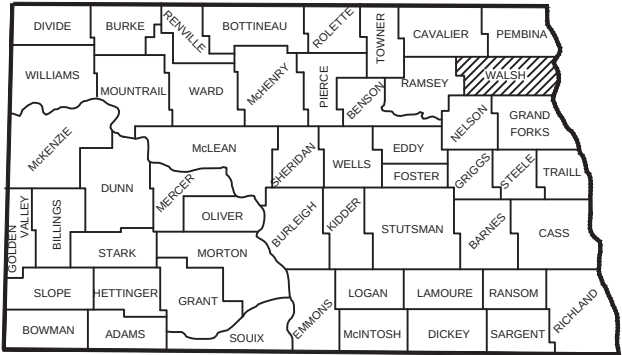


JOB # 8

STATE	PROJECT NO.	PCN	SECTION NO.	SHEET NO.
ND	SC-5025(056)	21474	1	1



STATE OF NORTH DAKOTA
SHOWING COUNTIES

WALSH COUNTY, NORTH DAKOTA
PLANS FOR FEDERAL AID PROJECT NUMBER
SC-5025(056)

CMC 5025 FROM 2 MILES NORTH OF FORDVILLE, NORTH AND EAST TO PARK RIVER
GRAVEL RECONSTRUCTION
& INCIDENTALS

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

PROJECT LENGTH

PROJECT	GROSS MILES	NET MILES
SITE 1	1.302	1.302
SITE 2	9.026	9.026
TOTAL	10.328	10.328

DESIGN DATA

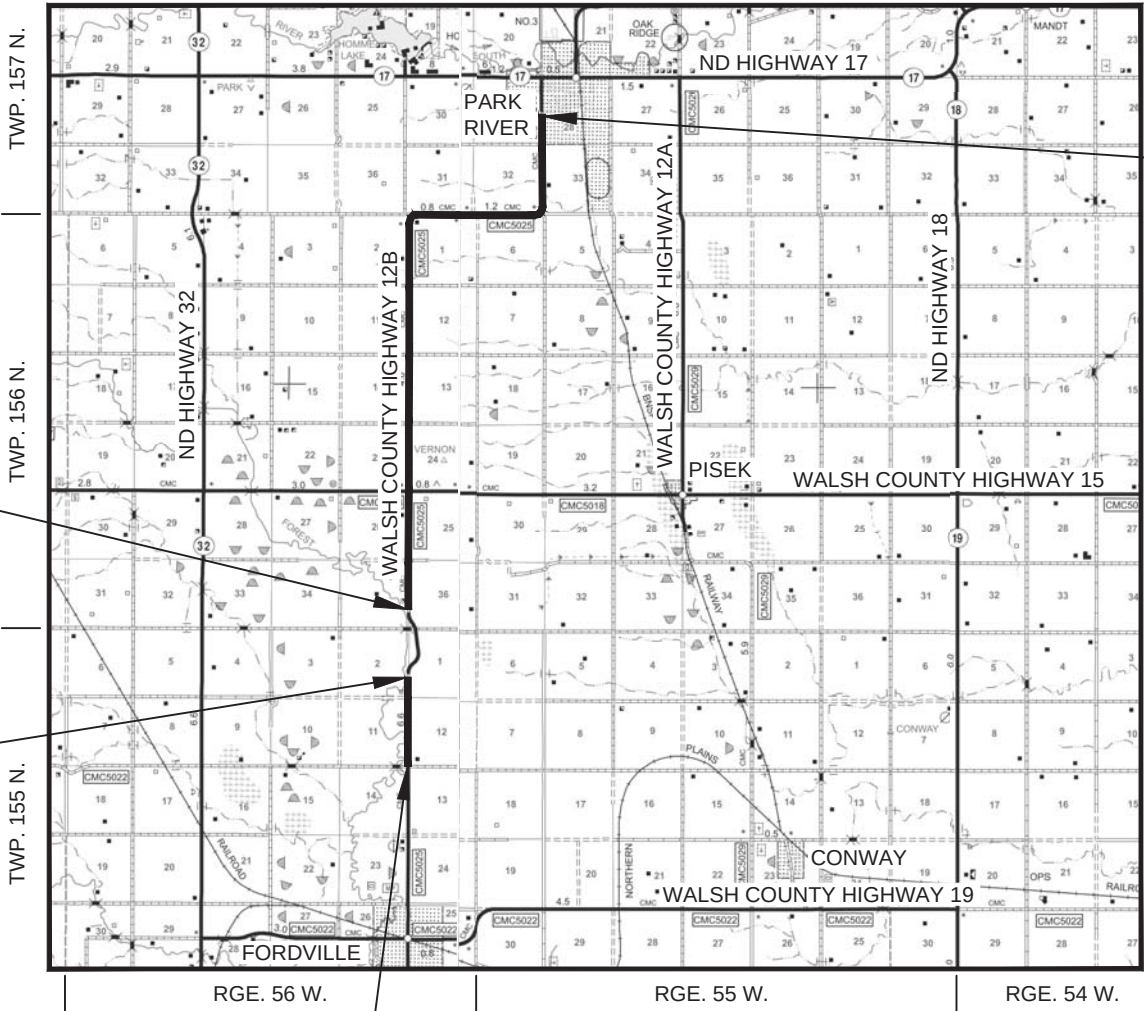
TRAFFIC		AVERAGE DAILY			EST. 30th MAX. HR.
		PASSENGER	TRUCKS	TOTAL	
CURRENT TRAFFIC	2017	140	20	160	16
TRAFFIC FORECAST	2037	155	25	180	18

DESIGN SPEED 55 MPH
MINIMUM SIGHT DISTANCE (STOPPING) 450 FEET

BEGIN PROJECT SC-5025(056) SITE 2
Sta. 131+10 = A POINT APPROXIMATELY 1,414
FEET NORTH OF THE SOUTHWEST CORNER
SEC. 36, TWP. 156 N., RGE. 56 W.

END PROJECT SC-5025(056) SITE 1
Sta. 79+48 = A POINT APPROXIMATELY 1,523
FEET NORTH OF THE SOUTHWEST CORNER
SEC. 1, TWP. 155 N., RGE. 56 W.

BEGIN PROJECT SC-5025(056) SITE 1
Sta. 10+75 = A POINT APPROXIMATELY 55
FEET SOUTH OF THE SOUTHWEST CORNER
SEC. 12, TWP. 155 N., RGE. 56 W.



END PROJECT SC-5025(056) SITE 2
Sta. 607+65 = A POINT APPROXIMATELY 2,159
FEET NORTH OF THE SOUTHWEST CORNER
SEC. 28, TWP. 157 N., RGE. 55 W.

PS&E Corrections Made
Surveyed & Designed Date

August 2018

November 2017

DESIGNER	Jeff Daley, PE
DESIGNER	Todd Hummel, PE
DESIGNER	Sean Kelly
DESIGNER	Zach Vlamincck
DESIGNER	-

THIS DOCUMENT WAS
ORIGINALLY ISSUED AND
SEALED BY
JON E. MARKUSEN
REGISTRATION NUMBER
PE 5453
ON 09/05/2018 AND THE
ORIGINAL DOCUMENT IS
STORED AT THE
WALSH COUNTY
HIGHWAY DEPARTMENT.

CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY
ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A
DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE
LAWS OF THE STATE OF NORTH DAKOTA.

JON E. MARKUSEN
KADRMAS, LEE & JACKSON, INC.

DATE 09/05/2018 REGISTRATION NUMBER PE 5453

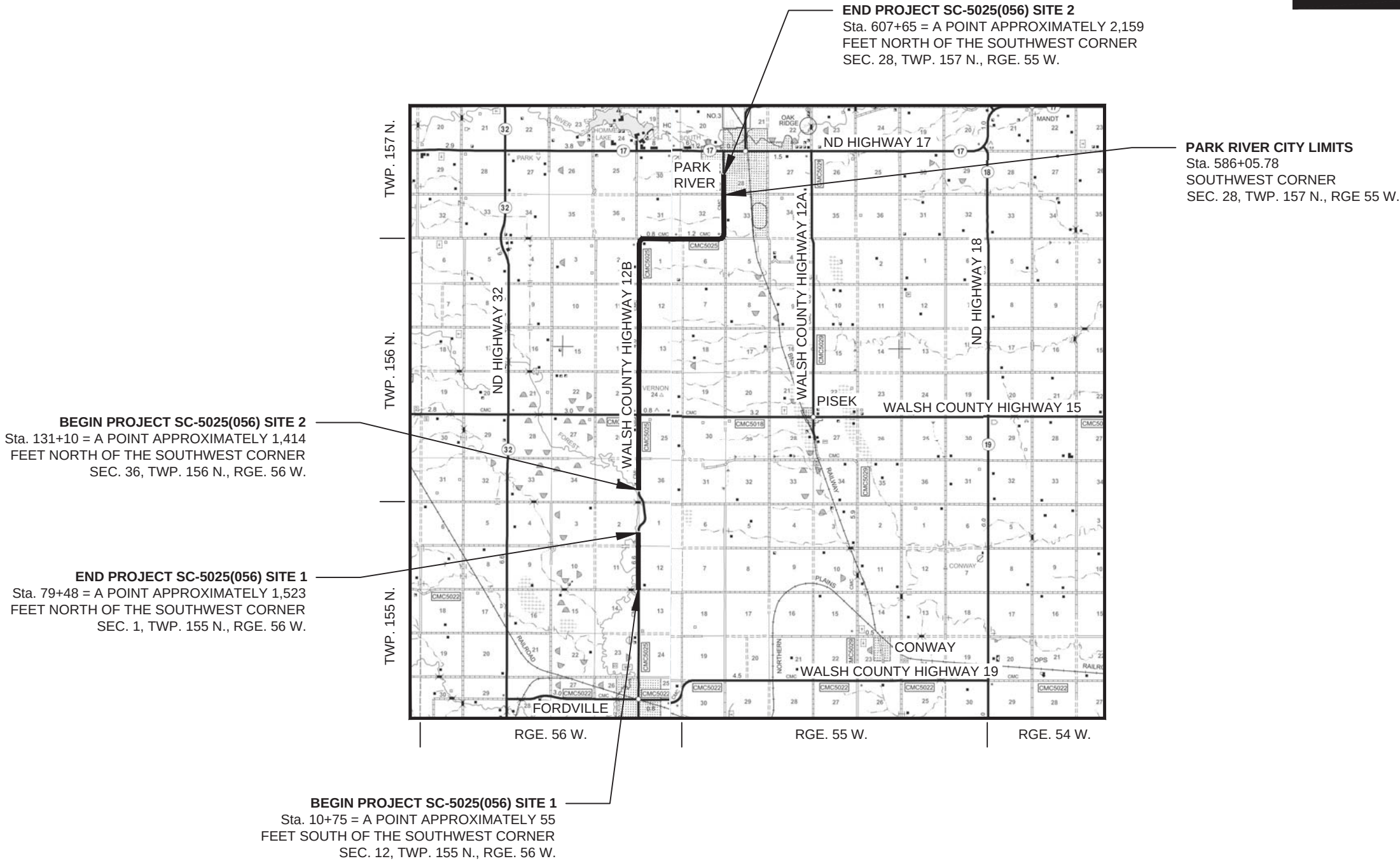


864 WEST 12TH STREET
P.O. BOX 229
GRAFTON, ND 58237-0229
(701) 352-1555, FAX (855) 288-8055
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1	1	Title Sheet	D-101-1, 2,3	NDDOT Abbreviations					
2	1	Table of Contents	D-101-10	NDDOT Utility Company and Organization Abbreviations					
4	1	Scope of Work	D-101-20, 21	Line Styles					
6	1 - 2	Plan Notes	D-101-30, 31,32	Symbols					
6	3	Environmental Notes	D-203-8	Standard Rural Approaches					
8	1	Estimate of Quantities	D-261-1	Erosion Control - Fiber Roll Placement Details					
10	1	Basis of Estimate	D-704-7	Breakaway Systems For Construction Zone Signs - Perforated Tube					
20	1	Edgedrain Detail & Subgrade Repair Detail	D-704-8	Breakaway Systems For Construction Zone Signs - U-Channel Post					
20	2	Approach Details	D-704-9	Construction Sign Details - Terminal And Guide Signs					
30	1 - 2	Typical Sections	D-704-11, 11A	Construction Sign Details - Warning Signs					
60	1 - 30	Plan & Profile	D-704-13	Barricade And Channelizing Device Details					
75	1 - 2	Wetland Impact Table	D-704-14	Construction Sign Punching And Mounting Details					
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76	1 - 15	Temporary Erosion Control	D-704-19	Road Closure And Lane Closure On A Two Way Road Layouts					
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			D-754-23	Perforated Tube Assembly Details					
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			D-754-24A	Breakaway Coupler System For Perforated Tubes					
			D-754-26, 27, 28,29,32,37	Sign Punching, Stringer And Support Location Details Regulatory, Warning, And Guide Signs					
			D-754-48	Sign Punching, Stringer And Support Location Details For Variable Length Signs					
			D-754-79	Chevron Installation Details					
			D-754-86	911 Sign Support Information And Sign Details					
			D-754-87	Sign Punching, Stringer And Support Location Details For Street Name Signs And 911 Signs					
			D-766-1	Mailbox Location Details					
SPECIAL PROVISIONS									
Number	Description								
SP 003(14)	Temporary Erosion and Sediment Best Management Practices								
SP 5226(14)	Permits and Environmental Considerations								
SP 714(14)	Gravel Surfacing								

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SC-5025(056)	4	1

GRAVEL RECONSTRUCTION
PIPE REPLACEMENT & INCIDENTALS



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SC-5025(056)
WALSH COUNTY, NORTH DAKOTA



SCOPE OF WORK

DRWN. BY ZV	CHKD BY JD	PROJECT NO. 6317116
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PLAN NOTES

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SC-5025(056)	6	1

100-P01 UTILITIES: Utilities that the Engineer has been made aware of are shown on the plans. Other utilities may exist that are not shown. Underground utility locations are approximate and not all utilities are shown on the plans. The actual locations and elevations are unknown. The Contractor will be liable for any costs resulting from damage to utilities or pipelines.

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 or steep slope and provide 24-hour flagging or pilot car operations at no expense to the Owner.

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 "SUBGRADE PREPARATION-TYPE A".

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 Owner.

