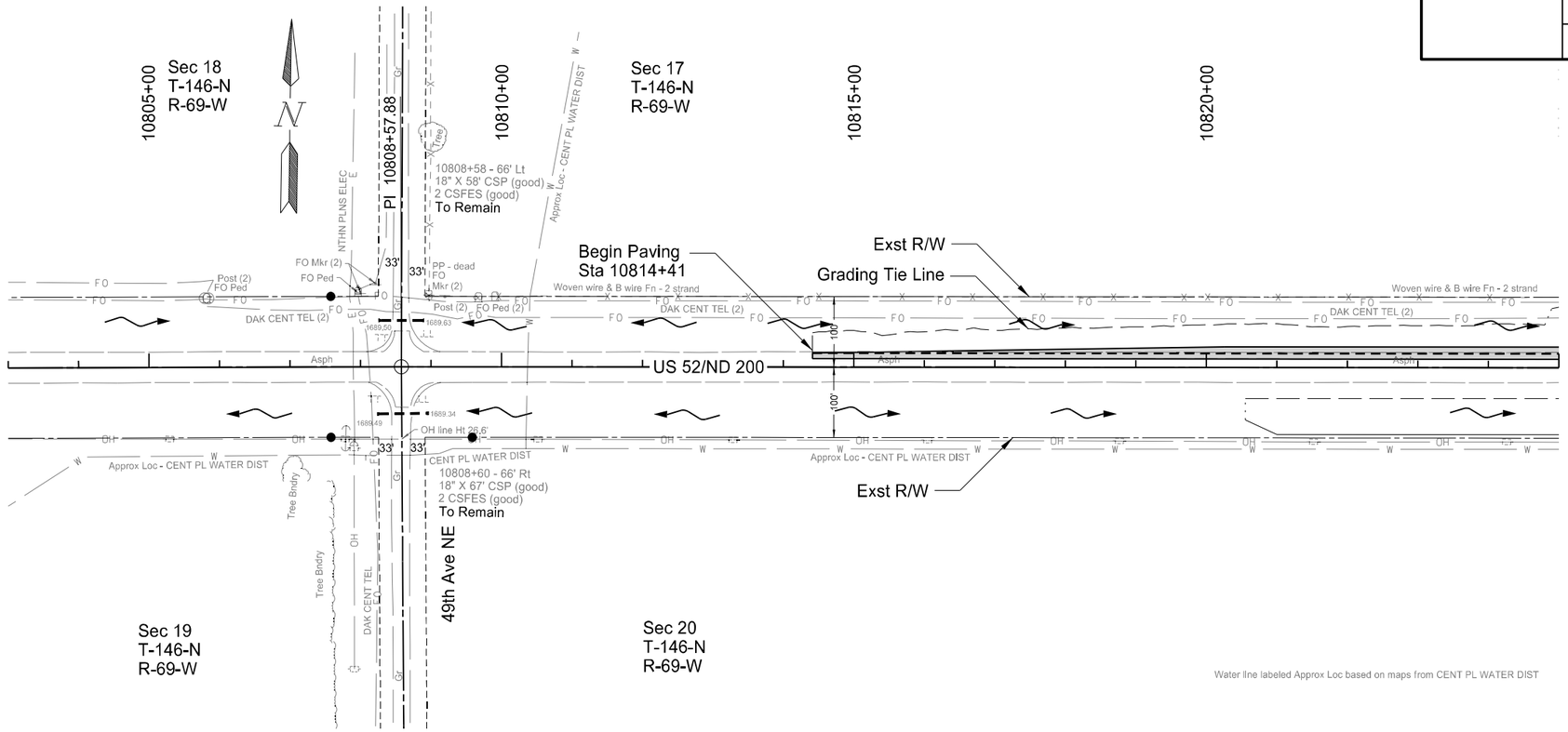
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile

US 52
Fessenden to Carrington

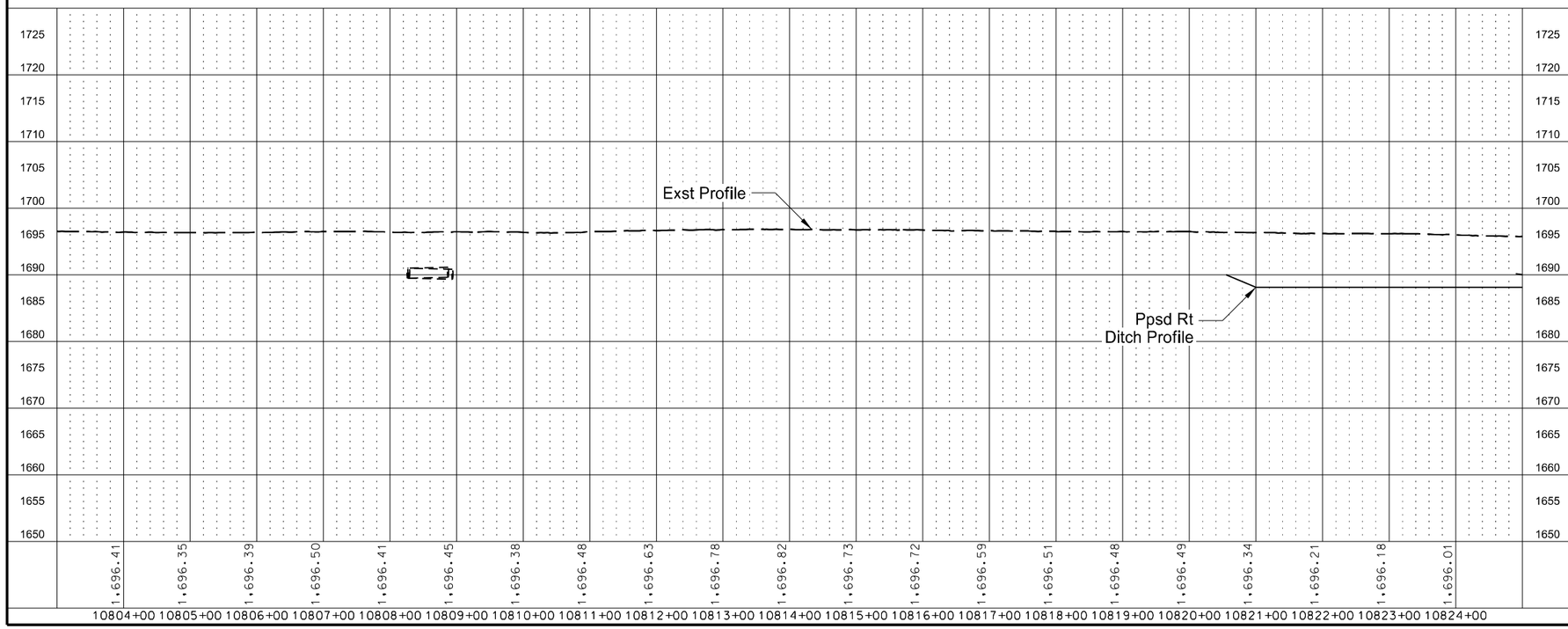
3/14/2022 2:18:11 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\060PP_020_W.dgn

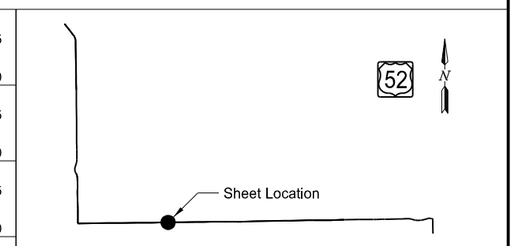
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	60	21



Legend

Surfacing Improvements





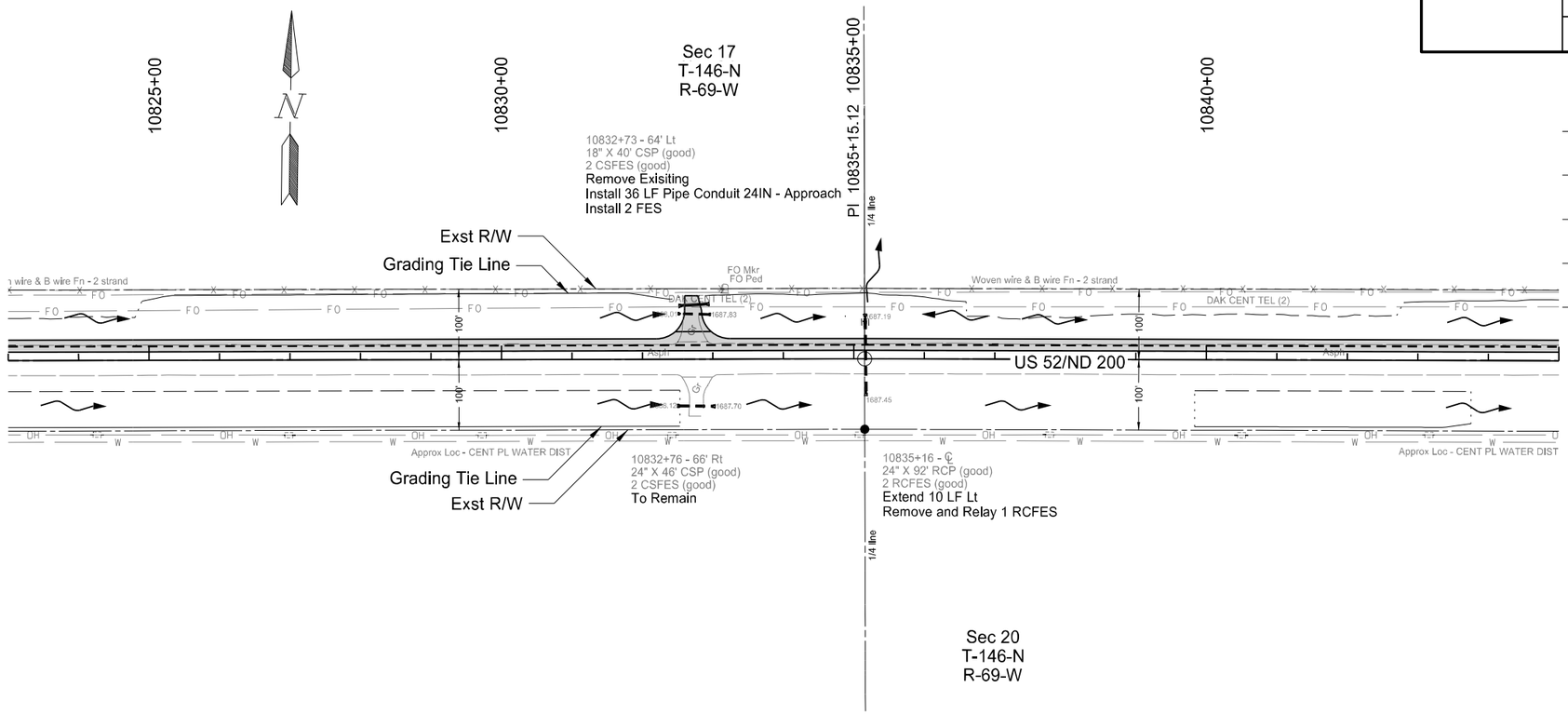
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile

US 52
Fessenden to Carrington

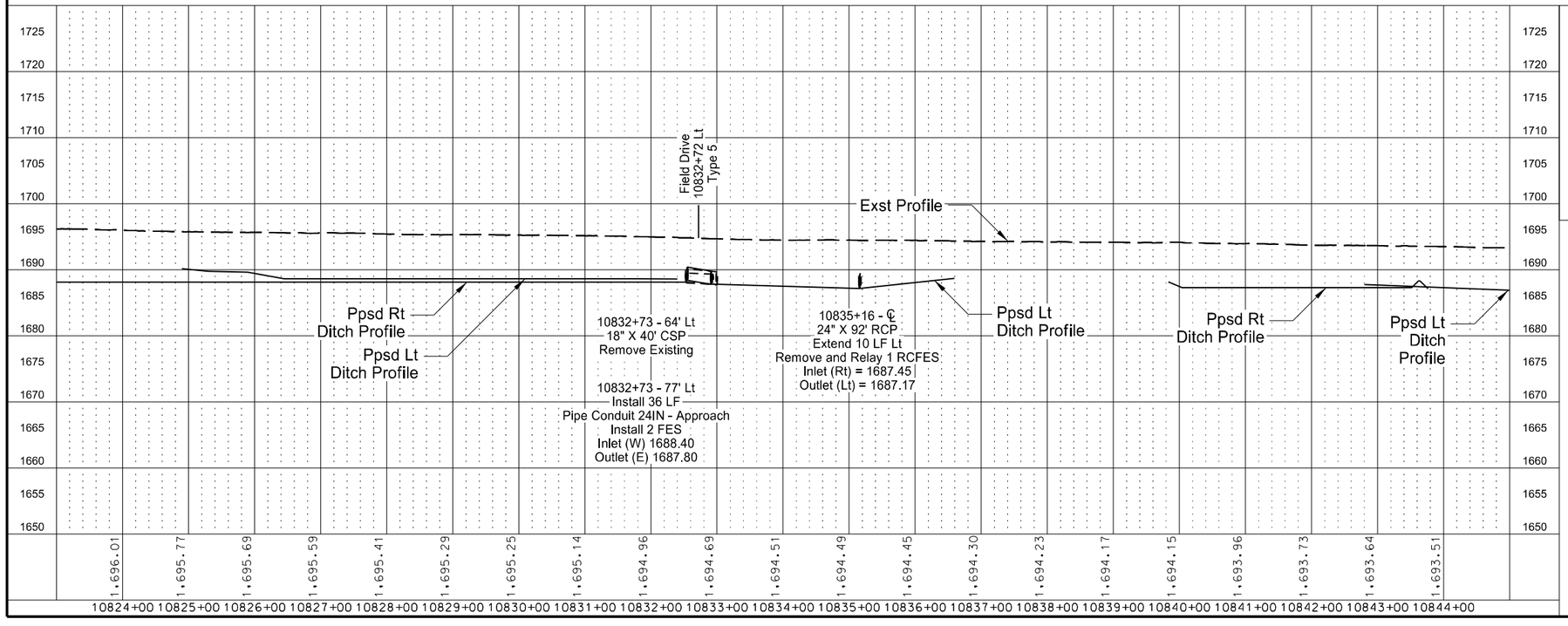
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	22

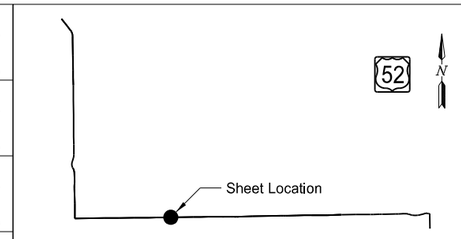
SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	Removal of Pipe-All Types & Sizes		
		10832+73 - 64' LT	40	LF
714	0615	Pipe Conc Reinf 24IN CL III		
		10835+16 LT	10	LF
714	4106	Pipe Conduit 24IN-Approach		
		10832+73 - 77' LT	36	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		10835+16 LT	1	EA
754	0805	Object Markers - Culverts		
		10835+16 LT	1	EA



Legend

Surfacing Improvements





REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

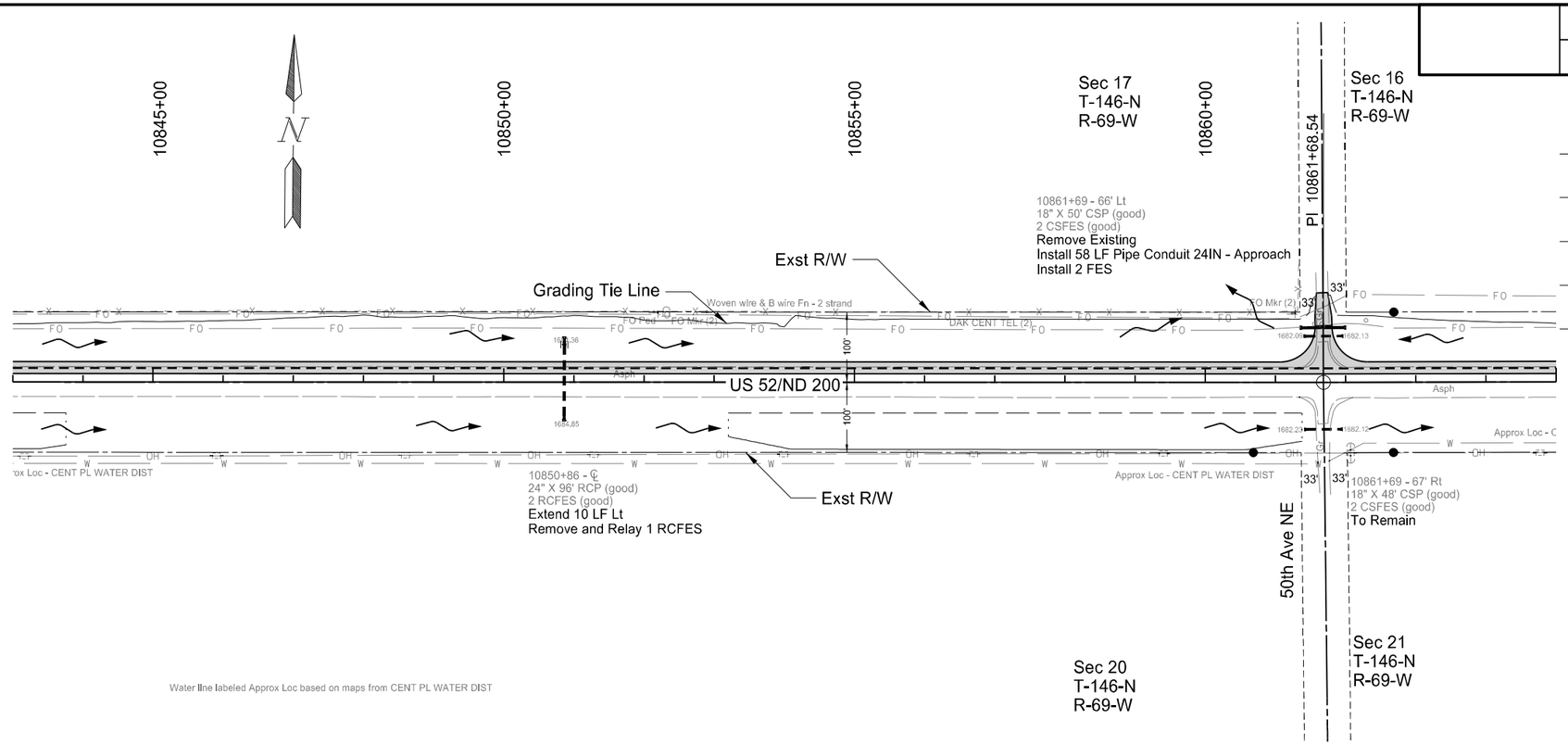
Plan and Profile

US 52
Fessenden to Carrington

3/14/2022 2:18:14 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\060PP_022_W.dgn

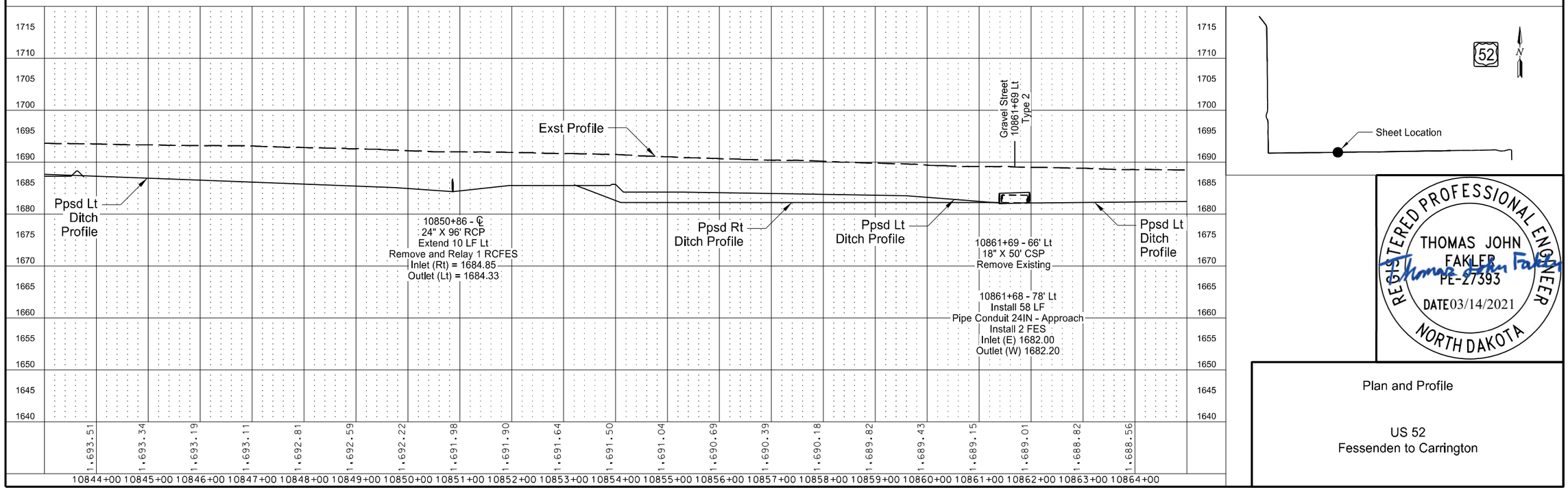
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	23

SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	Removal of Pipe-All Types & Sizes		
		10861+69 - 66' LT	50	LF
714	0615	Pipe Conc Reinf 24IN CL III		
		10850+86 LT	10	LF
714	4106	Pipe Conduit 24IN-Approach		
		10861+68 - 78' LT	58	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		10850+86 LT	1	EA
754	0805	Object Markers - Culverts		
		10850+86 LT	1	EA



Legend

Surfacing Improvements



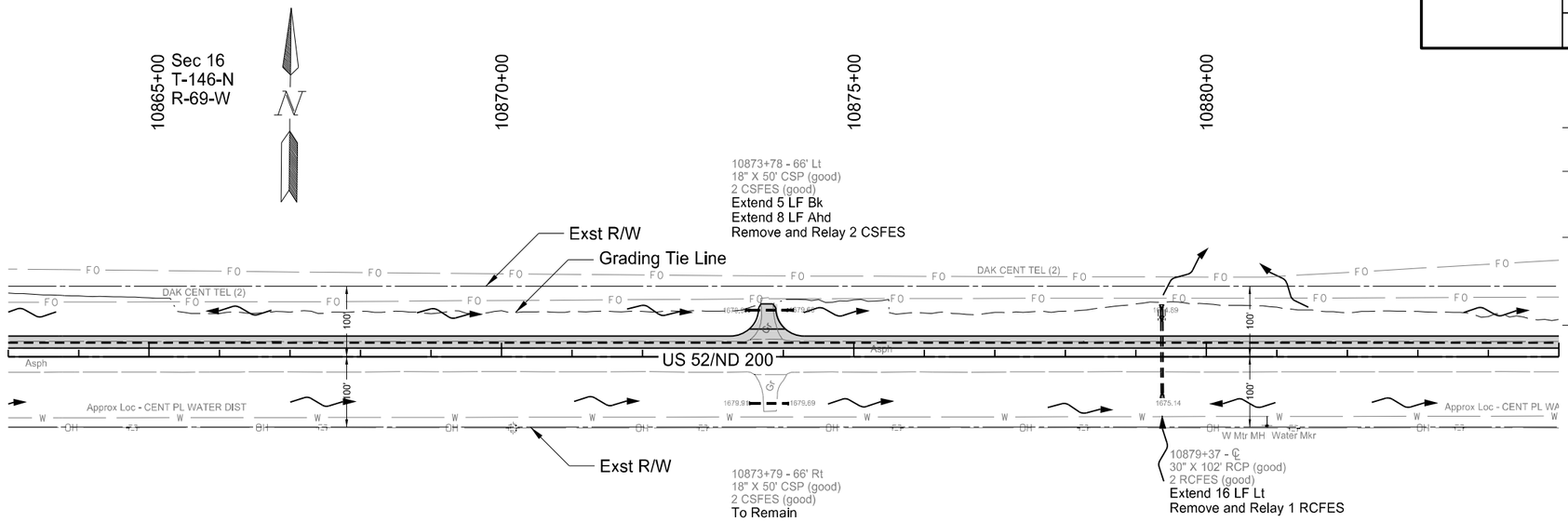
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	24

SPEC	CODE	BID ITEM	QTY	UNIT
714	0820	Pipe Conc Reinf 30IN CL III		
		10879+37 LT	16	LF
714	5015	Pipe Corr Steel .064IN 18IN		
		10873+78 LT (Bk)	5	LF
		10873+78 LT (Ahd)	8	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		10873+78 LT (Bk)	1	EA
		10873+78 LT (Ahd)	1	EA
		10879+37 LT	1	EA
754	0805	Object Markers - Culverts		
		10879+37 LT	1	EA

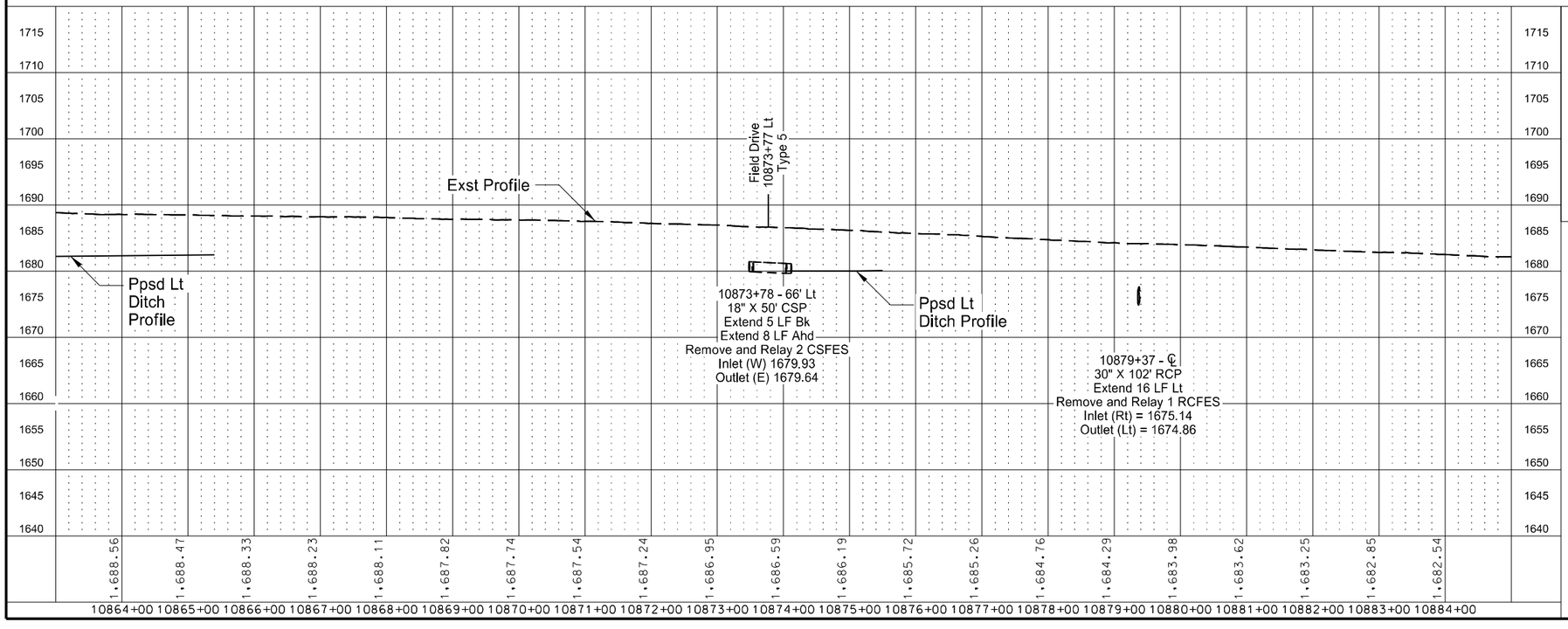


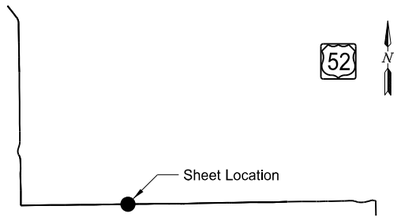
Sec 21
T-146-N
R-69-W

Water line labeled Approx Loc based on maps from CENT PL WATER DIST

Legend

Surfacing Improvements



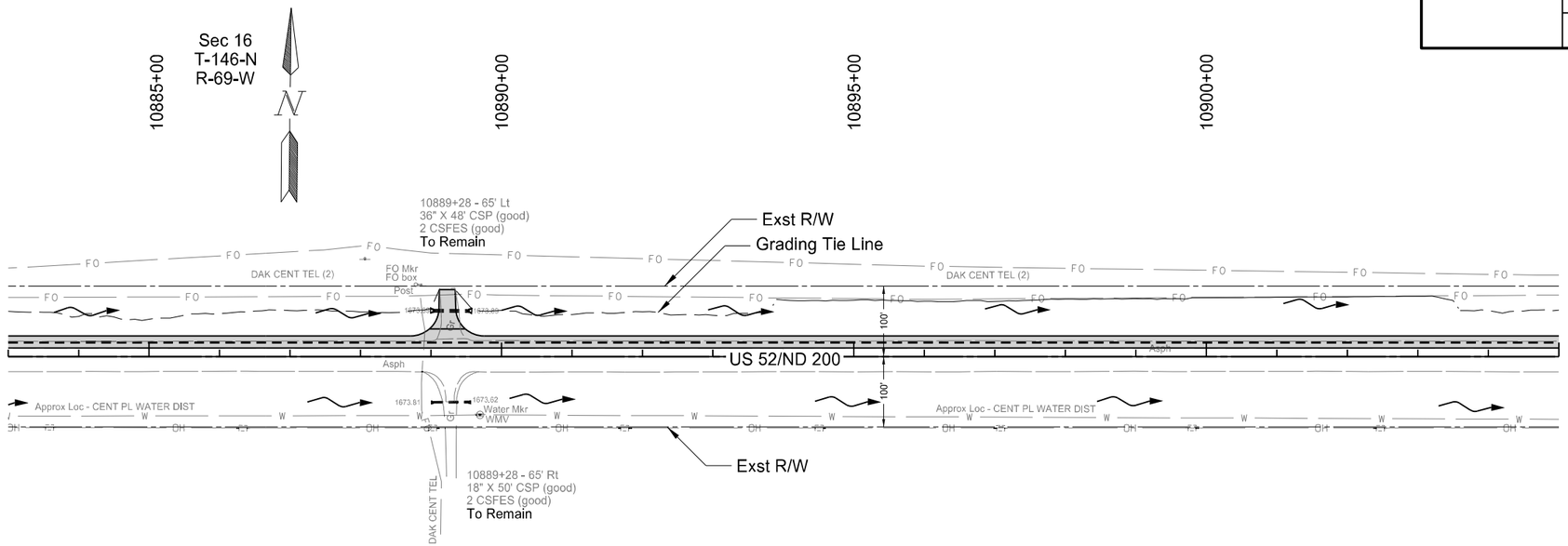


REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile

US 52
Fessenden to Carrington

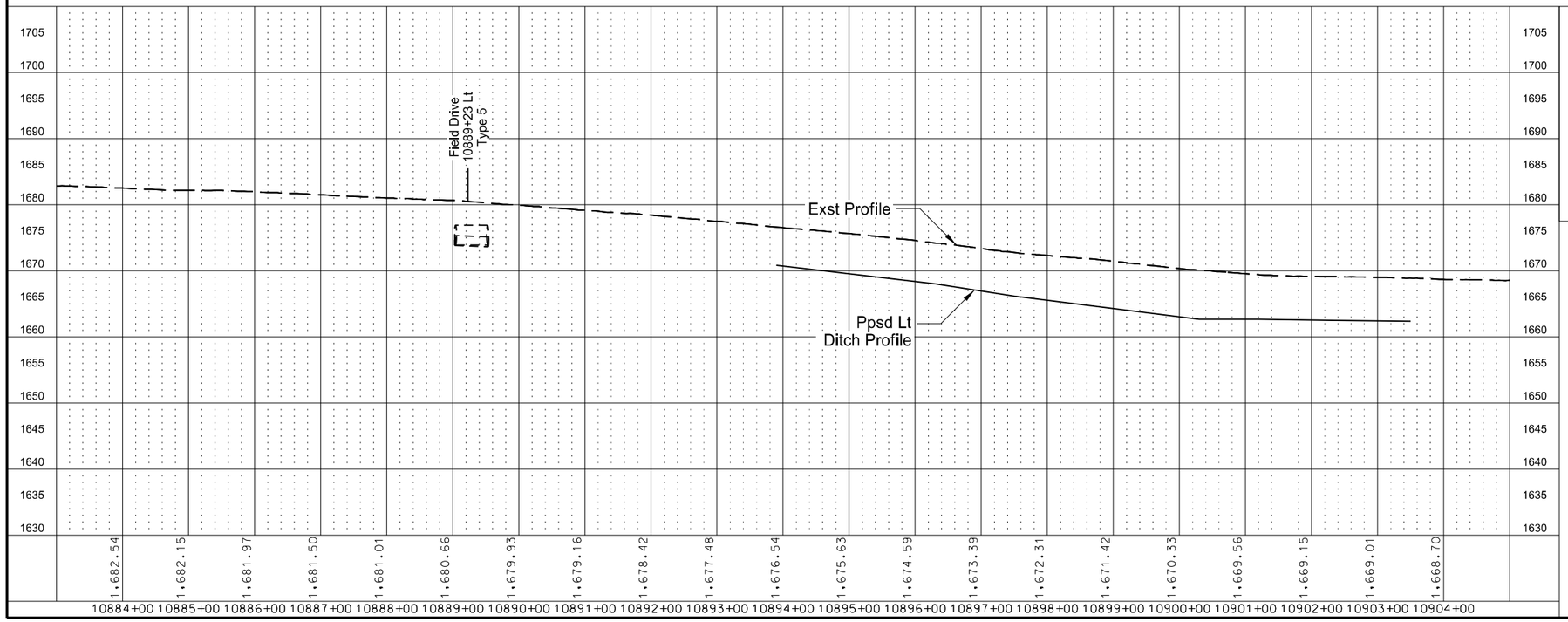
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	60	25

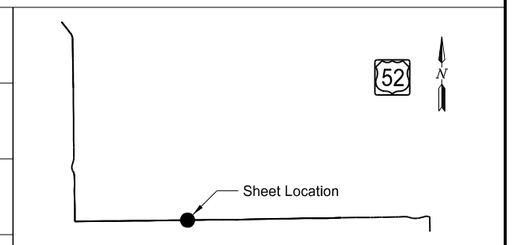


Water line labeled Approx Loc based on maps from CENT PL WATER DIST

Legend

Surfacing Improvements





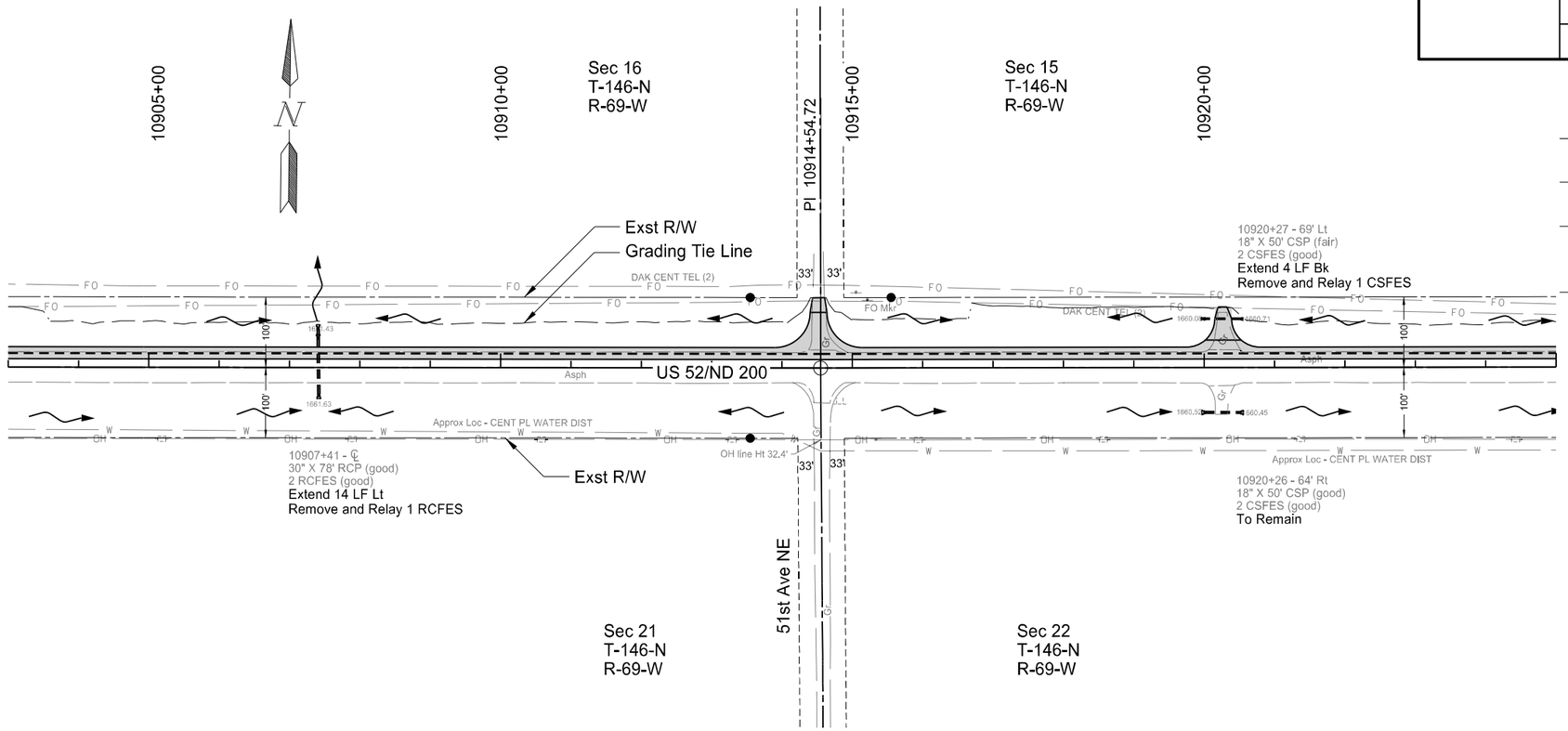
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile

US 52
Fessenden to Carrington

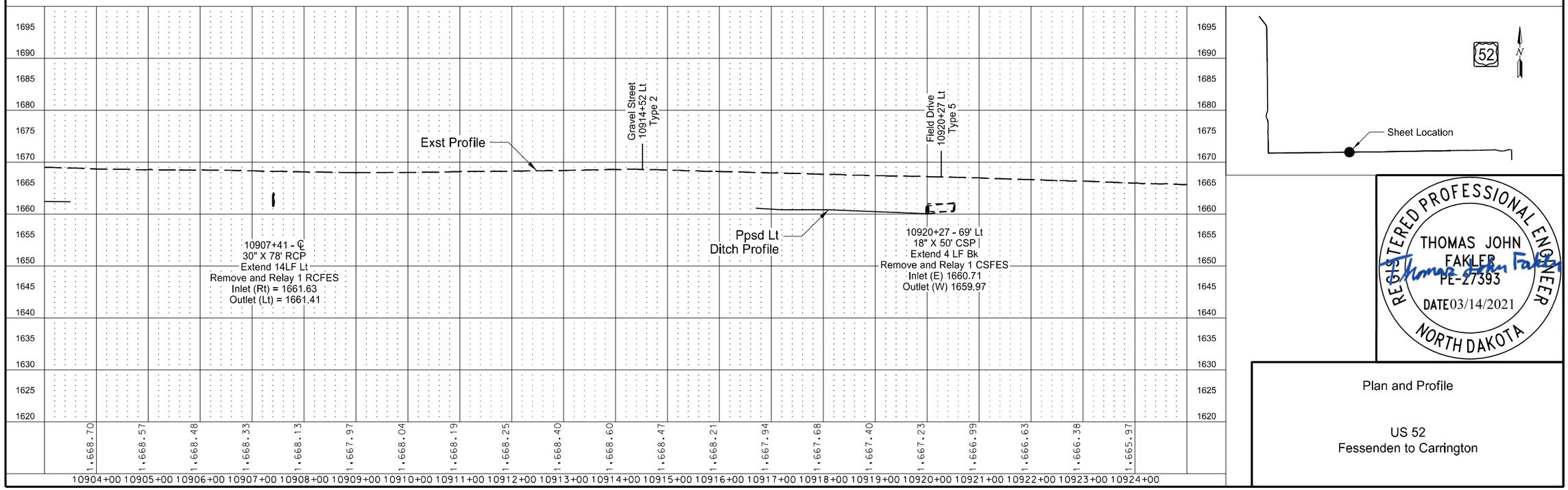
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	26

SPEC	CODE	BID ITEM	QTY	UNIT
714	0820	Pipe Conc Reinf 30IN CL III		
		10907+41 LT	14	LF
714	5015	Pipe Corr Steel .064IN 18IN		
		10920+27 LT (Bk)	4	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		10907+41 LT	1	EA
		10920+27 LT (Bk)	1	EA
754	0805	Object Markers - Culverts		
		10907+41 LT	1	EA



Legend

Surfacing Improvements



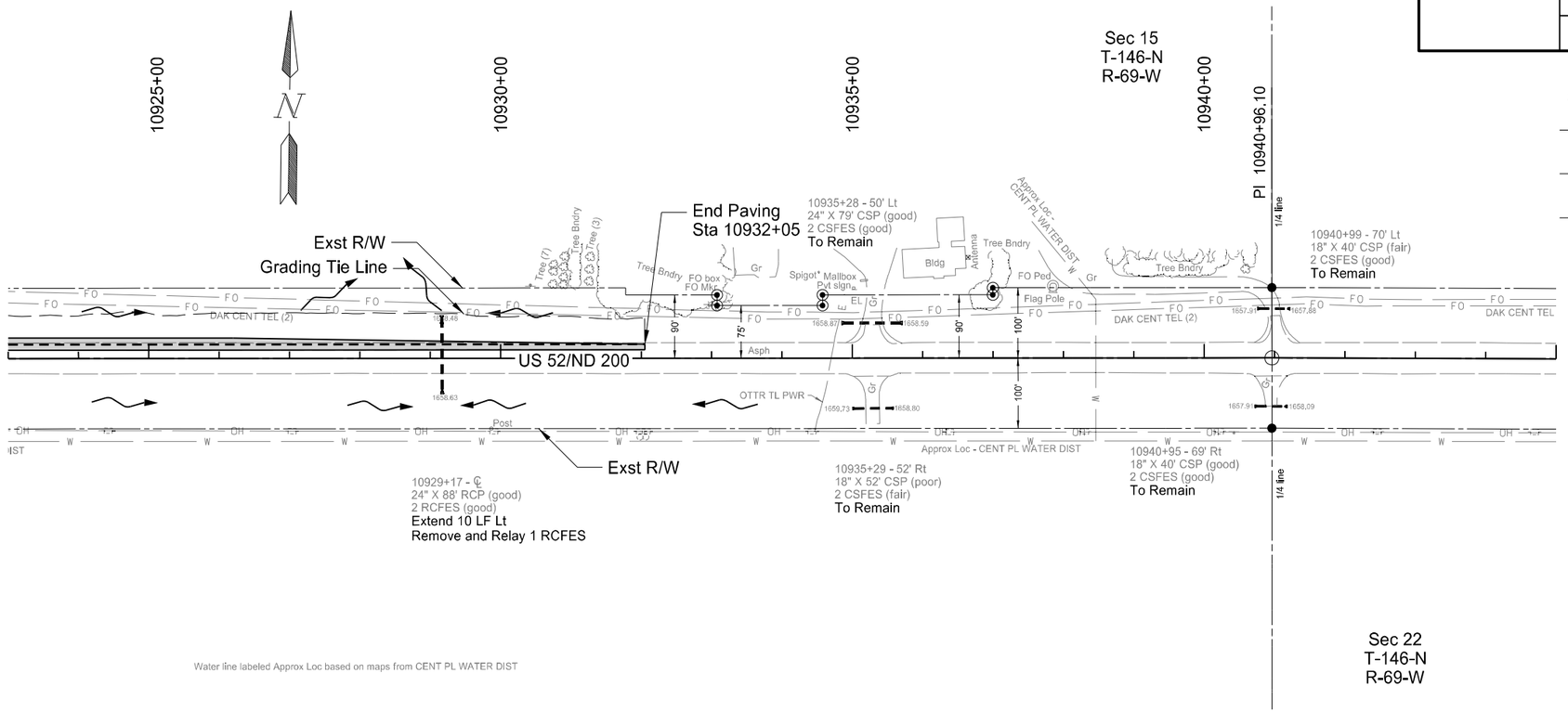
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile

US 52
Fessenden to Carrington

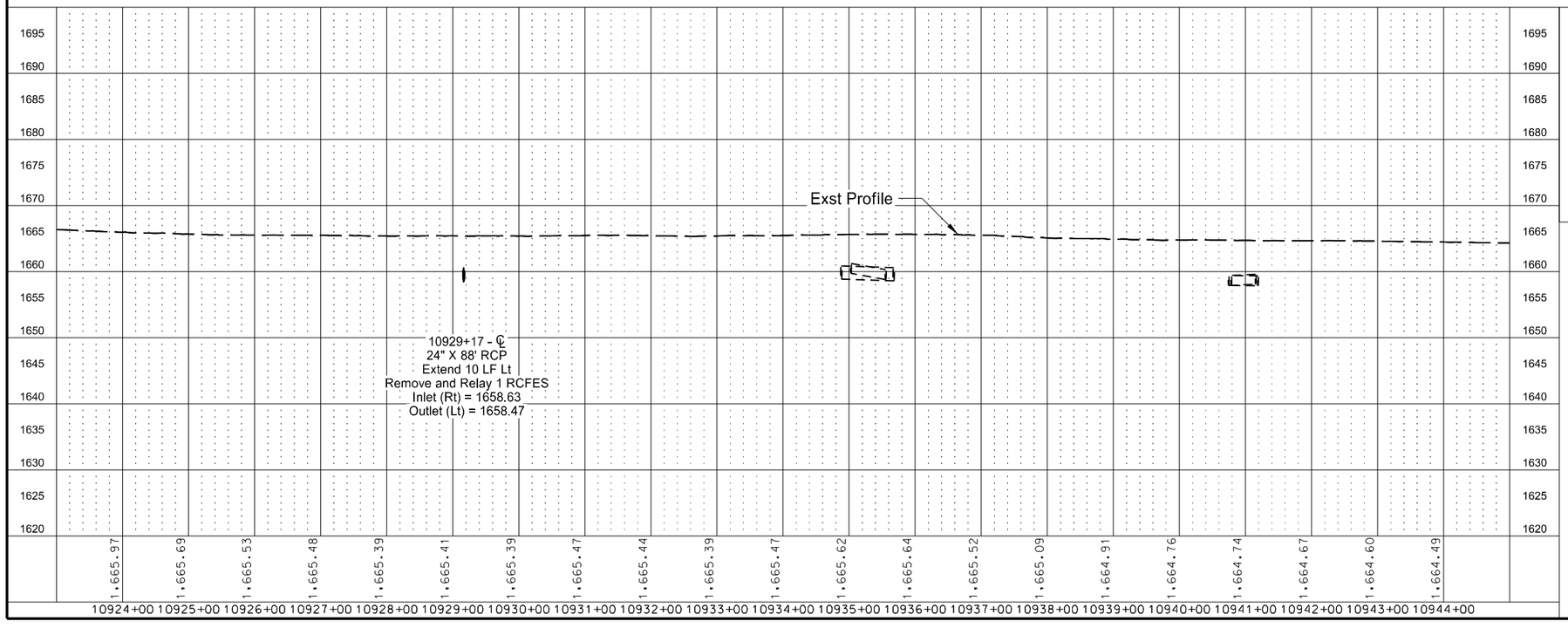
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	27

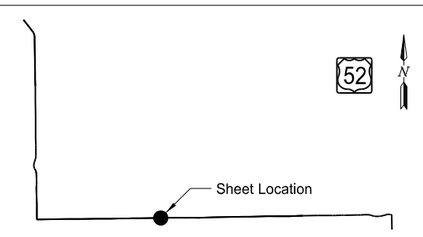
SPEC	CODE	BID ITEM	QTY	UNIT
714	0615	Pipe Conc Reinf 24IN CL III		
		10929+17 LT	10	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		10929+17 LT	1	EA
754	0805	Object Markers - Culverts		
		10929+17 LT	1	EA



Legend

Surfacing Improvements



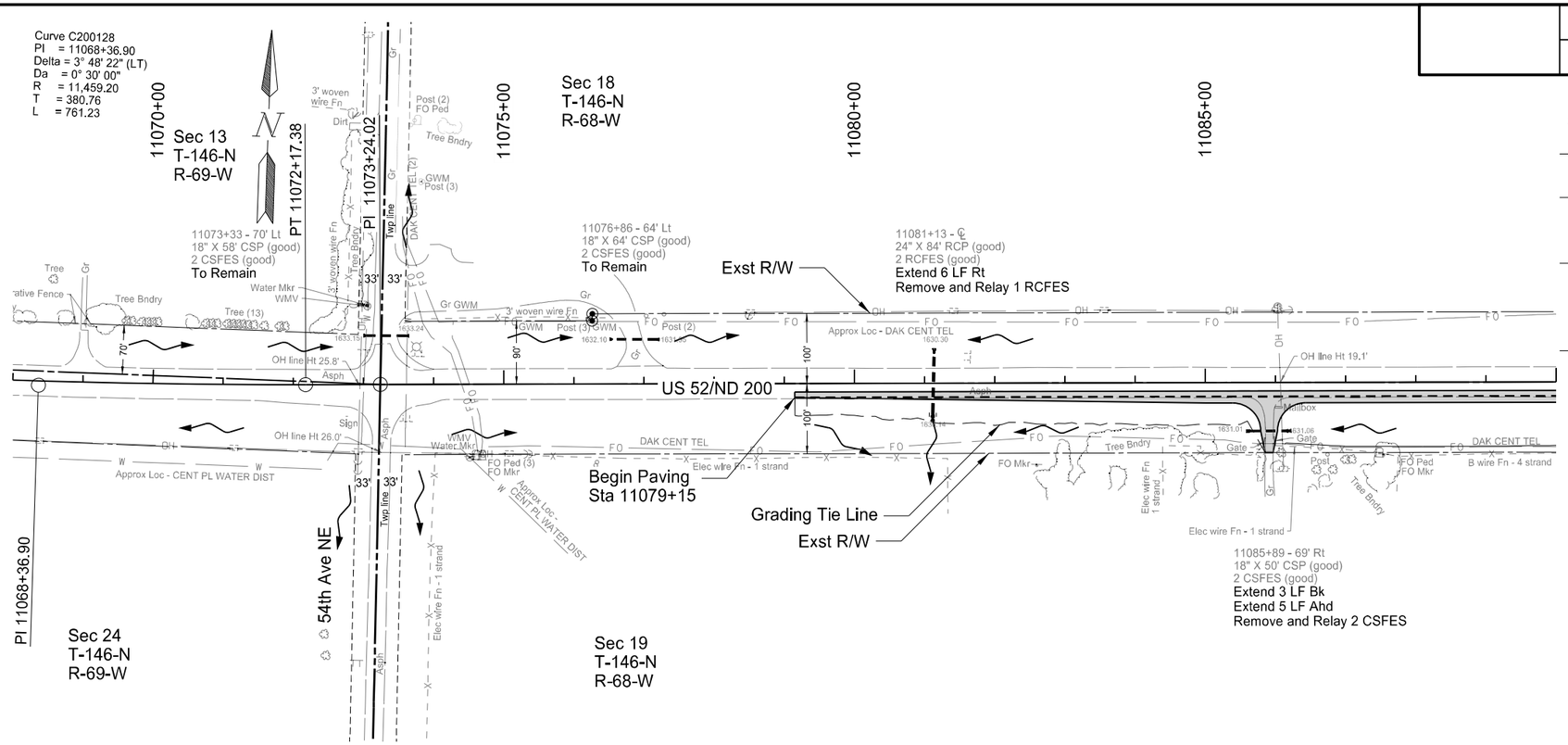


REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile

US 52
Fessenden to Carrington

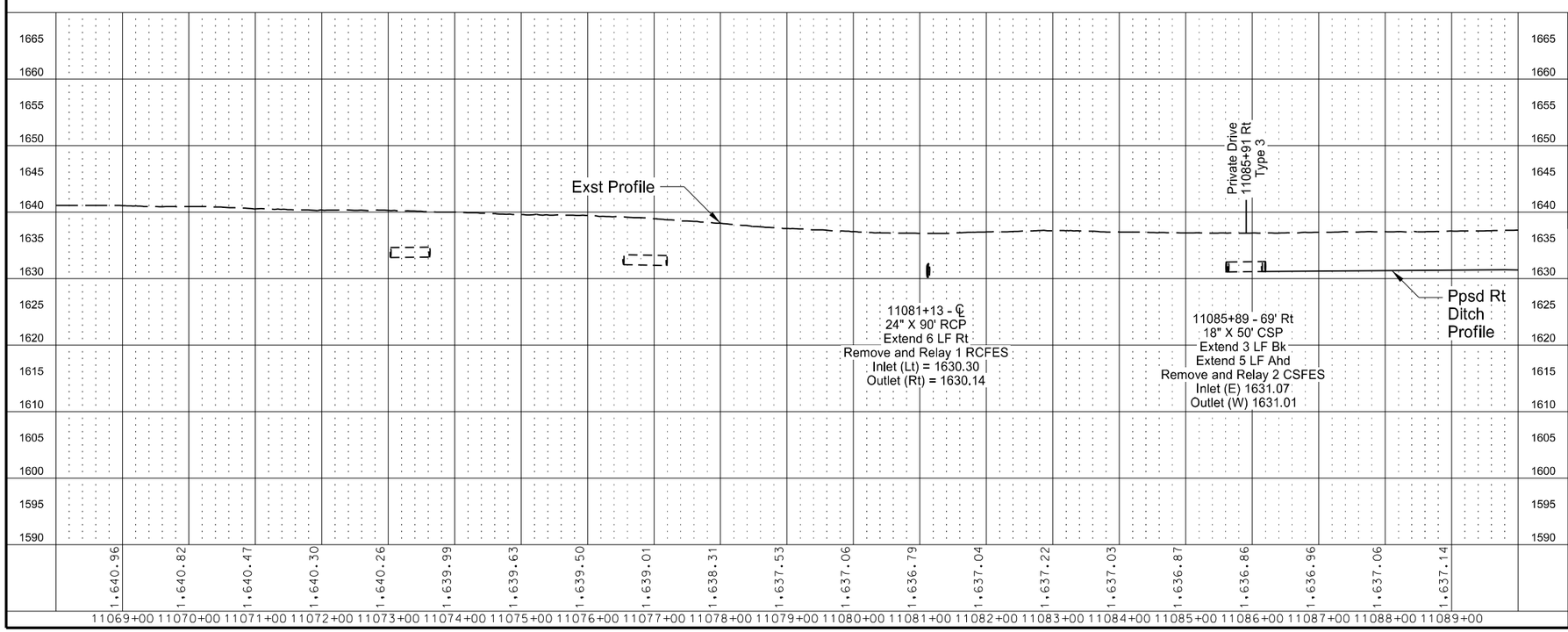
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	28

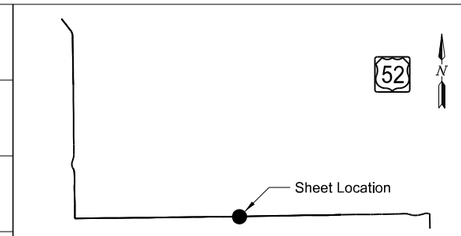


SPEC	CODE	BID ITEM	QTY	UNIT
714	0615	Pipe Conc Reinf 24IN CL III		
		11081+13 RT	6	LF
714	5015	Pipe Corr Steel .064IN 18IN		
		11085+89 RT (Bk)	3	LF
		11085+89 RT (Ahd)	5	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		11081+13 RT	1	EA
		11085+89 RT (Bk)	1	EA
		11085+89 RT (Ahd)	1	EA
754	0805	Object Markers - Culverts		
		11081+13 RT	1	EA

Legend

Surfacing Improvements





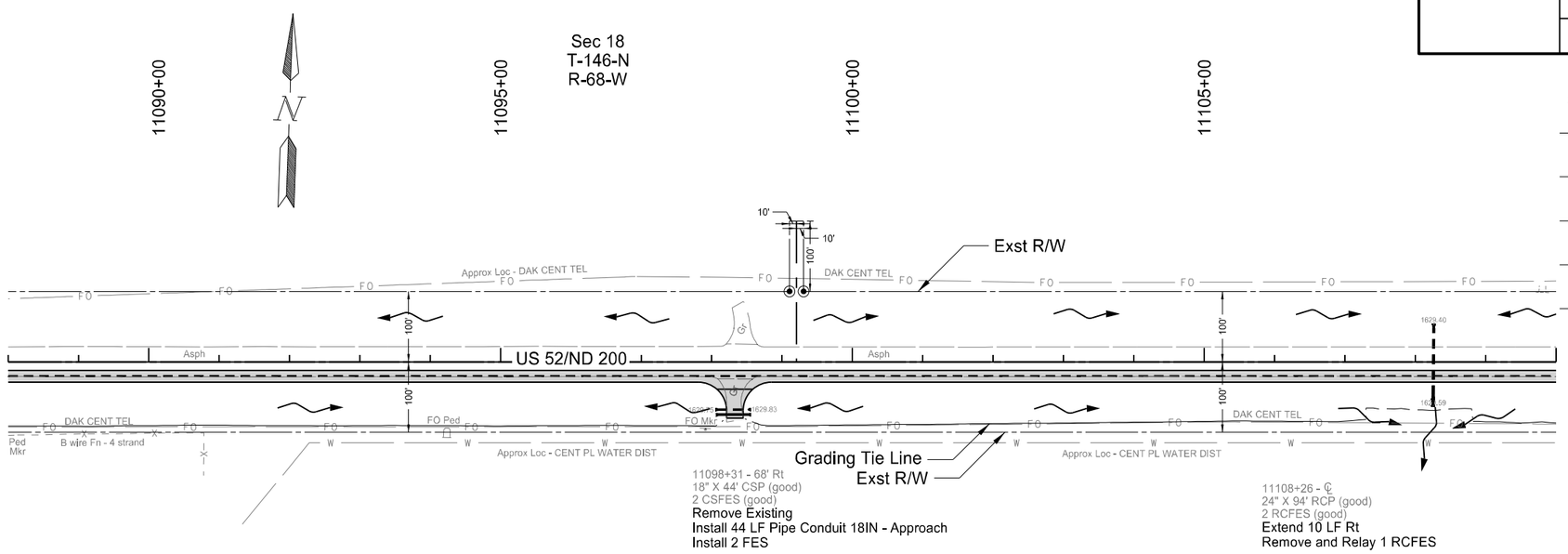
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	29

SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	Removal of Pipe-All Types & Sizes		
		11098+31 68' RT	44	LF
714	0615	Pipe Conc Reinf 24IN CL III		
		11108+26 RT	10	LF
714	4099	Pipe Conduit 18IN-Approach		
		11098+31 - 75' RT	44	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		11108+26 RT	1	EA
754	0805	Object Markers - Culverts		
		11108+26 RT	1	EA

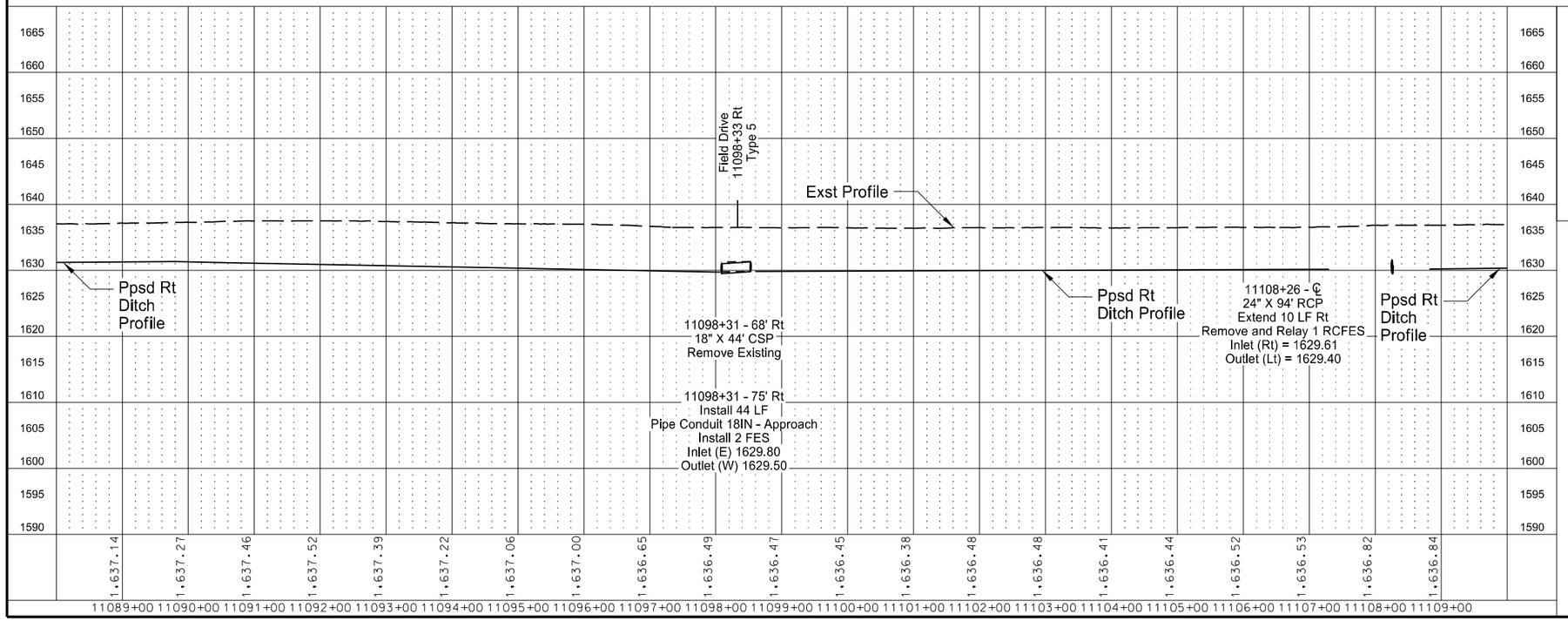


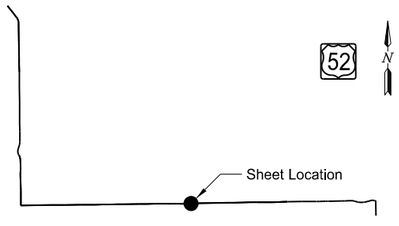
Fiber optic line labeled Approx Loc based on information from DAK CENT TEL
Water line labeled Approx Loc based on maps from CENT PL WATER DIST

Sec 19
T-146-N
R-68-W

Legend

Surfacing Improvements





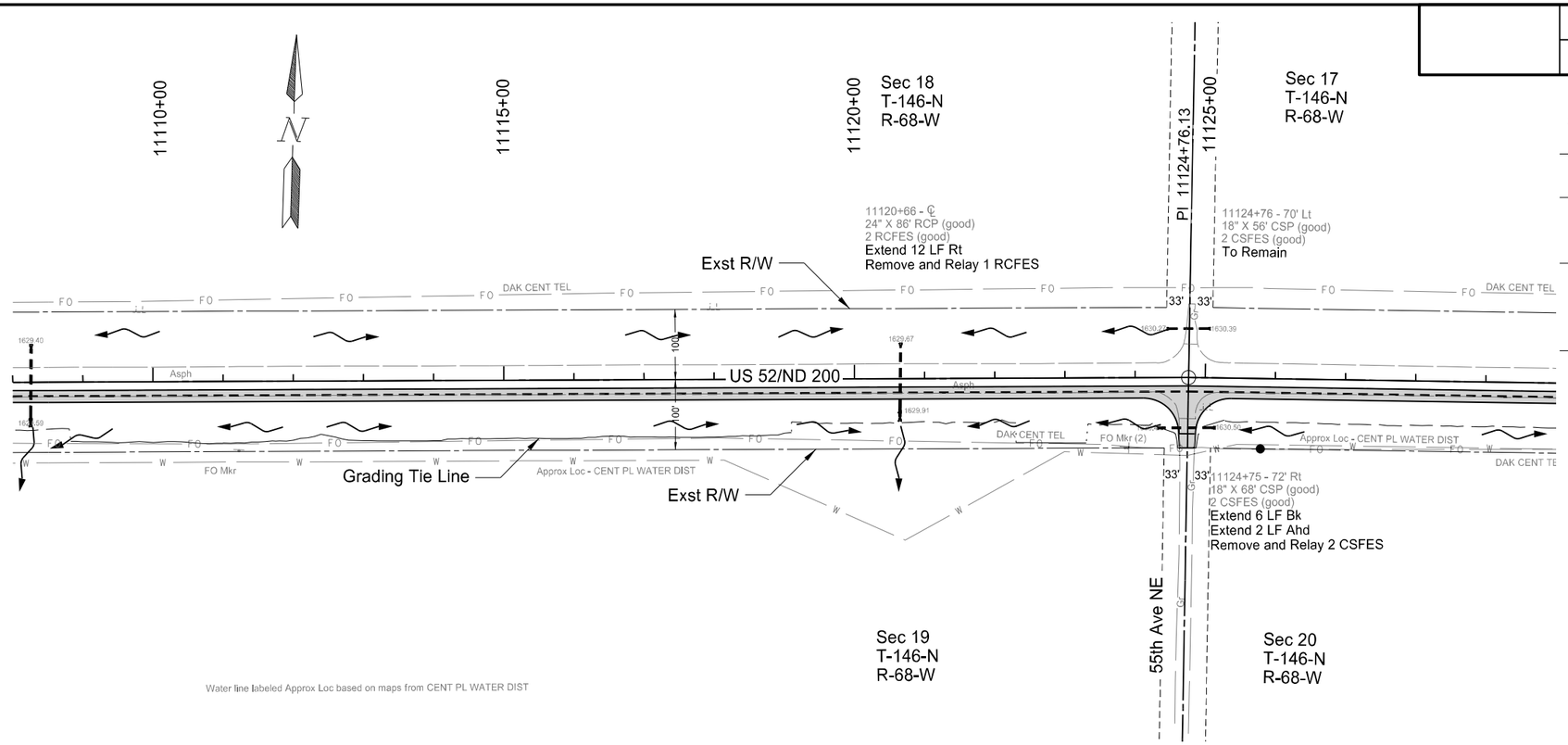
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile

US 52
Fessenden to Carrington

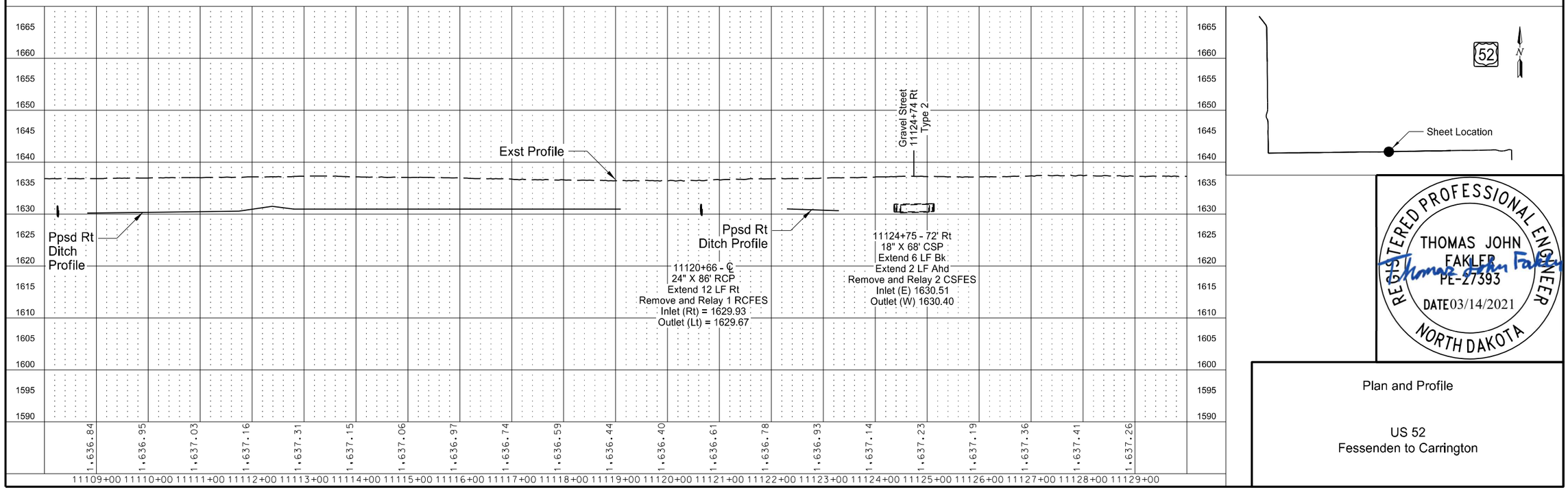
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	30

SPEC	CODE	BID ITEM	QTY	UNIT
714	0615	Pipe Conc Reinf 24IN CL III		
		11120+66 RT	12	LF
714	5015	Pipe Corr Steel .064IN 18IN		
		11124+75 RT (Bk)	6	LF
		11124+75 RT (Ahd)	2	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		11120+66 RT	1	EA
		11124+75 RT (Bk)	1	EA
		11124+75 RT (Ahd)	1	EA
754	0805	Object Markers - Culverts		
		11120+66 RT	1	EA



Legend

Surfacing Improvements



REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile

US 52
Fessenden to Carrington

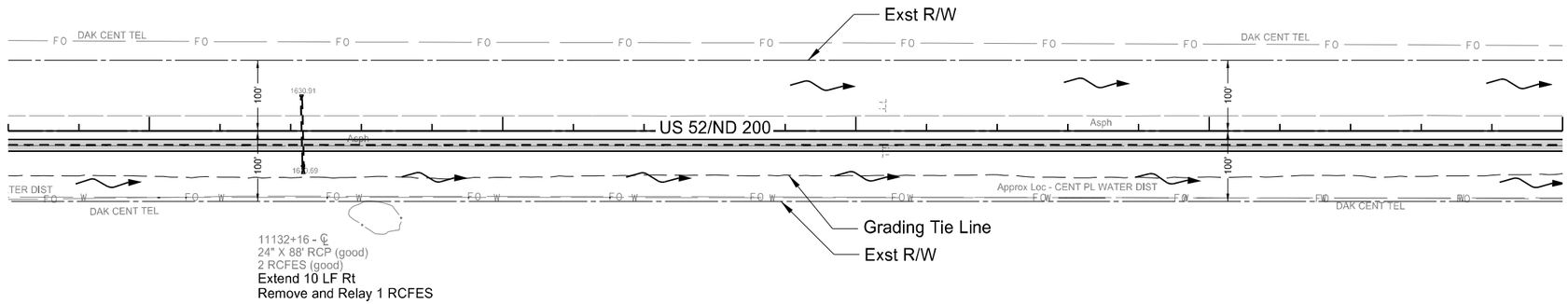
3/14/2022 2:18:30 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\060PP_030_W.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	31

11130+00 11135+00 11140+00 11145+00

Sec 17
T-146-N
R-68-W

SPEC	CODE	BID ITEM	QTY	UNIT
714	0615	Pipe Conc Reinf 24IN CL III		
		11132+16 RT	10	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		11132+16 RT	1	EA
754	0805	Object Markers - Culverts		
		11132+16 RT	1	EA

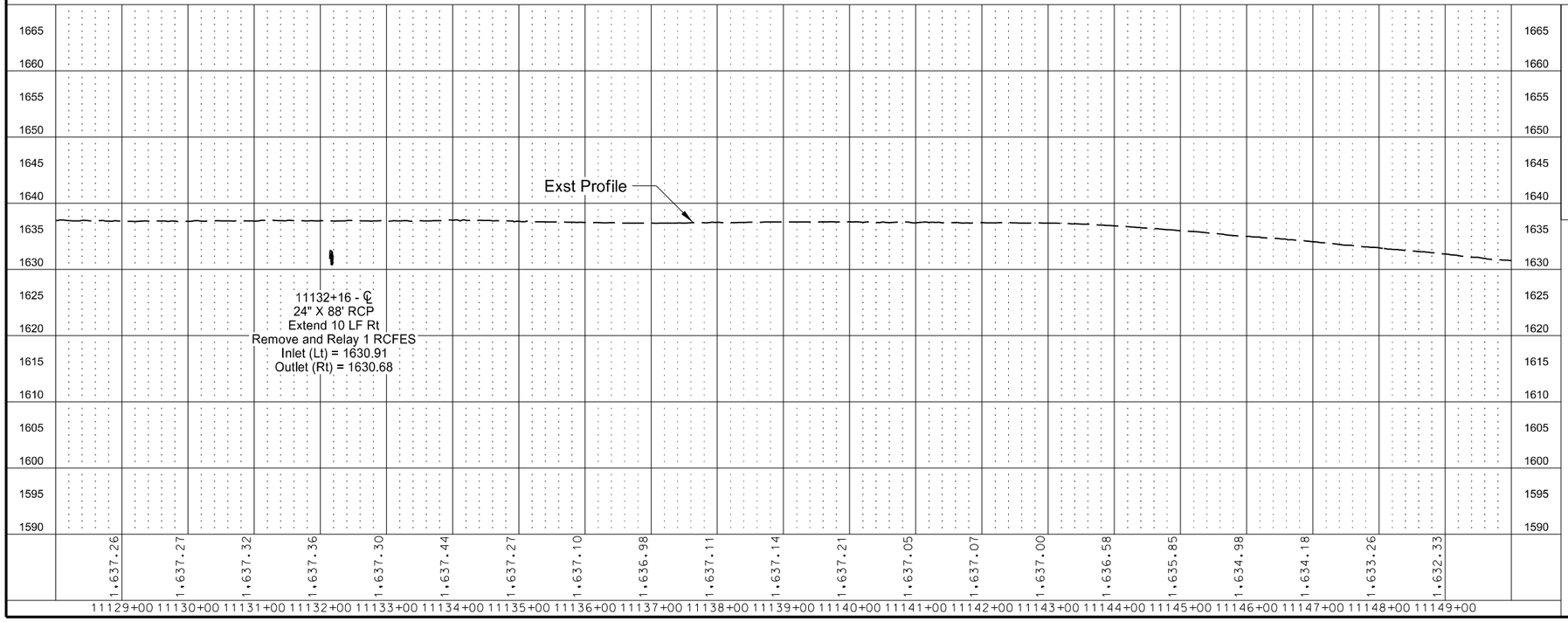


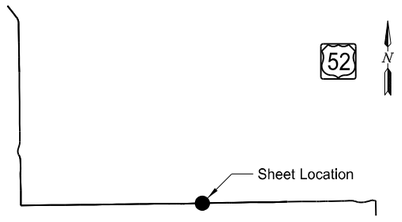
Sec 20
T-146-N
R-68-W

Water line labeled Approx Loc based on maps from CENT PL WATER DIST

Legend

Surfacing Improvements



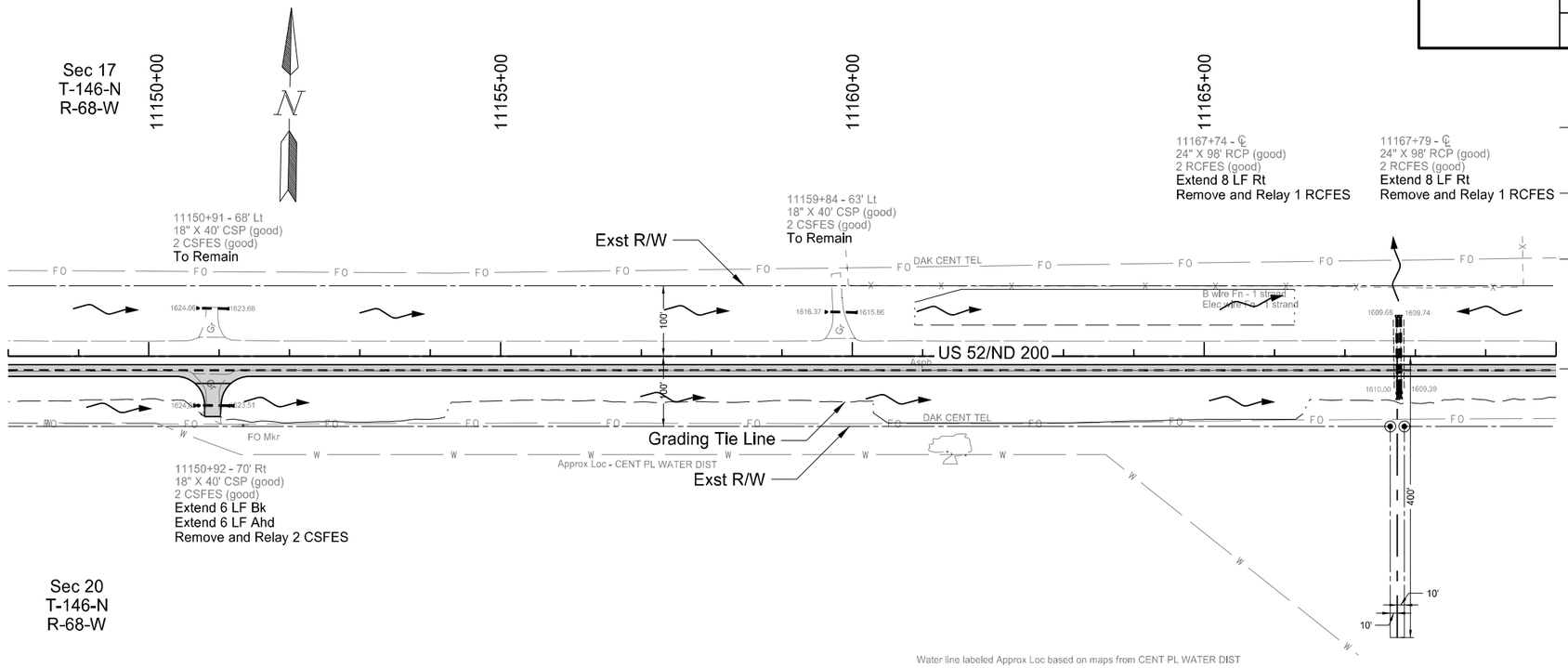


REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	32

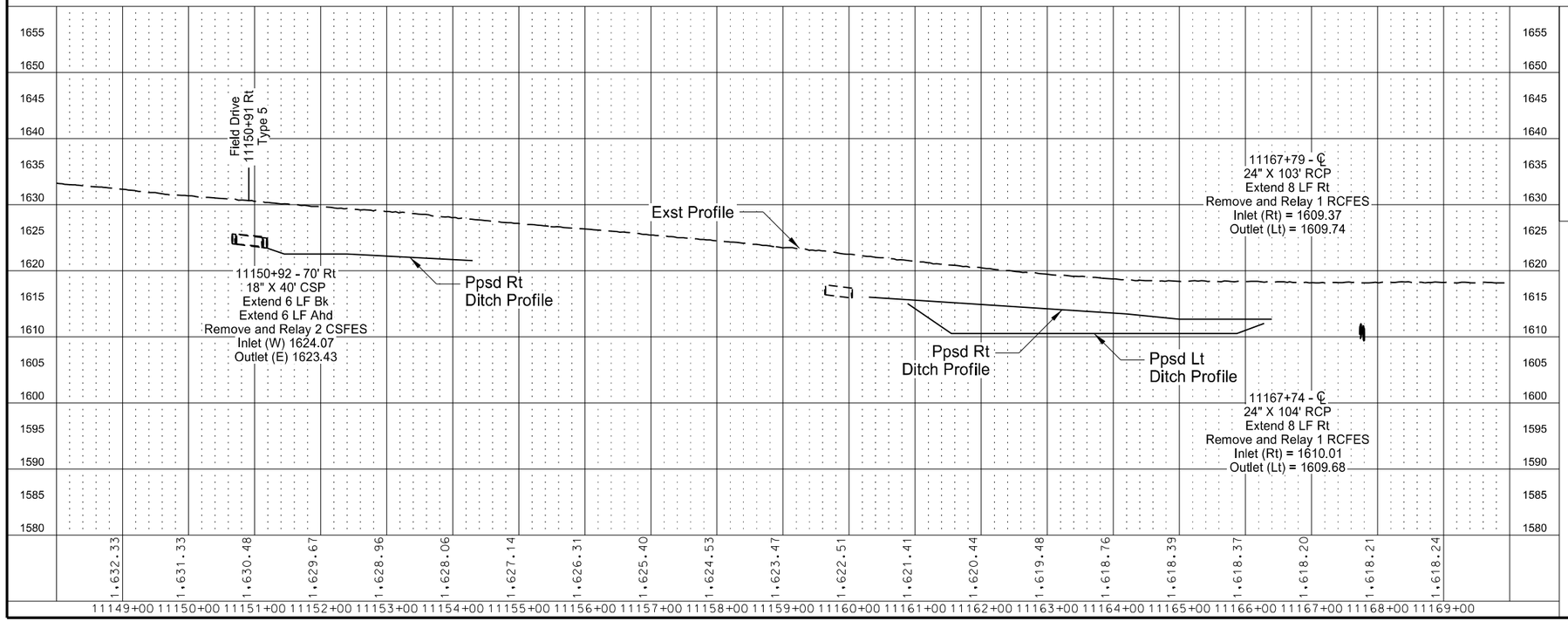


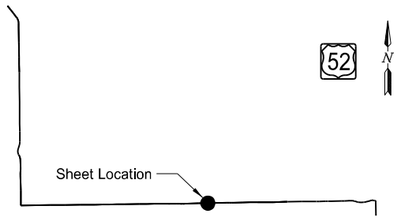
Water line labeled Approx Loc based on maps from CENT PL WATER DIST

SPEC	CODE	BID ITEM	QTY	UNIT
714	0615	Pipe Conc Reinf 24IN CL III		
		11167+74 RT	8	LF
		11167+79 RT	8	LF
714	5015	Pipe Corr Steel .064IN 18IN		
		11150+92 RT (Bk)	6	LF
		11150+92 RT (Ahd)	6	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		11150+92 RT (Bk)	1	EA
		11150+92 RT (Ahd)	1	EA
		11167+74 RT	1	EA
		11167+79 RT	1	EA
754	0805	Object Markers - Culverts		
		11167+74 RT	1	EA
		11167+79 RT	1	EA

Legend

Surfacing Improvements





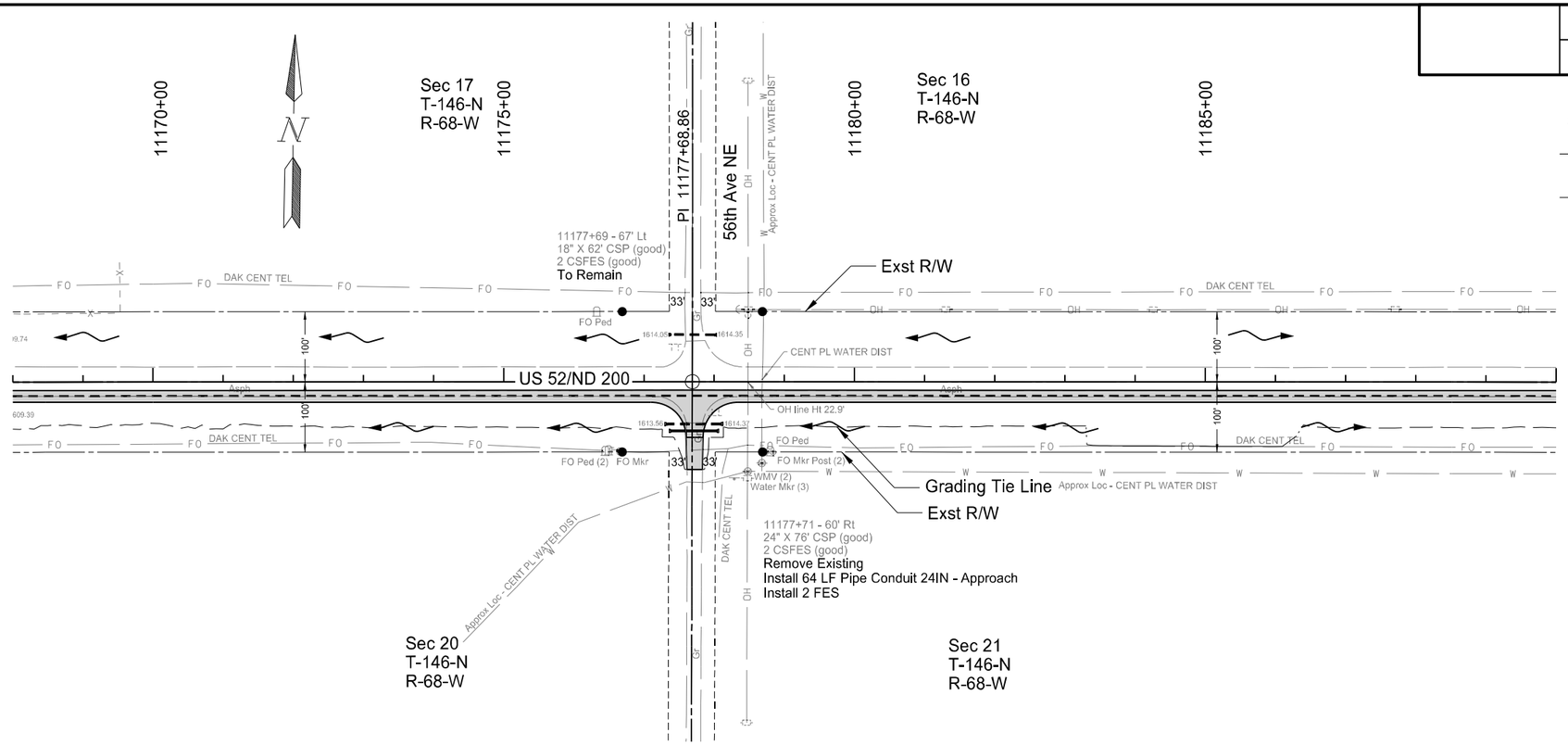
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

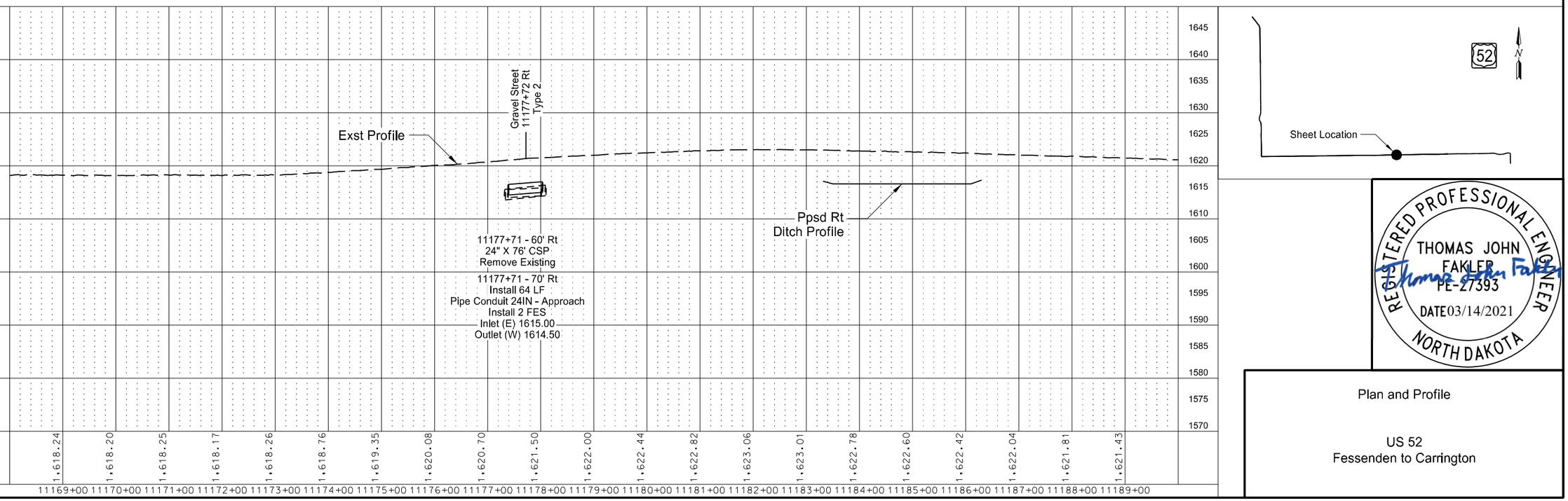
Plan and Profile

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	33

SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	Removal of Pipe-All Types & Sizes		
		11177+71 - 60' RT	76	LF
714	4106	Pipe Conduit 24IN-Approach		
		11177+71 - 70' RT	64	LF





Legend

Surfacing Improvements

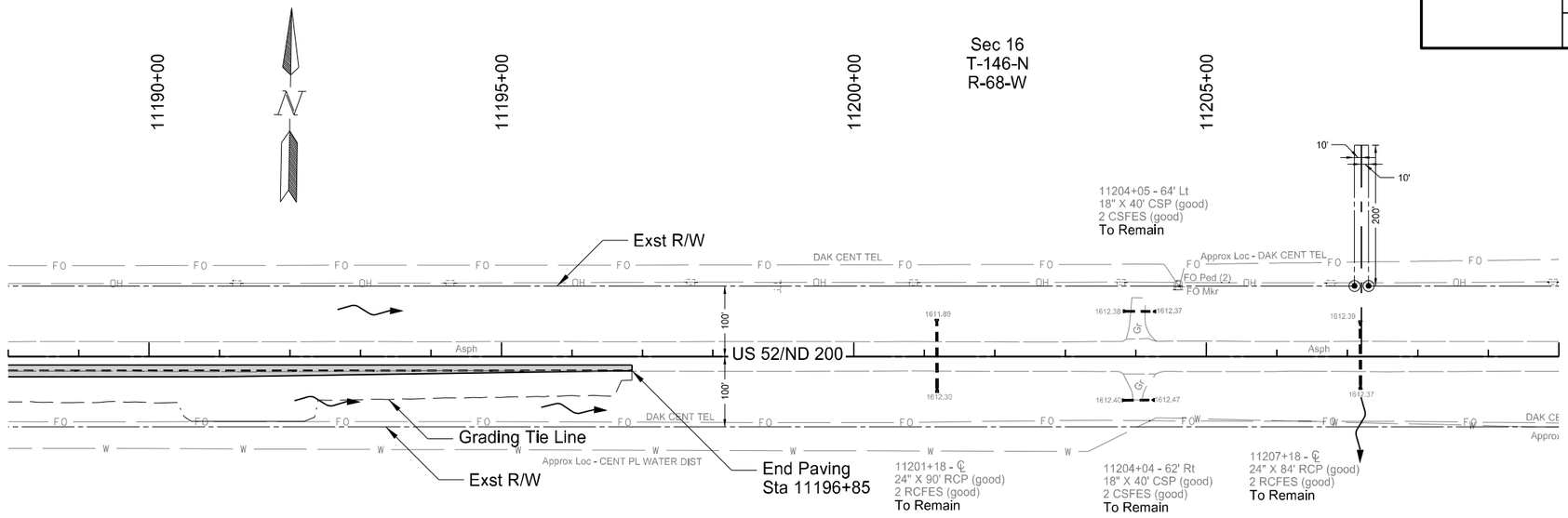
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile

US 52
Fessenden to Carrington

3/14/2022 2:18:36 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\060PP_033_W.dgn

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	60	34

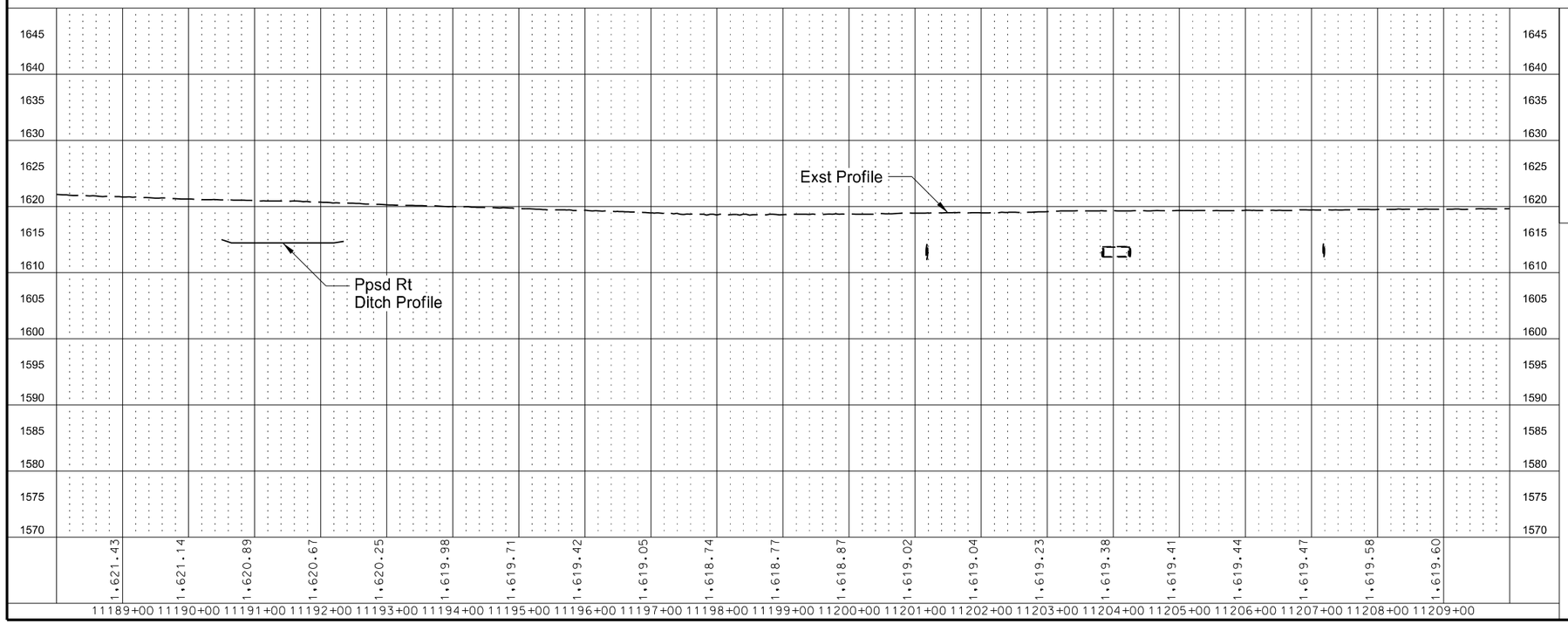


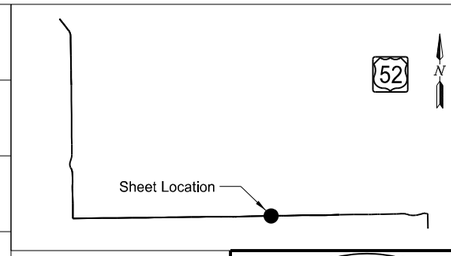
Water line labeled Approx Loc based on maps from CENT PL WATER DIST

Sec 21
T-146-N
R-68-W

Legend

Surfacing Improvements



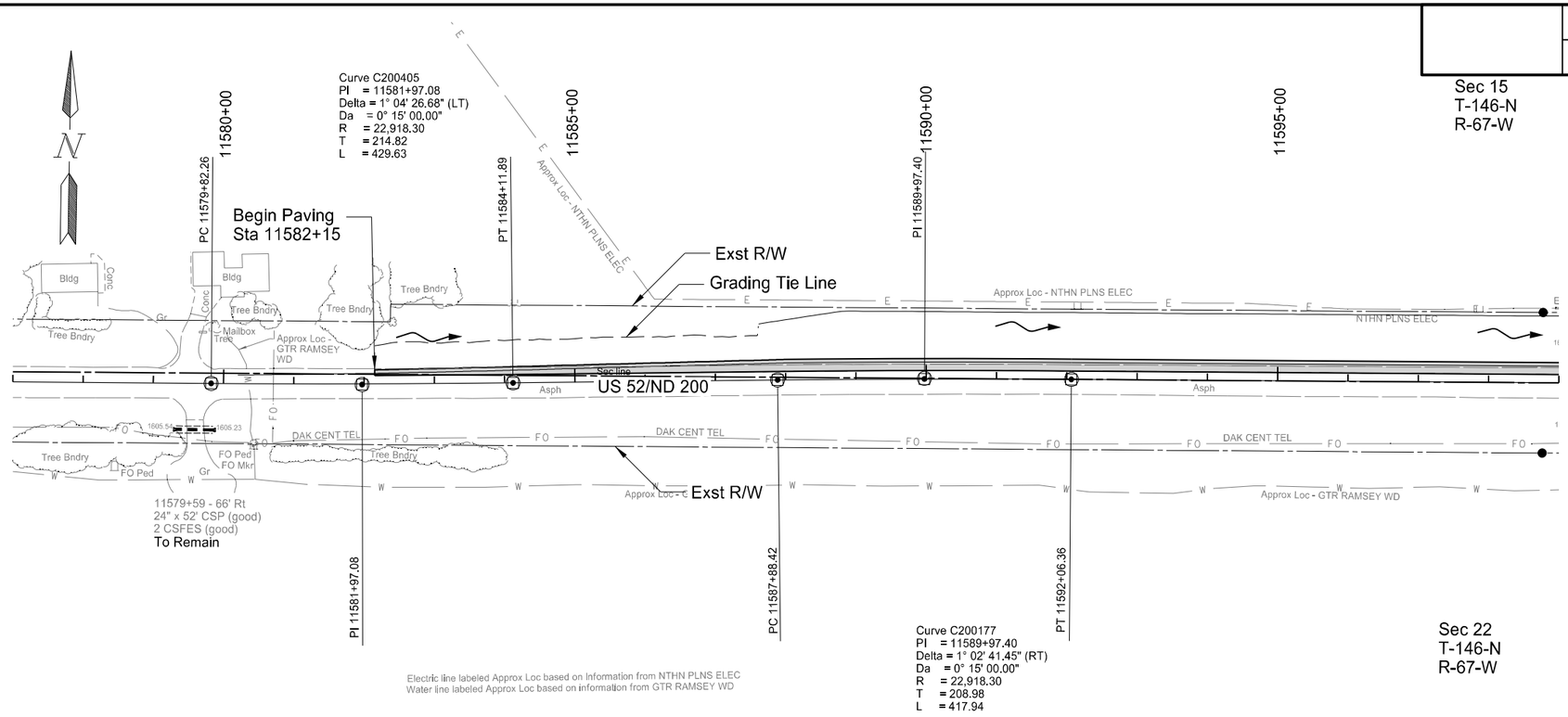


REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile

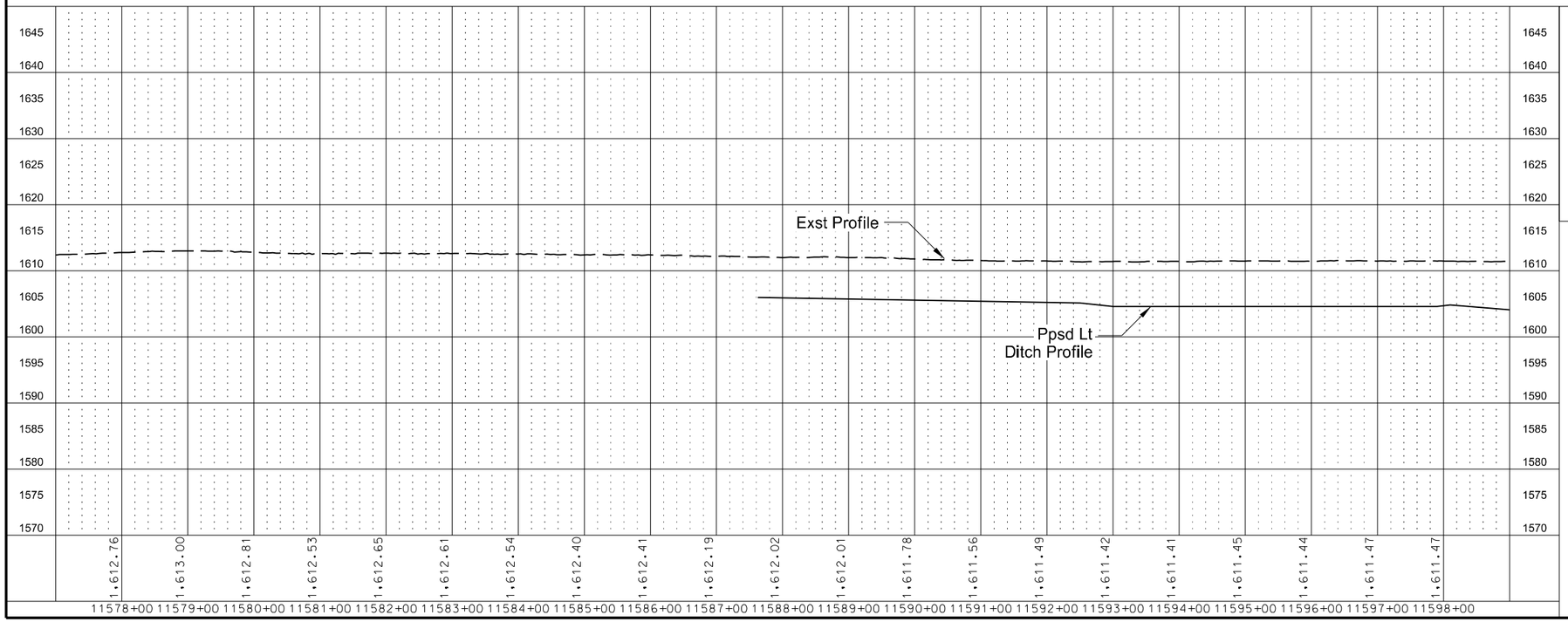
US 52
Fessenden to Carrington

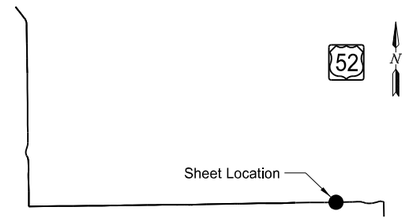
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	60	35