203-P01 **SUBGRADE REPAIR:** Quantities for “COMMON EXCAVATION-SUBCUT”, “GRAVEL SURFACING”, and “GEOSYNTHETIC MATERIAL-TYPE R1” have been included for subgrade repair in locations where subgrade preparation to a depth of 12 inches is not sufficient to stabilize the subgrade. The Engineer in the field shall determine the actual locations and extents of the subgrade repair (see Subgrade Repair Detail on Sheet 1 Section 20). The unit prices bid for “COMMON EXCAVATION-SUBCUT” and “GEOSYNTHETIC MATERIAL-TYPE R1” shall govern regardless of the quantity used. An increase or decrease from plan quantity will not be accepted as a reason to negotiate any pay adjustment under these bid items.

203-P02 **COMPACTION CONTROL:** Construct the embankment within the roadbed in accordance with Section 203.04 E.2 of the Standard Specifications. Construct the embankment outside the roadbed prism 1:1s in accordance with Section 203.04 E.3 of the Standard Specifications.

230-P01 **RESHAPING ROADWAY:** Reshape roadway profile between Sta 261+00 to Sta 268+00 and Sta 321+00 to Sta 335+00. The existing roadway profile will be corrected to the vertical profile shown in Section 60 Plan and Profile Sheets. The bid item "RESHAPING ROADWAY" will include the following items:

1. Remove and salvage the existing topsoil.
2. Regrade the roadway to the proposed vertical profile shown in Section 60 Plan and Profile Sheets. Regrade proposed ditches as shown in Section 30 Typical Sections to the proposed ditch profiles shown in Section 60 Plan and Profile Sheets. Excess waste material to become property of the Contractor.

All costs for labor, materials and equipment to perform the above work will be included in the price bid for "RESPAHPE ROADWAY". Payment will be by the Station (STA).

230-P02 **RESHAPING DITCH:** Reshape ditches between Sta 438+00 to Sta 545+00 RT and Sta 599+46 to Sta 607+65 LT & RT. The bit item "RESHAPING DITCH" will include the following items:

1. Remove and salvage the existing topsoil.
2. Reshape the ditch to match the existing ditch centerline offset as Shown in Section 30 Typical Sections and to proposed ditch grade elevations as shown in Section 60 Plan and Profile Sheets. The proposed ditch width may vary, but not to exceed 8'. Reduce the ditch width and adjust ditch

centerline offset as necessary to fit within existing right of way. Excess waste material to become property of the Contractor.

All costs for labor, materials and equipment to perform the above work will be included in the price bid for "RESHAPING DITCH". Payment will be by the Mile (MILE). Ditches on each side of the roadway will be measured separately.

FORESLOPE RESHAPING: The existing inslopes along the project are 4:1 or flatter and have approximately 1-foot of topsoil above the clay base. The existing roadway width will be reduced and the profile will be raised to match the proposed typical section. In-lieu of importing topsoil to fill in the void along the shoulder of the new aggregate base, the inslope topsoil shall be worked up and redistributed to provide a uniform inslope. The bid item "FORESLOPE RESHAPING" will include the following items:

1. Disk the existing inslope to break up the vegetation. Mow inslopes prior to disking to reduce sod chunks. The width of inslope to be reworked may vary. No work is to take place in the ditch bottoms except as required for RESHAPING DITCH.
2. Construct inslopes as shown in Section 30 Typical Sections and Section 200 Cross Sections.

All costs for labor, materials and equipment to perform the above work will be included in the price bid for "FORESLOPE RESHAPING". Payment will be by the Station (STA). Inslopes on each side of the roadway will be measured separately.

SUBGRADE PREPARATION-TYPE A-12IN: "SUBGRADE PREPARATION-TYPE A-12IN" has been provided for the entire length of the project. Subgrade preparation will be measured by the Station (STA).

The depth of subgrade preparation will be 12 inches and will be completed in accordance with Section 203.04 E.2 of the Standard Specifications.

Provide an independent testing agency to perform density tests and proctors as specified in the NDDOT Standard Specifications.

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

Place the following sign assembly at the locations listed below.

Sign Assembly: Sign No. W8-9a-48 "Shoulder Drop Off" and supplemental plate Sign No. W20-52-54 to identify the distance.

Locations:

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

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

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

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

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SC-5025(056)
ALSH COUNTY, NORTH DAKOTA



PLAN NOTES

DRWN. BY ZV	CHKD. BY JD	PROJECT NO. 6317116
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PLAN NOTES		STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SC-5025(056)	6	2

704-P01	TRAFFIC CONTROL DURING WORKING AND NON-WORKING HOURS: In areas where the road is not closed maintain one lane of traffic at all times during working hours. During non-working hours, leave the work area free of all hazards. Open the roadway to two-way traffic during non-working hours. A minimum 24-foot roadway width is required to maintain two lanes of traffic. The traffic control plan requires flagging and pilot car during working hours. Remove the traffic control devices for flagging at the end of each day and reinstall when work commences. If a hazard exists after working hours, leave the required traffic control devices in place and provide flag persons until the hazard has been eliminated. Hazards include but are not limited to inslopes steeper than a 4:1 within the clear zone and vertical drop-offs.
704-P02	TRAFFIC CONTROL FOR ROAD CLOSURE: The Contractor will be allowed to close the road in two mile increments to complete all work items within the roadway. Traffic control devices have been provided for this work. The Contractor shall use the construction signing layout Type A Temporary Road Closure on Standard Drawing D-704-15 for road closure. The Contractor shall coordinate their schedule with the Engineer and the County to ensure the least amount of downtime and disruption to traffic. In the event the Contractor ceases work on the roadtop for more than five consecutive days, open the road to traffic. Any damage caused by the traffic will be repaired by the Contractor. All cost to relocate the signs shall be included in the unit price bid for "TRAFFIC CONTROL SIGNS". All route marker signs, guide signs and street signs shall be temporarily displayed until they can be permanently installed. All costs for this shall be included in the Traffic Control Signs bid item.
714-P01	POLYMERIC COATED STEEL PIPE: Walsh County is reserving the right to allow burning in their ditches. Provided approved segments and end treatments that are non-flammable. End sections are required or all pipe. Provide 24-inch wide bands for any steel pipes and include the costs in the pipe conduit bid item. Include all costs associated for labor, materials, and equipment in the price bid for "PIPE CORR STEEL .064IN __IN POLYMERIC COATED"
714-P02	PIPE POLYETHYLENE CORR PERF 4IN DRAIN (EDEGEDRAIN): Provide 4 inch diameter edgedrain pipe from Sta. 438+00 to Sta. 533+00 on project right of centerline and from Sta. 462+66 to Sta. 465+73 on centerline and project right of centerline. Enclose the pipe in a geotextile fabric sock, composed of a type D3 or D4 material. Place pipe in a trench following the edgedrain detail on Sheet 1 Section 20. Provide Class 2 aggregate material for trench backfill. Place the edgedrain in the shoulder parallel to the roadway at a depth of approximately 3' below the shoulder, see details on Sheet 1 Section 20. The edgedrain will have lateral blind outlets into the roadway ditches. These outlet trenches may be excavated to a maximum width of 12 inches. Furnish and install 1½ inch rock for constructing the blind outlets as shown on the details on Sheet 1 Section 20. Install discharge outlets one foot above the ditch grades whenever possible. The maximum length of pipe run will be based on the shoulder / ditch bottom separation but must not exceed 750 feet in length. Install rodent screens on the outlets of the edgedrain. Excess waste material to become property of the Contractor. Include all costs associated with the excavation, Class 2 trench backfill, compaction, lateral outlets, rodent screen, fabric sock, connections, 4IN Polyethylene Corr Perf pipe, labor, materials, and equipment in the price bid for "PIPE POLYETHYLENE CORR PERF 4IN DRAIN".