Legend

Surfacing Improvements



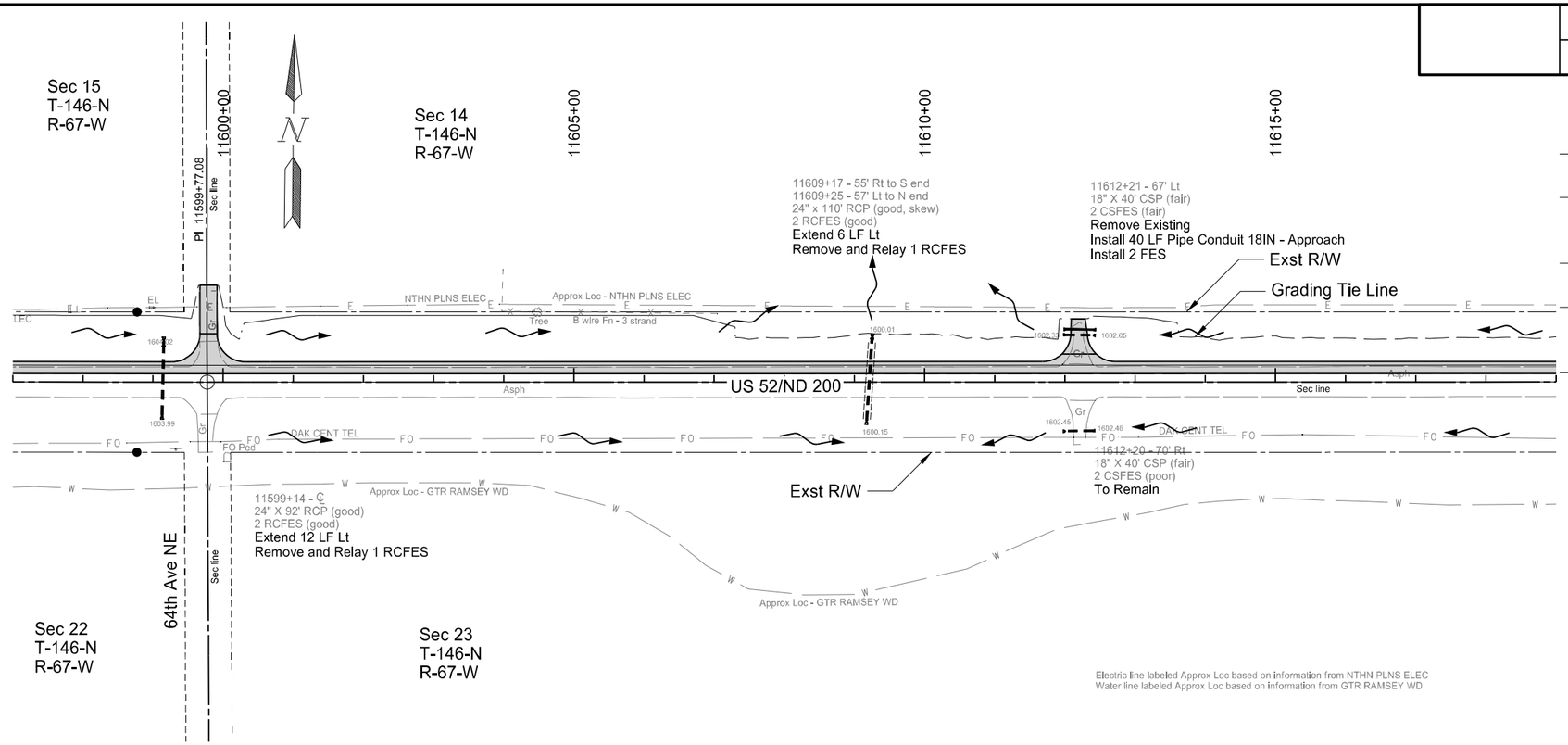


REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	36

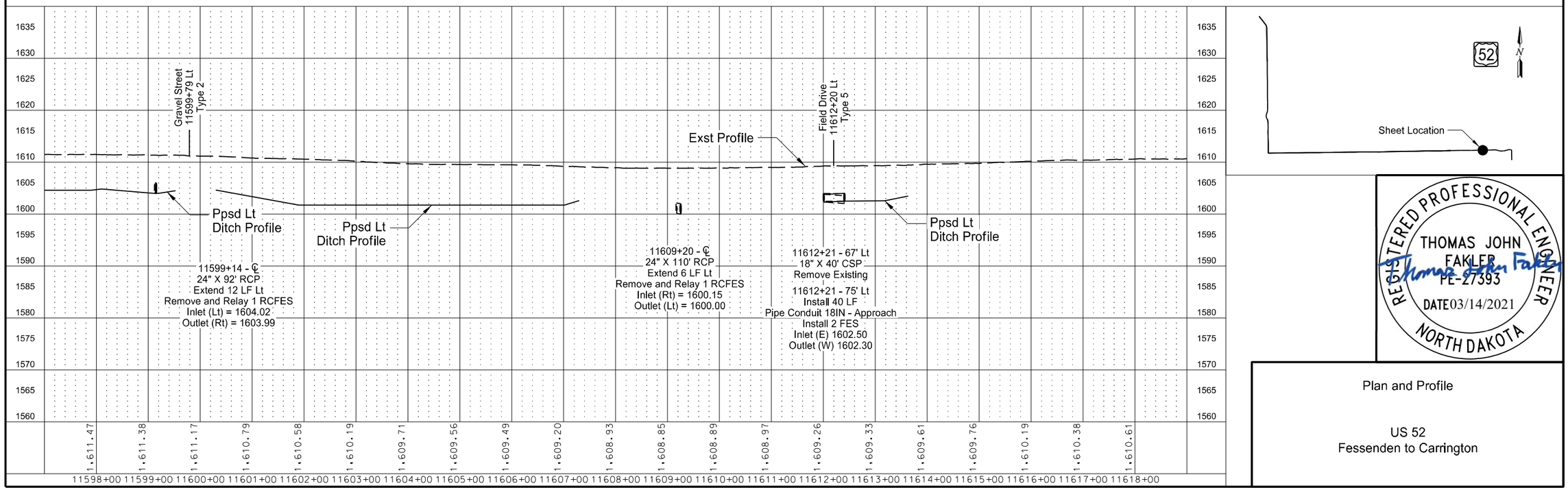


SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	Removal of Pipe-All Types & Sizes		
		11612+21 - 67' LT	40	LF
714	0615	Pipe Conc Reinf 24IN CL III		
		11599+14 LT	12	LF
		11609+20 LT	6	LF
714	4099	Pipe Conduit 18IN-Approach		
		11612+21 - 75' LT	40	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		11599+14 LT	1	EA
		11609+20 LT	1	EA
754	0805	Object Markers - Culverts		
		11599+14 LT	1	EA
		11609+20 LT	1	EA

Legend

Surfacing Improvements

Electric line labeled Approx Loc based on information from NTHN PLNS ELEC
Water line labeled Approx Loc based on information from GTR RAMSEY WD

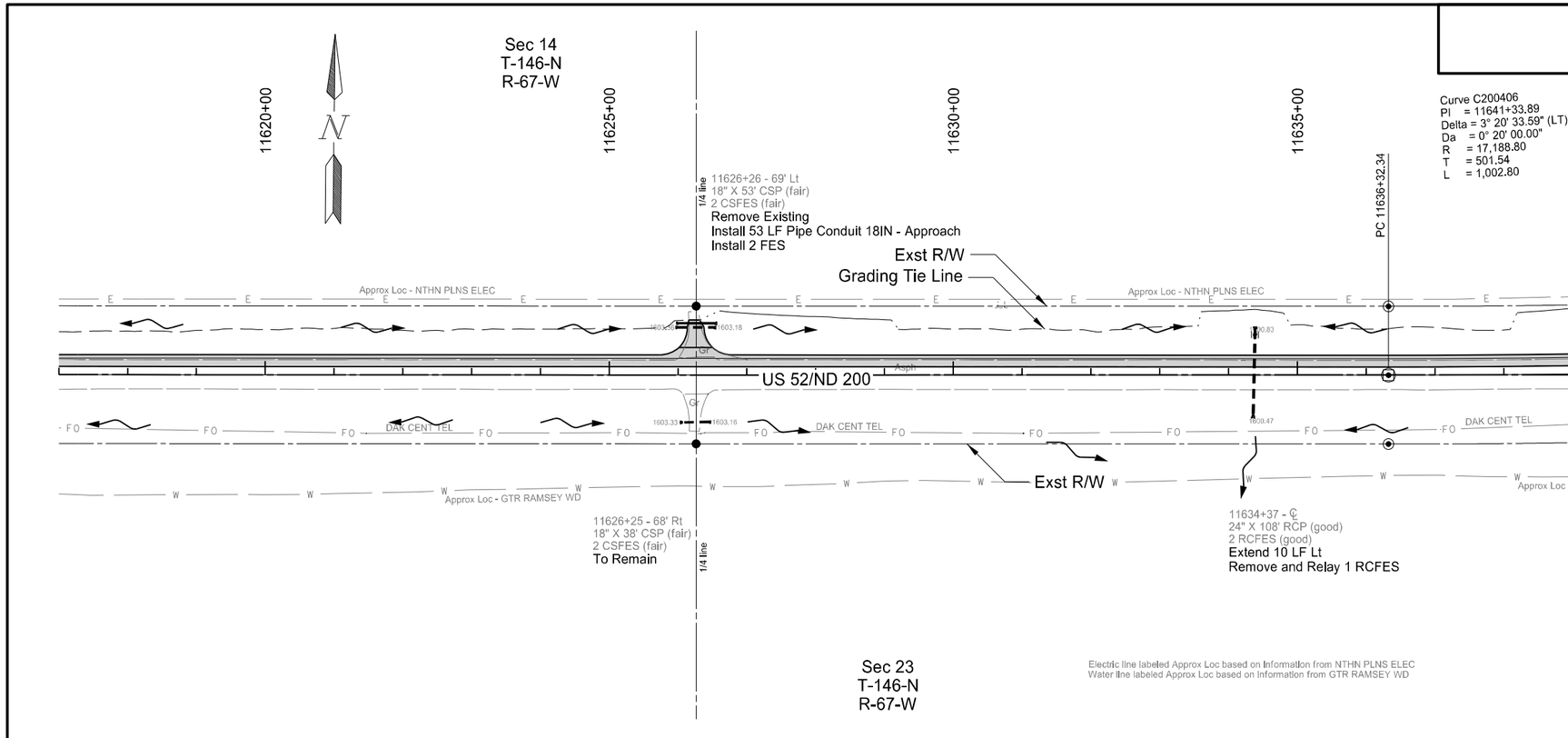


REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	37

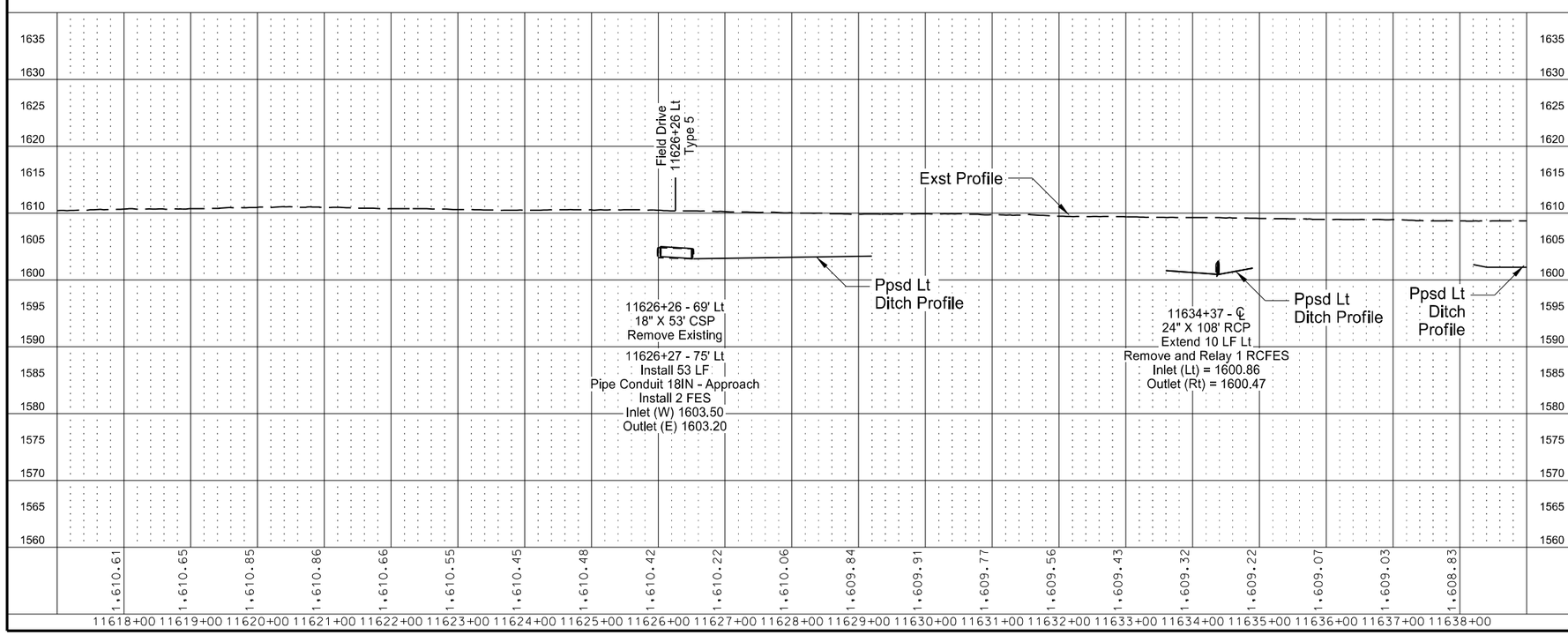


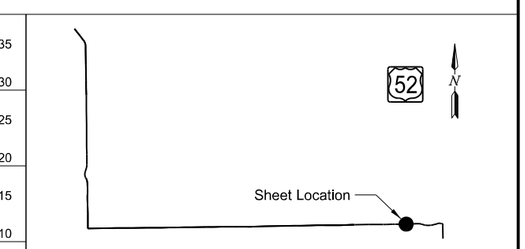
Curve C200406
PI = 11641+33.89
Delta = 3° 20' 33.59" (LT)
Da = 0° 20' 00.00"
R = 17,188.80
T = 501.54
L = 1,002.80

SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	Removal of Pipe-All Types & Sizes		
		11626+26 - 69' LT	53	LF
714	0615	Pipe Conc Reinf 24IN CL III		
		11634+37 LT	10	LF
714	4099	Pipe Conduit 18IN-Approach		
		11626+27 - 75' LT	53	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		11634+37 LT	1	EA
754	0805	Object Markers - Culverts		
		11634+37 LT	1	EA

Legend

Surfacing Improvements





REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

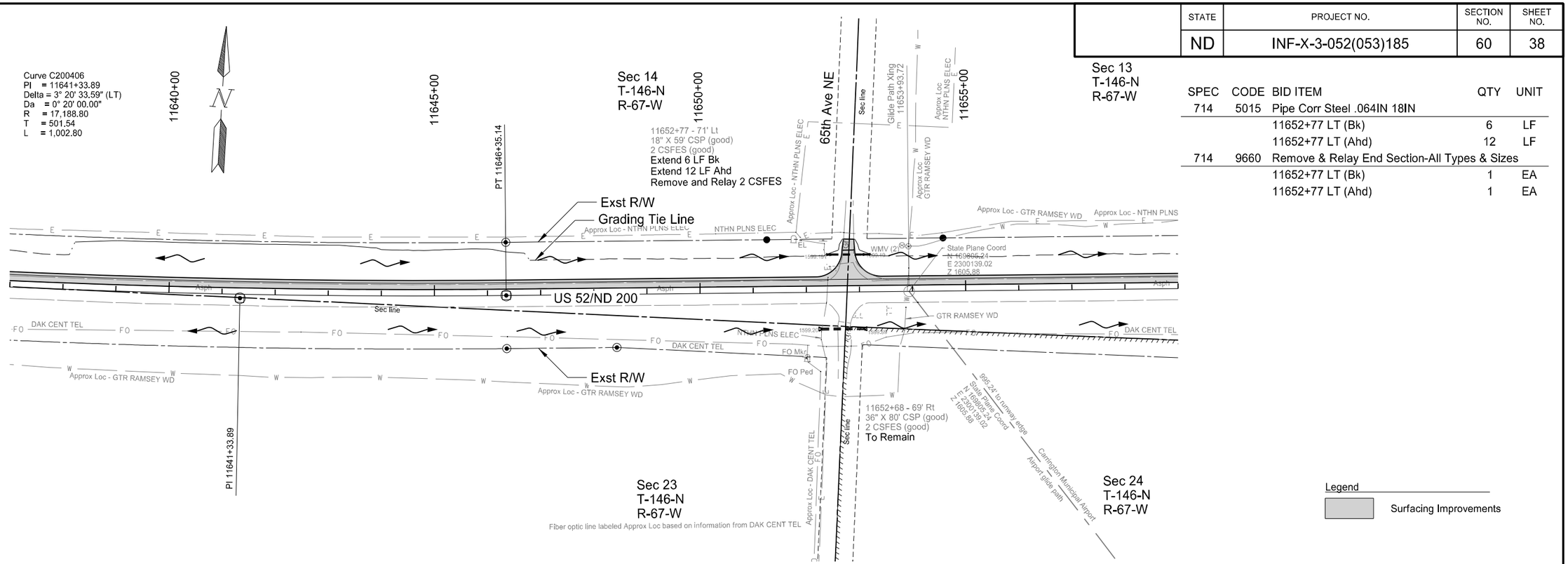
Thomas John Fakler

Plan and Profile

US 52
Fessenden to Carrington

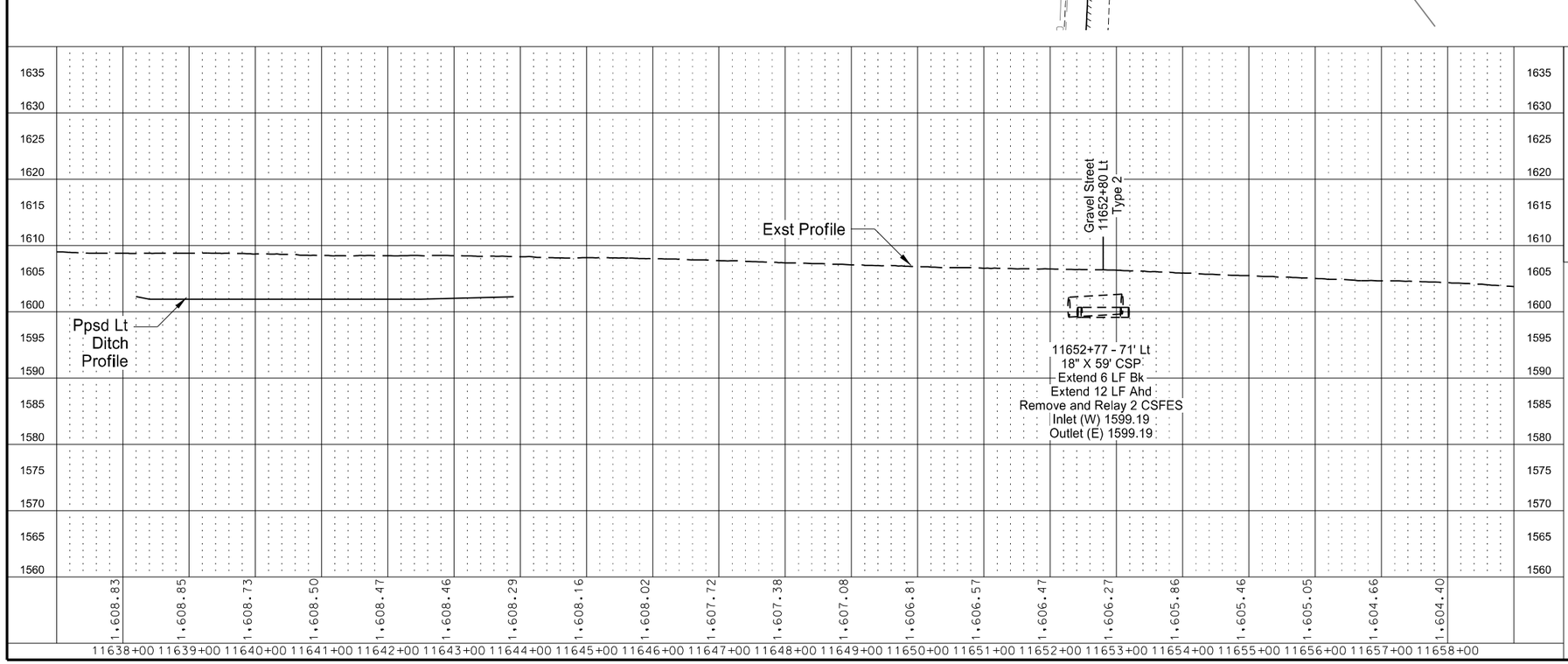
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	38

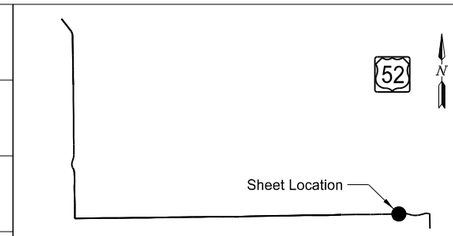
SPEC	CODE	BID ITEM	QTY	UNIT
714	5015	Pipe Corr Steel .064IN 18IN		
		11652+77 LT (Bk)	6	LF
		11652+77 LT (Ahd)	12	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		11652+77 LT (Bk)	1	EA
		11652+77 LT (Ahd)	1	EA



Legend

Surfacing Improvements





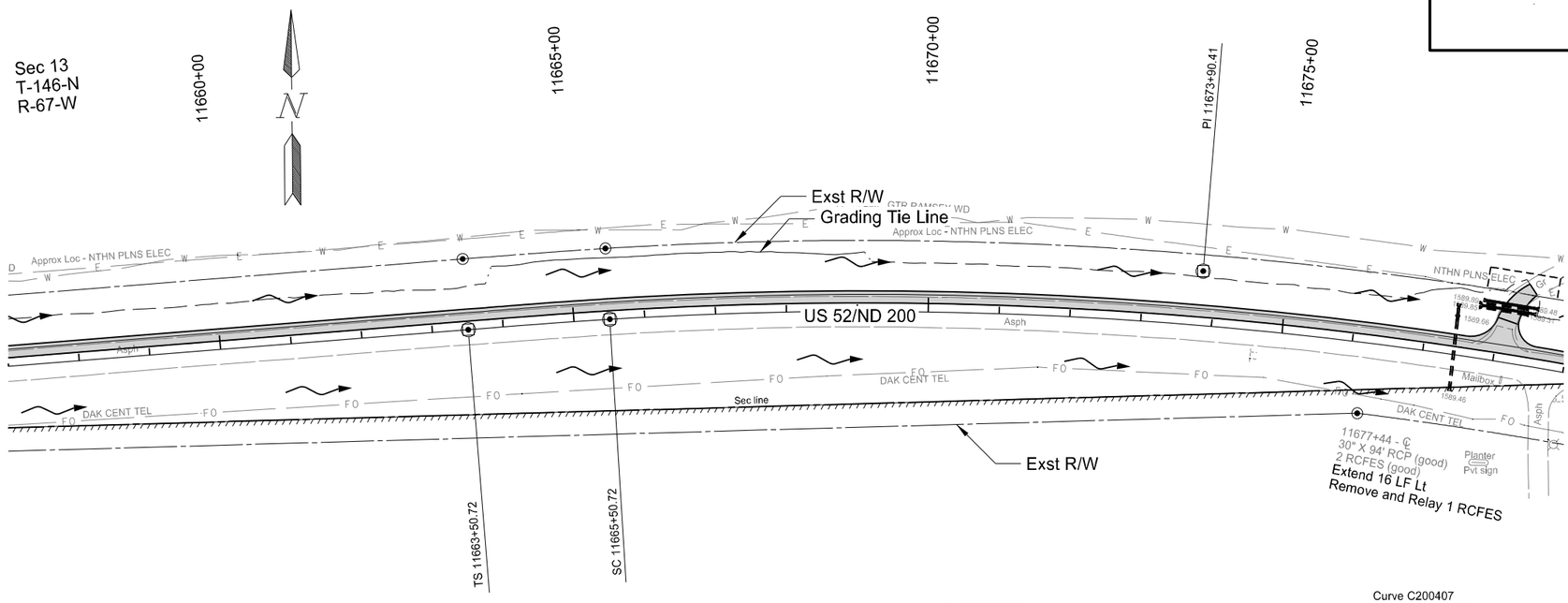
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	39

SPEC	CODE	BID ITEM	QTY	UNIT
714	0820	Pipe Conc Reinf 30IN CL III		
		11677+44 LT	16	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		11677+44 LT	1	EA
754	0805	Object Markers - Culverts		
		11677+44 LT	1	EA



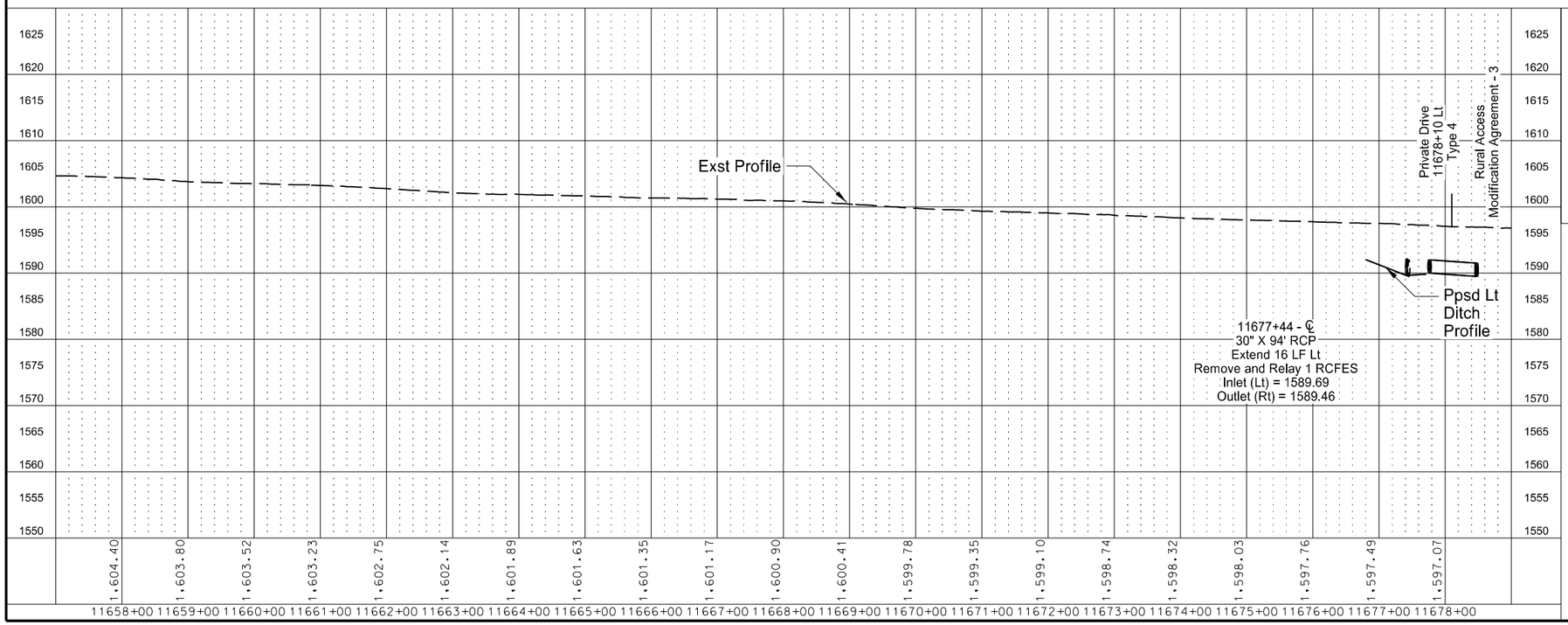
Electric line labeled Approx Loc based on information from NTHN PLNS ELEC
Water line labeled Approx Loc based on information from GTR RAMSEY WD

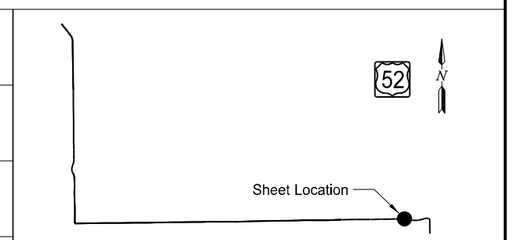
Curve C200407
PI = 11673+90.41
Delta = 18° 37' 36.50" (RT)
Da = 0° 59' 59.95"
R = 5,729.65
L = 1,662.70
Ls = 200.00
Sc = 0° 59' 59.95"
Ts = 1,039.69

Legend

Surfacing Improvements







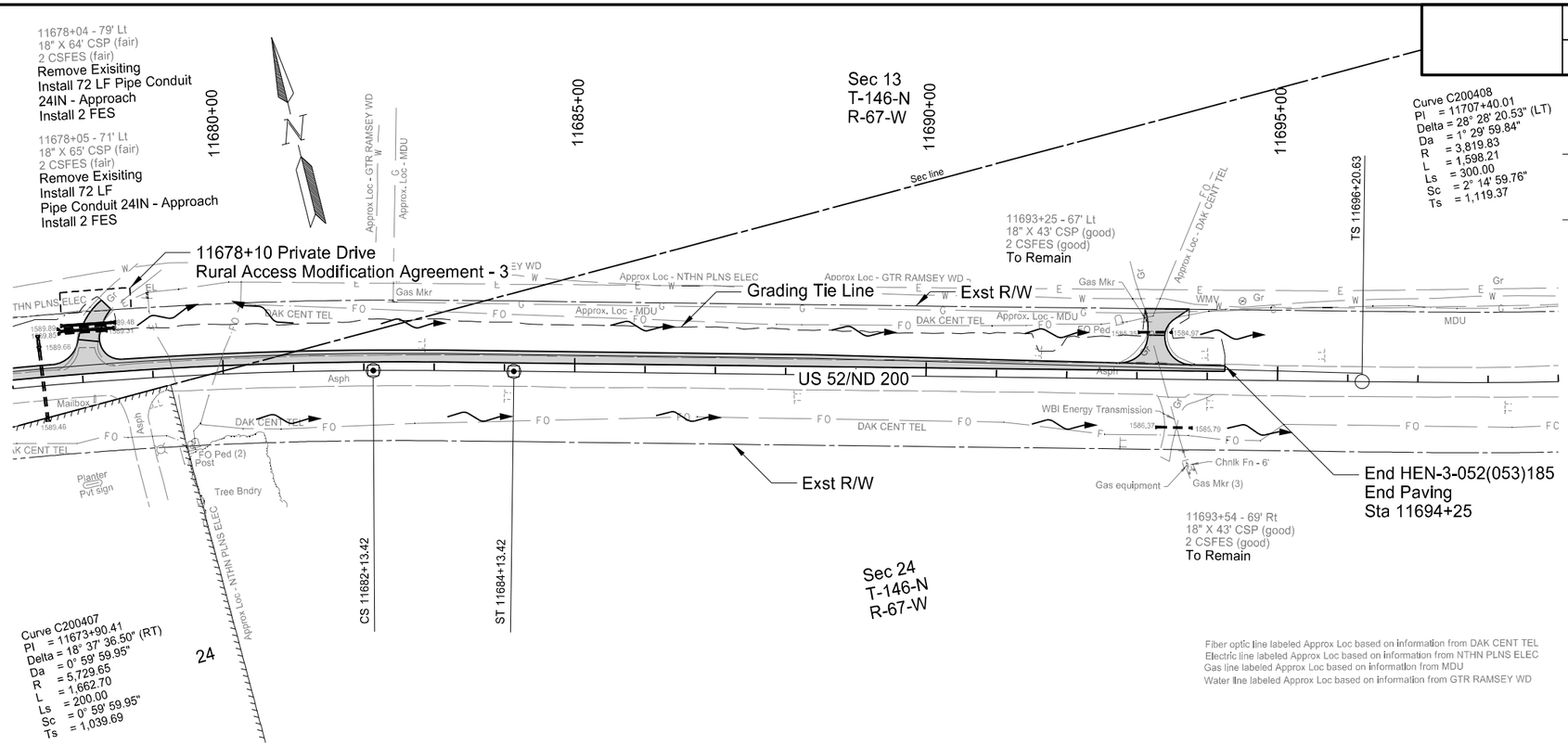
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	40

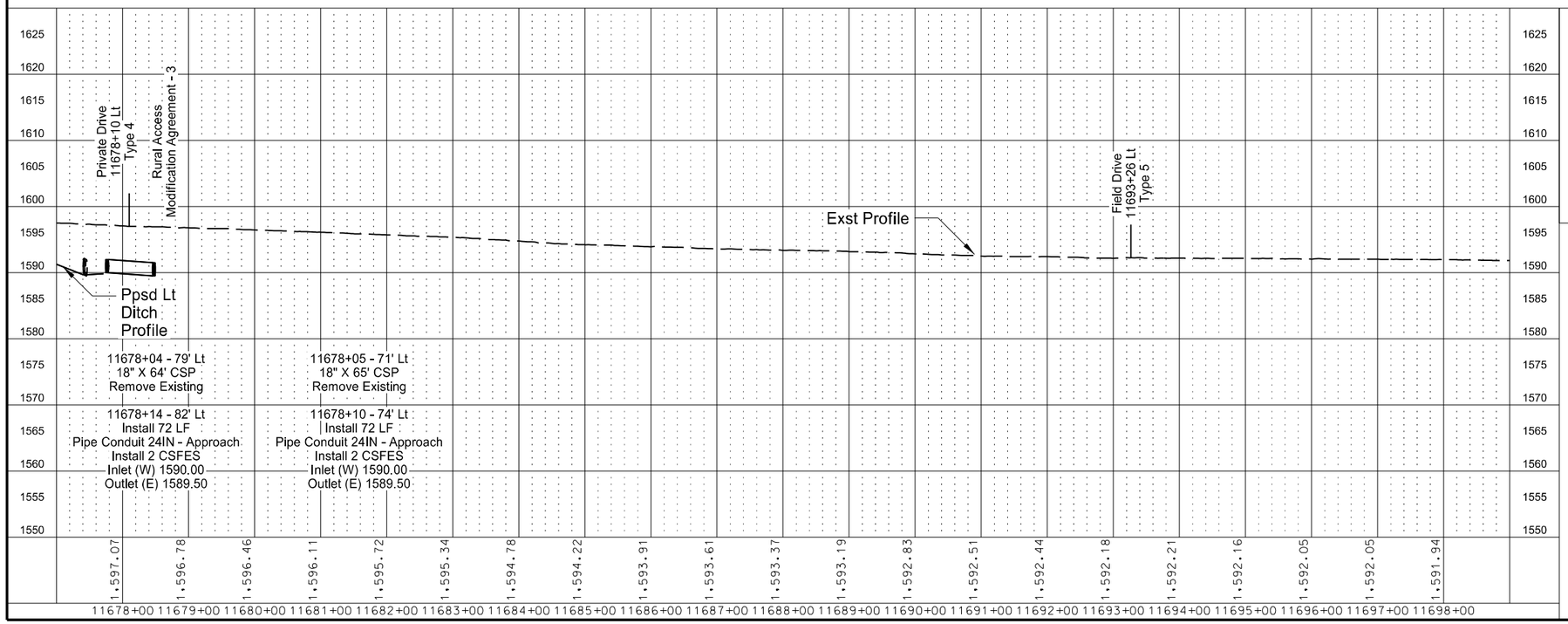
SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	Removal of Pipe-All Types & Sizes		
		11678+04 - 79' LT	64	LF
		11678+05 - 71' LT	65	LF
714	4106	Pipe Conduit 24IN-Approach		
		11678+14 - 82' LT	72	LF
		11678+10 - 74' LT	72	LF

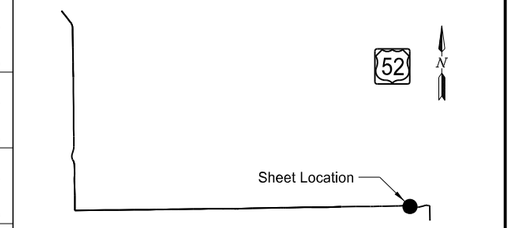


Fiber optic line labeled Approx Loc based on information from DAK CENT TEL
Electric line labeled Approx Loc based on information from NTHN PLNS ELEC
Gas line labeled Approx Loc based on information from MDU
Water line labeled Approx Loc based on information from GTR RAMSEY WD

Legend

Surfacing Improvements



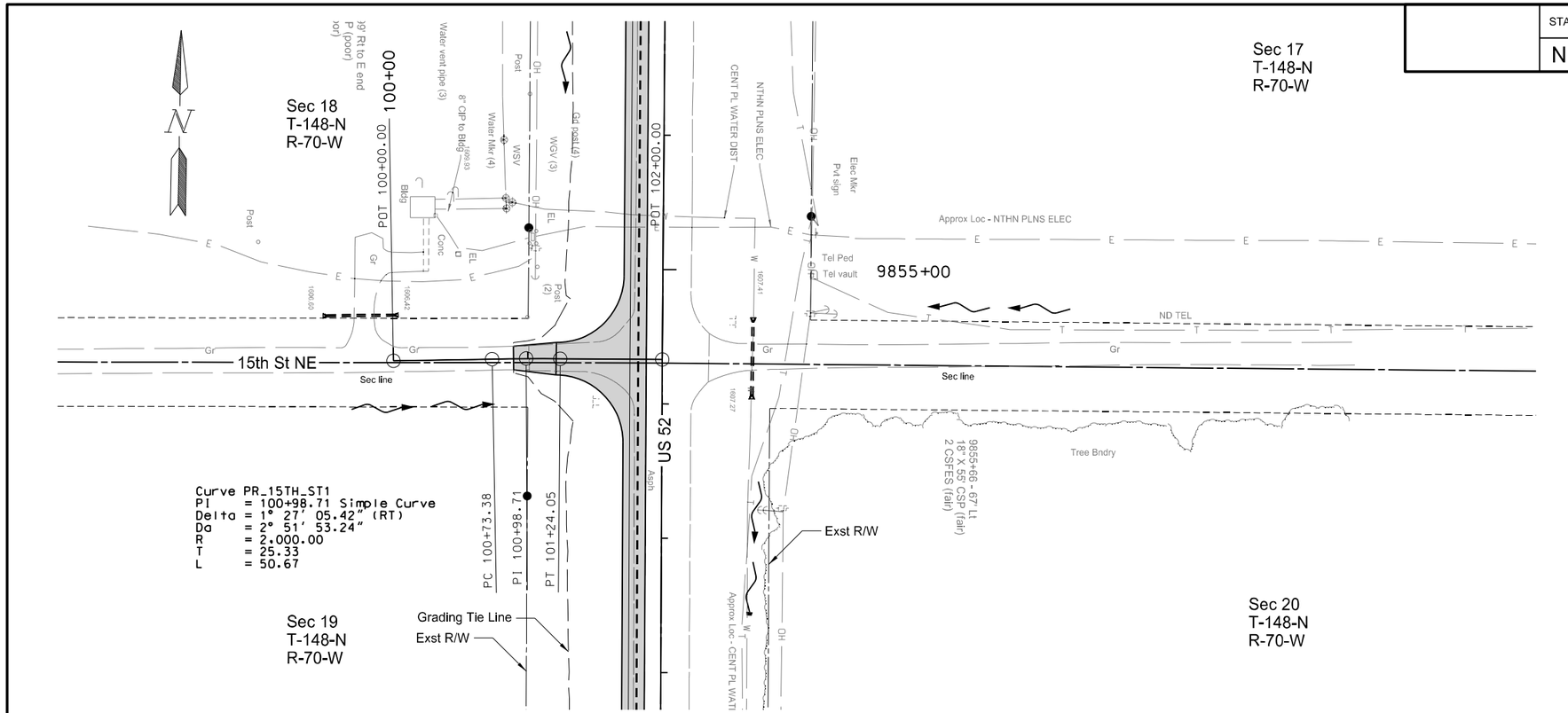


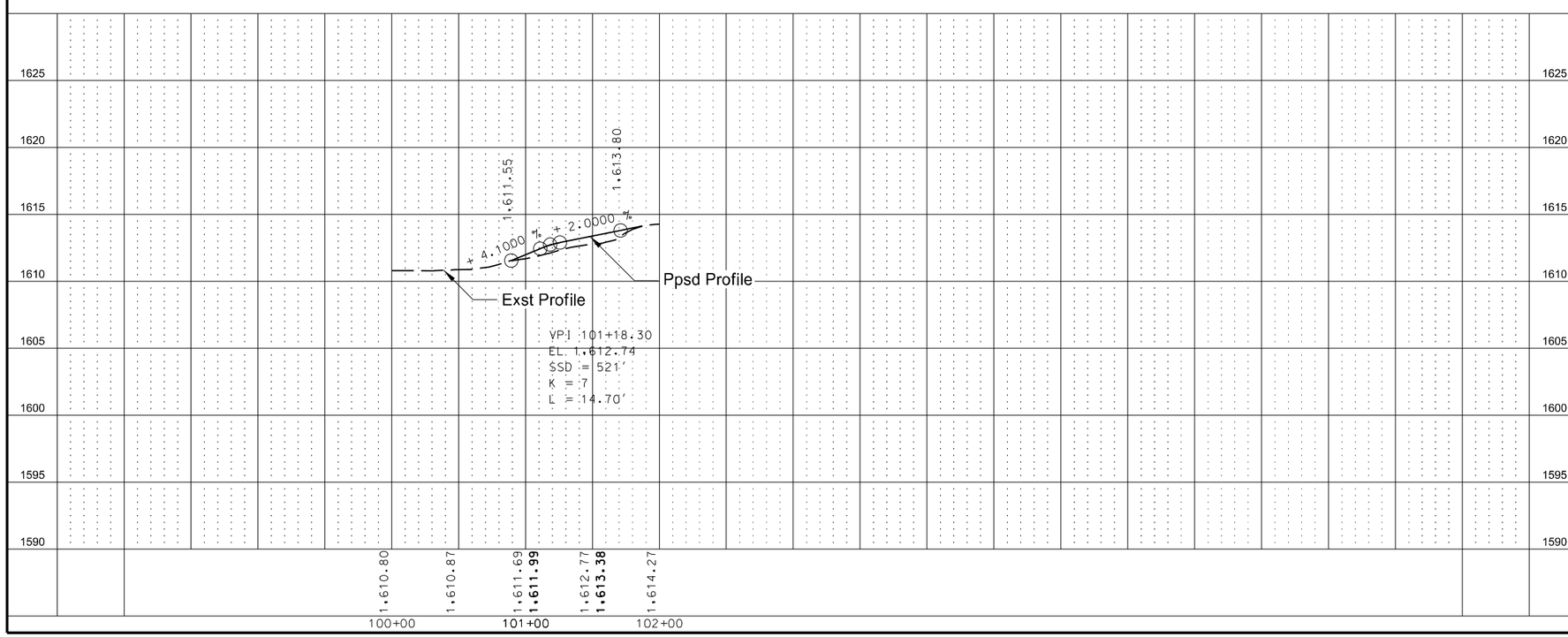
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

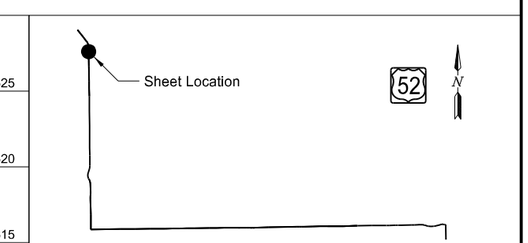
Plan and Profile

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	41







REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile
15th St NE

US 52
Fessenden to Carrington

3/14/2022 2:18:56 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\060PP_041_15th.dgn

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	60	42

Sec 19
T-148-N
R-70-W

Sec 20
T-148-N
R-70-W

Sec 30
T-148-N
R-70-W

Sec 29
T-148-N
R-70-W

Grading Tie Line

POT 200+00.00

PI 201+04.38

POT 202+00.00

14th St NE

Sec line

US 52

Asph

ND TEL

Tel MH

Tel vault

Tel Ped

Water Mkr

WGV

Wood post (2)

CENT PL WATER DIST

Tel Mkr

Exst R/W

9908+62 - 73' Rt
24" X 60' CSP (good)
2 CSFES (good)

9908+87 - 126' Lt to W end
18" X 34' CSP (fair)
2 CSFES (fair)

9910+00

PC 200+90.35

PT 201+18.42

Curve PR_14TH_ST1
PI = 201+04.38 Simple Curve
Delta = 0° 48' 14.72" (RT)
Da = 2° 51' 53.24"
R = 2,000.00
T = 14.03
L = 28.07

Exst R/W

Legend

Surfacing Improvements

1625
1620
1615
1610
1605
1600
1595
1590

1.611.86
1.613.16
+1.8566 %
Posd Profile
Exst Profile
1.612.50
1.611.87
1.612.13
1.612.77
1.613.57

201+00
202+00

Sheet Location

52

N

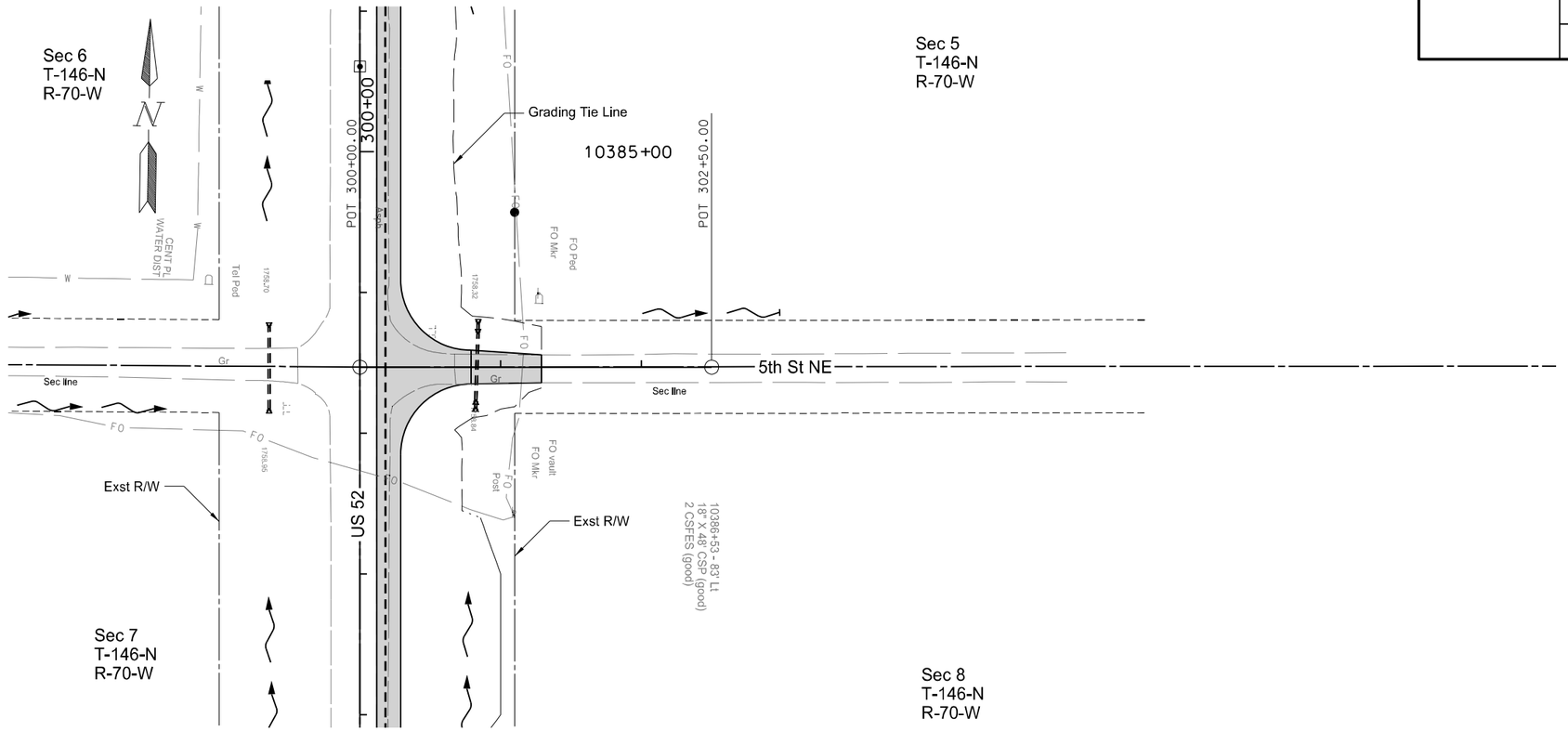
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

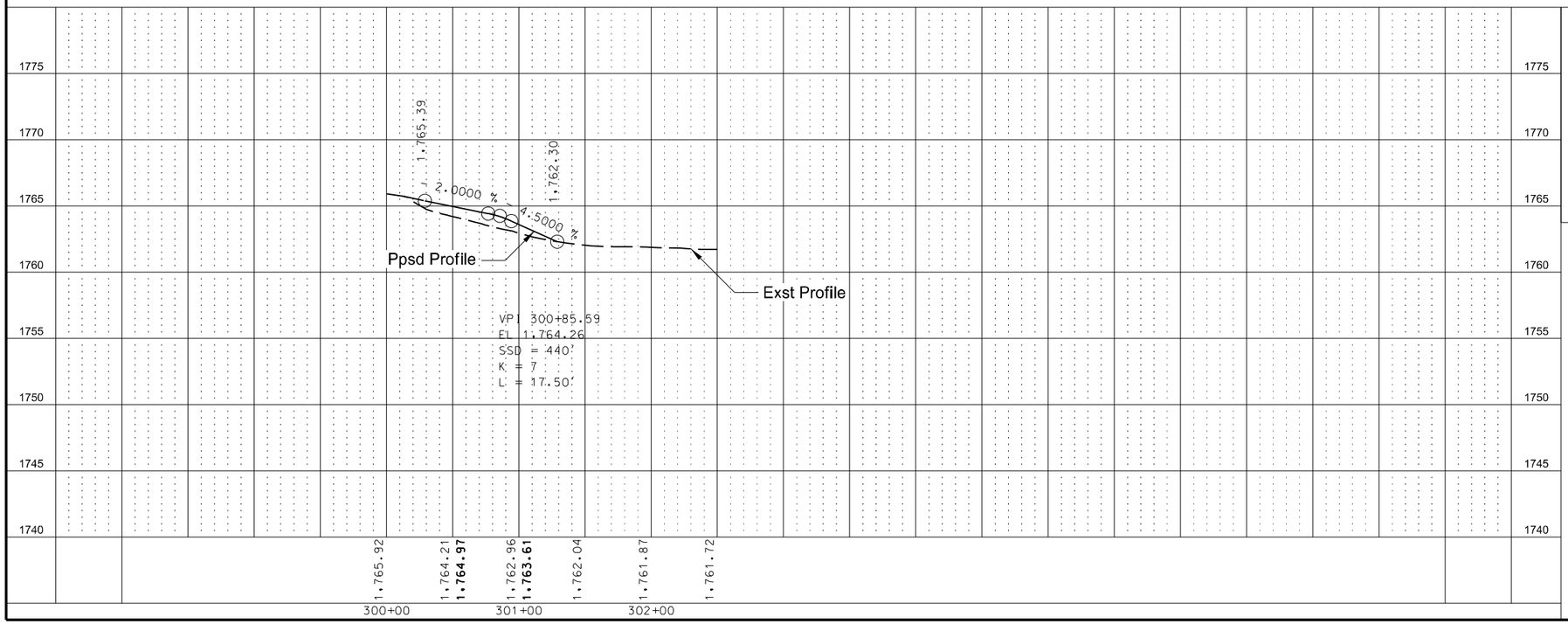
Plan and Profile
14th St NE

US 52
Fessenden to Carrington

3/14/2022 2:18:58 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\060PP_042_14th.dgn

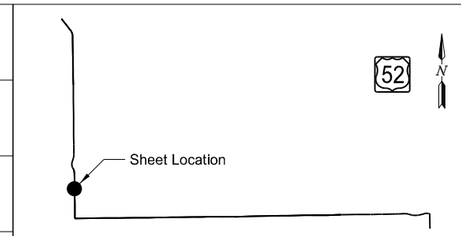
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	60	43





Legend

Surfacing Improvements

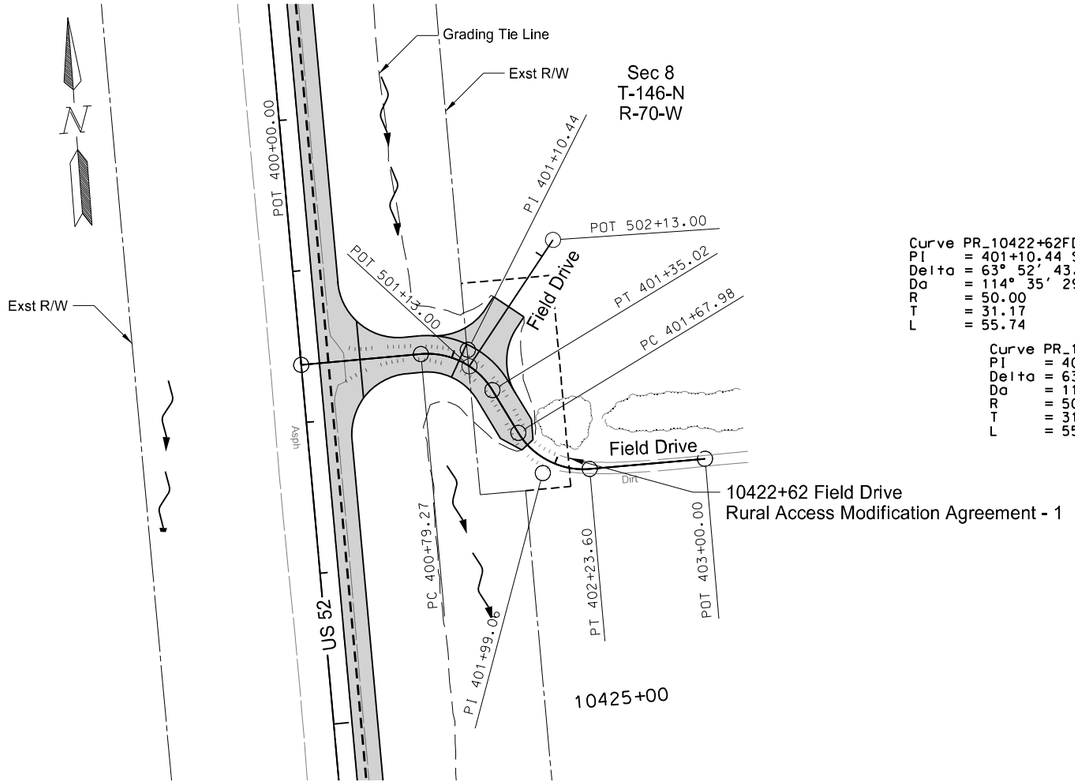


REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile
5th St NE

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	60	44

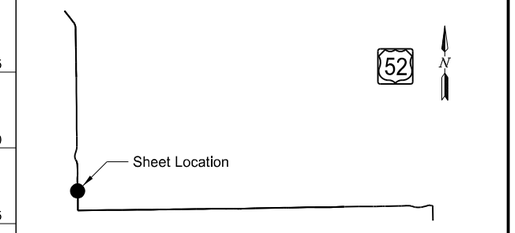


Curve PR_10422+62FD1
PI = 401+10.44 Simple Curve
Delta = 63° 52' 43.77" (RT)
Da = 114° 35' 29.61"
R = 50.00
T = 31.17
L = 55.74

Curve PR_10422+62FD2
PI = 401+99.06 Simple Curve
Delta = 63° 44' 14.37" (LT)
Da = 114° 35' 29.61"
R = 50.00
T = 31.08
L = 55.62

Legend

Surfacing Improvements

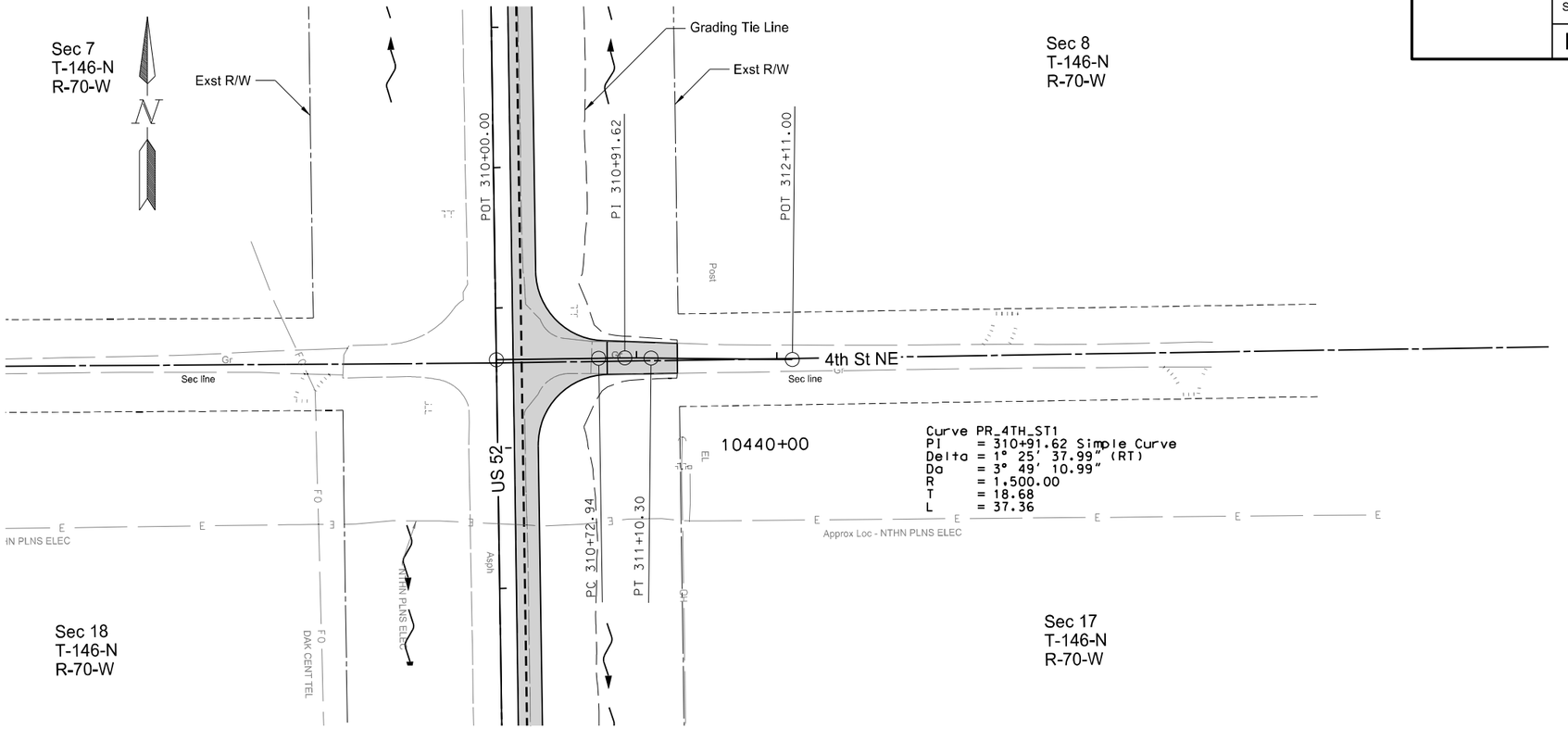


REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile
Sta. 10422+62 Field Drive

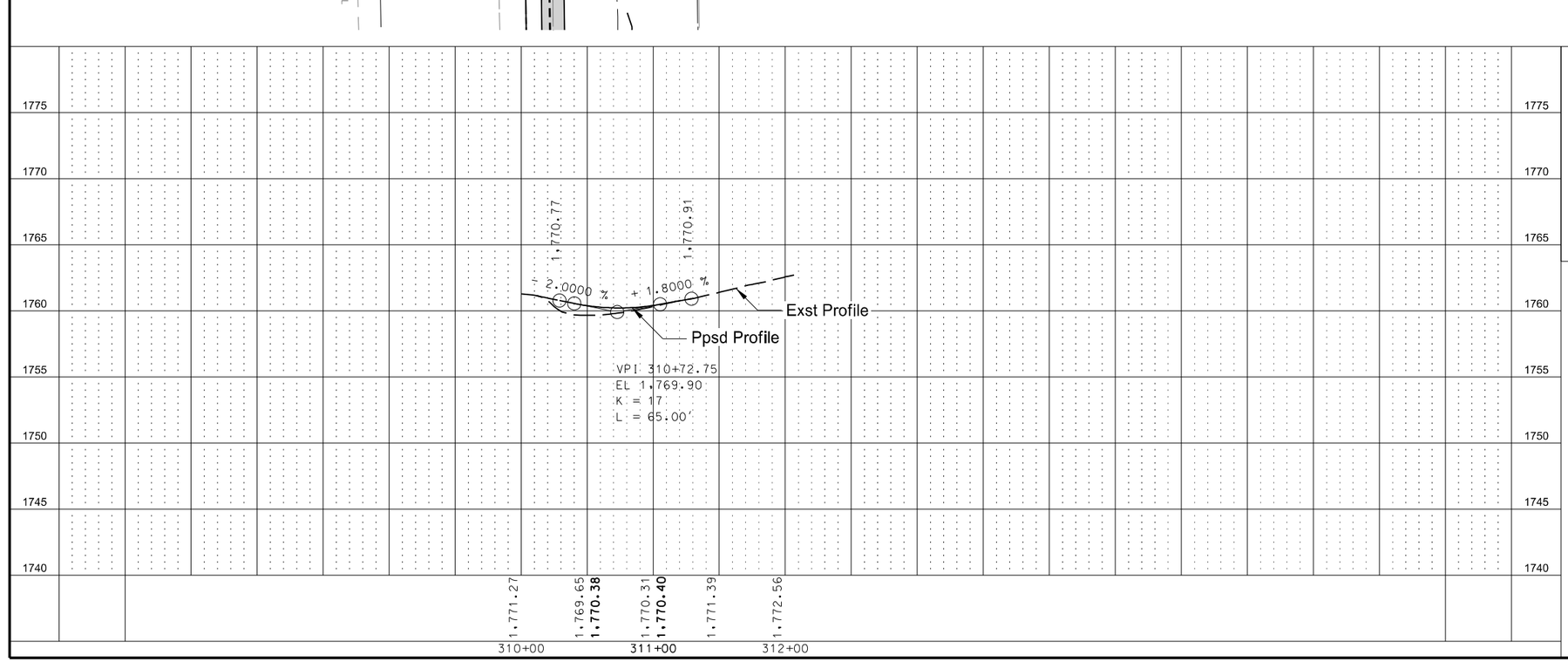
US 52
Fessenden to Carrington

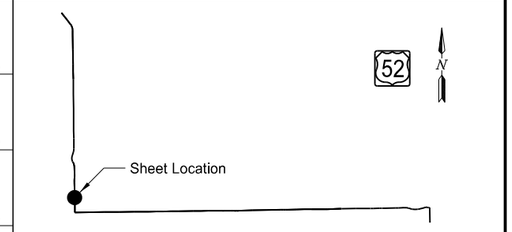
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	60	45



Legend

Surfacing Improvements





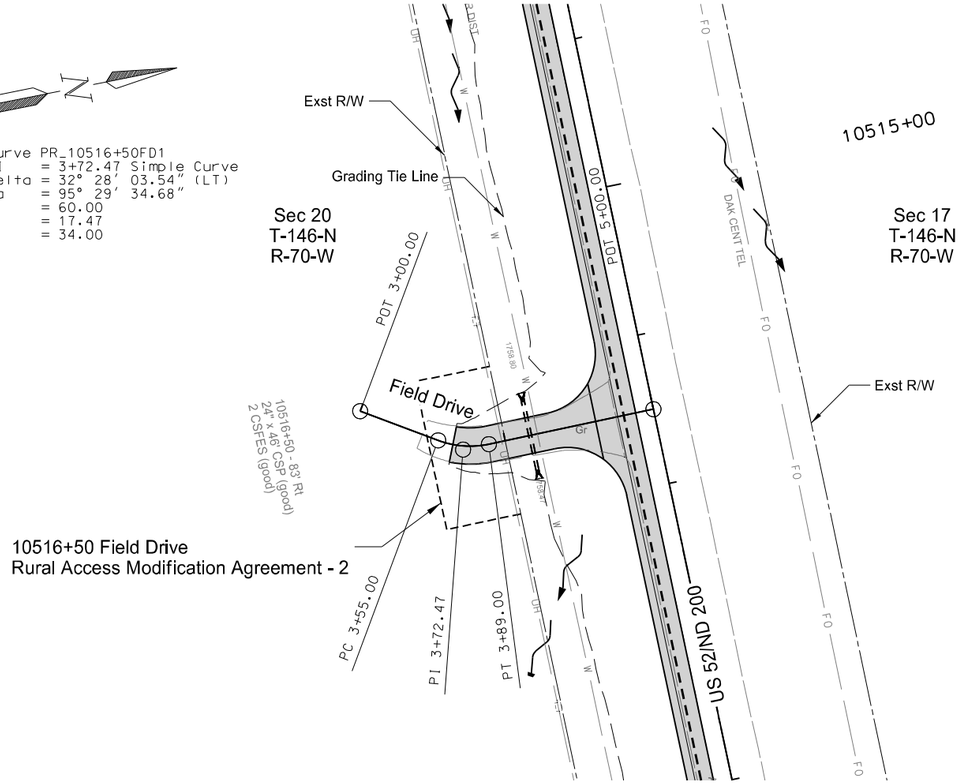
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile
4th St NE

US 52
Fessenden to Carrington

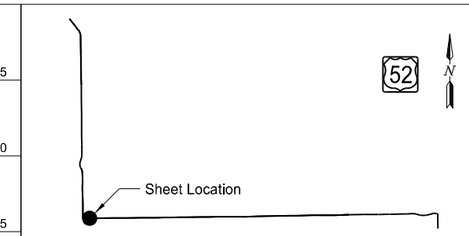
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	60	46

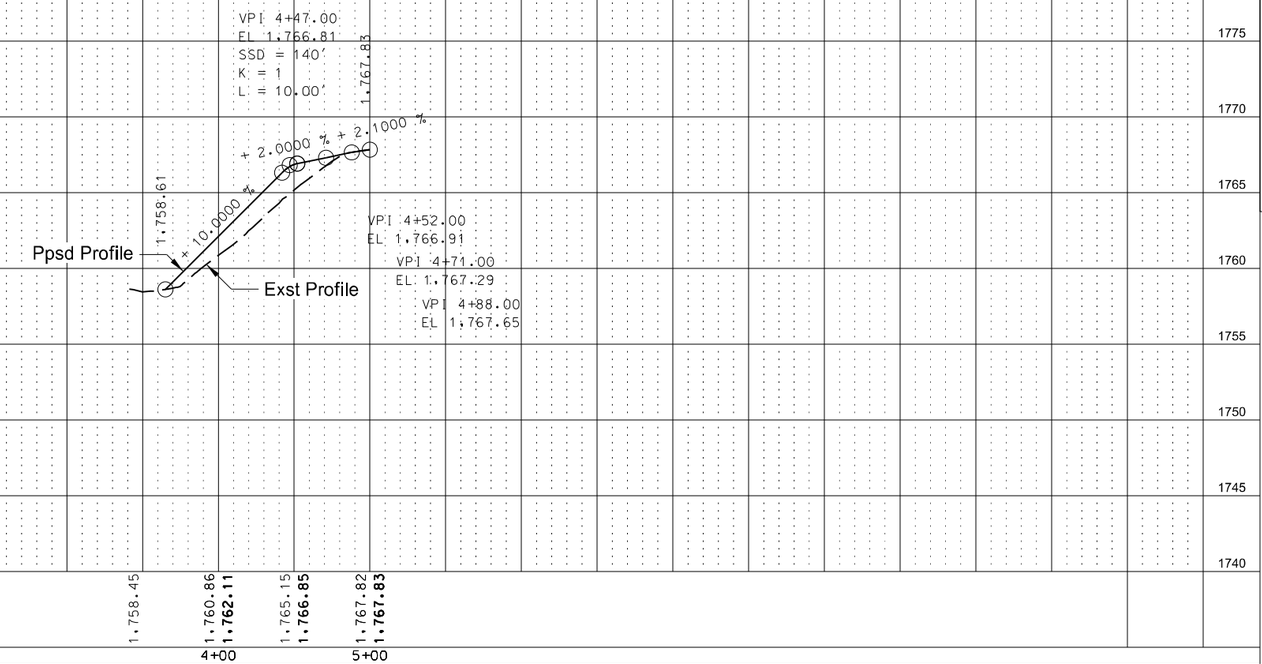
Curve PR_10516+50FD1
PI = 3+72.47 Simple Curve
Delta = 32° 28' 03.54" (LT)
Da = 95° 29' 34.68"
R = 60.00
T = 17.47
L = 34.00



Legend

Surfacing Improvements



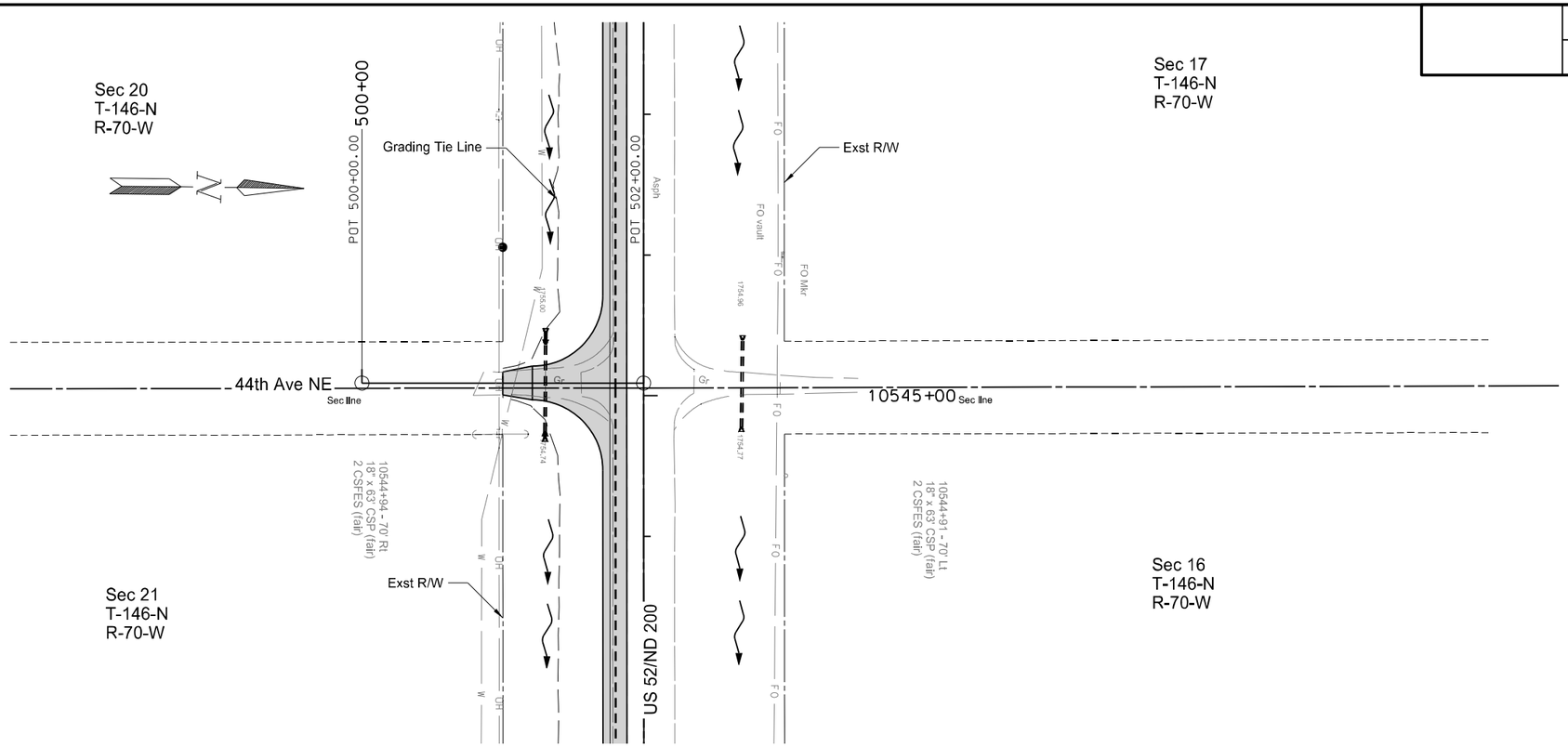


REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile
Sta. 10516+50 Field Drive

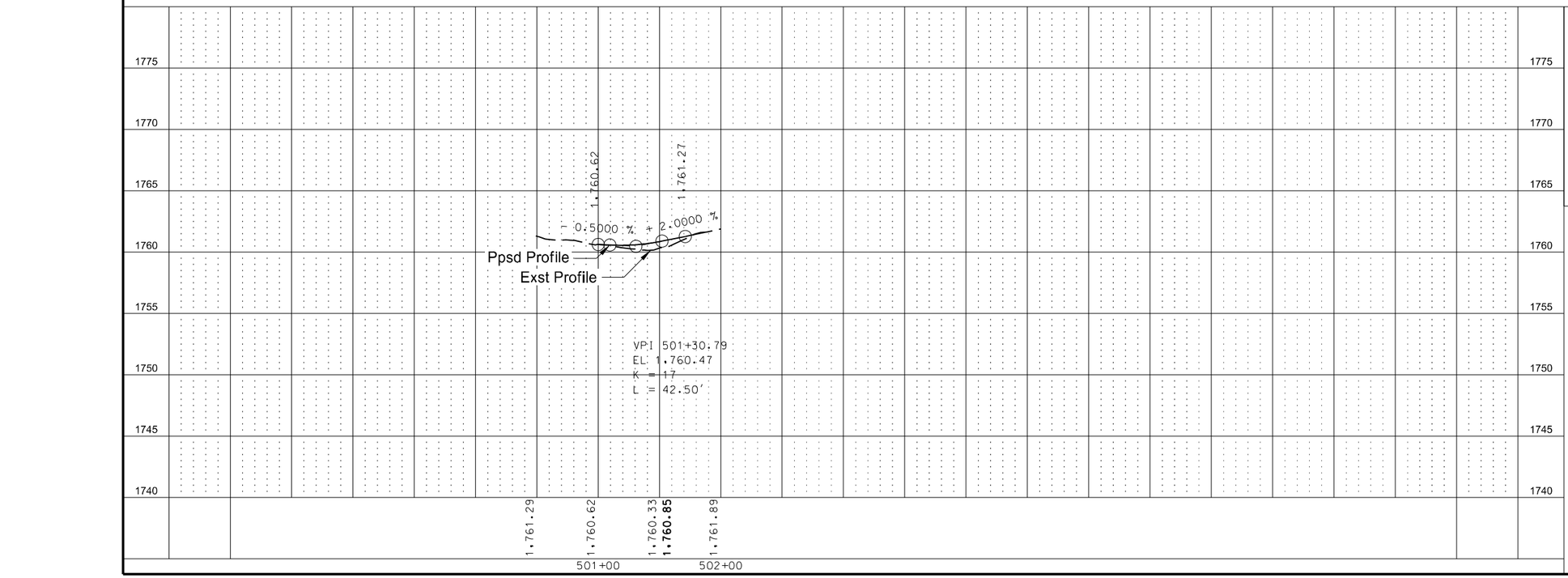
US 52
Fessenden to Carrington

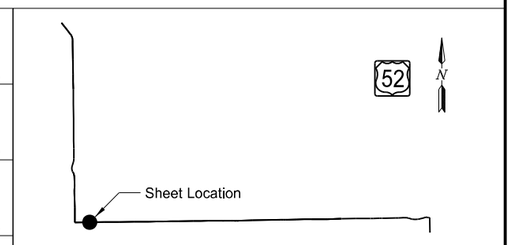
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	60	47



Legend

Surfacing Improvements





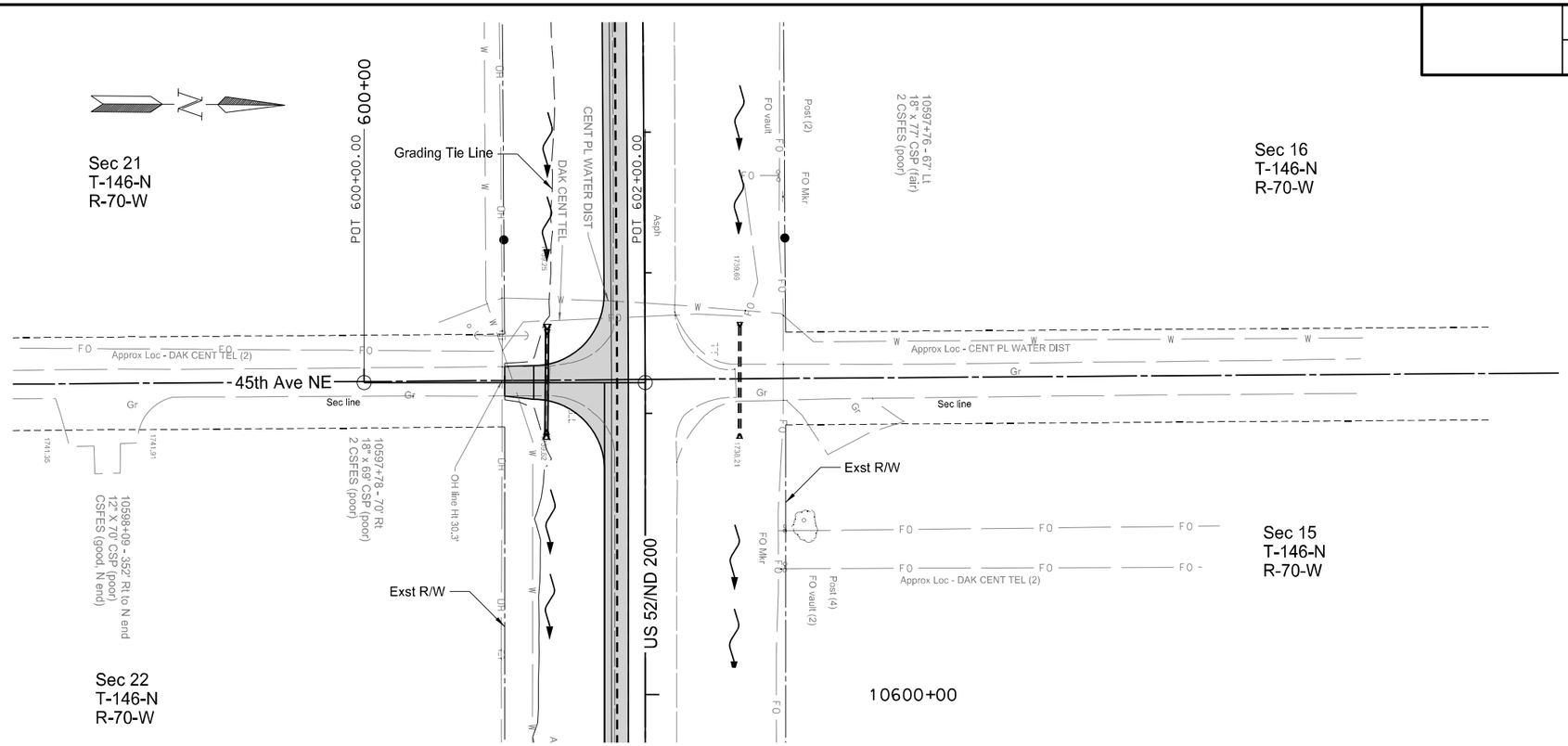
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile
44th Ave NE

US 52
Fessenden to Carrington

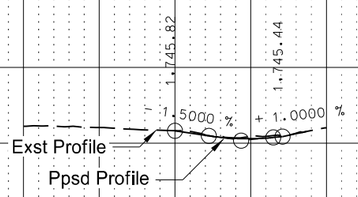
3/14/2022 2:19:07 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\060PP_047_44th.dgn

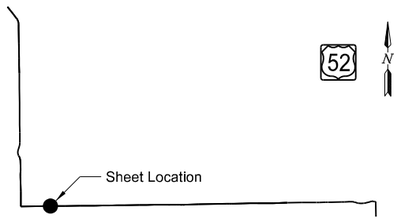
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	60	48



Legend

Surfacing Improvements





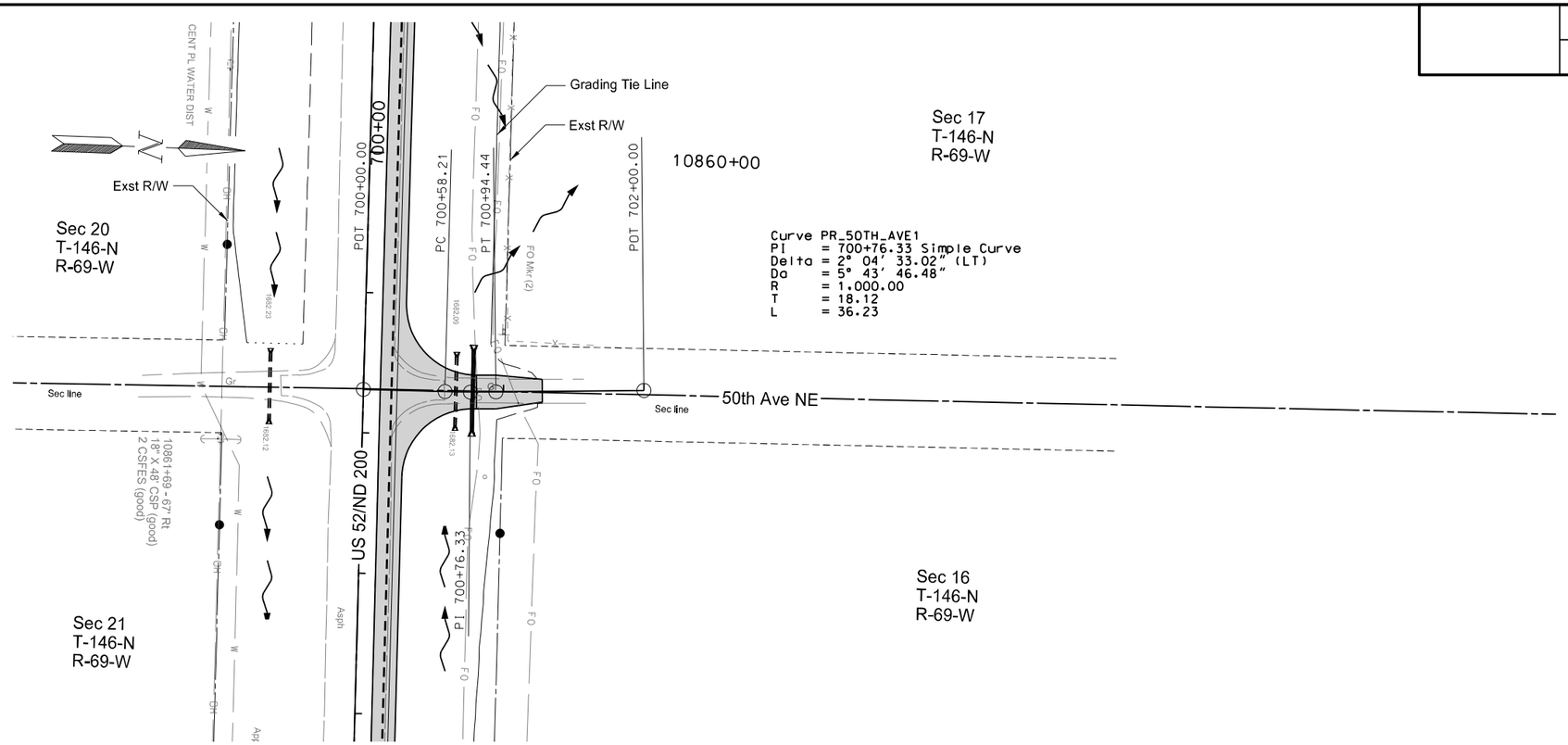
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile
45th Ave NE

US 52
Fessenden to Carrington

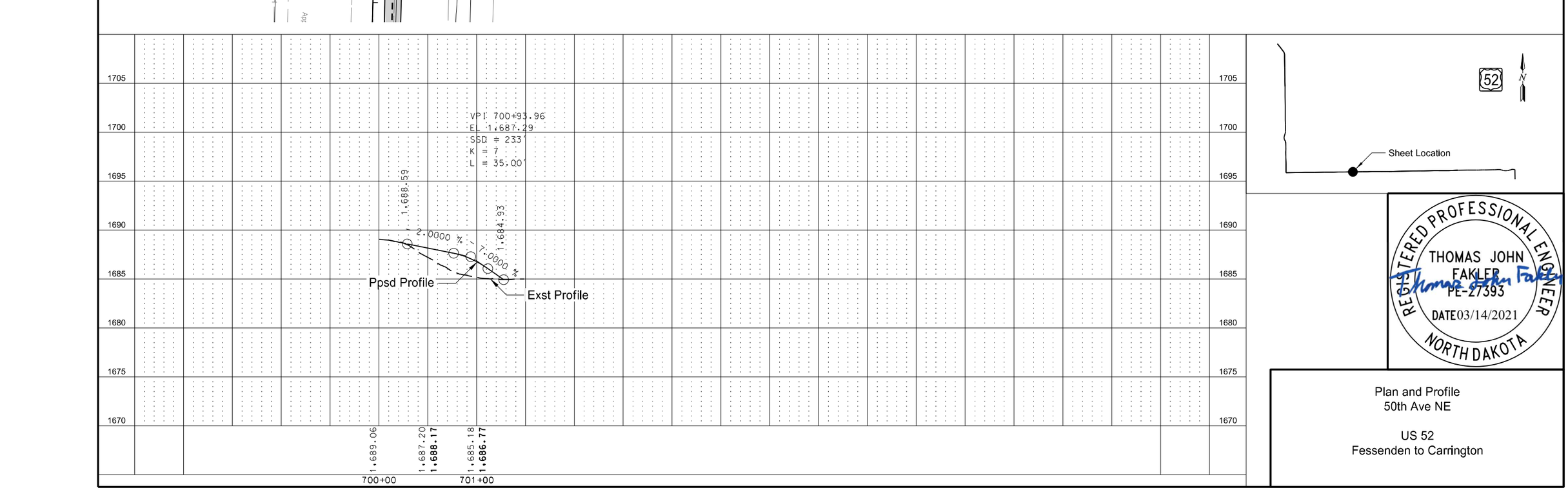
3/14/2022 2:19:09 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\060PP_048_45th.dgn

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	60	49



Legend

Surfacing Improvements

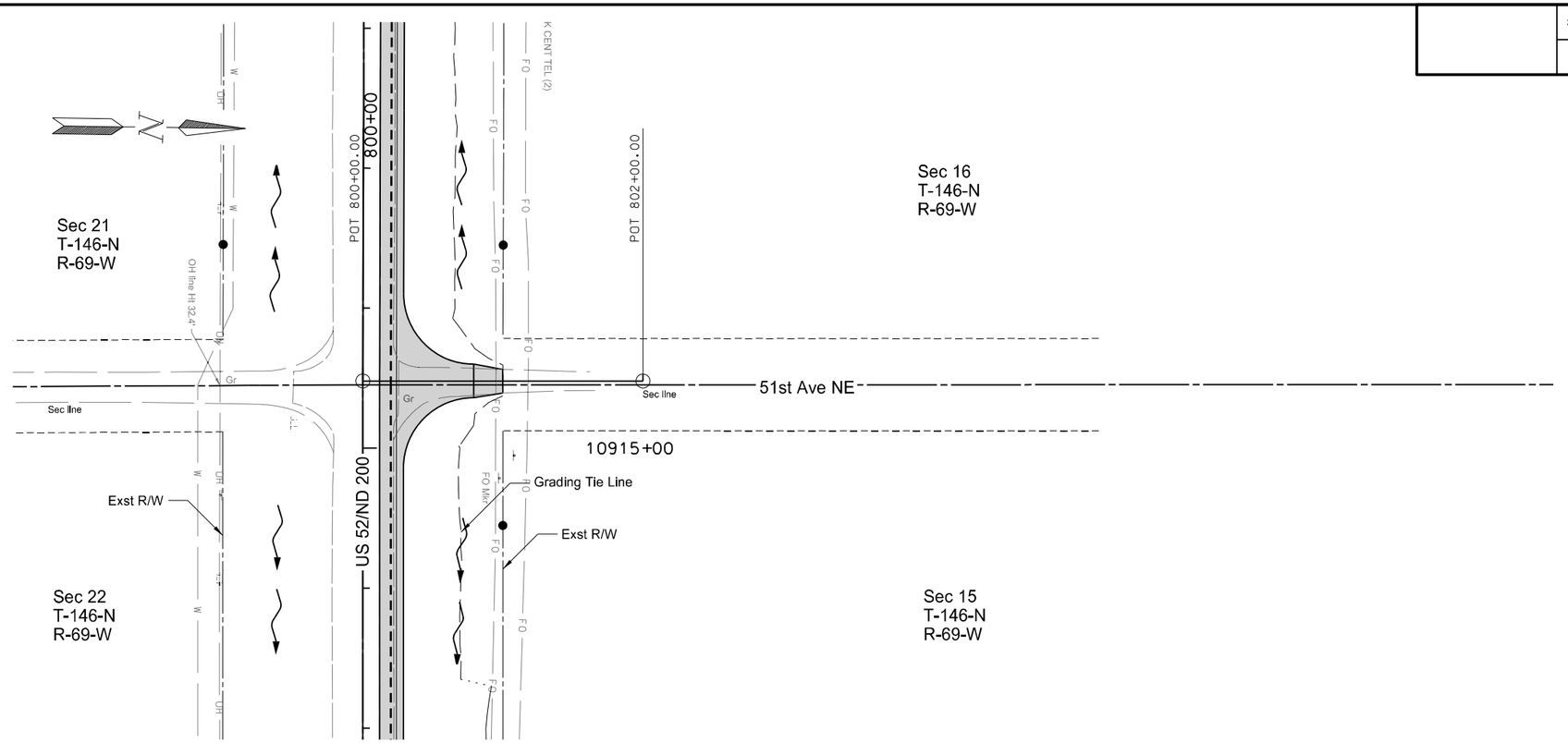


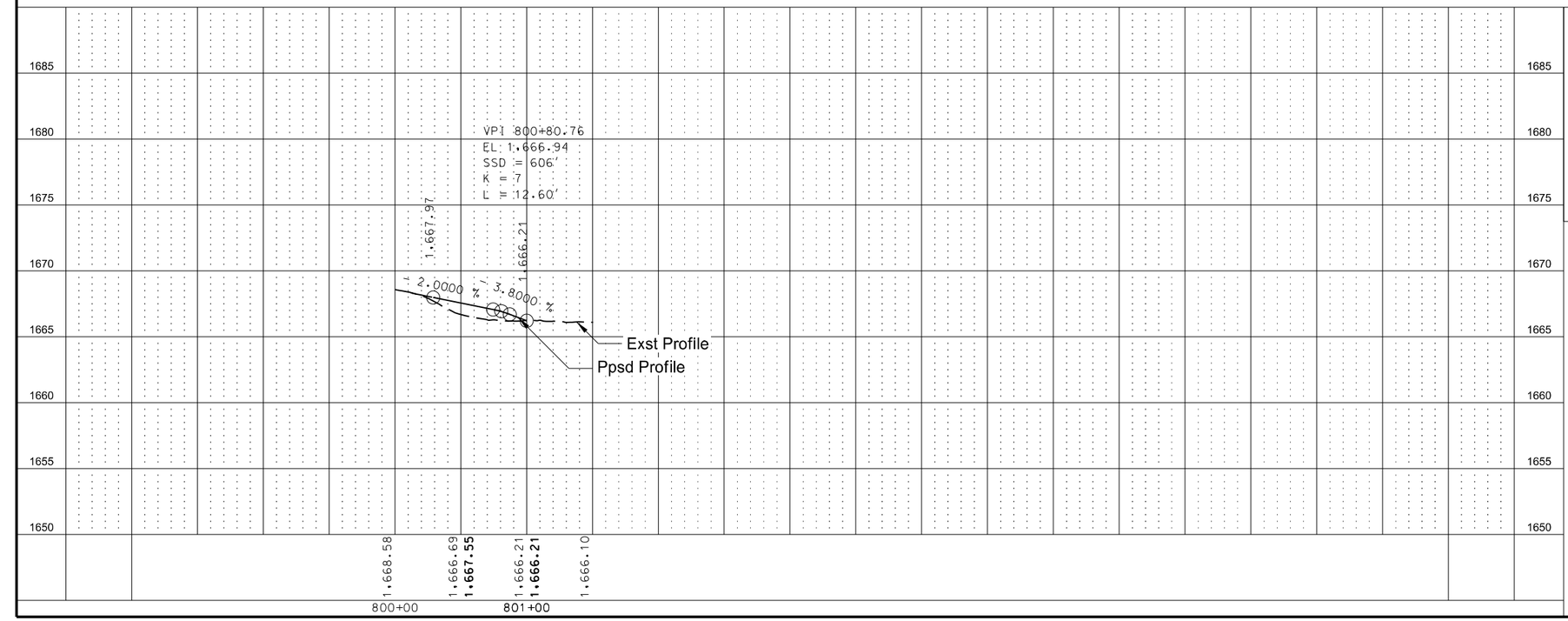
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

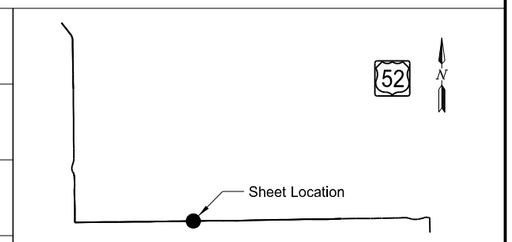
Plan and Profile
50th Ave NE

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	60	50







Legend

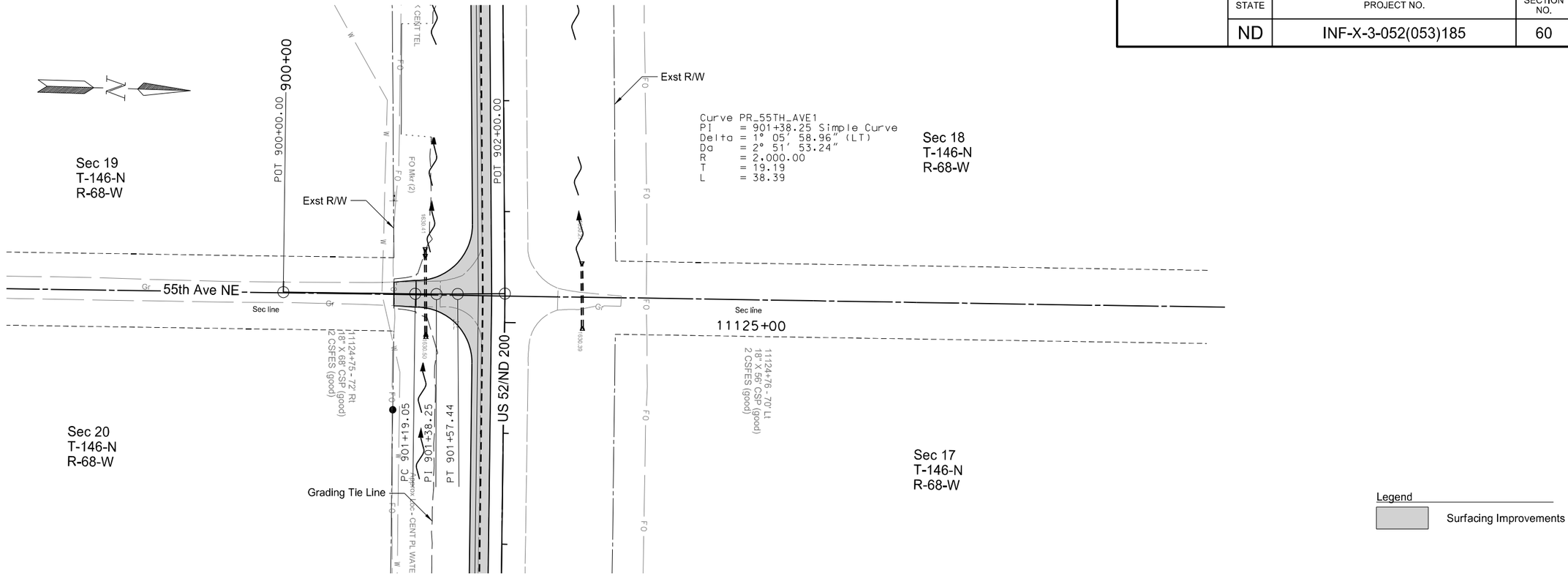
Surfacing Improvements

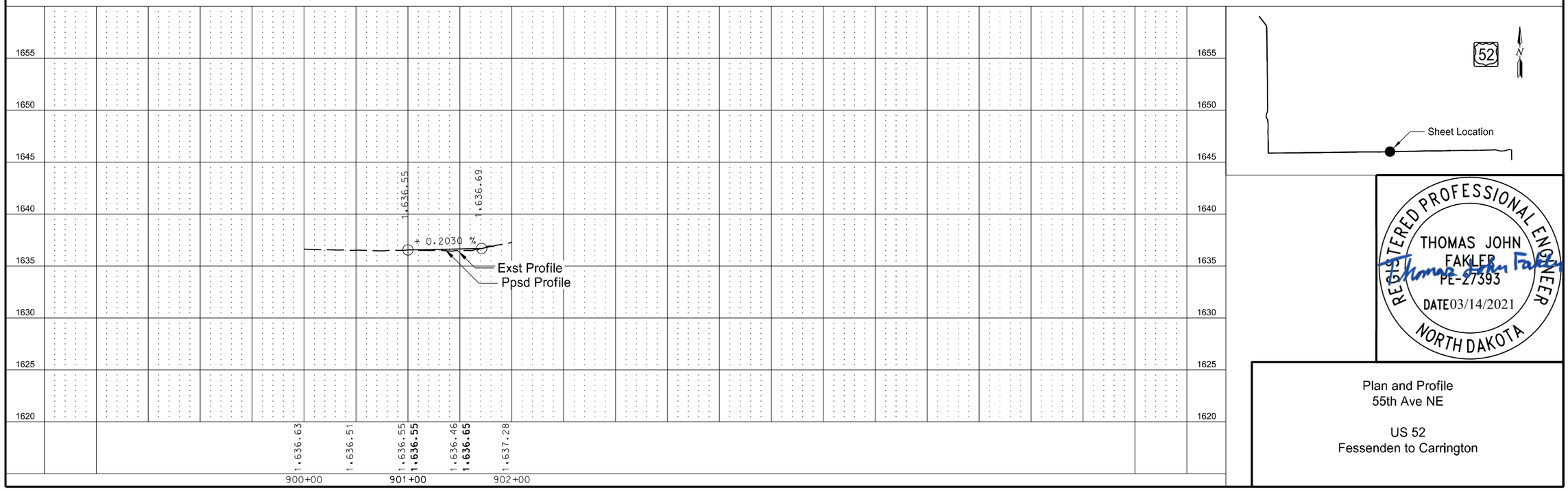
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile
51st Ave NE