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SC-5025(056) WALSH COUNTY, NORTH DAKOTA		
	PLAN NOTES	
	DRWN. BY ZV	CHKD. BY JD
PROJECT NO. 6317116		

ENVIRONMENTAL NOTES

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SC-5025(056)	6	3

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

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

EN-2 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, Jessica Howell by e-mail jmhowell@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). If an inspection is not required, no follow up documentation is required

EN- 3 MIGRATORY BIRD TREATY ACT: Active migratory bird nests with eggs or chicks are protected by the Migratory Bird Treaty Act. NDDOT's special provision, SP-0004(14) for compliance with the Federal Regulation will be followed.

EN-4 NOTIFICATIONS TO BE FILED BY CONTRACTOR: Notification is required for work within 3 nautical miles of the airport. Complete the Federal Aviation Administration Notice of Proposed Construction or Alteration Form 7460-1 in accordance with 14 CFR 77.7 and 77.9 (at least 45 days before the start date of the proposed construction or alteration or the date an application for a construction permit is filed, whichever is earliest) (online at <http://oeaaa.faa.gov>).

ESTIMATE OF QUANTITIES

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SC-5025(056)	8	1

SPEC	CODE	BID ITEM	UNIT	MAINLINE	SUBGRADE REPAIR	DRIVES	TOTAL
103	0100	CONTRACT BOND	L SUM	1	-	-	1
202	0170	REMOVAL OF CULVERTS-ALL TYPES & SIZES	LF	130	-	-	130
203	0138	COMMON EXCAVATION-SUBCUT	CY	-	2,395	-	2,395
216	0100	WATER	M GAL	735	90	33	858
230	0105	RESHAPING ROADWAY	STA	21	-	-	21
230	0107	RESHAPING DITCH	MILE	2.3	-	-	2.3
230	0111	FORESLOPE RESHAPING	STA	1,049	-	-	1,049
230	0165	SUBGRADE PREPARATION-TYPE A-12IN	STA	545	-	-	545
251	0200	SEEDING CLASS II	ACRE	35.66	-	-	35.66
251	2000	TEMPORARY COVER CROP	ACRE	35.66	-	-	35.66
253	0101	STRAW MULCH	ACRE	71.32	-	-	71.32
261	0112	FIBER ROLLS 12IN	LF	31,778	-	-	31,778
261	0113	REMOVE FIBER ROLLS 12IN	LF	15,889	-	-	15,889
350	0500	GRAVEL SURFACING	TON	31,583	4,490	1,652	37,725
702	0100	MOBILIZATION	L SUM	1	-	-	1
704	0100	FLAGGING	MHR	800	-	-	800
704	1000	TRAFFIC CONTROL SIGNS	UNIT	744	-	-	744
704	1052	TYPE III BARRICADE	EA	4	-	-	4
704	1185	PILOT CAR	HR	400	-	-	400
706	0500	AGGREGATE LABORATORY	EA	1	-	-	1
709	0151	GEOSYNTHETIC MATERIAL TYPE R1	SY	755	7,469	-	8,224
714	5041	PIPE CORR STEEL .064IN 30IN POLYMERIC COATED	LF	116	-	-	116
714	5056	PIPE CORR STEEL .064IN 48IN POLYMERIC COATED	LF	128	-	-	128
714	6580	PIPE POLYETHYLENE CORR PERF 4IN DRAIN	LF	9,507	-	-	9,507
754	0110	FLAT SHEET FOR SIGNS-TYPE XI REFL SHEETING	SF	265	-	-	265
754	0112	FLAT SHEET FOR SIGNS-TYPE IV REFL SHEETING	SF	106	-	-	106
754	0206	STEEL GALV POSTS-TELESCOPING PERFORATED TUBE	LF	775	-	-	775
766	0100	MAILBOX-ALL TYPES	EA	5	-	-	5

SC-5025(056)
WALSH COUNTY, NORTH DAKOTA



ESTIMATE OF QUANTITIES

DRWN. BY
ZV

CHKD BY
JD

PROJECT NO.
6317116

STATE

PROJECT NO.

SECTION NO.

SHEET NO.

ND

SC-5025(056)

10

1

BASIS OF ESTIMATE

SPEC	CODE	ITEM DESCRIPTION	UNIT	MAINLINE		DRIVES		TOTAL QUANTITY	NOTES
				QUANTITY/ MILE	WIDTH	PRIVATE & SECTION DRIVE (7/19)	FIELD DRIVE (36)		
230	0105	RESHAPING ROADWAY	STA	52.8				21	See Plan Note 230-P01
230	0107	RESHAPING DITCH	MILE	1 Per Side				2.3	See Plan Note 230-P02
230	0111	FORESLOPE RESHAPING	STA	52.8 Per Side				1,049	See Plan Note 230-P03
230	0165	SUBGRADE PREPARATION-TYPE A-12IN	STA	52.8				545	See Section 30 Typical Sections
350	0500	GRAVEL SURFACING	TON	3,058	24'	40	17	33,235	1.875 Ton/CY

Water: 20 Gal/Ton Aggregate Surface Course & 10 MGAL per mile for Dust Palliative

MAILBOXES	
STATION	QUANTITY
10+73, Lt	1
140+11, Rt	1
143+62, Rt	1
291+20, Rt	1
402+42, Rt	1
TOTAL	5

PROPOSED COUNTY ROAD 12B EARTHWORK AND TOPSOIL SUMMARIES				
LOCATION	EARTHWORK SUMMARY		TOPSOIL SUMMARY	
	Excavation	Embankment ①		
	(CY)	(CY)		
	A	B		
County Road 12B				
Reshaping Roadway and Foreslope Reshaping between Sta 10+75.00 to Sta 79+48.00 ②	2,250	472	1,678	
Reshaping Roadway, Reshaping Ditch, and Foreslope Reshaping between Sta 131+10.00 to Sta 607+65.00 ②	42,275	5,674	16,859	
TOTAL =	44,525	6,146	18,537	

① Shrinkage not included

② See Plan Notes 230-P01 for Reshaping Roadway, 230-P02 for Reshaping Ditch, and 230-P03 for Foreslope Reshpaing. Excavation, Embankment and Topsoil quantities are for estimating purposes only. All costs for labor, materials, and equipment for Excavation, Embankment, and Topsoil will be included in the price bid for FORESLOPE RESHAPING, RESHAPING ROADWAY, and RESHAPING DITCH

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WALSH COUNTY, NORTH DAKOTA

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DRWN. BY

CHKD BY

PROJECT NO.

ZV

JD

6317116

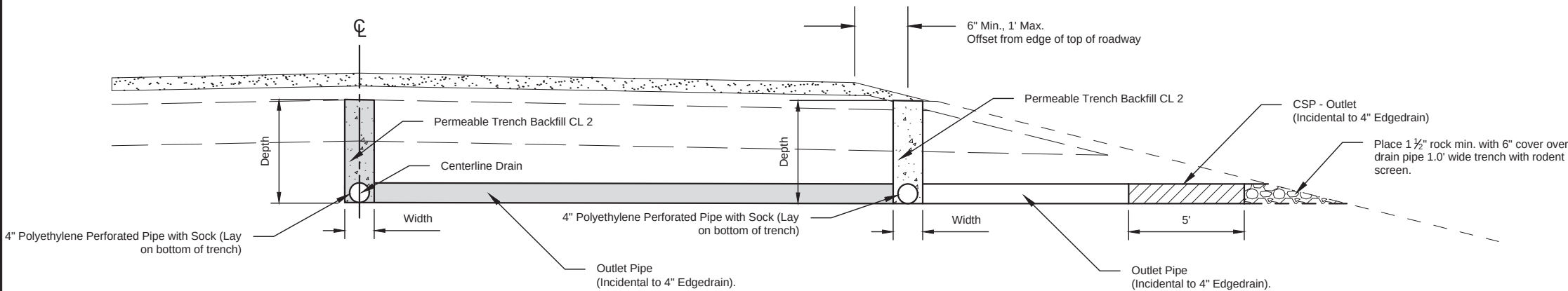
BASIS OF ESTIMATE

Sep 04, 2018 - 2:24pm - P:\County\ND\Walsh\6317116\CADD\Design\Plans\6317116_010BE.dwg

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SC-5025(056)	20	1

SPEC	CODE	BID ITEM	QTY	UNIT
203	0138	COMMON EXCAVATION - SUBCUT		
		Subgrade Repair	2,395	CY
350	0500	GRAVEL SURFACING		
		Subgrade Repair	4,490	TON
709	0151	GEOSYNTHETIC MATERIAL - TYPE R1		
		Subgrade Repair	7,469	SY
714	6580	PIPE POLYETHYLENE CORR PERF 4IN DRAIN		
		Sta 438+00 to 533+00	9507	LF

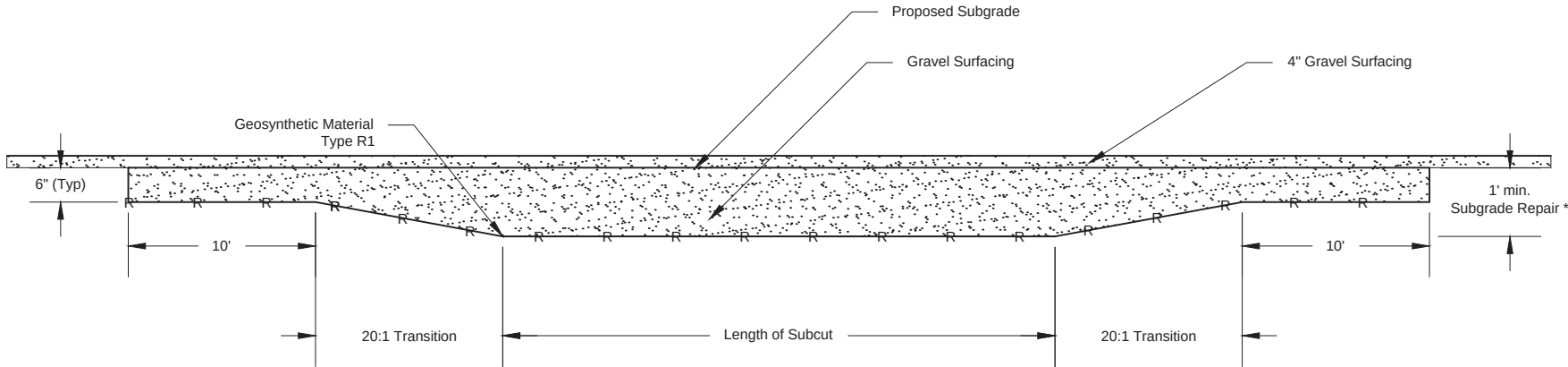


Install only from Sta 462+66 to Sta 465+73.

4" EDGEDRAIN INSTALLATION DETAIL

STA. 438+00 to STA. 462+66 ~ Rt.
STA. 462+66 to STA. 465+73 ~ CL & Rt.
STA. 465+73 to STA. 530+00 ~ Rt.

Perforated Pipe Drain installation trench to be:
Width = 7" min. to 10" max.
Depth = 3.0' optimum, 2.0' min. to 4.0' max.
The entire centerline trench and discharge trench to be backfilled with filter aggregate.
Place 4" Corrugated Perforated PE Pipe Drain with geotextile filter wrap.



SUBGRADE REPAIR DETAIL *

STA. 287+30 to STA. 287+50 Lt
STA. 455+83 to STA. 456+29 Lt/Rt
STA. 460+12 to STA. 460+54 Rt
STA. 462+66 to STA. 465+73 Lt/Rt
STA. 532+35 to STA. 536+94 Lt
STA. 574+37 to STA. 579+03 Lt/Rt
STA. 590+86 to STA. 593+51 Rt
STA. 602+56 to STA. 604+80 Lt

*An additional quantity of 1,000 LF of Subgrade Repair has been provided.
Location, Extents and Depth to be Determined in the Field by the Engineer.
Excavated Material Shall be Paid for as "COMMON EXCAVATION-SUBCUT".

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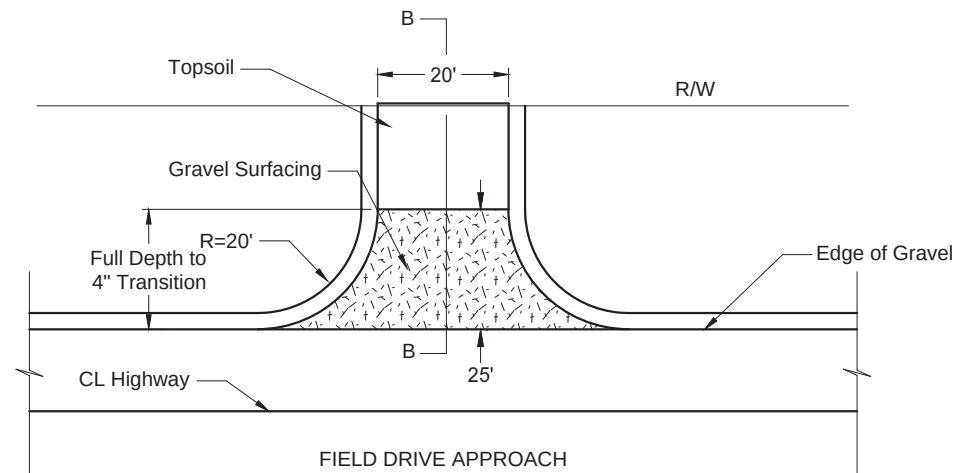
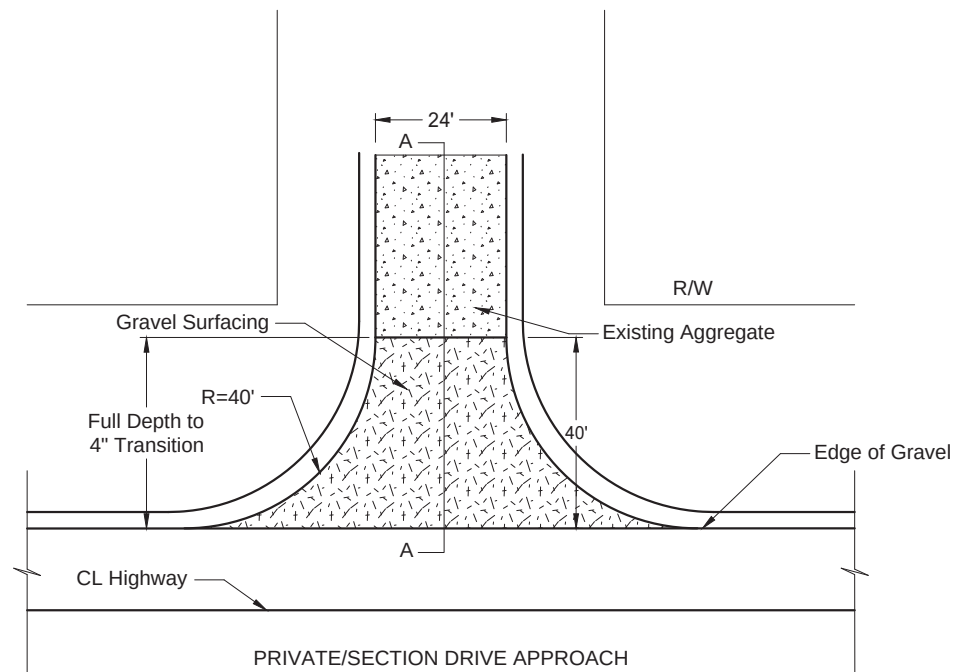
SC-5025(056)
WALSH COUNTY, NORTH DAKOTA