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	60	51



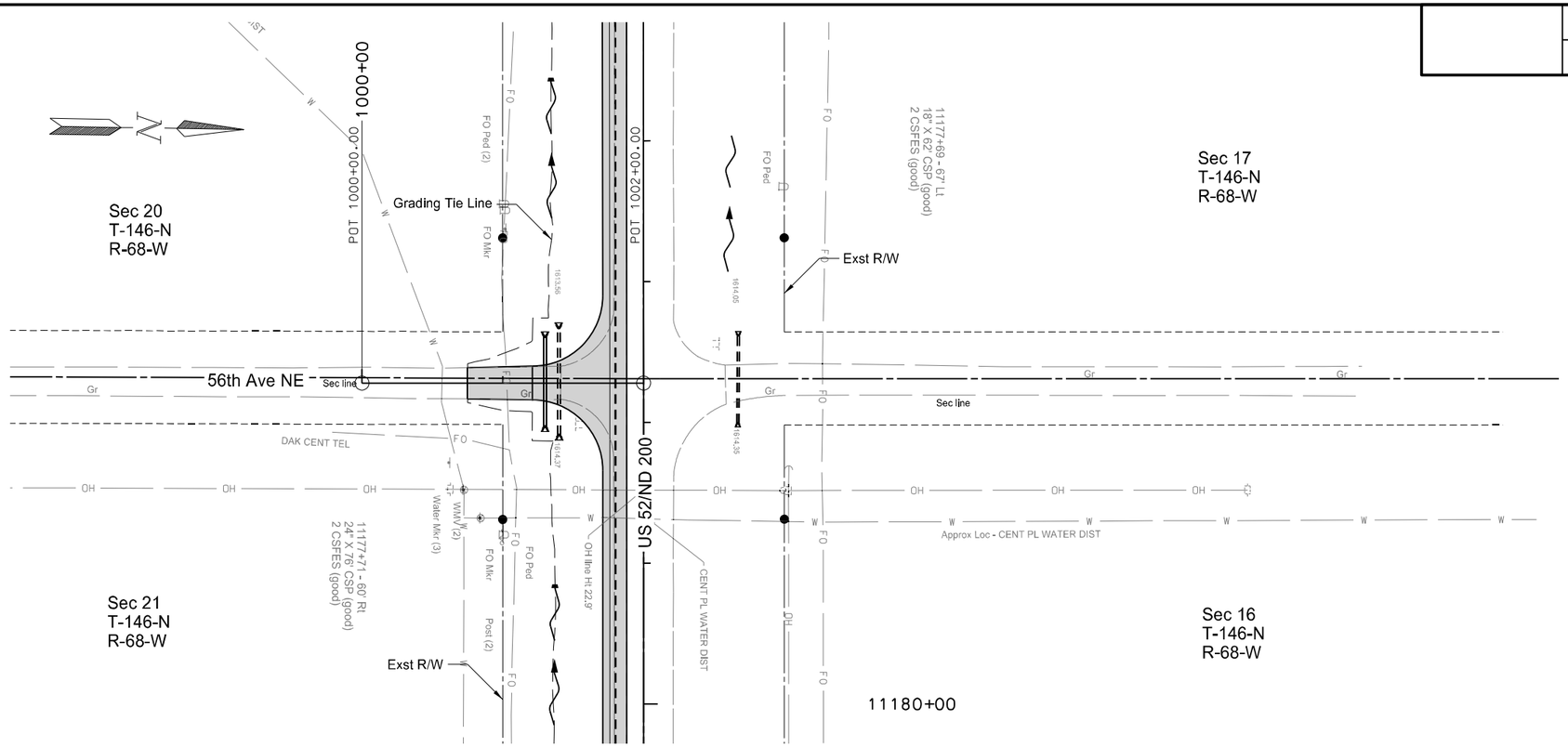


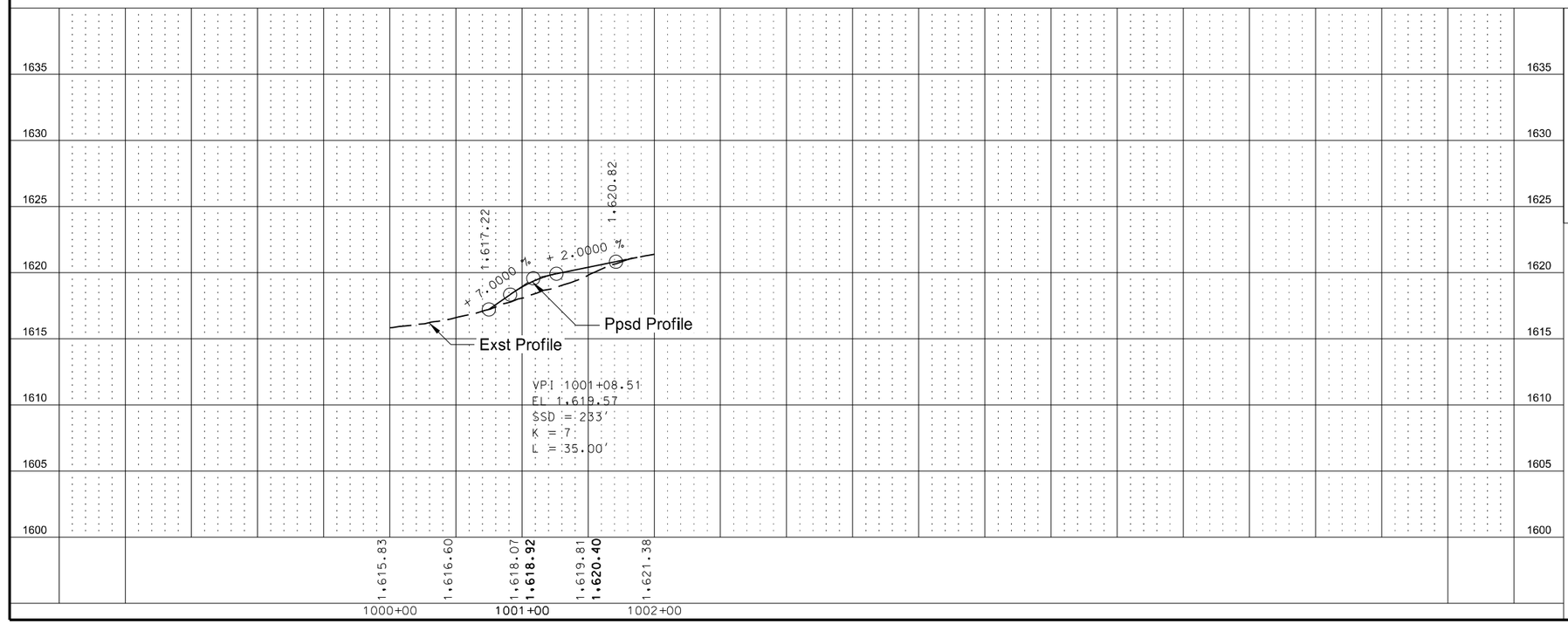
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile
55th Ave NE

US 52
Fessenden to Carrington

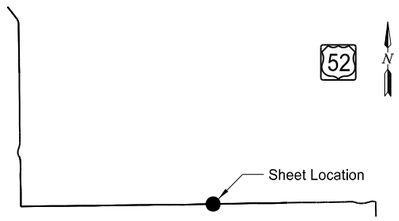
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	60	52





Legend

Surfacing Improvements

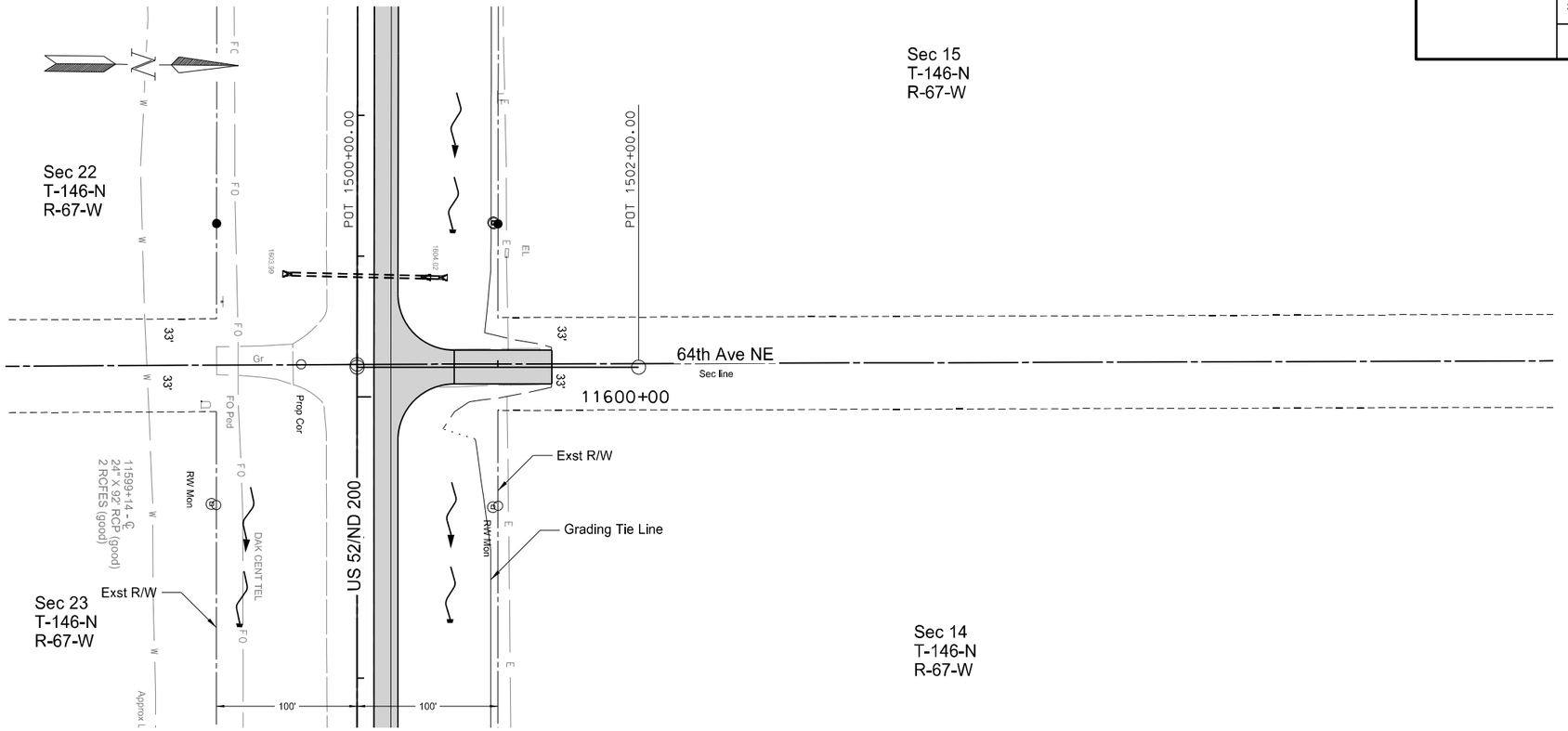


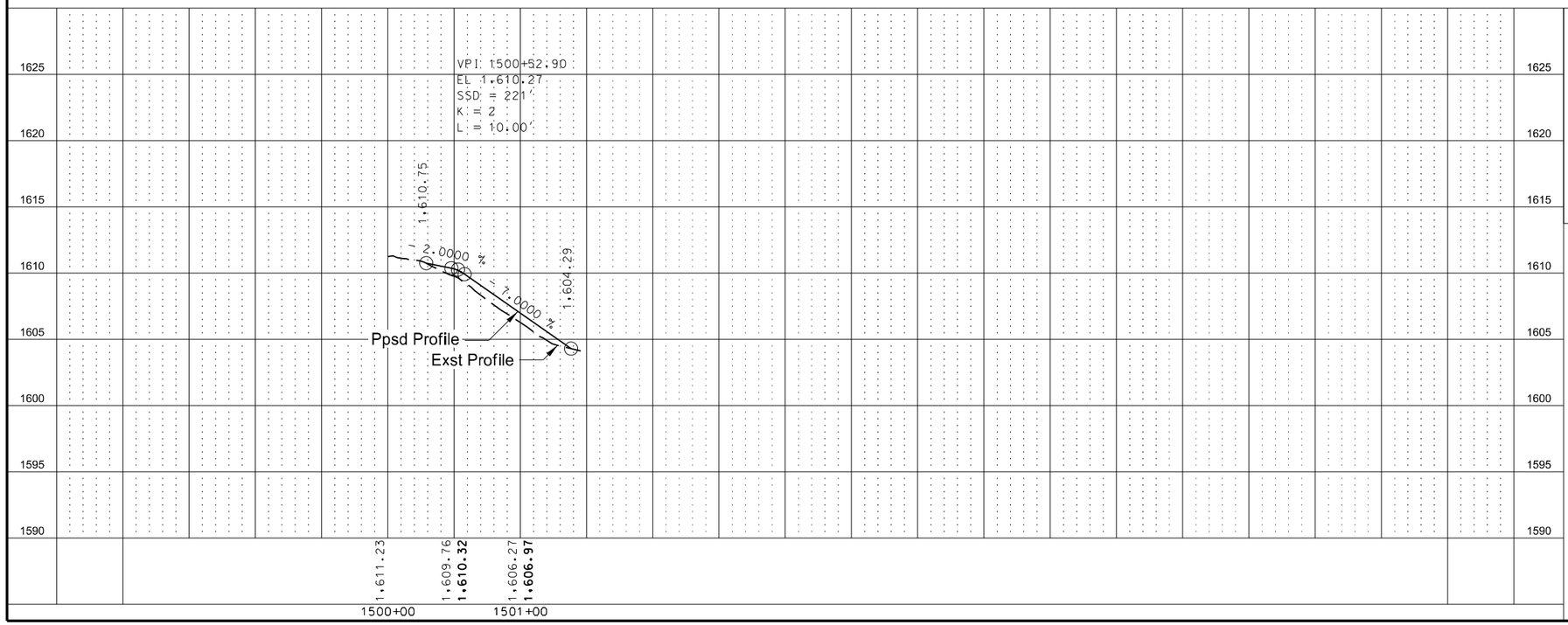
REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

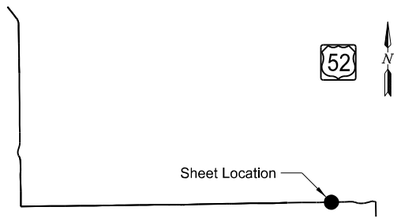
Plan and Profile
56th Ave NE

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	60	53





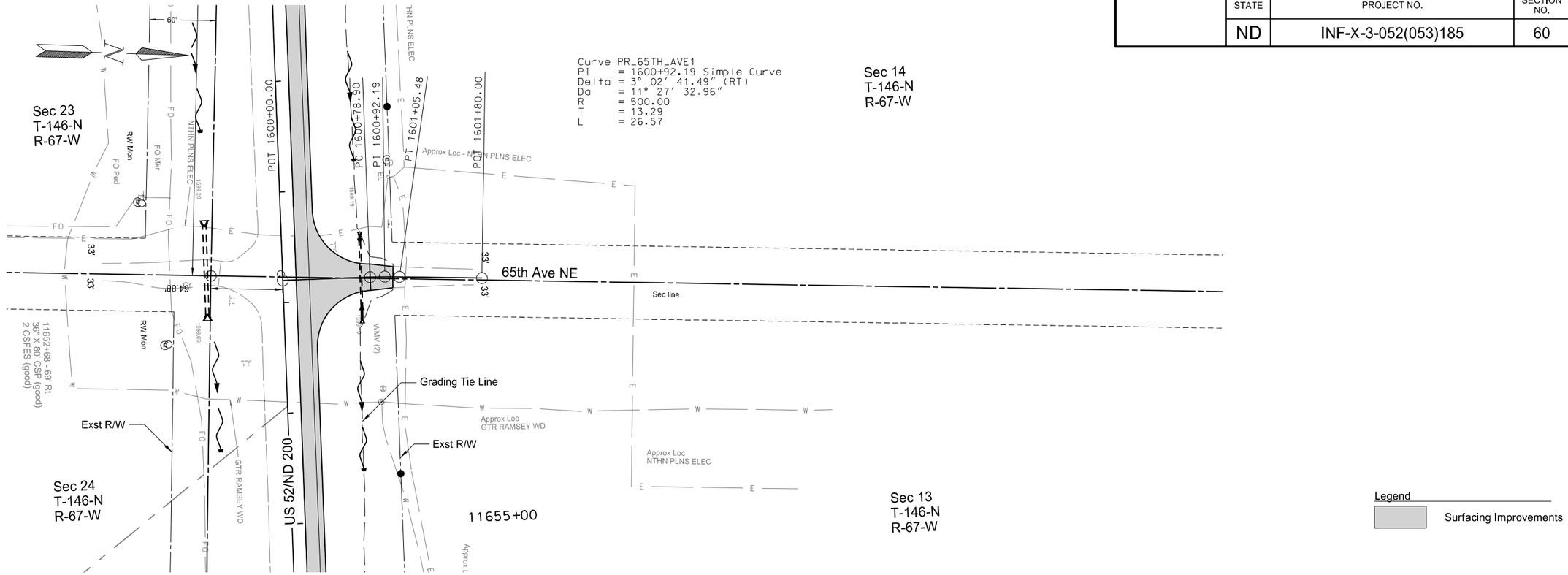


REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

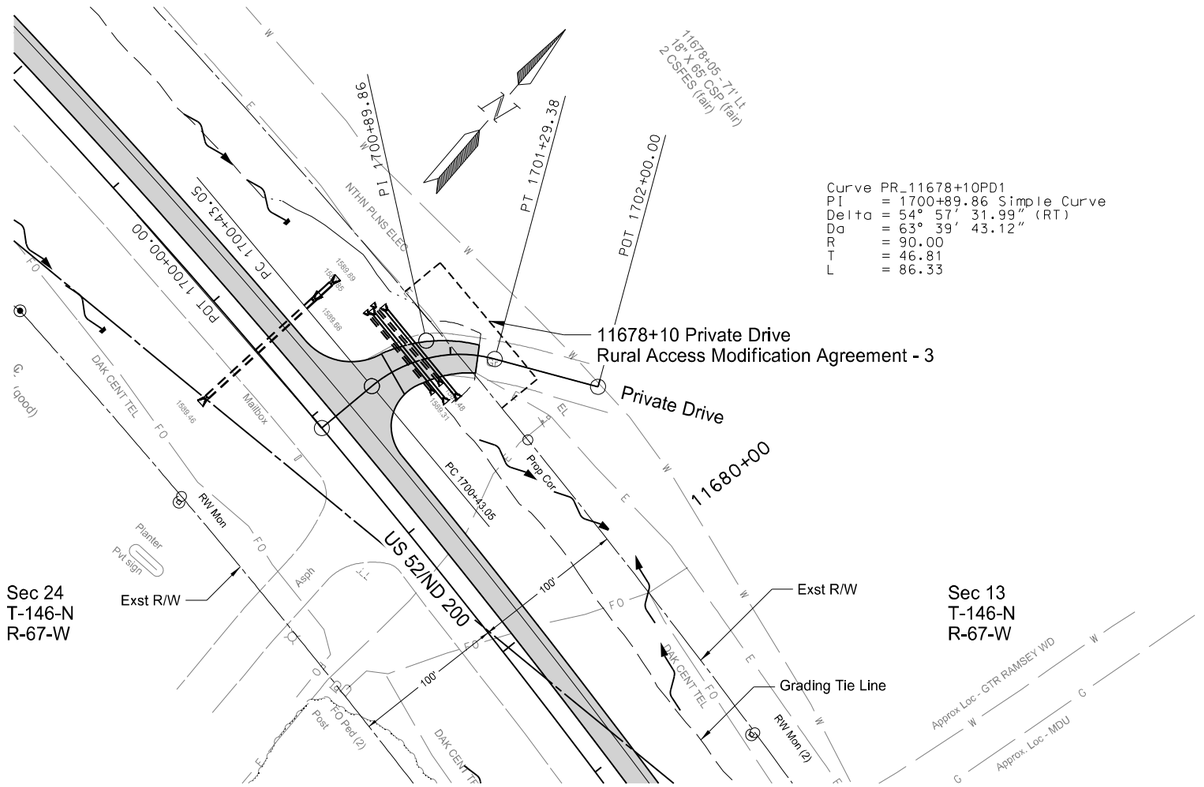
Plan and Profile
64th Ave NE

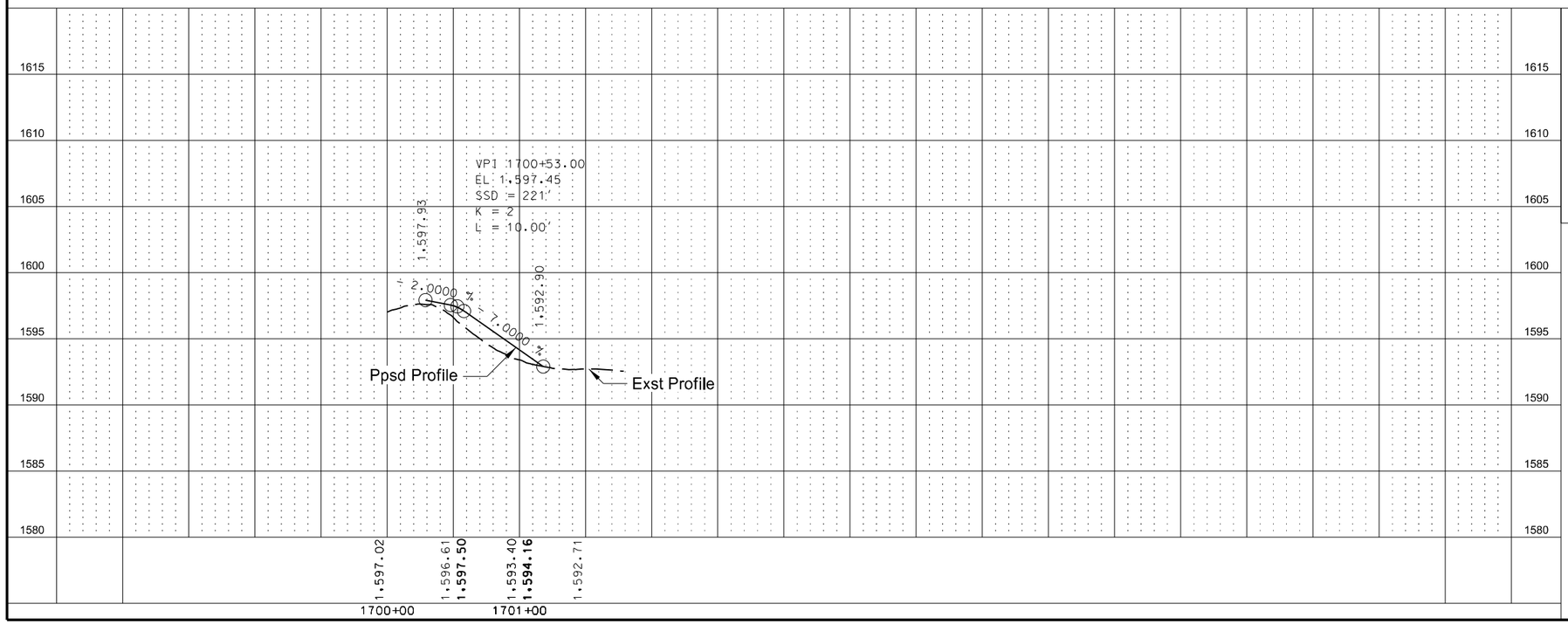
US 52
Fessenden to Carrington

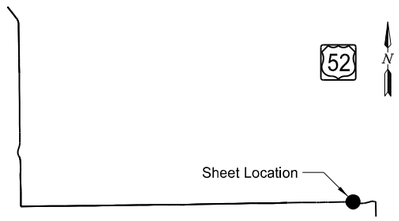
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	60	54



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	60	55







REGISTERED PROFESSIONAL ENGINEER
THOMAS JOHN FAKLER
PE-27393
DATE 03/14/2021
NORTH DAKOTA

Plan and Profile
Sta. 11678+10 Private Drive

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	1

Wetland Impact Table

Wetland Number	Location	Wetland Type	Wetland Feature	USACE Jurisdictional Wetlands*	Wetland Impact					Wetland Mitigation							
					Wetland Impacts Acre(s)			USFWS Easement Impacts Acre(s)		Mitigation Proposed			Onsite Mitigation Method			Onsite Constructed Location	
					Temp.	Perm. (Fill/Drain)	Perm. (Cut)	Temp.	Perm.	EO 11990	USACE	USFWS	Mitigation Location; Ratio	Ditch Shift Acre(s)	Onsite Acre(s)	Onsite Constructed Site #	Onsite Constructed Size Acre(s)
1a	Sec. 7, T148N, R70W	Ditch	Created	N						N	N	N					
1b	Sec. 7, T148N, R70W	Ditch	Created	N						N	N	N					
2	Sec. 7, T148N, R70W	Ditch	Created	N						N	N	N					
3	Sec. 7, T148N, R70W	Ditch	Created	N						N	N	N					
4	Sec. 18, T148N, R70W	Basin	Created	N						N	N	N					
5	Sec. 18, T148N, R70W	Ditch	Created	N						N	N	N					
6	Sec. 18, T148N, R70W	Ditch	Created	N						N	N	N					
7	Sec. 18, T148N, R70W	Ditch	Created	N	0.012	0.032				N	N	N					
8	Sec. 18, T148N, R70W	Ditch	Created	N	0.007	0.142				N	N	N					
9a	Sec. 17, T148N, R70W	Ditch	Created	Y						N	N	N					
9b	Sec. 20, T148N, R70W	Ditch	Created	Y						N	N	N					
9c	Sec. 19, T148N, R70W	Ditch	Created	Y	0.108	0.064				N	Y	N	Ditch Shift 1; 1:1	0.054			
10	Sec. 19, T148N, R70W	Ditch	Created	Y						N	N	N					
11a	Sec. 20, T148N, R70W	Ditch	Created	Y						N	N	N					
11b	Sec. 19, T148N, R70W	Ditch	Created	Y	0.524	0.457				N	Y	N	Onsite Site 1; 1:1 Onsite Site 2; 1:1 Onsite Site 3; 1:1		0.219 0.221 0.017		
12	Sec. 20, T148N, R70W	Ditch	Created	Y						N	N	N					
13a	Sec. 19, T148N, R70W	Slope	Created	Y	0.101	0.058				N	Y	N	Onsite Site 3; 1:1		0.058		
13b	Sec. 20, T148N, R70W	Ditch	Created	Y						N	N	N					
14	Sec. 19, T148N, R70W	Ditch	Created	Y	0.212	0.144				N	Y	N	Ditch Shift 2; 1:1	0.129			
15	Sec. 29, T148N, R70W	Ditch	Created	Y						N	N	N					
16	Sec. 30, T148N, R70W	Ditch	Created	Y	0.026	0.022				N	Y	N	Ditch Shift 3; 1:1	0.027			

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

Wetlands Mitigation and Environmental

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	2

Wetland Impact Table

Wetland Number	Location	Wetland Type	Wetland Feature	USACE Jurisdictional Wetlands*	Wetland Impact					Wetland Mitigation							
					Wetland Impacts Acre(s)			USFWS Easement Impacts Acre(s)		Mitigation Proposed			Onsite Mitigation Method			Onsite Constructed Location	
					Temp.	Perm. (Fill/Drain)	Perm. (Cut)	Temp.	Perm.	EO 11990	USACE	USFWS	Mitigation Location; Ratio	Ditch Shift Acre(s)	Onsite Acre(s)	Onsite Constructed Site #	Onsite Constructed Size Acre(s)
17a	Sec. 29, T148N, R70W	Slope	Natural	Y						N	N	N					
17b	Sec. 30, T148N, R70W	Ditch	Created	Y	0.184	0.174				N	Y	N	Ditch Shift 4; 1:1	0.086			
17c	Sec. 30, T148N, R70W	Ditch	Created	Y	0.187	0.046				N	Y	N	Ditch Shift 5; 1:1	0.014			
17d	Sec. 31, T148N, R70W	Ditch	Created	Y						N	N	N					
18a	Sec. 29, T148N, R70W	Ditch	Created	Y						N	N	N					
18b	Sec. 32, T148N, R70W	Ditch	Created	Y						N	N	N					
19a	Sec. 30, T148N, R70W	Basin	Natural	Y						N	N	N					
19b	Sec. 31, T148N, R70W	Basin	Natural	Y						N	N	N					
20a	Sec. 31, T147N, R70W	Slope	Natural	Y						N	N	N					
20b	Sec. 32, T147N, R70W	Slope	Natural	Y						N	N	N					
21a	Sec. 31, T147N, R70W	Ditch	Created	Y						N	N	N					
21b	Sec. 6, T146N, R70W	Ditch	Created	Y						N	N	N					
22	Sec. 32, T147N, R70W	Ditch	Created	Y						N	N	N					
23	Sec. 5, T146N, R70W	Seep	Natural	Y						N	N	N					
24b	Sec. 6, T146N, R70W	Basin	Natural	Y						N	N	N					
25	Sec. 6, T146N, R70W	Ditch	Created	N						N	N	N					
26	Sec. 6, T146N, R70W	Ditch	Created	N						N	N	N					
27a	Sec. 6, T146N, R70W	Ditch	Created	Y						N	N	N					
27b	Sec. 7, T146N, R70W	Ditch	Created	Y						N	N	N					
28a	Sec. 5, T146N, R70W	Ditch	Created	Y	0.006	0.005				N	Y	N	Onsite Site 3; 1:1		0.005		
28b	Sec. 8, T146N, R70W	Ditch	Created	Y	0.047	0.021				N	Y	N	Ditch Shift 6; 1:1	0.029			
29a	Sec. 7, T146N, R70W	Ditch	Created	Y						N	N	N					

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

Wetlands Mitigation and Environmental

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	3

Wetland Impact Table

Wetland Number	Location	Wetland Type	Wetland Feature	USACE Jurisdictional Wetlands*	Wetland Impact					Wetland Mitigation							
					Wetland Impacts Acre(s)			USFWS Easement Impacts Acre(s)		Mitigation Proposed			Onsite Mitigation Method			Onsite Constructed Location	
					Temp.	Perm. (Fill/Drain)	Perm. (Cut)	Temp.	Perm.	EO 11990	USACE	USFWS	Mitigation Location; Ratio	Ditch Shift Acre(s)	Onsite Acre(s)	Onsite Constructed Site #	Onsite Constructed Size Acre(s)
29b	Sec. 7, T146N, R70W	Ditch	Created	Y						N	N	N					
30	Sec. 8, T146N, R70W	Ditch	Created	Y	0.036	0.026				N	Y	N	Ditch Shift 7; 1:1	0.027			
31a	Sec. 8, T146N, R70W	Ditch	Created	Y	0.070	0.009				N	Y	N	Ditch Shift 8; 1:1	0.033			
31b	Sec. 8, T146N, R70W	Basin	Created	Y	0.021	0.001				N	Y	N	Ditch Shift 9; 1:1	0.010			
32a	Sec. 8, T146N, R70W	Slope	Natural	Y	0.005	0.008				Y	Y	N	Onsite Site 3; 2:1		0.016		
32b	Sec. 7, T146N, R70W	Slope	Natural	Y						N	N	N					
33a	Sec. 8, T146N, R70W	Slope	Natural	Y	0.014					N	N	N					
33b	Sec. 7, T146N, R70W	Slope	Natural	Y						N	N	N					
34	Sec. 8, T146N, R70W	Depression	Created	N						N	N	N					
35	Sec. 8, T146N, R70W	Depression	Created	N						N	N	N					
36	Sec. 18, T146N, R70W	Ditch	Created	Y						N	N	N					
37	Sec. 17, T146N, R70W	Ditch	Created	Y	0.086	0.088				N	Y	N	Onsite Site 1; 1:1		0.088	1	0.339
38	Sec. 18, T146N, R70W	Basin	Natural	Y						N	N	N					
39	Sec. 18, T146N, R70W	Basin	Natural	Y						N	N	N					
40	Sec. 19, T146N, R70W	Basin	Natural	Y						N	N	N					
41	Sec. 20, T146N, R70W	Basin	Natural	Y						N	N	N					
42	Sec. 20, T146N, R70W	Basin	Natural	Y						N	N	N					
43a	Sec. 17, T146N, R70W	Basin	Natural	Y						N	N	N					
43b	Sec. 20, T146N, R70W	Basin	Natural	Y	0.047	0.031				Y	Y	N	Onsite Site 4; 2:1		0.062		
44a	Sec. 17, T146N, R70W	Ditch	Created	Y						N	N	N					
44b	Sec. 16, T146N, R70W	Ditch	Created	Y						N	N	N					
44c	Sec. 16, T146N, R70W	Basin	Natural	Y						N	N	N					

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

Wetlands Mitigation and Environmental

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	4

Wetland Impact Table

Wetland Number	Location	Wetland Type	Wetland Feature	USACE Jurisdictional Wetlands'	Wetland Impact					Wetland Mitigation							
					Wetland Impacts Acre(s)			USFWS Easement Impacts Acre(s)		MItIgatIon Proposed			OnsIte MItIgatIon Method			OnsIte Constructed LocatIon	
					Temp.	Perm. (Fill/Drain)	Perm. (Cut)	Temp.	Perm.	EO 11990	USACE	USFWS	Mitigation Location; Ratio	Ditch Shift Acre(s)	Onsite Acre(s)	Onsite Constructed Site #	Onsite Constructed Size Acre(s)
44d	Sec. 16, T146N, R70W	Ditch	Created	Y						N	N	N					
44e	Sec. 16, T146N, R70W	Basin	Natural	Y						N	N	N					
44f	Sec. 16, T146N, R70W	Ditch	Created	Y						N	N	N					
44g	Sec. 20, T146N, R70W	Ditch	Created	Y	0.032	0.025				N	Y	N	Onsite Site 4; 1:1		0.025		
44h	Sec. 21, T146N, R70W	Ditch	Created	Y	0.269	0.249				N	Y	N	Onsite Site 4; 1:1 Onsite Site 5; 1:1		0.120 0.129		
44i	Sec. 21, T146N, R70W	Basin	Natural	Y	0.048	0.040				Y	Y	N	Onsite Site 5; 2:1		0.080		
44j	Sec. 21, T146N, R70W	Ditch	Created	Y	0.113	0.094				N	Y	N	Onsite Site 5; 1:1		0.094		
44k	Sec. 21, T146N, R70W	Basin	Natural	Y	0.009					N	N	N					
44l	Sec. 21, T146N, R70W	Ditch	Created	Y	0.019	0.002				N	Y	N	Onsite Site 3; 1:1		0.002		
44m	Sec. 21, T146N, R70W	Basin	Natural	Y	0.058	0.029				Y	Y	N	Onsite Site 5; 2:1		0.058		
44n	Sec. 21, T146N, R70W	Ditch	Created	Y	0.014	0.055				N	Y	N	Onsite Site 5; 1:1		0.055		
44o	Sec. 16, T146N, R70W	Basin	Natural	Y						N	N	N					
46	Sec. 21, T146N, R70W	Ditch	Created	Y	0.025	0.043				N	Y	N	Onsite Site 2; 1:1		0.043	2	0.264
47	Sec. 16, T146N, R70W	Basin	Natural	Y						N	N	N					
48	Sec. 16, T146N, R70W	Ditch	Created	Y						N	N	N					
49a	Sec. 22, T146N, R70W	Slope	Natural	Y	0.028	0.015				Y	Y	N	Onsite Site 5; 2:1		0.030		
49b	Sec. 15, T146N, R70W	Slope	Natural	Y						N	N	N					
50	Sec. 18, T146N, R69W	Basin	Natural	Y						N	N	N					
51	Sec. 19, T146N, R69W	Basin	Natural	Y						N	N	N					
52a	Sec. 18, T146N, R69W	Ditch	Created	Y						N	N	N					
52b	Sec. 17, T146N, R69W	Ditch	Created	Y						N	N	N					

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

Wetlands Mitigation and Environmental

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	5

Wetland Impact Table

Wetland Number	Location	Wetland Type	Wetland Feature	USACE Jurisdictional Wetlands*	Wetland Impact					Wetland Mitigation							
					Wetland Impacts Acre(s)			USFWS Easement Impacts Acre(s)		Mitigation Proposed			Onsite Mitigation Method			Onsite Constructed Location	
					Temp.	Perm. (Fill/Drain)	Perm. (Cut)	Temp.	Perm.	EO 11990	USACE	USFWS	Mitigation Location; Ratio	Ditch Shift Acre(s)	Onsite Acre(s)	Onsite Constructed Site #	Onsite Constructed Size Acre(s)
53a	Sec. 19, T146N, R69W	Ditch	Created	Y						N	N	N					
53b	Sec. 20, T146N, R69W	Ditch	Created	Y						N	N	N					
54a	Sec. 17, T146N, R69W	Ditch	Created	Y	0.151	0.056				N	Y	N	Onsite Site 3; 1:1		0.056	3	0.230
54b	Sec. 17, T146N, R69W	Ditch	Created	Y	0.040	0.085				N	Y	N	Ditch Shift 10; 1:1	0.099			
54c	Sec. 20, T146N, R69W	Ditch	Created	Y	0.026					N	N	N				4	0.207
54d	Sec. 20, T146N, R69W	Ditch	Created	Y	0.148					N	N	N				5	0.544
55a	Sec. 17, T146N, R69W	Ditch	Created	Y	0.118	0.165				N	Y	N	Ditch Shift 11; 1:1	0.188			
55b	Sec. 20, T146N, R69W	Ditch	Created	Y						N	N	N					
56a	Sec. 17, T146N, R69W	Ditch	Created	Y	0.057	0.105				N	Y	N	Ditch Shift 12; 1:1	0.175			
56b	Sec. 16, T146N, R69W	Ditch	Created	Y	0.047	0.066				N	Y	N	Ditch Shift 13; 1:1	0.073			
57a	Sec. 20, T146N, R69W	Ditch	Created	Y	0.107					N	N	N				6	0.267
57b	Sec. 21, T146N, R69W	Ditch	Created	Y						N	N	N					
57c	Sec. 21, T146N, R69W	Ditch	Created	Y						N	N	N					
58	Sec. 16, T146N, R69W	Ditch	Created	Y	0.004	0.007				N	Y	N	Ditch Shift 14; 1:1	0.011			
59	Sec. 21, T146N, R69W	Slope	Natural	Y						N	N	N					
60	Sec. 21, T146N, R69W	Basin	Natural	N						N	N	N					
61	Sec. 16, T146N, R69W	Ditch	Created	Y	0.091	0.030				N	Y	N	Ditch Shift 15; 1:1	0.053			
62	Sec. 21, T146N, R69W	Ditch	Created	Y						N	N	N					
63	Sec. 21, T146N, R69W	Ditch	Created	Y						N	N	N					
64	Sec. 16, T146N, R69W	Slope	Natural	Y						N	N	N					
65	Sec. 15, T146N, R69W	Ditch	Created	Y	0.012					N	N	N					
66	Sec. 22, T146N, R69W	Ditch	Created	Y						N	N	N					

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

Wetlands Mitigation and Environmental

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	6

Wetland Impact Table

Wetland Number	Location	Wetland Type	Wetland Feature	USACE Jurisdictional Wetlands*	Wetland Impact					Wetland Mitigation							
					Wetland Impacts Acre(s)			USFWS Easement Impacts Acre(s)		MItIgatIon Proposed			OnsIte MItIgatIon Method			OnsIte Constructed LocatIon	
					Temp.	Perm. (Fill/Drain)	Perm. (Cut)	Temp.	Perm.	EO 11990	USACE	USFWS	Mitigation Location; Ratio	Ditch Shift Acre(s)	Onsite Acre(s)	Onsite Constructed Site #	Onsite Constructed Size Acre(s)
67a	Sec. 15, T146N, R69W	Ditch	Created	Y	0.138	0.152				N	Y	N	Onsite Site 6; 1:1		0.152		
67b	Sec. 22, T146N, R69W	Basin	Natural	Y						N	N	N					
67c	Sec. 22, T146N, R69W	Ditch	Created	Y						N	N	N					
67d	Sec. 22, T146N, R69W	Ditch	Created	Y						N	N	N					
68	Sec. 24, T146N, R69W	Basin	Natural	Y						N	N	N					
69a	Sec. 13, T146N, R69W	Ditch	Created	Y						N	N	N					
69b	Sec. 18, T146N, R68W	Ditch	Created	Y						N	N	N					
69c	Sec. 18, T146N, R68W	Basin	Natural	Y						N	N	N					
69d	Sec. 18, T146N, R68W	Ditch	Created	Y						N	N	N					
69e	Sec. 18, T146N, R68W	Basin	Natural	Y						N	N	N					
69f	Sec. 19, T146N, R68W	Basin	Natural	Y						N	N	N					
69g	Sec. 19, T146N, R68W	Ditch	Created	Y	0.005					N	N	N					
69h	Sec. 19, T146N, R68W	Basin	Natural	Y	0.053	0.017				Y	Y	N	Onsite Site 5; 2:1		0.034		
69i	Sec. 19, T146N, R68W	Ditch	Created	Y	0.070	0.055				N	Y	N	Onsite Site 5; 1:1		0.055		
69j	Sec. 19, T146N, R68W	Ditch	Created	Y	0.099	0.055				N	Y	N	Ditch Shift 17; 1:1	0.068			
70	Sec. 24, T146N, R69W	Basin	Natural	Y						N	N	N					
71	Sec. 13, T146N, R69W	Basin	Natural	Y						N	N	N					
72	Sec. 18, T146N, R68W	Basin	Natural	Y						N	N	N					
73a	Sec. 19, T146N, R68W	Ditch	Created	Y	0.102	0.138				N	Y	N	Ditch Shift 18; 1:1	0.194			
73b	Sec. 19, T146N, R68W	Ditch	Created	Y	0.283	0.155				N	Y	N	Ditch Shift 19; 1:1	0.119			
73c	Sec. 19, T146N, R68W	Slope	Natural	Y	0.006	0.001				Y	Y	N	Onsite Site 3; 2:1		0.002		
73d	Sec. 18, T146N, R68W	Ditch	Created	Y						N	N	N					

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

Wetlands Mitigation and Environmental

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	7

Wetland Impact Table

Wetland Number	Location	Wetland Type	Wetland Feature	USACE Jurisdictional Wetlands*	Wetland Impact					Wetland Mitigation							
					Wetland Impacts Acre(s)			USFWS Easement Impacts Acre(s)		MItIgatIon Proposed			OnsIte MItIgatIon Method			OnsIte Constructed LocatIon	
					Temp.	Perm. (Fill/Drain)	Perm. (Cut)	Temp.	Perm.	EO 11990	USACE	USFWS	Mitigation Location; Ratio	Ditch Shift Acre(s)	Onsite Acre(s)	Onsite Constructed Site #	Onsite Constructed Size Acre(s)
74	Sec. 18, T146N, R68W	Basin	Natural	Y						N	N	N					
75a	Sec. 18, T146N, R68W	Ditch	Created	Y						N	N	N					
75b	Sec. 18, T146N, R68W	Basin	Natural	Y						N	N	N					
75c	Sec. 18, T146N, R68W	Ditch	Created	Y						N	N	N					
75d	Sec. 19, T146N, R68W	Basin	Natural	Y	0.079	0.102				Y	Y	N	Onsite Site 6; 2:1 Onsite Site 7; 2:1 Onsite Site 8; 2:1		0.115 0.070 0.019		
75e	Sec. 19, T146N, R68W	Ditch	Created	Y	0.021	0.047				N	Y	N	Ditch Shift 20; 1:1	0.034			
76	Sec. 17, T146N, R68W	Ditch	Created	Y						N	N	N					
77	Sec. 20, T146N, R68W	Ditch	Created	Y		0.021				N	Y	N	Ditch Shift 21; 1:1	0.025			
78a	Sec. 20, T146N, R68W	Ditch	Created	Y	0.074	0.059				N	Y	N	Ditch Shift 22; 1:1	0.198			
78b	Sec. 20, T146N, R68W	Basin	Natural	Y	0.166	0.122				Y	Y	N	Onsite Site 7; 1:1		0.122		
78c	Sec. 17, T146N, R68W	Basin	Natural	Y	0.081					N	N	N				7	0.192
78d	Sec. 17, T146N, R68W	Ditch	Created	Y						N	N	N					
79	Sec. 20, T146N, R68W	Basin	Natural	Y						N	N	N					
80	Sec. 20, T146N, R68W	Ditch	Created	Y						N	N	N					
81	Sec. 21, T146N, R68W	Ditch	Created	Y						N	N	N					
82	Sec. 21, T146N, R68W	Ditch	Created	Y	0.061	0.002				N	Y	N	Onsite Site 8; 1:1		0.002	8	0.071
83	Sec. 16, T146N, R68W	Ditch	Created	Y						N	N	N					
84	Sec. 16, T146N, R68W	Ditch	Created	Y						N	N	N					
85	Sec. 21, T146N, R68W	Ditch	Created	Y	0.047	0.010				N	Y	N	Ditch Shift 23; 1:1	0.014			
86	Sec. 16, T146N, R68W	Basin	Natural	Y						N	N	N					
87	Sec. 21, T146N, R68W	Basin	Natural	Y						N	N	N					
88	Sec. 15, T146N, R67W	Ditch	Created	Y						N	N	N					

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

Wetlands Mitigation and Environmental

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	8

Wetland Impact Table

Wetland Number	Location	Wetland Type	Wetland Feature	USACE Jurisdictional Wetlands*	Wetland Impact					Wetland Mitigation							
					Wetland Impacts Acre(s)			USFWS Easement Impacts Acre(s)		MItIgatIon Proposed			Onsite MItIgatIon Method			Onsite Constructed LocatIon	
					Temp.	Perm. (Fill/Drain)	Perm. (Cut)	Temp.	Perm.	EO 11990	USACE	USFWS	Mitigation Location; Ratio	Ditch Shift Acre(s)	Onsite Acre(s)	Onsite Constructed Site #	Onsite Constructed Size Acre(s)
89	Sec. 22, T146N, R67W	Ditch	Created	Y						N	N	N					
90	Sec. 15, T146N, R67W	Basin	Natural	Y						N	N	N					
91a	Sec. 15, T146N, R67W	Ditch	Created	Y						N	N	N					
91b	Sec. 15, T146N, R67W	Basin	Natural	Y						N	N	N					
91c	Sec. 22, T146N, R67W	Ditch	Created	Y						N	N	N					
91d	Sec. 22, T146N, R67W	Basin	Natural	Y						N	N	N					
91e	Sec. 22, T146N, R67W	Basin	Natural	Y						N	N	N					
91f	Sec. 22, T146N, R67W	Ditch	Created	Y						N	N	N					
91g	Sec. 22, T146N, R67W	Ditch	Created	Y						N	N	N					
91h	Sec. 22, T146N, R67W	Basin	Natural	Y						N	N	N					
91i	Sec. 22, T146N, R67W	Ditch	Created	Y						N	N	N					
91j	Sec. 15, T146N, R67W	Ditch	Created	Y	0.099	0.195				N	Y	N	Ditch Shift 24; 1:1	0.285			
92a	Sec. 23, T146N, R67W	Basin	Natural	Y						N	N	N					
92b	Sec. 14, T146N, R67W	Basin	Natural	Y	0.192	0.060				Y	Y	N	Onsite Site 9; 1:1		0.060	9	0.174
92c	Sec. 14, T146N, R67W	Ditch	Created	Y		0.007				N	Y	N	Onsite Site 9; 1:1		0.007		
93	Sec. 23, T146N, R67W	Ditch	Created	Y						N	N	N					
94	Sec. 23, T146N, R67W	Ditch	Created	Y						N	N	N					
95	Sec. 23, T146N, R67W	Ditch	Created	Y						N	N	N					
96a	Sec. 23, T146N, R67W	Basin	Natural	Y						N	N	N					
96b	Sec. 14, T146N, R67W	Ditch	Created	Y	0.023	0.016				N	Y	N	Ditch Shift 25; 1:1	0.020			
97	Sec. 23, T146N, R67W	Ditch	Created	Y						N	N	N					
98	Sec. 14, T146N, R67W	Ditch	Created	Y	0.022	0.073				N	Y	N	Ditch Shift 26; 1:1	0.146			

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

Wetlands Mitigation and Environmental

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	75	9

Wetland Impact Table

Wetland Number	Location	Wetland Type	Wetland Feature	USACE Jurisdictional Wetlands'	Wetland Impact: Wetland Impacts Acre(s) Temp.	Wetland Impact: Wetland Impacts Acre(s) Perm. (Fill/Drain)	Wetland Impact: Wetland Impacts Acre(s) Perm. (Cut)	Wetland Impact: USFWS Easement Impacts Acre(s) Temp.	Wetland Impact: USFWS Easement Impacts Acre(s) Perm.	Wetland Mitigation: Mitigation Proposed EO 11990	Mitigation Proposed USACE	Mitigation Proposed USFWS	Onsite Mitigation Method: Mitigation Location; Ratio	Onsite Mitigation Method: Ditch Shift Acre(s)	Onsite Mitigation Method: Onsite Acre(s)	Onsite Constructed Location: Onsite Constructed Site #	Onsite Constructed Location: Onsite Constructed Size Acre(s)
99a	Sec. 23, T146N, R67W	Ditch	Created	Y						N	N	N					
99b	Sec. 13, T146N, R67W	Ditch	Created	Y						N	N	N					
100	Sec. 24, T146N, R67W	Ditch	Created	N						N	N	N					
101	Sec. 13, T146N, R67W	Ditch	Created	N	0.047	0.029				N	N	N					
102a	Sec. 24, T146N, R67W	Ditch	Created	N						N	N	N					
102b	Sec. 24, T146N, R67W	Ditch	Created	N						N	N	N					
103a	Sec. 24, T146N, R67W	Ditch	Created	N	0.005					N	N	N					
103b	Sec. 24, T146N, R67W	Ditch	Created	N	0.007					N	N	N					
104	Sec. 24, T146N, R67W	Ditch	Created	N						N	N	N					
105	Sec. 19, T146N, R66W	Ditch	Created	N						N	N	N					
				Totals	4.789	3.710	0.000	0.000	0.000					2.111	2.016		2.288

Other Waters Impact Table

Number	Location	Type	Feature	USACE Jurisdictional'	Impacts to Other Waters: Acres Temp.	Acres Perm. (Fill/Drain)	Acres Perm. (Cut)	Linear Feet Temp.	Linear Feet Perm. (Fill/Drain)	Linear Feet Perm. (Cut)	Other Water Mitigation: Mitigation Proposed EO 11990	Mitigation Proposed USACE	Mitigation Proposed USFWS	Onsite Mitigation Method: Mitigation Location; ratio	Onsite Mitigation Method: Acre(s)	Onsite Constructed Location: Onsite Constructed Site #	Onsite Constructed Location: Onsite Constructed Size Acre(s)
OW-24a	Sec. 5, T146N, R70W	Interminttent Stream	Natural	Y	0.008	0.007		21	26		N	Y	N	Onsite Site 9; 2:1	0.014		
				Totals	0.008	0.007	0.00	21	26	0					0.014		0.000

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

Wetlands Mitigation and Environmental

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	10

Other Waters-d Impact Table

					Impacts to Other Waters						Other Water Mitigation						
					Acres			Linear Feet			Mitigation Proposed			Onsite Mitigaiton Method			
Number	Location	Type	Feature	USACE Jurisdictional	Temp.	Perm. (Fill/Drain)	Perm. (Cut)	Temp.	Perm. (Fill/Drain)	Perm. (Cut)	EO 11990	USACE	USFWS	Mitigation Location; ratio		Acre(s)	Onsite Constructed Size Acre(s)
OW1-D	Sec. 16, T146N, R69W	Ephemeral Swale	Natural	Y							N	N	N				
OW2-D	Sec. 14, T146N, R67W	Ephemeral Swale	Natural	Y							N	N	N				
				Totals	0.000	0.000		0.0	0.0								

1A wetland Jurisdictional Determination was issued by the USACE on 3/21/2022; NWO-2015-00671-BIS.

Impact Summary Table

Permanent Impact Summary		Temporary Impacts and additional information	
Wetland Type	Total (Acres)	Wetland Type	Total (Acres/Lf)
Natural/JD (Fill/Drain)	0.425	Temporary JD	4.711
Natural/Non-JD (Fill/Drain)	0.000	Non-JD Temporary	0.078
Created/JD (Fill/Draln)	3.082		
Created /Non-JD (Fill/Drain))	0.203	Permanent OW	0.007 / 26
Total	3.710	Temporary OW	0.008 / 21
JD Natural (Cut)	0.000	Permanent OW-d	0.000
JD Created (Cut)	0.000	Temporary OW-d	0.000
Non-JD Natural (Cut)	0.000		
Non-JD Created (Cut)	0.000		
Total	0.000		

Mitigation Summary Table

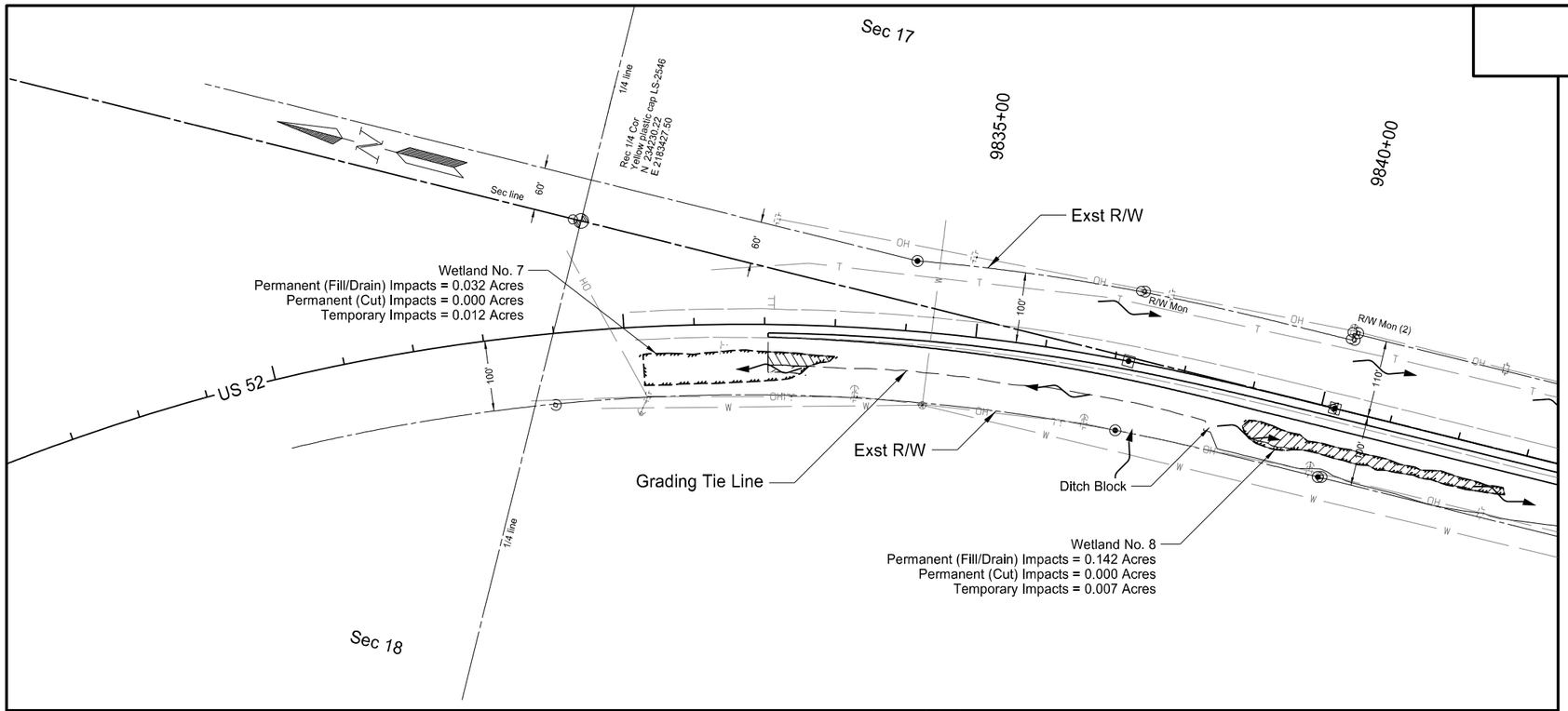
	Location	Ditch Shift Acre(s)	Onsite Acre(s)	11990 Bank Acre(s)	USACE/11990 Bank Acre(s)	USFWS Bank Acre(s)
USACE Only	Onsite	2.111	1.527			
EO 11990 Only	N/A					
USACE/11990	Onsite		0.761			
USFWS	N/A					
	Total	2.111	2.288	0	0	0

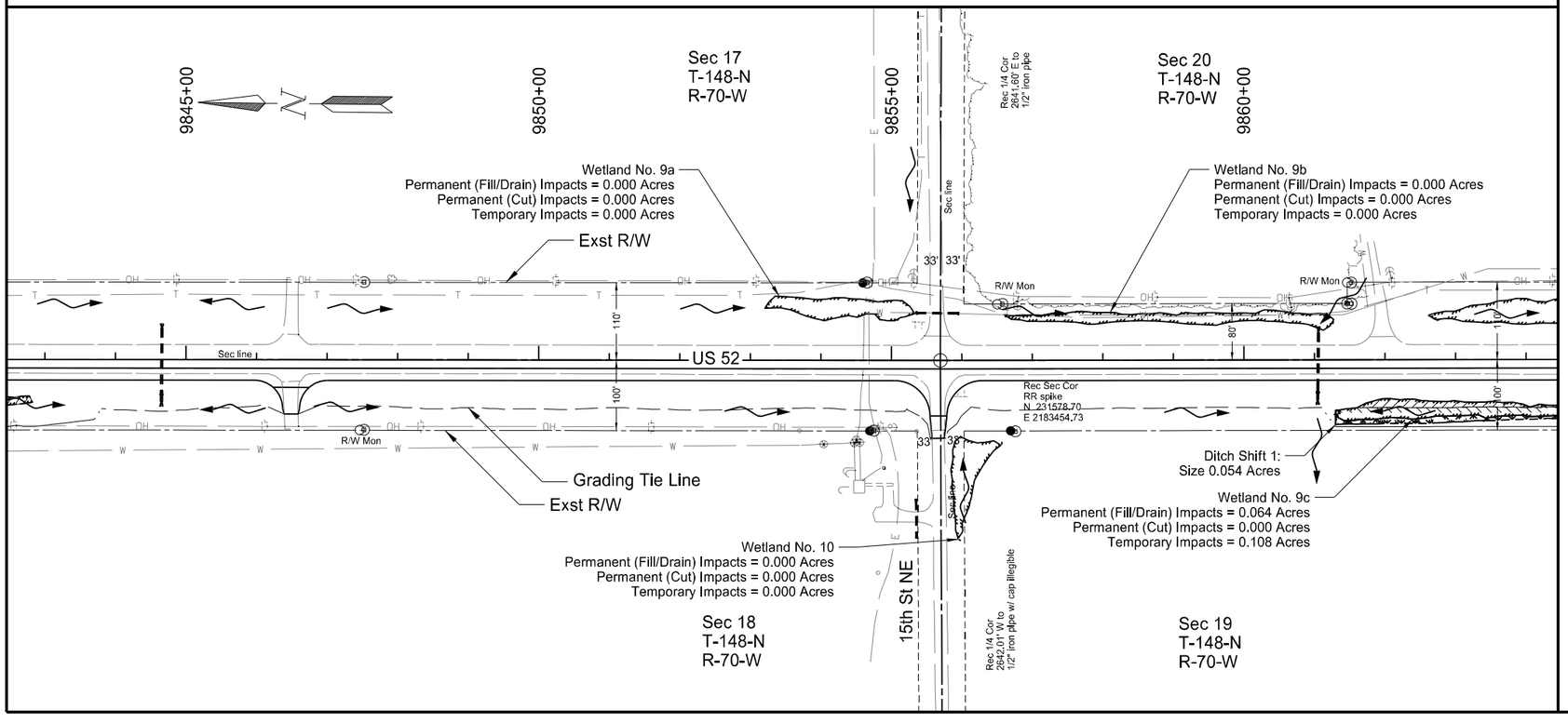
REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

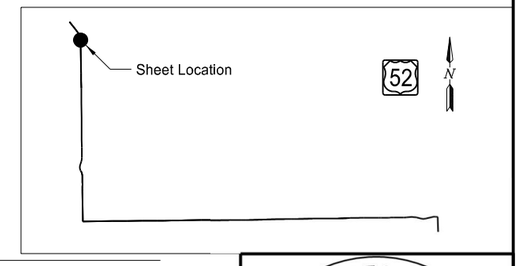
Wetlands Mitigation and Environmental

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	75	11







Legend

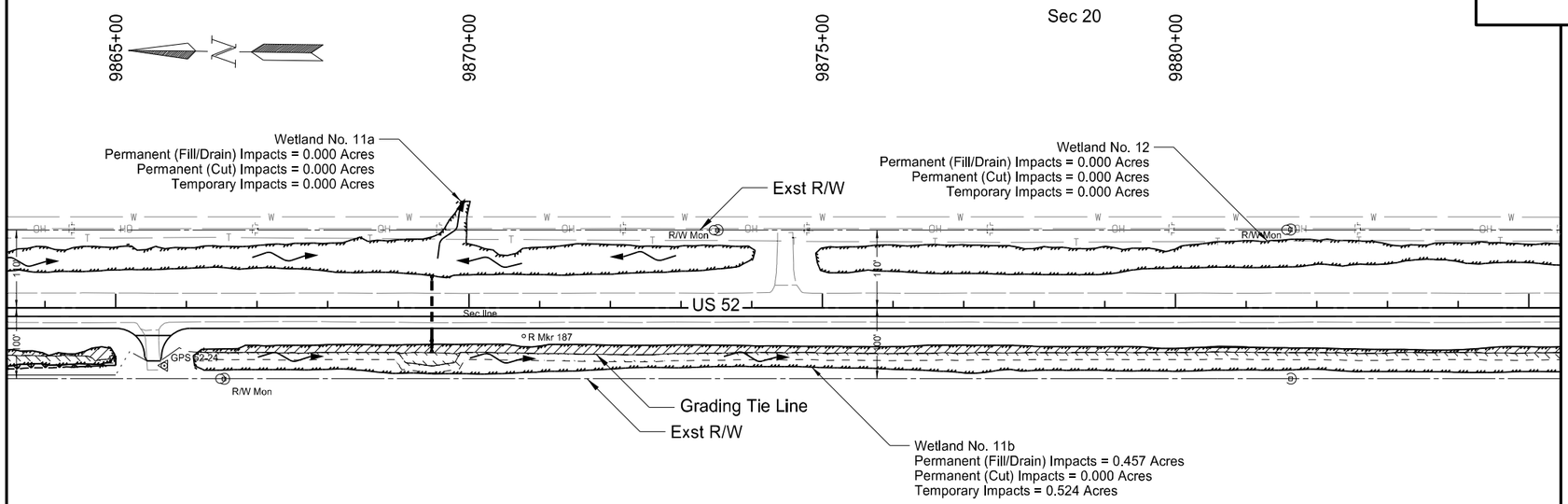
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

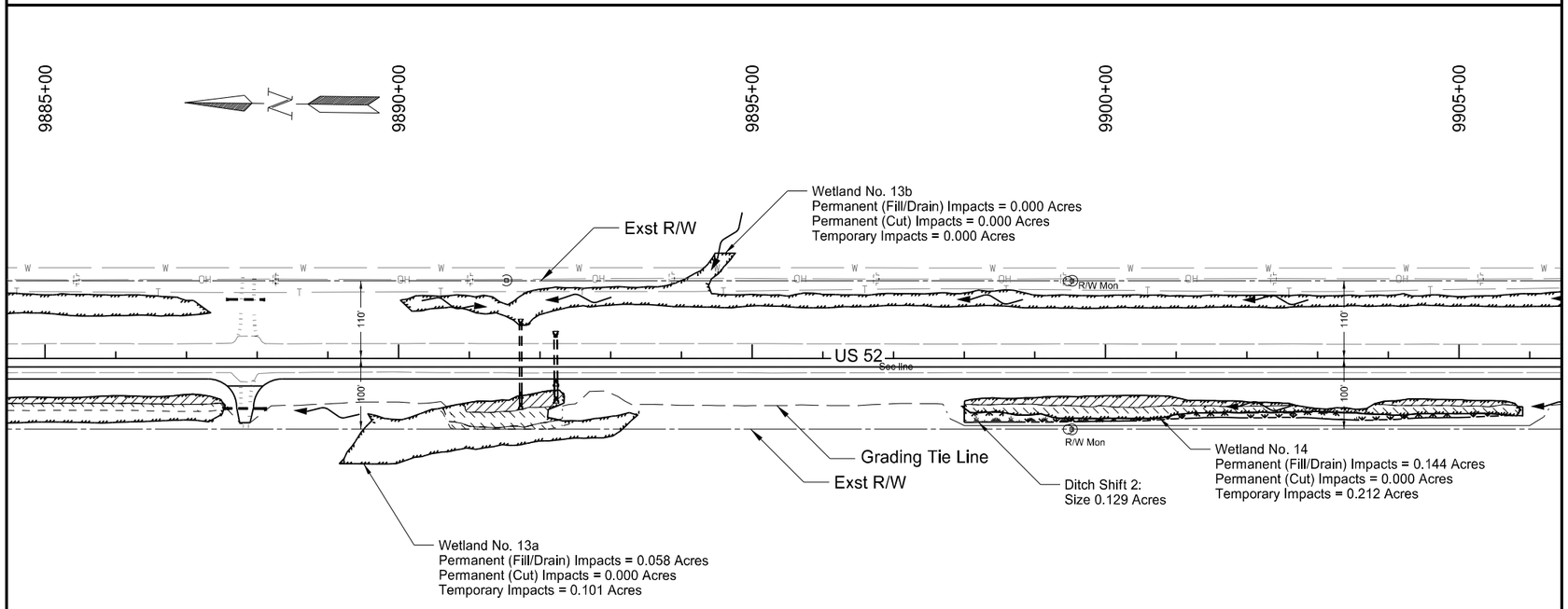
REGISTERED PROFESSIONAL ENGINEER
KORY M. KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

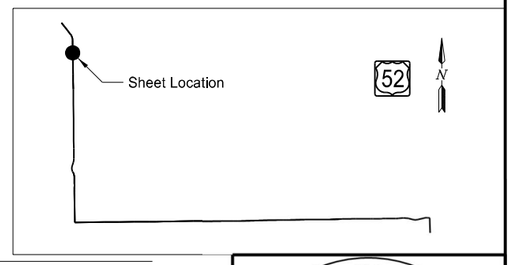
Wetland Impacts

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	75	12







Legend

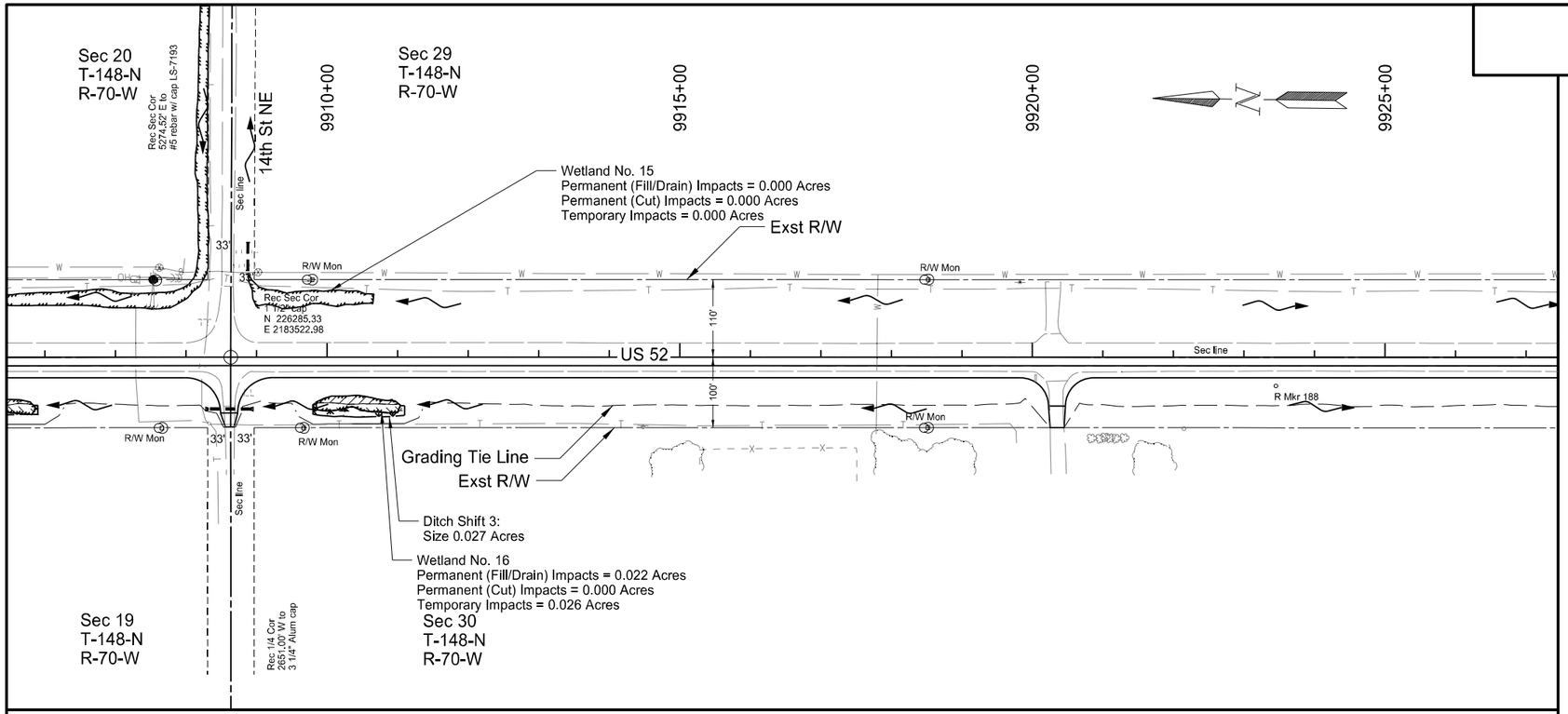
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

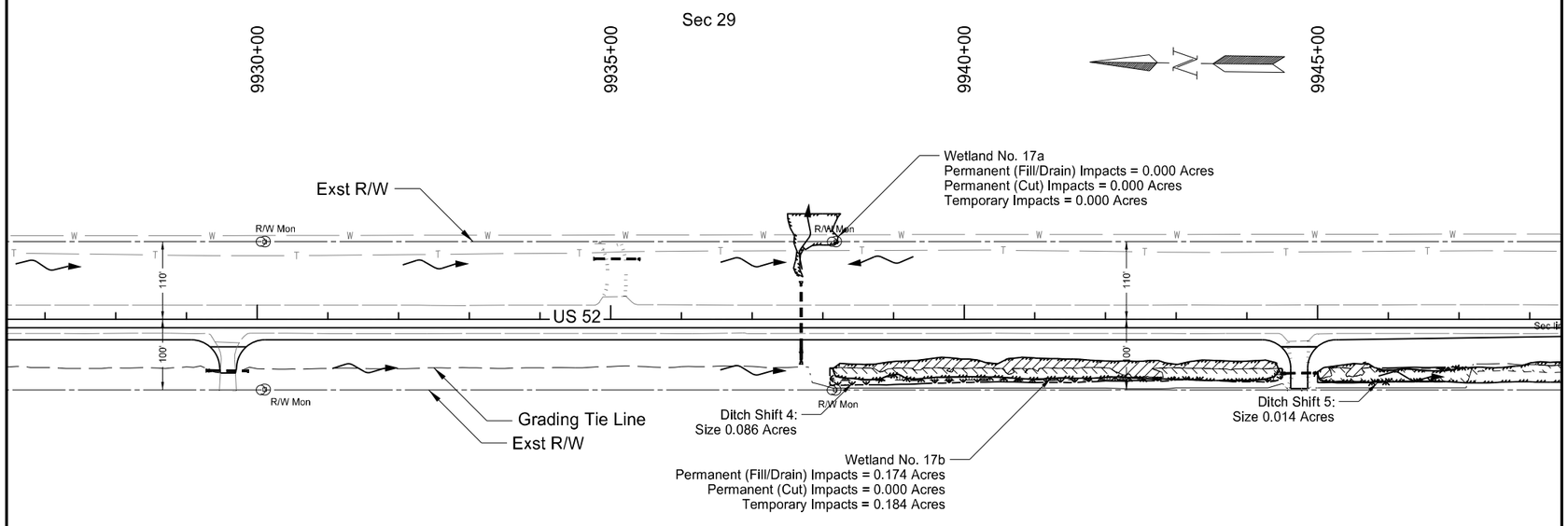
REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE 27746
DATE 04/01/2022
NORTH DAKOTA

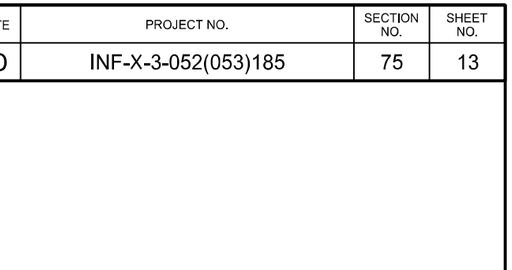
Wetland Impacts

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	75	13







Legend

- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

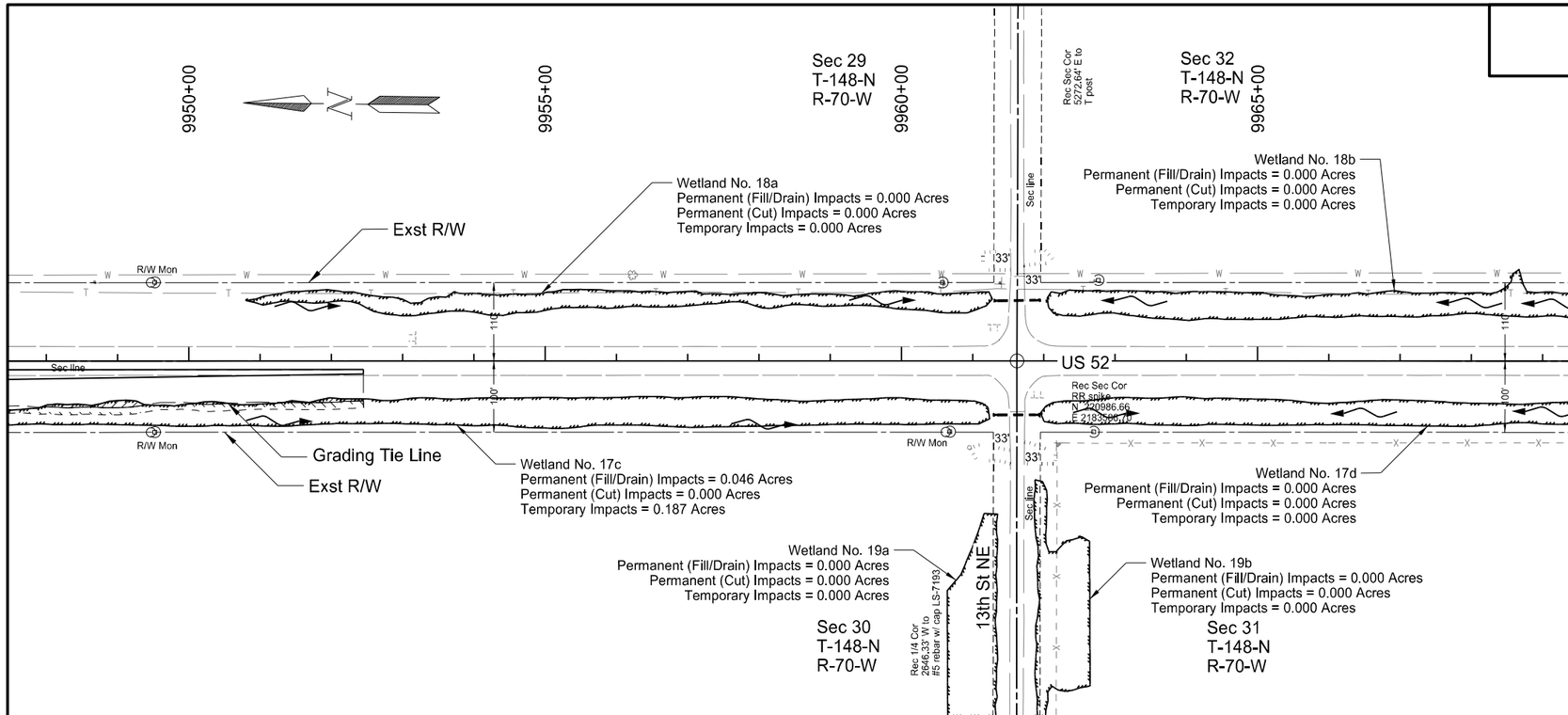
REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

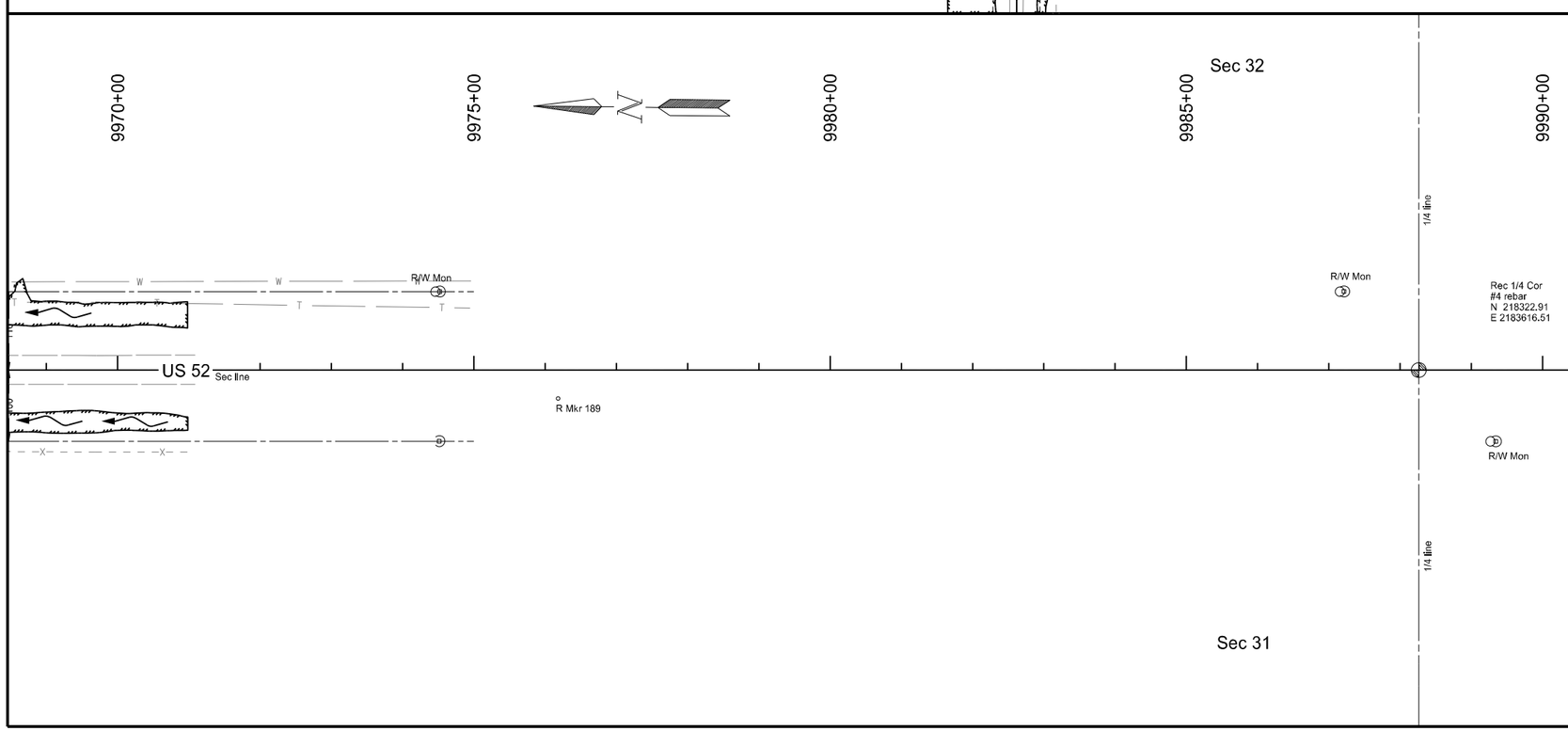
Wetland Impacts

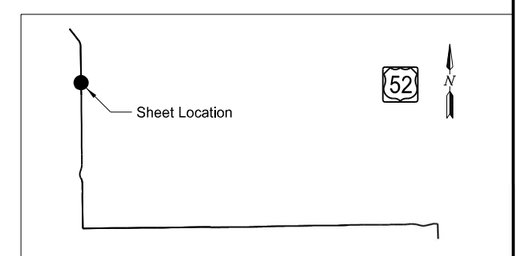
US 52
Fessenden to Carrington

3/30/2022 3:37:31 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\075WL_013.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	75	14







Legend

- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

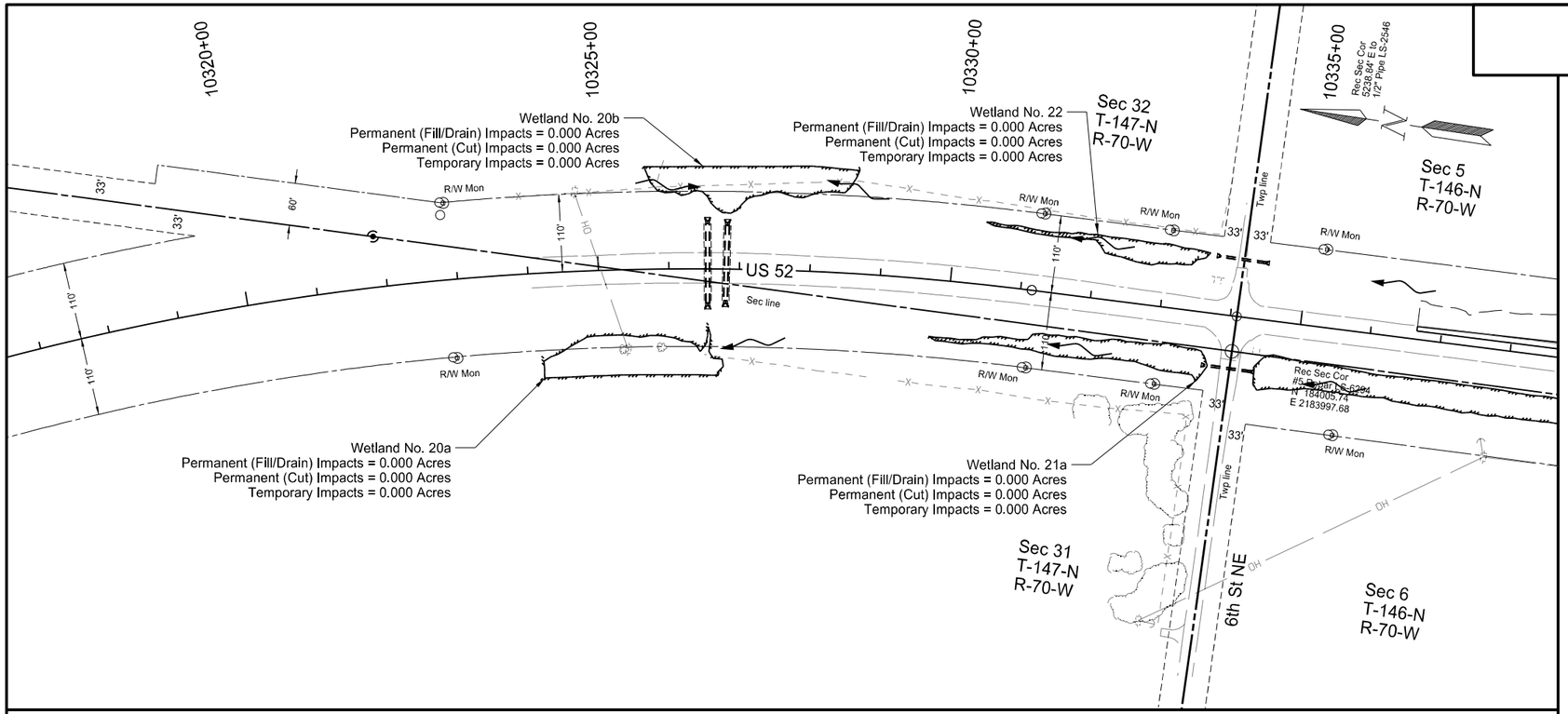
REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

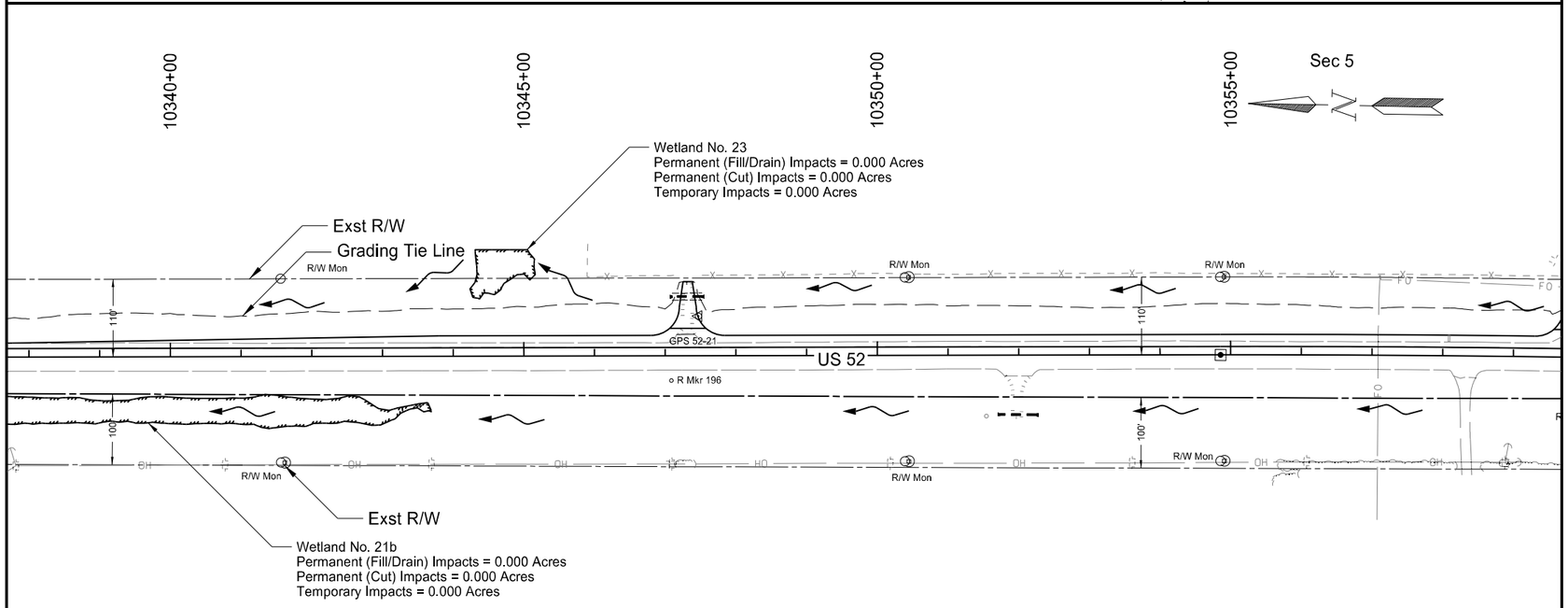
Wetland Impacts

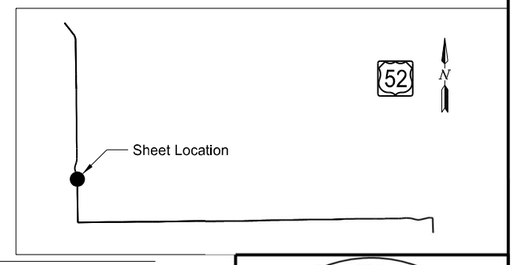
US 52
Fessenden to Carrington

3/30/2022 3:37:33 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\075WL_014.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	75	15







Legend

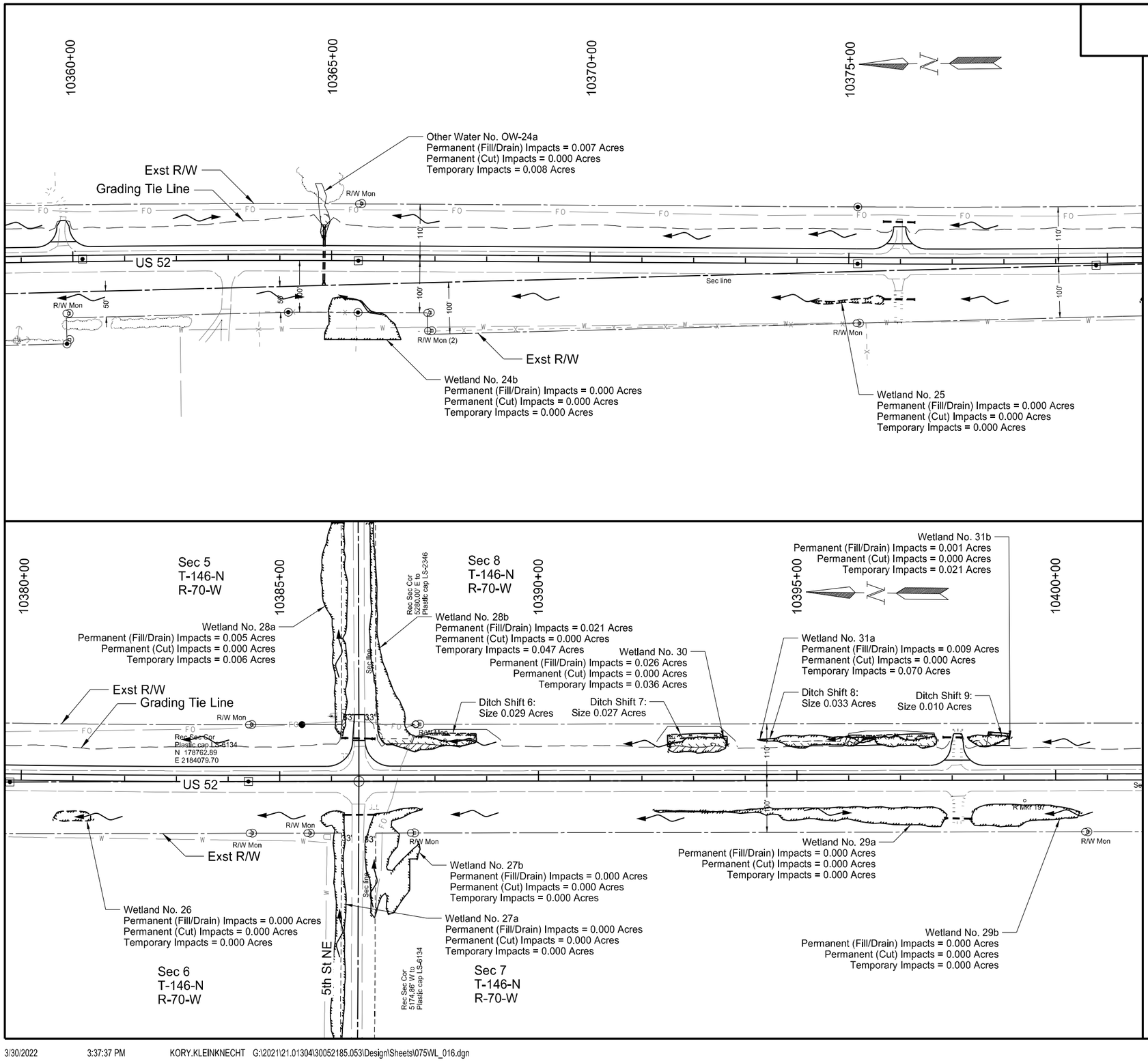
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

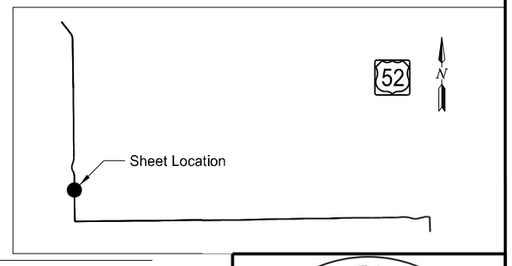
REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

Wetland Impacts

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	16





Legend

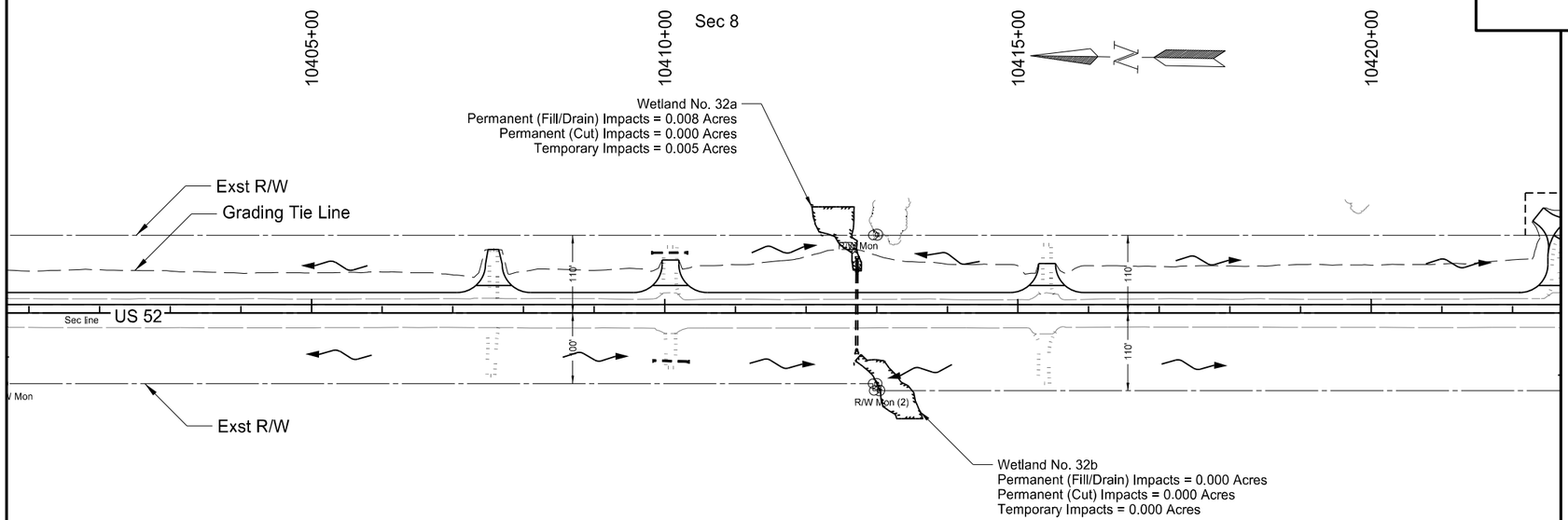
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

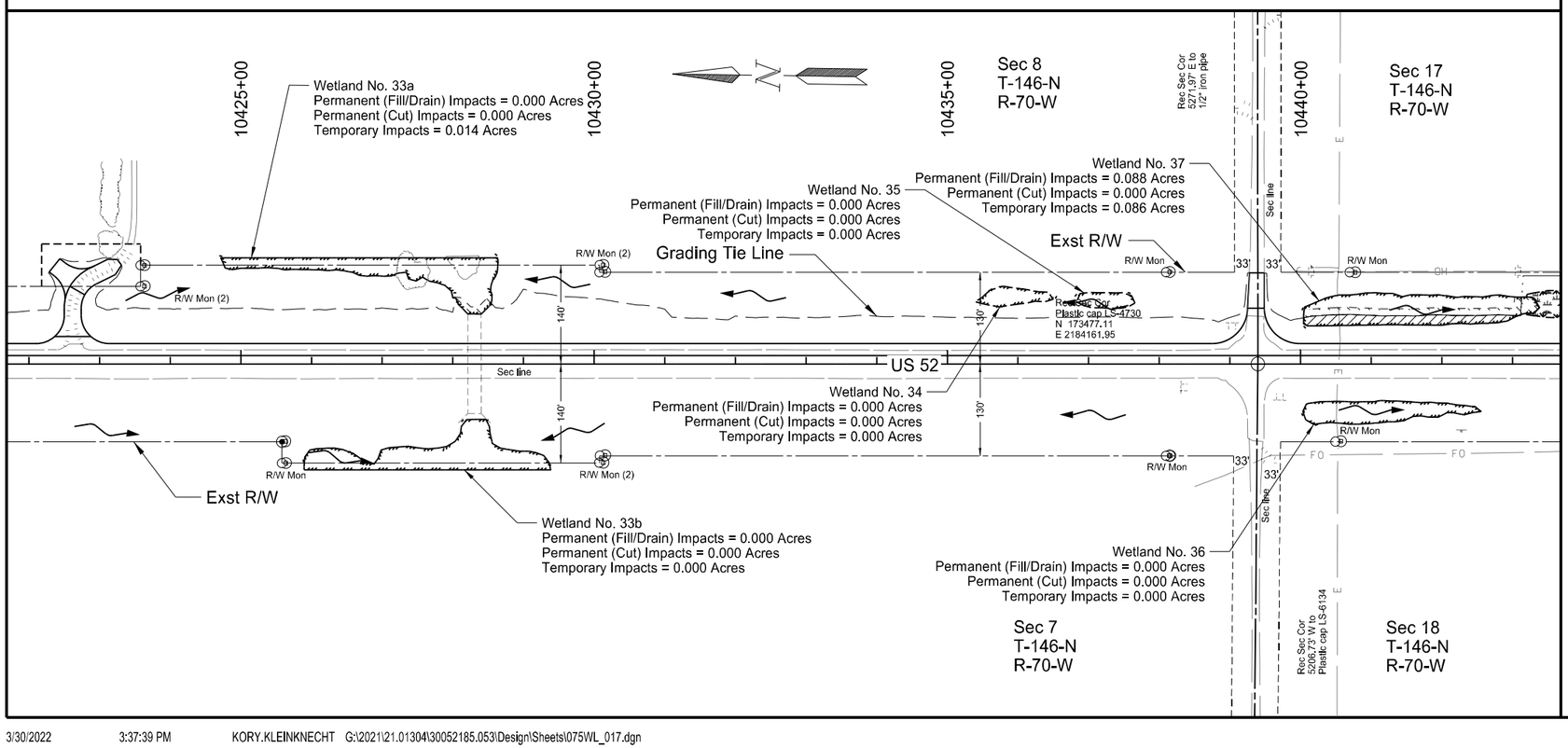
REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

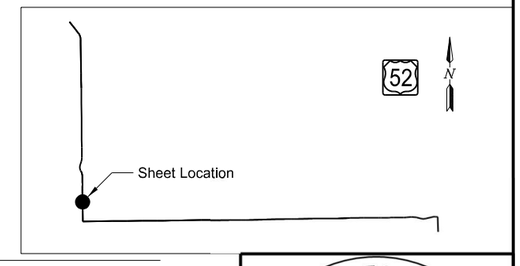
Wetland Impacts

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	75	17







Legend

- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

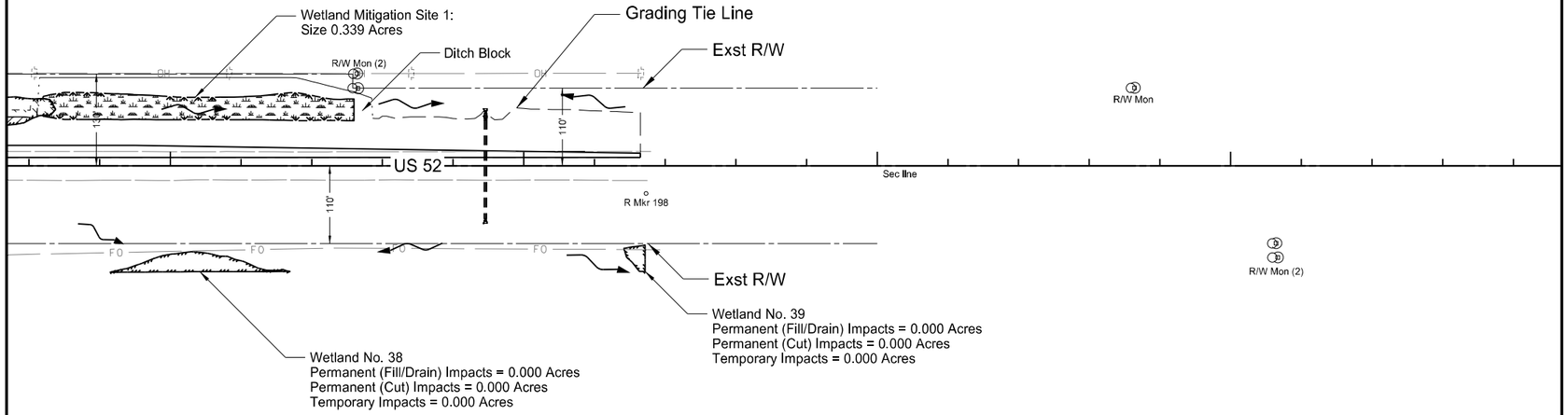
Wetland Impacts

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	75	18

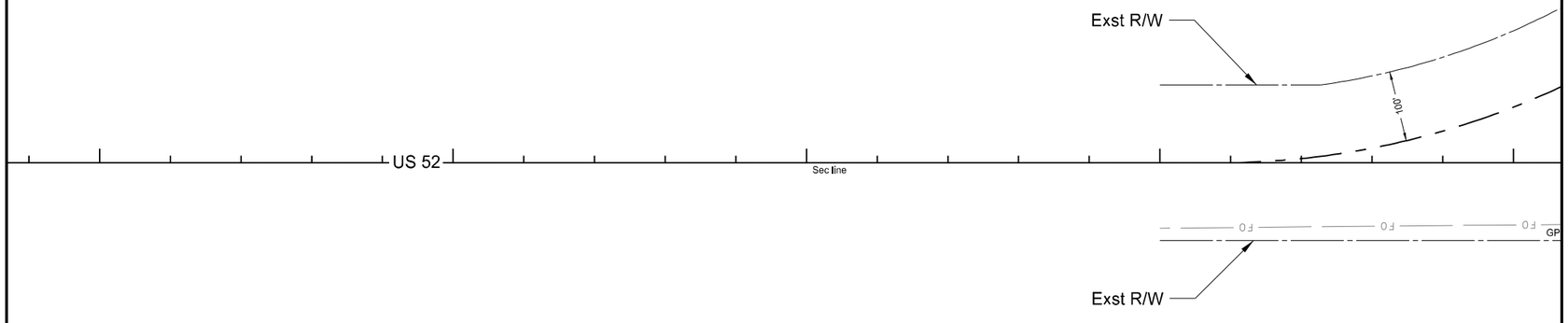
Sec 17

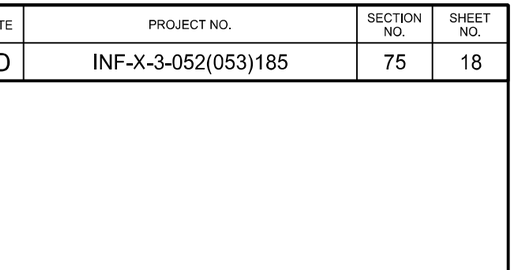
10445+00 10450+00 10455+00 10460+00



Sec 18

10465+00 10470+00 10475+00 10480+00 10485+00





Legend

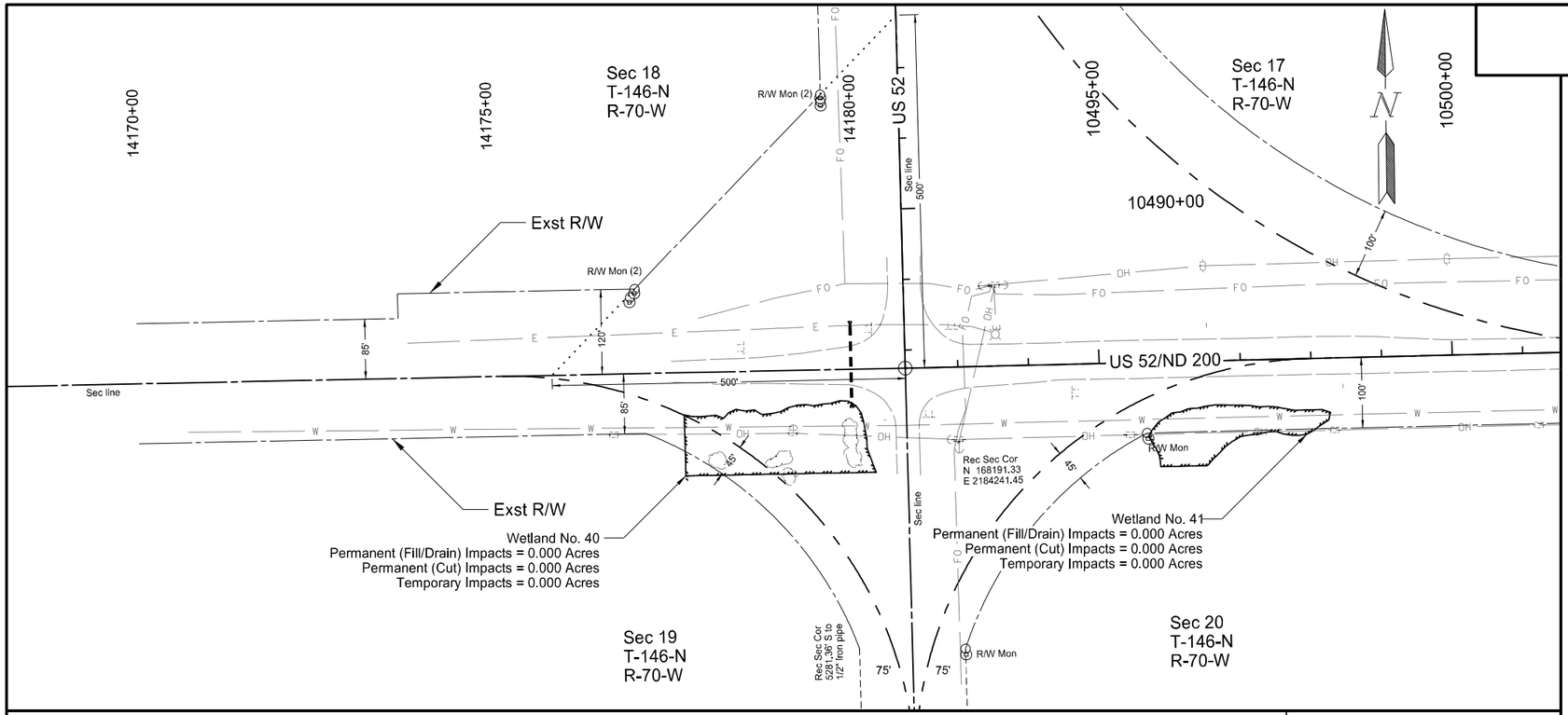
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

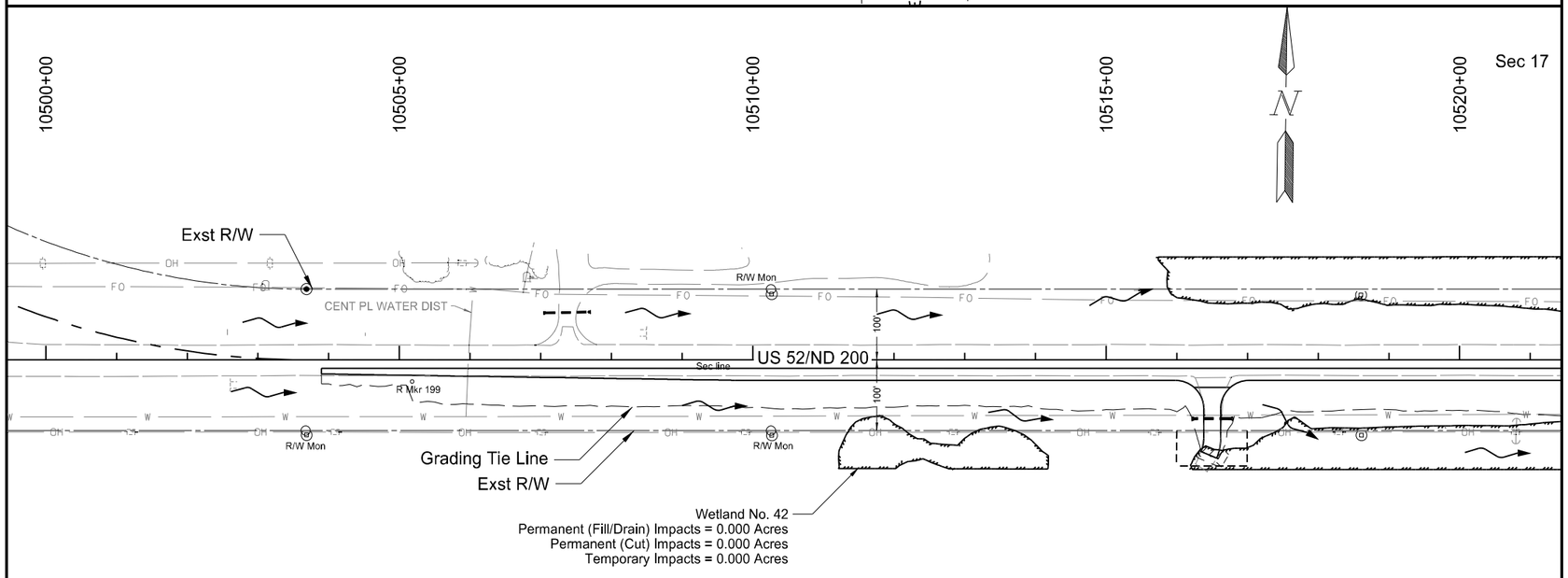
REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

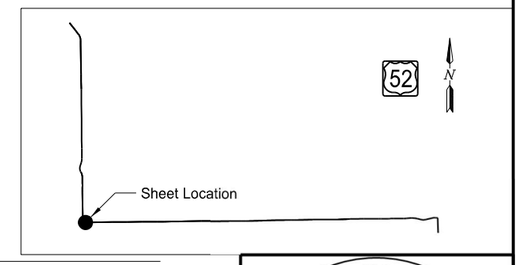
Wetland Impacts

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	19







Legend

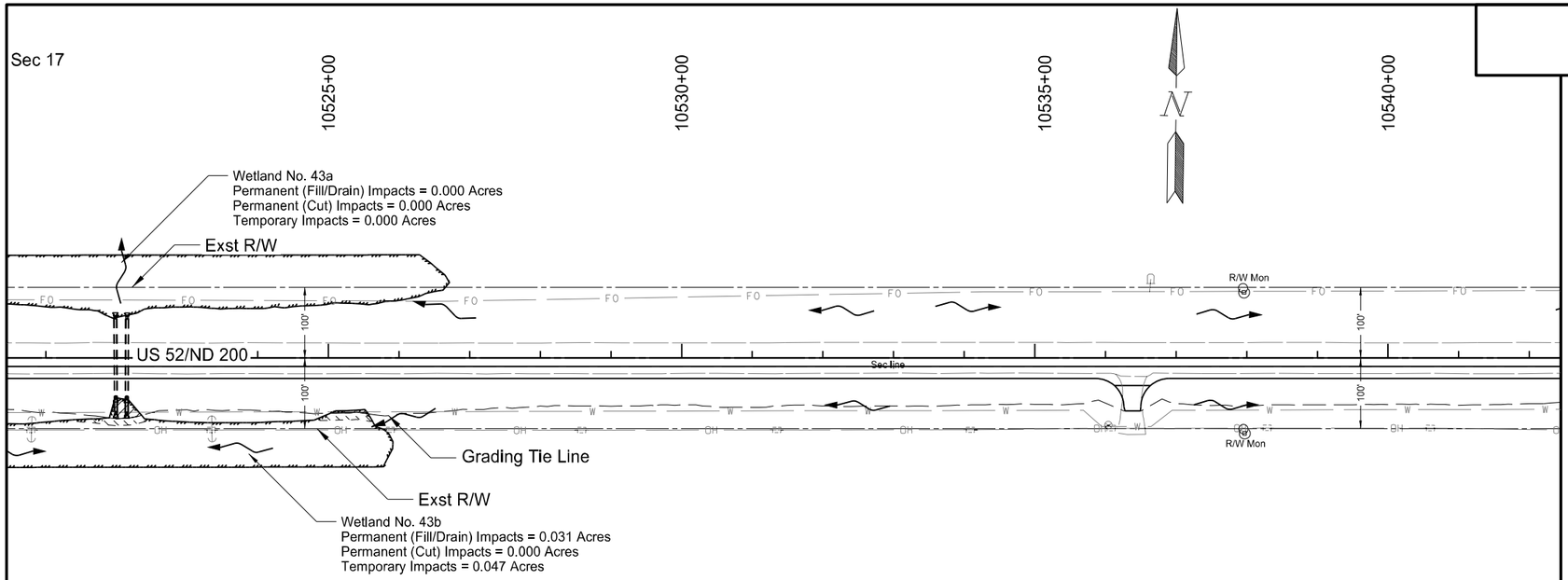
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

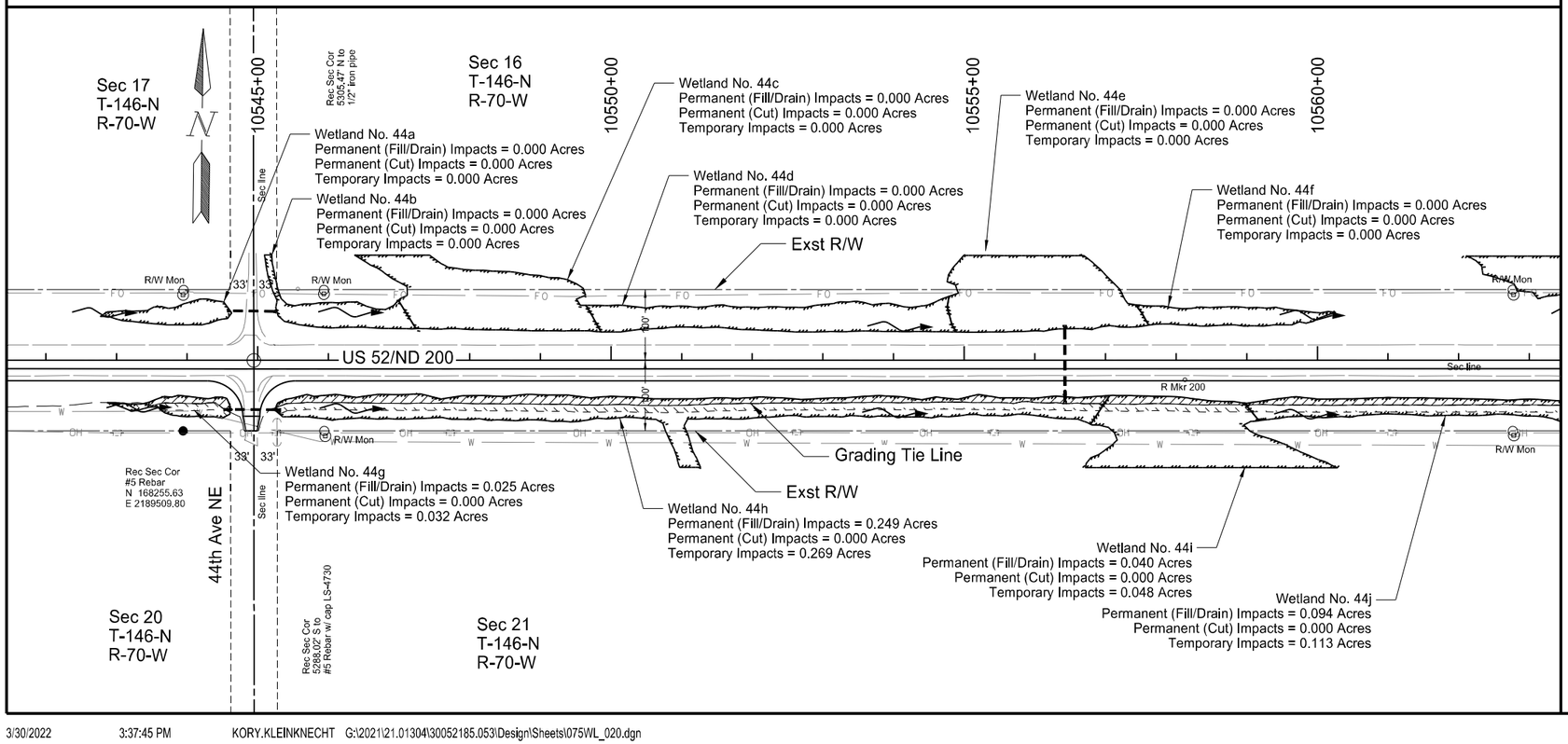
REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE 27746
DATE 04/01/2022
NORTH DAKOTA

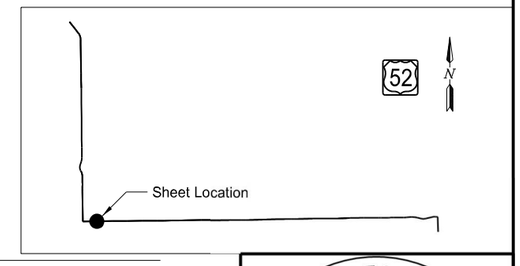
Wetland Impacts

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	20







Legend

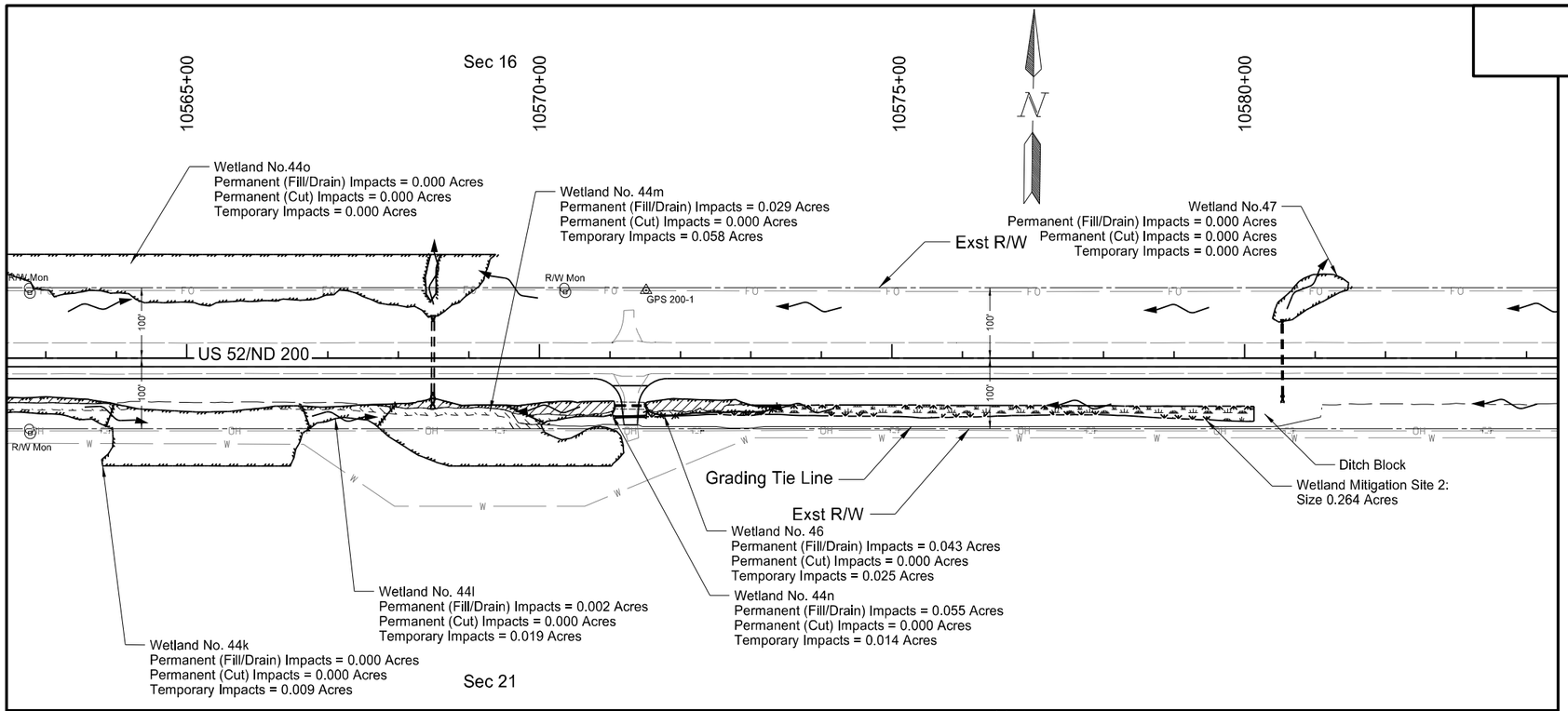
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

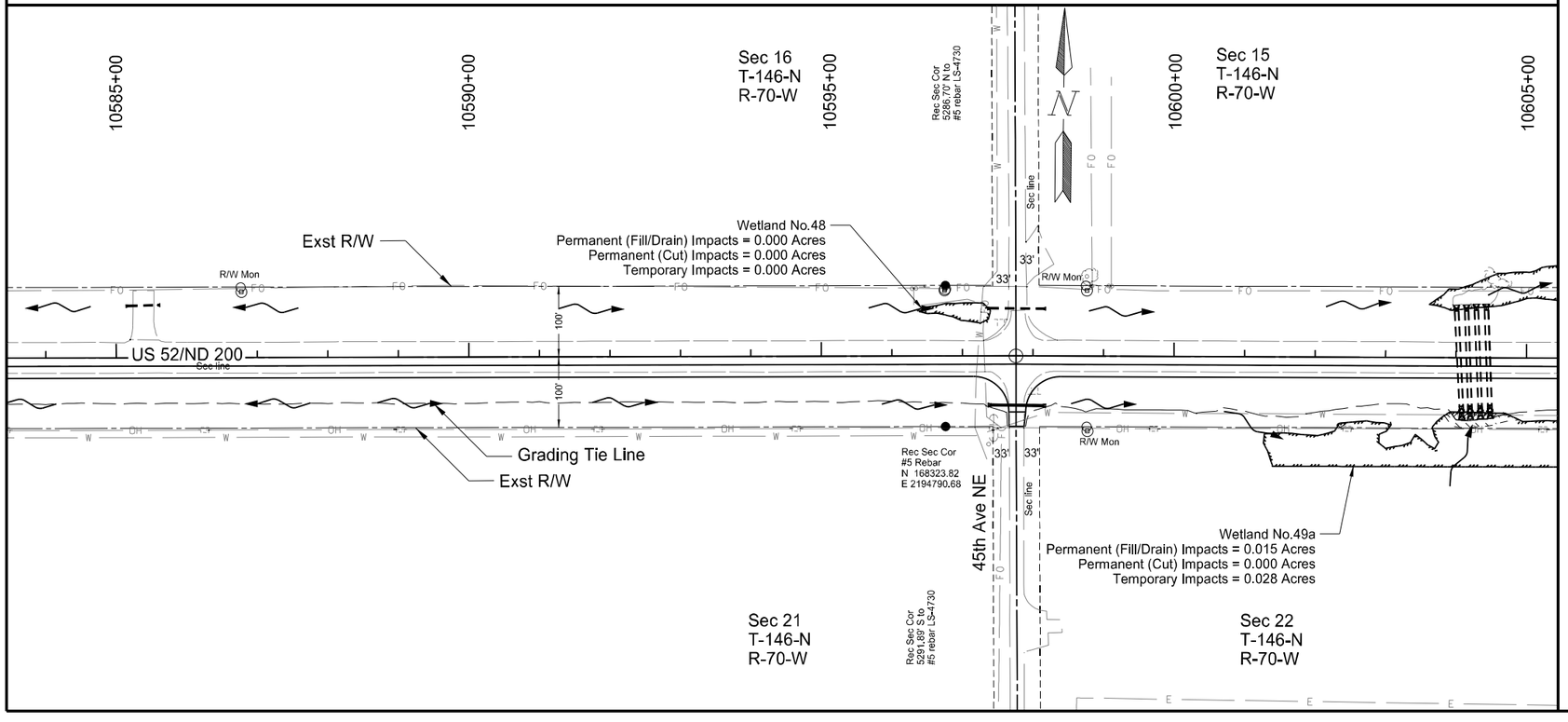
REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE 27746
DATE 04/01/2022
NORTH DAKOTA

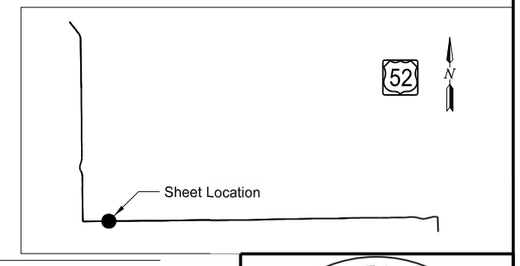
Wetland Impacts

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	21







Legend

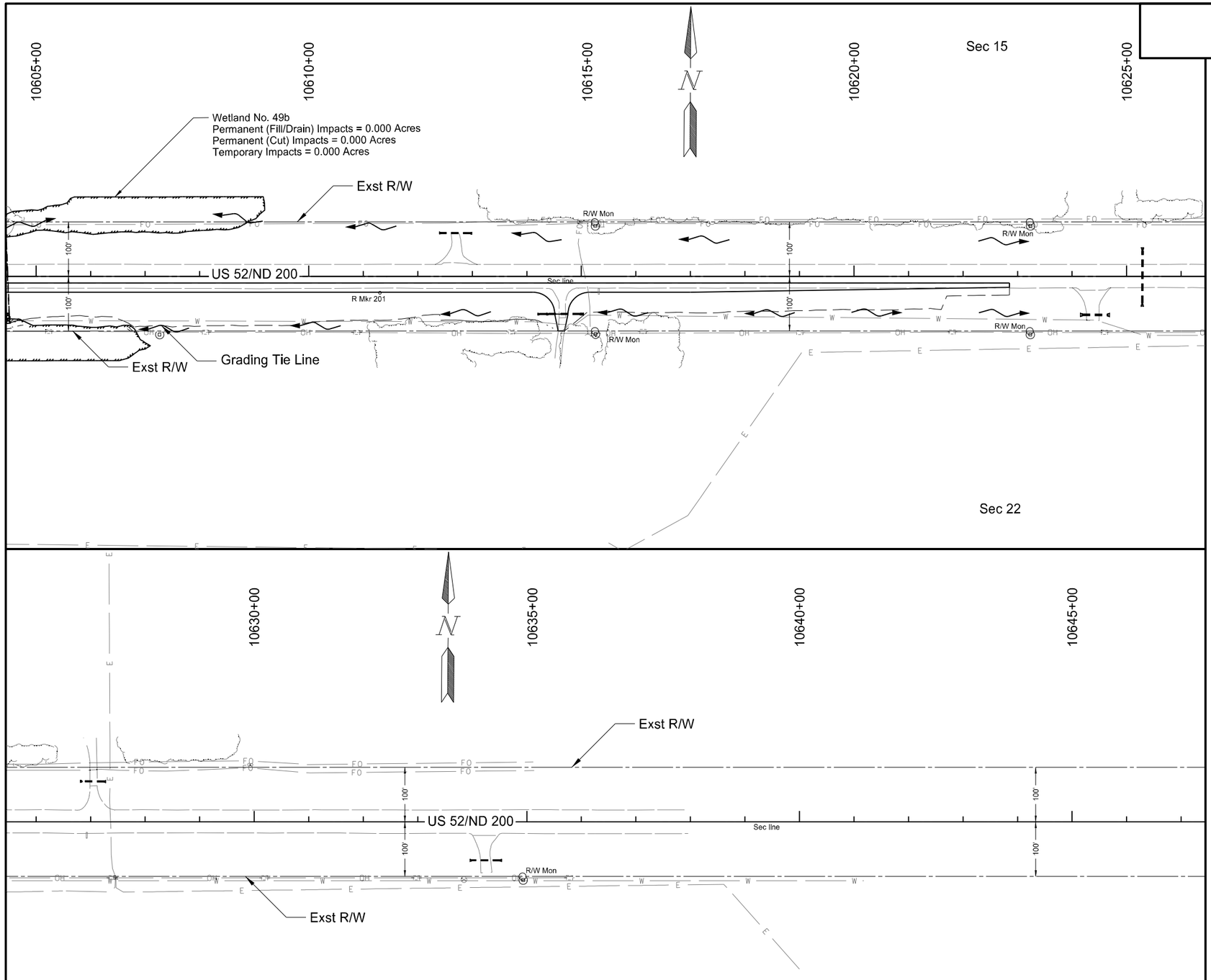
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

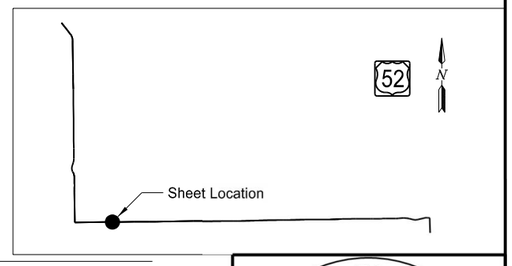
REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL
KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

Wetland Impacts

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	75	22





Legend

- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

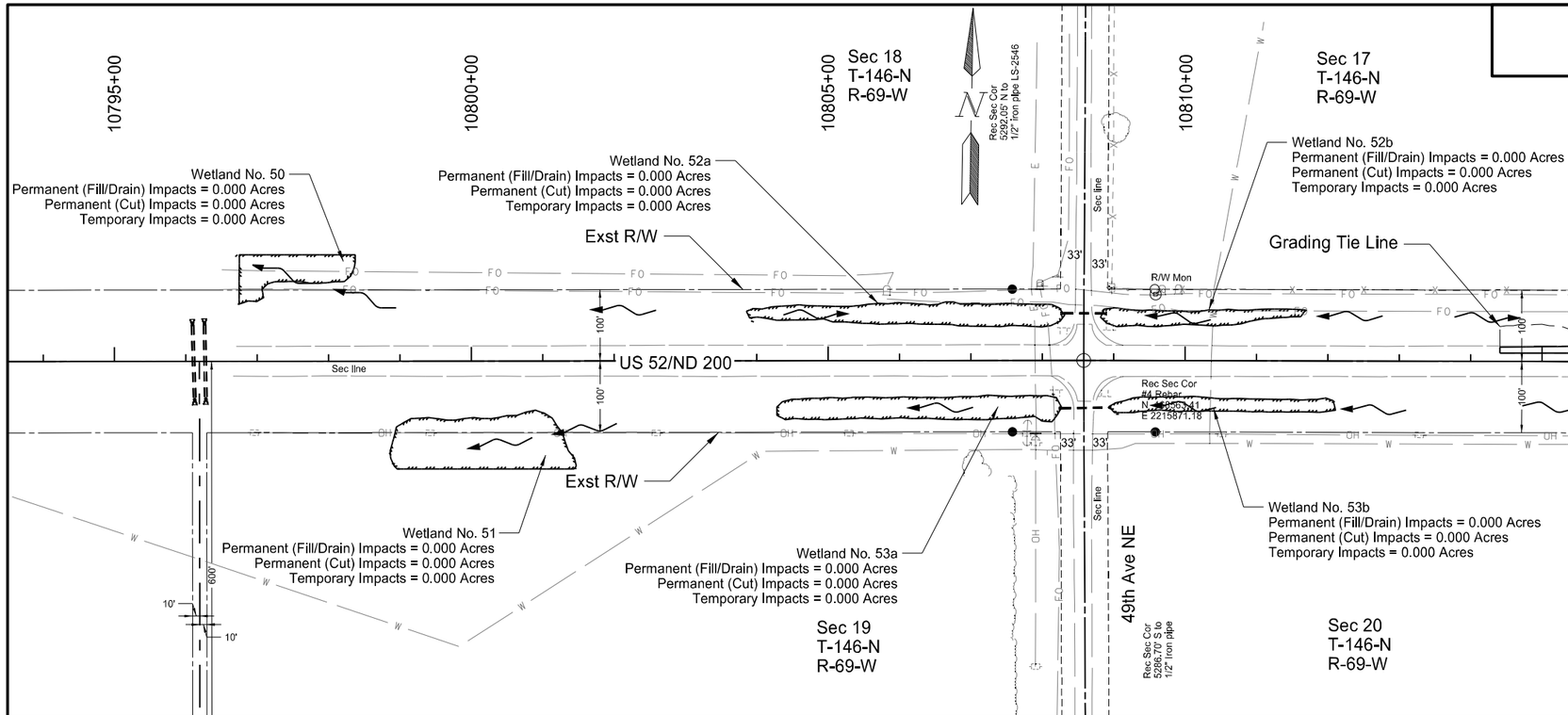
REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

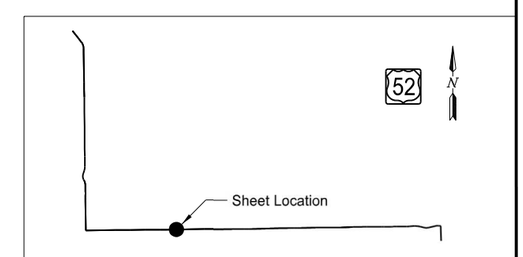
Wetland Impacts

US 52
Fessenden to Carrington

3/30/2022 3:37:49 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\075WL_022.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	75	23





Legend

- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

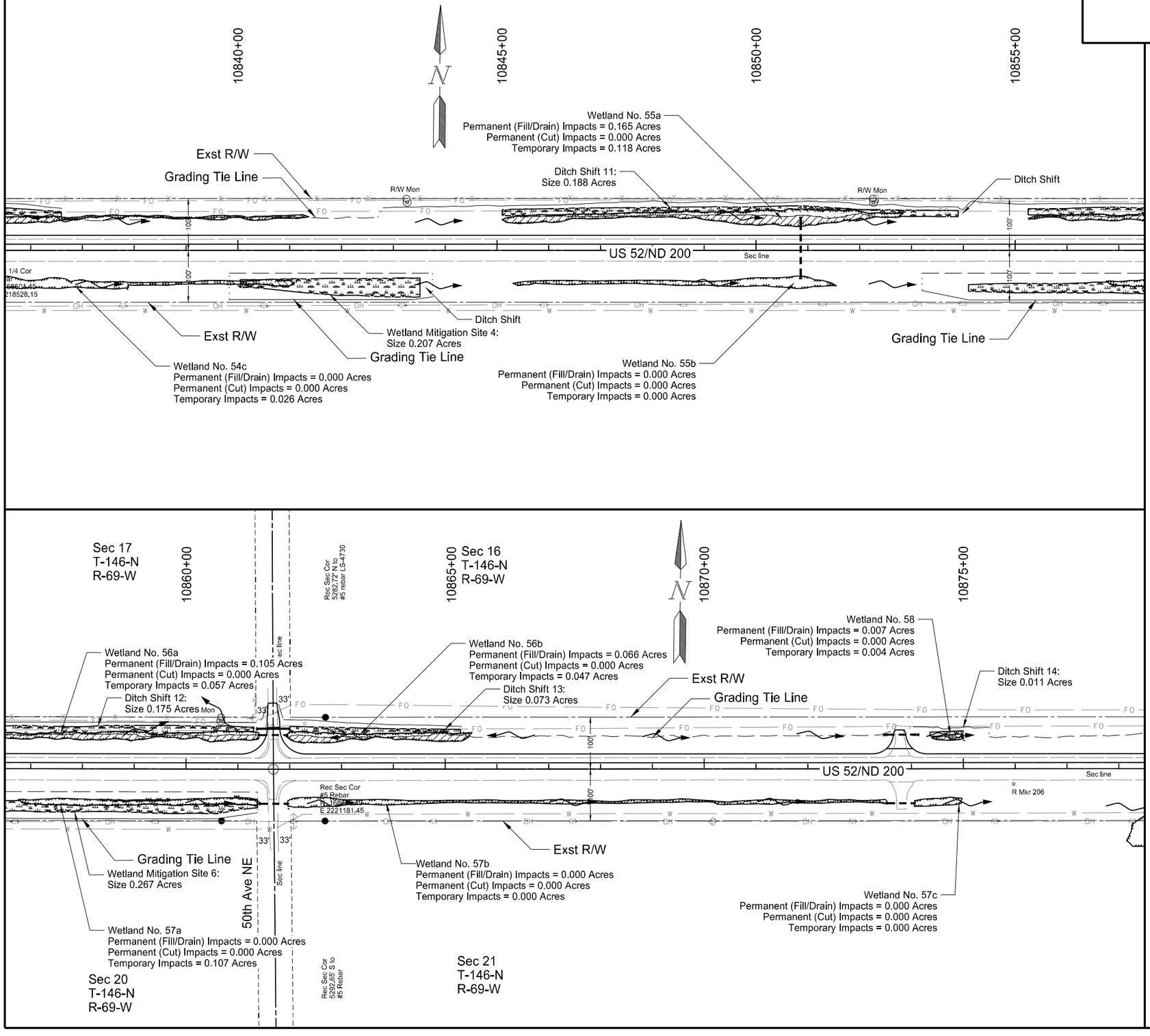
REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

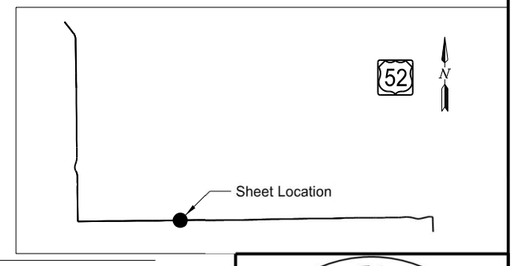
Wetland Impacts

US 52
Fessenden to Carrington

3/30/2022 3:37:50 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\075WL_023.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	75	24





Legend

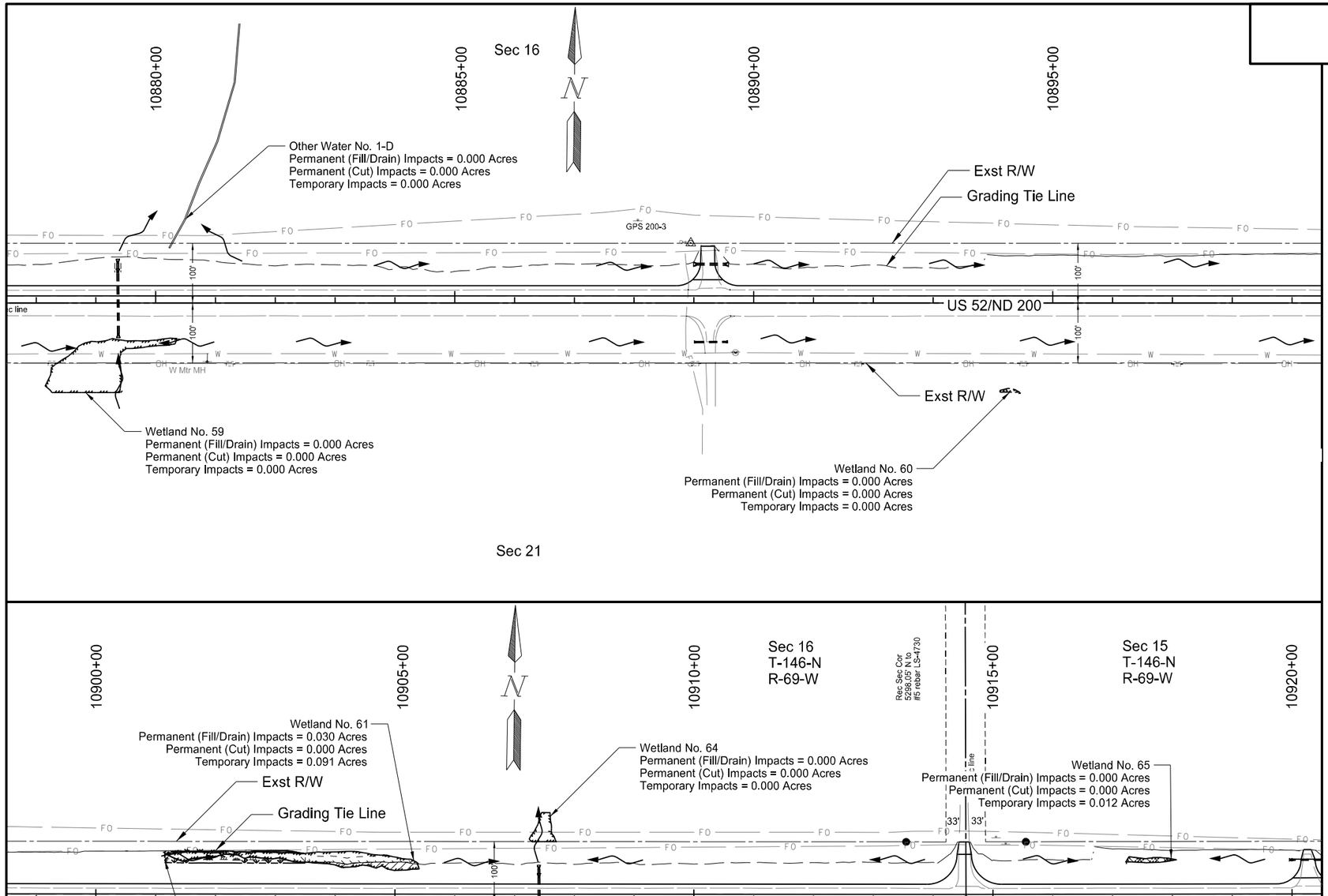
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

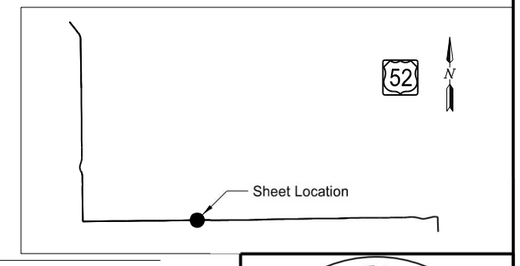
REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

Wetland Impacts

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	25





Legend

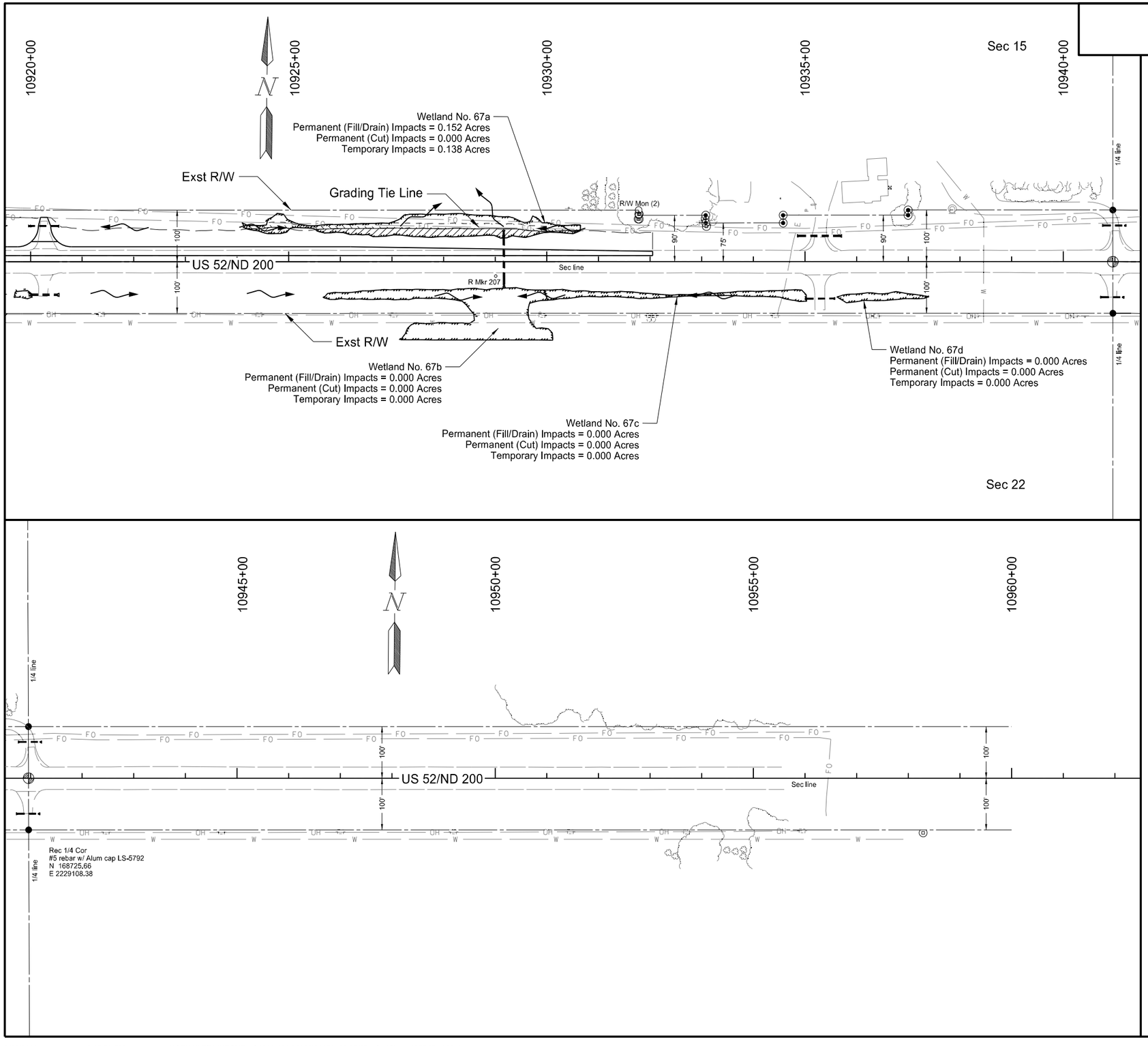
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

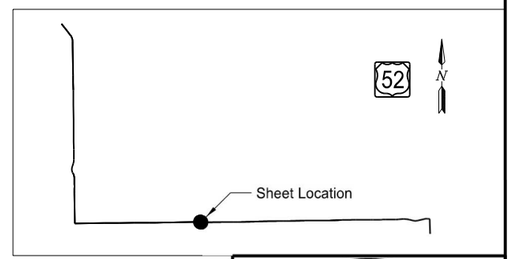
REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE 27746
DATE 04/01/2022
NORTH DAKOTA

Wetland Impacts

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	75	26





Legend

- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

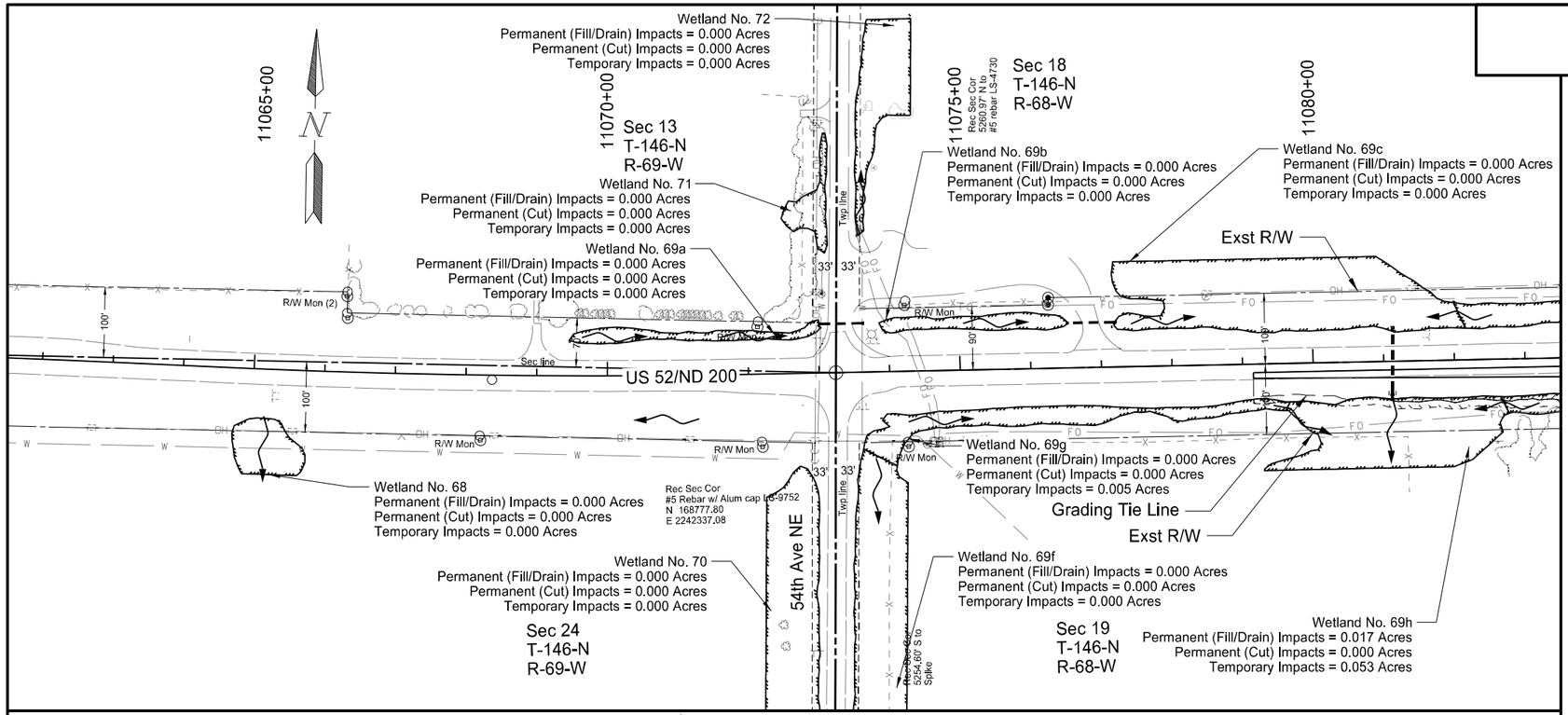
REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

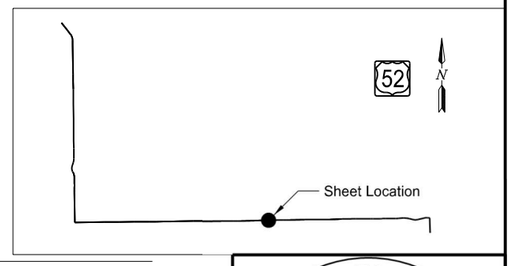
Wetland Impacts

US 52
Fessenden to Carrington

3/30/2022 3:37:56 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\075WL_026.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	75	27





Legend

- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

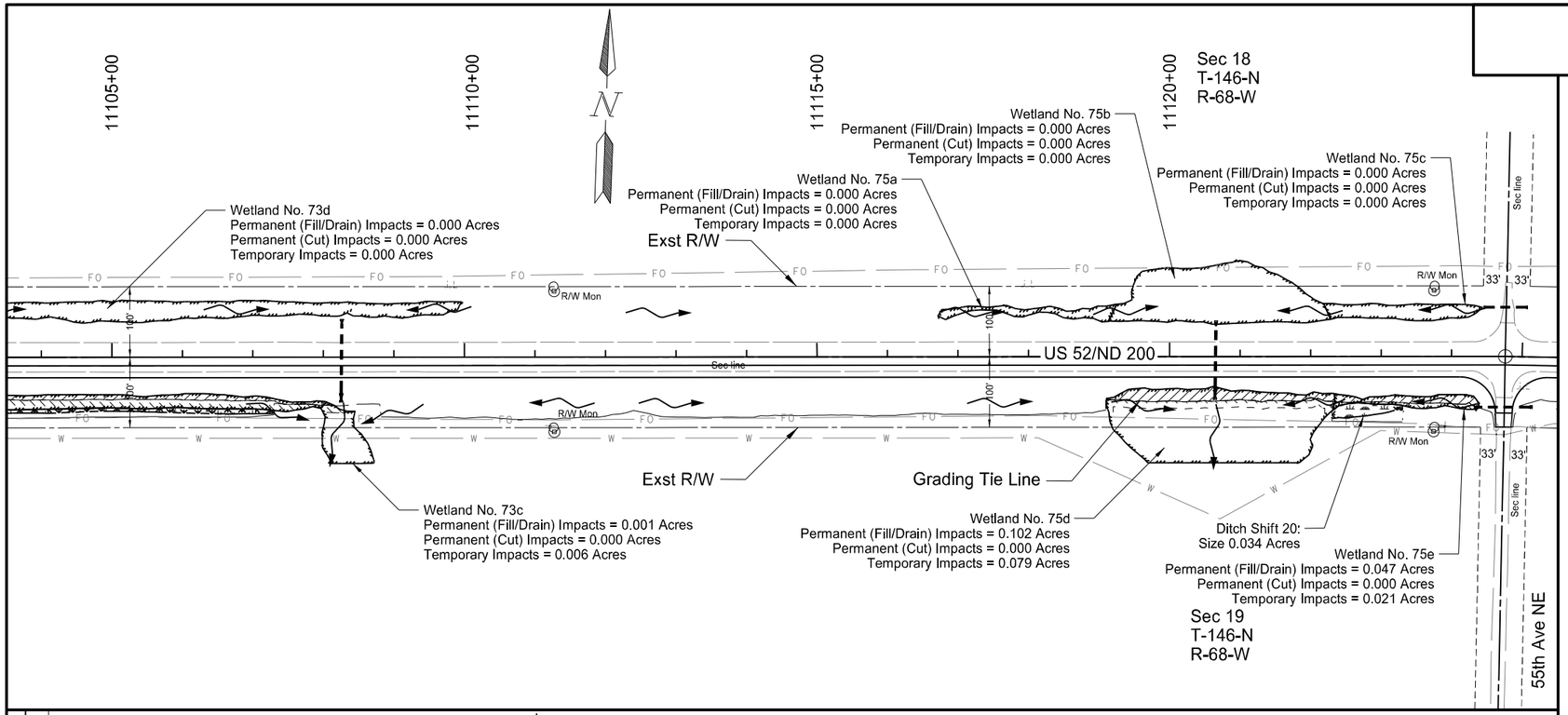
REGISTERED PROFESSIONAL ENGINEER
KORY J. KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

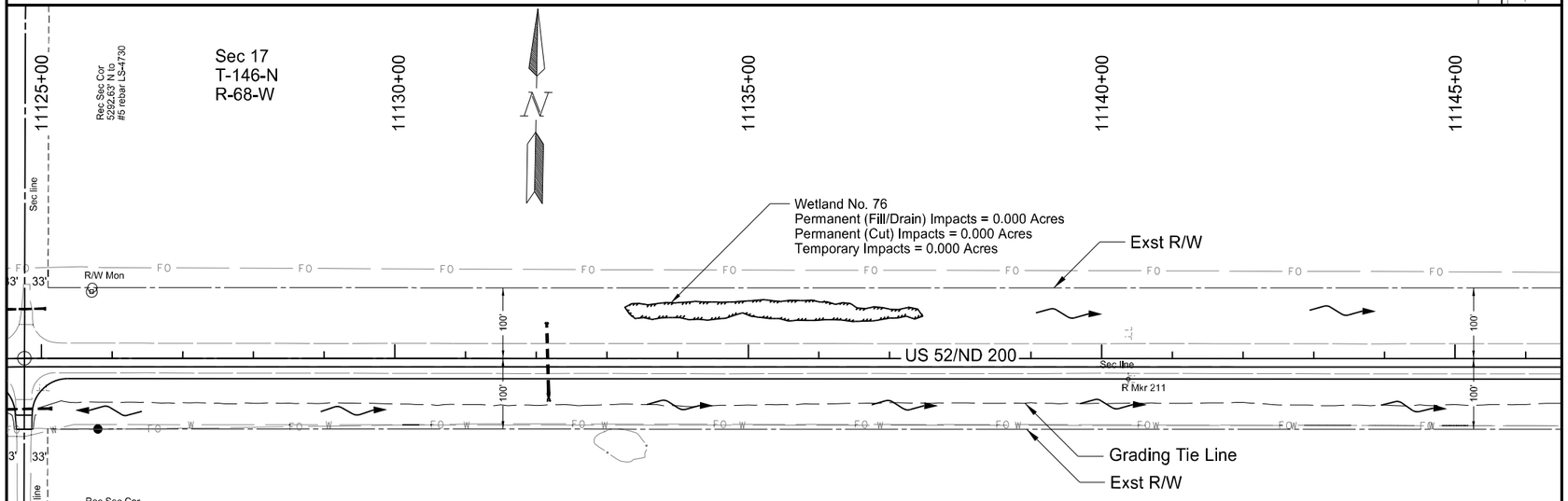
Wetland Impacts

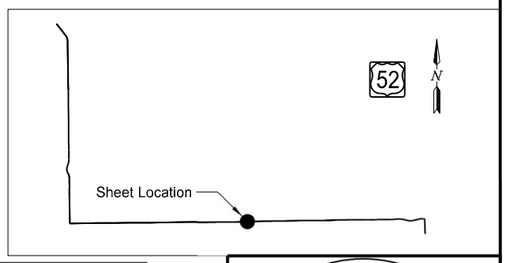
US 52
Fessenden to Carrington

3/30/2022 3:37:58 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\075WL_027.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	75	28







Legend

- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

Wetland Impacts

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	75	29

Sec 17

11150+00

11155+00

11160+00

11165+00

Wetland Mitigation Site 7:
Size 0.192 Acres

Exst R/W

Grading Tie Line

US 52/ND 200

Sec line

R/W Mon

Wetland No. 77
Permanent (Fill/Drain) Impacts = 0.021 Acres
Permanent (Cut) Impacts = 0.000 Acres
Temporary Impacts = 0.000 Acres

Ditch Shift 21:
Size 0.025 Acres

Grading Tie Line

Exst R/W

Ditch Shift 22:
Size 0.198 Acres

Wetland No. 78a
Permanent (Fill/Drain) Impacts = 0.059 Acres
Permanent (Cut) Impacts = 0.000 Acres
Temporary Impacts = 0.074 Acres

Sec 20

11170+00

Sec 17
T-146-N
R-68-W

11175+00

Rec Sec Cor
5289.74' N to
#5 rebar LS-4730

56th Ave NE

11180+00

Sec 16
T-146-N
R-68-W

11185+00

Wetland No. 83
Permanent (Fill/Drain) Impacts = 0.000 Acres
Permanent (Cut) Impacts = 0.000 Acres
Temporary Impacts = 0.000 Acres

Wetland No. 78c
Permanent (Fill/Drain) Impacts = 0.000 Acres
Permanent (Cut) Impacts = 0.000 Acres
Temporary Impacts = 0.081 Acres

Wetland No. 78d
Permanent (Fill/Drain) Impacts = 0.000 Acres
Permanent (Cut) Impacts = 0.000 Acres
Temporary Impacts = 0.000 Acres

Rec Sec Cor
Rebar
N 169060.13
E 2252777.62

Exst R/W

CENT PL WATER DIST

US 52/ND 200

Wetland No. 79
Permanent (Fill/Drain) Impacts = 0.000 Acres
Permanent (Cut) Impacts = 0.000 Acres
Temporary Impacts = 0.000 Acres

Wetland No. 78b
Permanent (Fill/Drain) Impacts = 0.122 Acres
Permanent (Cut) Impacts = 0.000 Acres
Temporary Impacts = 0.166 Acres

Wetland No. 80
Permanent (Fill/Drain) Impacts = 0.000 Acres
Permanent (Cut) Impacts = 0.000 Acres
Temporary Impacts = 0.000 Acres

Sec 20
T-146-N
R-68-W

Grading Tie Line

Exst R/W

Wetland Mitigation Site 8:
Size 0.071 Acres

Wetland No. 81
Permanent (Fill/Drain) Impacts = 0.000 Acres
Permanent (Cut) Impacts = 0.000 Acres
Temporary Impacts = 0.000 Acres

Wetland No. 82
Permanent (Fill/Drain) Impacts = 0.002 Acres
Permanent (Cut) Impacts = 0.000 Acres
Temporary Impacts = 0.061 Acres

Sec 21
T-146-N
R-68-W

Rec Sec Cor
2639.87' S to
#5 rebar LS-4730

52

Sheet Location

Legend

- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

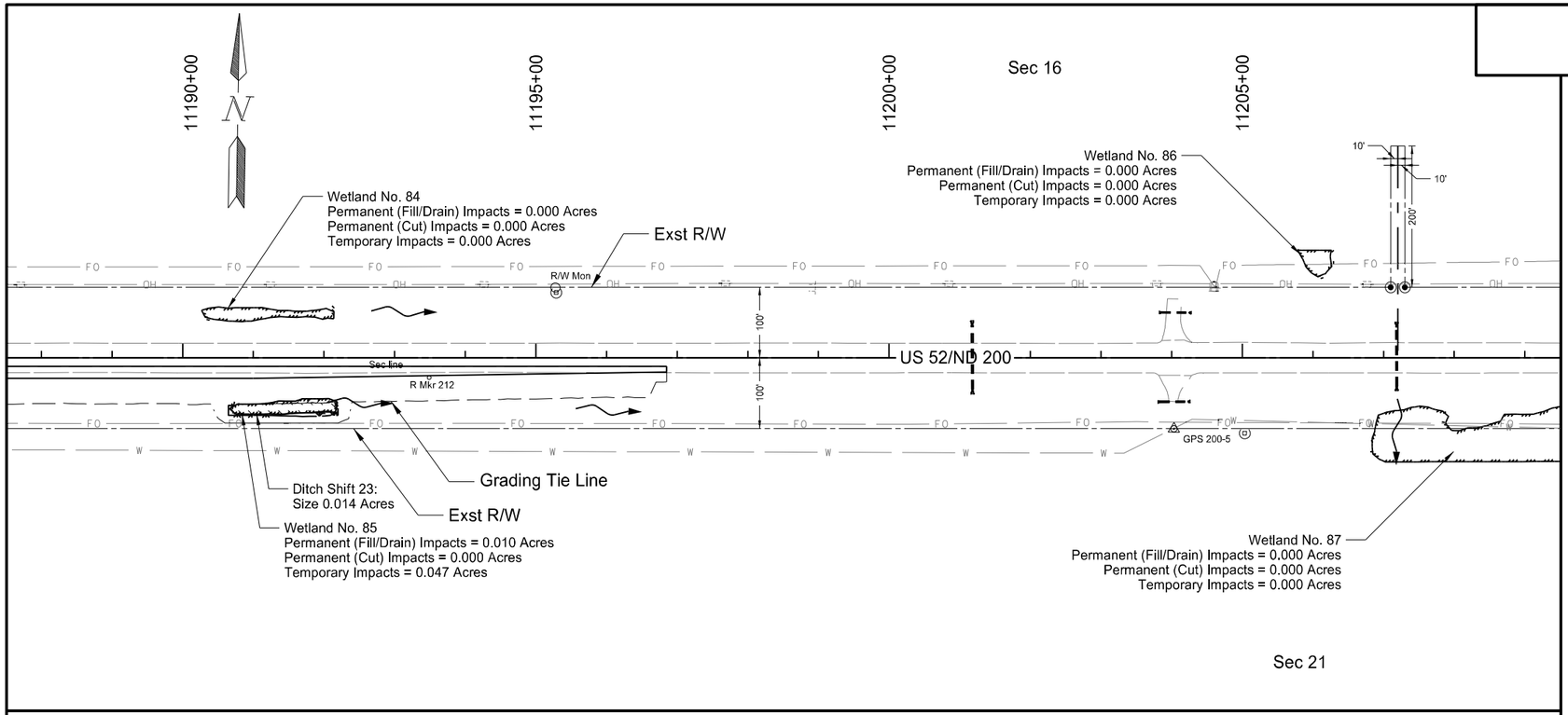
REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

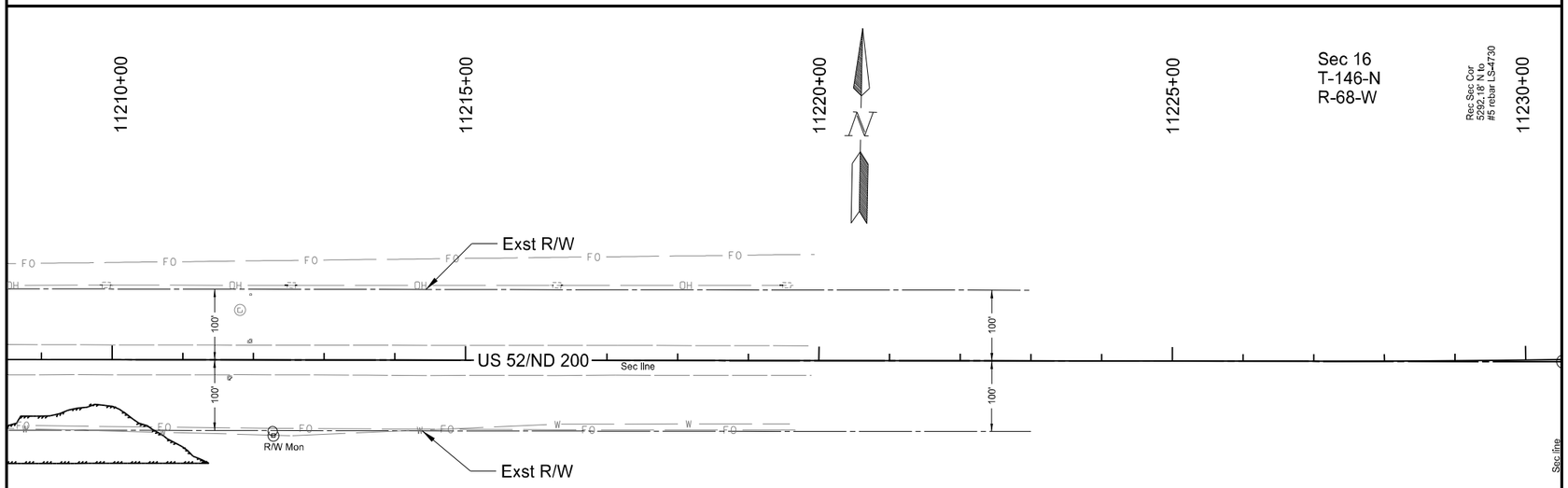
Wetland Impacts

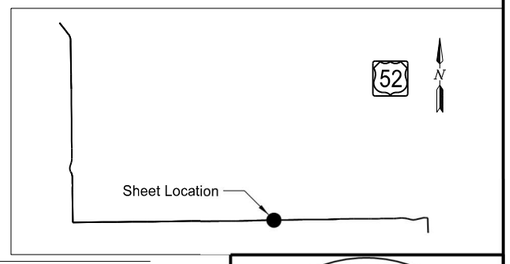
US 52
Fessenden to Carrington

3/30/2022 3:38:02 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\075WL_029.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	75	30







Legend

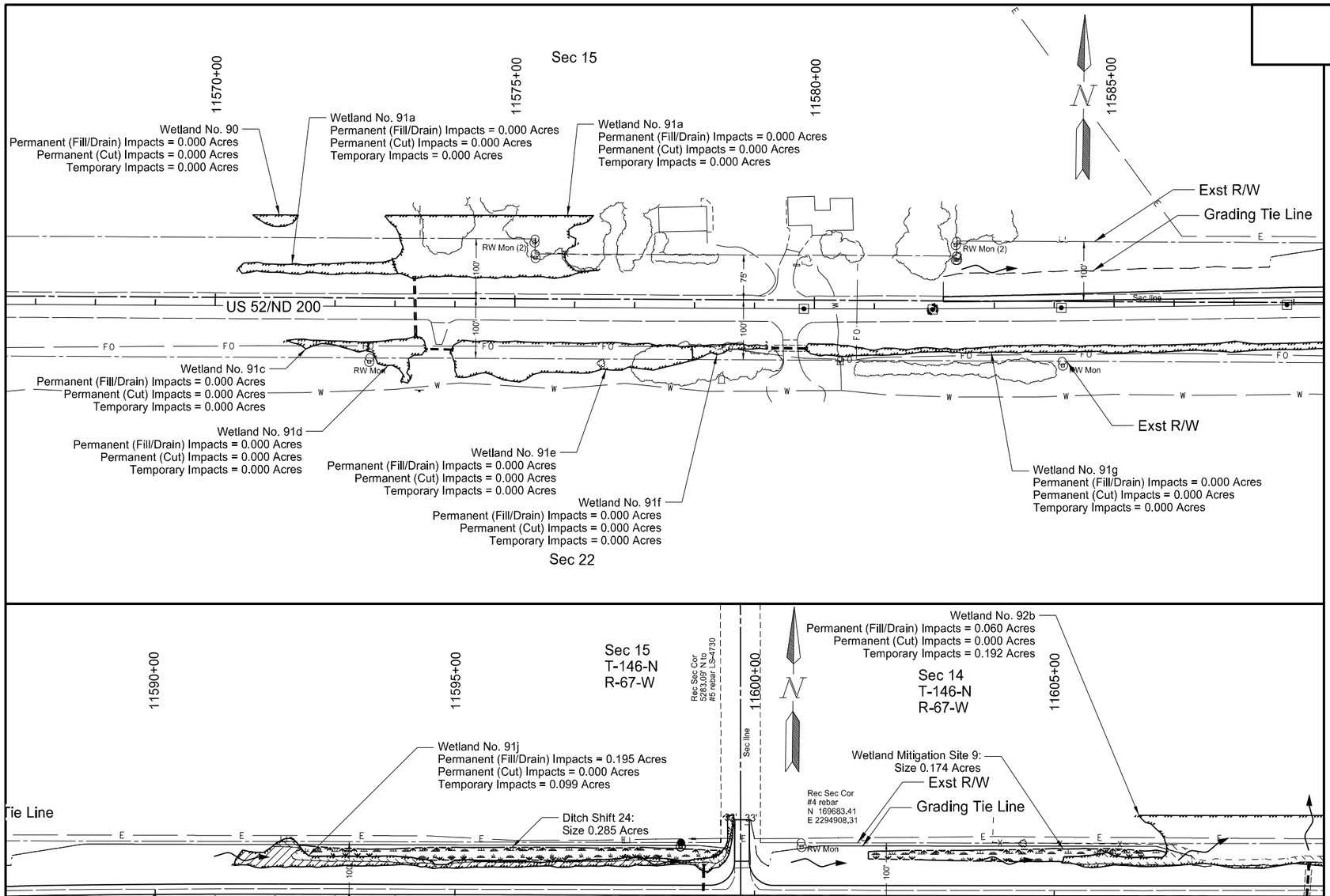
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

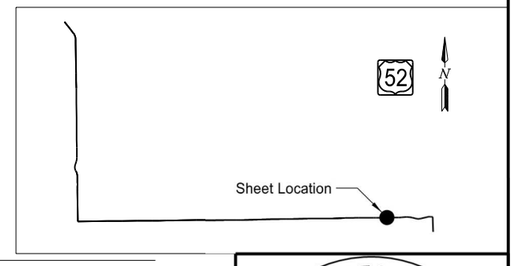
REGISTERED PROFESSIONAL ENGINEER
KORY VINCENT KLEINKNECHT
PE 27746
DATE 04/01/2022
NORTH DAKOTA

Wetland Impacts

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	31





Legend

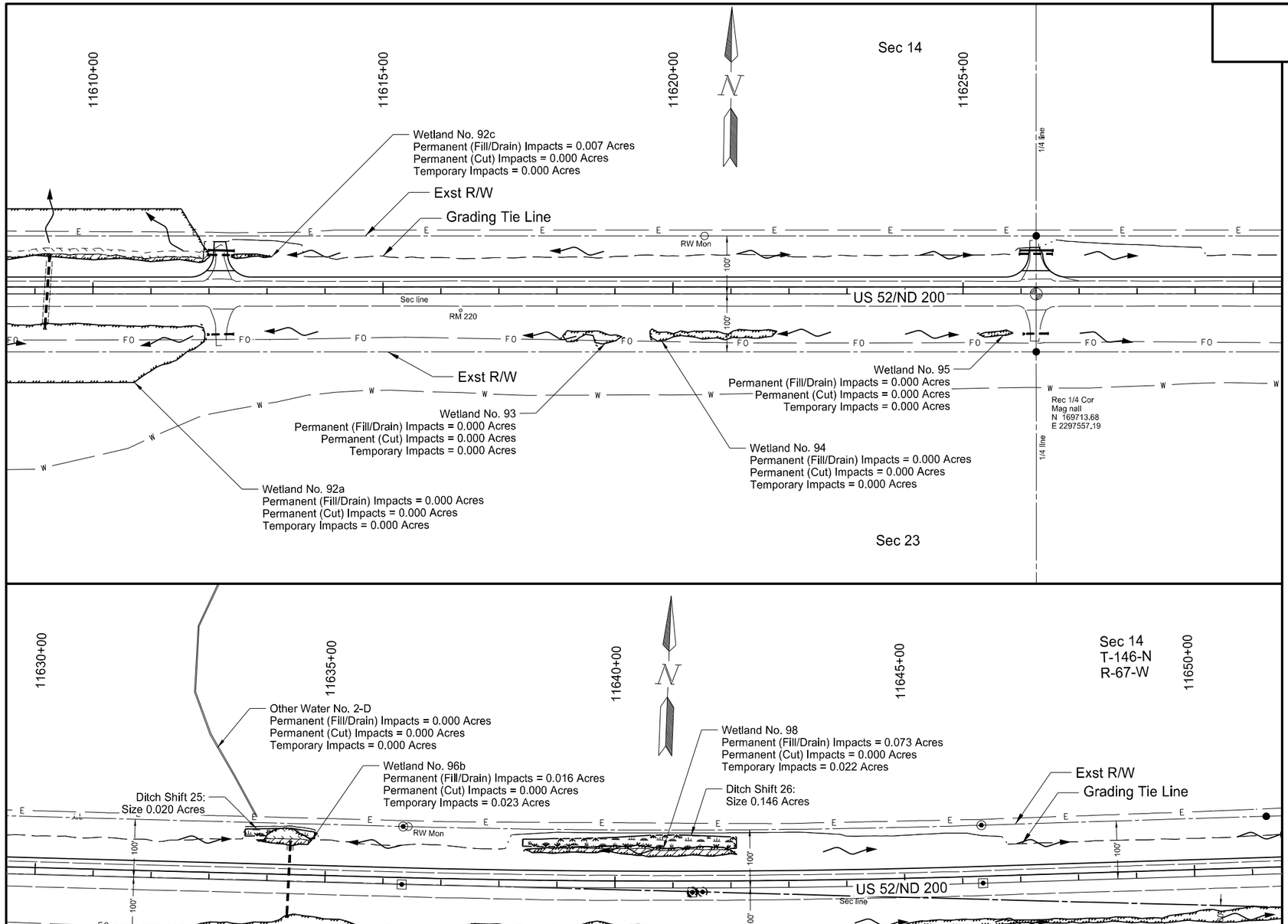
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

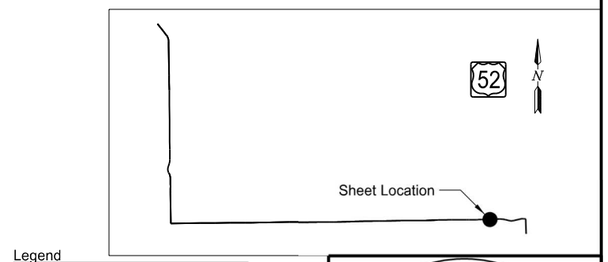
REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL
KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

Wetland Impacts

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	32





Legend

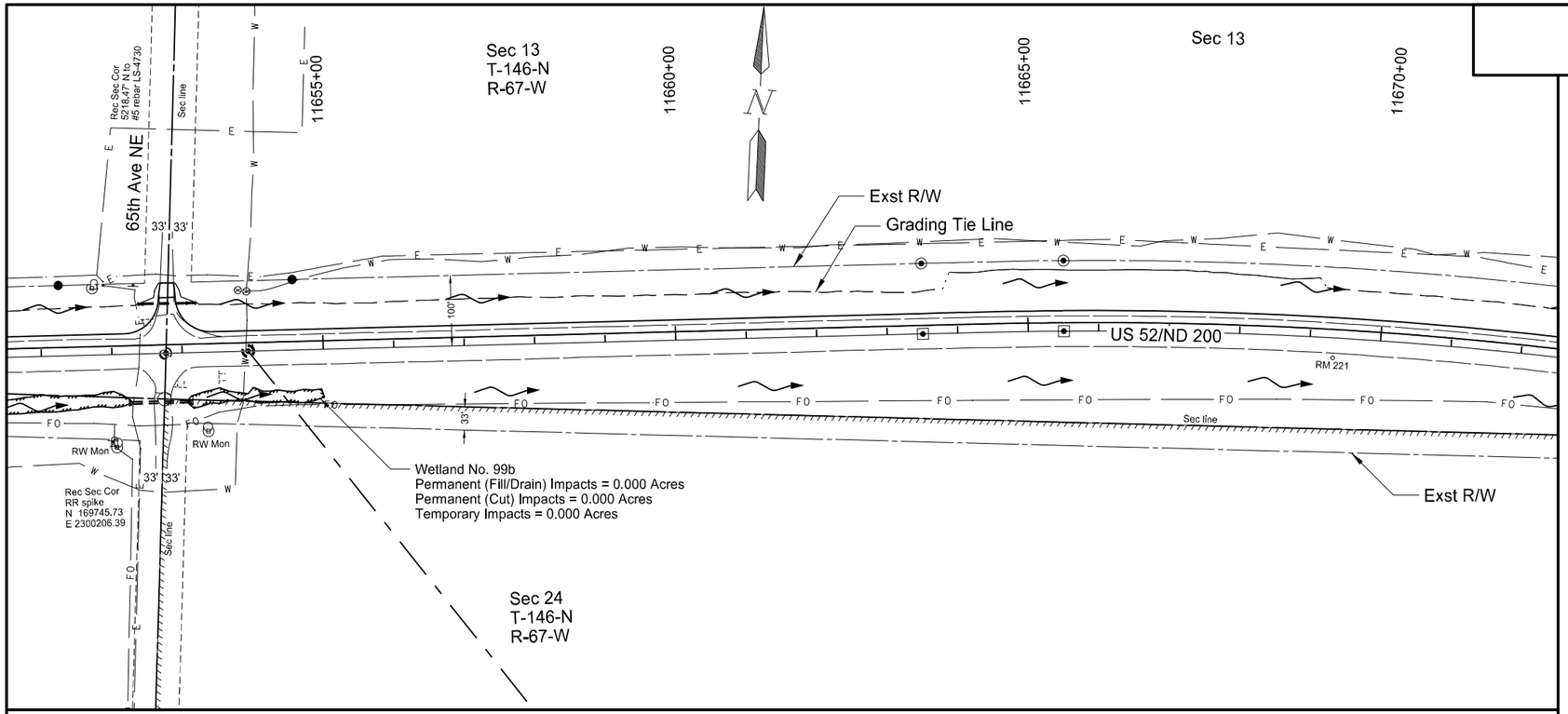
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

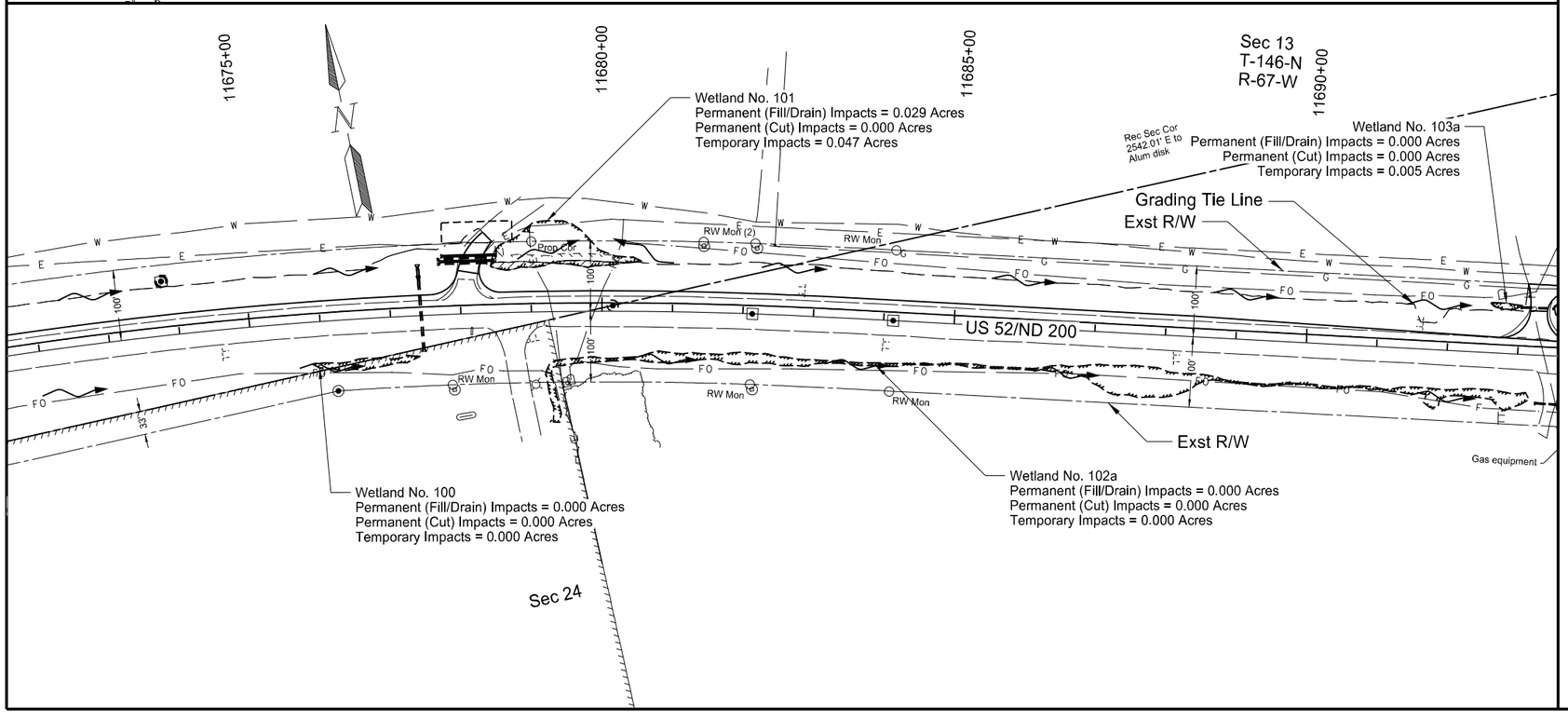
REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL
KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

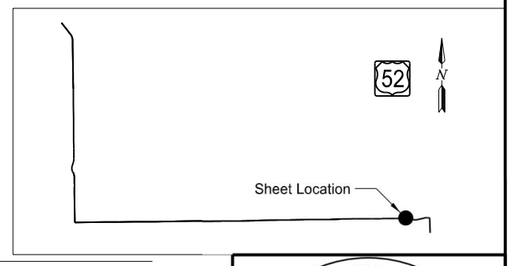
Wetland Impacts

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	75	33







Legend

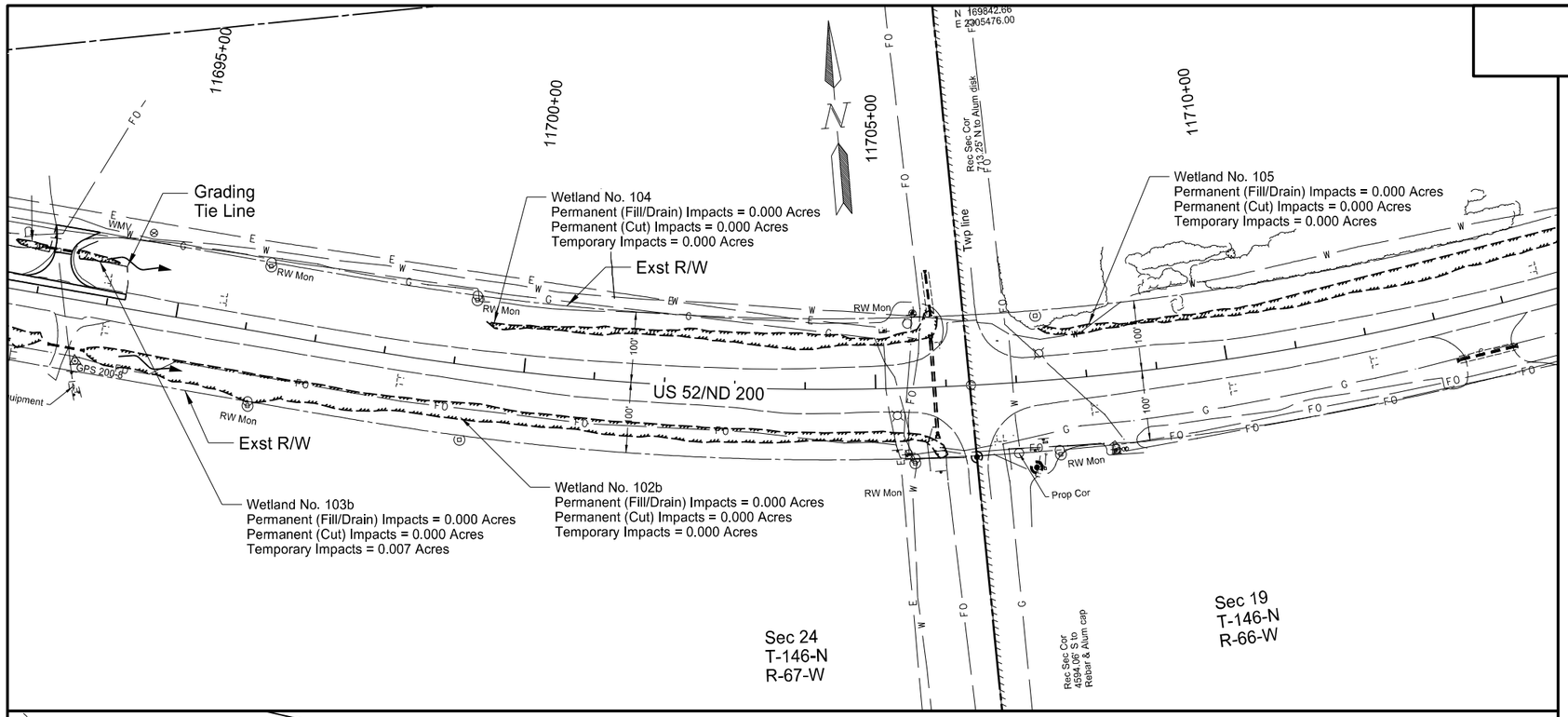
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

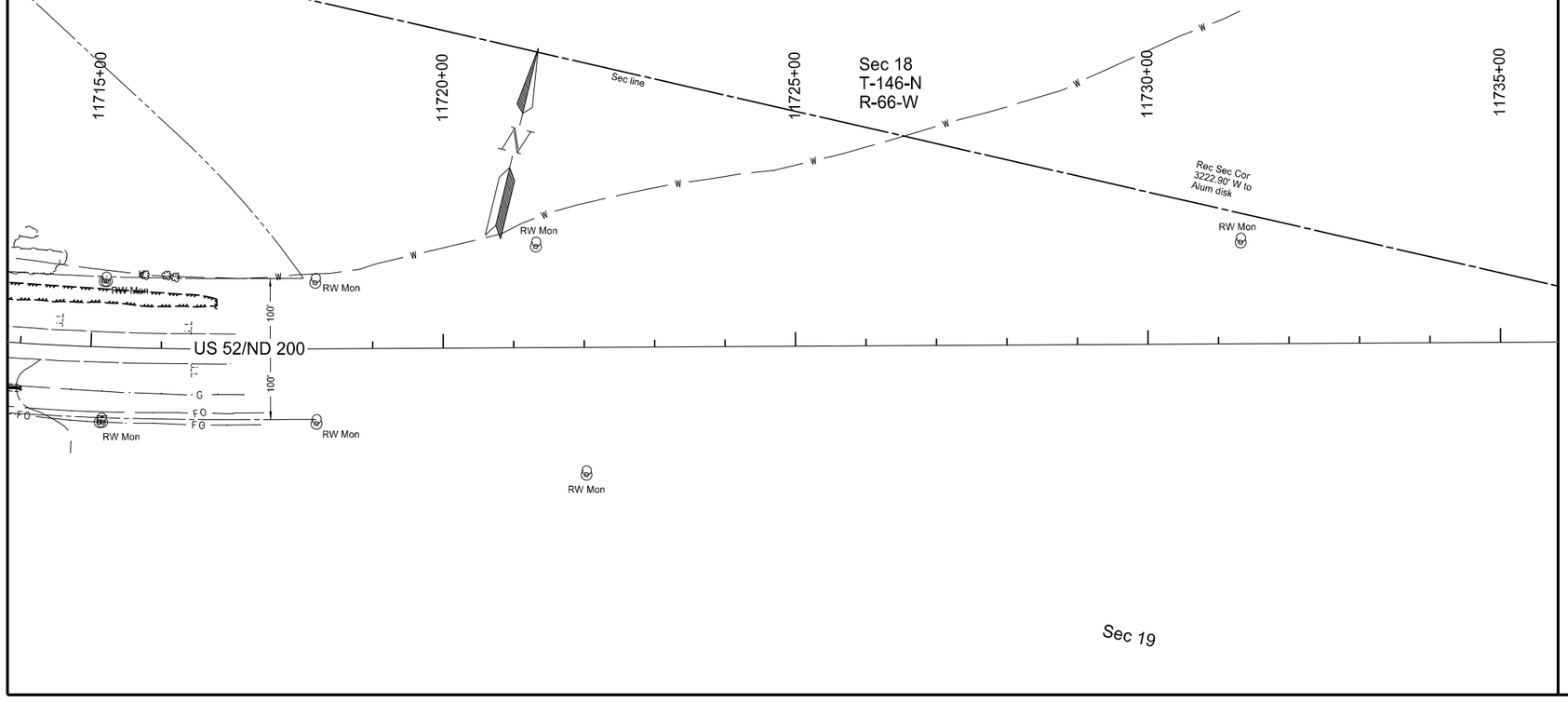
REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

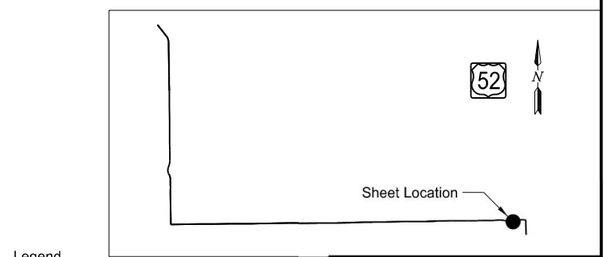
Wetland Impacts

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	75	34







Legend

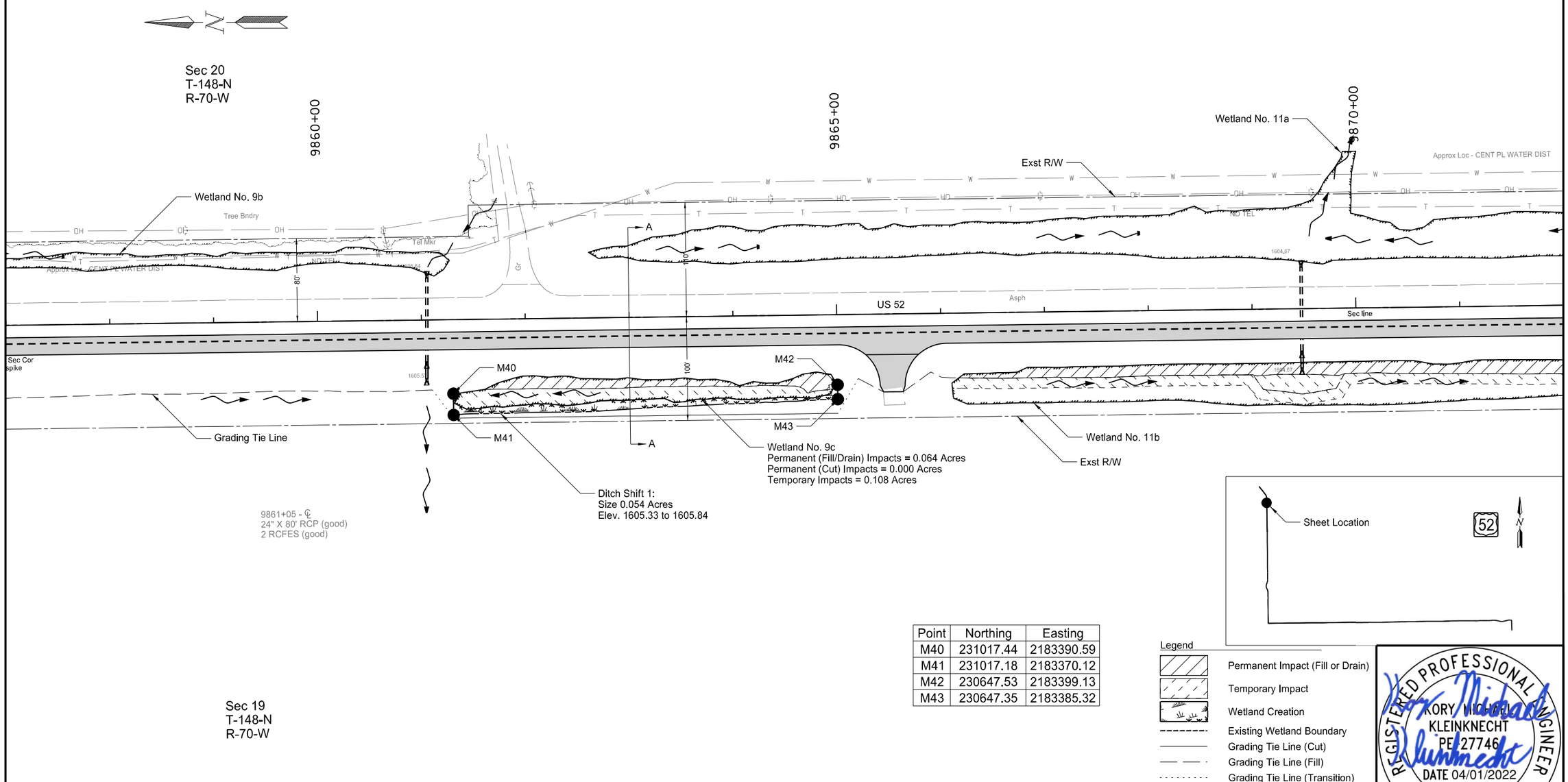
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL
KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

Wetland Impacts

US 52
Fessenden to Carrington

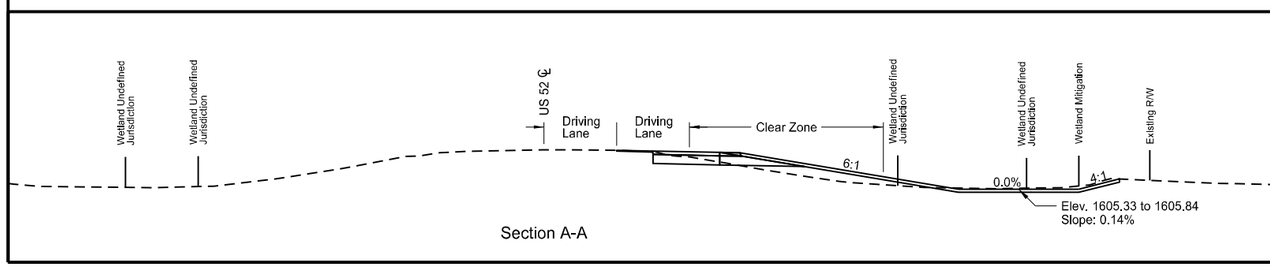
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	75	35



Point	Northing	Easting
M40	231017.44	2183390.59
M41	231017.18	2183370.12
M42	230647.53	2183399.13
M43	230647.35	2183385.32

Legend

- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction



Section A-A

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE 27746
DATE 04/01/2022
NORTH DAKOTA

Wetland Impacts
Ditch Shift 1

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	75	36

Rec Sec Cor
5274.52' E to
#5 rebar w/cap LS-7103

Sec 20
T-148-N
R-70-W

9900+00

9905+00

9910+00

Sec 29
T-148-N
R-70-W

9908+87 - 126' Lt to W end
18" X 34' CSP (fair)
2 CSFES (fair)

Sec line

CENT PL WATER DIST

Wood post (2)

Water Mkr

Tel vault

WGV

Tel Ped

Approx Loc - CENT PL WATER DIST

Wetland No. 13b

Exst R/W

Wetland No. 15

Rec Sec Cor
1 1/2" cap

ND TEL

Asph

US 52

110'

100'

33'

M60

M61

M62

M63

M80

M81

M82

M83

Tel MH

Wetland No. 14
Permanent (Fill/Drain) Impacts = 0.144 Acres
Permanent (Cut) Impacts = 0.000 Acres
Temporary Impacts = 0.212 Acres

Grading Tie Line

Ditch Shift 2:
Size 0.129 Acres
Elev. 1605.17 to 1606.20

Ditch Shift 3
Size 0.027 Acres
Elev. 1607.63

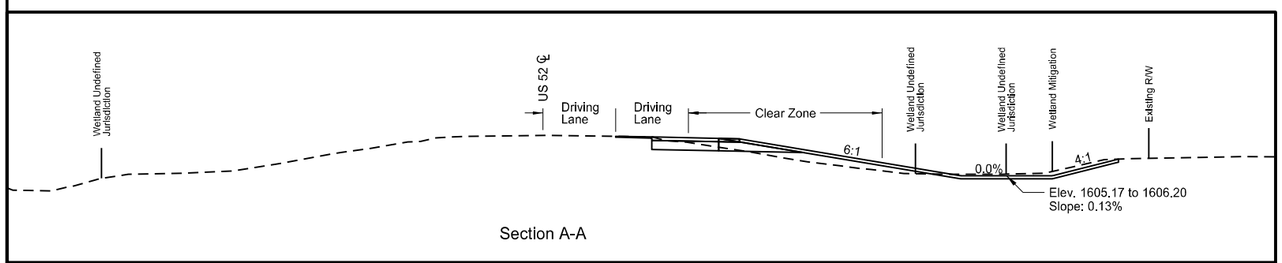
Wetland No. 16
Permanent (Fill/Drain) Impacts = 0.022 Acres
Permanent (Cut) Impacts = 0.000 Acres
Temporary Impacts = 0.026 Acres

Sec 19
T-148-N
R-70-W

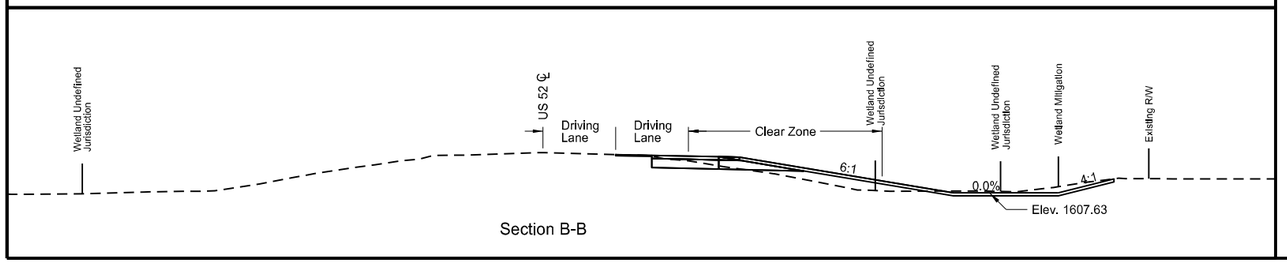
Sheet Location

52

N



Section A-A



Section B-B

Point	Northing	Easting
M60	227347.80	2183441.65
M61	227347.50	2183418.96
M62	226557.86	2183451.32
M63	226557.70	2183438.59
M80	226167.96	2183457.49
M81	226167.79	2183443.55
M82	226037.95	2183457.06
M83	226037.79	2183443.38

Legend

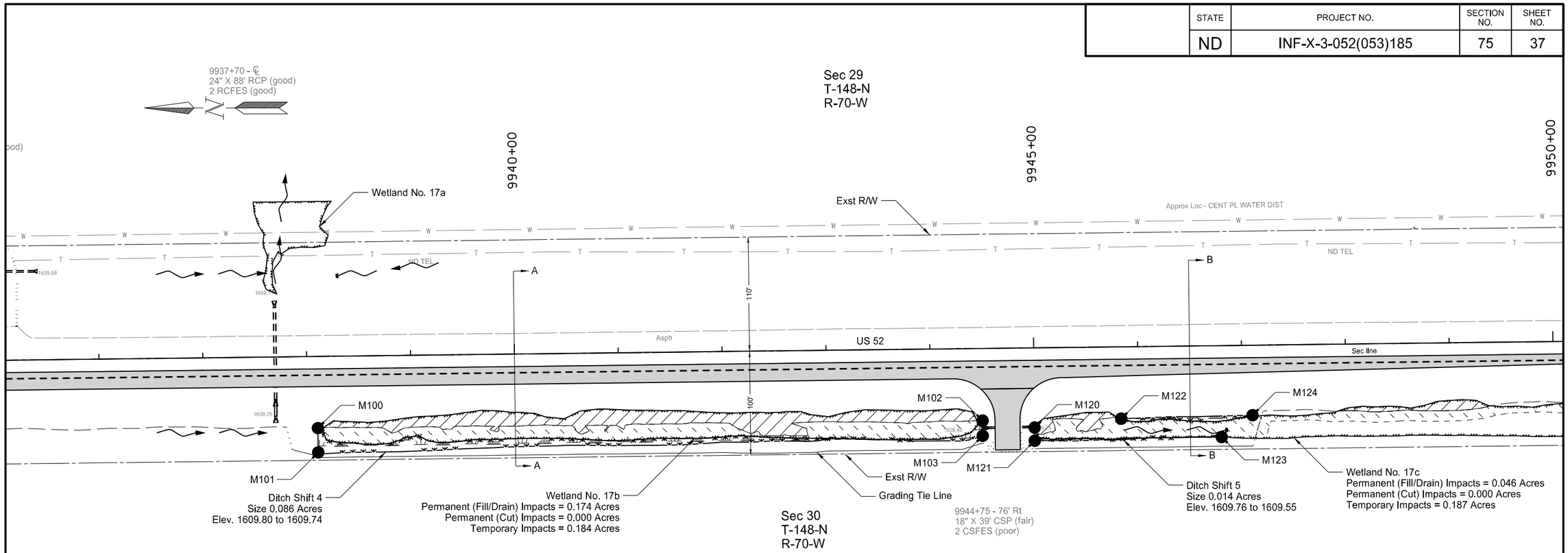
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

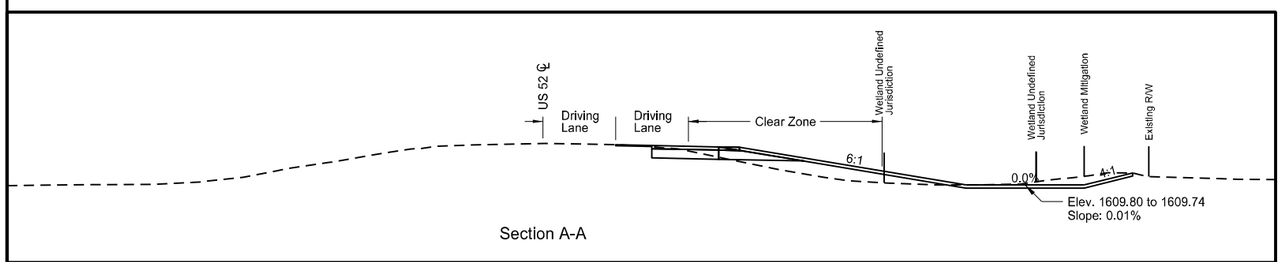
REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

Wetland Impacts
Ditch Shift 2 and Ditch Shift 3

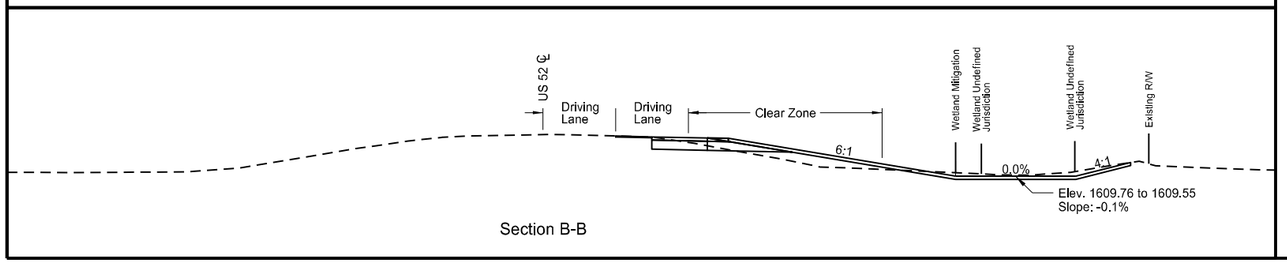
US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	37



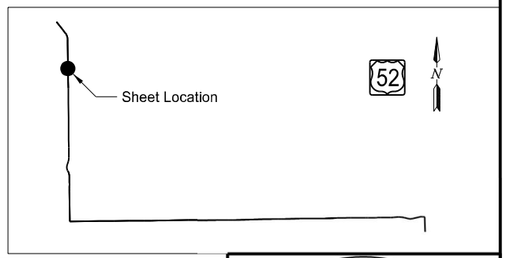


Section A-A



Section B-B

Point	Northing	Easting
M100	223338.14	2183489.42
M101	223337.86	2183466.02
M102	222698.18	2183496.58
M103	222698.01	2183482.03
M120	222648.10	2183489.94
M121	222647.95	2183477.30
M122	222564.64	2183498.50
M123	222467.98	2183480.82
M124	222438.23	2183501.86



Legend

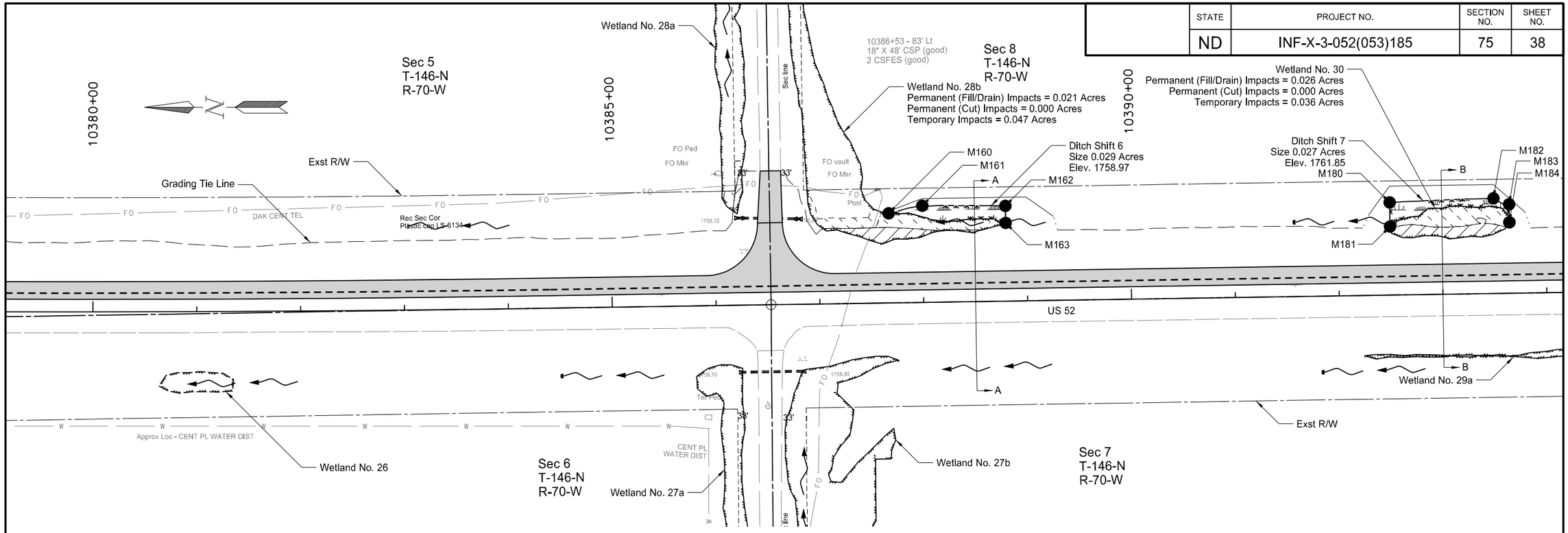
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