EDGEDRAIN DETAILS
SUBGRADE REPAIR DETAIL

DRWN. BY	CHKD BY	PROJECT NO.
ZV	JD	6317116

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SC-5025(056)	20	2



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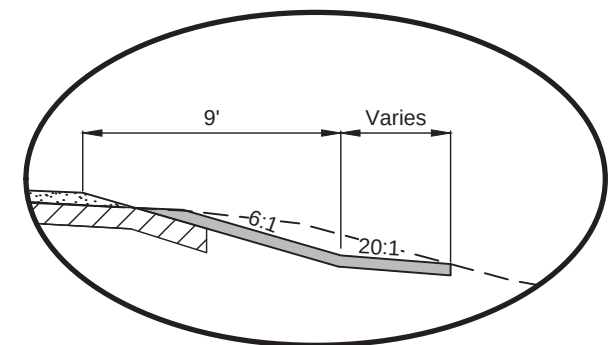
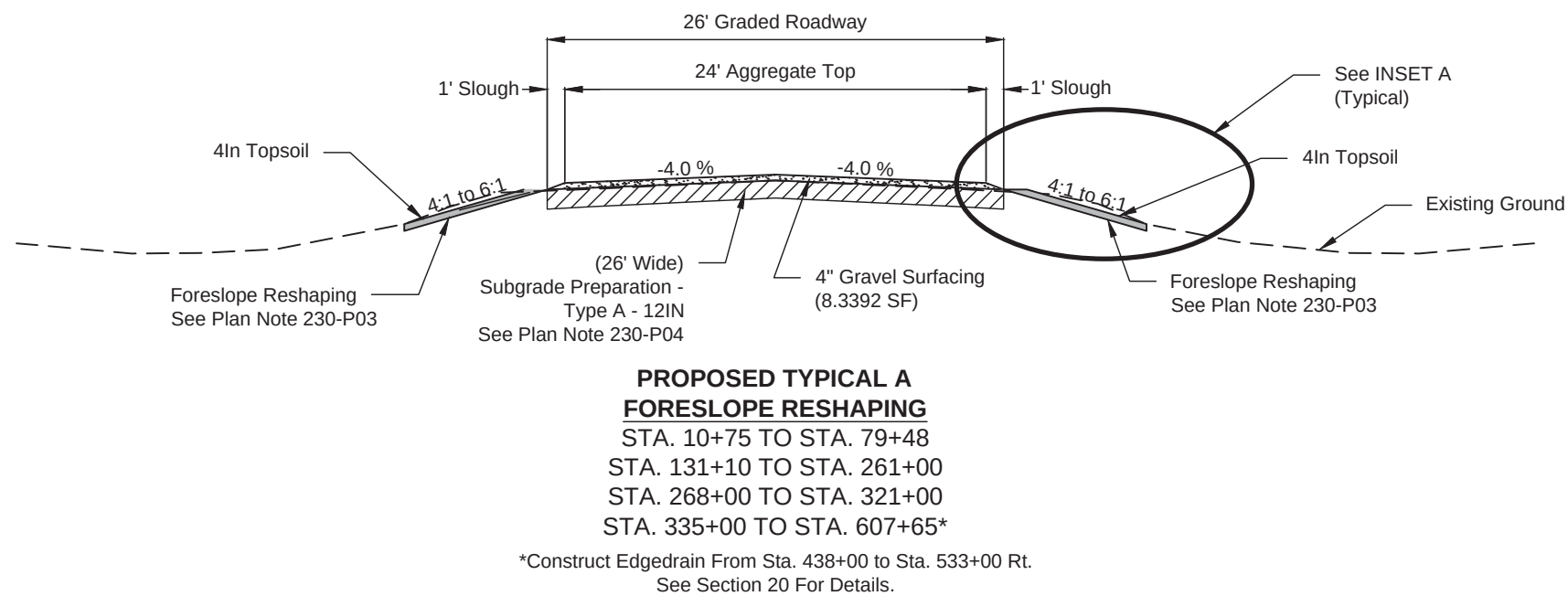
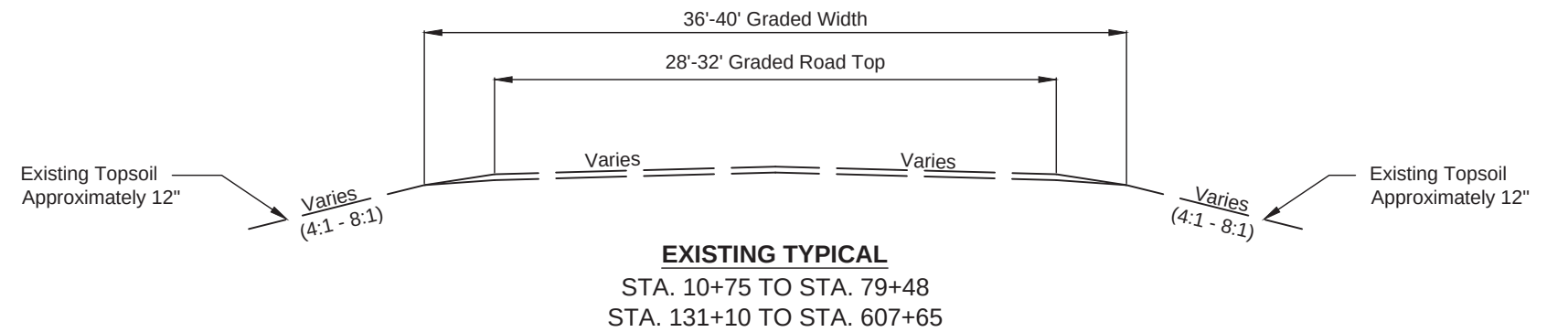
SC-5025(056)
WALSH COUNTY, NORTH DAKOTA