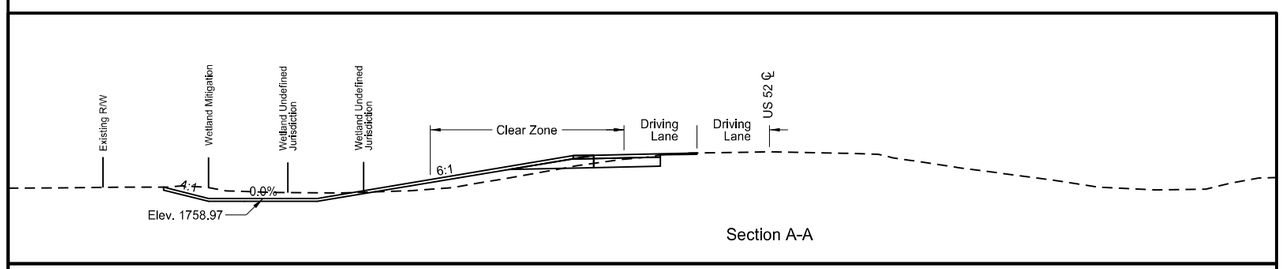


Wetland Impacts
Ditch Shift 4 and Ditch Shift 5

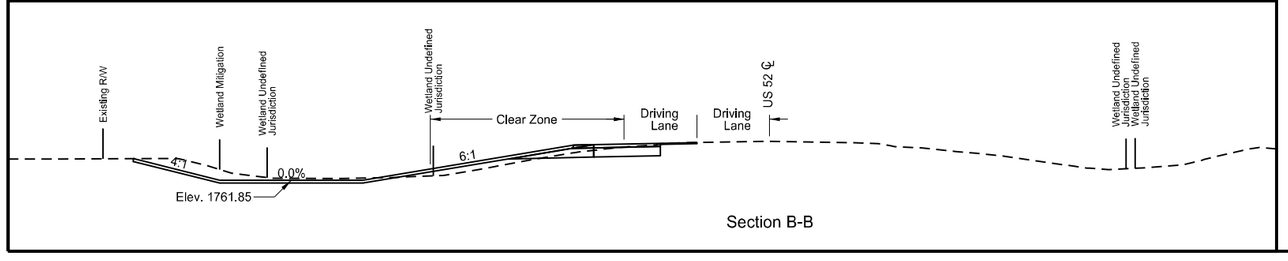
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	75	38



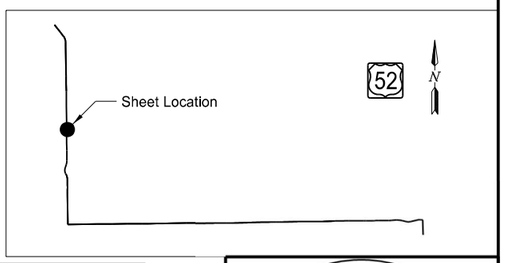


Section A-A



Section B-B

Point	Northing	Easting
M160	178649.74	2184167.79
M161	178617.32	2184175.11
M162	178537.31	2184174.92
M163	178537.05	2184158.53
M180	178167.32	2184178.25
M181	178166.95	2184155.01
M182	178067.36	2184182.22
M183	178052.27	2184176.44
M184	178052.00	2184159.07



Legend

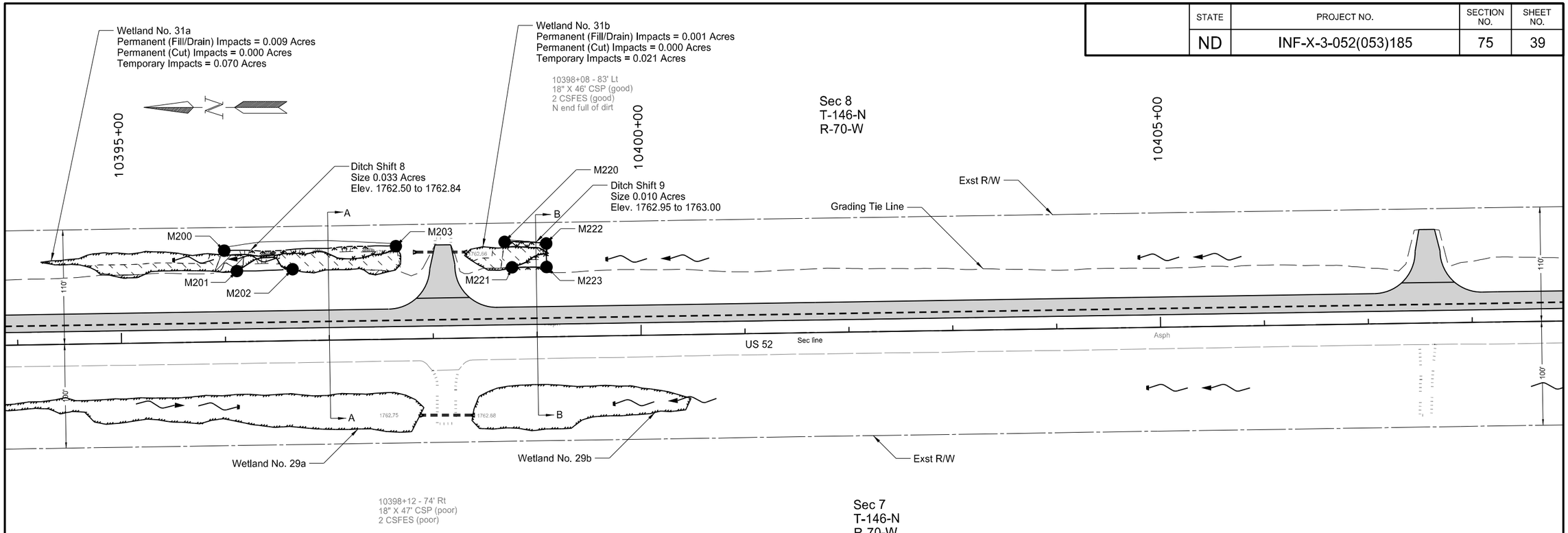
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

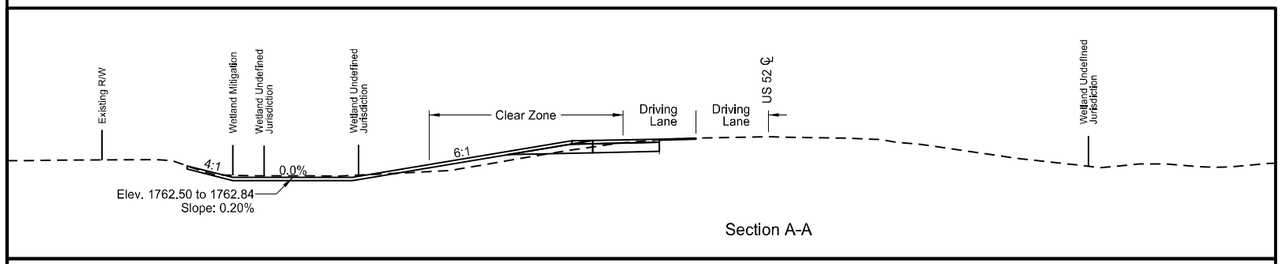
REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

Wetland Impacts
Ditch Shift 6 and Ditch Shift 7

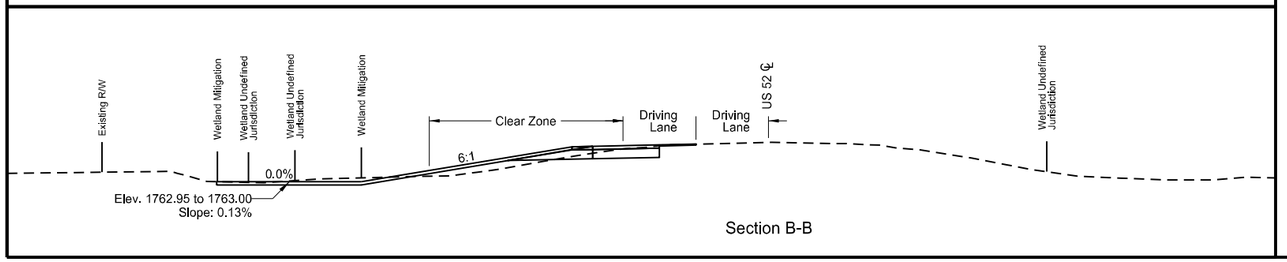
US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	39



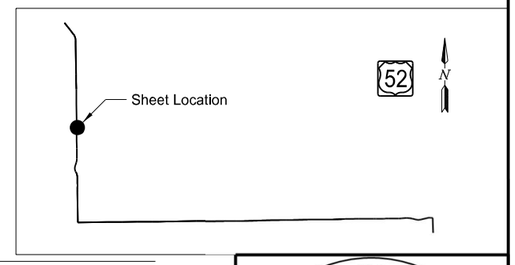


Section A-A



Section B-B

Point	Northing	Easting
M200	177817.33	2184182.13
M201	177805.10	2184162.50
M202	177751.49	2184164.22
M203	177652.09	2184186.40
M220	177547.43	2184190.53
M221	177540.29	2184166.07
M222	177507.40	2184188.95
M223	177507.05	2184166.36



Legend

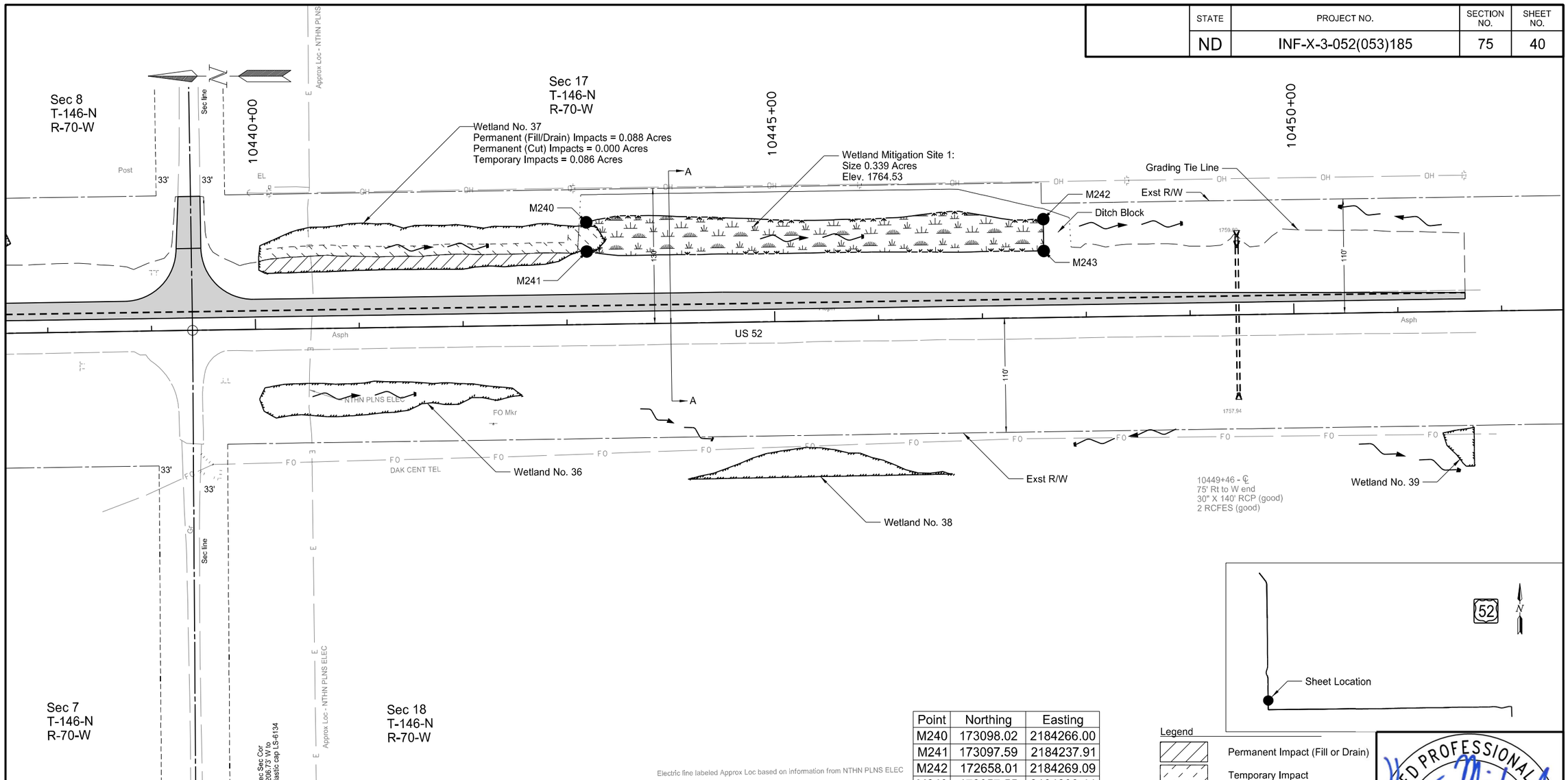
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE 27746
DATE 04/01/2022
NORTH DAKOTA

Wetland Impacts
Ditch Shift 8 and Ditch Shift 9

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	40



Point	Northing	Easting
M240	173098.02	2184266.00
M241	173097.59	2184237.91
M242	172658.01	2184269.09
M243	172657.55	2184238.44

Electric line labeled Approx Loc based on information from NTHN PLNS ELEC

Legend

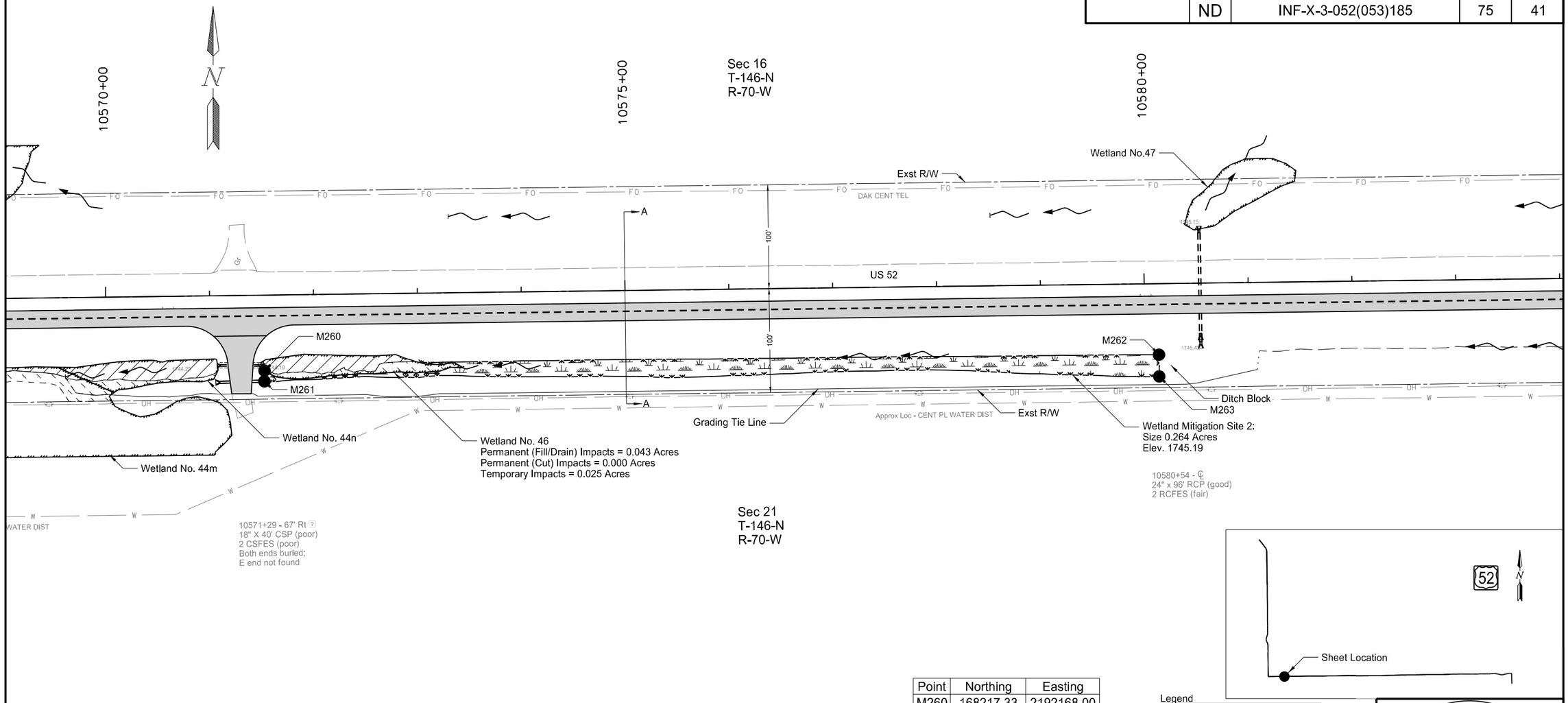
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

Wetland Impacts
Mitigation Site 1

US 52
Fessenden to Carrington

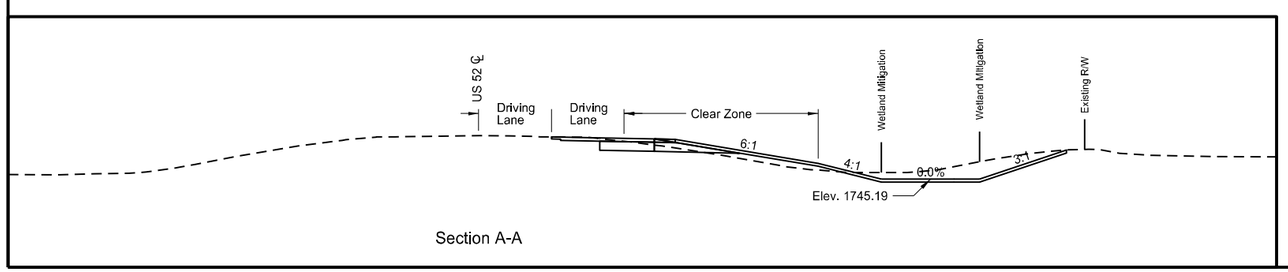
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	41



Point	Northing	Easting
M260	168217.33	2192168.00
M261	168207.07	2192167.98
M262	168232.69	2193029.25
M263	168211.76	2193029.52

Legend

- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction



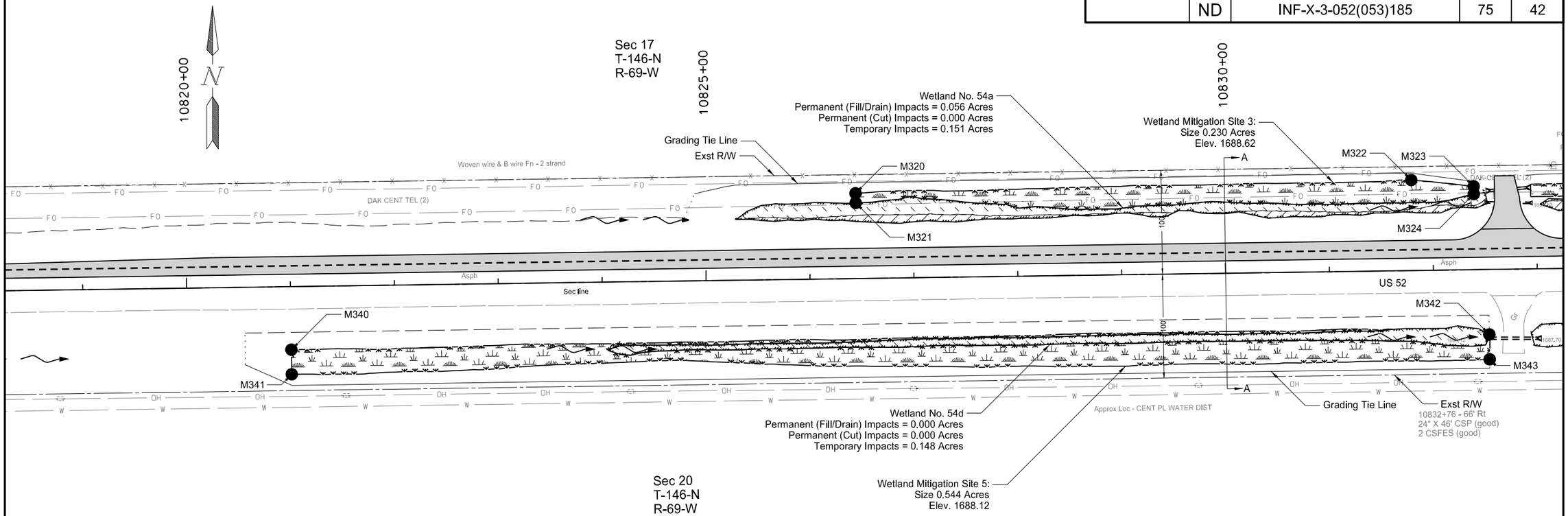
Section A-A

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

Wetland Impacts
Mitigation Site 2

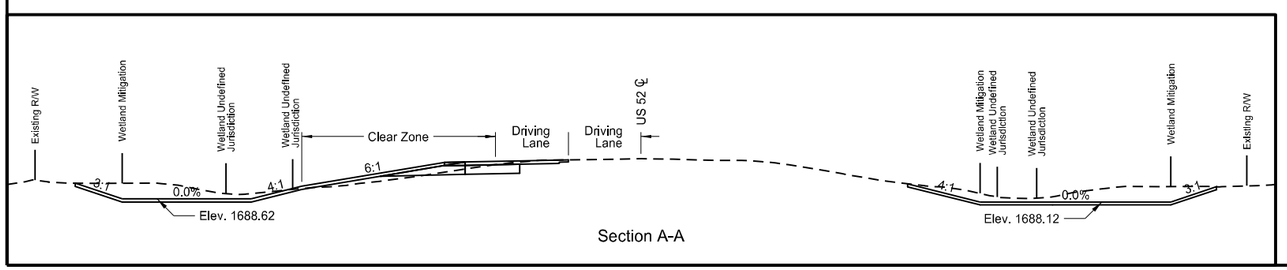
US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	42

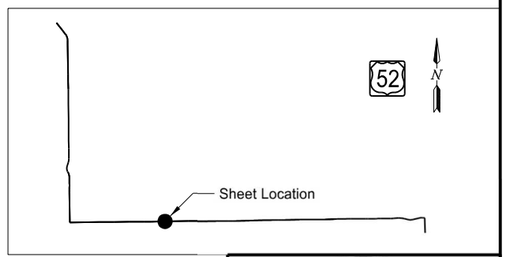


Point	Northing	Easting
M320	168671.01	2217656.94
M321	168661.80	2217657.08
M322	168683.73	2218191.82
M323	168677.69	2218251.91
M324	168670.27	2218252.01
M340	168520.60	2217114.04
M341	168496.89	2217114.38
M342	168535.20	2218266.95
M343	168511.28	2218267.29

Water line labeled Approx Loc based on maps from CENT PL WATER DIST



Section A-A



Legend

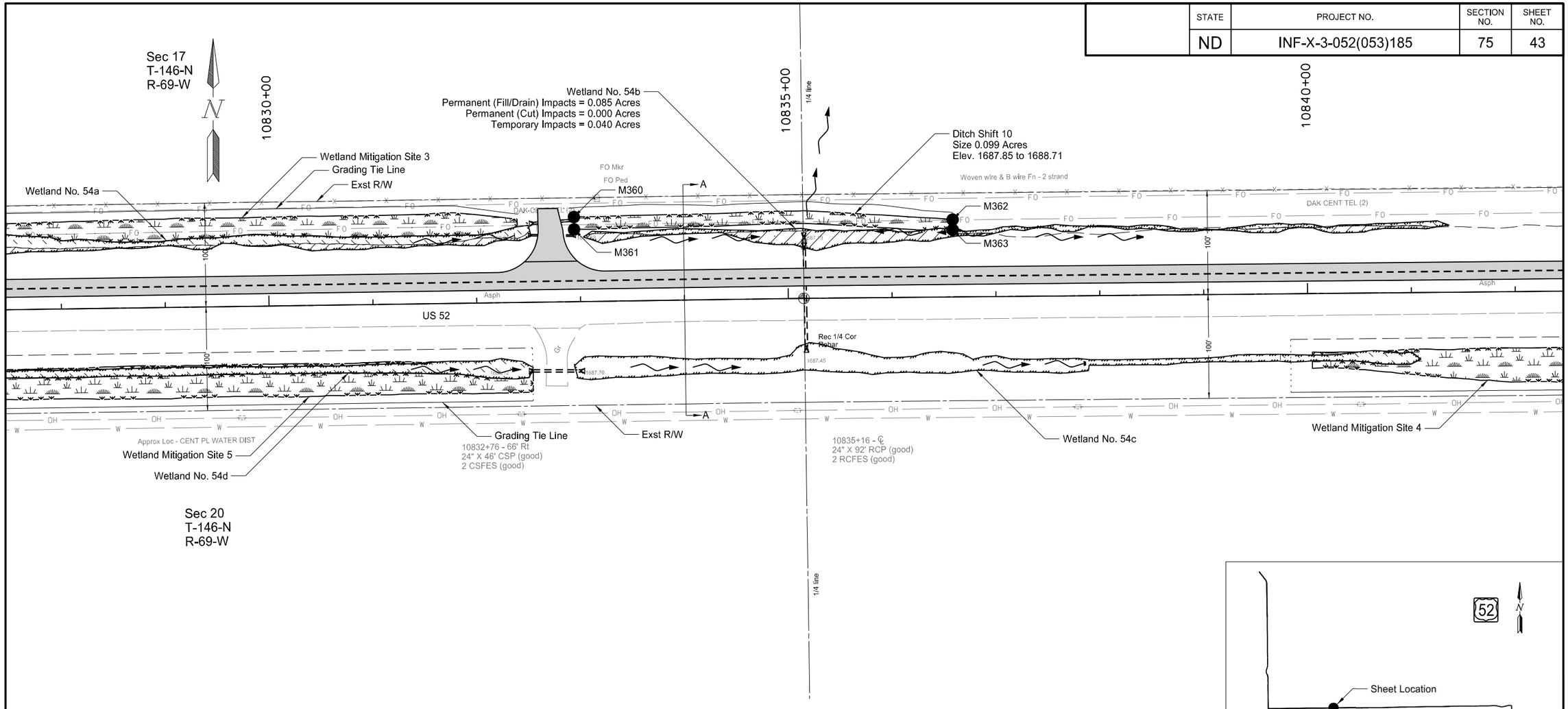
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL
KLEINKNECHT
PE 27746
DATE 04/01/2022
NORTH DAKOTA

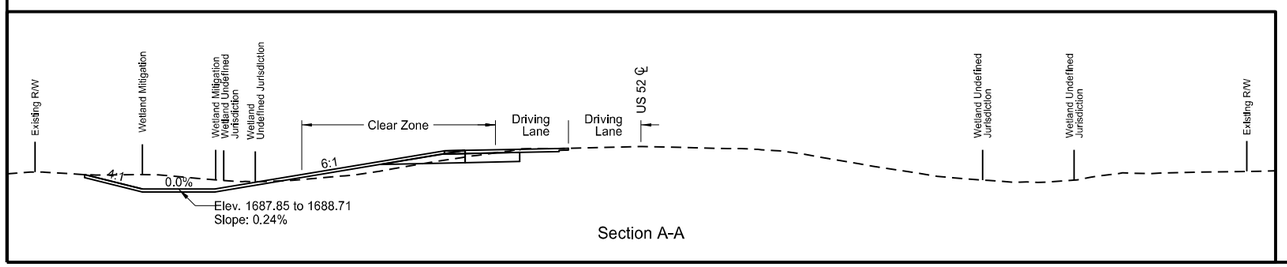
Wetland Impacts
Mitigation Site 3 and Mitigation Site 5

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	43



Point	Northing	Easting
M360	168679.77	2218306.57
M361	168667.78	2218306.74
M362	168677.27	2218671.27
M363	168667.41	2218671.36



Section A-A

Legend

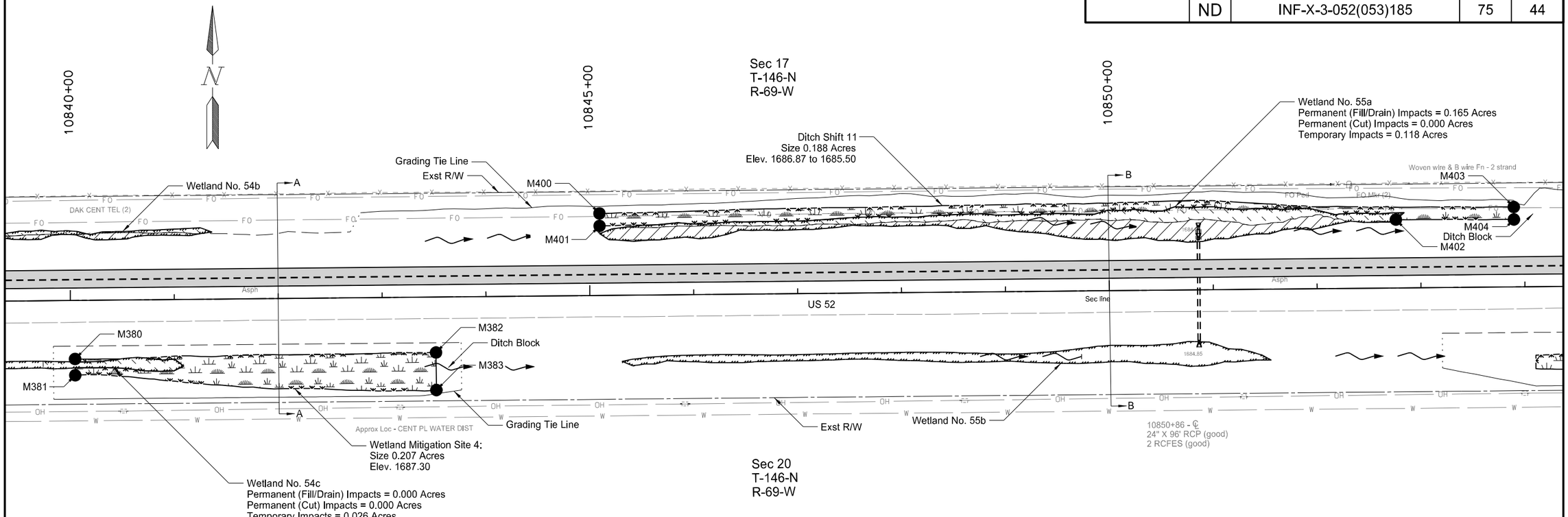
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

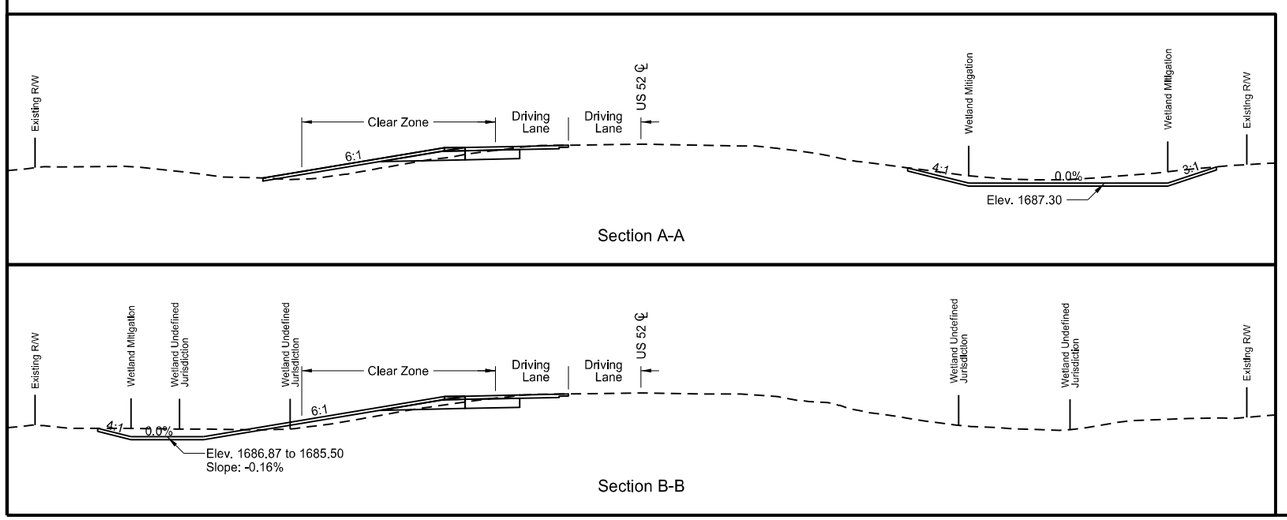
REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE 27746
DATE 04/01/2022
NORTH DAKOTA

Wetland Impacts
Ditch Shift 10

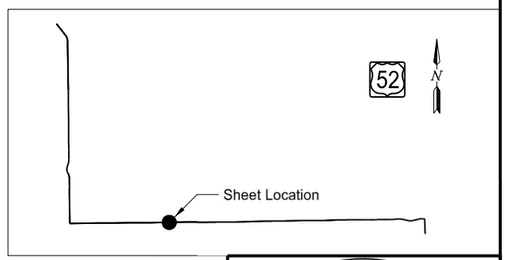
US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	44





Point	Northing	Easting
M380	168549.73	2219017.58
M381	168534.04	2219017.73
M382	168555.97	2219364.98
M383	168519.82	2219365.32
M400	168689.81	2219522.24
M401	168677.81	2219522.35
M402	168683.87	2220288.77
M403	168696.01	2220402.22
M404	168684.01	2220402.33



Legend

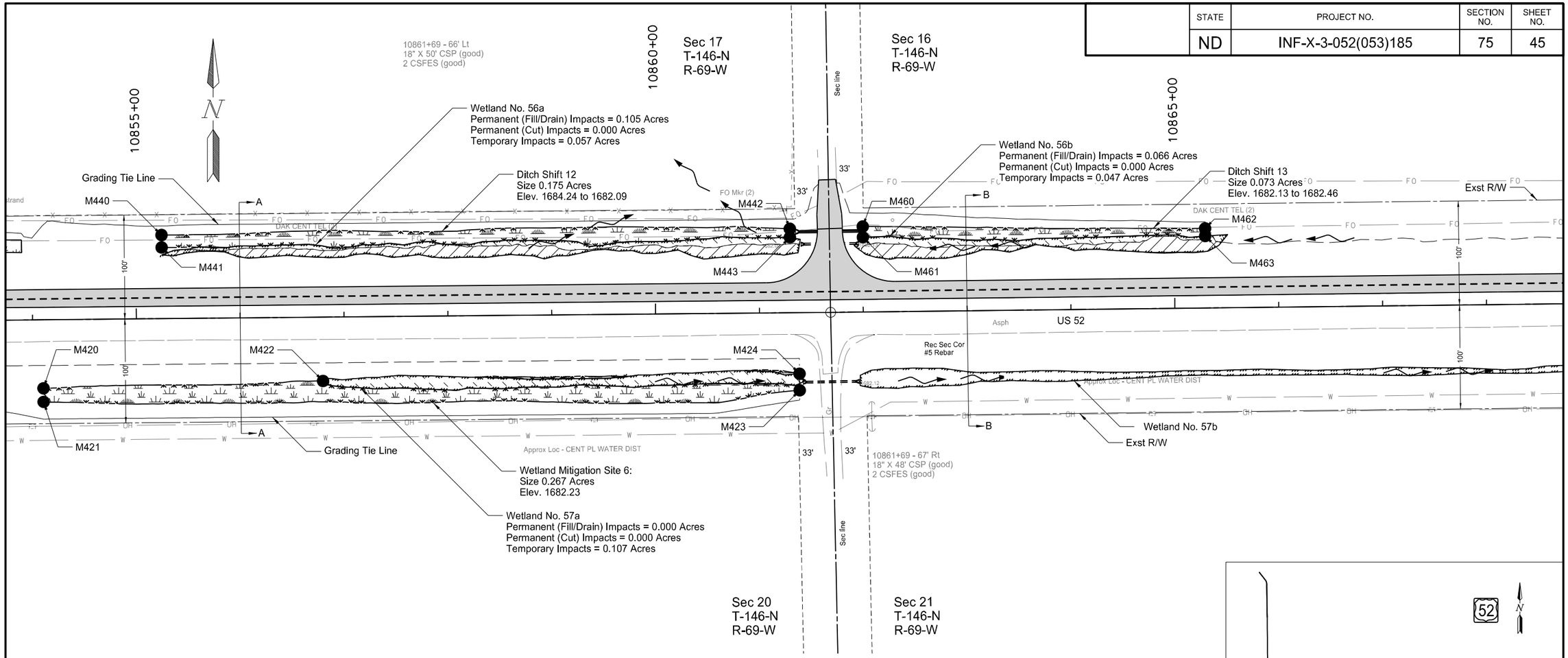
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

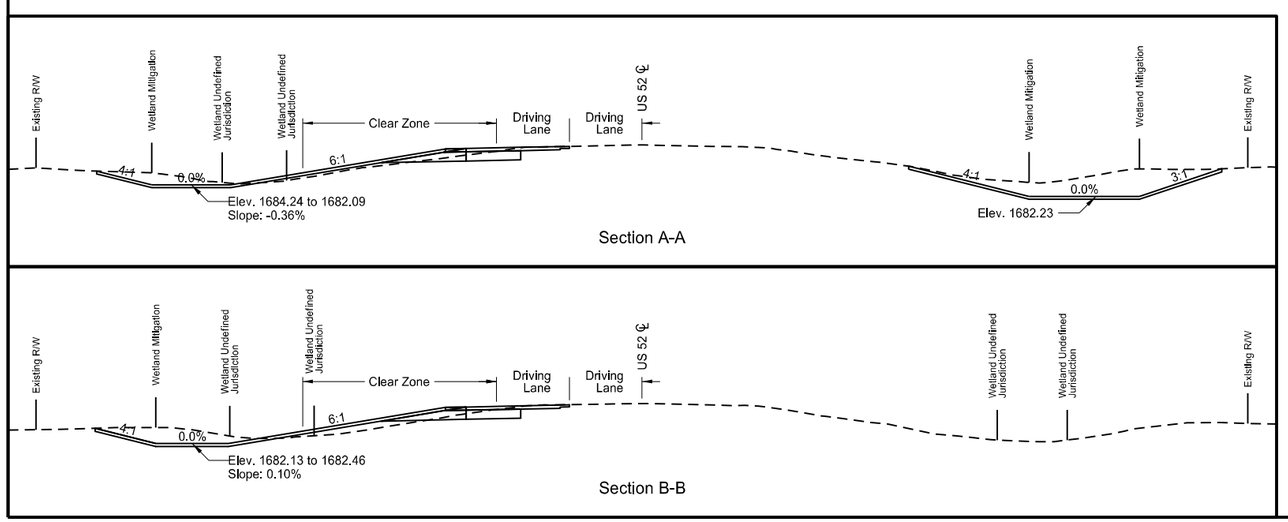
REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE 27746
DATE 04/01/2022
NORTH DAKOTA

Wetland Impacts
Mitigation Site 4 and Ditch Shift 11

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	45





Point	Northing	Easting
M420	168553.39	2220423.57
M421	168540.32	2220423.69
M422	168560.45	2220692.71
M423	168551.53	2221151.65
M424	168553.22	2221018.59
M440	168700.81	2220537.18
M441	168688.94	2220537.29
M442	168706.86	2221142.15
M443	168698.65	2221142.23
M460	168709.04	2221212.35
M461	168698.74	2221212.47
M462	168707.24	2221541.99
M463	168700.01	2221542.08

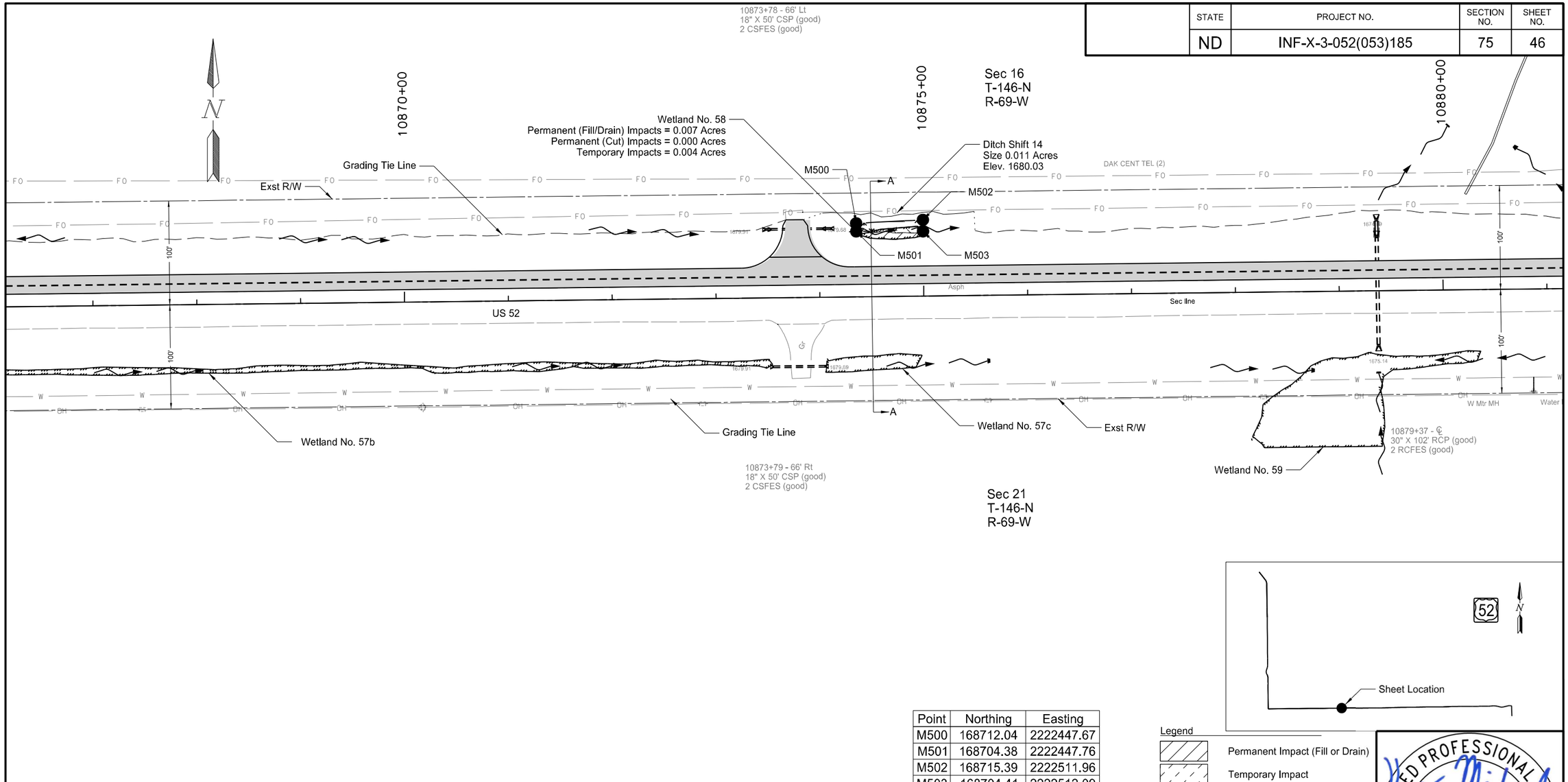
Legend

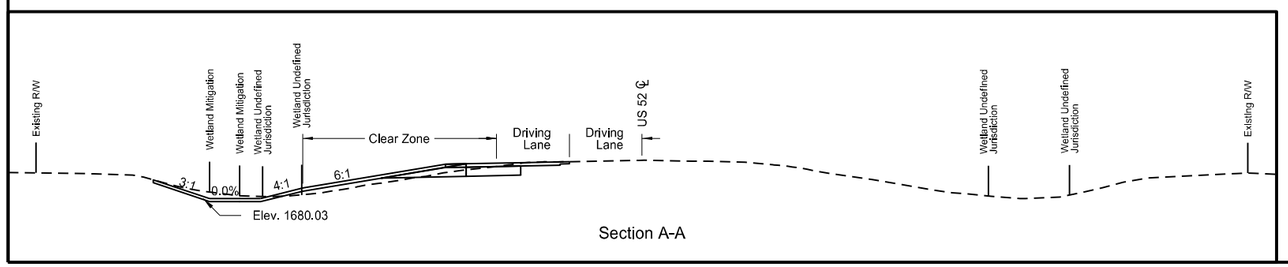
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

Wetland Impacts
Mitigation Site 6, Ditch Shift 12
and Ditch Shift 13
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	75	46





Section A-A

Point	Northing	Easting
M500	168712.04	2222447.67
M501	168704.38	2222447.76
M502	168715.39	2222511.96
M503	168704.41	2222512.09

Legend

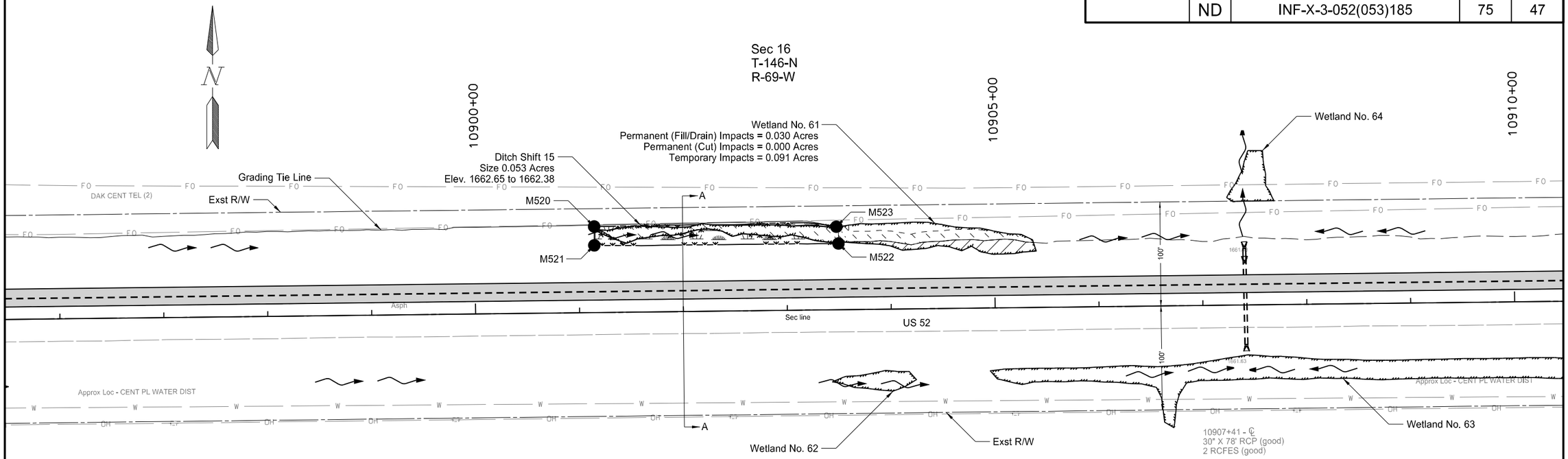
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE 27746
DATE 04/01/2022
NORTH DAKOTA

Wetland Impacts
Ditch Shift 14

US 52
Fessenden to Carrington

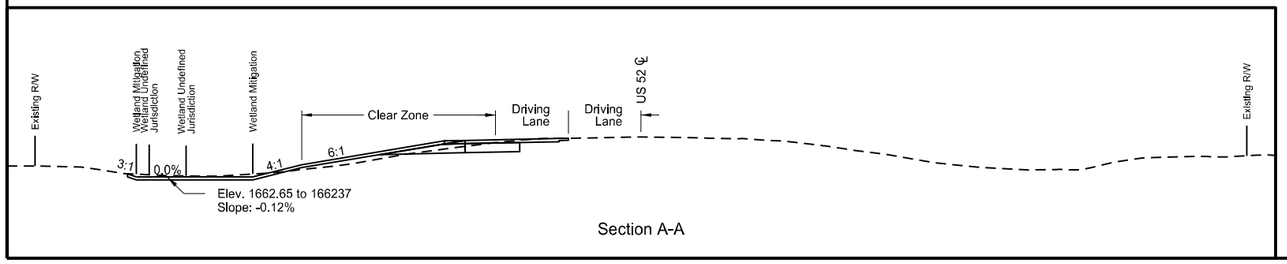
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	47



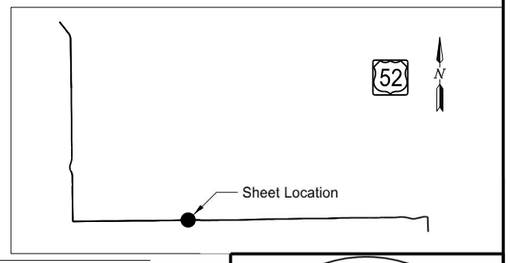
Sec 21
T-146-N
R-69-W

Point	Northing	Easting
M520	168755.36	2225126.67
M521	168737.25	2225126.88
M522	168739.02	2225361.88
M523	168755.16	2225359.85

Water line labeled Approx Loc based on maps from CENT PL WATER DIST



Section A-A



Legend

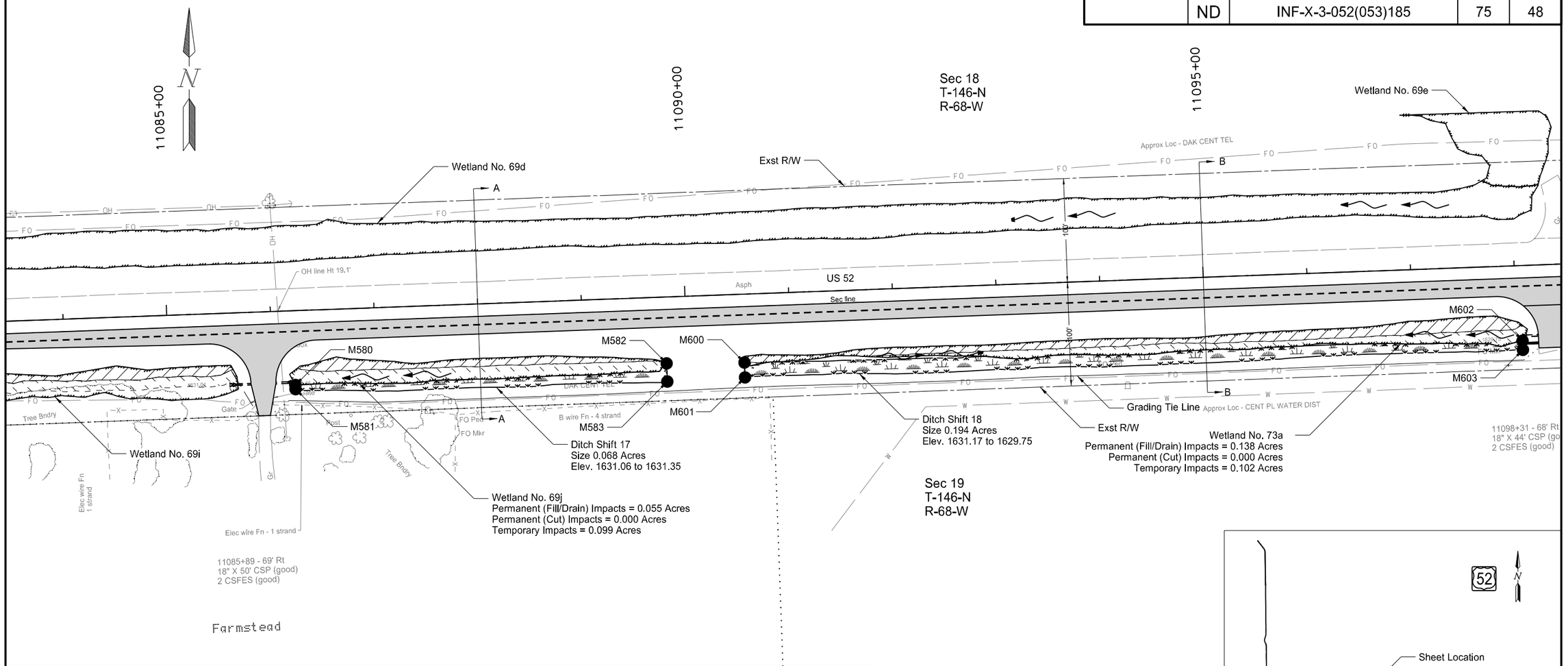
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

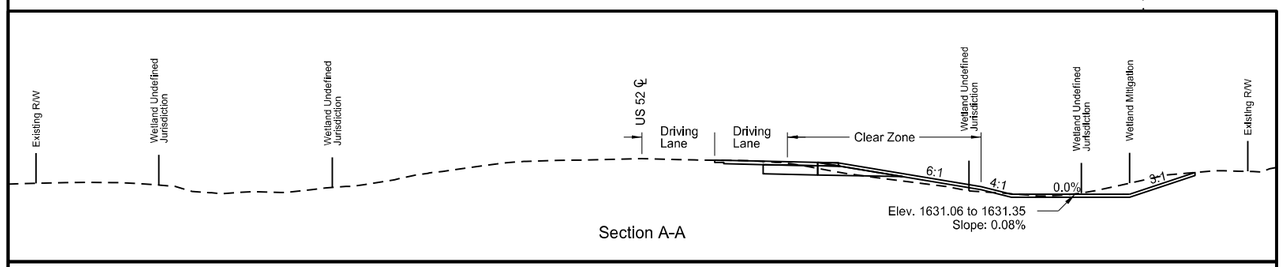
REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

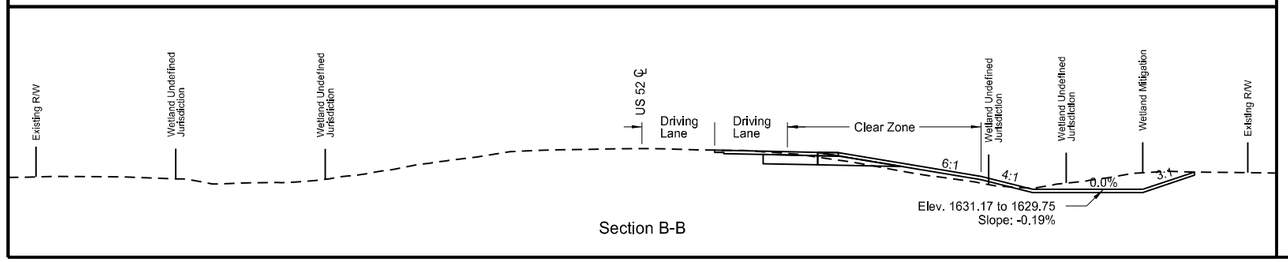
Wetland Impacts
Ditch Shift 15

US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	48







Point	Northing	Easting
M580	168753.91	2243636.35
M581	168749.96	2243636.49
M582	168774.78	2243994.29
M583	168757.30	2243994.93
M600	168775.57	2244069.31
M601	168761.22	2244069.84
M602	168796.61	2244819.50
M603	168787.83	2244819.82

Legend

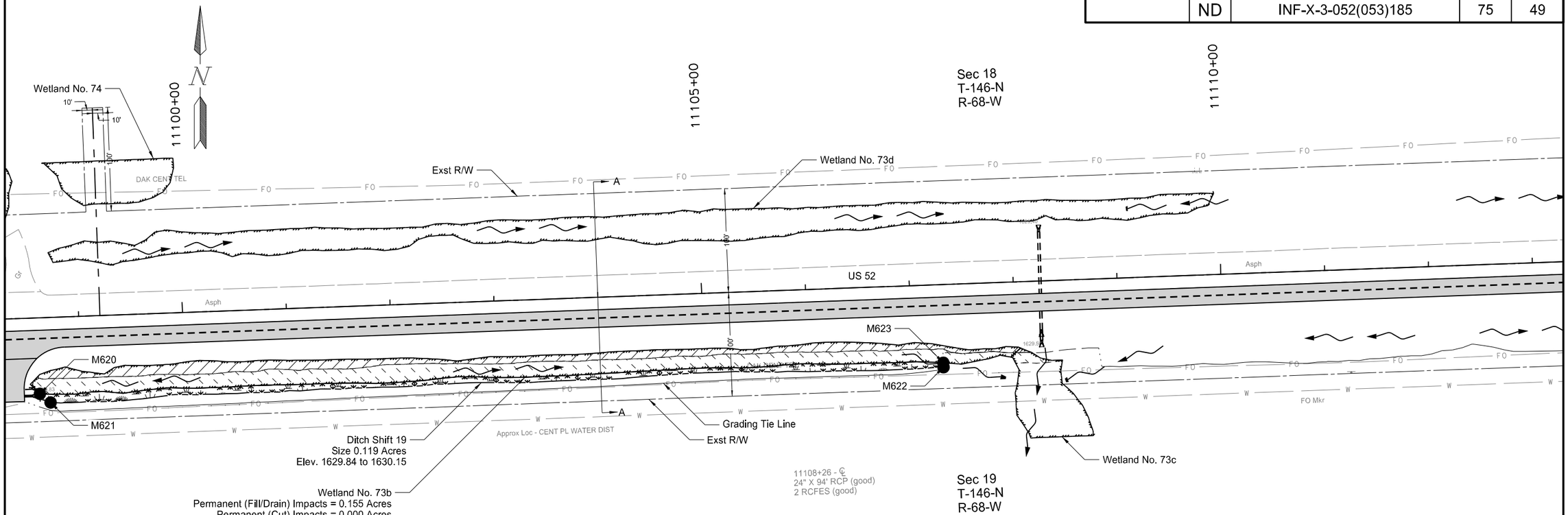
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

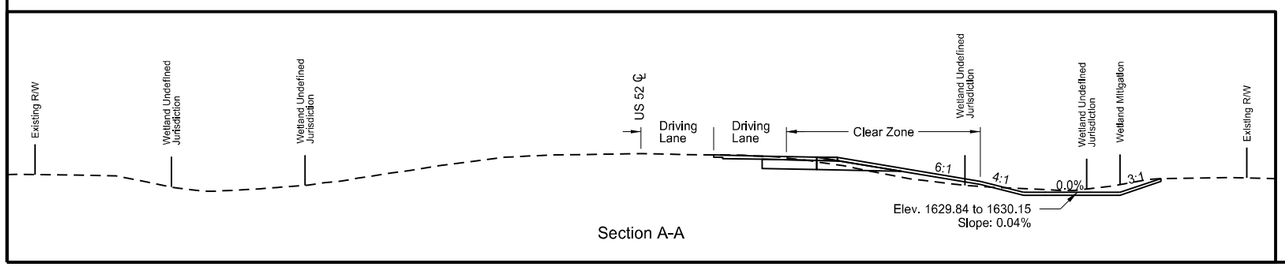
Wetland Impacts
Ditch Shift 17 and Ditch Shift 18

US 52
Fessenden to Carrington

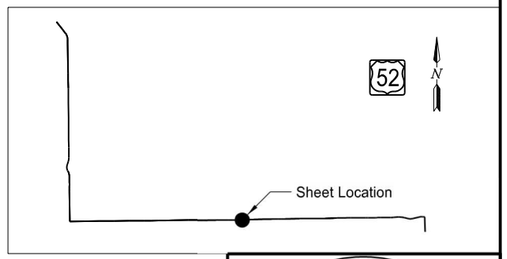
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	49



Point	Northing	Easting
M620	168797.87	2244874.03
M621	168789.57	2244884.35
M622	168823.50	2245743.68
M623	168827.81	2245743.52



Section A-A



Legend

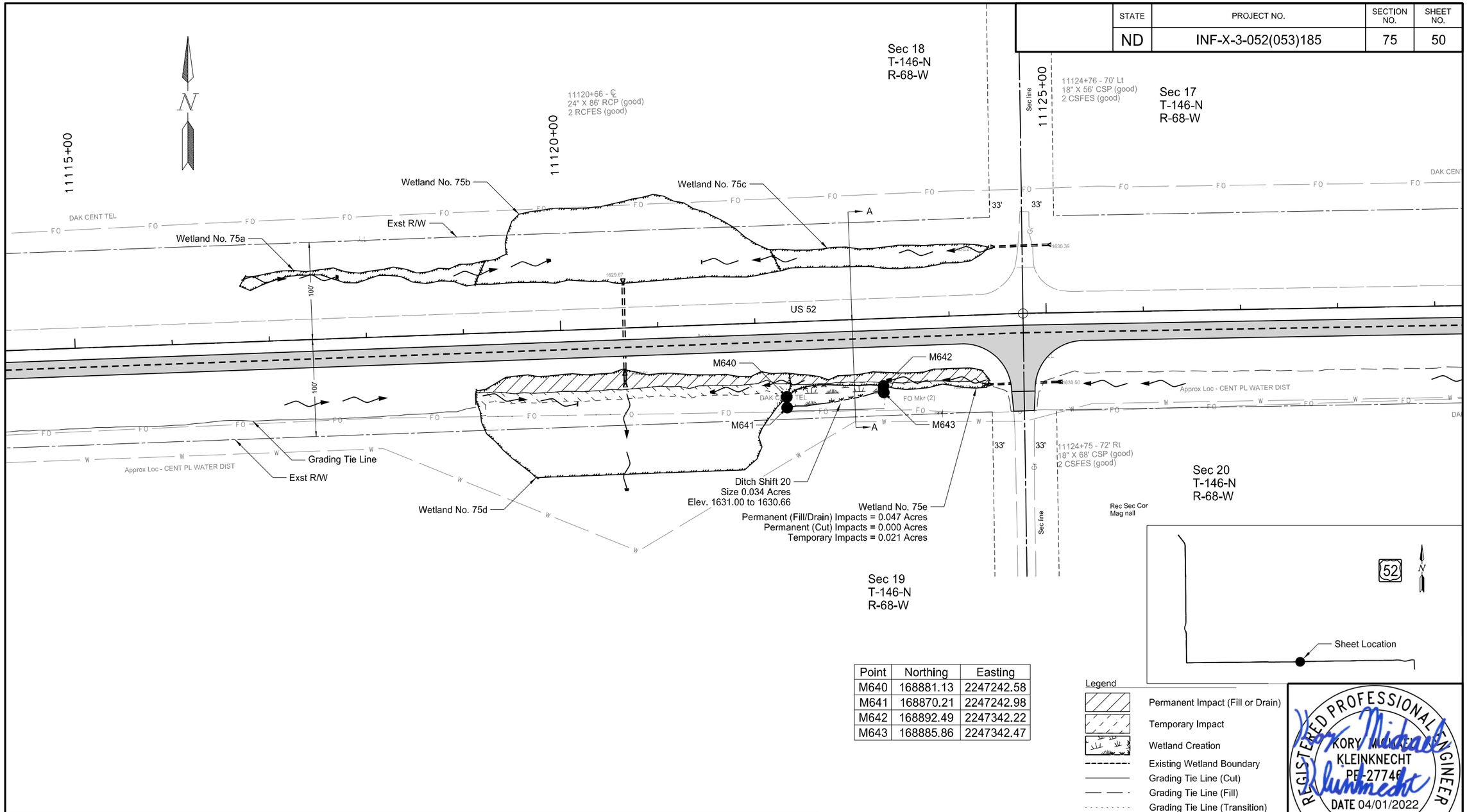
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
KORY M.
KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

Wetland Impacts
Ditch Shift 19

US 52
Fessenden to Carrington

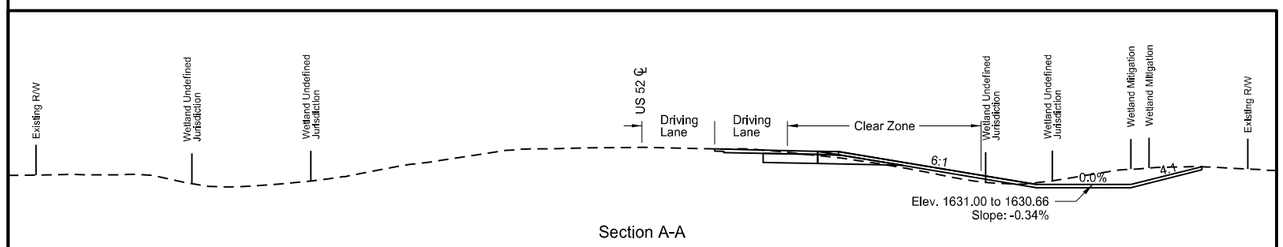
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	75	50



Point	Northing	Easting
M640	168881.13	2247242.58
M641	168870.21	2247242.98
M642	168892.49	2247342.22
M643	168885.86	2247342.47

Legend

- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction



Section A-A

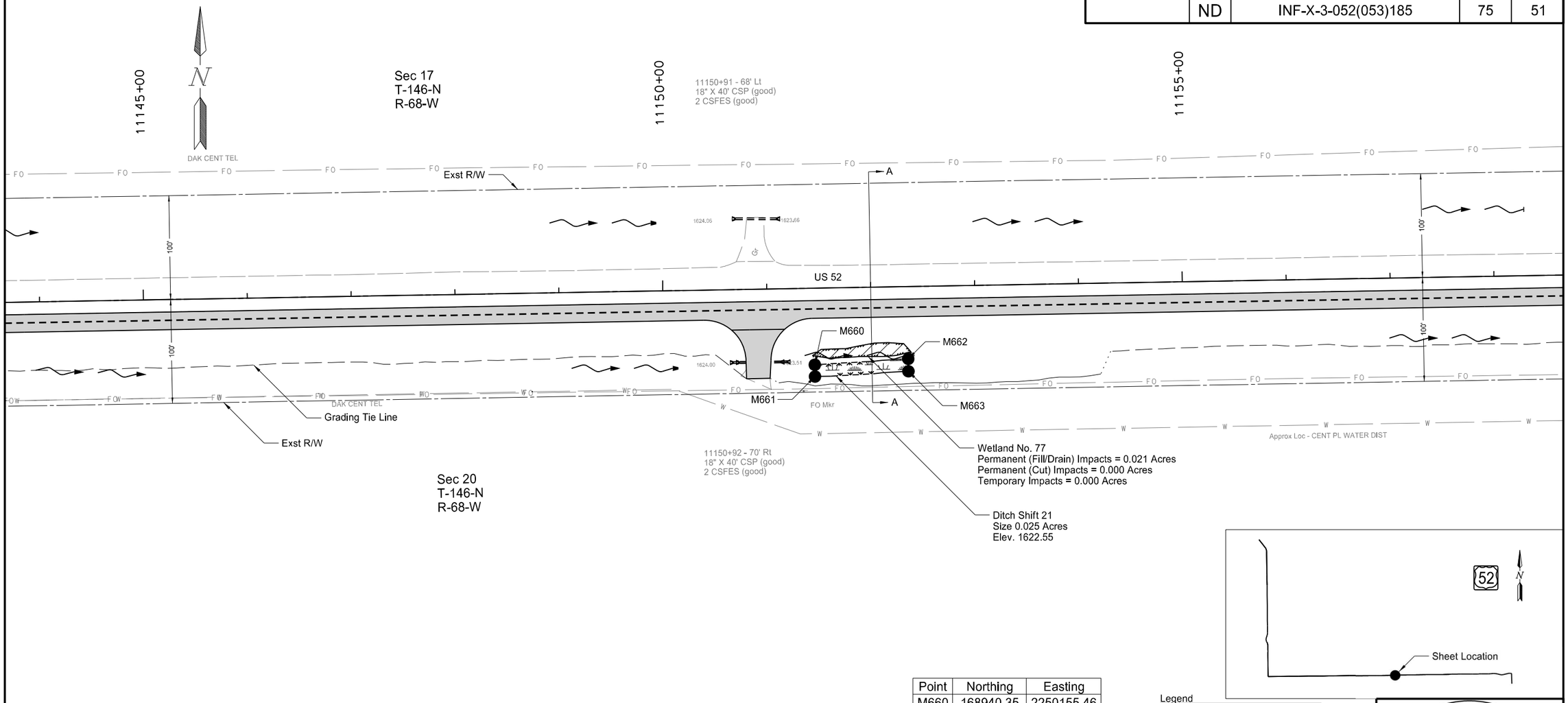
REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

Wetland Impacts
Ditch Shift 20

US 52
Fessenden to Carrington

3/30/2022 3:38:45 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\075WL_050.dgn

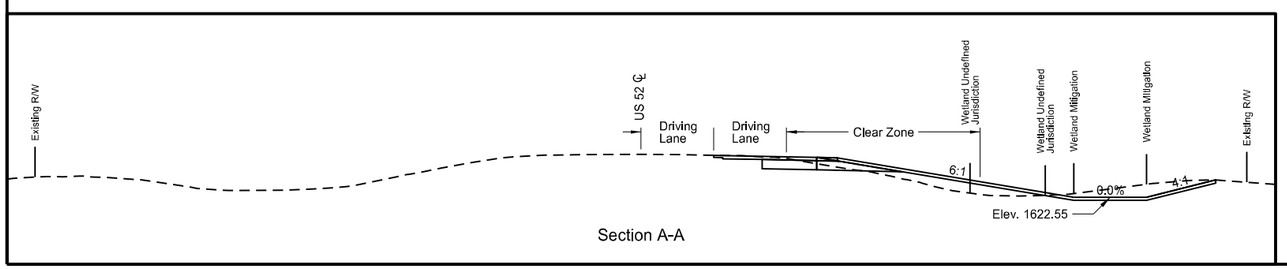
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	51



Point	Northing	Easting
M660	168940.35	2250155.46
M661	168929.04	2250155.66
M662	168946.06	2250245.37
M663	168934.06	2250245.59

Legend

- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction



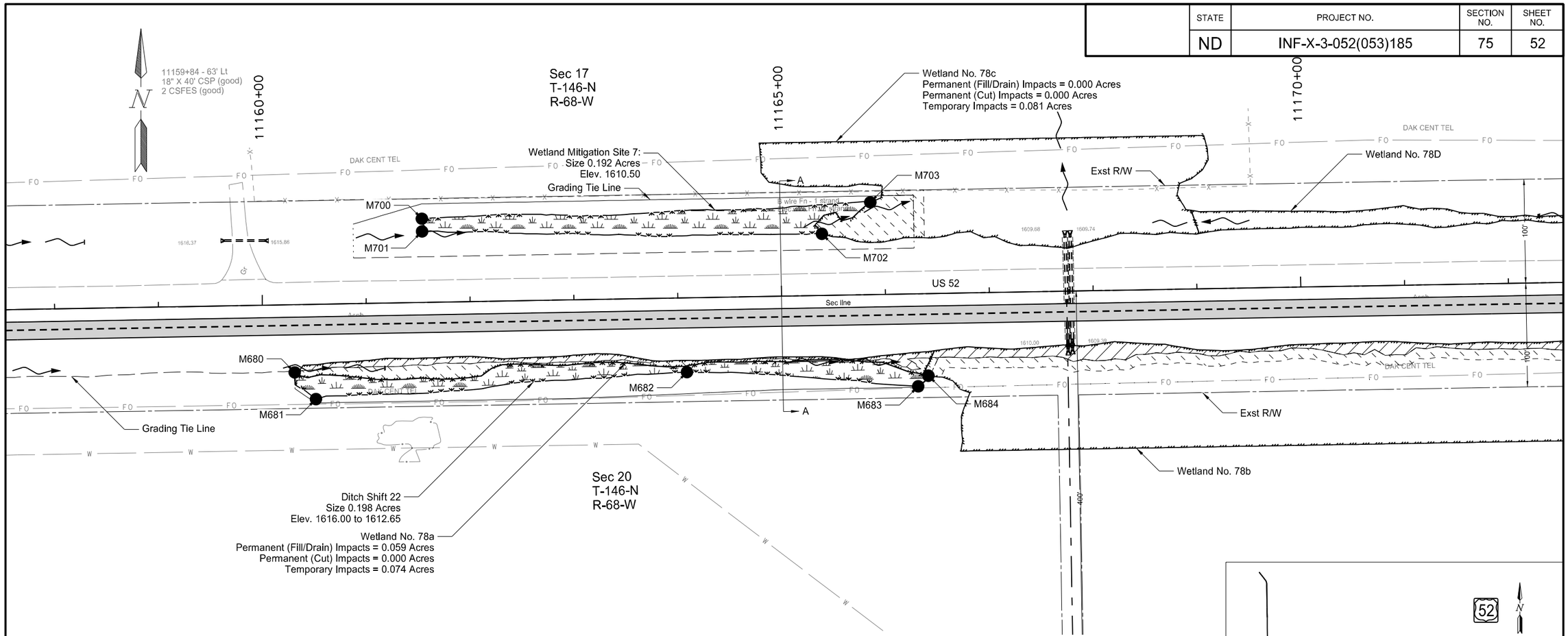
Section A-A

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

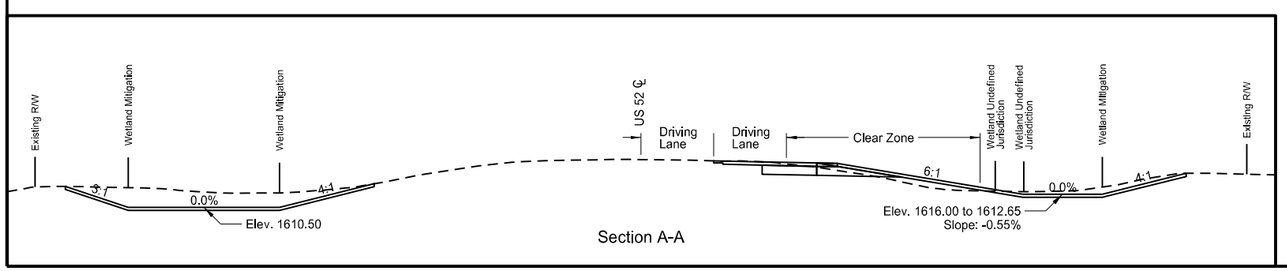
Wetland Impacts
Ditch Shift 21

US 52
Fessenden to Carrington

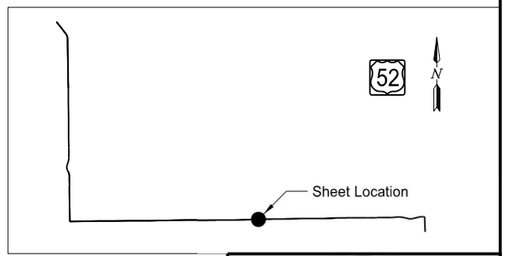
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	52



Point	Northing	Easting
M680	168964.41	2251040.18
M681	168938.71	2251060.63
M682	168964.71	2251417.87
M683	168951.05	2251640.50
M684	168961.28	2251650.32
M700	169112.47	2251162.59
M701	169100.20	2251162.81
M702	169097.90	2251547.77
M703	169128.30	2251594.42



Section A-A



Legend

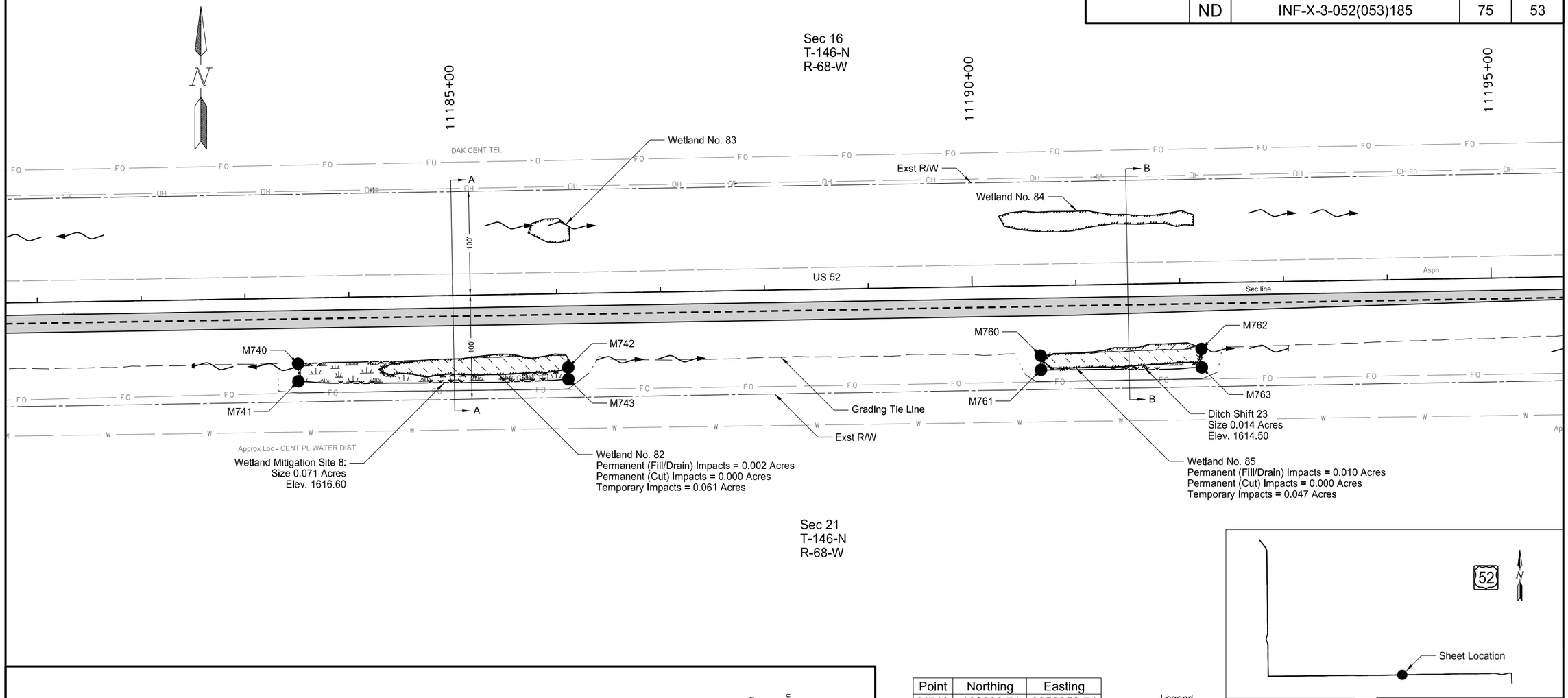
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

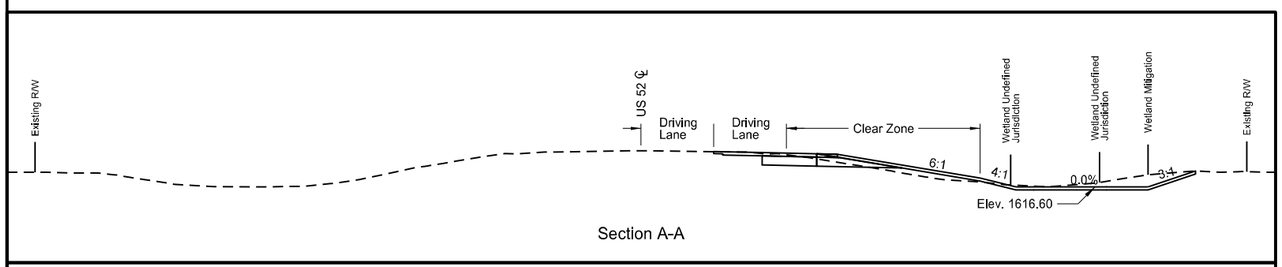
REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

Wetland Impacts
Ditch Shift 22 and Mitigation Site 7

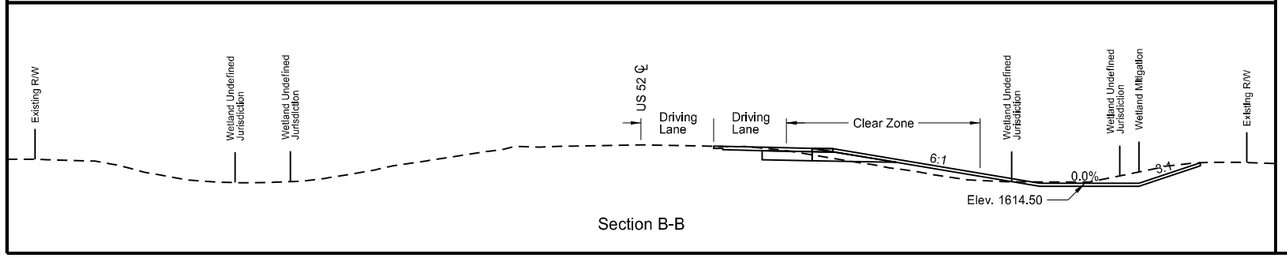
US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	53





Section A-A



Section B-B

Point	Northing	Easting
M740	169006.71	2253359.74
M741	168989.79	2253360.03
M742	169003.18	2253619.84
M743	168991.87	2253620.03
M760	169014.53	2254074.71
M761	169000.79	2254074.94
M762	169020.93	2254229.63
M763	169003.17	2254229.92

Legend

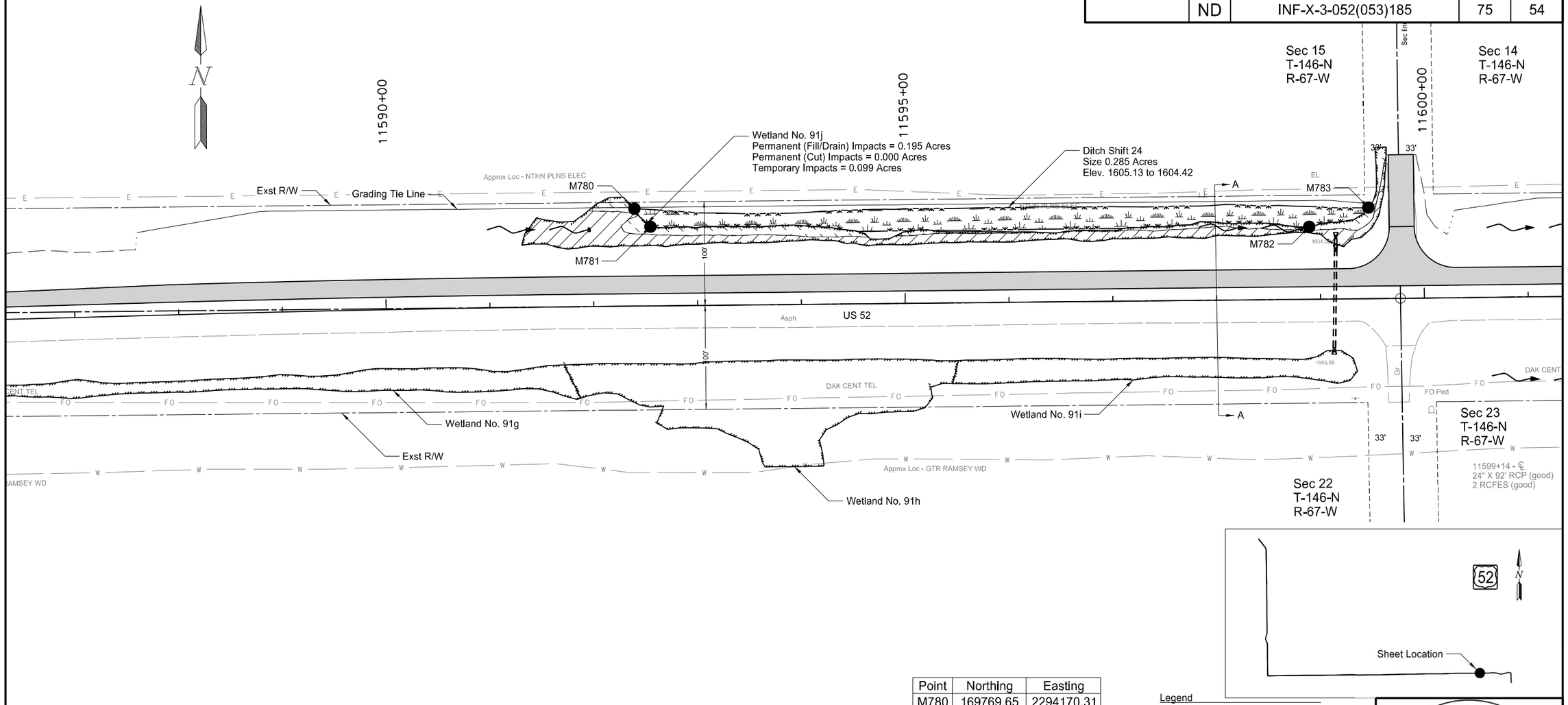
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
KORY M. KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

Wetland Impacts
Mitigation Site 8 and Ditch Shift 23

US 52
Fessenden to Carrington

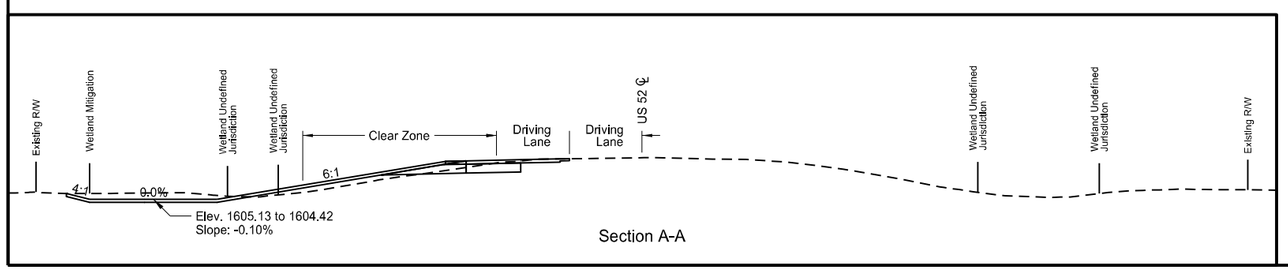
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	75	54



Point	Northing	Easting
M780	169769.65	2294170.31
M781	169752.37	2294185.80
M782	169752.22	2294820.35
M783	169770.75	2294877.40

Legend

- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction



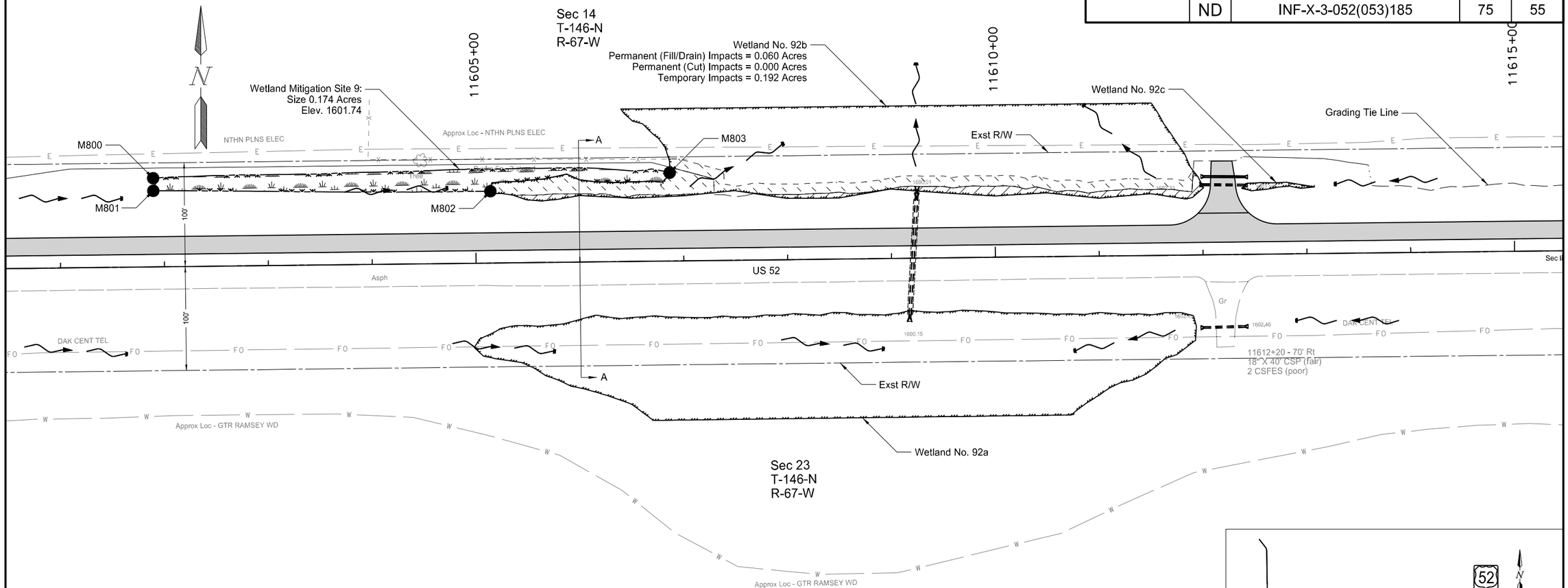
Section A-A

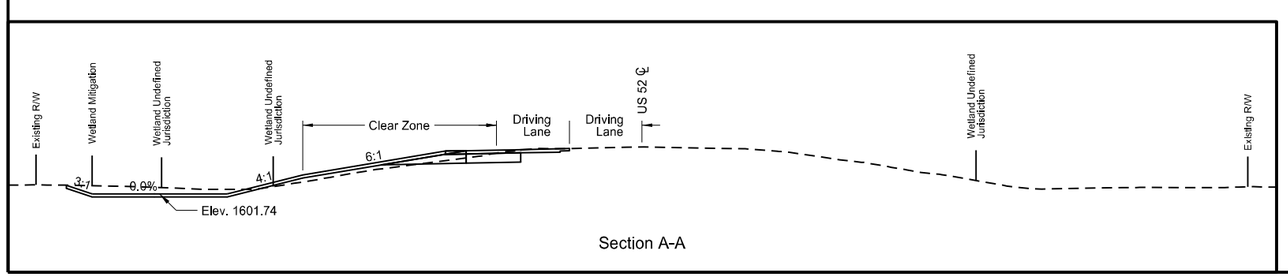
REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

Wetland Impacts
Ditch Shift 24

US 52
Fessenden to Carrington

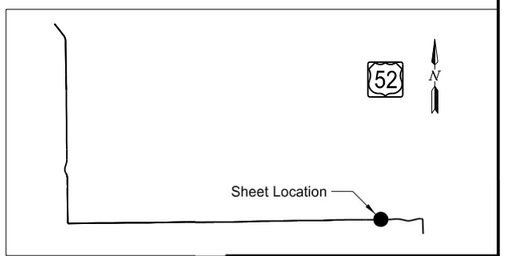
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	75	55





Section A-A

Point	Northing	Easting
M800	169771.13	2295120.24
M801	169759.01	2295120.38
M802	169758.60	2295444.94
M803	169776.47	2295617.58



Legend

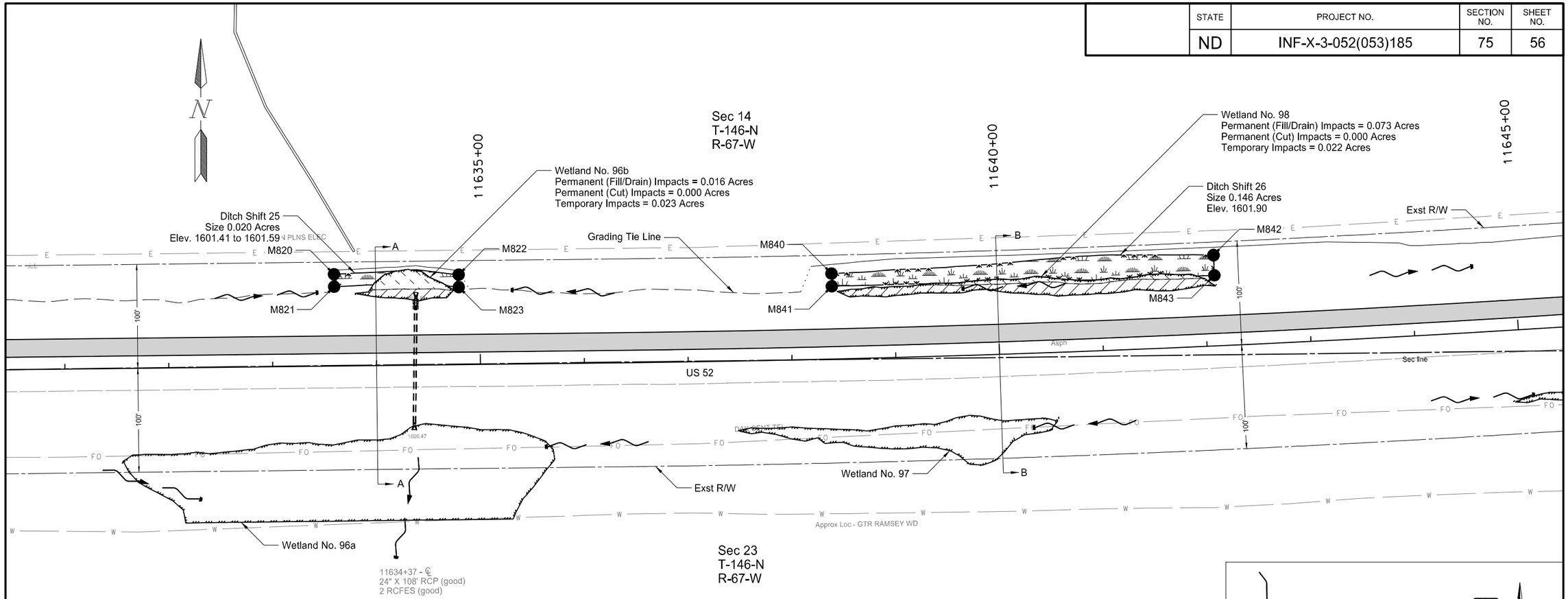
- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

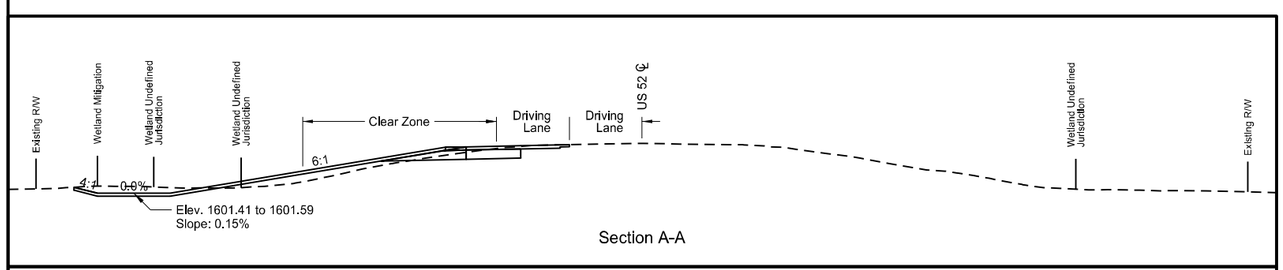
REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE-27746
DATE 04/01/2022
NORTH DAKOTA

Wetland Impacts
Mitigation Site 9

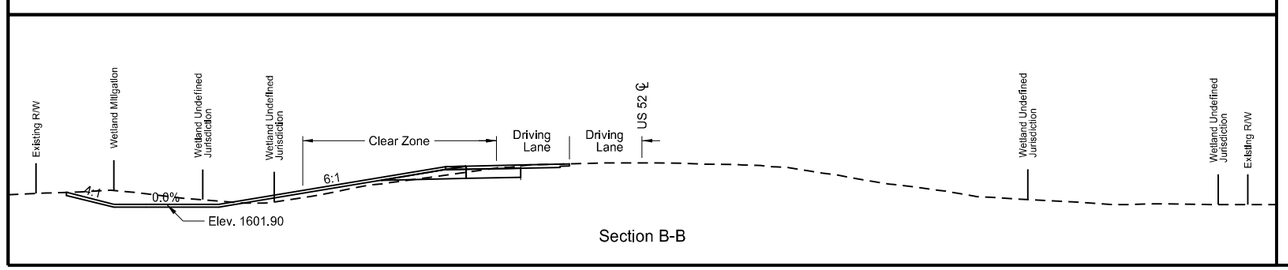
US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	75	56



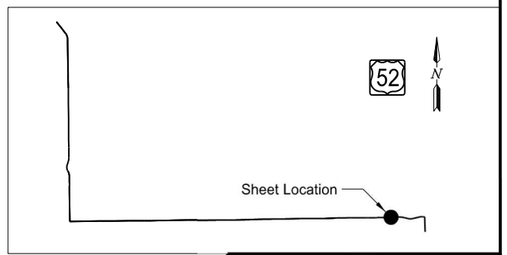


Section A-A



Section B-B

Point	Northing	Easting
M820	169810.42	2298290.00
M821	169798.42	2298290.14
M822	169810.02	2298410.01
M823	169798.02	2298410.15
M840	169811.07	2298769.02
M841	169798.82	2298769.31
M842	169828.80	2299136.80
M843	169809.39	2299137.67



Legend

- Permanent Impact (Fill or Drain)
- Temporary Impact
- Wetland Creation
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
KORY MICHAEL KLEINKNECHT
PE 27746
DATE 04/01/2022
NORTH DAKOTA

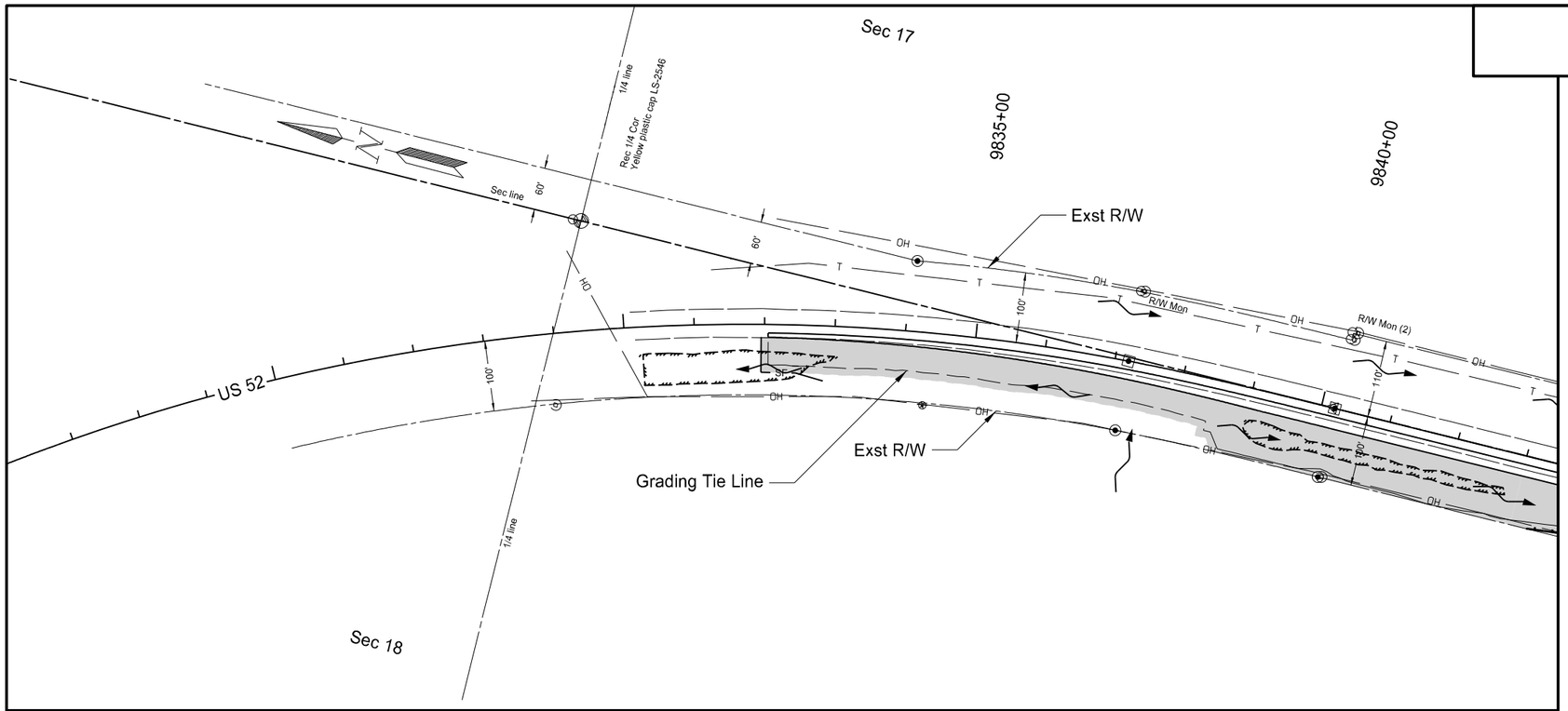
Wetland Impacts
Ditch Shift 25 and Ditch Shift 26