APPROACH DETAILS

DRWN. BY ZV	CHKD BY JD	PROJECT NO. 6317116
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SC-5025(056)	30	1



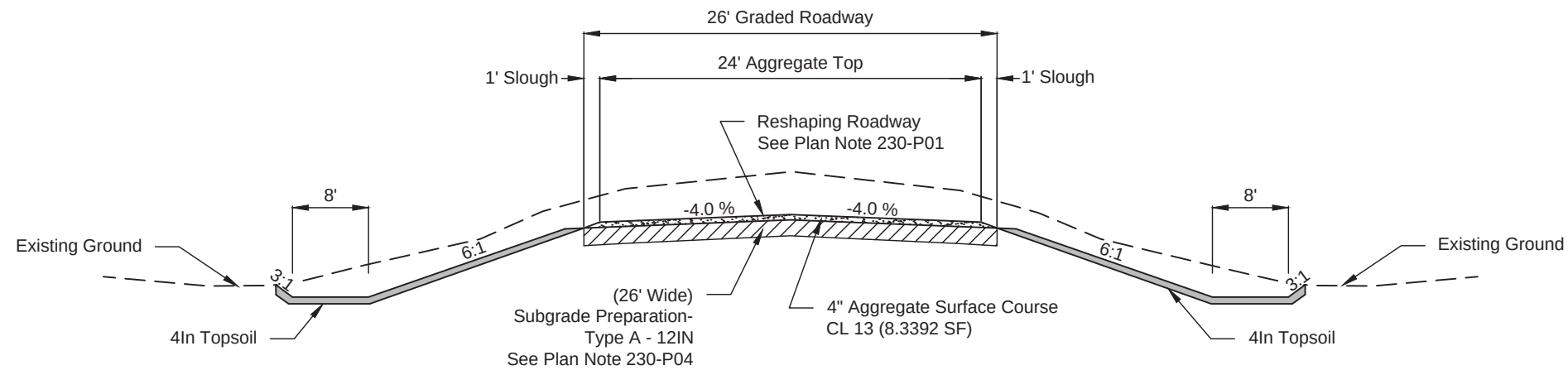
INSET A

If inslope is flatter than 6:1, construct 6:1 inslope for 9' measured horizontally from edge of driving lane, then break the inslope to 20:1 until daylighting to existing ground. See Cross Sections For More Details.

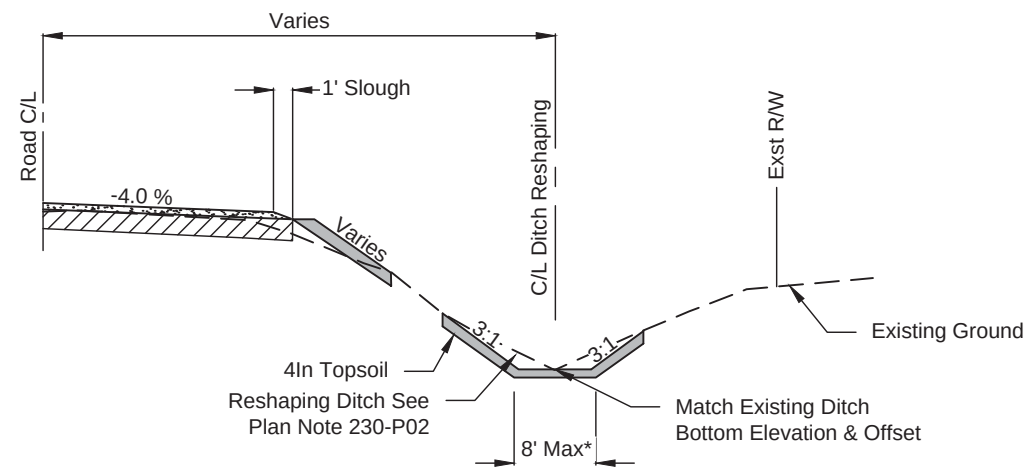
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SC-5025(056) WALSH COUNTY, NORTH DAKOTA		
	TYPICAL SECTION	
	DRWN. BY ZV	CHKD BY JD
	PROJECT NO. 6317116	

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SC-5025(056)	30	2



**PROPOSED TYPICAL B
RESHAPING ROADWAY**
STA. 261+00 TO STA. 268+00
STA. 321+00 TO STA. 335+00



**PROPOSED TYPICAL C
RESHAPING DITCH**
STA. 438+00 TO STA. 545+00 Rt.
STA. 599+46 TO STA. 607+65 Lt.
STA. 599+46 TO STA. 607+65 Rt.

* Width Of Reshaping Ditch May Vary To Fit In Existing
R/W. See Cross Sections For More Details.