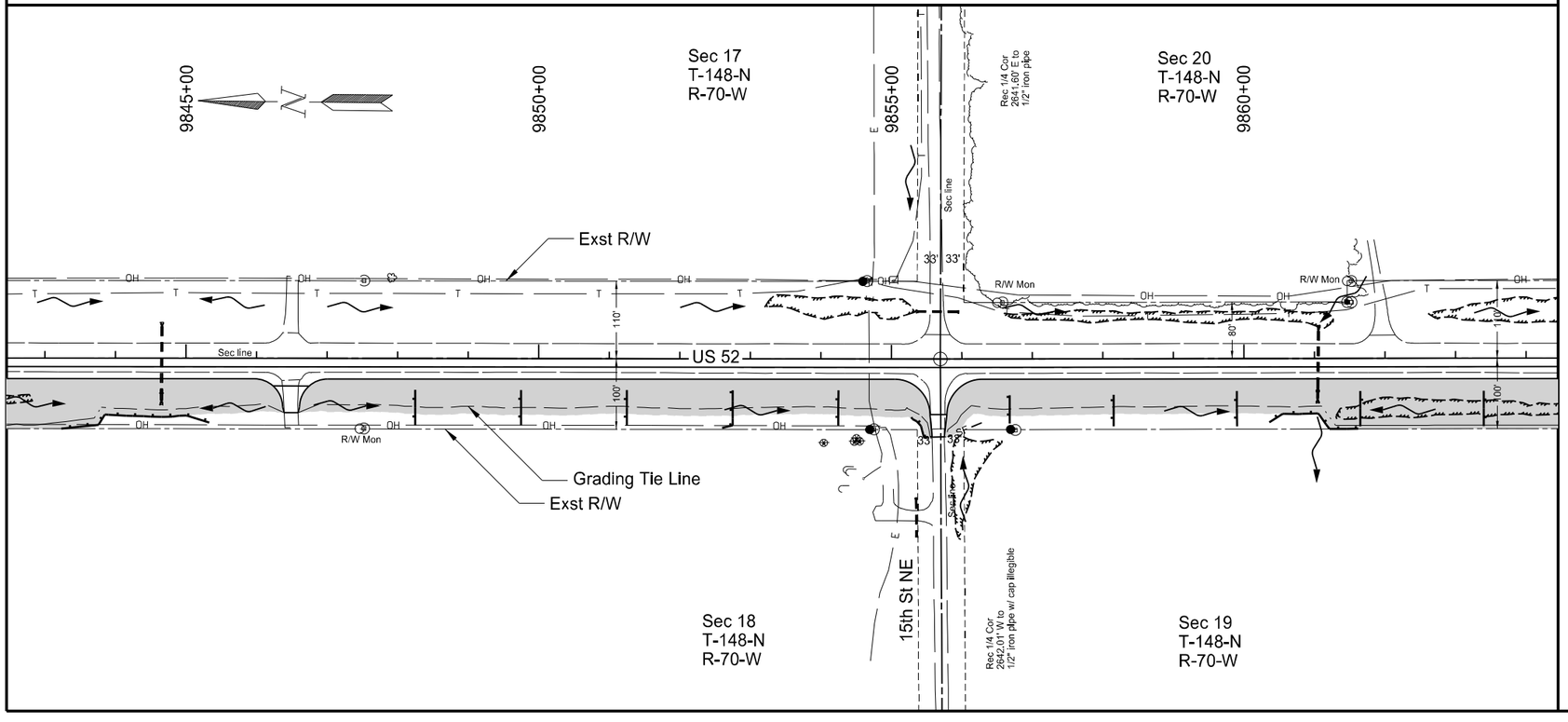
US 52
Fessenden to Carrington

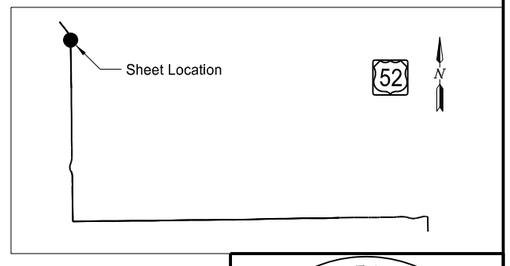
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	76	1

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		9831+95 to 9864+00	3.91	ACRE
253	0061	SOIL STABILIZATION		
		9831+95 to 9864+00	3.91	ACRE
260	0200	SILT FENCE SUPPORTED		
		9831+95 to 9832+82 RT	140	LF
		9855+80 to 9856+28 RT	52	LF
260	0201	REMOVE SILT FENCE SUPPORTED		
		9831+95 to 9832+82 RT	140	LF
		9855+80 to 9856+28 RT	52	LF

*NOTE: See Section 76, Sheet 25-27 for Fiber Roll data







Legend

- Temporary Cover Crop/ Soil Stabilization
- SF — Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

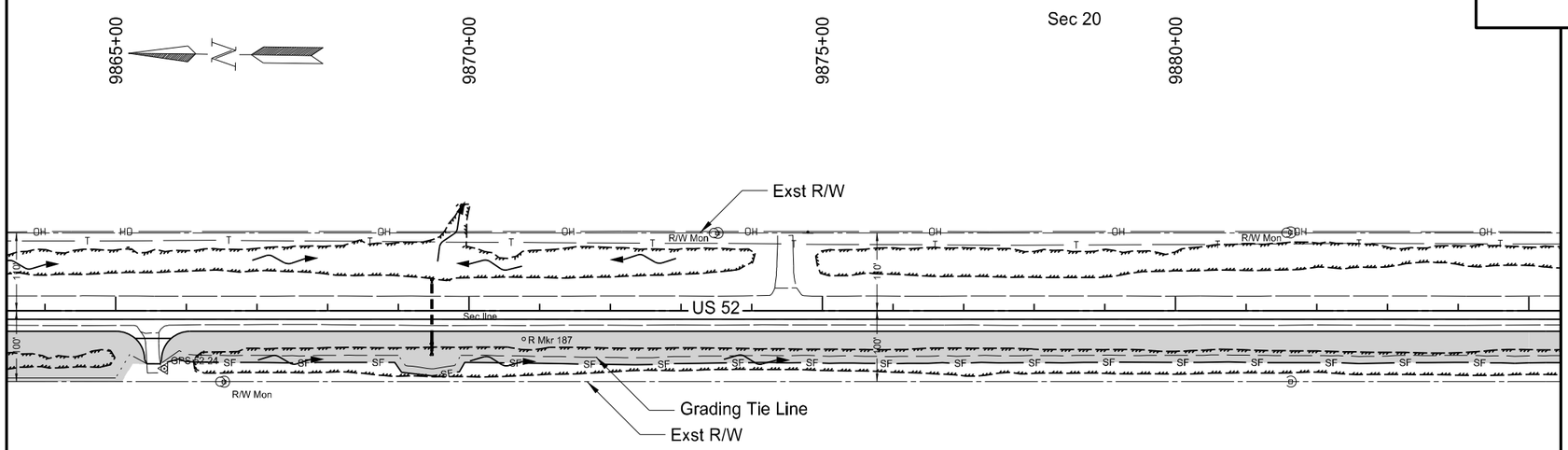
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

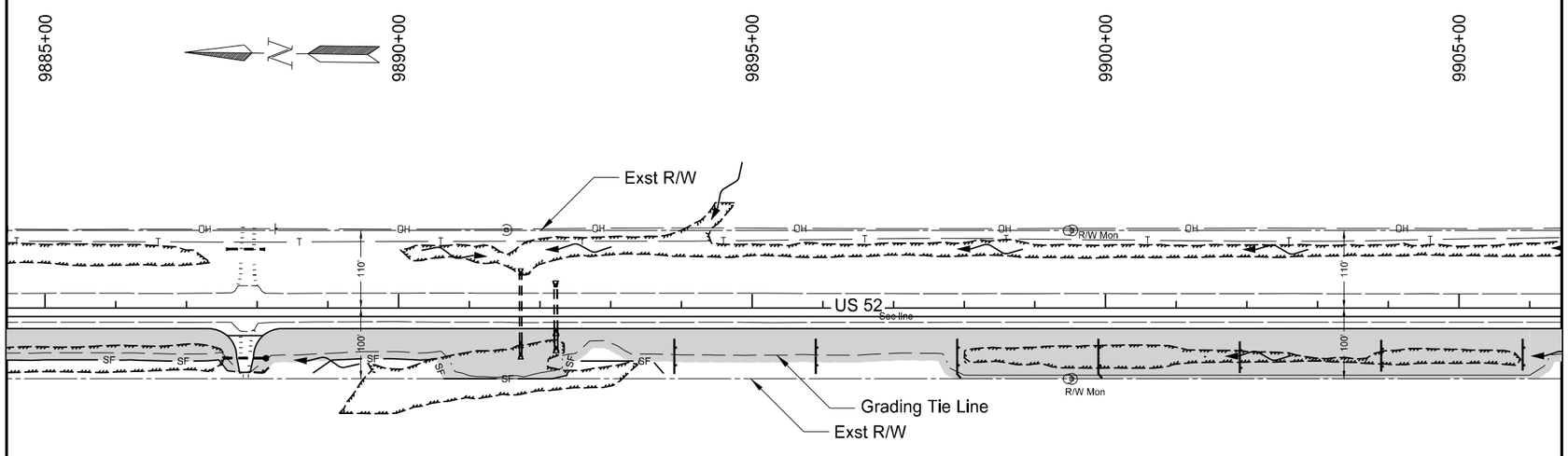
Temporary Erosion Control

US 52
Fessenden to Carrington

3/14/2022 2:16:10 PM sawyer.kenney G:\2021\21.01304\30052185.053\Design\Sheets\076TE_001.dgn

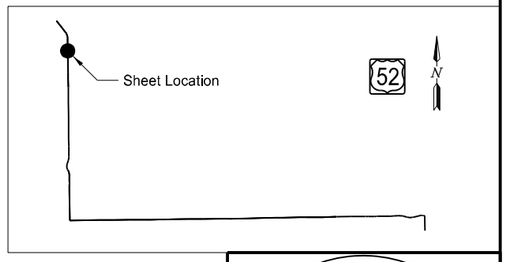
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	76	2





SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		9864+00 to 9906+00	4.96	ACRE
253	0061	SOIL STABILIZATION		
		9864+00 to 9906+00	4.96	ACRE
260	0200	SILT FENCE SUPPORTED		
		9865+73 to 9887+69 RT	2222	LF
		9888+79 to 9893+75 RT	546	LF
260	0201	REMOVE SILT FENCE SUPPORTED		
		9831+95 to 9832+72 RT	2222	LF
		9855+80 to 9856+28 RT	546	LF

*NOTE: See Section 76, Sheet 25-27 for Fiber Roll data



Legend

- Temporary Cover Crop/ Soil Stabilization
- SF — Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

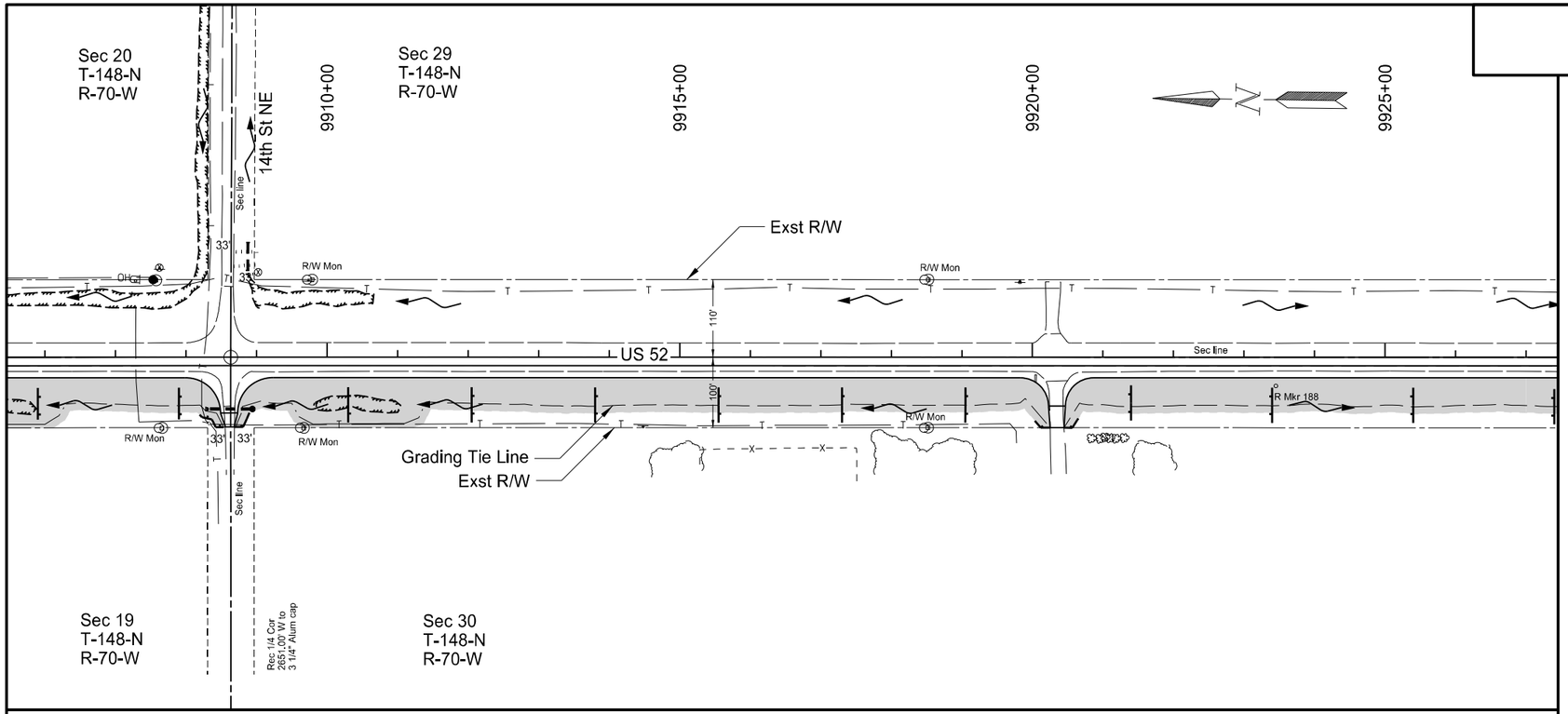
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

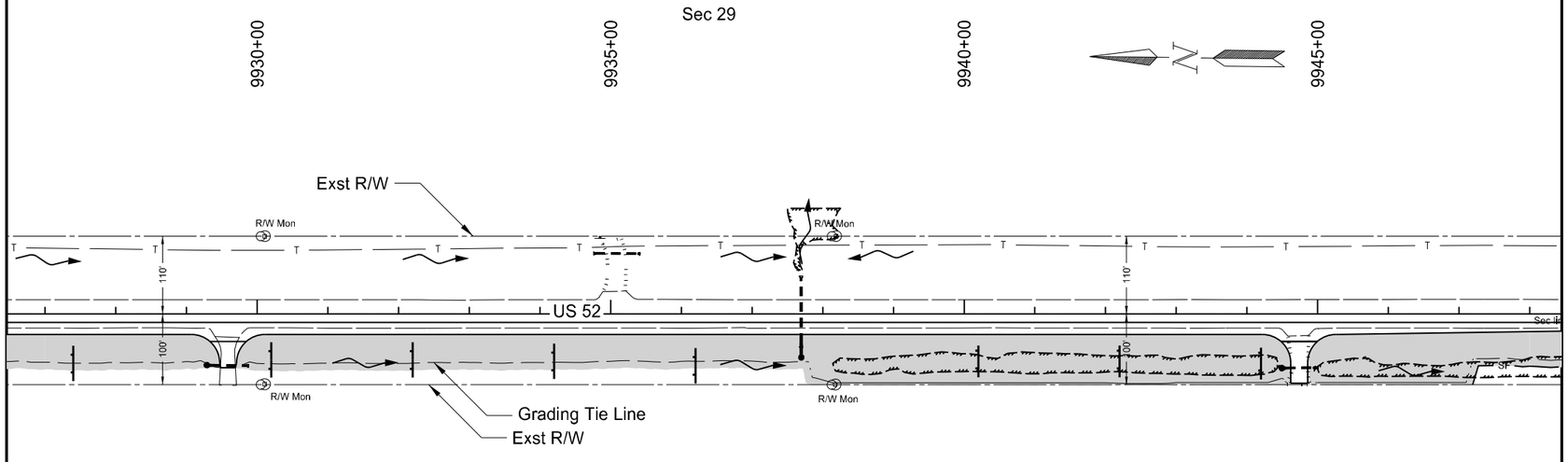
Temporary Erosion Control

US 52
Fessenden to Carrington

3/14/2022 2:16:12 PM sawyer.kenney G:\2021\21.01304\30052185.053\Design\Sheets\076TE_002.dgn

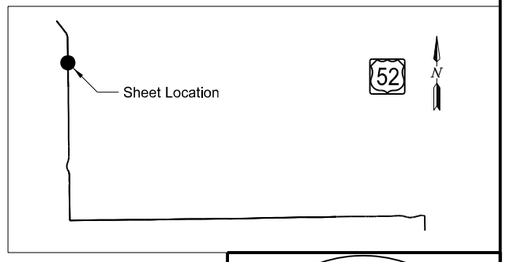
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	76	3





SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		9906+00 to 9948+00	5.16	ACRE
253	0061	SOIL STABILIZATION		
		9906+00 to 9948+00	5.16	ACRE
260	0200	SILT FENCE SUPPORTED		
		9947+20 to 9948+00 RT	100	LF
260	0201	REMOVE SILT FENCE SUPPORTED		
		9947+20 to 9948+00 RT	100	LF

*NOTE: See Section 76, Sheet 25-27 for Fiber Roll data



Legend

- Temporary Cover Crop/ Soil Stabilization
- SF — Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

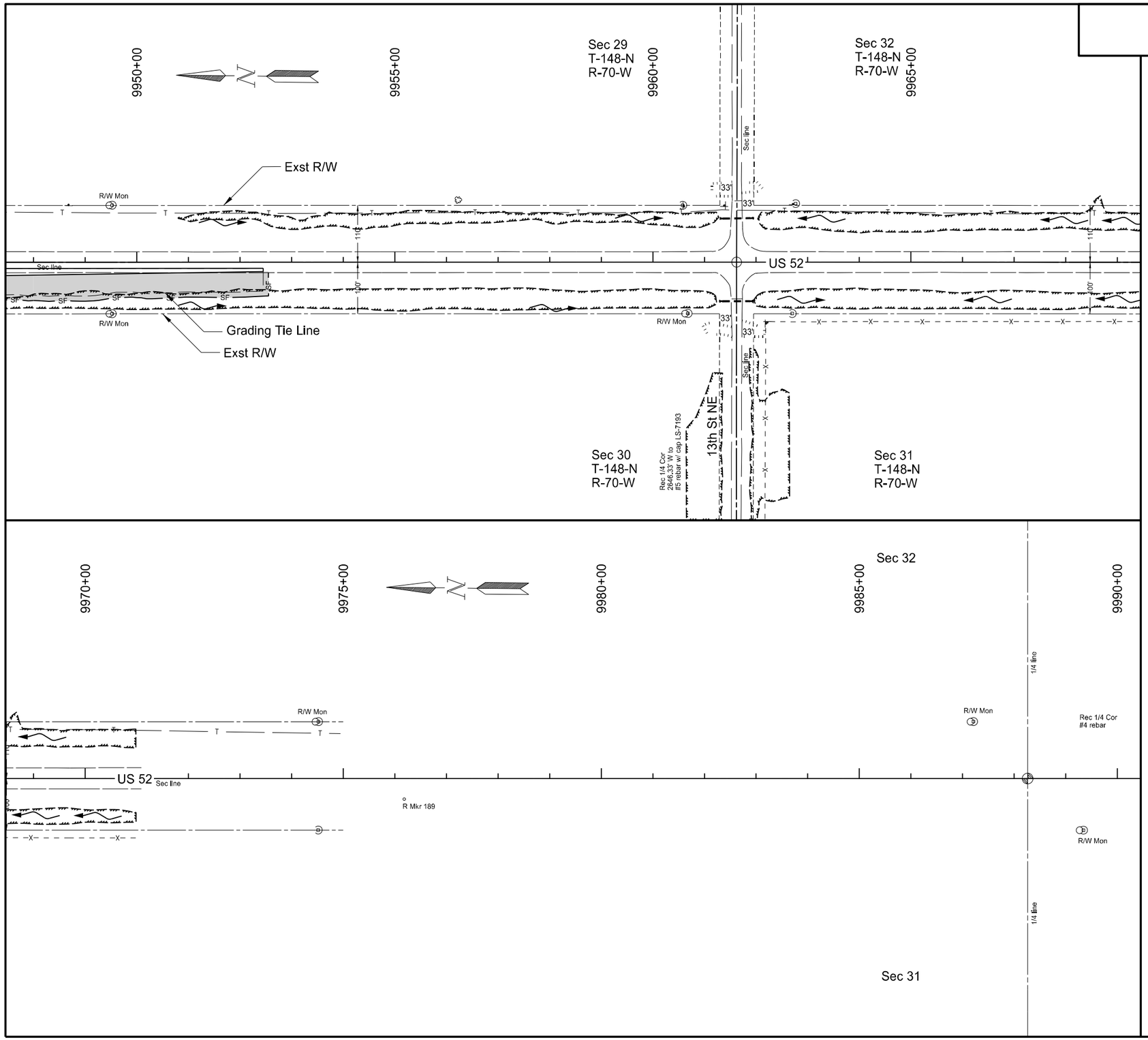
Temporary Erosion Control

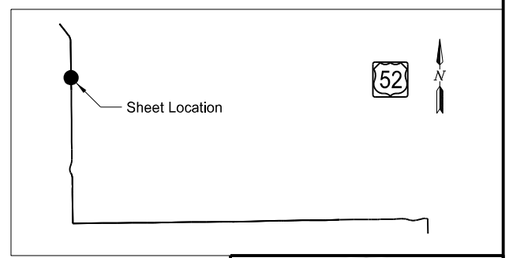
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	76	4

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		9948+00 to 9952+55	0.51	ACRE
253	0061	SOIL STABILIZATION		
		9948+00 to 9952+55	0.51	ACRE
260	0200	SILT FENCE SUPPORTED		
		9948+00 to 9952+55 RT	502	LF
260	0201	REMOVE SILT FENCE SUPPORTED		
		9948+00 to 9952+55 RT	502	LF

*NOTE: See Section 76, Sheet 25-27 for Fiber Roll data





Legend

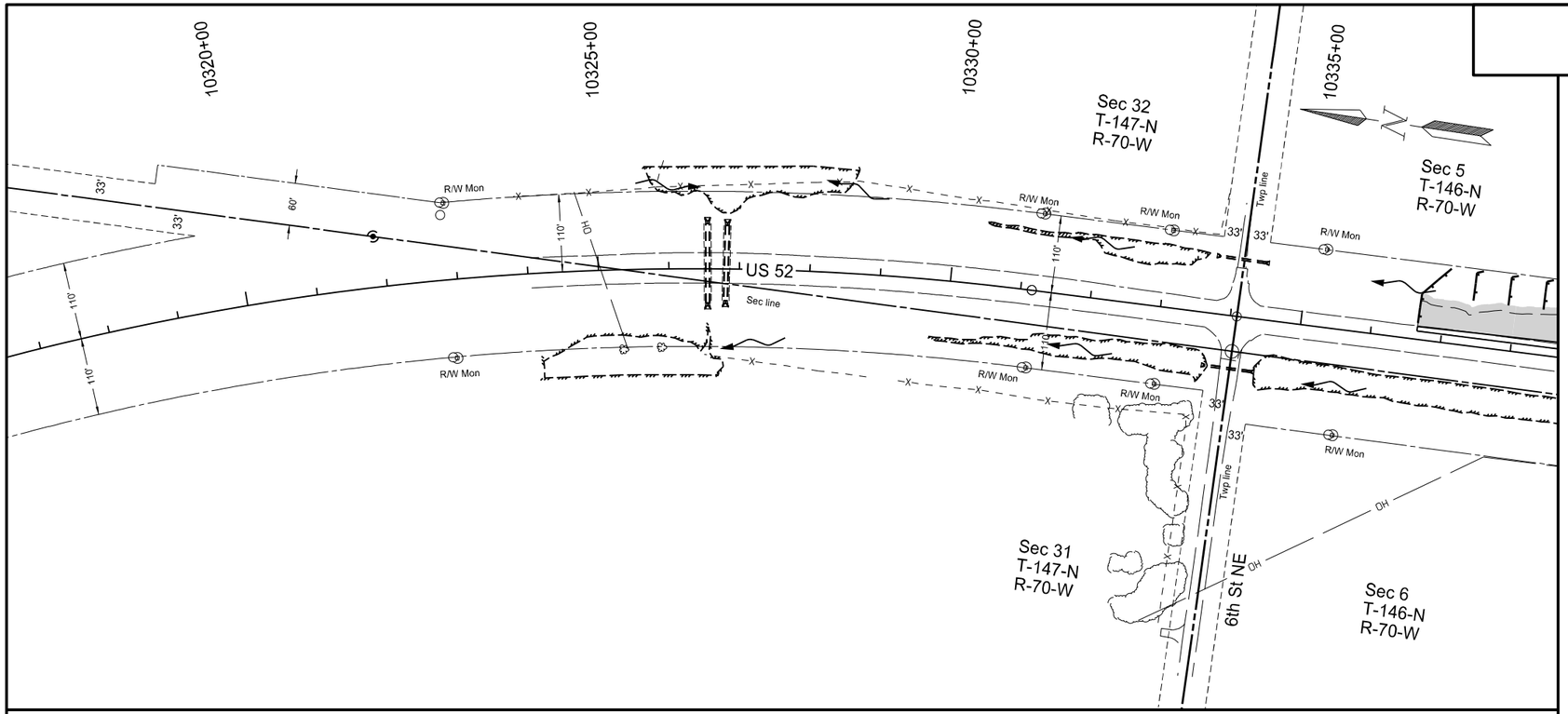
- Temporary Cover Crop/ Soil Stabilization
- SF — Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

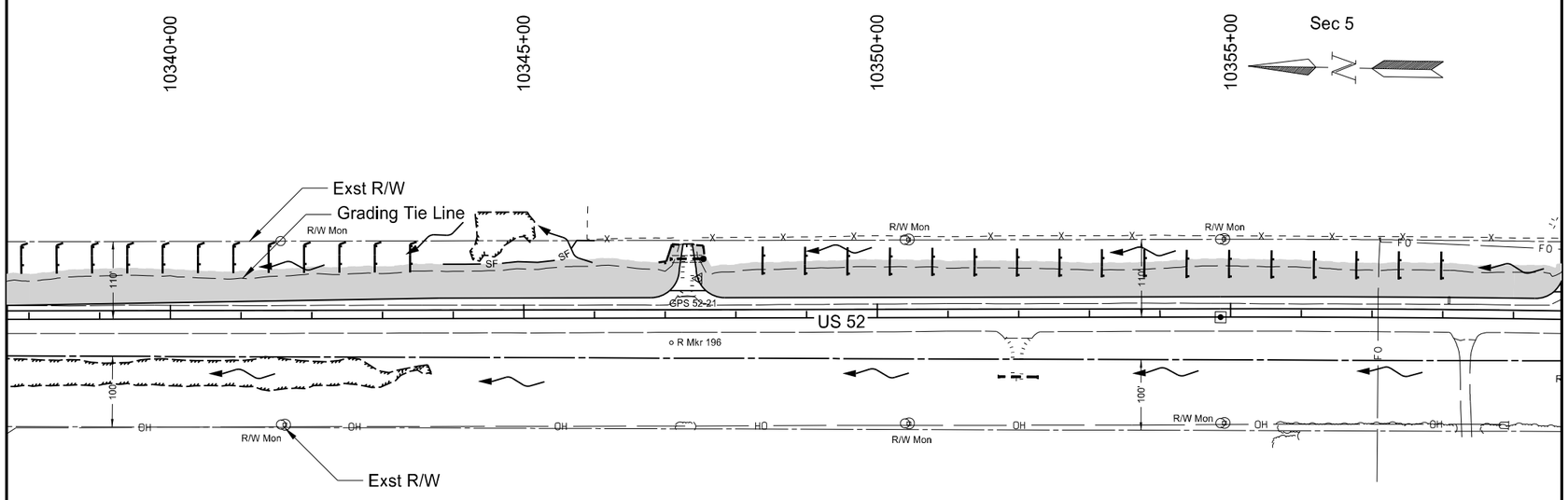
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Temporary Erosion Control

US 52
Fessenden to Carrington

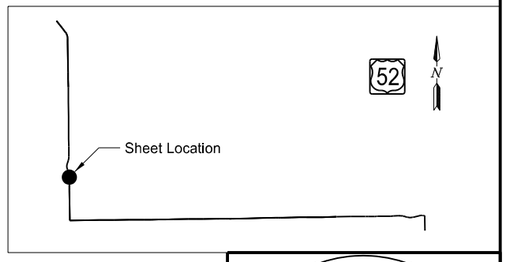
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	76	5





SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		10336+65 to 10359+00	2.49	ACRE
253	0061	SOIL STABILIZATION		
		160+97.98 to 200+00	2.49	ACRE
260	0200	SILT FENCE SUPPORTED		
		10343+85 to 10346+00 LT	227	LF
260	0201	REMOVE SILT FENCE SUPPORTED		
		10343+85 to 10346+00 LT	227	LF

*NOTE: See Section 76, Sheet 25-27 for Fiber Roll data



Legend

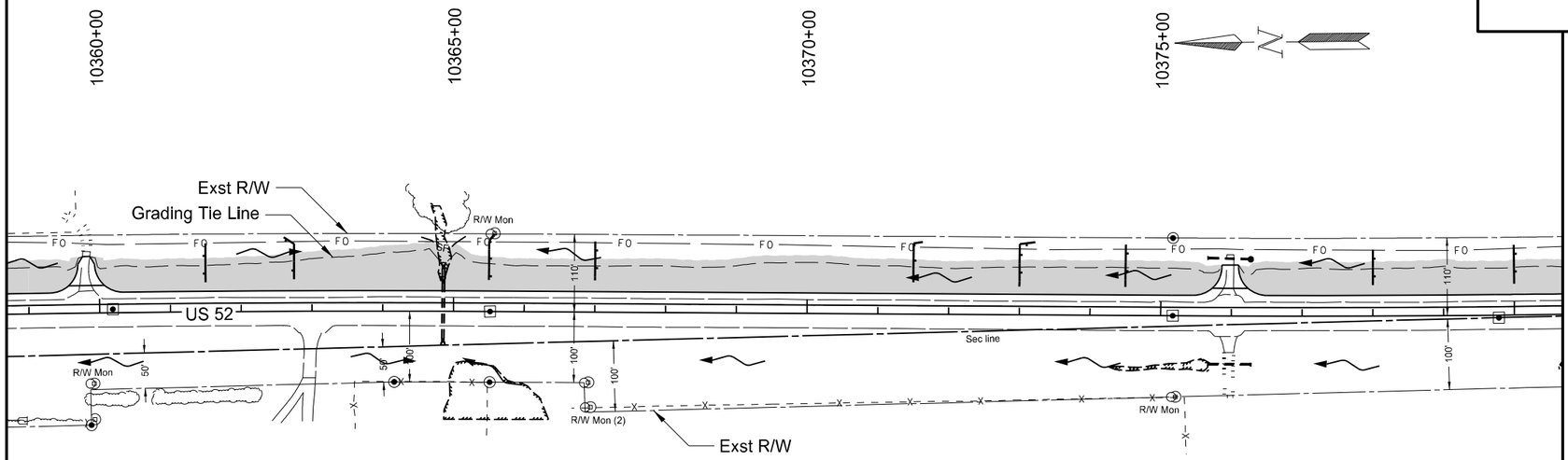
- Temporary Cover Crop/ Soil Stabilization
- SF — Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

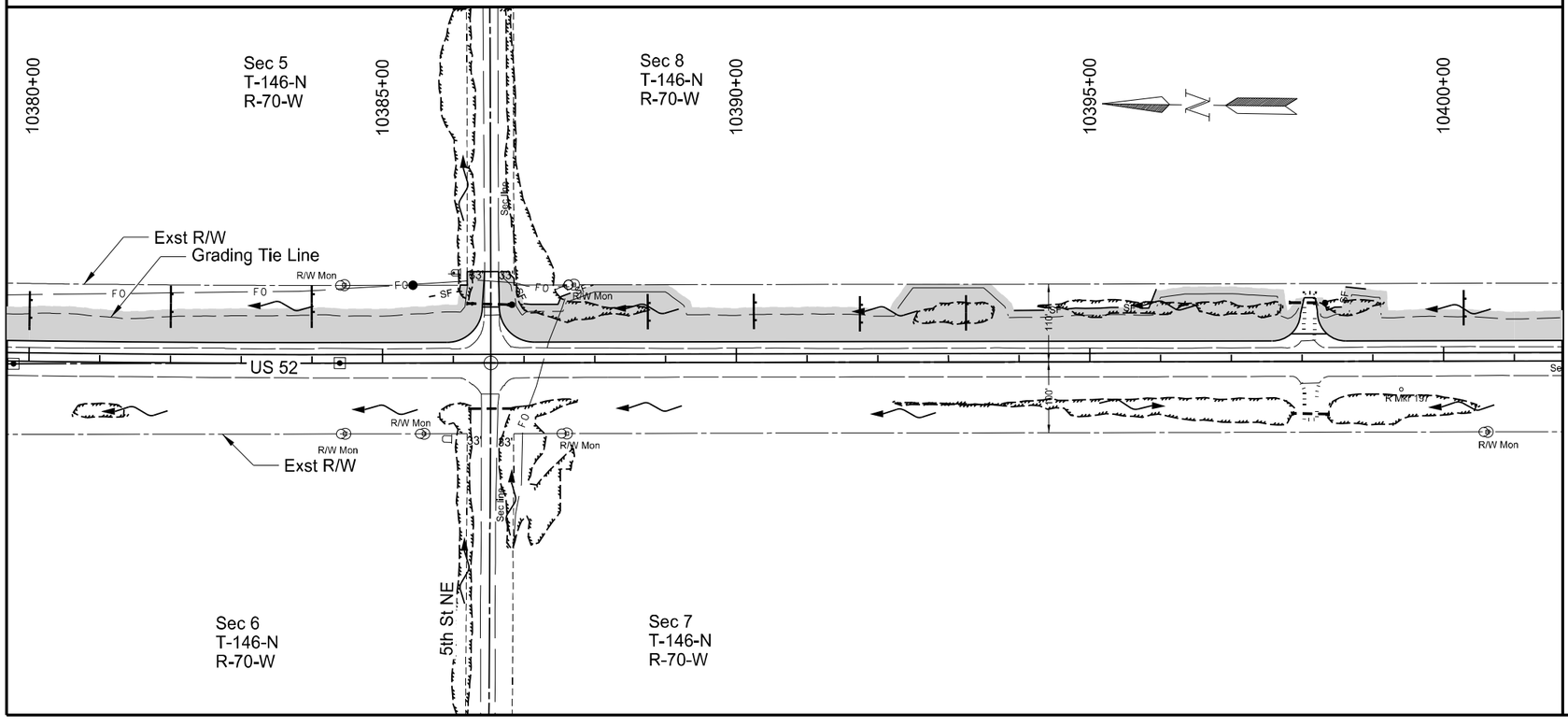
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Temporary Erosion Control

US 52
Fessenden to Carrington

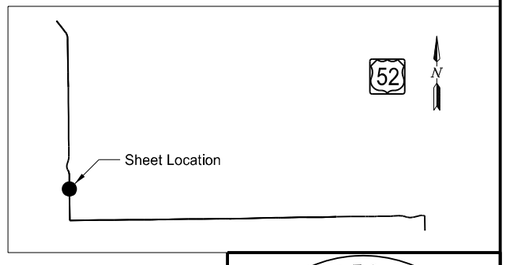
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	76	6





SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		10359+00 to 10401+00	4.96	ACRE
253	0061	SOIL STABILIZATION		
		10359+00 to 10401+00	4.96	ACRE
260	0200	SILT FENCE SUPPORTED		
		10364+54 to 10365+17 LT	75	LF
		10385+66 to 10386+44 LT	106	LF
		10386+68 to 10387+98 LT	176	LF
		10393+93 to 10395+94 LT	220	LF
		10398+24 to 10398+90 LT	98	LF
260	0201	REMOVE SILT FENCE SUPPORTED		
		10364+54 to 10365+17 LT	75	LF
		10385+66 to 10386+44 LT	106	LF
		10386+68 to 10387+98 LT	176	LF
		10393+93 to 10395+94 LT	220	LF
		10398+24 to 10398+90 LT	98	LF

*NOTE: See Section 76, Sheet 25-27 for Fiber Roll data



Legend

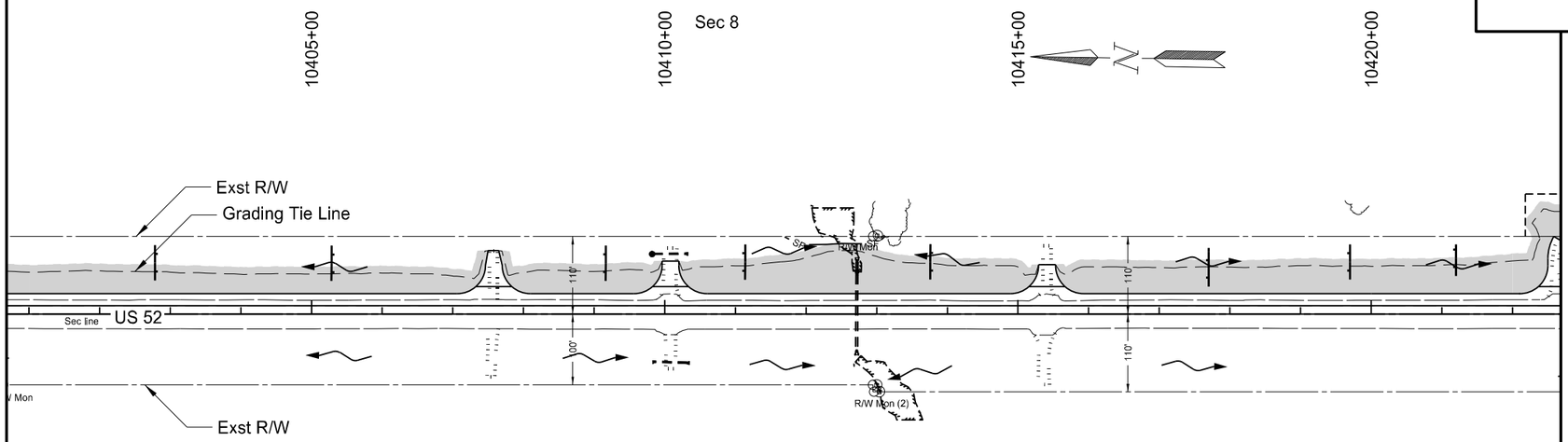
- Temporary Cover Crop/ Soil Stabilization
- SF — Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

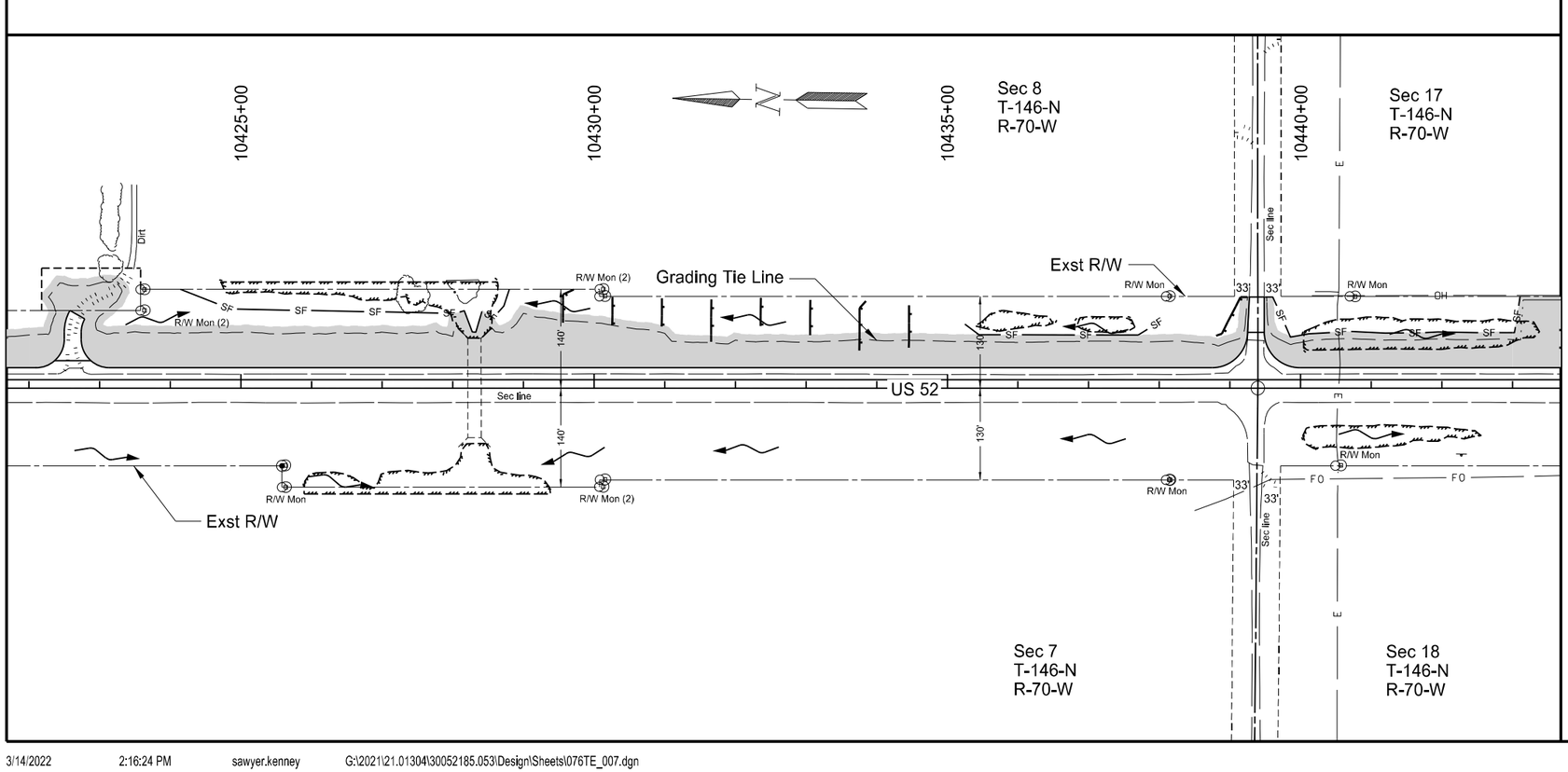
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Temporary Erosion Control

US 52
Fessenden to Carrington

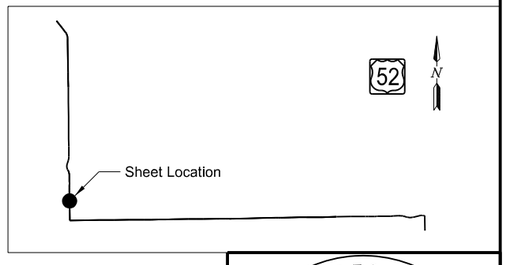
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	76	7





SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		10401+00 to 10443+00	4.85	ACRE
253	0061	SOIL STABILIZATION		
		10401+00 to 10443+00	4.85	ACRE
260	0200	SILT FENCE SUPPORTED		
		10411+70 to 10413+12 LT	149	LF
		10424+14 to 10428+80 LT	543	LF
		10435+25 to 10438+07 LT	294	LF
		10439+50 to 10443+00 LT	388	LF
260	0201	REMOVE SILT FENCE SUPPORTED		
		10411+70 to 10413+12 LT	149	LF
		10424+14 to 10428+80 LT	543	LF
		10435+25 to 10438+07 LT	294	LF
		10439+50 to 10443+00 LT	388	LF

*NOTE: See Section 76, Sheet 25-27 for Fiber Roll data



Legend

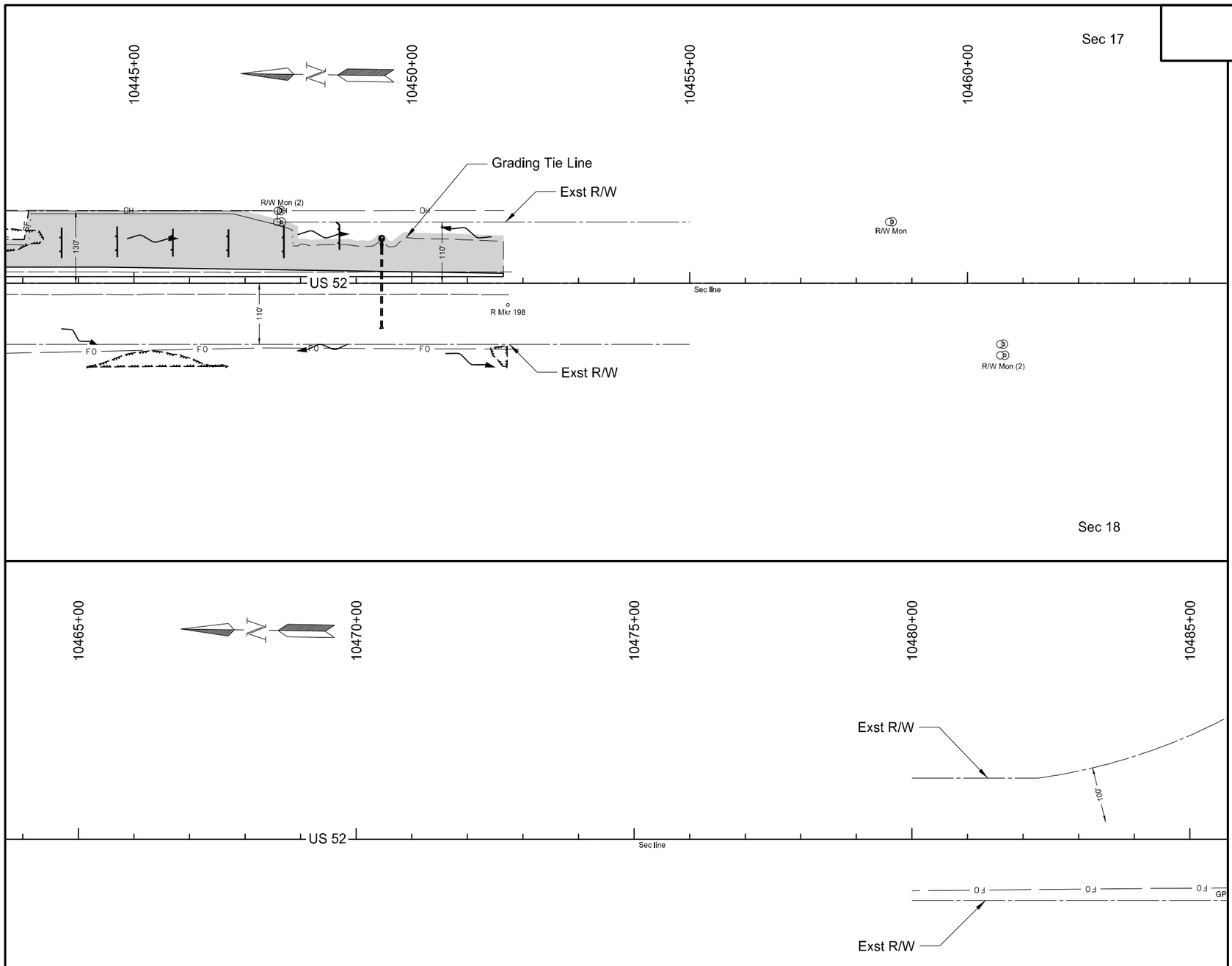
- Temporary Cover Crop/ Soil Stabilization
- SF — Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Temporary Erosion Control

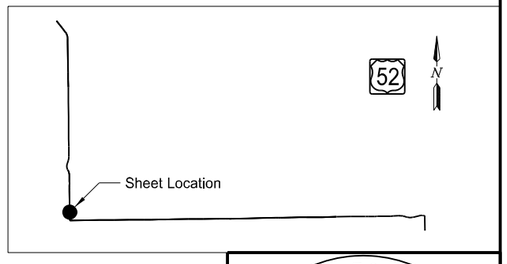
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	76	8



SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		10443+00 to 10451+65	1.67	ACRE
253	0061	SOIL STABILIZATION		
		10443+00 to 10451+65	1.67	ACRE
260	0200	SILT FENCE SUPPORTED		
		10443+00 to 10443+11 LT	55	LF
260	0201	REMOVE SILT FENCE SUPPORTED		
		10443+00 to 10443+11 LT	55	LF

*NOTE: See Section 76, Sheet 25-27 for Fiber Roll data



Legend

- Temporary Cover Crop/ Soil Stabilization
- SF — Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Temporary Erosion Control

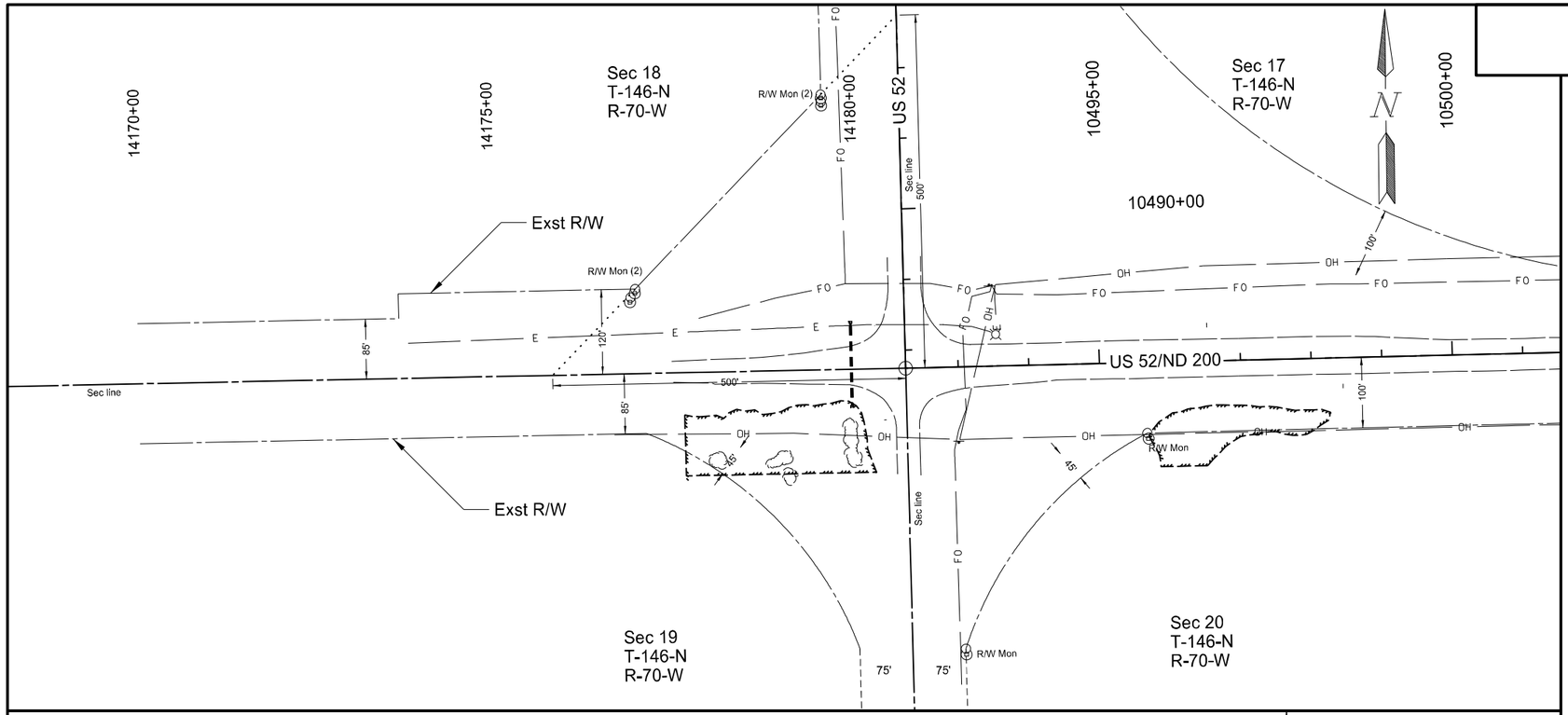
US 52
Fessenden to Carrington

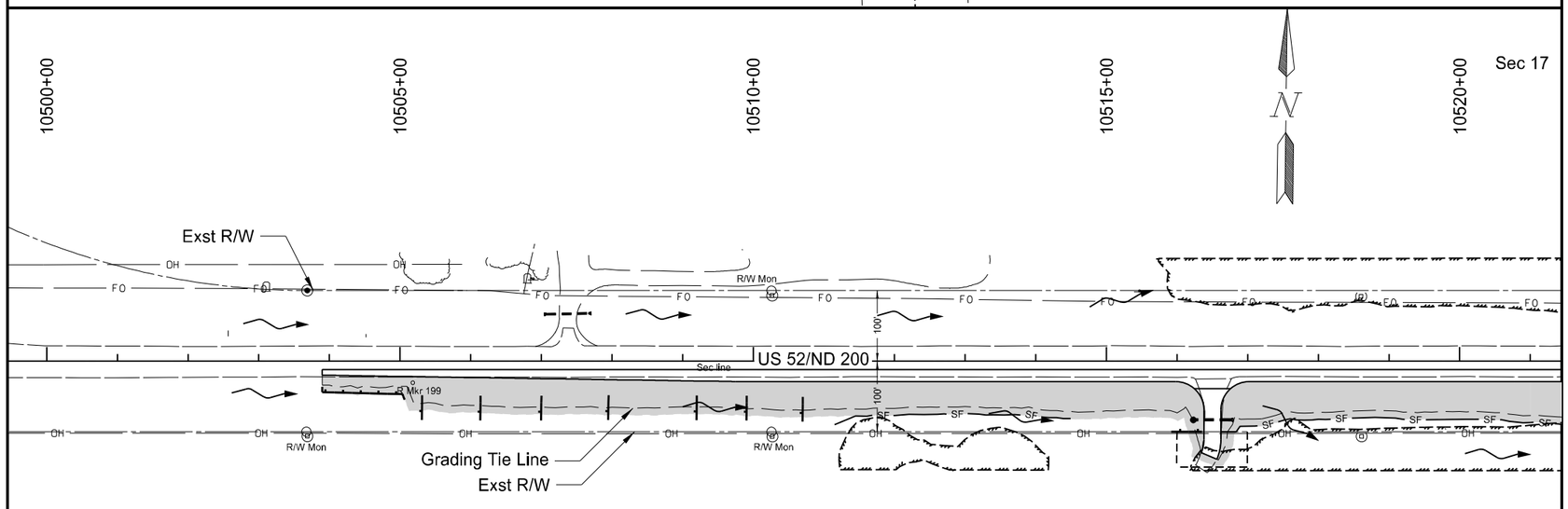
3/14/2022 2:16:26 PM sawyer.kenney G:\2021\21.01304\30052185.053\Design\Sheets\076TE_008.dgn

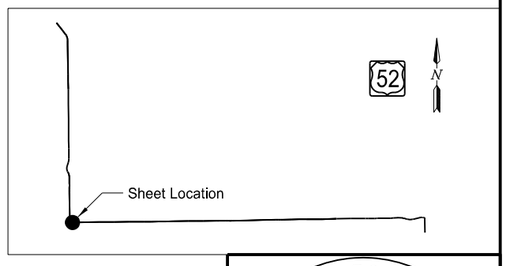
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	76	9

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		10503+90 to 10521+00	1.93	ACRE
253	0061	SOIL STABILIZATION		
		10503+90 to 10521+00	1.93	ACRE
260	0200	SILT FENCE SUPPORTED		
		10511+15 to 10514+49 RT	338	LF
		10516+62 to 10521+00 RT	444	LF
260	0201	REMOVE SILT FENCE SUPPORTED		
		10511+15 to 10514+49 RT	338	LF
		10516+62 to 10521+00 RT	444	LF

*NOTE: See Section 76, Sheet 25-27 for Fiber Roll data







Legend

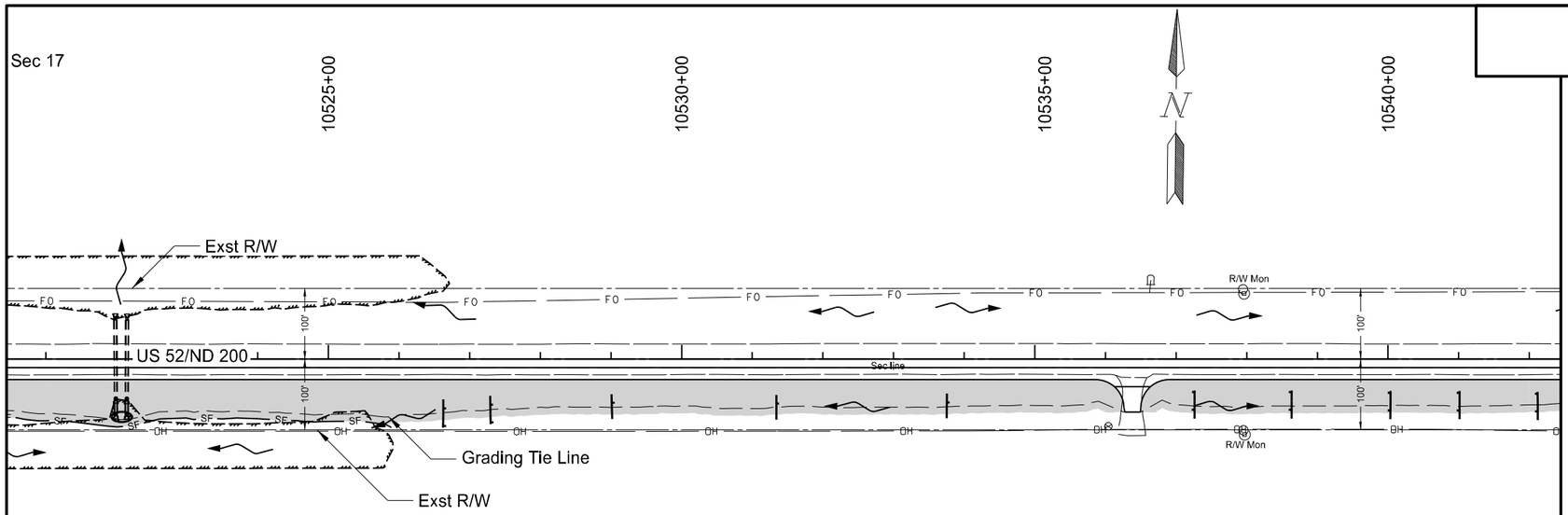
- Temporary Cover Crop/ Soil Stabilization
- SF — Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

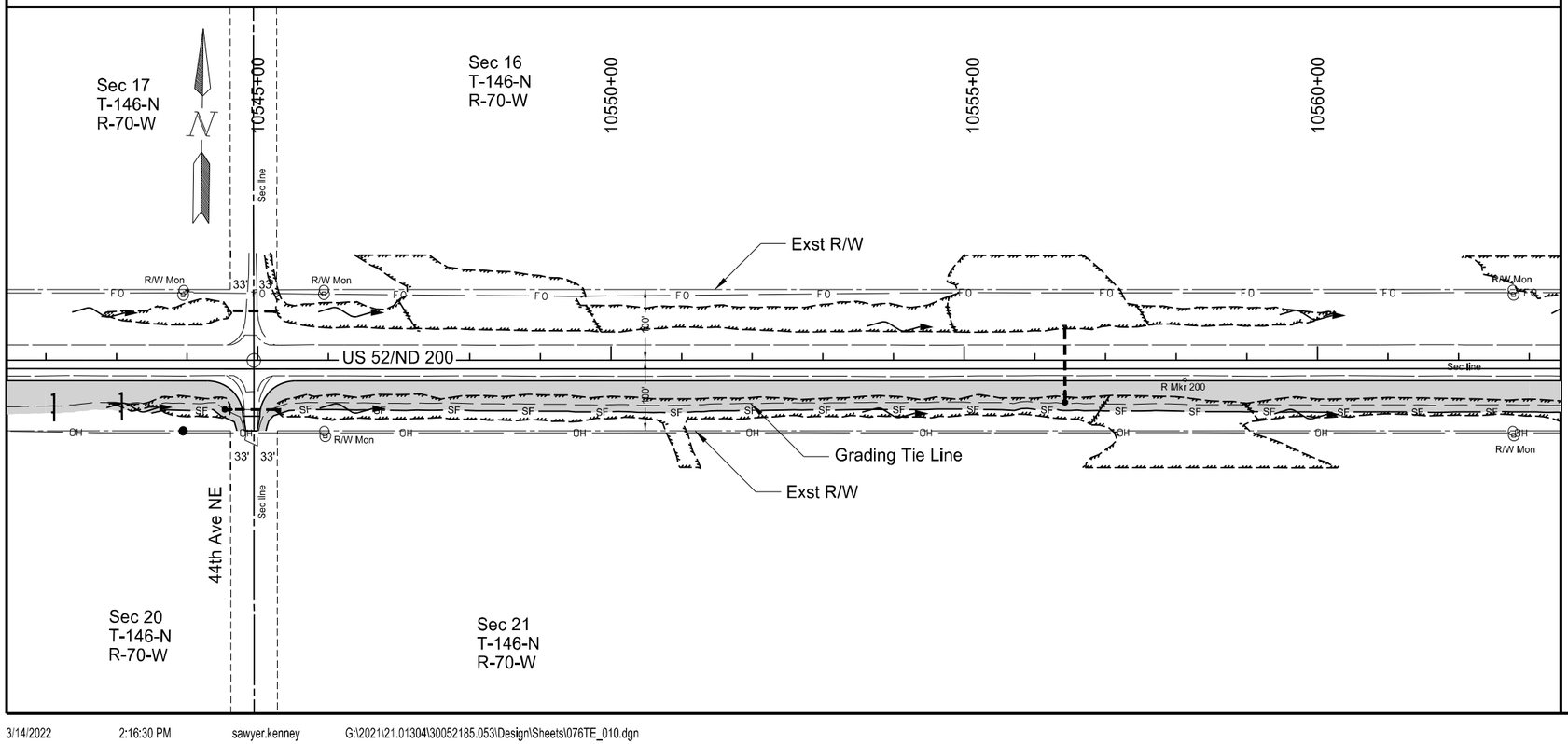
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Temporary Erosion Control

US 52
Fessenden to Carrington

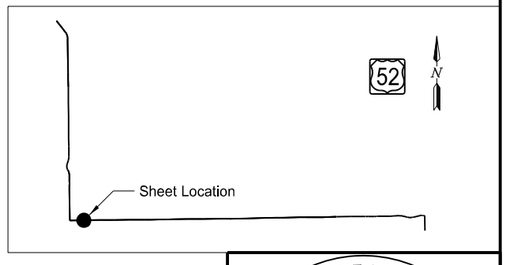
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	76	10





SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		10521+00 to 10563+00	4.45	ACRE
253	0061	SOIL STABILIZATION		
		10521+00 to 10563+00	4.45	ACRE
260	0200	SILT FENCE SUPPORTED		
		10521+00 to 10525+89 RT	494	LF
		10543+50 to 10544+70 RT	136	LF
		10545+12 to 10563+00 RT	1805	LF
260	0201	REMOVE SILT FENCE SUPPORTED		
		10521+00 to 10525+89 RT	494	LF
		10543+50 to 10544+70 RT	136	LF
		10545+12 to 10563+00 RT	1805	LF

*NOTE: See Section 76, Sheet 25-27 for Fiber Roll data



Legend

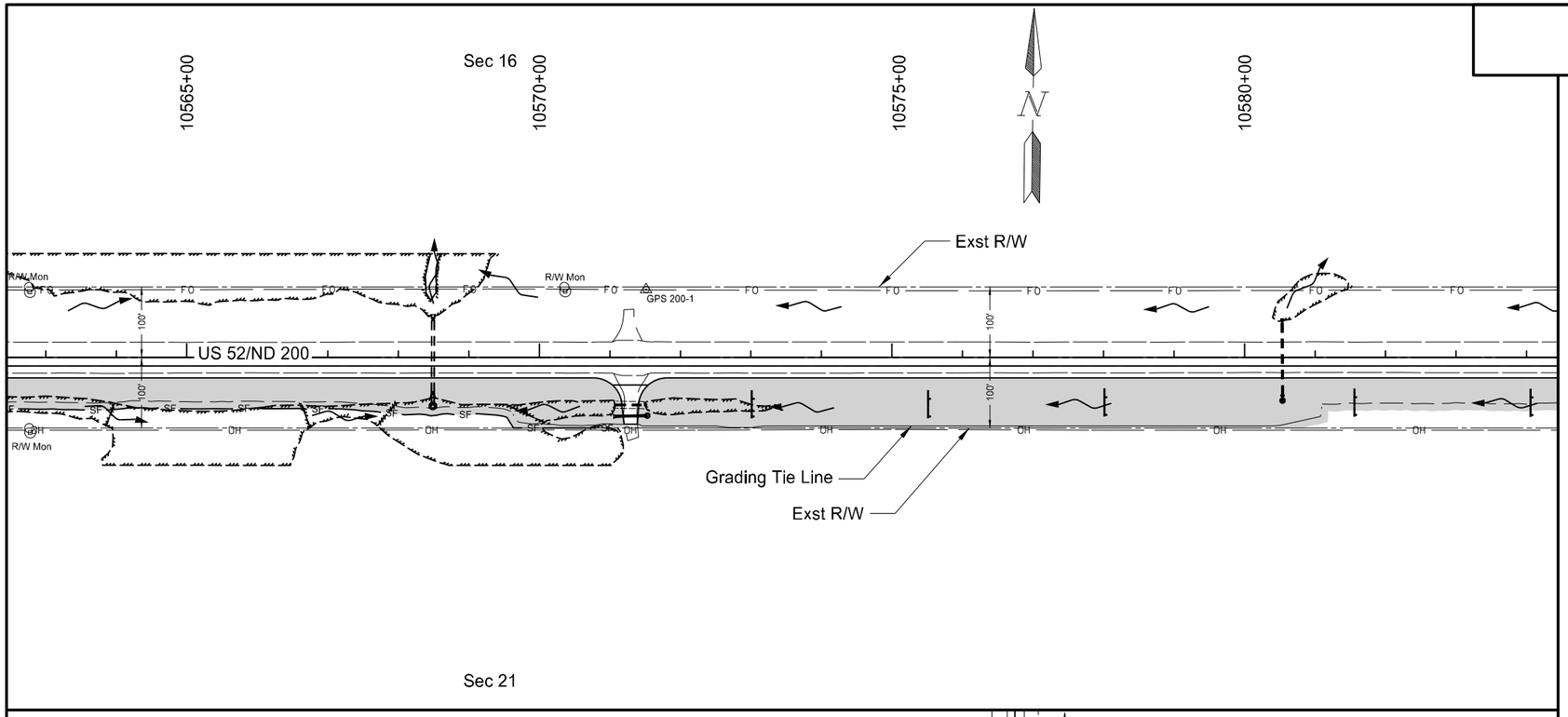
- Temporary Cover Crop/ Soil Stabilization
- SF — Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

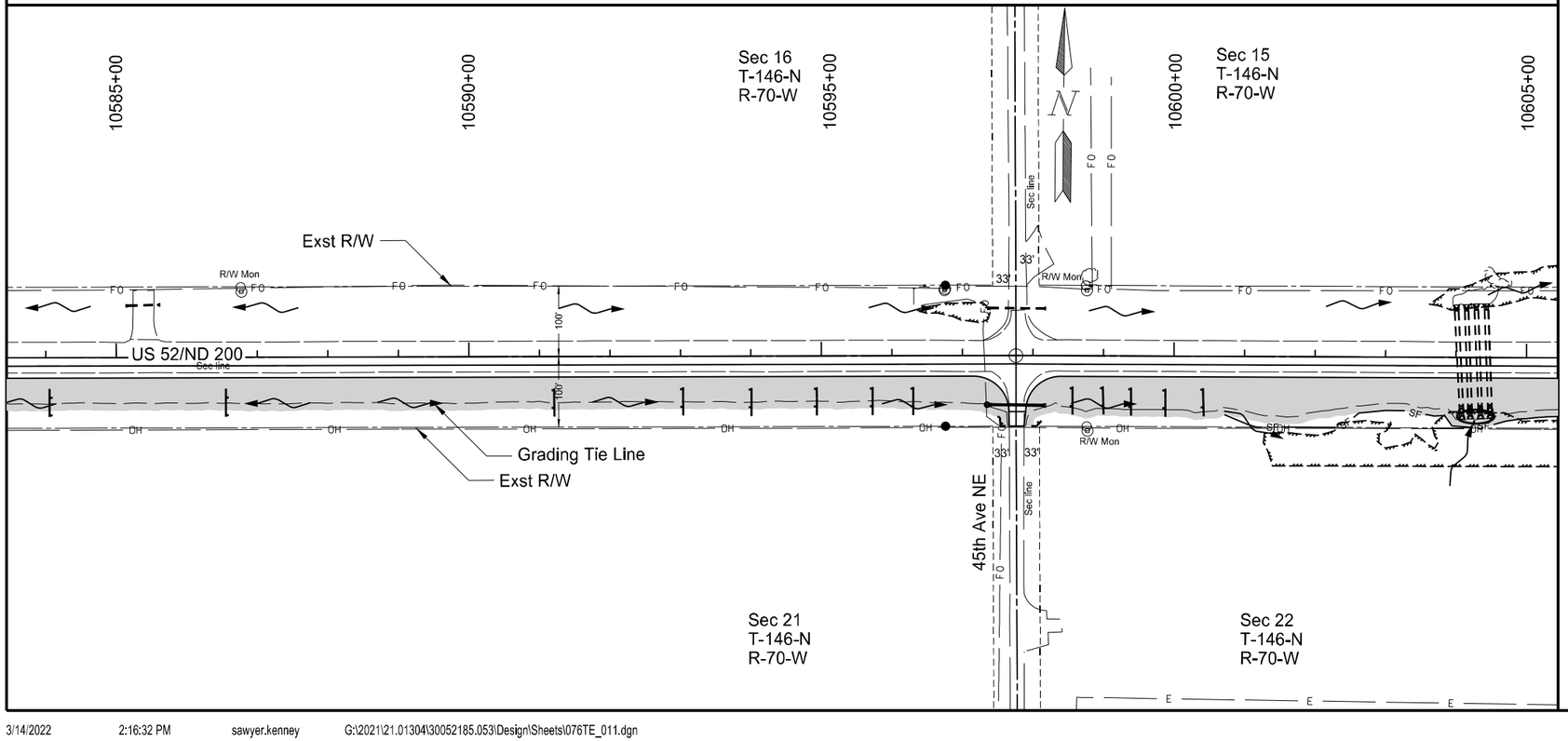
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Temporary Erosion Control

US 52
Fessenden to Carrington

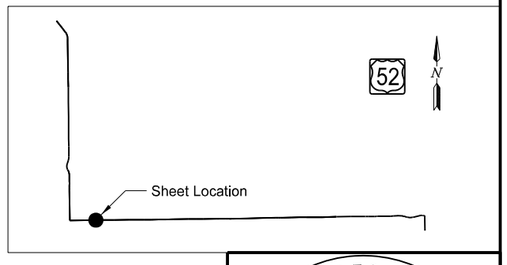
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	76	11





SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		10563+00 to 10605+00	5.20	ACRE
253	0061	SOIL STABILIZATION		
		10563+00 to 10605+00	5.20	ACRE
260	0200	SILT FENCE SUPPORTED		
		10563+00 to 10571+15 RT	828	LF
		10600+72 to 10605+00 RT	449	LF
260	0201	REMOVE SILT FENCE SUPPORTED		
		10563+00 to 10571+15 RT	828	LF
		10600+72 to 10605+00 RT	449	LF

*NOTE: See Section 76, Sheet 25-27 for Fiber Roll data



Legend

- Temporary Cover Crop/ Soil Stabilization
- SF — Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

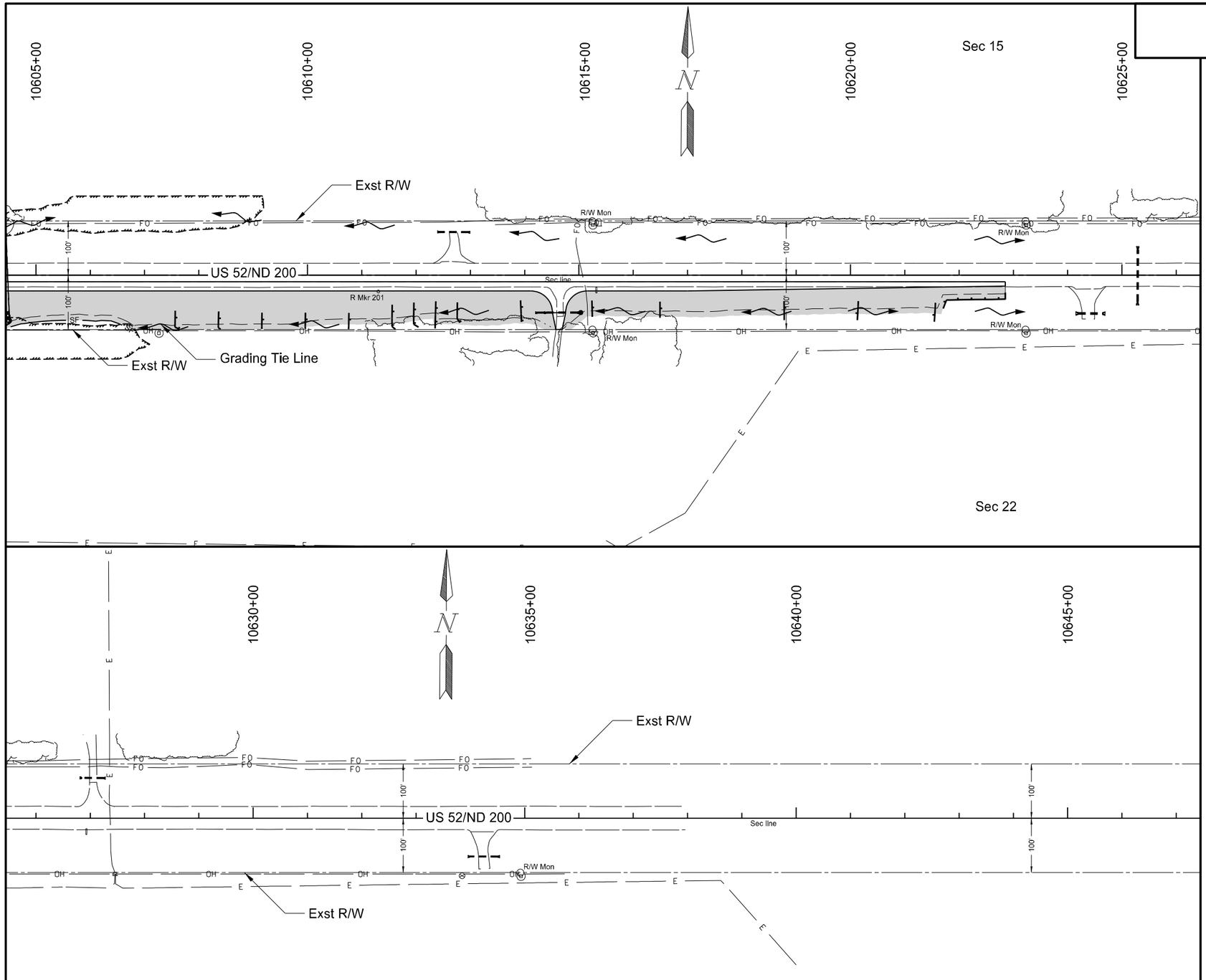
Temporary Erosion Control

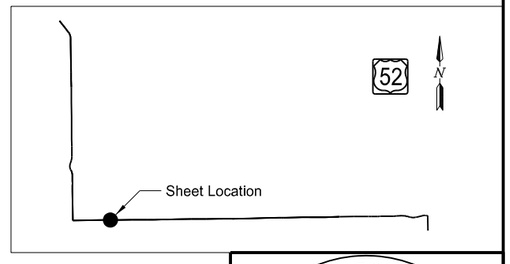
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	76	12

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		10605+00 to 10622+85	2.21	ACRE
253	0061	SOIL STABILIZATION		
		10605+00 to 10622+85	2.21	ACRE
260	0200	SILT FENCE SUPPORTED		
		10605+00 to 10607+31 RT	235	LF
260	0201	REMOVE SILT FENCE SUPPORTED		
		10605+00 to 10607+31 RT	235	LF

*NOTE: See Section 76, Sheet 25-27 for Fiber Roll data





Legend

- Temporary Cover Crop/ Soil Stabilization
- SF — Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Temporary Erosion Control

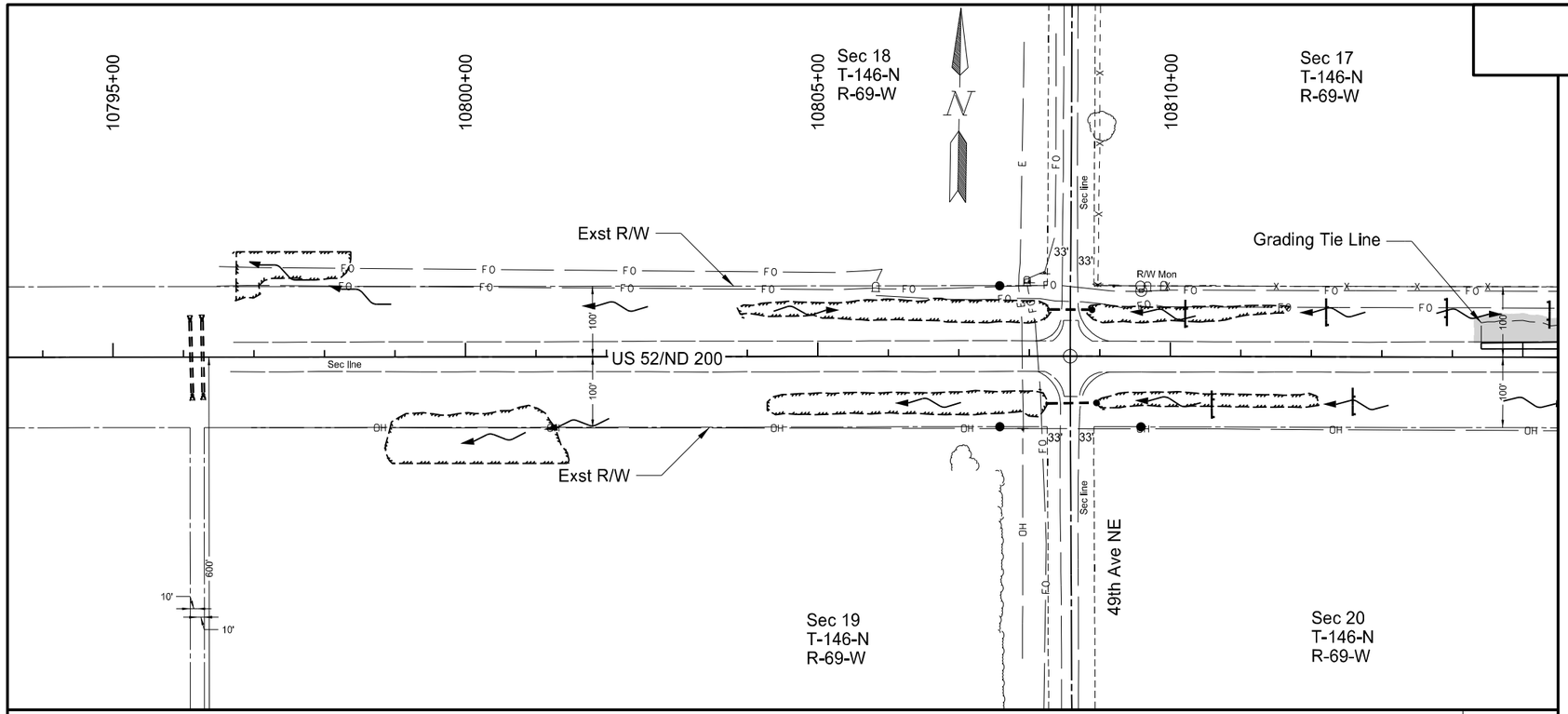
US 52
Fessenden to Carrington

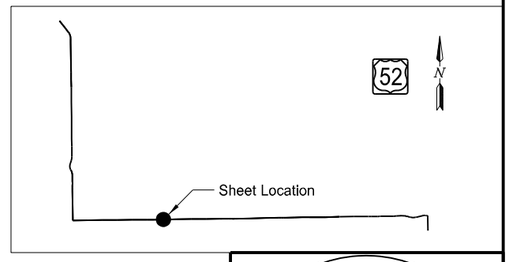
3/14/2022 2:16:34 PM sawyer.kenney G:\2021\21.01304\30052185.053\Design\Sheets\076TE_012.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	76	13

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		10808+80 to 10836+00	4.56	ACRE
253	0061	SOIL STABILIZATION		
		10808+80 to 10836+00	4.56	ACRE

*NOTE: See Section 76, Sheet 25-27 for Fiber Roll data





Legend

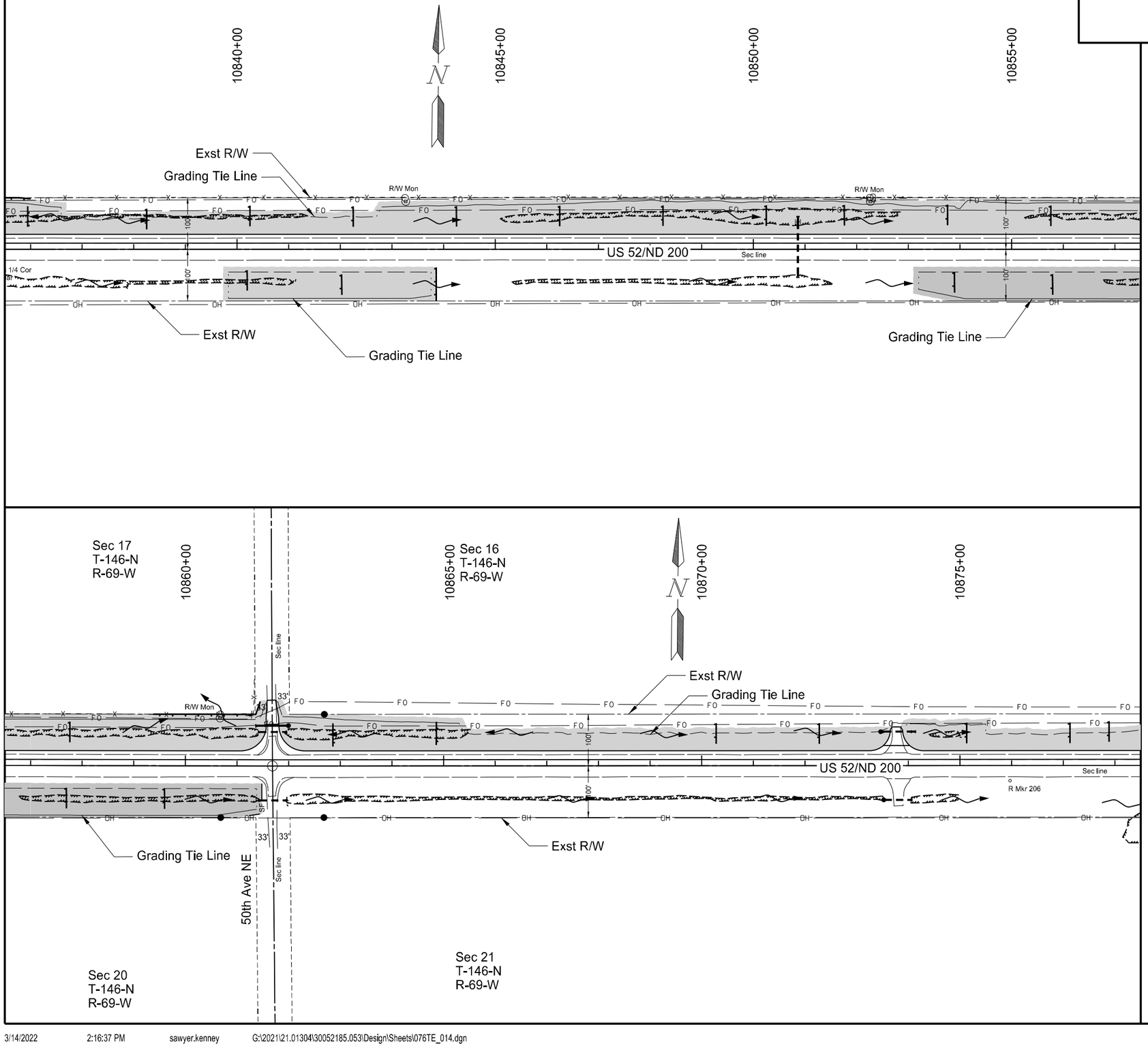
- Temporary Cover Crop/ Soil Stabilization
- SF — Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Temporary Erosion Control

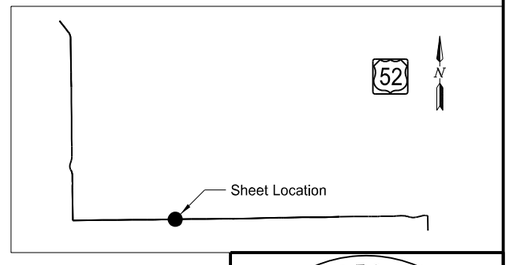
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	76	14



SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		10836+00 to 10878+00	7.46	ACRE
253	0061	SOIL STABILIZATION		
		10836+00 to 10878+00	7.46	ACRE
260	0200	SILT FENCE SUPPORTED		
		10861+23 to 10861+48 RT	84	LF
260	0201	REMOVE SILT FENCE SUPPORTED		
		10861+23 to 10861+48 RT	84	LF

*NOTE: See Section 76, Sheet 25-27 for Fiber Roll data



Legend

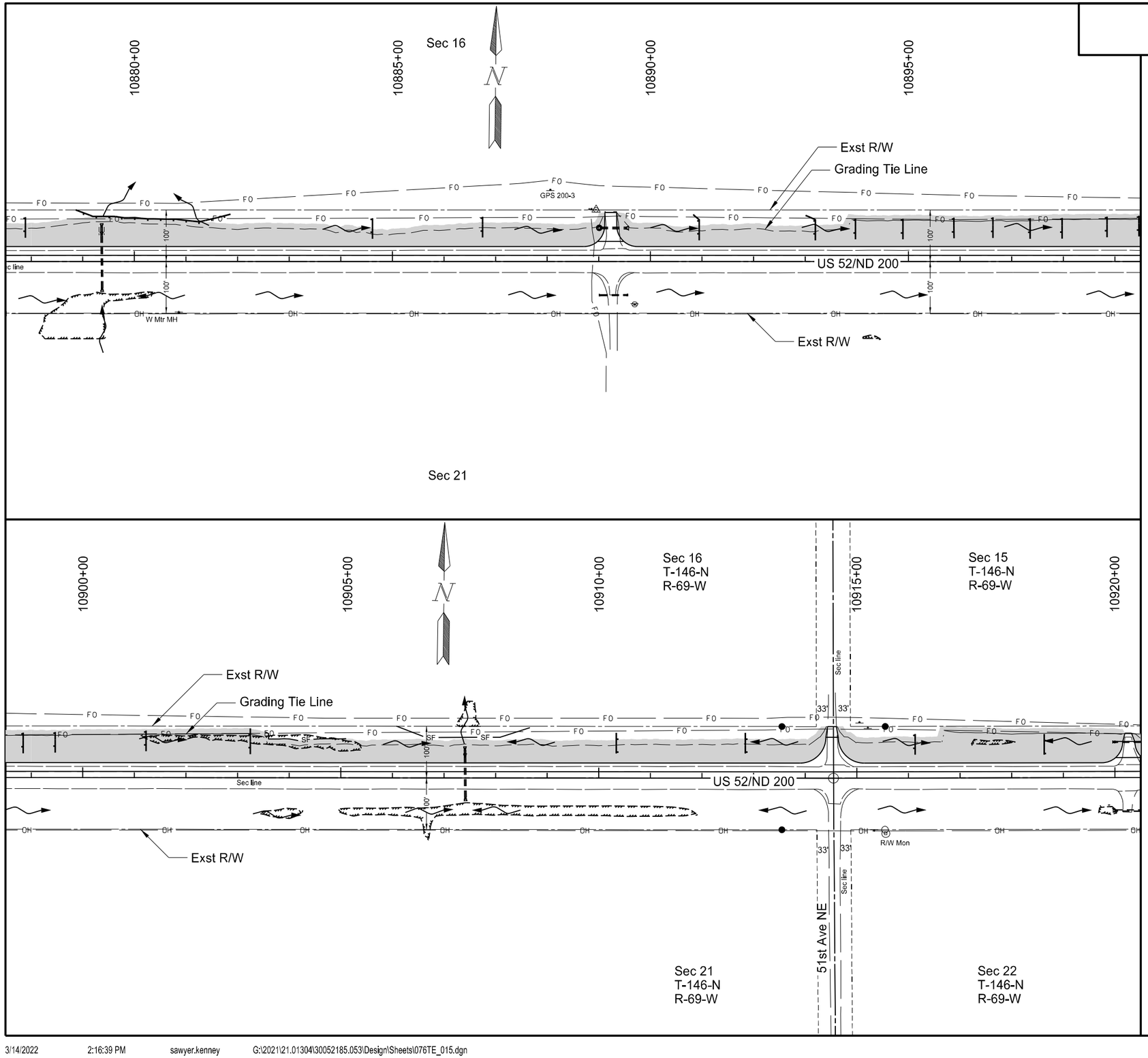
- Temporary Cover Crop/ Soil Stabilization
- SF — Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Temporary Erosion Control

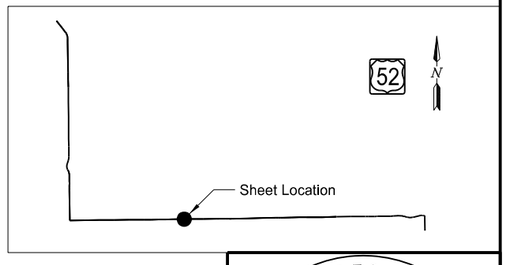
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	76	15



SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		10878+00 to 10920+00	4.90	ACRE
253	0061	SOIL STABILIZATION		
		10878+00 to 10920+00	4.90	ACRE
260	0200	SILT FENCE SUPPORTED		
		10903+53 to 10905+10 LT	177	LF
		10906+07 to 10908+75 LT	275	LF
260	0201	REMOVE SILT FENCE SUPPORTED		
		10903+53 to 10905+10 LT	177	LF
		10906+07 to 10908+75 LT	275	LF

*NOTE: See Section 76, Sheet 25-27 for Fiber Roll data



Legend

- Temporary Cover Crop/ Soil Stabilization
- SF — Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

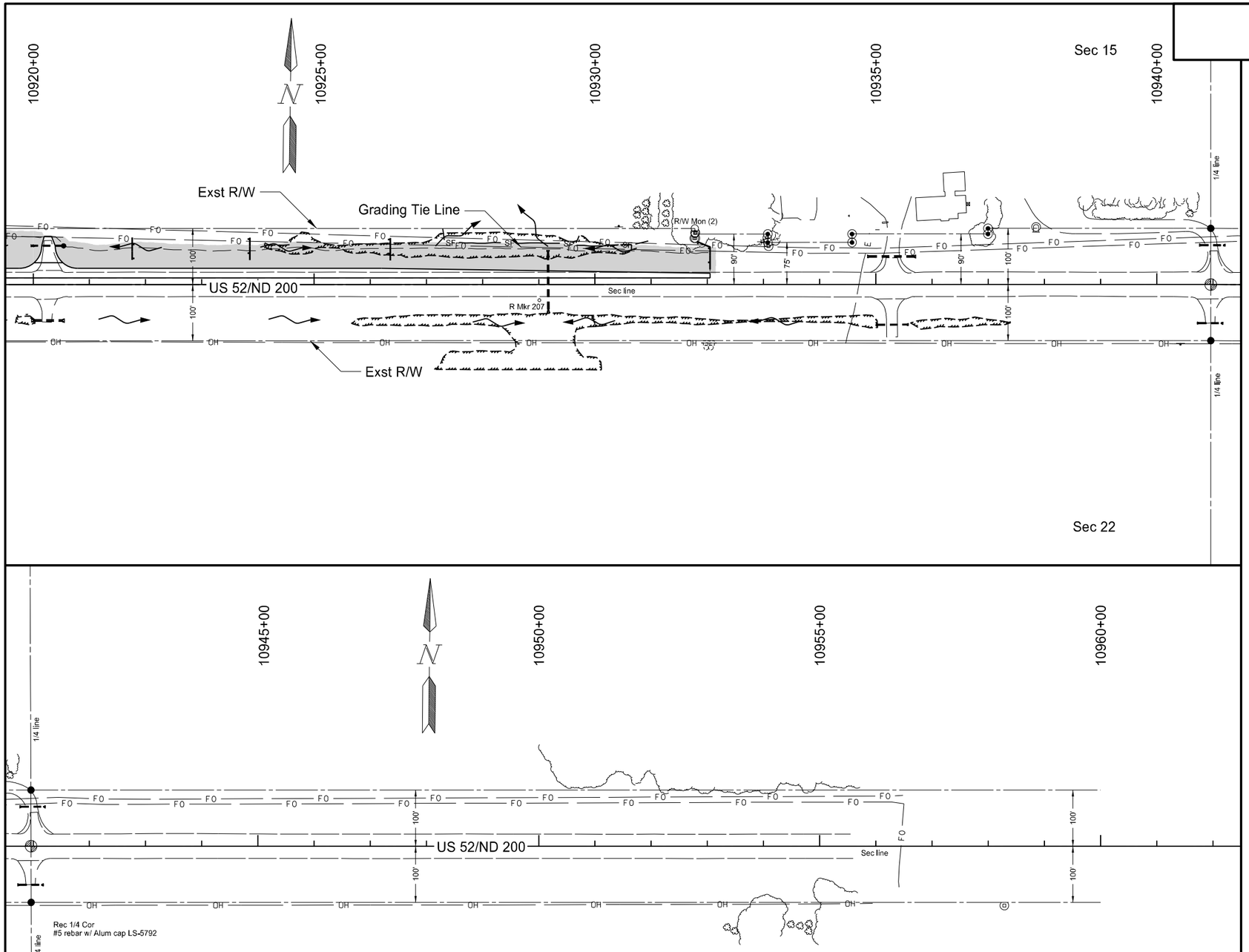
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Temporary Erosion Control

US 52
Fessenden to Carrington

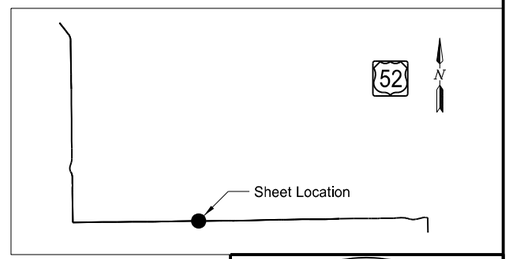
3/14/2022 2:16:39 PM sawyer.kenney G:\2021\21.01304\30052185.053\Design\Sheets\076TE_015.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	76	16



SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		10920+00 to 10932+05	1.25	ACRE
253	0061	SOIL STABILIZATION		
		10920+00 to 10932+05	1.25	ACRE
260	0200	SILT FENCE SUPPORTED		
		10927+29 to 10930+95 LT	390	LF
260	0201	REMOVE SILT FENCE SUPPORTED		
		10927+29 to 10930+95 LT	390	LF

*NOTE: See Section 76, Sheet 25-27 for Fiber Roll data



Legend

- Temporary Cover Crop/ Soil Stabilization
- SF — Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

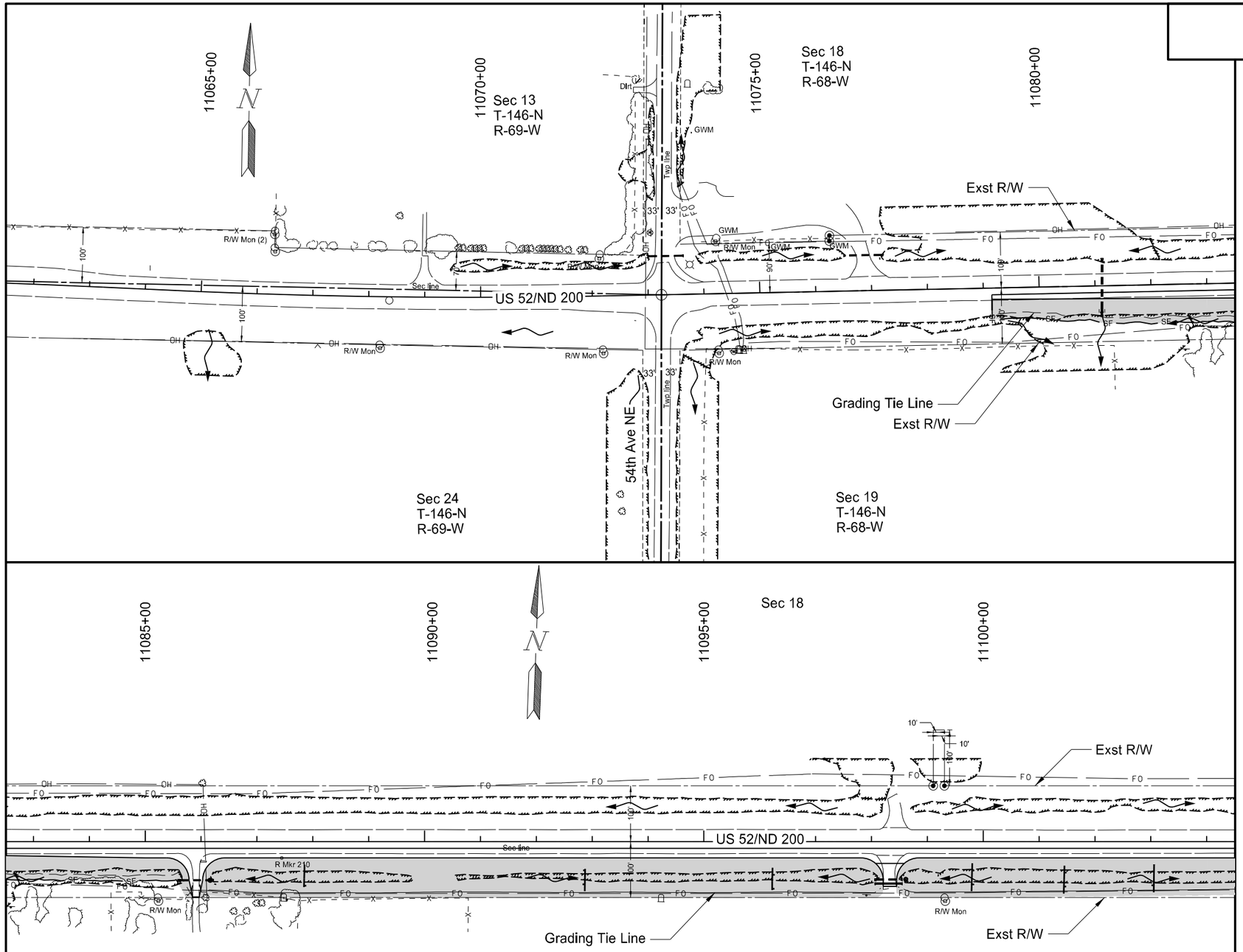
Temporary Erosion Control

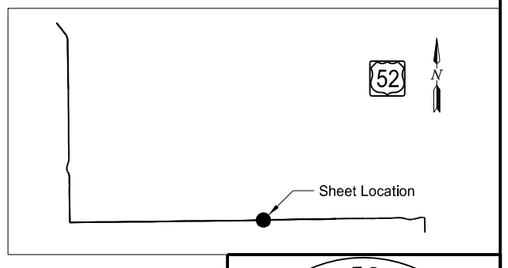
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	76	17

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		11079+15 to 11104+00	3.46	ACRE
253	0061	SOIL STABILIZATION		
		11079+15 to 11104+00	3.46	ACRE
260	0200	SILT FENCE SUPPORTED		
		11079+15 to 11085+62 RT	738	LF
260	0201	REMOVE SILT FENCE SUPPORTED		
		11079+15 to 11085+62 RT	738	LF

*NOTE: See Section 76, Sheet 25-27 for Fiber Roll data





Legend

- Temporary Cover Crop/ Soil Stabilization
- SF — Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

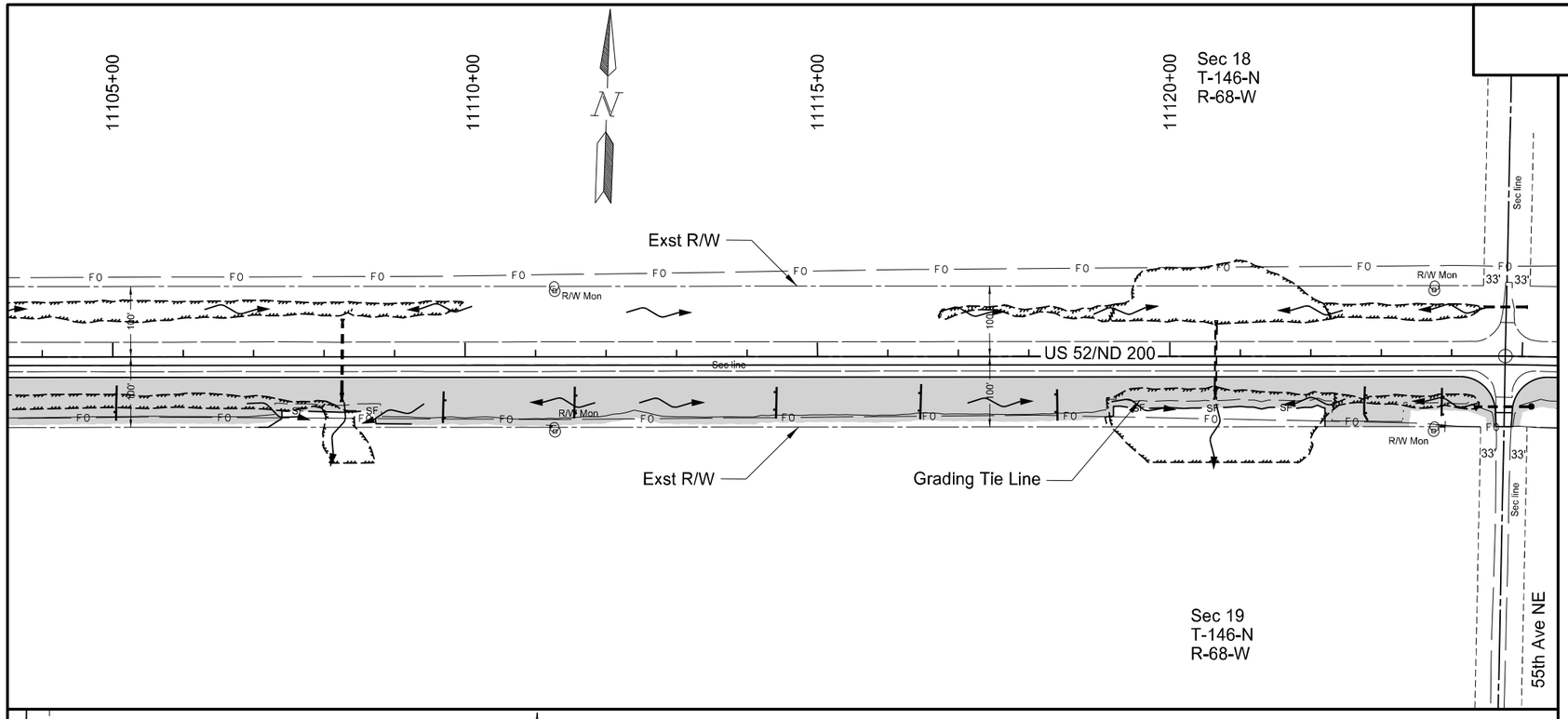
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Temporary Erosion Control

US 52
Fessenden to Carrington

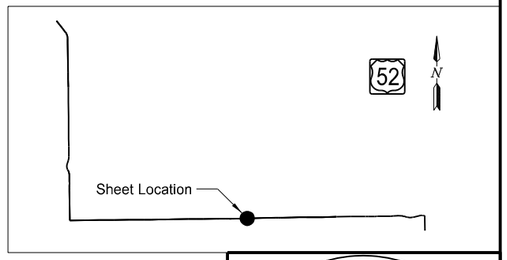
3/14/2022 2:16:43 PM sawyer.kenney G:\2021\21.01304\30052185.053\Design\Sheets\076TE_017.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	76	18



SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		11104+00 to 11146+00	5.04	ACRE
253	0061	SOIL STABILIZATION		
		11104+00 to 11146+00	5.04	ACRE
260	0200	SILT FENCE SUPPORTED		
		11107+07 to 11109+25 RT	250	LF
		11119+10 to 11122+20 RT	365	LF
260	0201	REMOVE SILT FENCE SUPPORTED		
		11107+07 to 11109+25 RT	250	LF
		11119+10 to 11122+20 RT	365	LF

*NOTE: See Section 76, Sheet 25-27 for Fiber Roll data



Legend

- Temporary Cover Crop/ Soil Stabilization
- SF — Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

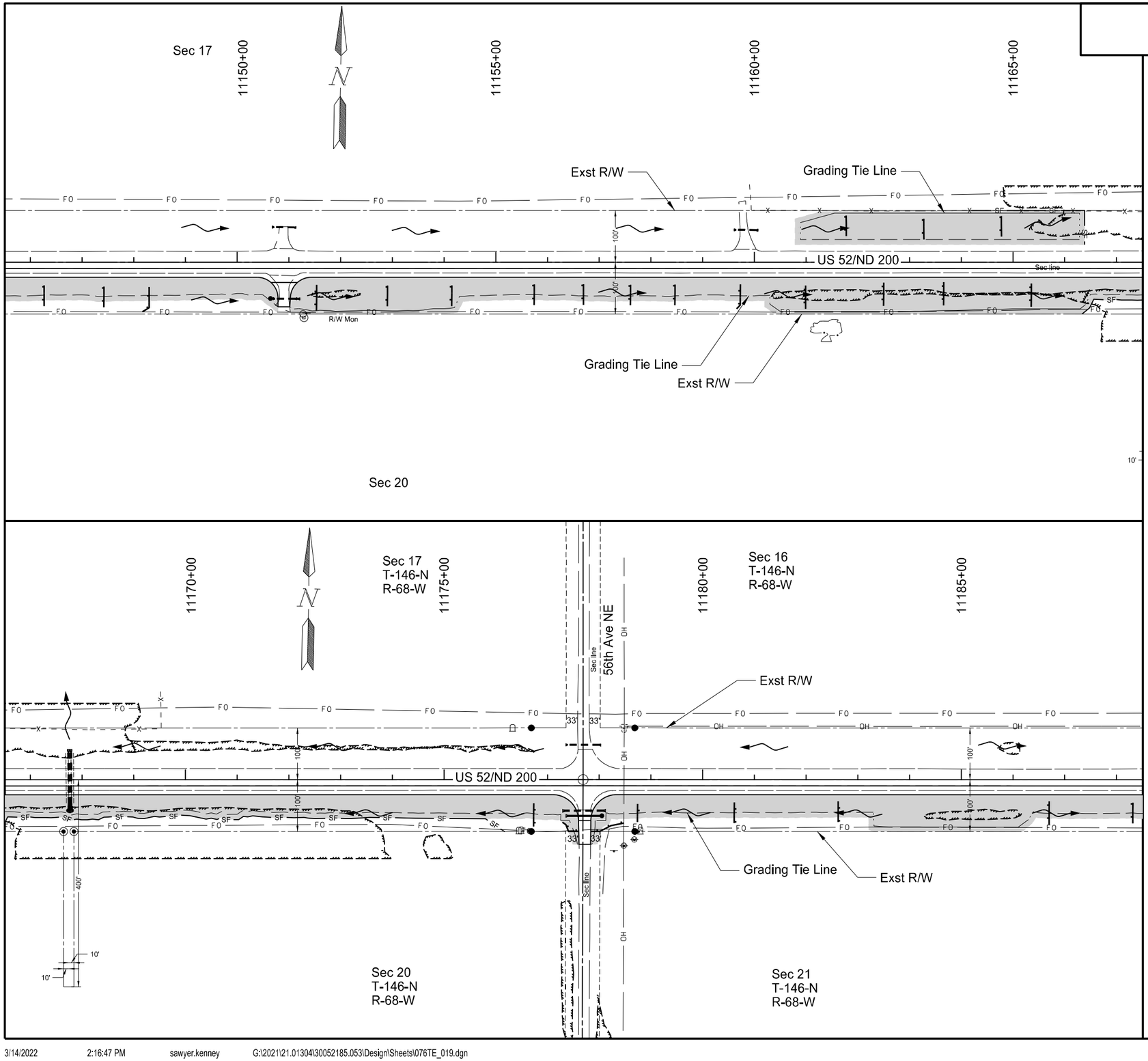
Temporary Erosion Control

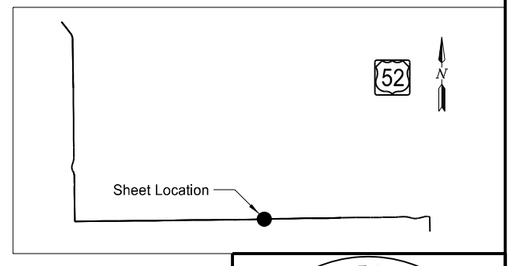
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	76	19

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		11146+00 to 11188+00	5.89	ACRE
253	0061	SOIL STABILIZATION		
		11146+00 to 11188+00	5.89	ACRE
260	0200	SILT FENCE SUPPORTED		
		11164+19 to 11166+38 LT	286	LF
		11166+33 to 11176+18 RT	1017	LF
260	0201	REMOVE SILT FENCE SUPPORTED		
		11164+19 to 11166+38 LT	286	LF
		11166+33 to 11176+18 RT	1017	LF

*NOTE: See Section 76, Sheet 25-27 for Fiber Roll data





Legend

- Temporary Cover Crop/ Soil Stabilization
- Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

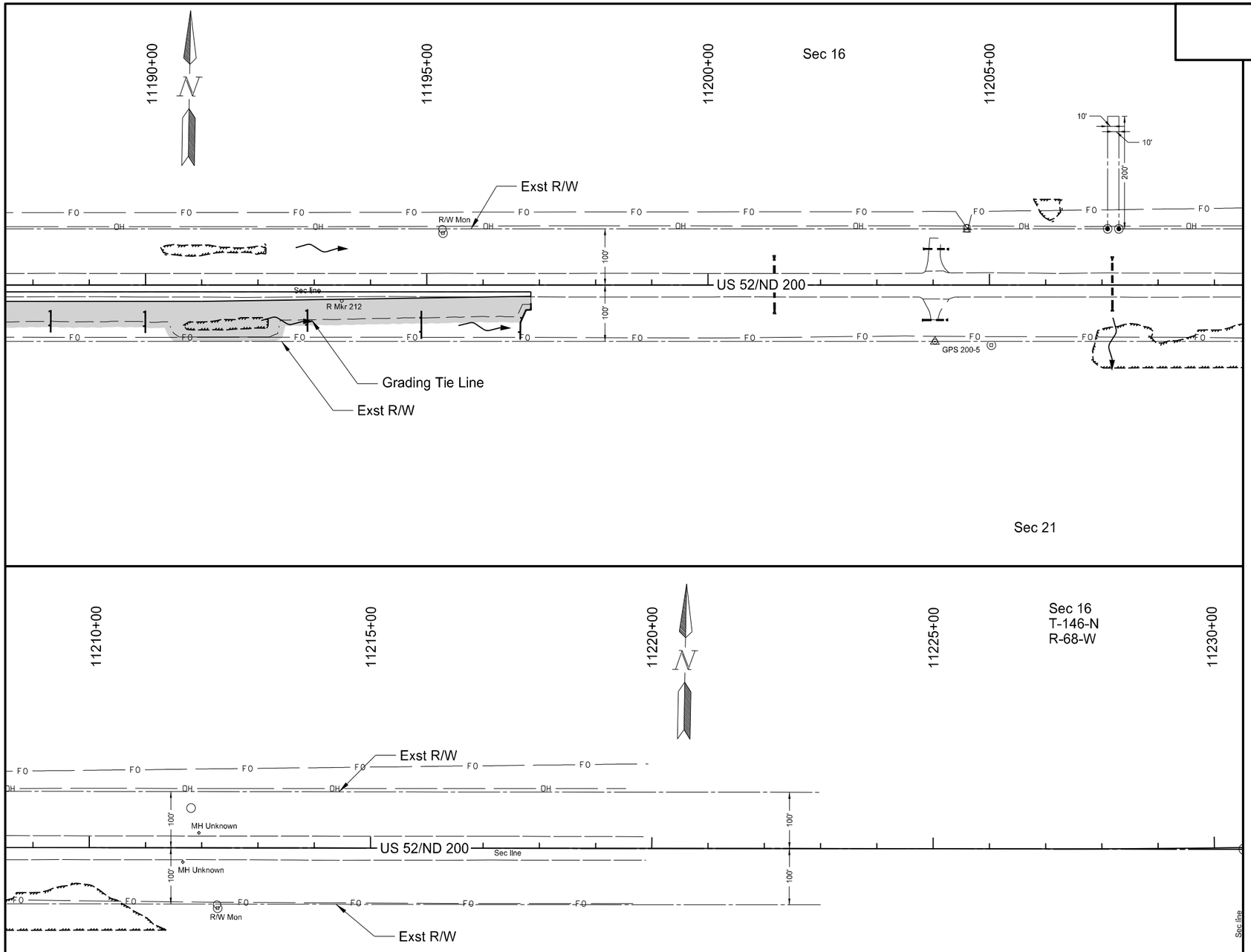
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Temporary Erosion Control

US 52
Fessenden to Carrington

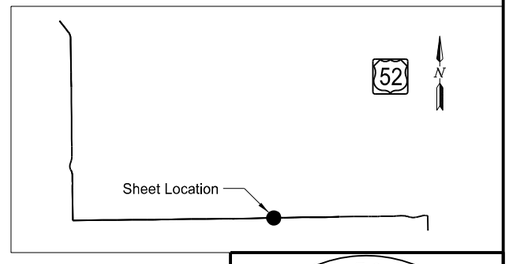
3/14/2022 2:16:47 PM sawyer.kenney G:\2021\21.01304\30052185.053\Design\Sheets\076TE_019.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	76	20



SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		11188+00 to 11196+85	1.04	ACRE
253	0061	SOIL STABILIZATION		
		11188+00 to 11196+85	1.04	ACRE

*NOTE: See Section 76, Sheet 25-27 for Fiber Roll data



Legend

- Temporary Cover Crop/ Soil Stabilization
- SF — Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

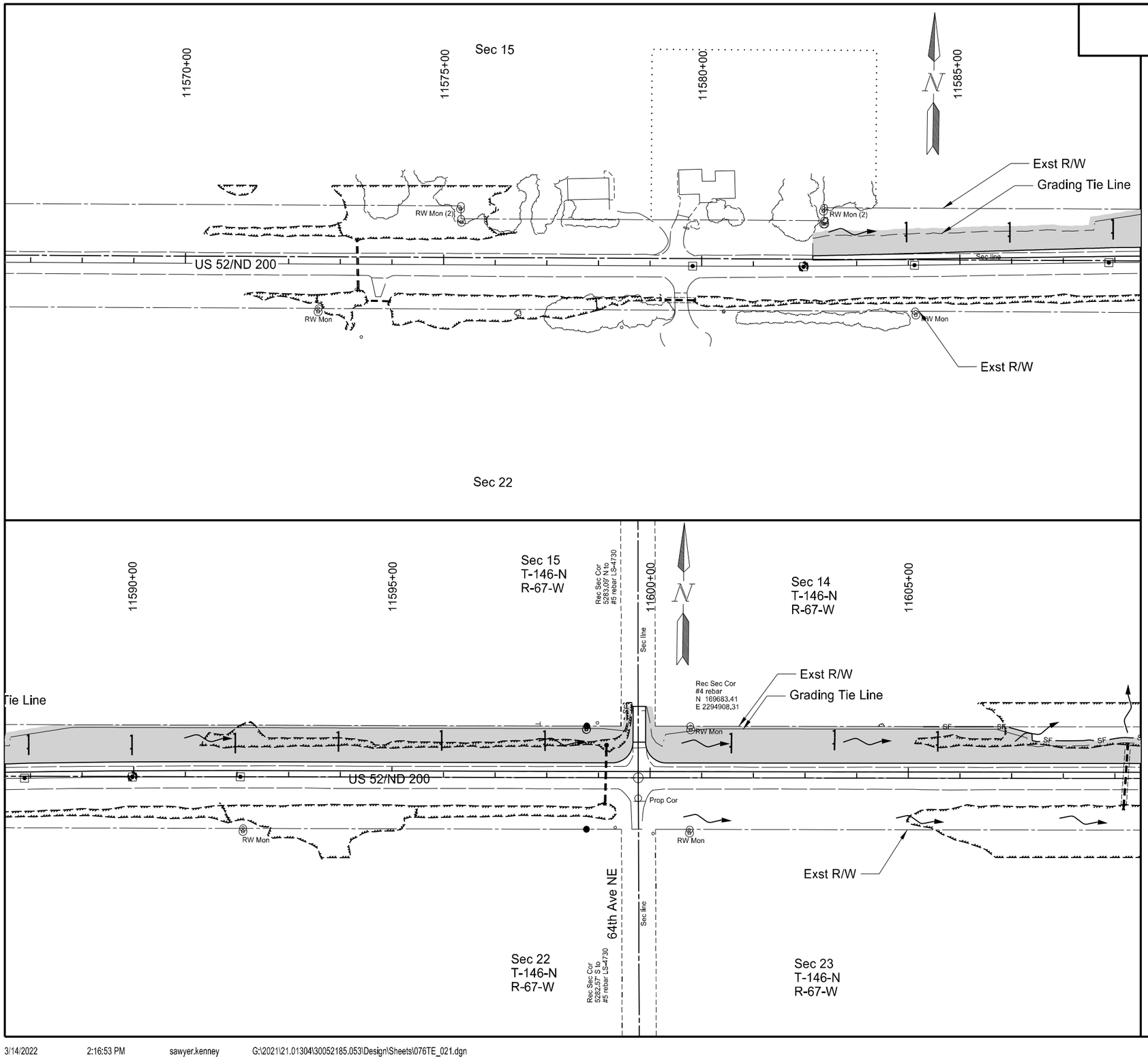
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Temporary Erosion Control

US 52
Fessenden to Carrington

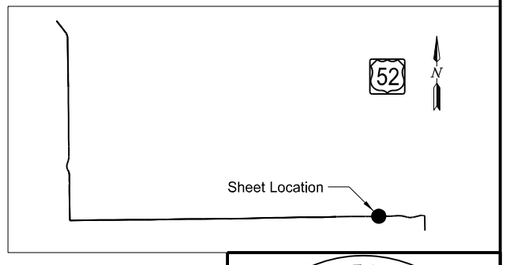
3/14/2022 2:16:49 PM sawyer.kenney G:\2021\21.01304\30052185.053\Design\Sheets\076TE_020.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	76	21



SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		11582+15 to 11609+00	3.95	ACRE
253	0061	SOIL STABILIZATION		
		11582+15 to 11609+00	3.95	ACRE
260	0200	SILT FENCE SUPPORTED		
		11599+49 to 11599+67 LT	40	LF
		11605+29 to 11609+00 LT	387	LF
260	0201	REMOVE SILT FENCE SUPPORTED		
		11599+49 to 11599+67 LT	40	LF
		11605+29 to 11609+00 LT	387	LF

*NOTE: See Section 76, Sheet 25-27 for Fiber Roll data



Legend

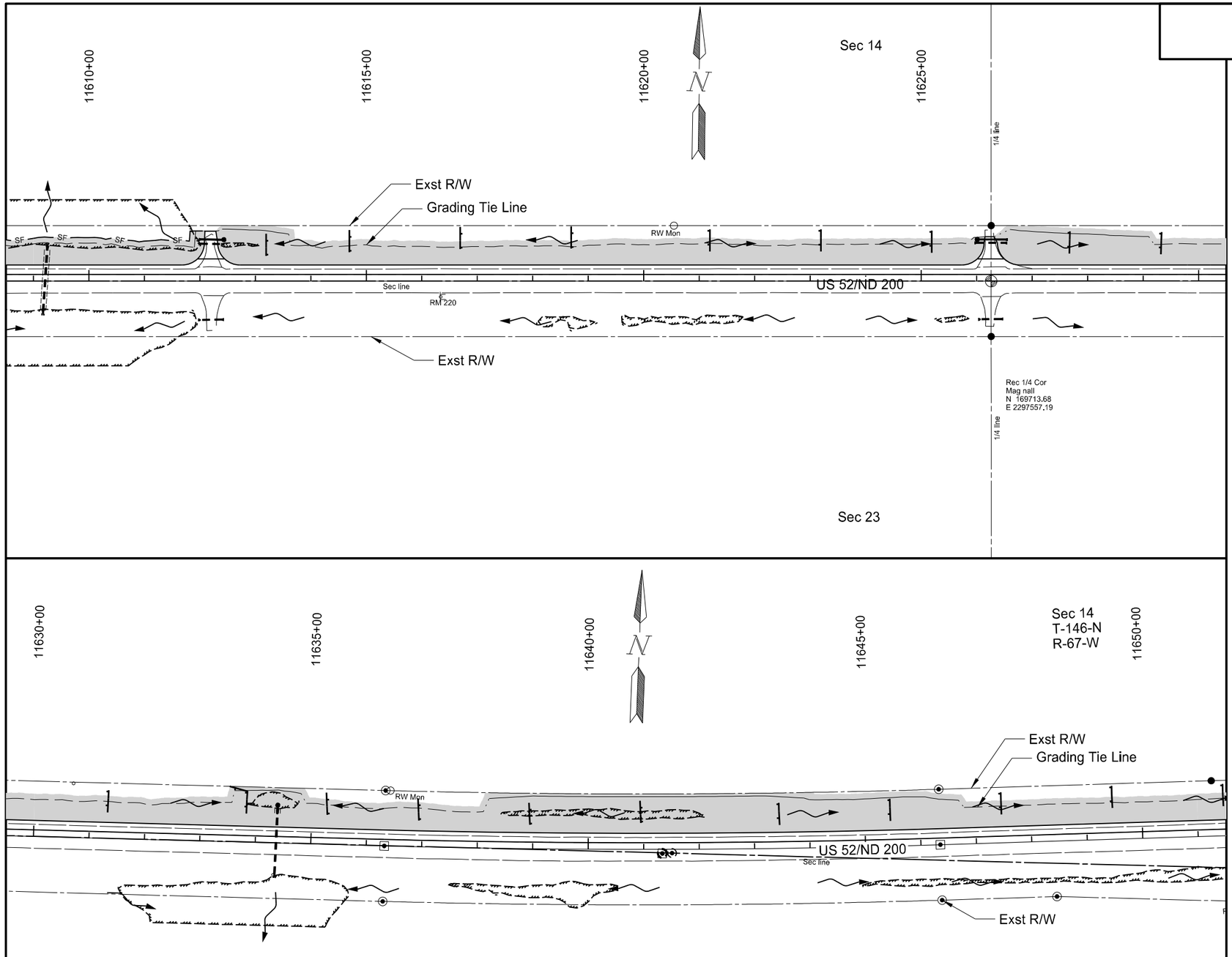
- Temporary Cover Crop/ Soil Stabilization
- SF — Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Temporary Erosion Control

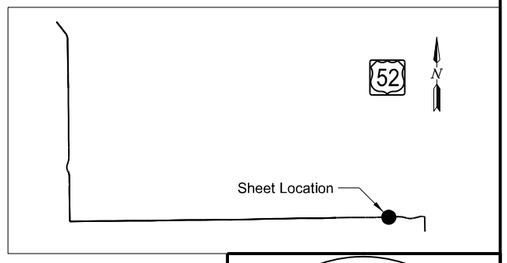
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	76	22



SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		11609+00 to 11651+00	5.18	ACRE
253	0061	SOIL STABILIZATION		
		11609+00 to 11651+00	5.18	ACRE
260	0200	SILT FENCE SUPPORTED		
		11609+00 to 11612+05 LT	325	LF
260	0201	REMOVE SILT FENCE SUPPORTED		
		11609+00 to 11612+05 LT	325	LF

*NOTE: See Section 76, Sheet 25-27 for Fiber Roll data



Legend

- Temporary Cover Crop/ Soil Stabilization
- SF — Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

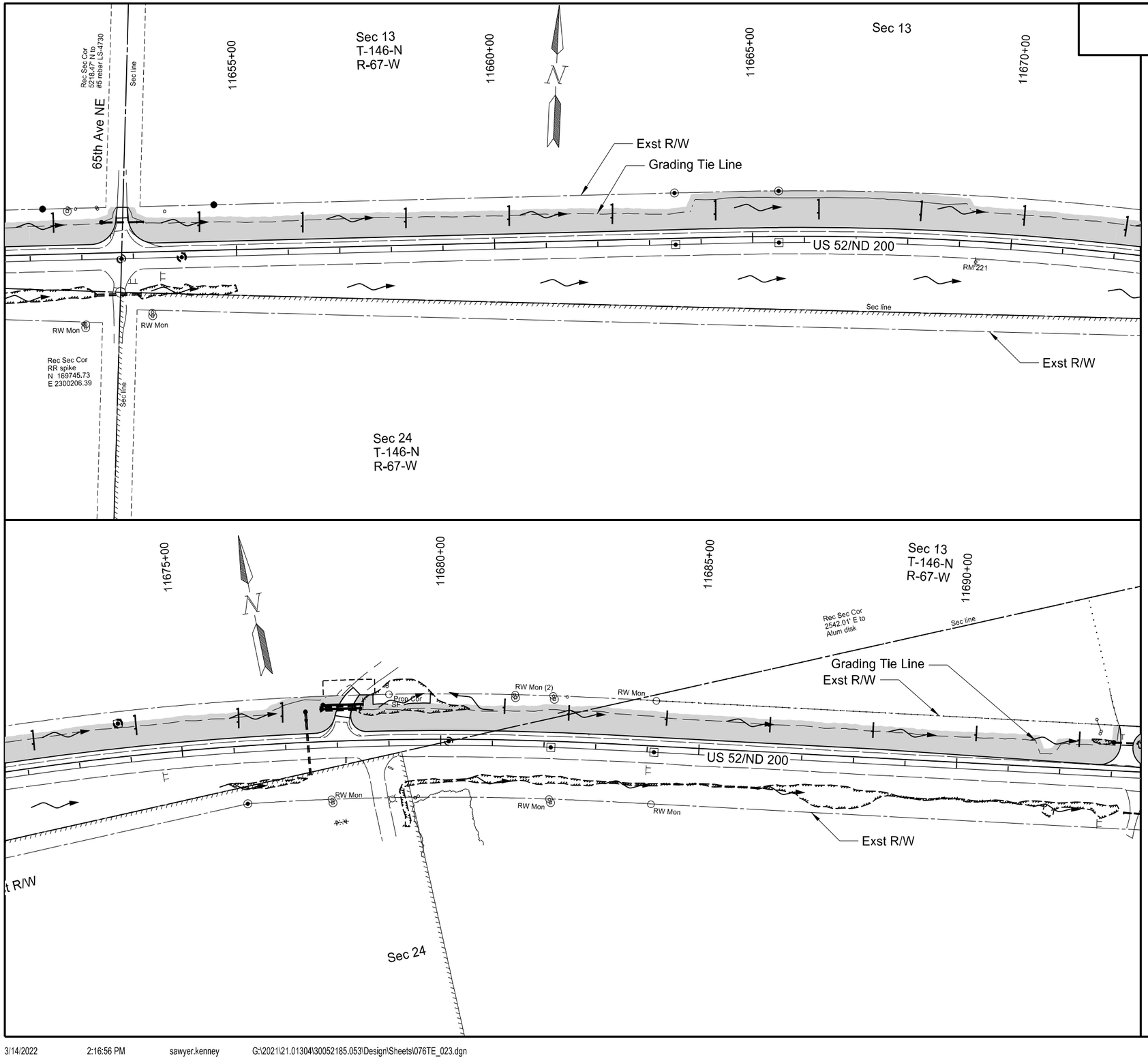
Temporary Erosion Control

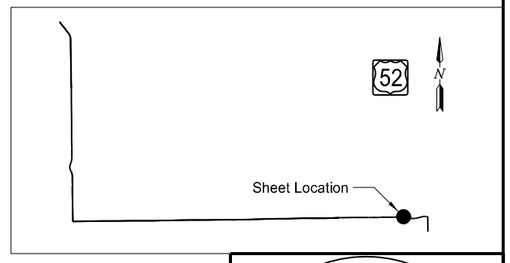
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	76	23

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		11651+00 to 11693+00	4.89	ACRE
253	0061	SOIL STABILIZATION		
		11651+00 to 11693+00	4.89	ACRE
260	0200	SILT FENCE SUPPORTED		
		11678+46 to 11679+88 LT	182	LF
260	0201	REMOVE SILT FENCE SUPPORTED		
		11678+46 to 11679+88 LT	182	LF

*NOTE: See Section 76, Sheet 25-27 for Fiber Roll data





Legend

- Temporary Cover Crop/ Soil Stabilization
- SF — Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Temporary Erosion Control

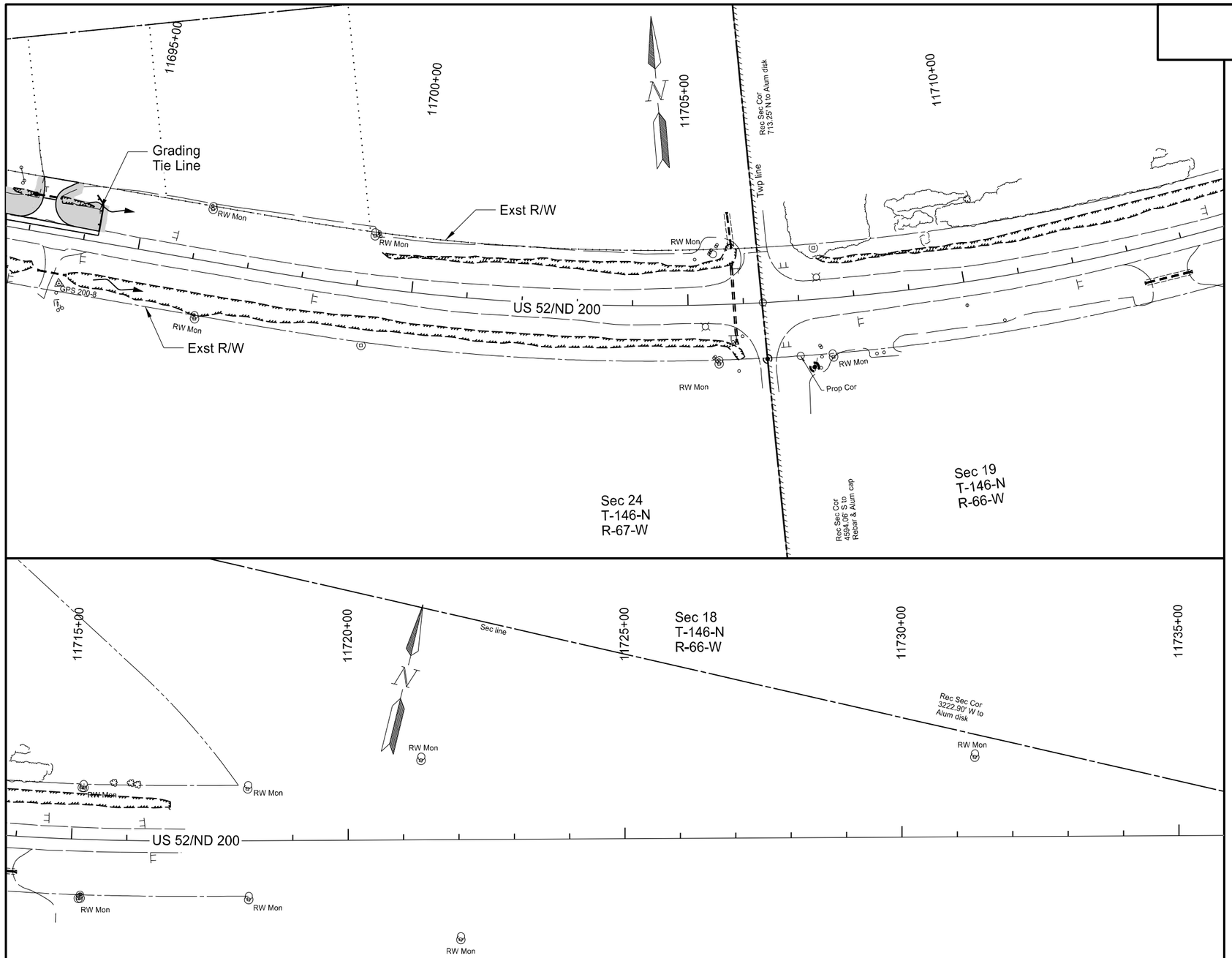
US 52
Fessenden to Carrington

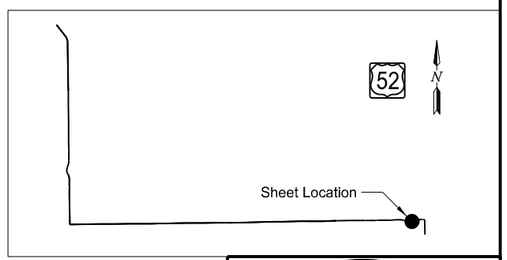
3/14/2022 2:16:56 PM sawyer.kenney G:\2021\21.01304\30052185.053\Design\Sheets\076TE_023.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	76	24

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		11693+00 to 11694+25	0.14	ACRE
253	0061	SOIL STABILIZATION		
		11693+00 to 11694+25	0.14	ACRE

*NOTE: See Section 76, Sheet 25-27 for Fiber Roll data





Legend

- Temporary Cover Crop/ Soil Stabilization
- SF — Silt Fence
- Fiber Rolls 12IN or 20IN
- Existing Wetland Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Temporary Erosion Control

US 52
Fessenden to Carrington

3/14/2022 2:16:58 PM sawyer.kenney G:\2021\21.01304\30052185.053\Design\Sheets\076TE_024.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	76	25

SPEC	CODE	BID ITEM	QTY	UNIT
261	0112	FIBER ROLLS 12IN	6170	LF
261	0113	REMOVE FIBER ROLLS 12IN	6170	LF

TEMPORARY EROSION CONTROL - CULVERT PROTECTION & RUNOFF PROTECTION

SITE 2 - EB PASSING LANE - RP 186.260 TO RP 188.551

Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)
9843+23	to	9845+33	RT	220	-
9845+25	to	9845+25	RT	50	-
9849+75	to	9849+75	RT	50	-
9851+25	to	9851+25	RT	50	-
9852+60	to	9852+75	RT	65	-
9854+25	to	9854+25	RT	50	-
9855+29	to	9855+52	RT	42	-
9856+68	to	9856+68	RT	40	-
9858+15	to	9858+15	RT	45	-
9859+90	to	9859+90	RT	50	-
9860+36	to	9861+62	RT	141	-
9861+65	to	9861+65	RT	50	-
9863+40	to	9863+40	RT	50	-
9887+95	to	9888+17	RT	25	-
9888+13	to	9888+13	RT	20	-
9893+90	to	9893+90	RT	50	-
9895+90	to	9895+90	RT	50	-
9897+90	to	9897+95	RT	58	-
9899+90	to	9899+95	RT	58	-
9901+90	to	9901+90	RT	45	-
9903+90	to	9903+90	RT	45	-
9905+90	to	9905+90	RT	45	-
9907+90	to	9907+90	RT	45	-
9908+19	to	9908+53	RT	43	-
9908+69	to	9908+90	RT	35	-
9908+94	to	9908+94	RT	20	-
9910+30	to	9910+30	RT	50	-
9912+05	to	9912+05	RT	50	-
9913+80	to	9913+80	RT	50	-
9915+55	to	9915+55	RT	50	-
9917+30	to	9917+30	RT	50	-
9919+05	to	9919+05	RT	50	-
9920+04	to	9920+25	RT	26	-
9920+45	to	9920+65	RT	28	-
9921+40	to	9921+40	RT	50	-
9923+40	to	9923+40	RT	50	-
9925+40	to	9925+40	RT	50	-
9927+40	to	9927+40	RT	50	-
9929+29	to	9929+29	RT	20	-
9930+20	to	9930+20	RT	50	-
9932+20	to	9932+20	RT	50	-
9934+20	to	9934+20	RT	50	-
9936+20	to	9936+20	RT	50	-
9937+70	to	9937+70	RT	20	-
9940+20	to	9940+20	RT	45	-
9942+20	to	9942+20	RT	45	-
9944+20	to	9944+20	RT	45	-
9944+49	to	9944+49	RT	20	-

TEMPORARY EROSION CONTROL - CULVERT PROTECTION & RUNOFF PROTECTION

SITE 3 - WB PASSING LANE - RP 195.802 TO RP 197.998

Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)
10336+65	to	10337+03	LT	97	-
10337+39	to	10337+48	LT	50	-
10337+89	to	10337+98	LT	50	-
10338+39	to	10338+48	LT	50	-
10338+89	to	10338+98	LT	50	-
10339+39	to	10339+48	LT	50	-
10339+89	to	10339+98	LT	50	-
10340+39	to	10340+48	LT	50	-
10340+89	to	10340+98	LT	50	-
10341+39	to	10341+48	LT	50	-
10341+89	to	10341+98	LT	50	-
10342+39	to	10342+48	LT	50	-
10342+89	to	10342+98	LT	50	-
10343+39	to	10343+48	LT	50	-
10346+91	to	10347+20	LT	47	-
10347+44	to	10347+55	LT	22	-
10347+54	to	10347+54	LT	20	-
10348+38	to	10348+38	LT	40	-
10348+98	to	10348+98	LT	40	-
10349+58	to	10349+58	LT	40	-
10350+18	to	10350+18	LT	40	-
10350+78	to	10350+78	LT	40	-
10351+38	to	10351+38	LT	40	-
10351+98	to	10351+98	LT	40	-
10352+58	to	10352+58	LT	40	-
10353+18	to	10353+18	LT	40	-
10353+78	to	10353+78	LT	40	-
10354+38	to	10354+38	LT	40	-
10354+98	to	10354+98	LT	40	-
10355+58	to	10355+58	LT	40	-
10356+18	to	10356+18	LT	40	-
10356+78	to	10356+78	LT	40	-
10357+38	to	10357+38	LT	40	-
10357+98	to	10357+98	LT	40	-
10361+50	to	10361+50	LT	55	-
10362+61	to	10362+75	LT	68	-
10365+50	to	10365+57	LT	68	-
10367+00	to	10367+00	LT	55	-
10371+50	to	10371+63	LT	68	-
10373+00	to	10373+22	LT	82	-
10374+50	to	10374+50	LT	60	-
10376+27	to	10376+27	LT	20	-
10378+00	to	10378+00	LT	50	-
10380+00	to	10380+00	LT	55	-
10382+00	to	10382+00	LT	60	-
10384+00	to	10384+00	LT	60	-
10386+83	to	10386+83	LT	20	-
10388+75	to	10388+75	LT	50	-
10390+25	to	10390+25	LT	50	-
10391+75	to	10391+75	LT	50	-
10393+25	to	10393+25	LT	50	-
10398+33	to	10398+33	LT	20	-
10400+28	to	10400+28	LT	50	-
10402+78	to	10402+78	LT	50	-
10405+28	to	10405+28	LT	50	-
10409+17	to	10409+17	LT	50	-
10409+82	to	10409+82	LT	20	-
10411+14	to	10411+14	LT	50	-
10413+76	to	10413+76	LT	50	-
10417+70	to	10417+70	LT	55	-
10419+70	to	10419+70	LT	50	-
10421+20	to	10421+20	LT	45	-
10429+56	to	10429+71	LT	57	-
10430+26	to	10430+26	LT	40	-
10430+96	to	10430+96	LT	40	-
10431+66	to	10431+66	LT	60	-
10432+36	to	10432+36	LT	40	-
10433+06	to	10433+06	LT	50	-
10433+76	to	10433+76	LT	74	-
10434+46	to	10434+46	LT	60	-
10438+81	to	10439+26	LT	78	-
10443+70	to	10443+70	LT	55	-
10444+70	to	10444+70	LT	55	-
10445+70	to	10445+70	LT	50	-
10446+70	to	10446+70	LT	50	-
10447+70	to	10447+70	LT	60	-
10448+64	to	10448+70	LT	53	-
10449+46	to	10449+46	LT	30	-

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Temporary Erosion Control
Fiber Roll Summary

US52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	76	26

TEMPORARY EROSION CONTROL - CULVERT PROTECTION & RUNOFF PROTECTION

SITE 4 - EB PASSING LANE - RP 198.976 TO RP 201.216

Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)
10503+90	to	10505+07	RT	130	-
10505+31	to	10505+31	RT	35	-
10506+14	to	10506+14	RT	35	-
10507+00	to	10507+00	RT	35	-
10507+95	to	10507+95	RT	35	-
10509+20	to	10509+20	RT	35	-
10509+91	to	10509+91	RT	35	-
10510+70	to	10510+70	RT	35	-
10515+92	to	10516+35	RT	44	-
10516+23	to	10516+23	RT	20	-
10522+08	to	10522+08	RT	-	70
10526+63	to	10526+63	RT	40	-
10527+29	to	10527+29	RT	40	-
10529+01	to	10529+01	RT	35	-
10531+34	to	10531+34	RT	35	-
10533+75	to	10533+75	RT	35	-
10537+26	to	10537+26	RT	40	-
10538+63	to	10538+63	RT	40	-
10540+03	to	10540+03	RT	40	-
10541+01	to	10541+01	RT	40	-
10542+12	to	10542+12	RT	40	-
10543+08	to	10543+08	RT	40	-
10544+53	to	10544+53	RT	20	-
10568+49	to	10568+49	RT	-	30
10571+53	to	10571+53	RT	20	-
10573+01	to	10573+01	RT	40	-
10575+51	to	10575+51	RT	40	-
10578+01	to	10578+01	RT	40	-
10580+54	to	10580+54	RT	20	-
10581+56	to	10581+56	RT	40	-
10584+06	to	10584+06	RT	40	-
10586+56	to	10586+56	RT	40	-
10591+21	to	10591+21	RT	40	-
10593+04	to	10593+04	RT	40	-
10594+01	to	10594+01	RT	40	-
10594+93	to	10594+93	RT	40	-
10595+72	to	10595+72	RT	40	-
10596+30	to	10596+30	RT	40	-
10597+35	to	10597+35	RT	20	-
10597+49	to	10597+61	RT	24	-
10597+98	to	10598+12	RT	18	-
10598+56	to	10598+56	RT	40	-
10599+00	to	10599+00	RT	40	-
10599+39	to	10599+39	RT	40	-
10599+88	to	10599+88	RT	40	-
10600+42	to	10600+42	RT	40	-
10604+28	to	10604+28	RT	-	120
10607+57	to	10607+65	RT	40	-
10608+37	to	10608+40	RT	35	-
10609+16	to	10609+16	RT	30	-
10609+96	to	10609+96	RT	30	-
10610+76	to	10610+76	RT	30	-
10611+56	to	10611+62	RT	50	-
10611+96	to	10612+05	RT	50	-
10612+36	to	10612+36	RT	50	-
10612+76	to	10612+81	RT	39	-
10613+93	to	10613+93	RT	40	-
10615+03	to	10615+03	RT	20	-
10615+24	to	10615+24	RT	30	-
10615+49	to	10615+49	RT	30	-
10618+78	to	10618+78	RT	35	-
10620+14	to	10620+14	RT	35	-
10621+56	to	10621+56	RT	35	-
10621+71	to	10622+85	RT	137	-

TEMPORARY EROSION CONTROL - CULVERT PROTECTION & RUNOFF PROTECTION

SITE 5 - WB PASSING LANE - RP 204.835 TO RP 207.057

Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)
10808+89	to	10808+89	LT	20	-
10808+95	to	10808+95	RT	20	-
10810+21	to	10810+21	LT	40	-
10810+59	to	10810+59	RT	40	-
10812+21	to	10812+21	LT	40	-
10812+59	to	10812+59	RT	40	-
10813+92	to	10813+92	LT	40	-
10815+38	to	10815+38	LT	40	-
10816+01	to	10816+27	RT	76	-
10817+88	to	10817+88	LT	40	-
10820+38	to	10820+38	LT	40	-
10822+09	to	10822+09	RT	40	-
10822+88	to	10822+88	LT	40	-
10824+09	to	10824+09	RT	40	-
10825+38	to	10825+38	LT	40	-
10826+09	to	10826+09	RT	40	-
10827+88	to	10827+88	LT	40	-
10828+09	to	10828+09	RT	40	-
10830+09	to	10830+09	RT	40	-
10830+38	to	10830+38	LT	40	-
10832+09	to	10832+09	RT	40	-
10832+51	to	10832+51	LT	20	-
10832+51	to	10832+51	RT	20	-
10834+03	to	10836+00	LT	198	-
10834+05	to	10834+05	LT	55	-
10835+94	to	10835+94	LT	40	-
10838+25	to	10838+25	LT	40	-
10840+20	to	10840+20	RT	40	-
10840+25	to	10840+25	LT	40	-
10842+03	to	10842+03	RT	40	-
10842+25	to	10842+25	LT	40	-
10843+86	to	10843+86	RT	65	-
10844+25	to	10844+25	LT	40	-
10846+25	to	10846+25	LT	40	-
10848+25	to	10848+25	LT	40	-
10850+25	to	10850+25	LT	40	-
10851+76	to	10851+76	LT	40	-
10853+76	to	10853+76	LT	40	-
10853+89	to	10853+89	RT	40	-
10855+76	to	10855+76	LT	40	-
10855+79	to	10855+79	RT	40	-
10857+69	to	10857+69	RT	40	-
10857+76	to	10857+76	LT	40	-
10859+37	to	10861+45	LT	225	-
10859+59	to	10859+59	RT	40	-
10862+00	to	10862+00	LT	20	-
10862+86	to	10862+86	LT	45	-
10864+86	to	10864+86	LT	45	-
10870+28	to	10870+28	LT	40	-
10872+28	to	10872+28	LT	40	-
10873+46	to	10873+46	LT	20	-
10873+52	to	10873+52	RT	20	-
10875+13	to	10875+13	LT	40	-
10877+13	to	10877+13	LT	40	-
10877+89	to	10877+89	LT	40	-
10878+86	to	10881+86	LT	305	-
10884+61	to	10884+61	LT	40	-
10886+75	to	10886+75	LT	40	-
10889+01	to	10889+01	LT	30	-
10890+83	to	10890+95	LT	56	-
10893+01	to	10893+20	LT	61	-
10893+97	to	10893+97	LT	40	-
10894+90	to	10894+90	LT	40	-
10895+88	to	10895+88	LT	40	-
10896+64	to	10896+64	LT	40	-
10897+36	to	10897+36	LT	40	-
10897+98	to	10897+98	LT	40	-
10898+85	to	10898+85	LT	40	-
10899+46	to	10899+46	LT	40	-
10901+22	to	10901+22	LT	40	-
10903+25	to	10903+25	LT	50	-
10910+34	to	10910+34	LT	40	-
10912+84	to	10912+84	LT	40	-
10916+13	to	10916+13	LT	40	-
10918+63	to	10918+63	LT	40	-
10920+54	to	10920+54	LT	20	-
10921+76	to	10921+76	LT	40	-
10923+86	to	10923+86	LT	40	-
10926+36	to	10926+36	LT	40	-
10931+81	to	10932+05	LT	65	-

SPEC	CODE	BID ITEM	QTY	UNIT
261	0112	FIBER ROLLS 12IN	6178	LF
261	0113	REMOVE FIBER ROLLS 12IN	6178	LF
261	0120	FIBER ROLLS 20IN	220	LF
261	0121	REMOVE FIBER ROLLS 20IN	220	LF

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

Temporary Erosion Control
Fiber Roll Summary

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	76	27

SPEC	CODE	BID ITEM	QTY	UNIT
261	0112	FIBER ROLLS 12IN	4773	LF
261	0113	REMOVE FIBER ROLLS 12IN	4773	LF

TEMPORARY EROSION CONTROL - CULVERT PROTECTION & RUNOFF PROTECTION

SITE 6 - EB PASSING LANE - RP 209.843 TO RP 212.065

Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)
11086+16	to	11086+16	RT	20	-
11087+85	to	11087+85	RT	40	-
11092+87	to	11092+87	RT	40	-
11096+23	to	11096+23	RT	40	-
11098+61	to	11098+61	RT	20	-
11099+80	to	11099+80	RT	50	-
11101+45	to	11101+45	RT	50	-
11103+05	to	11103+05	RT	50	-
11105+05	to	11105+05	RT	50	-
11109+69	to	11109+69	RT	45	-
11111+55	to	11111+55	RT	45	-
11114+42	to	11114+42	RT	45	-
11116+47	to	11116+47	RT	50	-
11118+40	to	11118+40	RT	45	-
11122+77	to	11122+81	RT	50	-
11123+86	to	11123+86	RT	40	-
11125+14	to	11125+14	RT	20	-
11125+92	to	11125+92	RT	40	-
11128+42	to	11128+42	RT	40	-
11130+63	to	11130+63	RT	40	-
11132+88	to	11132+88	RT	40	-
11134+92	to	11134+92	RT	40	-
11136+88	to	11136+88	RT	40	-
11138+82	to	11138+82	RT	40	-
11140+79	to	11140+79	RT	40	-
11142+87	to	11142+87	RT	40	-
11144+36	to	11144+48	RT	55	-
11146+27	to	11146+27	RT	40	-
11147+42	to	11147+42	RT	40	-
11148+17	to	11148+30	RT	55	-
11150+65	to	11150+65	RT	20	-
11151+54	to	11151+54	RT	50	-
11152+91	to	11152+91	RT	40	-
11154+15	to	11154+15	RT	40	-
11155+74	to	11155+74	RT	40	-
11156+70	to	11156+70	RT	40	-
11157+60	to	11157+60	RT	40	-
11158+47	to	11158+47	RT	40	-
11159+66	to	11159+73	RT	50	-
11160+99	to	11160+99	RT	45	-
11161+78	to	11161+78	LT	40	-
11162+50	to	11162+50	RT	45	-
11163+28	to	11163+28	LT	40	-
11163+66	to	11163+66	RT	45	-
11164+78	to	11164+78	LT	40	-
11165+35	to	11165+36	RT	45	-
11167+77	to	11167+77	RT	30	-
11176+73	to	11176+73	RT	45	-
11177+29	to	11177+60	RT	42	-
11177+84	to	11178+48	RT	67	-
11178+05	to	11178+05	RT	20	-
11178+74	to	11178+74	RT	35	-
11180+61	to	11180+61	RT	40	-
11182+62	to	11182+62	RT	40	-
11186+70	to	11186+70	RT	45	-
11188+32	to	11188+32	RT	40	-
11190+00	to	11190+00	RT	40	-
11192+88	to	11192+88	RT	40	-
11194+91	to	11194+91	RT	50	-
11196+66	to	11196+85	RT	75	-

TEMPORARY EROSION CONTROL - CULVERT PROTECTION & RUNOFF PROTECTION

SITE 7 - WB PASSING LANE - RP 219.359 TO RP 221.472

Station	to	Station	Offset	12 In. Fiber Roll (LF)	20 In. Fiber Roll (LF)
11583+98	to	11583+98	LT	40	-
11585+98	to	11585+98	LT	40	-
11587+98	to	11587+98	LT	40	-
11589+97	to	11589+97	LT	40	-
11591+97	to	11591+97	LT	40	-
11593+97	to	11593+97	LT	40	-
11595+97	to	11595+97	LT	40	-
11597+97	to	11597+97	LT	40	-
11599+15	to	11599+15	LT	20	-
11601+57	to	11601+57	LT	40	-
11603+57	to	11603+57	LT	40	-
11605+57	to	11605+57	LT	40	-
11612+43	to	11612+43	LT	20	-
11613+19	to	11613+19	LT	40	-
11614+69	to	11614+69	LT	40	-
11616+69	to	11616+69	LT	40	-
11618+69	to	11618+69	LT	40	-
11621+19	to	11621+19	LT	40	-
11623+19	to	11623+19	LT	40	-
11625+19	to	11625+19	LT	40	-
11626+01	to	11626+01	LT	20	-
11627+68	to	11627+68	LT	40	-
11629+33	to	11629+33	LT	40	-
11631+33	to	11631+33	LT	40	-
11633+51	to	11633+82	LT	74	-
11634+39	to	11634+39	LT	20	-
11635+27	to	11635+27	LT	40	-
11636+93	to	11636+93	LT	40	-
11638+93	to	11638+93	LT	40	-
11640+94	to	11640+94	LT	40	-
11643+45	to	11643+45	LT	40	-
11645+46	to	11645+46	LT	40	-
11647+47	to	11647+47	LT	40	-
11649+47	to	11649+47	LT	40	-
11651+47	to	11651+47	LT	40	-
11652+40	to	11652+40	LT	20	-
11654+30	to	11654+30	LT	40	-
11656+30	to	11656+30	LT	40	-
11658+30	to	11658+30	LT	40	-
11660+30	to	11660+30	LT	40	-
11662+30	to	11662+30	LT	40	-
11664+30	to	11664+30	LT	40	-
11666+28	to	11666+28	LT	40	-
11668+24	to	11668+24	LT	40	-
11670+22	to	11670+22	LT	40	-
11672+18	to	11672+18	LT	40	-
11674+16	to	11674+16	LT	40	-
11676+13	to	11676+13	LT	40	-
11676+97	to	11676+97	LT	40	-
11677+41	to	11677+41	LT	20	-
11677+73	to	11677+73	LT	20	-
11677+75	to	11677+75	LT	20	-
11681+23	to	11681+23	LT	30	-
11682+46	to	11682+46	LT	30	-
11684+35	to	11684+35	LT	30	-
11686+35	to	11686+35	LT	30	-
11688+35	to	11688+35	LT	30	-
11690+35	to	11690+35	LT	30	-
11692+35	to	11692+35	LT	30	-
11693+02	to	11693+02	LT	20	-
11694+11	to	11694+25	LT	70	-

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 03/14/2022
NORTH DAKOTA

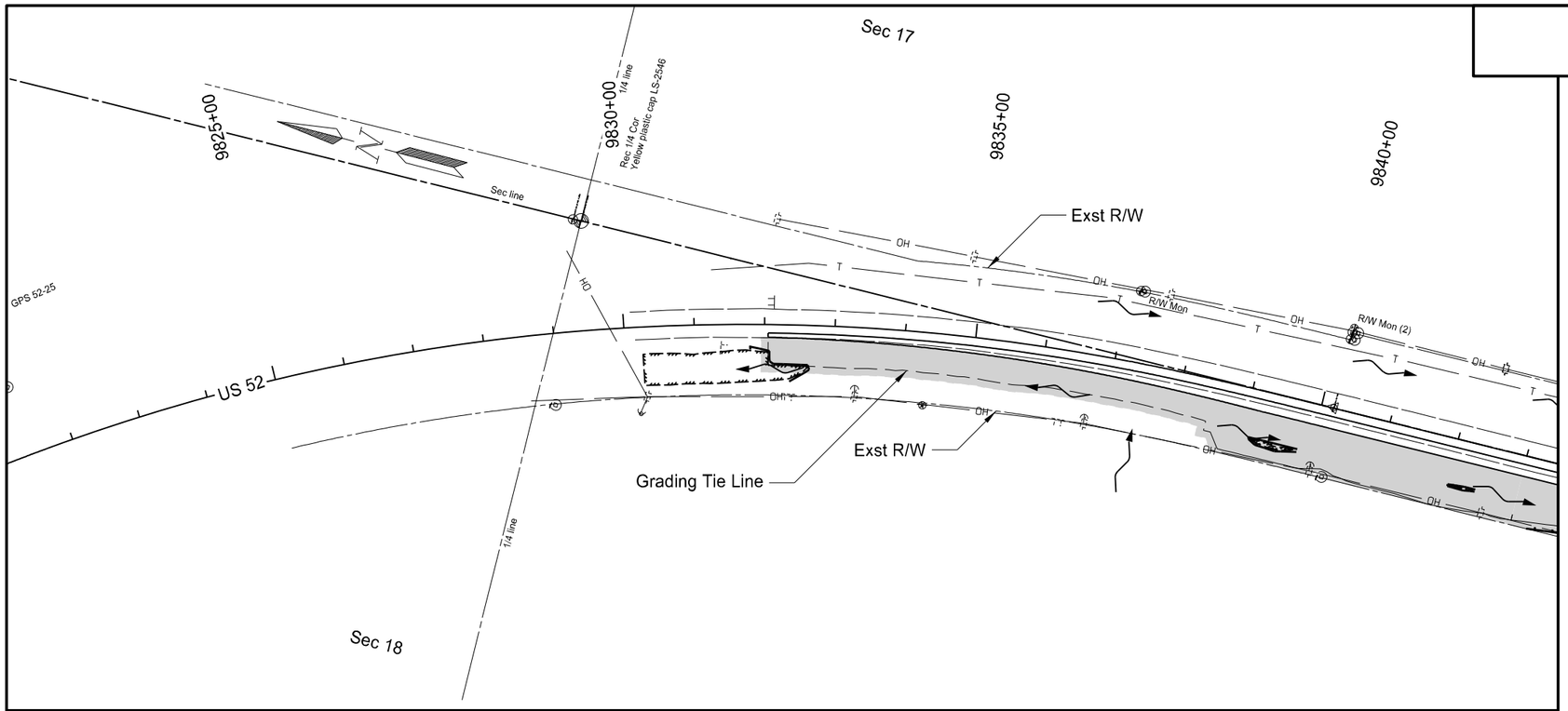
Temporary Erosion Control
Fiber Roll Summary

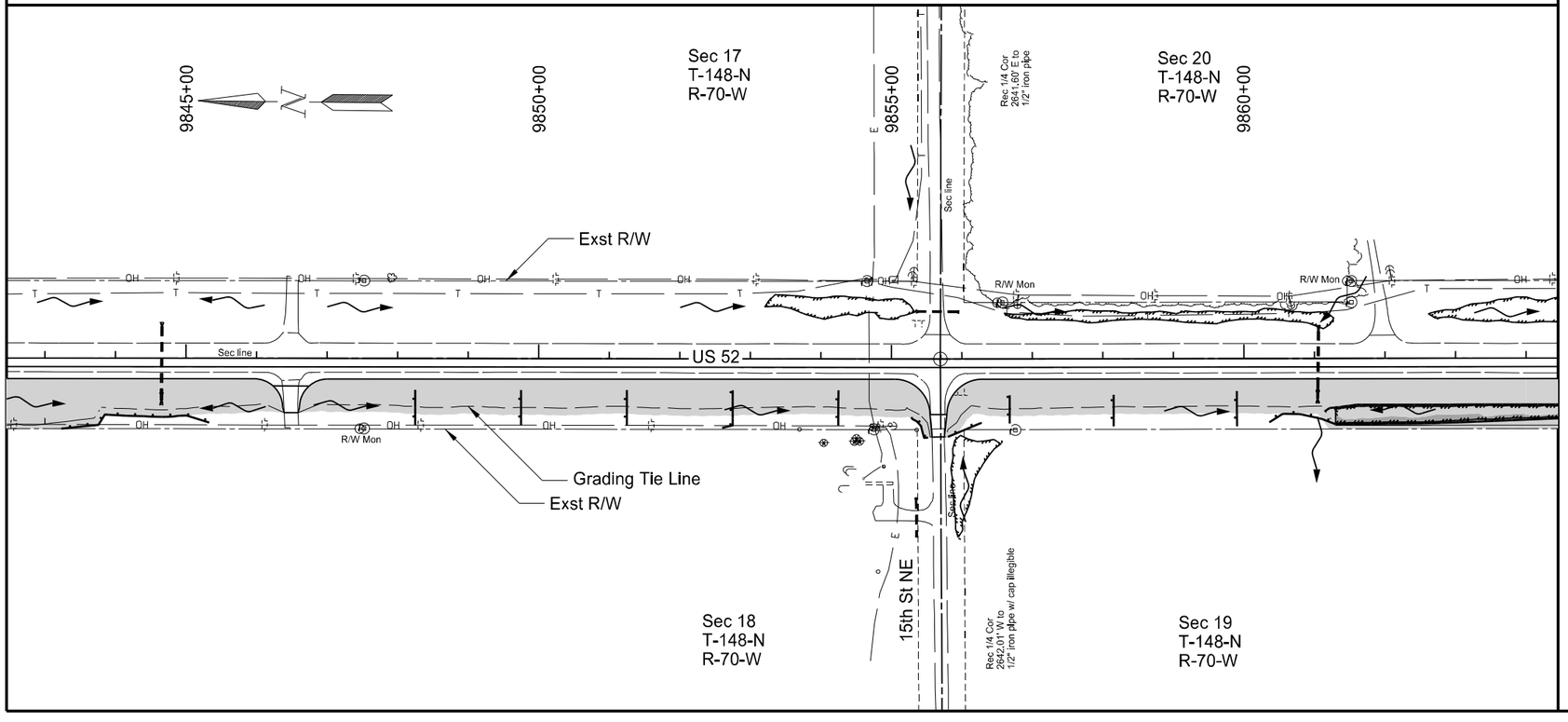
US 52
Fessenden to Carrington

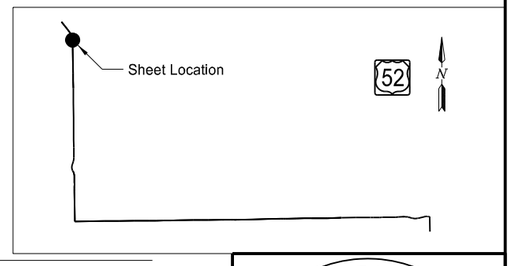
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	77	1

SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	SEEDING CLASS II		
		9831+95 to 9864+00	3.87	ACRE
251	1000	WETLAND SEED		
		9831+95 to 9864+00	0.04	ACRE
253	0101	SOIL STABILIZATION		
		9831+95 to 9864+00	3.87	ACRE

*NOTE: See Section 77, Sheet 25-27 for Fiber Roll data







Legend

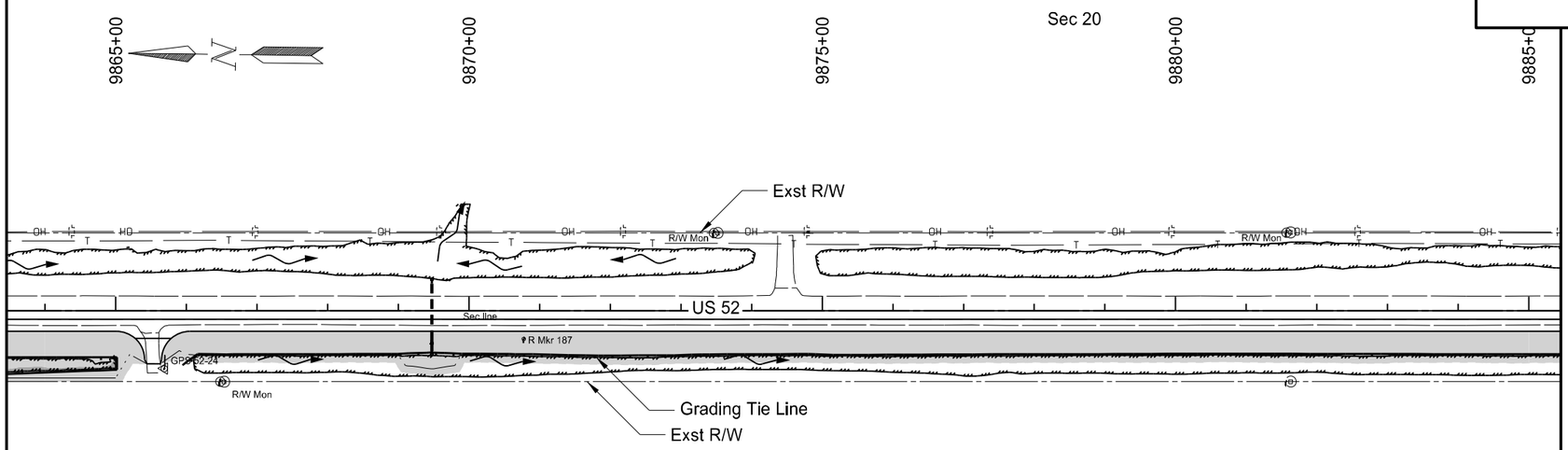
- Seeding / Soil Stabilization
- Wetland Seeding
- Erosion Control Blanket
- Fiber Rolls 12IN
- Wetland Boundary
- Existing Other Water Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 04/01/2022
NORTH DAKOTA

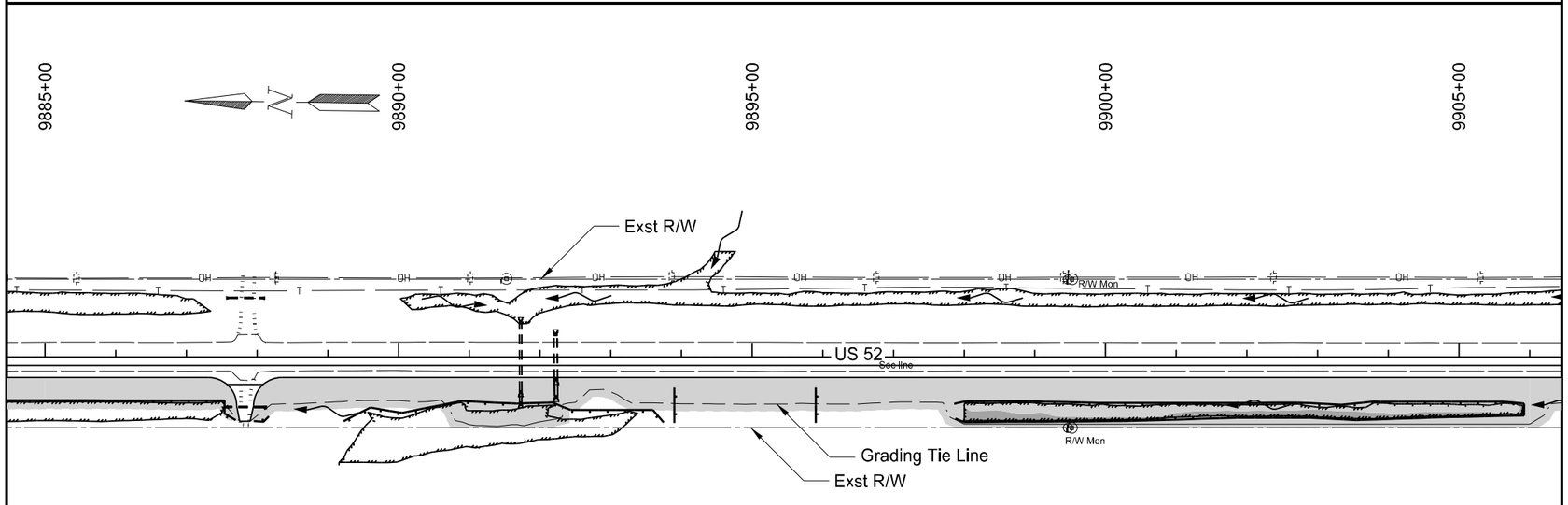
Permanent Erosion Control

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	77	2

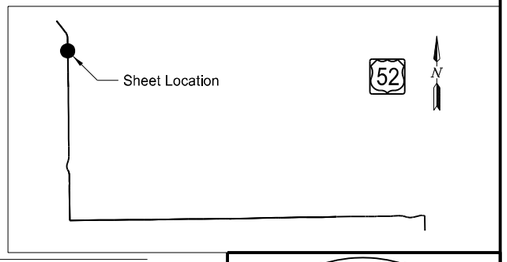


Sec 19



SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	SEEDING CLASS II		
		9864+00 to 9906+00	4.81	ACRE
251	1000	WETLAND SEED		
		9864+00 to 9906+00	0.14	ACRE
253	0061	SOIL STABILIZATION		
		9864+00 to 9906+00	4.81	ACRE

*NOTE: See Section 77, Sheet 25-27 for Fiber Roll data



Legend

- Seeding / Soil Stabilization
- Wetland Seeding
- Erosion Control Blanket
- Fiber Rolls 12IN
- Wetland Boundary
- Existing Other Water Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KLEBER
PE-9475
DATE 04/01/2022
NORTH DAKOTA

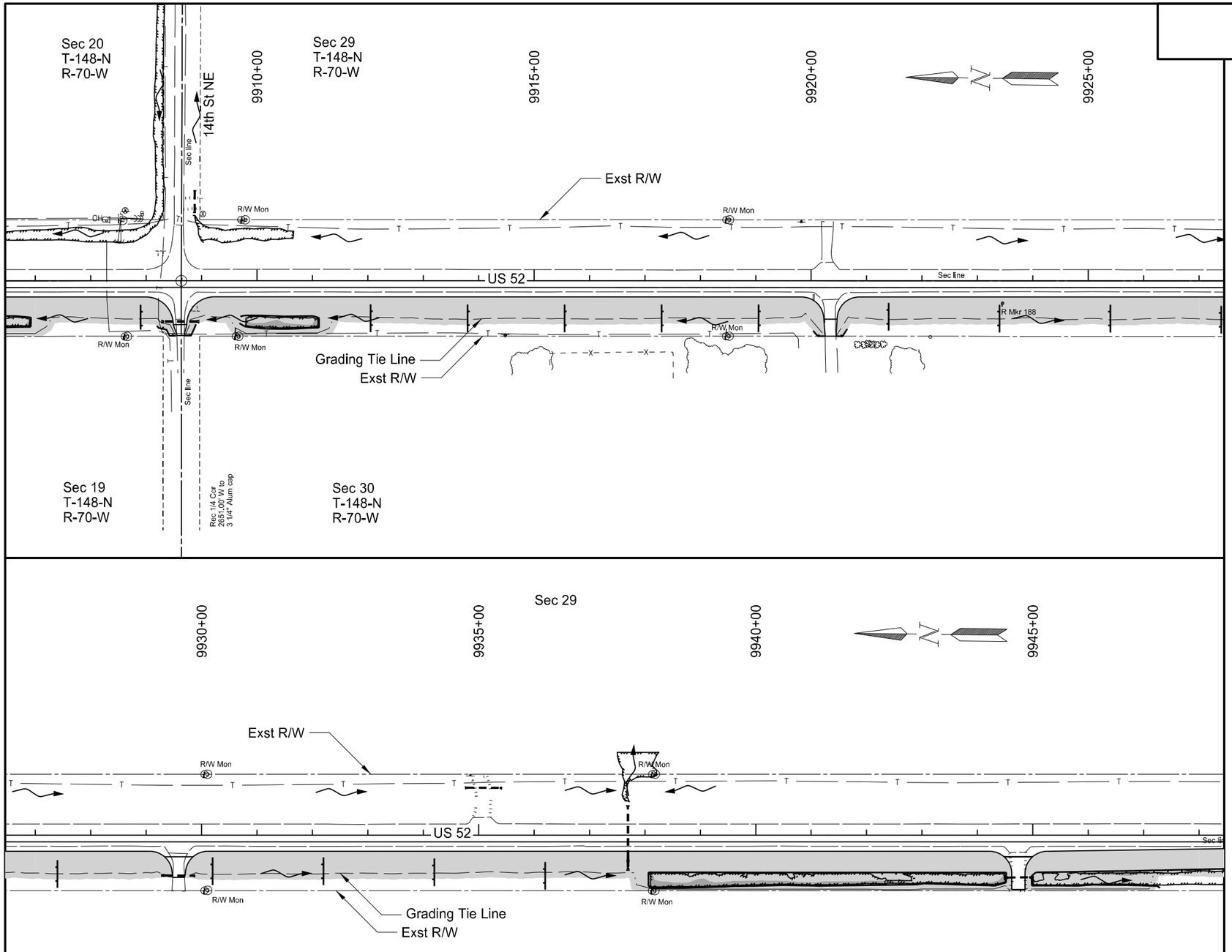
Permanent Erosion Control

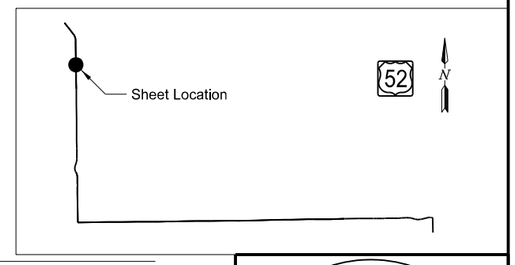
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	77	3

SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	SEEDING CLASS II		
		9906+00 to 9948+00	5.03	ACRE
251	1000	WETLAND SEED		
		9906+00 to 9948+00	0.13	ACRE
253	0061	SOIL STABILIZATION		
		9906+00 to 9948+00	5.03	ACRE

*NOTE: See Section 77, Sheet 25-27 for Fiber Roll data





Legend

- Seeding / Soil Stabilization
- Wetland Seeding
- Erosion Control Blanket
- Fiber Rolls 12IN
- Wetland Boundary
- Existing Other Water Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 04/01/2022
NORTH DAKOTA

Permanent Erosion Control

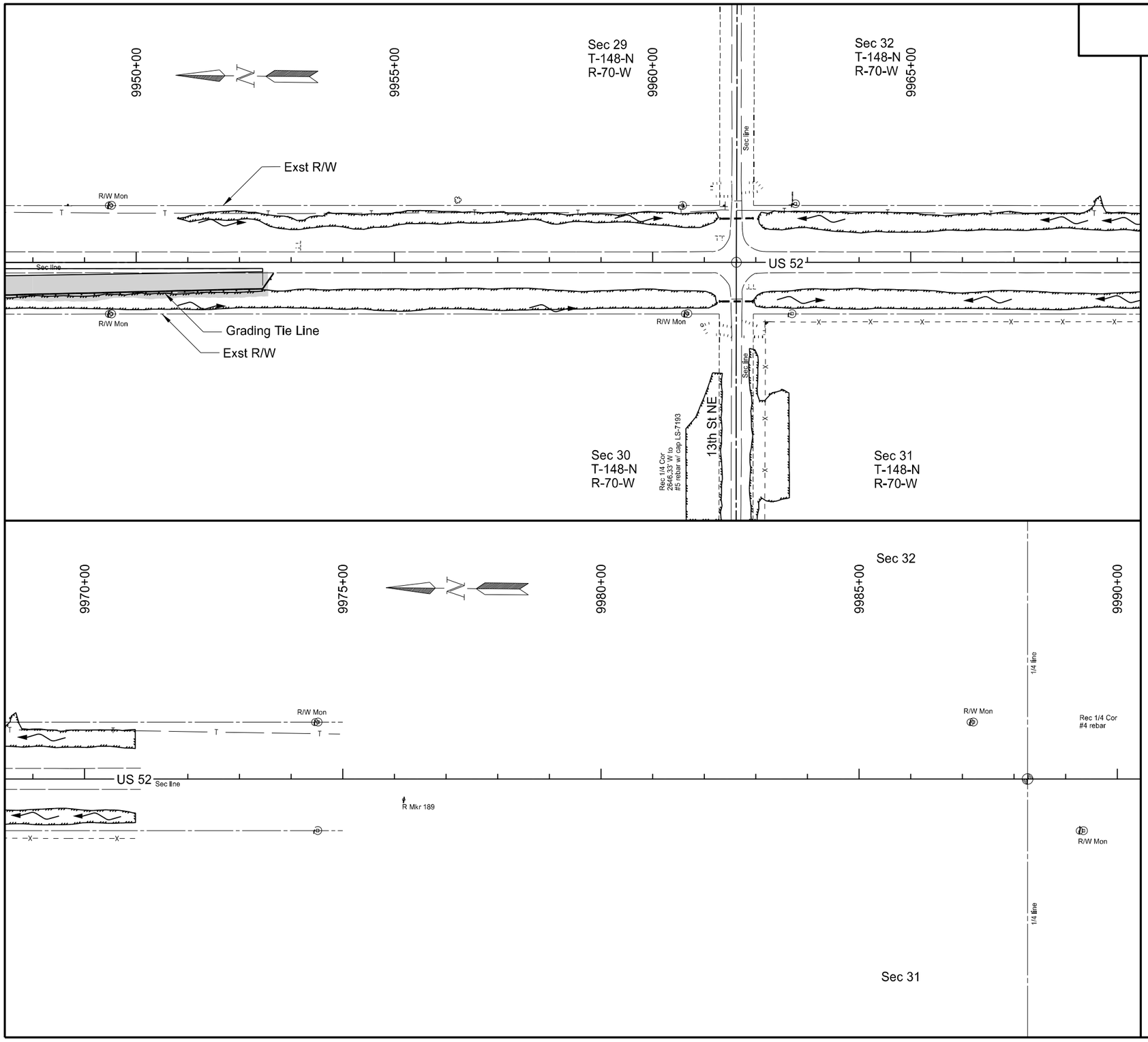
US 52
Fessenden to Carrington

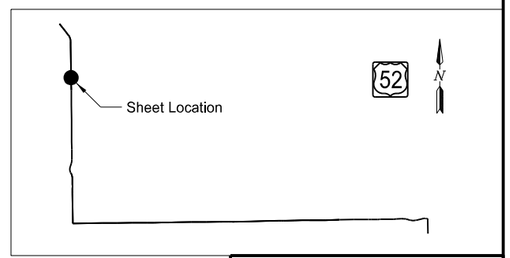
3/30/2022 3:42:11 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\077PE_003.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	77	4

SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	SEEDING CLASS II		
		9948+00 to 9952+55	0.51	ACRE
253	0061	SOIL STABILIZATION		
		9948+00 to 9952+55	0.51	ACRE

*NOTE: See Section 77, Sheet 25-27 for Fiber Roll data





Legend

- Seeding / Soil Stabilization
- Wetland Seeding
- Erosion Control Blanket
- Fiber Rolls 12IN
- Wetland Boundary
- Existing Other Water Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KIEBER
PE-9475
DATE 04/01/2022
NORTH DAKOTA

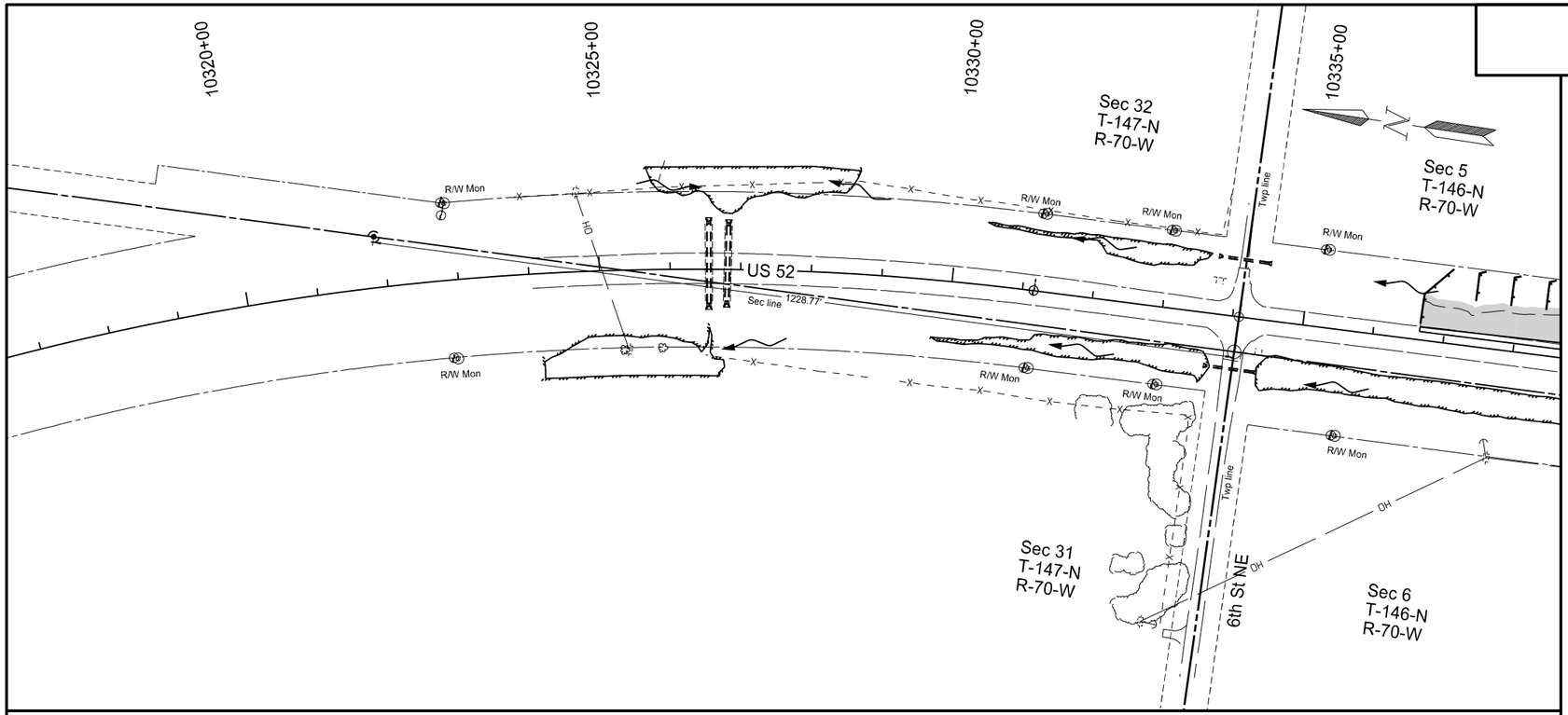
Permanent Erosion Control

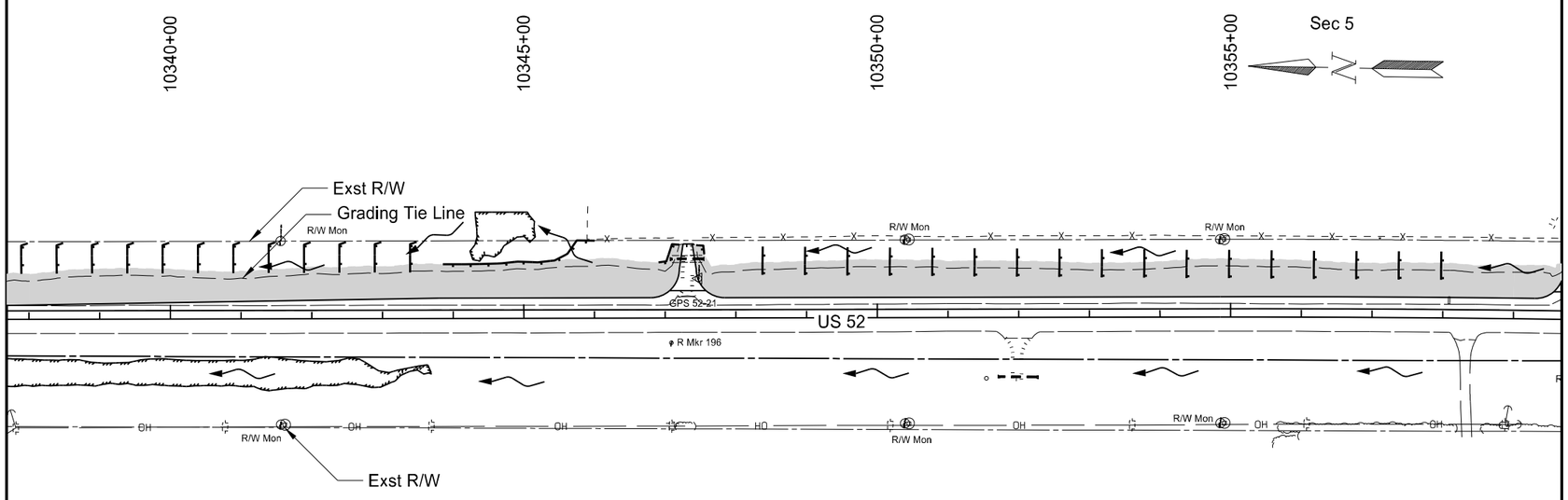
US 52
Fessenden to Carrington

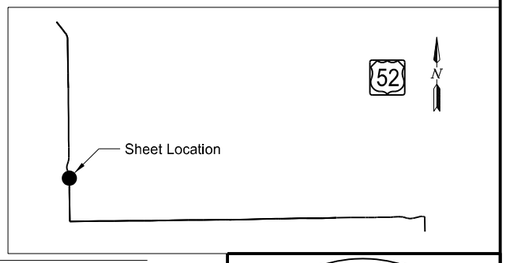
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	77	5

SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	SEEDING CLASS II		
		10336+65 to 10359+00	2.49	ACRE
253	0061	SOIL STABILIZATION		
		10336+65 to 10359+00	2.49	ACRE

*NOTE: See Section 77, Sheet 25-27 for Fiber Roll data







Legend

- Seeding / Soil Stabilization
- Wetland Seeding
- Erosion Control Blanket
- Fiber Rolls 12IN
- Wetland Boundary
- Existing Other Water Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

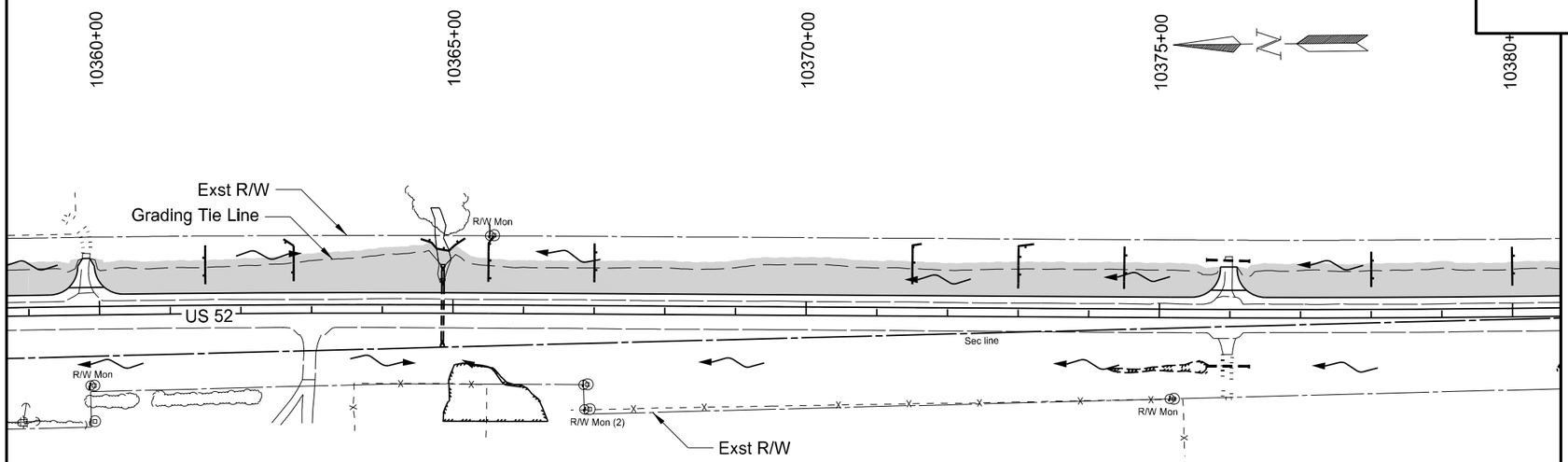
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KIEBER
PE-9475
DATE 04/01/2022
NORTH DAKOTA

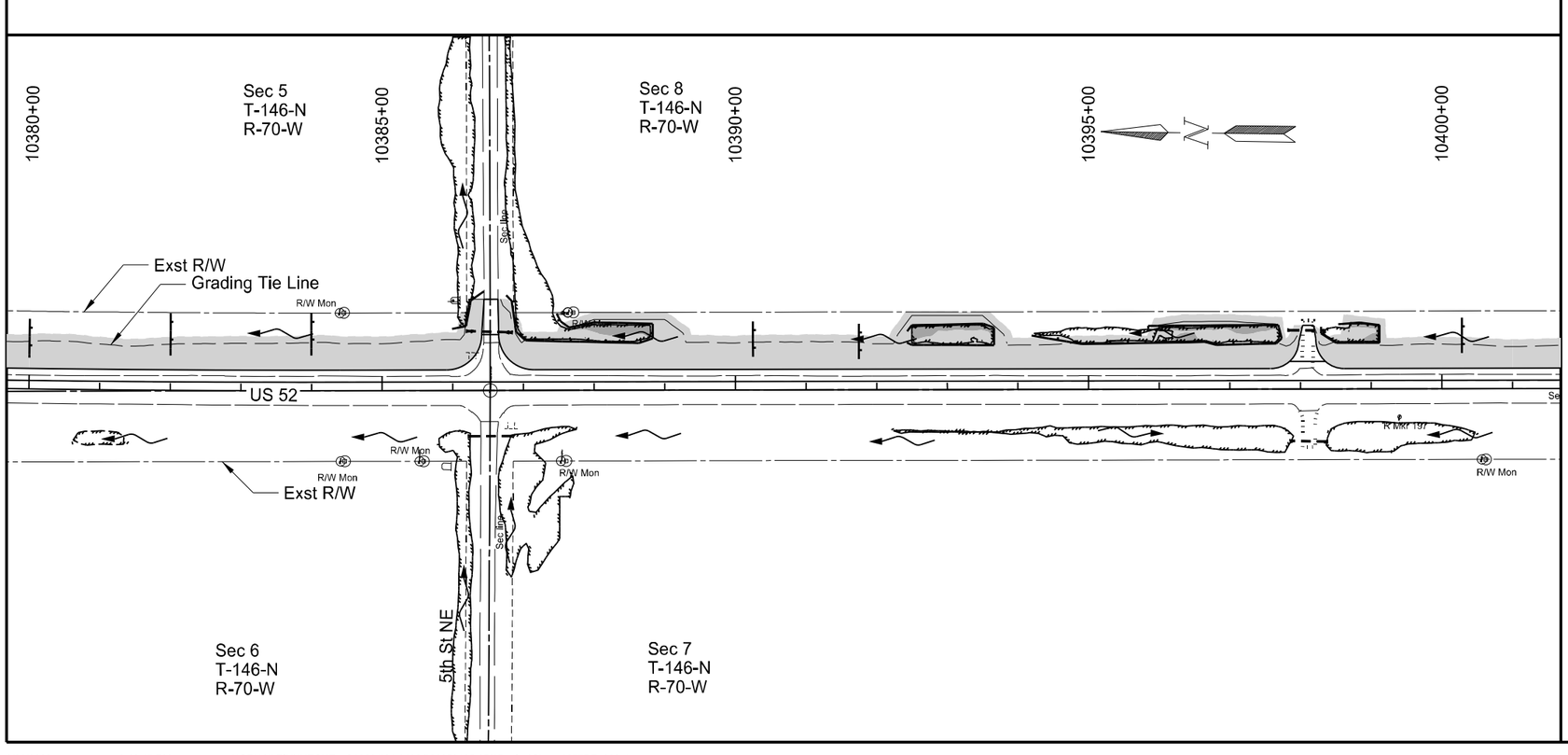
Permanent Erosion Control

US 52
Fessenden to Carrington

3/30/2022 3:42:15 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\077PE_005.dgn

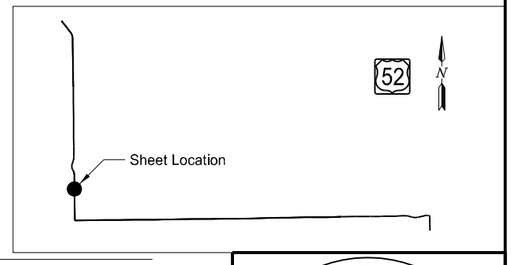
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	77	6





SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	SEEDING CLASS II		
		10359+00 to 10401+00	4.86	ACRE
251	1000	WETLAND SEED		
		10359+00 to 10401+00	0.10	ACRE
253	0101	SOIL STABILIZATION		
		10359+00 to 10401+00	4.86	ACRE

*NOTE: See Section 77, Sheet 25-27 for Fiber Roll data



Legend

- Seeding / Soil Stabilization
- Wetland Seeding
- Erosion Control Blanket
- Fiber Rolls 12IN
- Wetland Boundary
- Existing Other Water Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 04/01/2022
NORTH DAKOTA

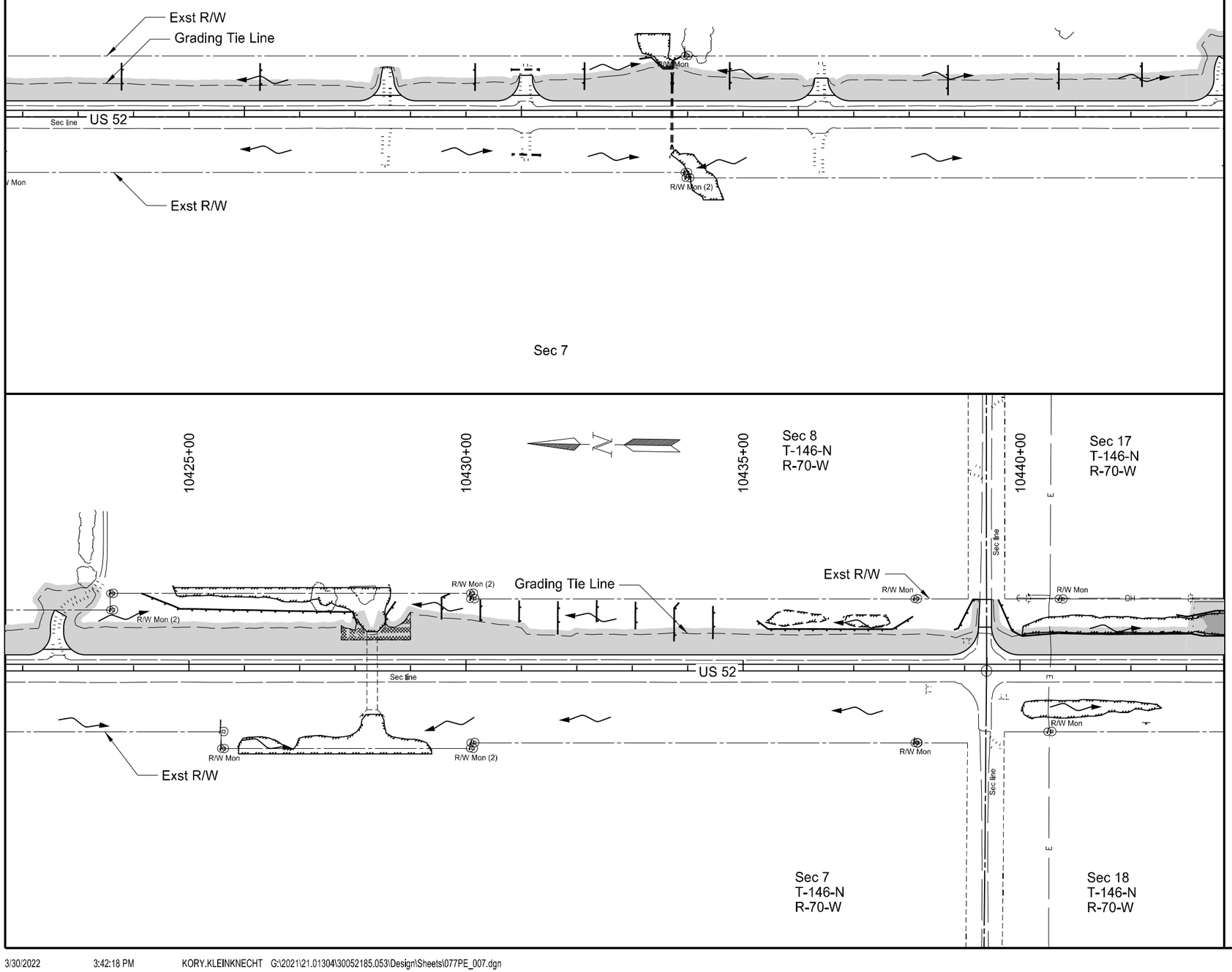
Permanent Erosion Control

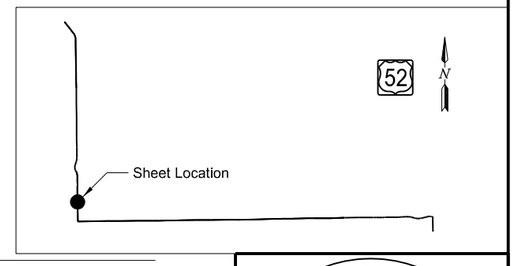
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	77	7

SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	SEEDING CLASS II		
		10401+00 to 10443+00	4.85	ACRE
253	0061	SOIL STABILIZATION		
		10401+00 to 10443+00	4.85	ACRE
255	0102	ECB TYPE 2		
		10427+75 to 10429+00 LT	306	SY

*NOTE: See Section 77, Sheet 25-27 for Fiber Roll data





Legend

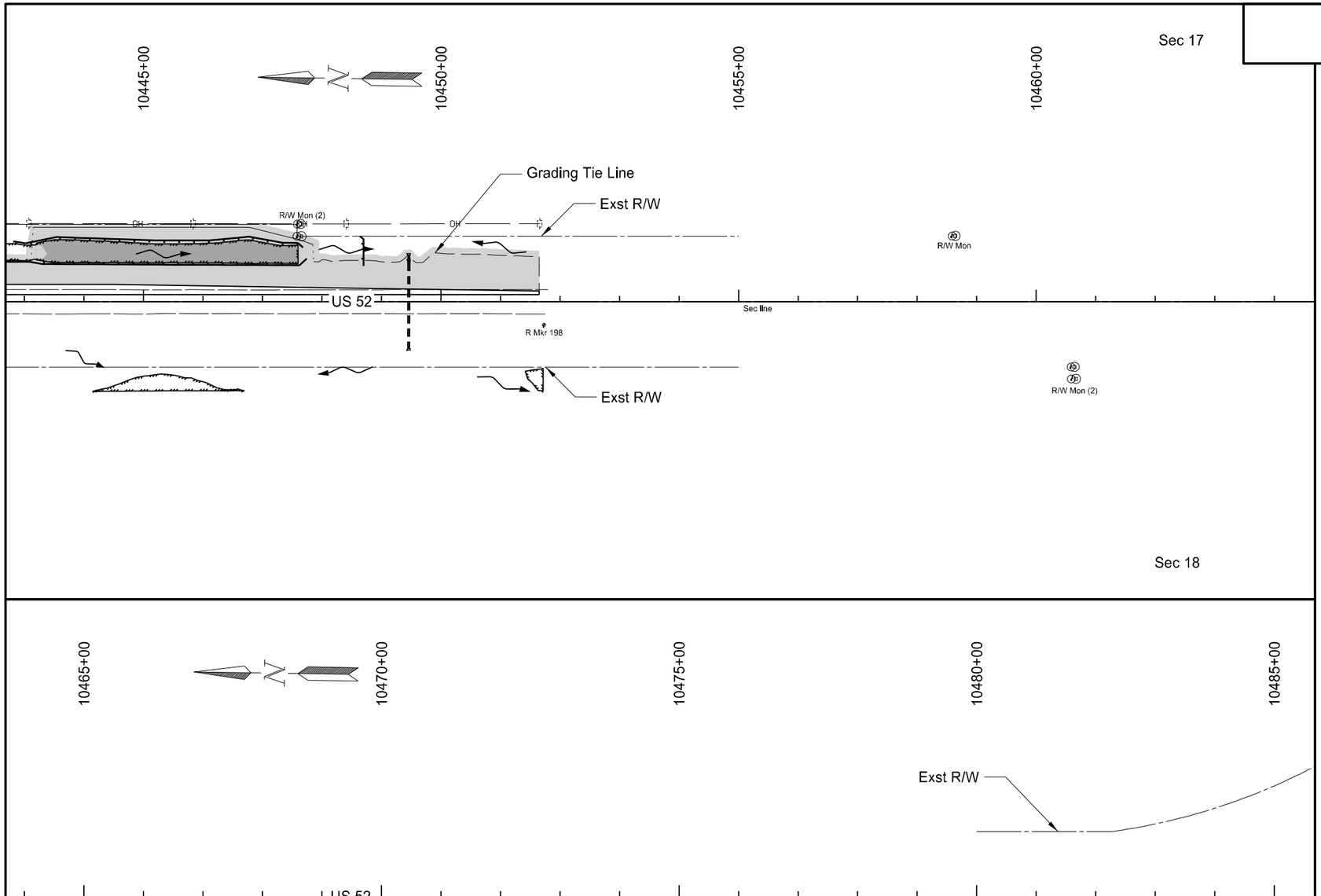
- Seeding / Soil Stabilization
- Wetland Seeding
- Erosion Control Blanket
- Fiber Rolls 12IN
- Wetland Boundary
- Existing Other Water Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 04/01/2022
NORTH DAKOTA

Permanent Erosion Control

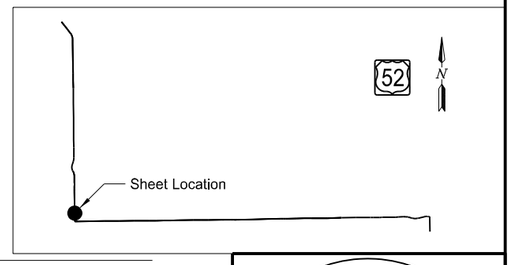
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	77	8



SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	SEEDING CLASS II		
		10443+00 to 10451+65	1.33	ACRE
251	1000	WETLAND SEED		
		10443+00 to 10451+65	0.34	ACRE
253	0061	SOIL STABILIZATION		
		10443+00 to 10451+65	1.33	ACRE

*NOTE: See Section 77, Sheet 25-27 for Fiber Roll data



Legend

- Seeding / Soil Stabilization
- Wetland Seeding
- Erosion Control Blanket
- Fiber Rolls 12IN
- Wetland Boundary
- Existing Other Water Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 04/01/2022
NORTH DAKOTA

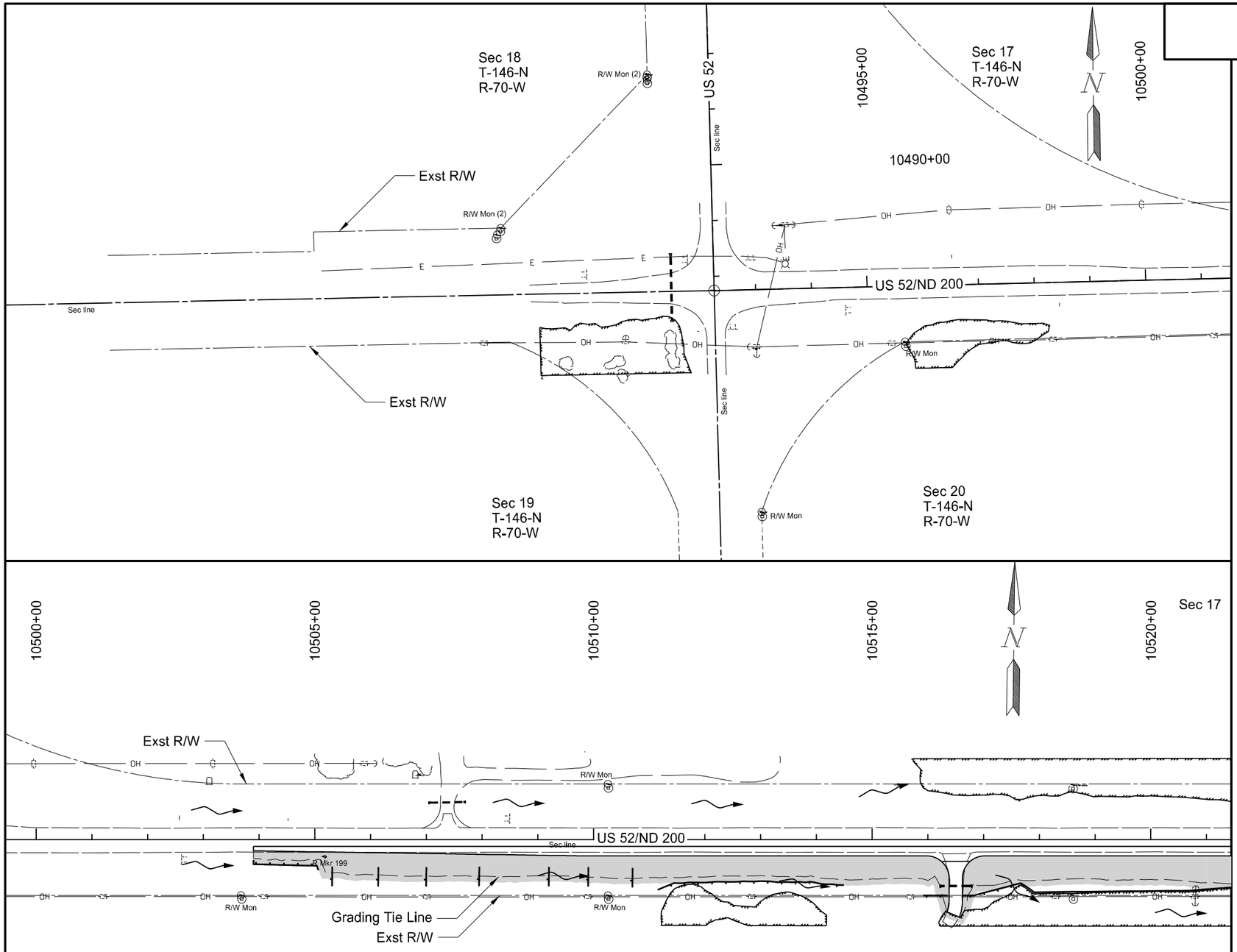
Permanent Erosion Control

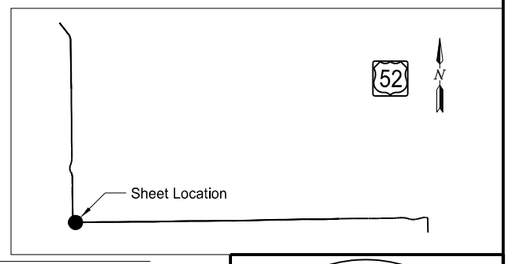
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	77	9

SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	SEEDING CLASS II		
		10503+90 to 10521+00	1.93	ACRE
253	0061	SOIL STABILIZATION		
		10503+90 to 10521+00	1.93	ACRE

*NOTE: See Section 77, Sheet 25-27 for Fiber Roll data





Legend

- Seeding / Soil Stabilization
- Wetland Seeding
- Erosion Control Blanket
- Fiber Rolls 12IN
- Wetland Boundary
- Existing Other Water Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 04/01/2022
NORTH DAKOTA

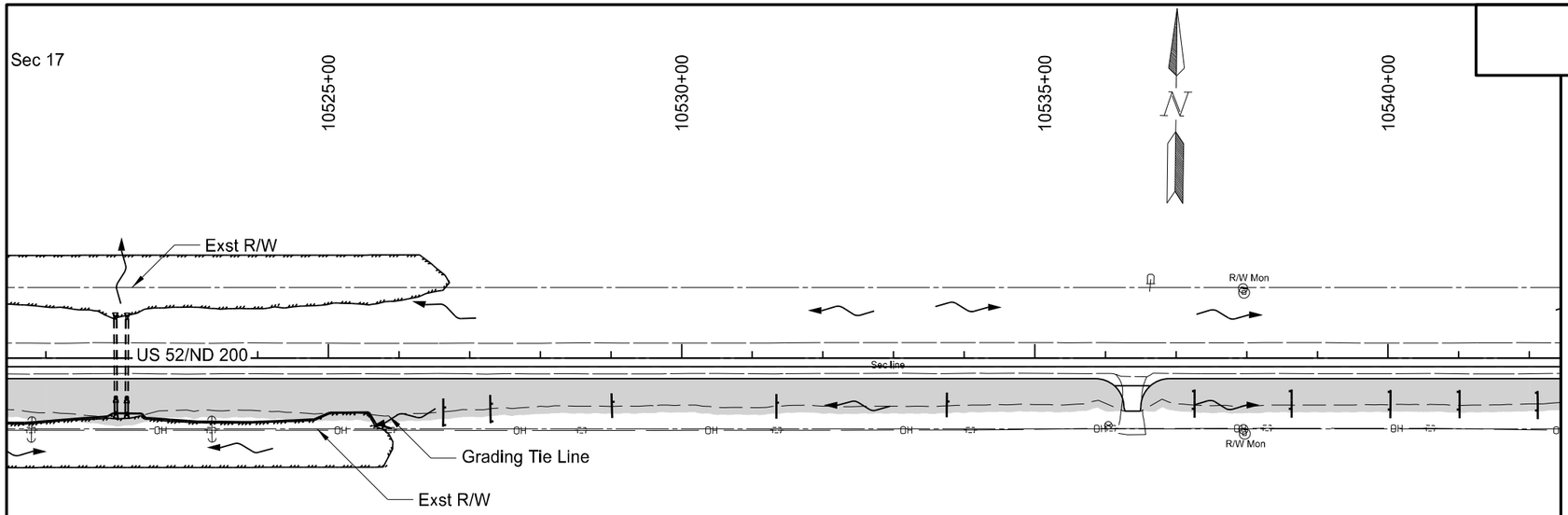
Permanent Erosion Control

US 52
Fessenden to Carrington

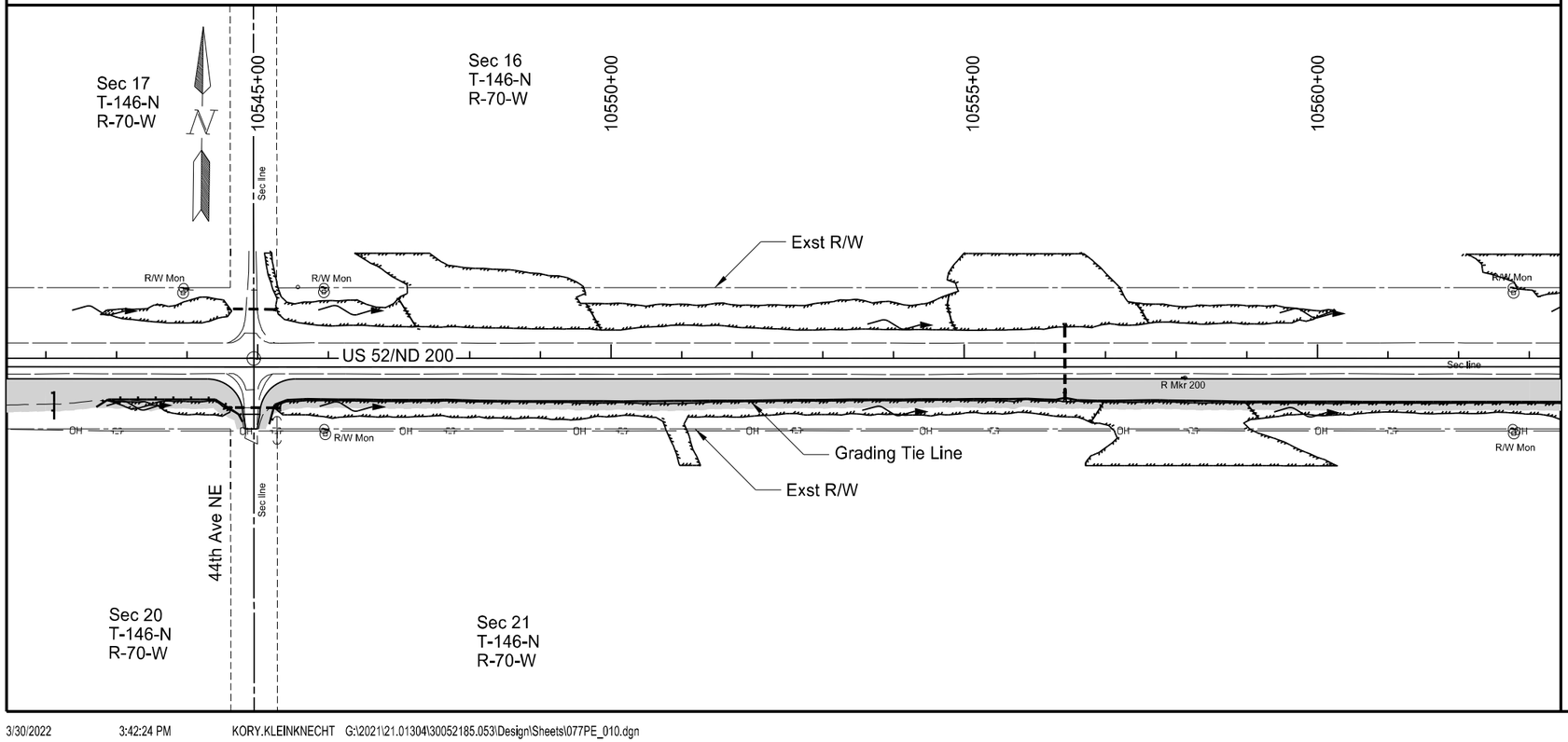
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	77	10

Sec 17

10525+00 10530+00 10535+00 10540+00

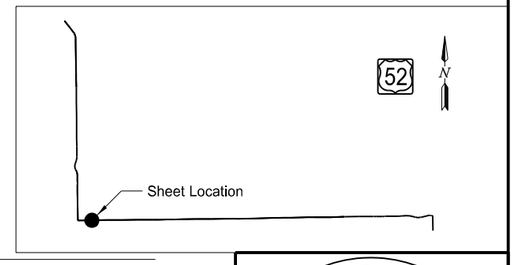


Sec 20



SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	SEEDING CLASS II		
		10521+00 to 10563+00	4.45	ACRE
253	0061	SOIL STABILIZATION		
		10521+00 to 10563+00	4.45	ACRE

*NOTE: See Section 77, Sheet 25-27 for Fiber Roll data



Legend

- Seeding / Soil Stabilization
- Wetland Seeding
- Erosion Control Blanket
- Fiber Rolls 12IN
- Wetland Boundary
- Existing Other Water Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 04/01/2022
NORTH DAKOTA

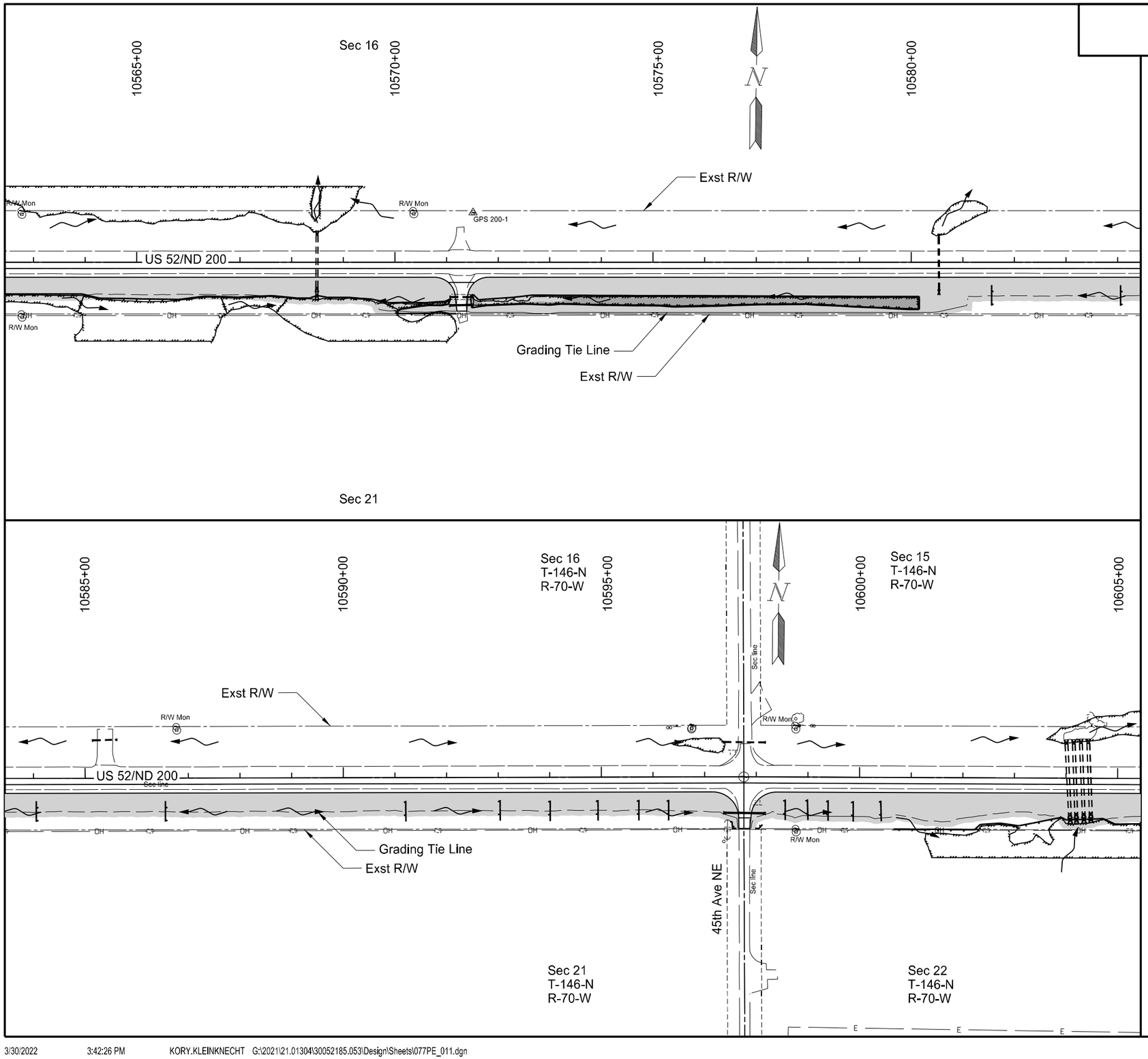
Permanent Erosion Control

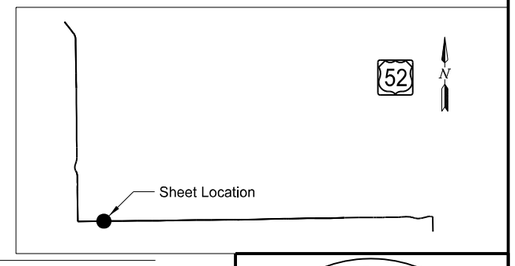
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	77	11

SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	SEEDING CLASS II		
		10563+00 to 10605+00	4.94	ACRE
251	1000	WETLAND SEED		
		10563+00 to 10605+00	0.26	ACRE
253	0061	SOIL STABILIZATION		
		10563+00 to 10605+00	4.94	ACRE

*NOTE: See Section 77, Sheet 25-27 for Fiber Roll data





Legend

- Seeding / Soil Stabilization
- Wetland Seeding
- Erosion Control Blanket
- Fiber Rolls 12IN
- Wetland Boundary
- Existing Other Water Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 04/01/2022
NORTH DAKOTA

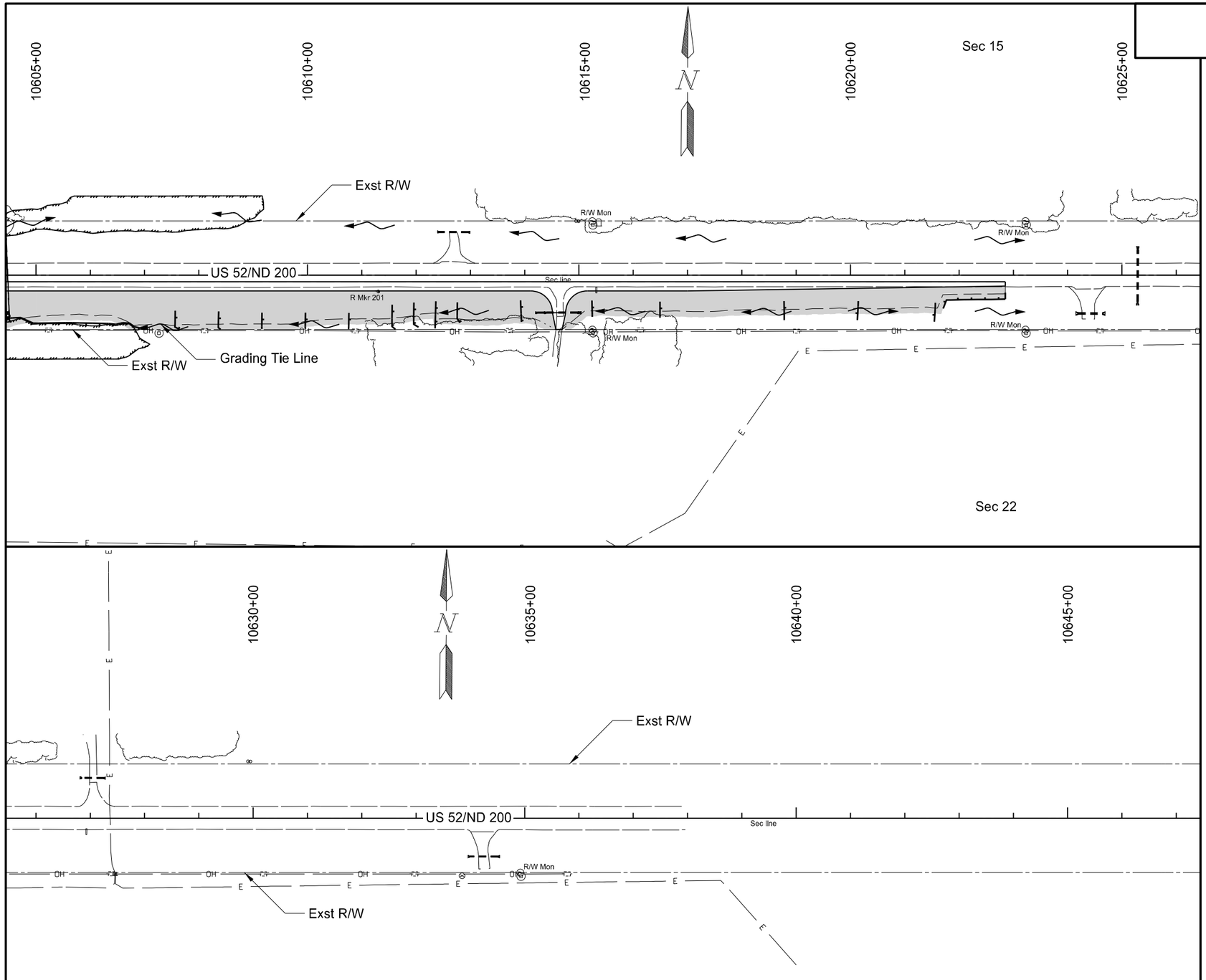
Permanent Erosion Control

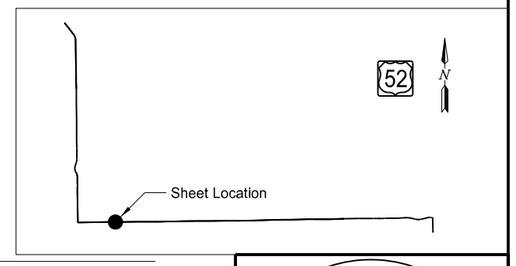
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	77	12

SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	SEEDING CLASS II		
		10605+00 to 10622+85	2.21	ACRE
253	0061	SOIL STABILIZATION		
		10605+00 to 10622+85	2.21	ACRE

*NOTE: See Section 77, Sheet 25-27 for Fiber Roll data





Legend

- Seeding / Soil Stabilization
- Wetland Seeding
- Erosion Control Blanket
- Fiber Rolls 12IN
- Wetland Boundary
- Existing Other Water Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 04/01/2022
NORTH DAKOTA

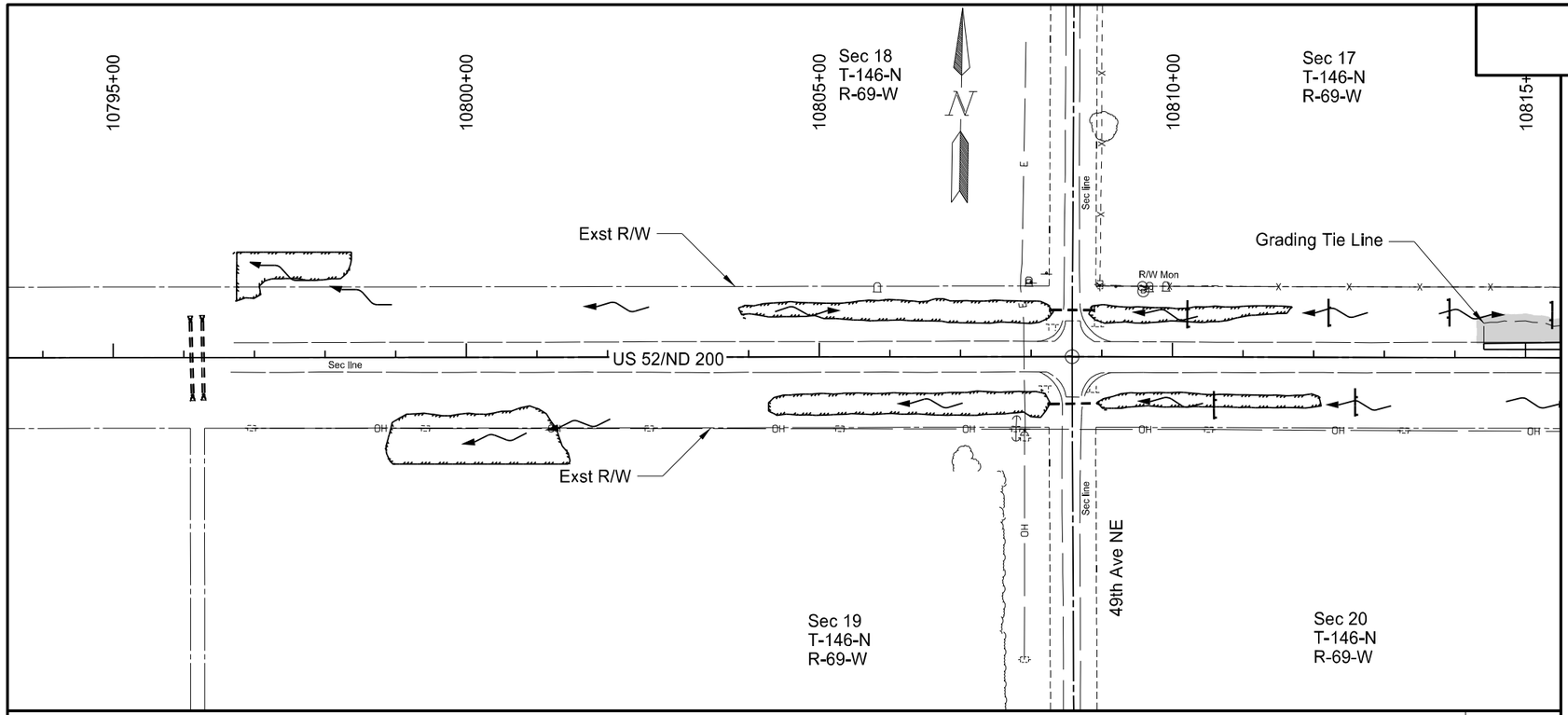
Permanent Erosion Control

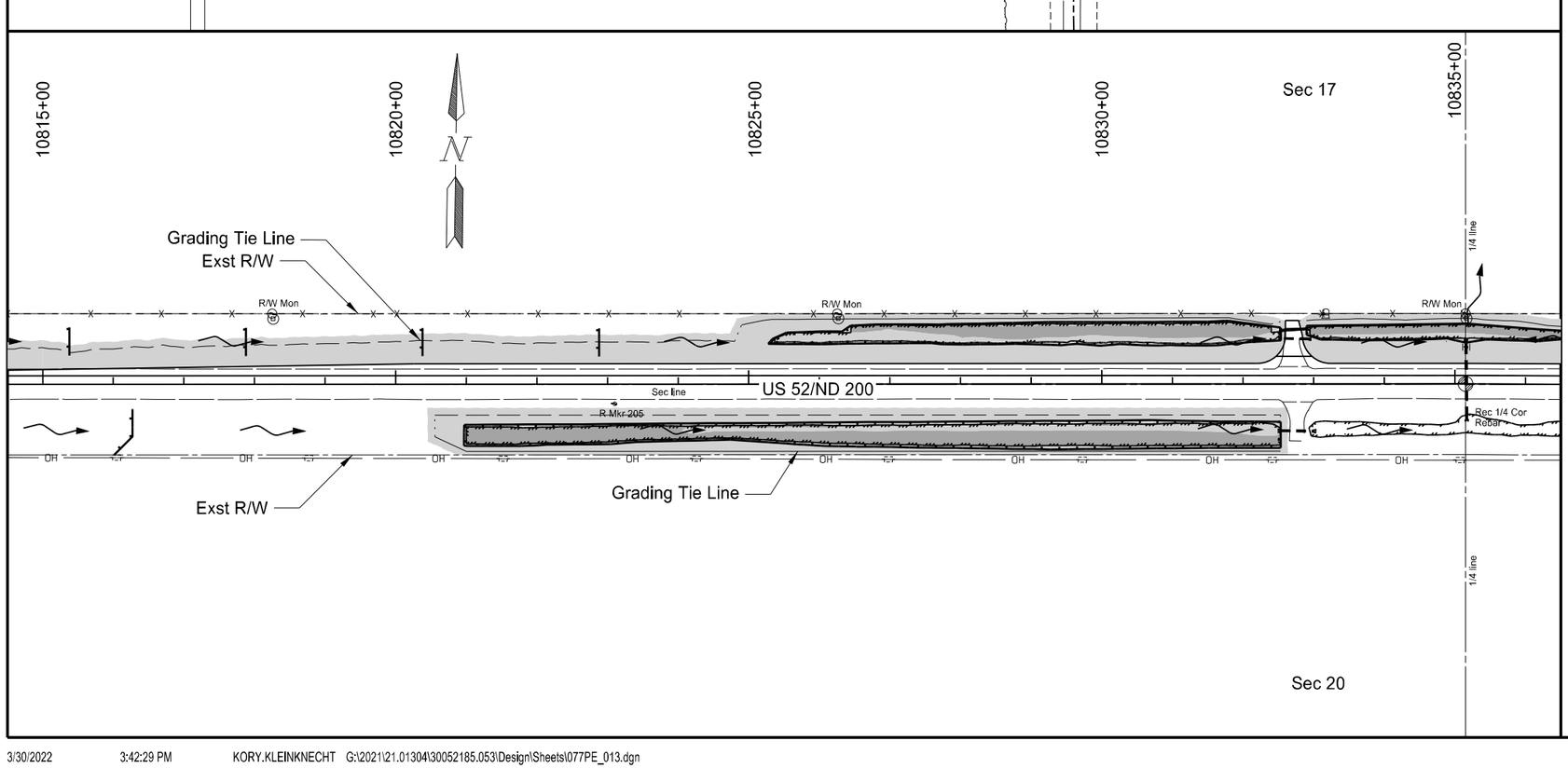
US 52
Fessenden to Carrington

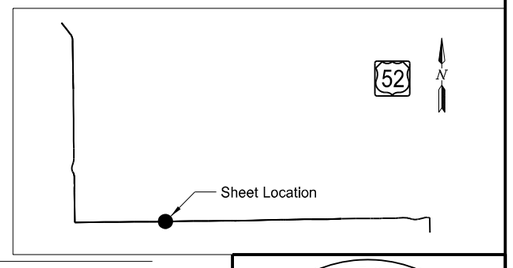
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	77	13

SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	SEEDING CLASS II		
		10808+80 to 10836+00	3.73	ACRE
251	1000	WETLAND SEED		
		10808+80 to 10836+00	0.84	ACRE
253	0061	SOIL STABILIZATION		
		10808+80 to 10836+00	3.73	ACRE

*NOTE: See Section 77, Sheet 25-27 for Fiber Roll data







Legend

- Seeding / Soil Stabilization
- Wetland Seeding
- Erosion Control Blanket
- Fiber Rolls 12IN
- Wetland Boundary
- Existing Other Water Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

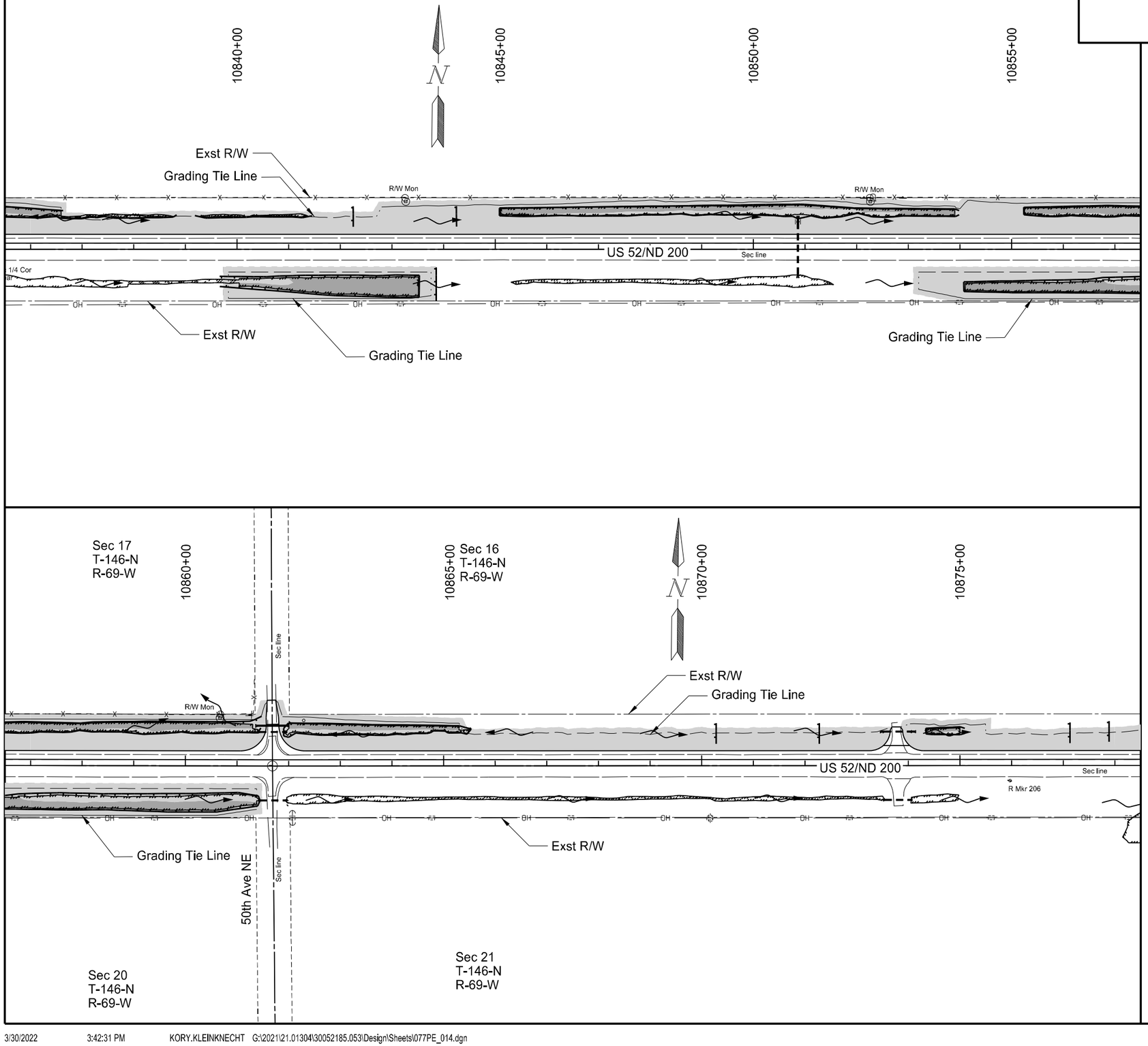
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 04/01/2022
NORTH DAKOTA

Permanent Erosion Control

US 52
Fessenden to Carrington

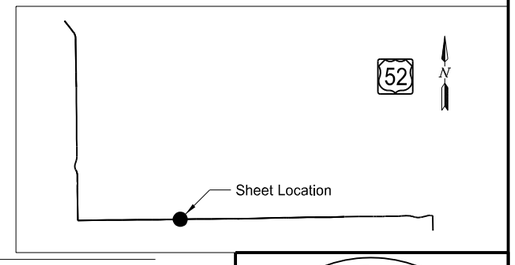
3/30/2022 3:42:29 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\077PE_013.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	77	14



SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	SEEDING CLASS II		
		10836+00 to 10878+00	6.52	ACRE
251	1000	WETLAND SEED		
		10836+00 to 10878+00	0.94	ACRE
253	0061	SOIL STABILIZATION		
		10836+00 to 10878+00	6.52	ACRE

*NOTE: See Section 77, Sheet 25-27 for Fiber Roll data



Legend

- Seeding / Soil Stabilization
- Wetland Seeding
- Erosion Control Blanket
- Fiber Rolls 12IN
- Wetland Boundary
- Existing Other Water Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 04/01/2022
NORTH DAKOTA

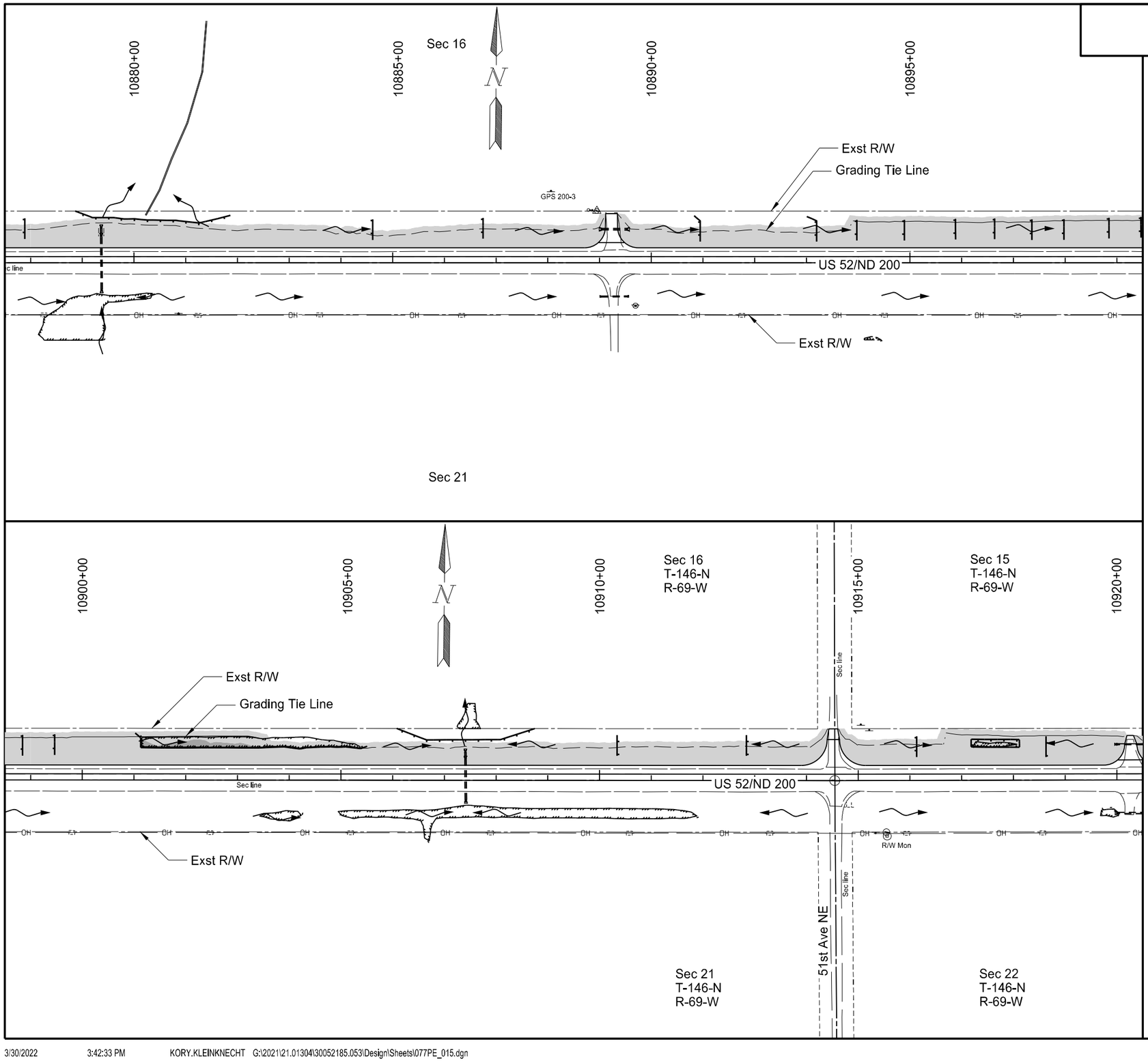
Permanent Erosion Control

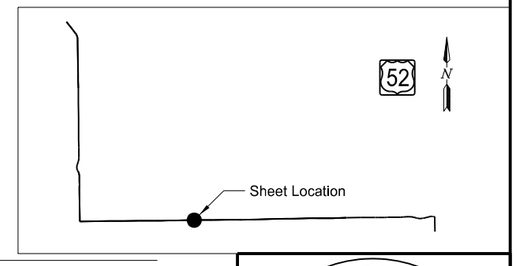
US 52
Fessenden to Carrington

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	INF-X-3-052(053)185	77	15

SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	SEEDING CLASS II		
		10878+00 to 10920+00	4.85	ACRE
251	1000	WETLAND SEED		
		10878+00 to 10920+00	0.06	ACRE
253	0061	SOIL STABILIZATION		
		10878+00 to 10920+00	4.85	ACRE

*NOTE: See Section 77, Sheet 25-27 for Fiber Roll data





Legend

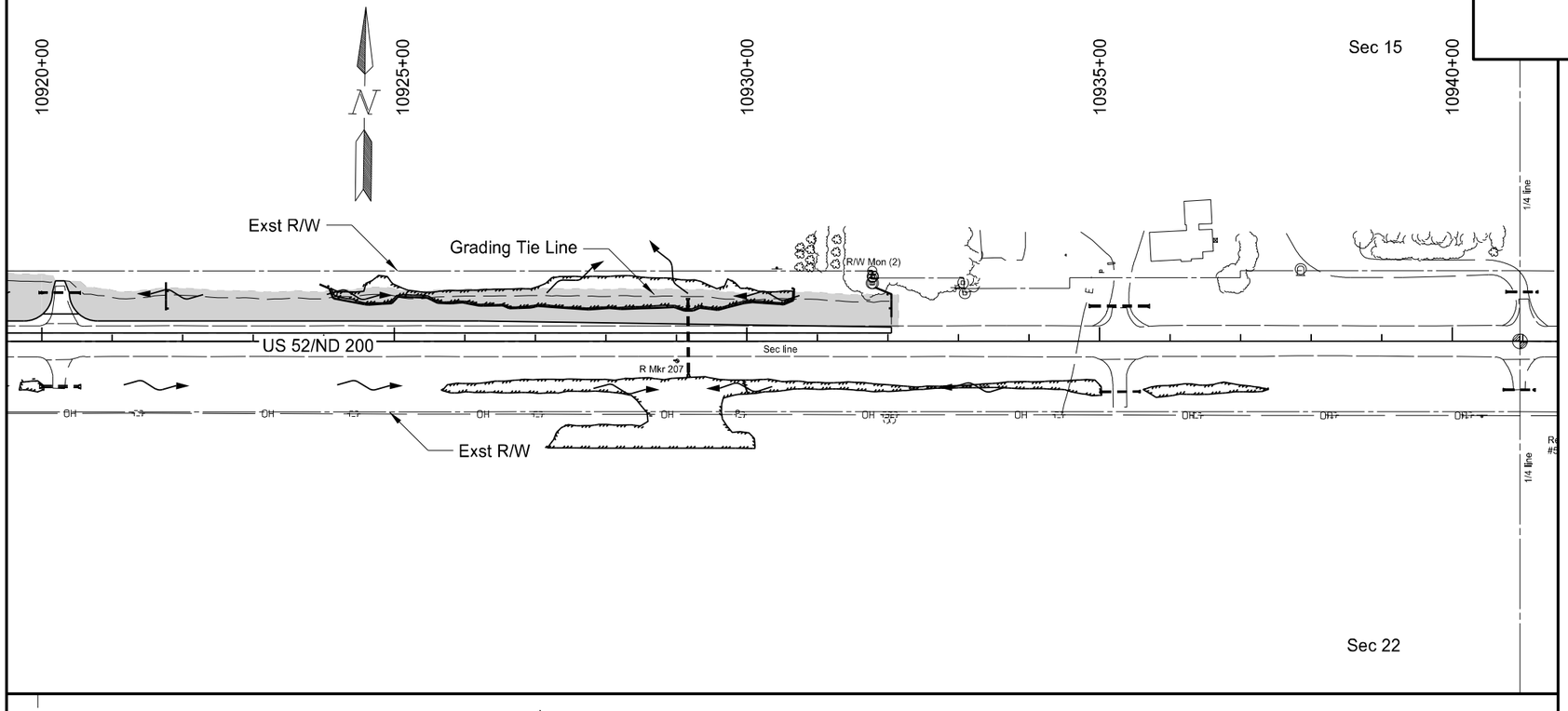
- Seeding / Soil Stabilization
- Wetland Seeding
- Erosion Control Blanket
- Fiber Rolls 12IN
- Wetland Boundary
- Existing Other Water Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

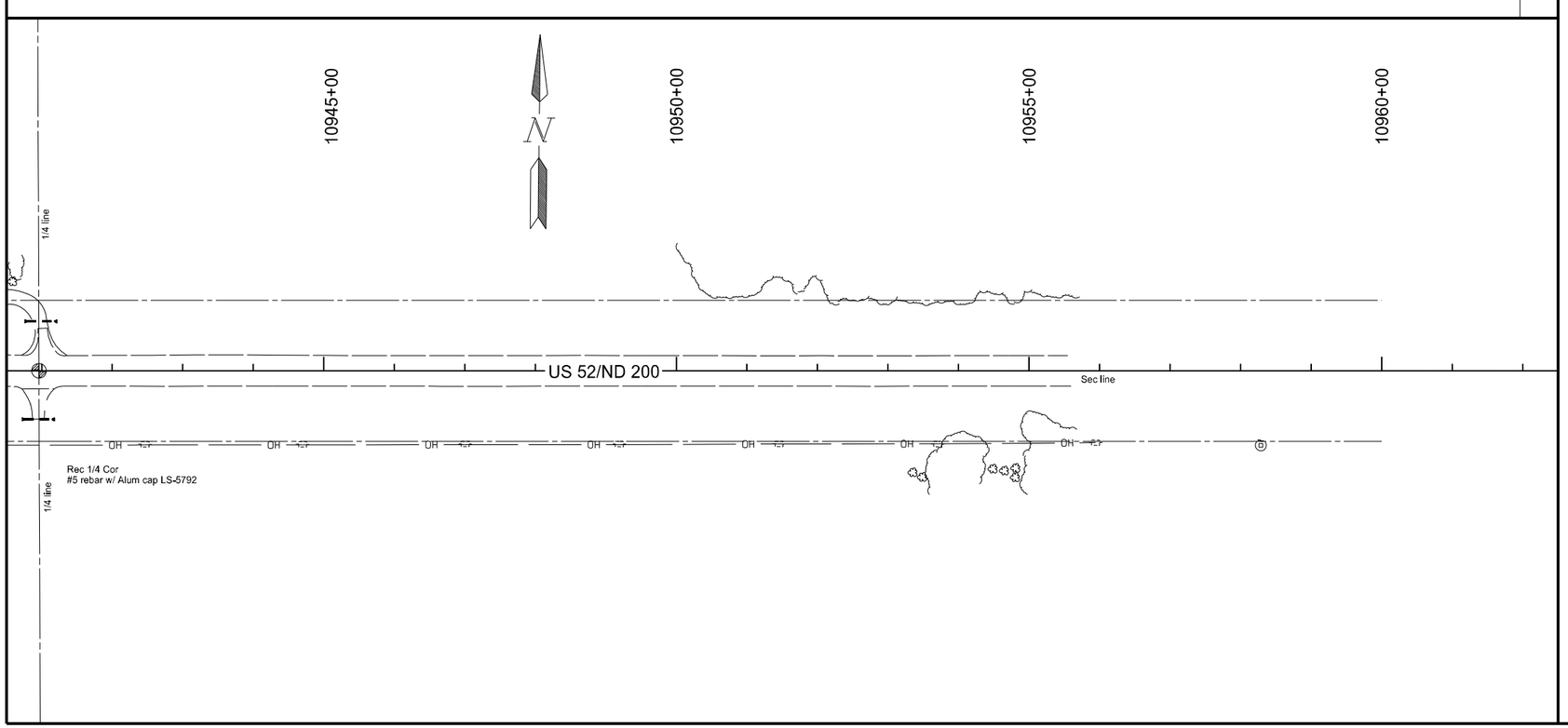
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 04/01/2022
NORTH DAKOTA

Permanent Erosion Control

US 52
Fessenden to Carrington

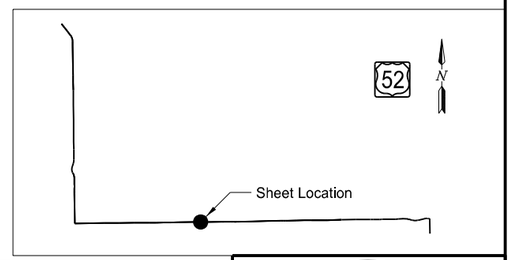
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	77	16





SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	SEEDING CLASS II		
		10920+00 to 10932+05	1.25	ACRE
253	0061	SOIL STABILIZATION		
		10920+00 to 10932+05	1.25	ACRE

*NOTE: See Section 77, Sheet 25-27 for Fiber Roll data



Legend

- Seeding / Soil Stabilization
- Wetland Seeding
- Erosion Control Blanket
- Fiber Rolls 12IN
- Wetland Boundary
- Existing Other Water Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 04/01/2022
NORTH DAKOTA

Permanent Erosion Control

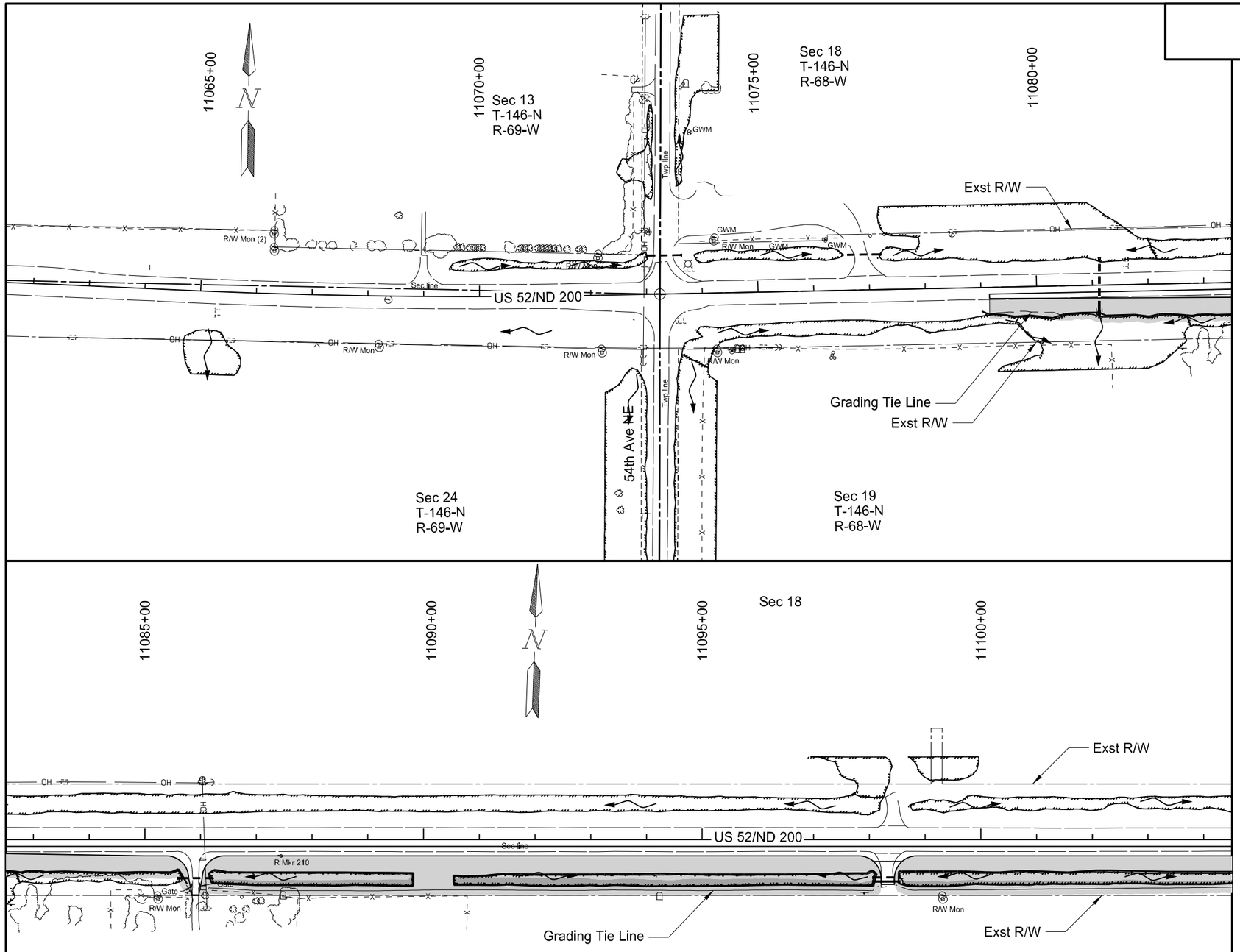
US 52
Fessenden to Carrington

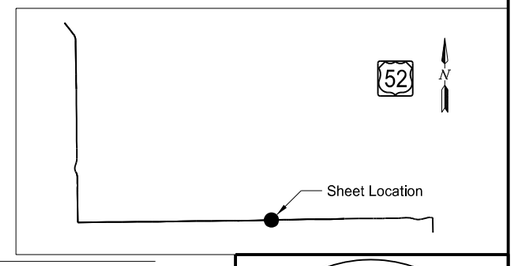
3/30/2022 3:42:35 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\077PE_016.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	77	17

SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	SEEDING CLASS II		
		11079+15 to 11104+00	3.12	ACRE
251	1000	WETLAND SEED		
		11079+15 to 11104+00	0.34	ACRE
253	0061	SOIL STABILIZATION		
		11079+15 to 11104+00	3.12	ACRE

*NOTE: See Section 77, Sheet 25-27 for Fiber Roll data





Legend

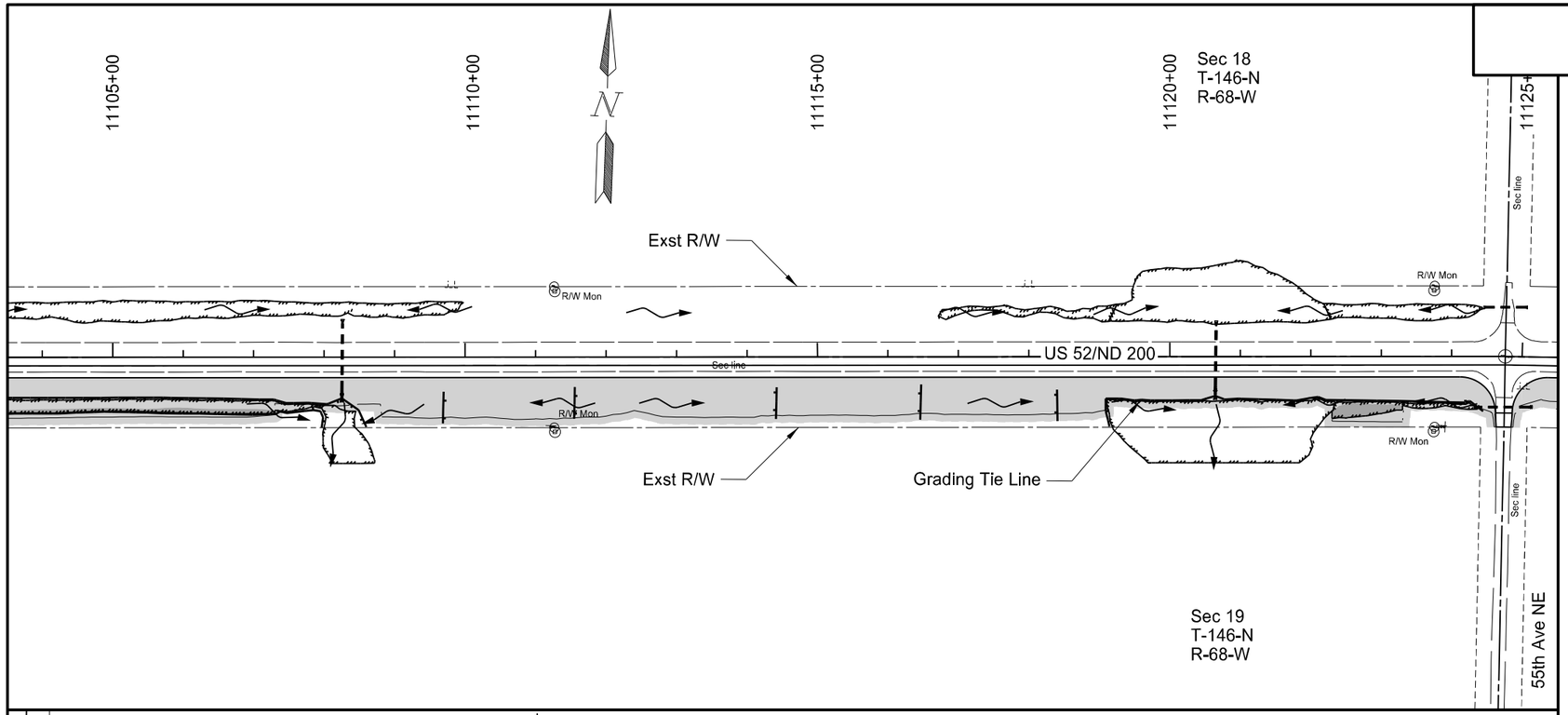
- Seeding / Soil Stabilization
- Wetland Seeding
- Erosion Control Blanket
- Fiber Rolls 12IN
- Wetland Boundary
- Existing Other Water Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

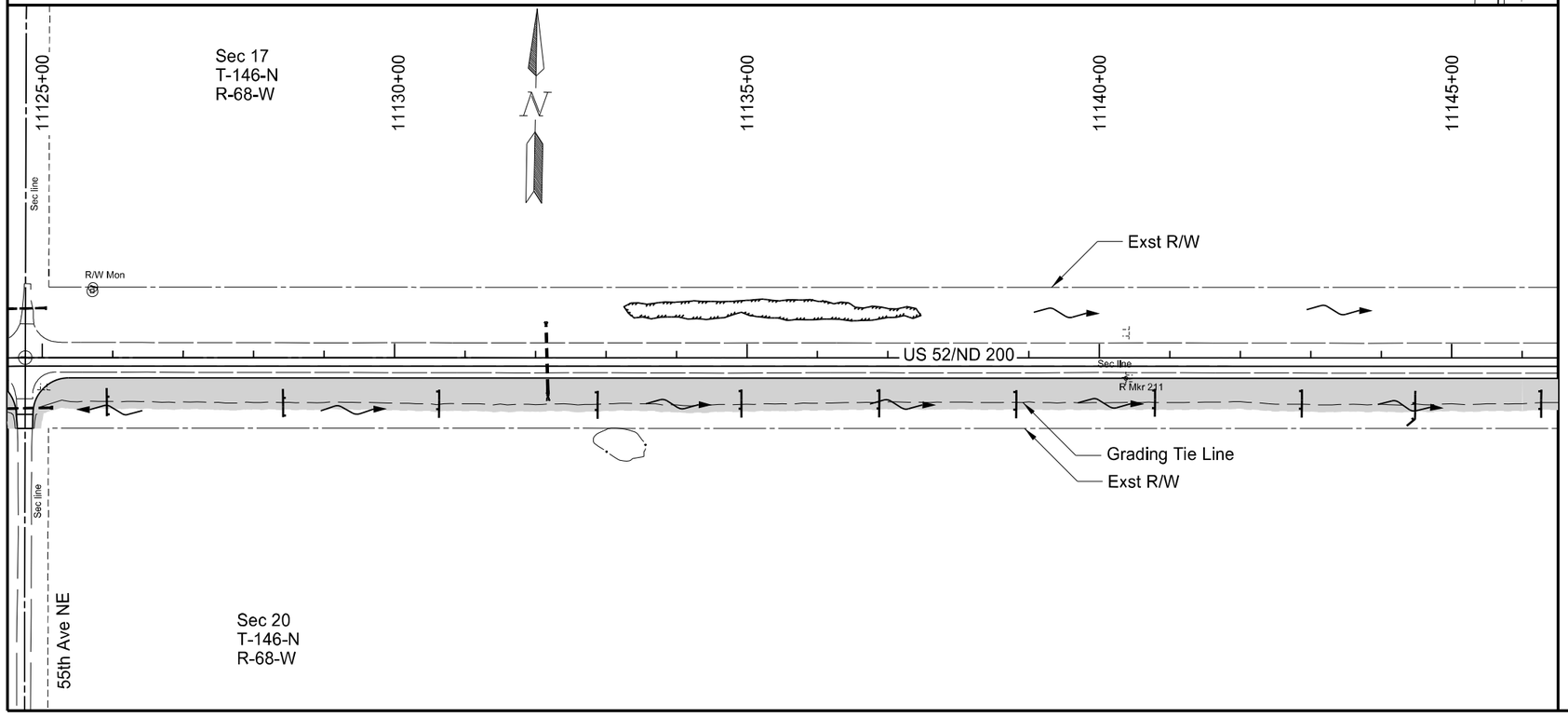
REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 04/01/2022
NORTH DAKOTA

Permanent Erosion Control

US 52
Fessenden to Carrington

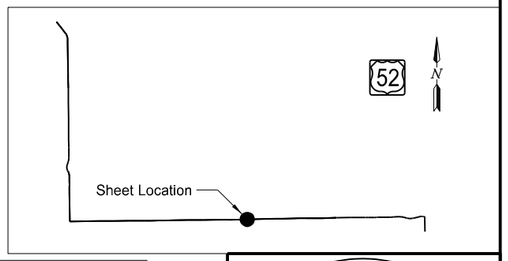
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	77	18





SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	SEEDING CLASS II		
		11104+00 to 11146+00	4.96	ACRE
251	1000	WETLAND SEED		
		11104+00 to 11146+00	0.08	ACRE
253	0061	SOIL STABILIZATION		
		11104+00 to 11146+00	4.96	ACRE

*NOTE: See Section 77, Sheet 25-27 for Fiber Roll data



Legend

- Seeding / Soil Stabilization
- Wetland Seeding
- Erosion Control Blanket
- Fiber Rolls 12IN
- Wetland Boundary
- Existing Other Water Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 04/01/2022
NORTH DAKOTA

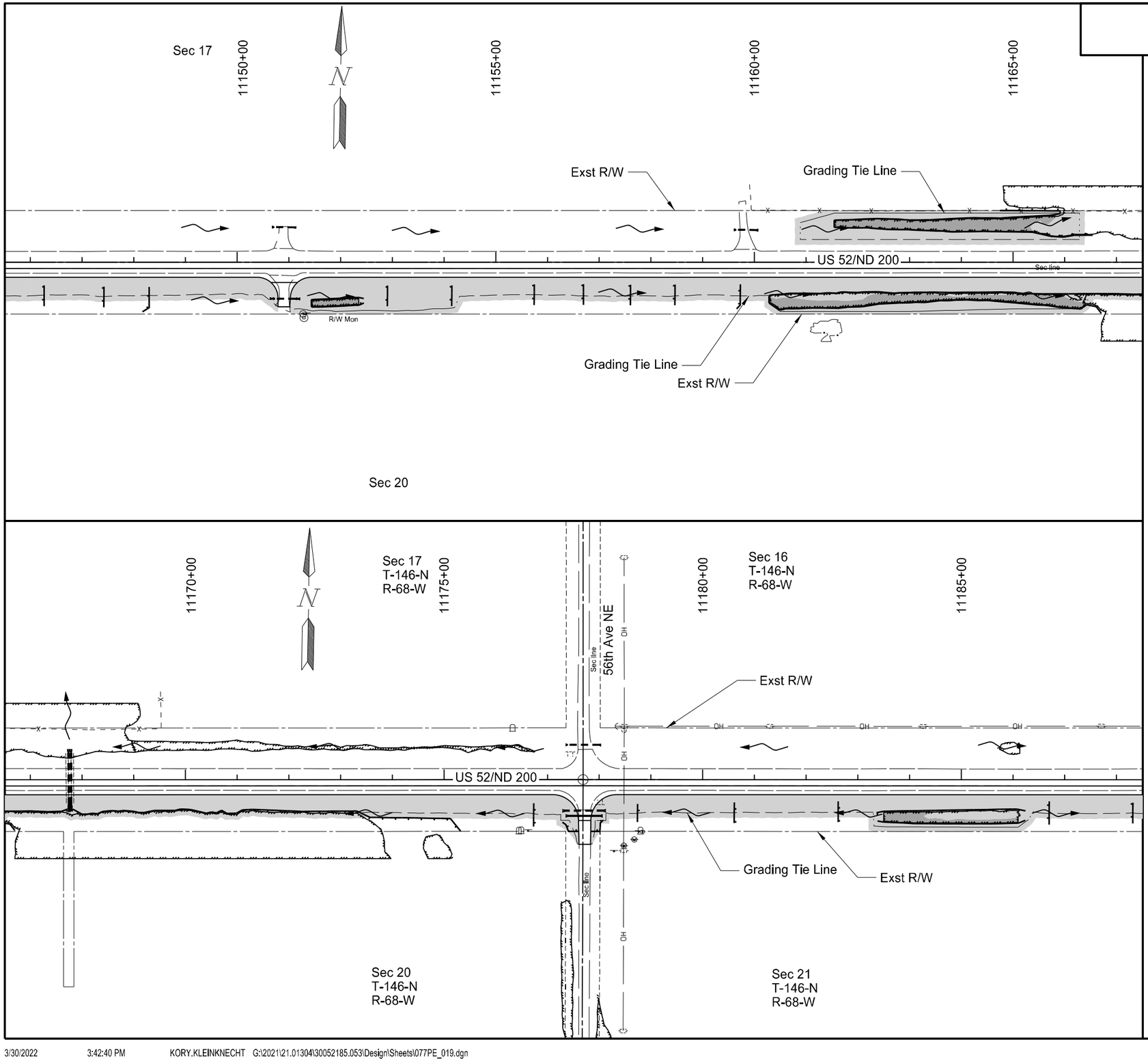
Permanent Erosion Control

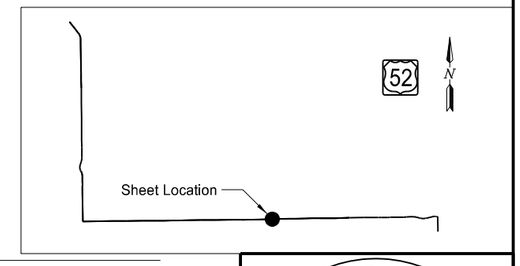
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	77	19

SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	SEEDING CLASS II		
		11146+00 to 11188+00	5.40	ACRE
251	1000	WETLAND SEED		
		11146+00 to 11188+00	0.48	ACRE
253	0061	SOIL STABILIZATION		
		11146+00 to 11188+00	5.40	ACRE

*NOTE: See Section 77, Sheet 25-27 for Fiber Roll data





Legend

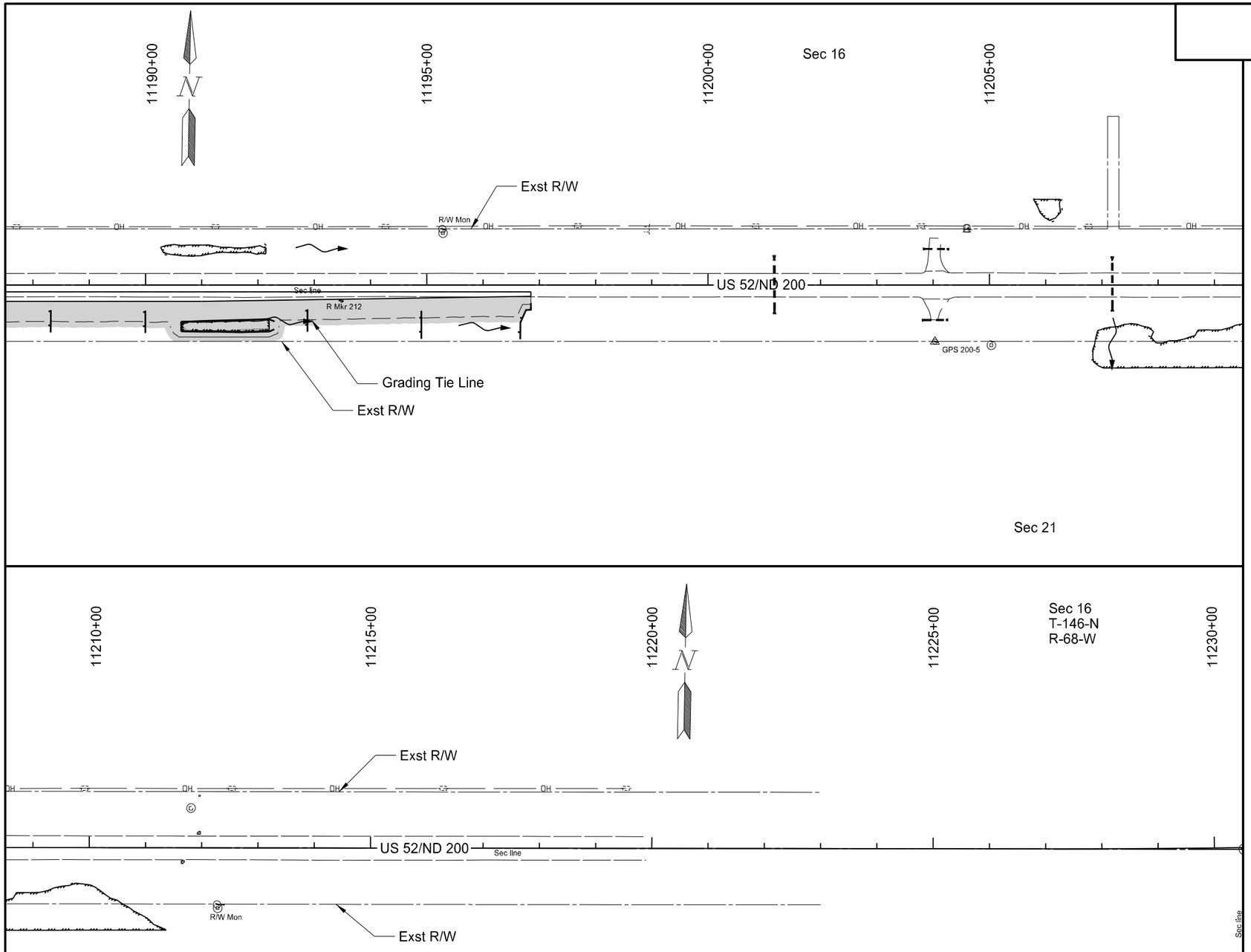
- Seeding / Soil Stabilization
- Wetland Seeding
- Erosion Control Blanket
- Fiber Rolls 12IN
- Wetland Boundary
- Existing Other Water Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 04/01/2022
NORTH DAKOTA

Permanent Erosion Control

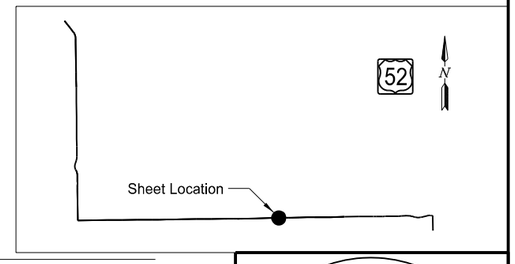
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	77	20



SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	SEEDING CLASS II		
		11188+00 to 11196+85	1.03	ACRE
251	1000	WETLAND SEED		
		11188+00 to 11196+85	0.02	ACRE
253	0061	SOIL STABILIZATION		
		11188+00 to 11196+85	1.03	ACRE

*NOTE: See Section 77, Sheet 25-27 for Fiber Roll data



Legend

- Seeding / Soil Stabilization
- Wetland Seeding
- Erosion Control Blanket
- Fiber Rolls 12IN
- Wetland Boundary
- Existing Other Water Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KIEBER
PE-9475
DATE 04/01/2022
NORTH DAKOTA

Permanent Erosion Control

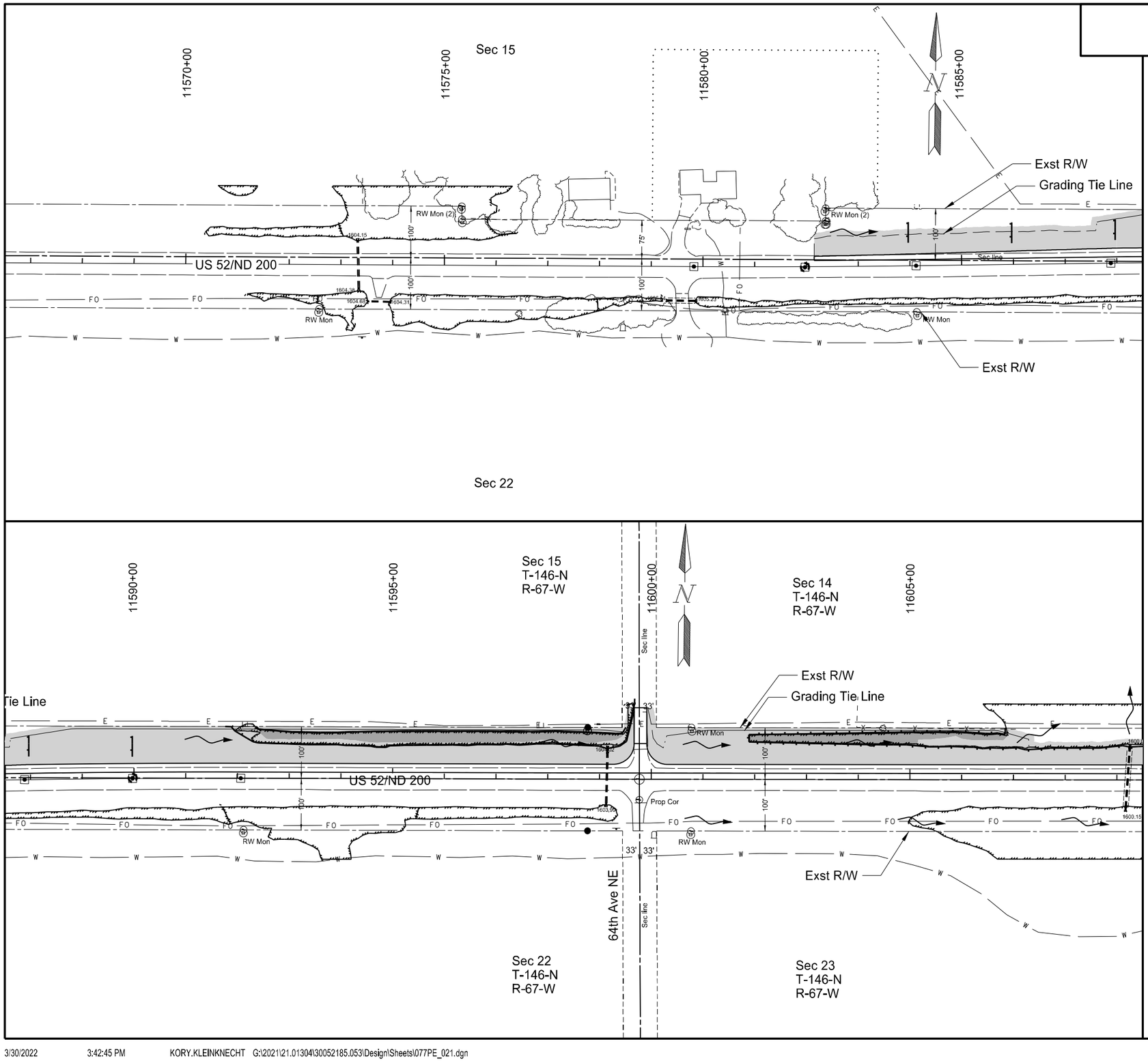
US 52
Fessenden to Carrington

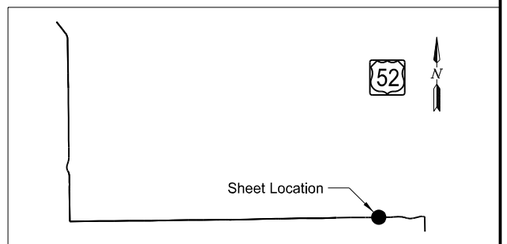
3/30/2022 3:42:42 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\077PE_020.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	77	21

SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	SEEDING CLASS II		
		11582+15 to 11609+00	3.49	ACRE
251	1000	WETLAND SEED		
		11582+15 to 11609+00	0.46	ACRE
253	0061	SOIL STABILIZATION		
		11582+15 to 11609+00	3.49	ACRE

*NOTE: See Section 77, Sheet 25-27 for Fiber Roll data





Legend

- Seeding / Soil Stabilization
- Wetland Seeding
- Erosion Control Blanket
- Fiber Rolls 12IN
- Wetland Boundary
- Existing Other Water Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 04/01/2022
NORTH DAKOTA

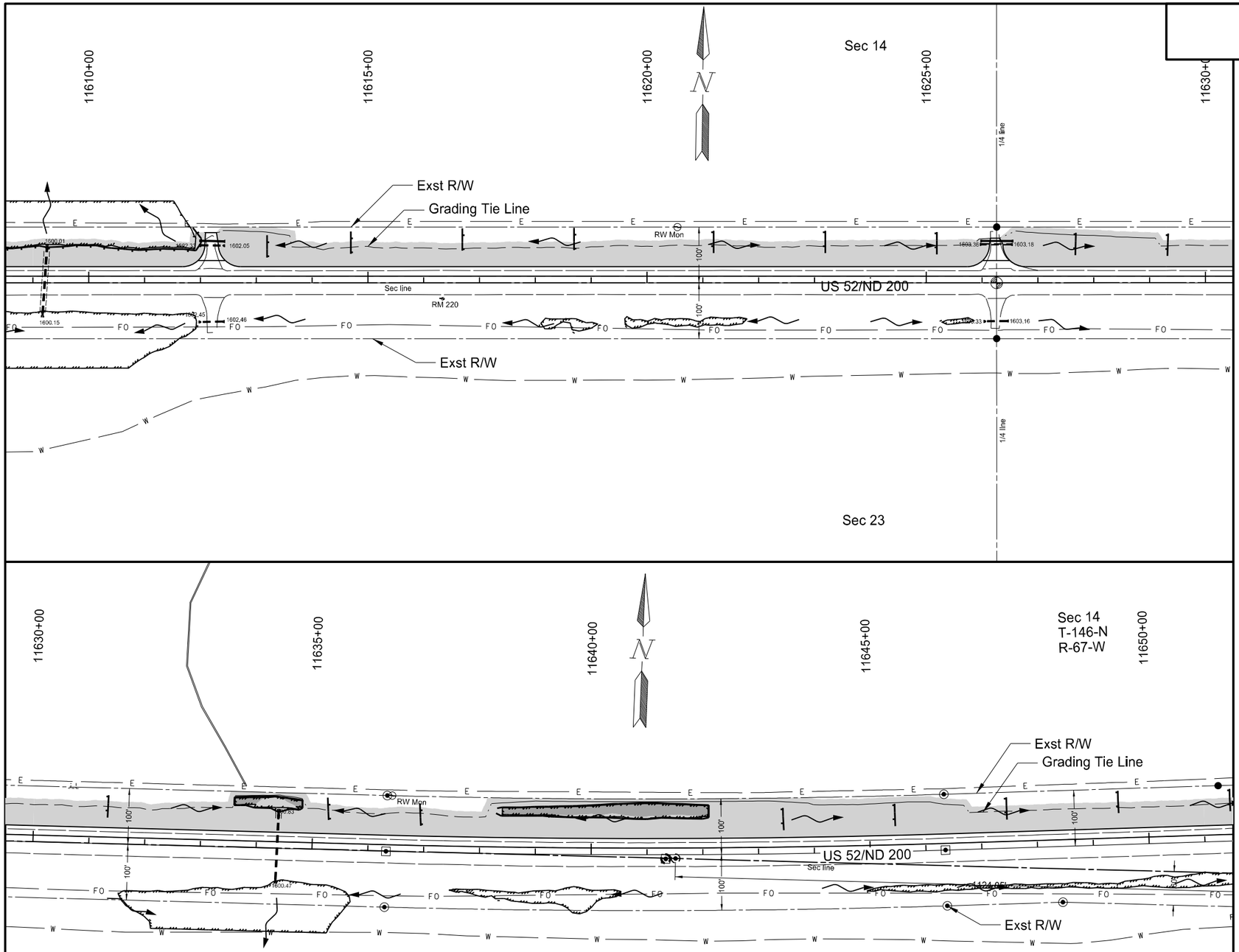
Permanent Erosion Control

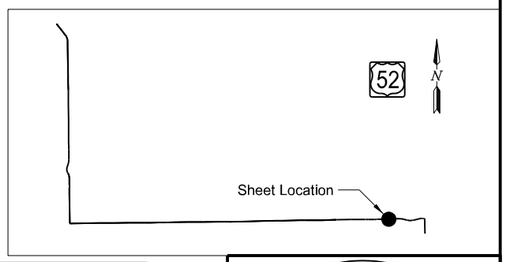
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	77	22

SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	SEEDING CLASS II		
		11609+00 to 11651+00	5.01	ACRE
251	1000	WETLAND SEED		
		11609+00 to 11651+00	0.17	ACRE
253	0061	SOIL STABILIZATION		
		11609+00 to 11651+00	5.01	ACRE

*NOTE: See Section 77, Sheet 25-27 for Fiber Roll data





Legend

- Seeding / Soil Stabilization
- Wetland Seeding
- Erosion Control Blanket
- Fiber Rolls 12IN
- Wetland Boundary
- Existing Other Water Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 04/01/2022
NORTH DAKOTA

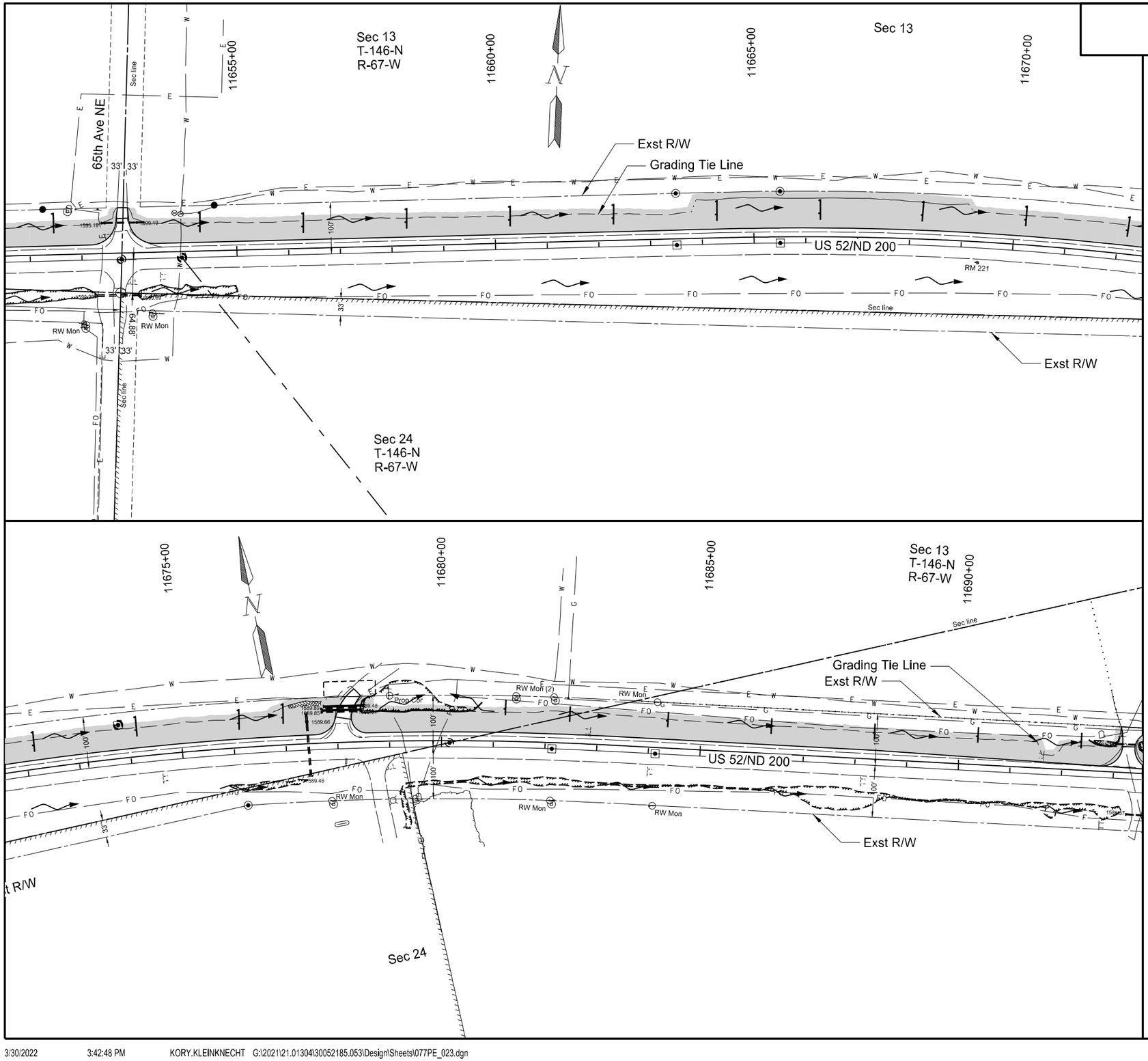
Permanent Erosion Control

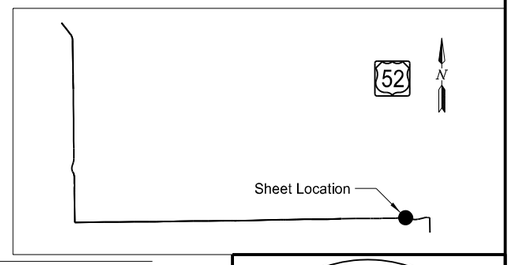
US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	77	23

SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	SEEDING CLASS II		
		11651+00 to 11693+00	4.88	ACRE
253	0061	SOIL STABILIZATION		
		11651+00 to 11693+00	4.88	ACRE
255	0102	ECB TYPE 2		
		11677+09 to 111677+70 LT	53	SY

*NOTE: See Section 77, Sheet 25-27 for Fiber Roll data





Legend

- Seeding / Soil Stabilization
- Wetland Seeding
- Erosion Control Blanket
- Fiber Rolls 12IN
- Wetland Boundary
- Existing Other Water Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KIEBER
PE-9475
DATE 04/01/2022
NORTH DAKOTA

Permanent Erosion Control

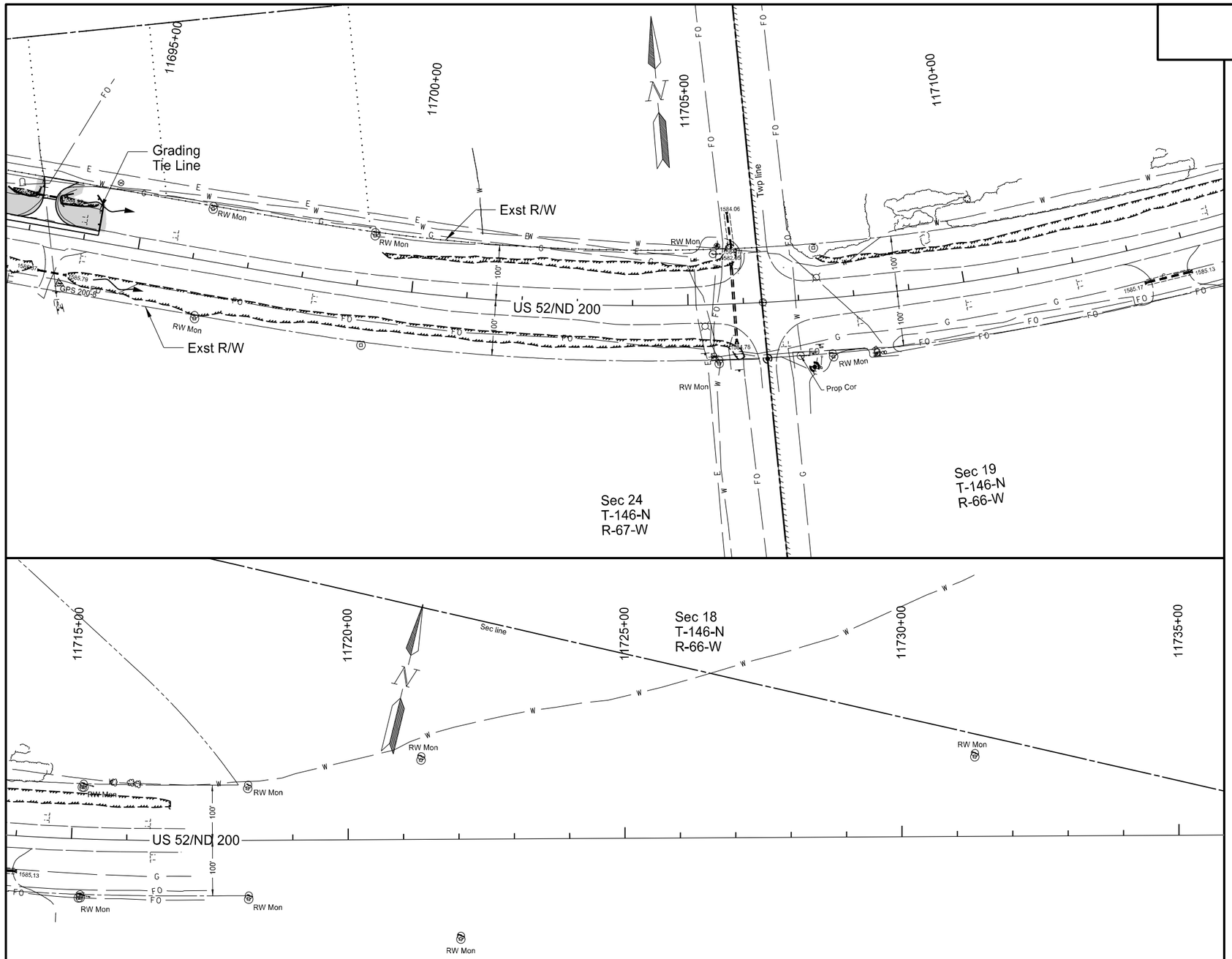
US 52
Fessenden to Carrington

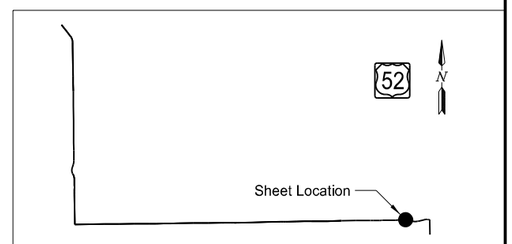
3/30/2022 3:42:48 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\077PE_023.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	77	24

SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	SEEDING CLASS II		
		11693+00 to 11694+25	0.14	ACRE
253	0061	SOIL STABILIZATION		
		11693+00 to 11694+25	0.14	ACRE

*NOTE: See Section 77, Sheet 25-27 for Fiber Roll data





Legend

- Seeding / Soil Stabilization
- Wetland Seeding
- Erosion Control Blanket
- Fiber Rolls 12IN
- Wetland Boundary
- Existing Other Water Boundary
- Grading Tie Line (Cut)
- Grading Tie Line (Fill)
- Grading Tie Line (Transition)
- Flow Direction

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 04/01/2022
NORTH DAKOTA

Permanent Erosion Control

US 52
Fessenden to Carrington

3/30/2022 3:42:50 PM KORY.KLEINKNECHT G:\2021\21.01304\30052185.053\Design\Sheets\077PE_024.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	77	25

SPEC	CODE	BID ITEM	QTY	UNIT
261	0112	FIBER ROLLS 12IN	17201	LF

PERMANENT EROSION CONTROL - CULVERT PROTECTION & RUNOFF PROTECTION

SITE 2 - EB PASSING LANE - RP 186.260 TO RP 188.551

Station	to	Station	Offset	12 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)
9831+78	to	9832+65	RT	140	9860+36	to	9865+02	RT	879	9917+30	to	9917+30	RT	50
9839+10	to	9839+81	RT	147	9865+94	to	9887+69	RT	2202	9919+05	to	9919+05	RT	50
9842+01	to	9842+40	RT	83	9887+95	to	9888+17	RT	25	9920+04	to	9920+25	RT	26
9843+23	to	9845+33	RT	220	9889+22	to	9893+75	RT	471	9920+45	to	9920+65	RT	28
9845+25	to	9845+25	RT	50	9893+90	to	9893+90	RT	50	9921+40	to	9921+40	RT	50
9849+75	to	9849+75	RT	50	9895+90	to	9895+90	RT	50	9923+40	to	9923+40	RT	50
9851+25	to	9851+25	RT	50	9897+86	to	9905+92	RT	1630	9925+40	to	9925+40	RT	50
9852+60	to	9852+75	RT	65	9907+90	to	9907+90	RT	45	9927+40	to	9927+40	RT	50
9854+25	to	9854+25	RT	50	9908+19	to	9908+53	RT	43	9930+20	to	9930+20	RT	50
9855+29	to	9855+52	RT	42	9908+69	to	9908+90	RT	35	9932+20	to	9932+20	RT	50
9855+80	to	9856+28	RT	52	9909+69	to	9911+12	RT	306	9934+20	to	9934+20	RT	50
9856+68	to	9856+68	RT	40	9912+05	to	9912+05	RT	50	9936+20	to	9936+20	RT	50
9858+15	to	9858+15	RT	45	9913+80	to	9913+80	RT	50	9938+06	to	9944+52	RT	1336
9859+90	to	9859+90	RT	50	9915+55	to	9915+55	RT	50	9944+98	to	9952+66	RT	1036

PERMANENT EROSION CONTROL - CULVERT PROTECTION & RUNOFF PROTECTION

SITE 3 - WB PASSING LANE - RP 195.802 TO RP 197.998

Station	to	Station	Offset	12 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)
10336+65	to	10337+03	LT	97	10353+78	to	10353+78	LT	40	10398+29	to	10399+12	LT	180
10337+39	to	10337+48	LT	50	10354+38	to	10354+38	LT	40	10400+28	to	10400+28	LT	50
10337+89	to	10337+98	LT	50	10354+98	to	10354+98	LT	40	10402+78	to	10402+78	LT	50
10338+39	to	10338+48	LT	50	10355+58	to	10355+58	LT	40	10405+28	to	10405+28	LT	50
10338+89	to	10338+98	LT	50	10356+18	to	10356+18	LT	40	10409+17	to	10409+17	LT	50
10339+39	to	10339+48	LT	50	10356+78	to	10356+78	LT	40	10411+14	to	10411+14	LT	50
10339+89	to	10339+98	LT	50	10357+38	to	10357+38	LT	40	10412+13	to	10412+88	LT	100
10340+39	to	10340+48	LT	50	10357+98	to	10357+98	LT	40	10413+76	to	10413+76	LT	50
10340+89	to	10340+98	LT	50	10361+50	to	10361+50	LT	55	10417+70	to	10417+70	LT	55
10341+39	to	10341+48	LT	50	10362+61	to	10362+75	LT	68	10419+70	to	10419+70	LT	50
10341+89	to	10341+98	LT	50	10364+64	to	10364+97	LT	77	10421+20	to	10421+20	LT	45
10342+39	to	10342+48	LT	50	10365+50	to	10365+57	LT	68	10424+14	to	10428+04	LT	410
10342+89	to	10342+98	LT	50	10367+00	to	10367+00	LT	55	10428+54	to	10428+73	LT	44
10343+39	to	10343+48	LT	50	10371+50	to	10371+63	LT	68	10429+56	to	10429+71	LT	57
10343+85	to	10346+00	LT	227	10373+00	to	10373+22	LT	82	10430+26	to	10430+26	LT	40
10346+91	to	10347+20	LT	47	10374+50	to	10374+50	LT	60	10430+96	to	10430+96	LT	40
10347+44	to	10347+55	LT	22	10378+00	to	10378+00	LT	50	10431+66	to	10431+66	LT	60
10348+38	to	10348+38	LT	40	10380+00	to	10380+00	LT	55	10432+36	to	10432+36	LT	40
10348+98	to	10348+98	LT	40	10382+00	to	10382+00	LT	60	10433+06	to	10433+06	LT	50
10349+58	to	10349+58	LT	40	10384+00	to	10384+00	LT	60	10433+76	to	10433+76	LT	74
10350+18	to	10350+18	LT	40	10385+99	to	10386+44	LT	80	10434+46	to	10434+46	LT	60
10350+78	to	10350+78	LT	40	10386+76	to	10388+83	LT	422	10435+25	to	10438+07	LT	294
10351+38	to	10351+38	LT	40	10390+25	to	10390+25	LT	50	10438+81	to	10439+26	LT	78
10351+98	to	10351+98	LT	40	10391+75	to	10391+75	LT	50	10439+61	to	10447+75	LT	858
10352+58	to	10352+58	LT	40	10392+43	to	10393+66	LT	278	10442+82	to	10447+68	LT	493
10353+18	to	10353+18	LT	40	10394+19	to	10397+73	LT	563	10448+64	to	10448+70	LT	53



Permanent Erosion Control
Fiber Roll Summary

US52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	77	26

SPEC	CODE	BID ITEM	QTY	UNIT
261	0112	FIBER ROLLS 12IN	23804	LF

PERMANENT EROSION CONTROL - CULVERT PROTECTION & RUNOFF PROTECTION

SITE 4 - EB PASSING LANE - RP 198.976 TO RP 201.216

Station	to	Station	Offset	12 In. Fiber Roll (LF)
10503+90	to	10505+07	RT	130
10505+31	to	10505+31	RT	35
10506+14	to	10506+14	RT	35
10507+00	to	10507+00	RT	35
10507+95	to	10507+95	RT	35
10509+20	to	10509+20	RT	35
10509+91	to	10509+91	RT	35
10510+70	to	10510+70	RT	35
10511+15	to	10514+49	RT	338
10515+92	to	10516+35	RT	44
10516+62	to	10525+90	RT	952
10526+63	to	10526+63	RT	40
10527+29	to	10527+29	RT	40
10529+01	to	10529+01	RT	35
10531+34	to	10531+34	RT	35
10533+75	to	10533+75	RT	35
10537+26	to	10537+26	RT	40
10538+63	to	10538+63	RT	40
10540+03	to	10540+03	RT	40
10541+01	to	10541+01	RT	40
10542+12	to	10542+12	RT	40
10542+71	to	10544+79	RT	224
10545+16	to	10571+19	RT	2851
10571+47	to	10580+16	RT	1791
10581+56	to	10581+56	RT	40
10584+06	to	10584+06	RT	40
10586+56	to	10586+56	RT	40
10591+21	to	10591+21	RT	40
10593+04	to	10593+04	RT	40
10594+01	to	10594+01	RT	40
10594+93	to	10594+93	RT	40
10595+72	to	10595+72	RT	40
10596+30	to	10596+30	RT	40
10597+49	to	10597+61	RT	24
10597+98	to	10598+12	RT	18
10598+56	to	10598+56	RT	40
10599+00	to	10599+00	RT	40
10599+39	to	10599+39	RT	40
10599+88	to	10599+88	RT	40
10600+42	to	10600+42	RT	40
10600+66	to	10607+02	RT	649
10607+57	to	10607+65	RT	40
10608+37	to	10608+40	RT	35
10609+16	to	10609+16	RT	30
10609+96	to	10609+96	RT	30
10610+76	to	10610+76	RT	30
10611+56	to	10611+62	RT	50
10611+96	to	10612+05	RT	50
10612+36	to	10612+36	RT	50
10612+76	to	10612+81	RT	39
10613+93	to	10613+93	RT	40
10615+24	to	10615+24	RT	30
10616+49	to	10616+49	RT	30
10618+78	to	10618+78	RT	35
10620+14	to	10620+14	RT	35
10621+56	to	10621+56	RT	35
10621+71	to	10622+85	RT	137

PERMANENT EROSION CONTROL - CULVERT PROTECTION & RUNOFF PROTECTION

SITE 5 - WB PASSING LANE - RP 204.835 TO RP 207.057

Station	to	Station	Offset	12 In. Fiber Roll (LF)
10810+21	to	10810+21	LT	40
10810+59	to	10810+59	RT	40
10812+21	to	10812+21	LT	40
10812+59	to	10812+59	RT	40
10813+92	to	10813+92	LT	40
10815+38	to	10815+38	LT	40
10816+01	to	10816+27	RT	76
10817+88	to	10817+88	LT	40
10820+38	to	10820+38	LT	40
10822+88	to	10822+88	LT	40
10825+34	to	10832+56	LT	1480
10820+97	to	10832+54	RT	2380
10832+90	to	10838+83	LT	986
10839+18	to	10841+45	LT	228
10839+67	to	10843+53	RT	817
10842+25	to	10842+25	LT	40
10843+86	to	10843+86	RT	65
10844+25	to	10844+25	LT	40
10845+08	to	10853+99	LT	1802
10854+08	to	10861+45	RT	1508
10855+24	to	10861+47	LT	1270
10861+90	to	10865+54	LT	758
10870+28	to	10870+28	LT	40
10872+28	to	10872+28	LT	40
10874+34	to	10875+09	LT	163
10877+13	to	10877+13	LT	40
10877+89	to	10877+89	LT	40
10878+86	to	10881+86	LT	305
10884+61	to	10884+61	LT	40
10886+75	to	10886+75	LT	40
10890+83	to	10890+95	LT	56
10893+01	to	10893+20	LT	61
10893+97	to	10893+97	LT	40
10894+90	to	10894+90	LT	40
10895+88	to	10895+88	LT	40
10896+64	to	10896+64	LT	40
10897+36	to	10897+36	LT	40
10897+98	to	10897+98	LT	40
10898+85	to	10898+85	LT	40
10899+46	to	10899+46	LT	40
10901+02	to	10905+51	LT	473
10906+07	to	10908+75	LT	275
10910+34	to	10910+34	LT	40
10912+84	to	10912+84	LT	40
10916+13	to	10916+13	LT	40
10917+18	to	10918+12	LT	216
10918+63	to	10918+63	LT	40
10921+76	to	10921+76	LT	40
10923+94	to	10930+67	LT	713
10931+81	to	10932+05	LT	65

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 04/01/2022
NORTH DAKOTA

Permanent Erosion Control
Fiber Roll Summary

US 52
Fessenden to Carrington

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	INF-X-3-052(053)185	77	27

SPEC	CODE	BID ITEM	QTY	UNIT
261	0112	FIBER ROLLS 12IN	18010	LF

PERMANENT EROSION CONTROL - CULVERT PROTECTION & RUNOFF PROTECTION

SITE 6 - EB PASSING LANE - RP 209.843 TO RP 212.065

Station	to	Station	Offset	12 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)
11079+01	to	11085+76	RT	697	11138+82	to	11138+82	RT	40	11161+54	to	11166+54	LT	1076
11086+14	to	11089+82	RT	775	11140+79	to	11140+79	RT	40	11176+73	to	11176+73	RT	45
11090+54	to	11098+14	RT	1557	11142+87	to	11142+87	RT	40	11177+29	to	11177+60	RT	42
11098+53	to	11108+60	RT	2022	11144+36	to	11144+48	RT	55	11177+84	to	11178+08	RT	42
11109+69	to	11109+69	RT	45	11146+27	to	11146+27	RT	40	11178+74	to	11178+74	RT	35
11111+55	to	11111+55	RT	45	11147+42	to	11147+42	RT	40	11180+61	to	11180+61	RT	40
11114+42	to	11114+42	RT	45	11148+17	to	11148+30	RT	55	11182+62	to	11182+62	RT	40
11116+47	to	11116+47	RT	50	11151+43	to	11152+45	RT	219	11183+36	to	11186+24	RT	288
11118+40	to	11118+40	RT	45	11152+91	to	11152+91	RT	40	11183+38	to	11186+24	RT	288
11119+10	to	11124+45	RT	585	11154+15	to	11154+15	RT	40	11186+70	to	11186+70	RT	45
11125+92	to	11125+92	RT	40	11155+74	to	11155+74	RT	40	11188+32	to	11188+32	RT	40
11128+42	to	11128+42	RT	40	11156+70	to	11156+70	RT	40	11190+00	to	11190+00	RT	40
11130+63	to	11130+63	RT	40	11157+60	to	11157+60	RT	40	11192+88	to	11192+88	RT	40
11132+88	to	11132+88	RT	40	11158+47	to	11158+47	RT	40	11194+91	to	11194+91	RT	50
11134+92	to	11134+92	RT	40	11159+66	to	11159+73	RT	50	11196+66	to	11196+85	RT	75
11136+88	to	11136+88	RT	40	11160+28	to	11175+32	RT	2202	11190+64	to	11192+30	RT	351

PERMANENT EROSION CONTROL - CULVERT PROTECTION & RUNOFF PROTECTION

SITE 7 - WB PASSING LANE - RP 219.359 TO RP 221.472

Station	to	Station	Offset	12 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)	Station	to	Station	Offset	12 In. Fiber Roll (LF)
11583+98	to	11583+98	LT	40	11633+59	to	11634+81	LT	280	11670+22	to	11670+22	LT	40
11585+98	to	11585+98	LT	40	11635+27	to	11635+27	LT	40	11672+18	to	11672+18	LT	40
11587+98	to	11587+98	LT	40	11636+93	to	11636+93	LT	40	11674+16	to	11674+16	LT	40
11589+97	to	11589+97	LT	40	11638+29	to	11642+11	LT	785	11676+13	to	11676+13	LT	40
11591+76	to	11599+67	LT	876	11643+45	to	11643+45	LT	40	11676+97	to	11676+97	LT	40
11592+36	to	11599+50	LT	724	11645+46	to	11645+46	LT	40	11678+44	to	11680+78	LT	281
11601+89	to	11612+01	LT	1577	11647+47	to	11647+47	LT	40	11681+23	to	11681+23	LT	30
11613+19	to	11613+19	LT	40	11649+47	to	11649+47	LT	40	11682+46	to	11682+46	LT	30
11614+69	to	11614+69	LT	40	11651+47	to	11651+47	LT	40	11684+35	to	11684+35	LT	30
11616+69	to	11616+69	LT	40	11654+30	to	11654+30	LT	40	11686+35	to	11686+35	LT	30
11618+69	to	11618+69	LT	40	11656+30	to	11656+30	LT	40	11688+35	to	11688+35	LT	30
11621+19	to	11621+19	LT	40	11658+30	to	11658+30	LT	40	11690+35	to	11690+35	LT	30
11623+19	to	11623+19	LT	40	11660+30	to	11660+30	LT	40	11692+35	to	11692+35	LT	30
11625+19	to	11625+19	LT	40	11662+30	to	11662+30	LT	40	11692+49	to	11693+09	LT	75
11627+68	to	11627+68	LT	40	11664+30	to	11664+30	LT	40	11693+46	to	11694+16	LT	108
11629+33	to	11629+33	LT	40	11666+28	to	11666+28	LT	40	11694+11	to	11694+25	LT	70
11631+33	to	11631+33	LT	40	11668+24	to	11668+24	LT	40					

REGISTERED PROFESSIONAL ENGINEER
JOSHUA S. KUEBER
PE-9475
DATE 04/01/2022
NORTH DAKOTA

Permanent Erosion Control
Fiber Roll Summary

US 52
Fessenden to Carrington