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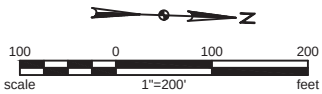
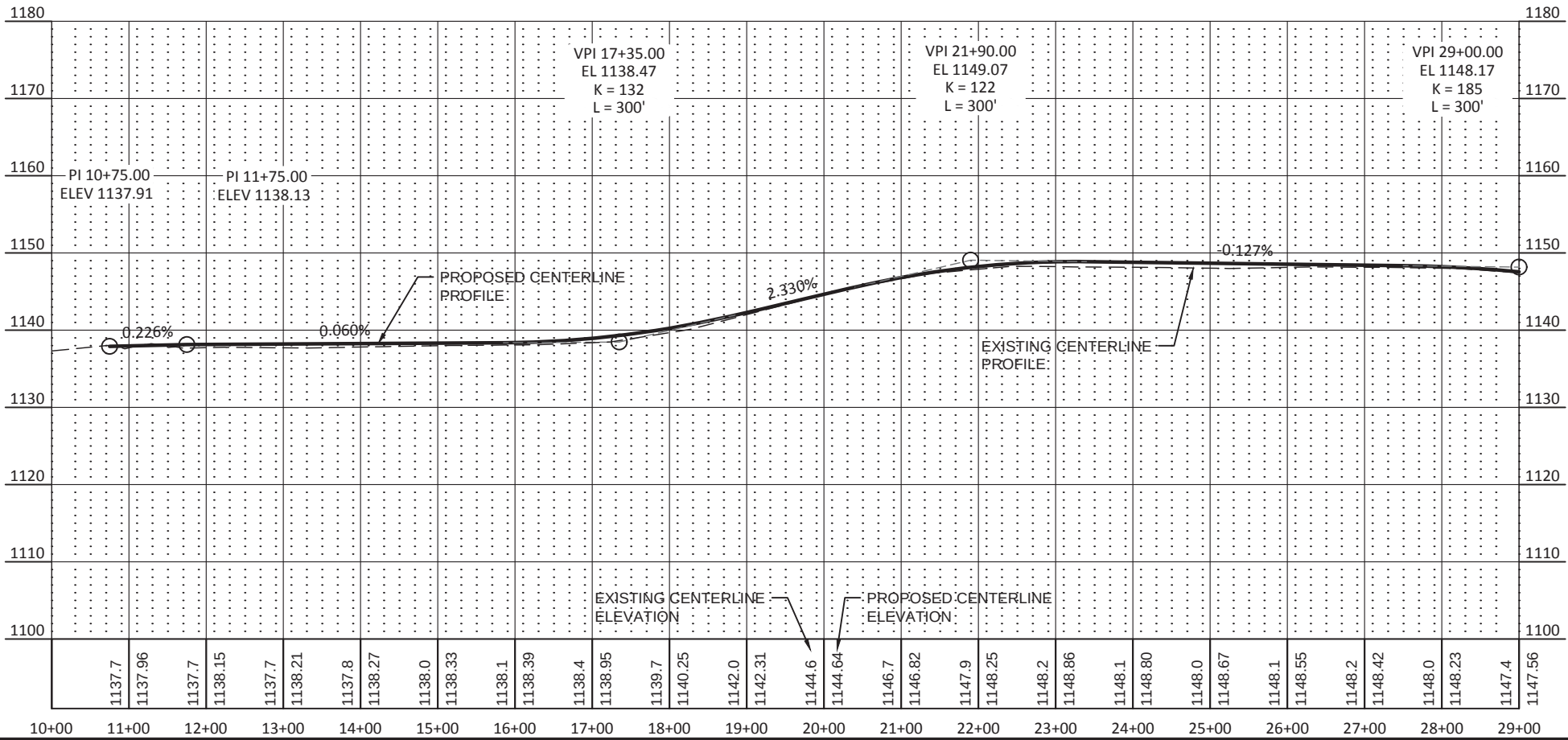
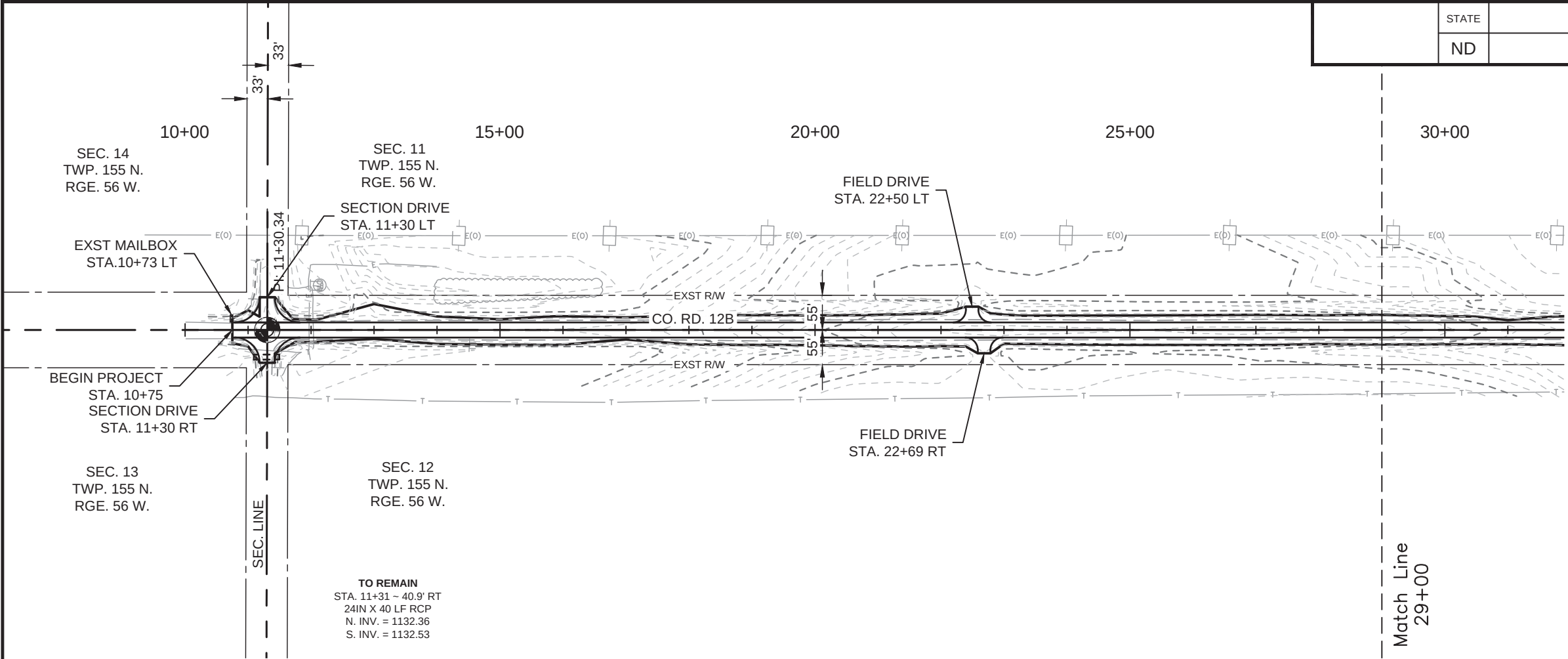
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WALSH COUNTY, NORTH DAKOTA



TYPICAL SECTION

DRWN. BY ZV	CHKD BY JD	PROJECT NO. 6317116
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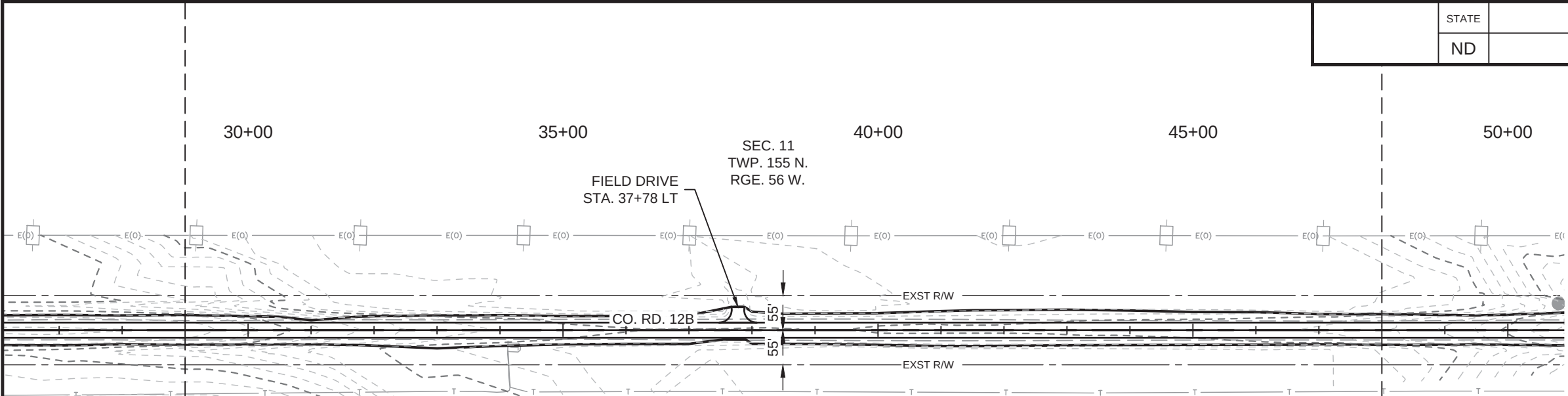
PLAN & PROFILE
STA. 10+75 TO 29+00

DRWN. BY
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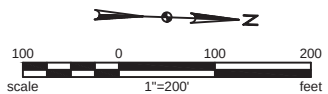
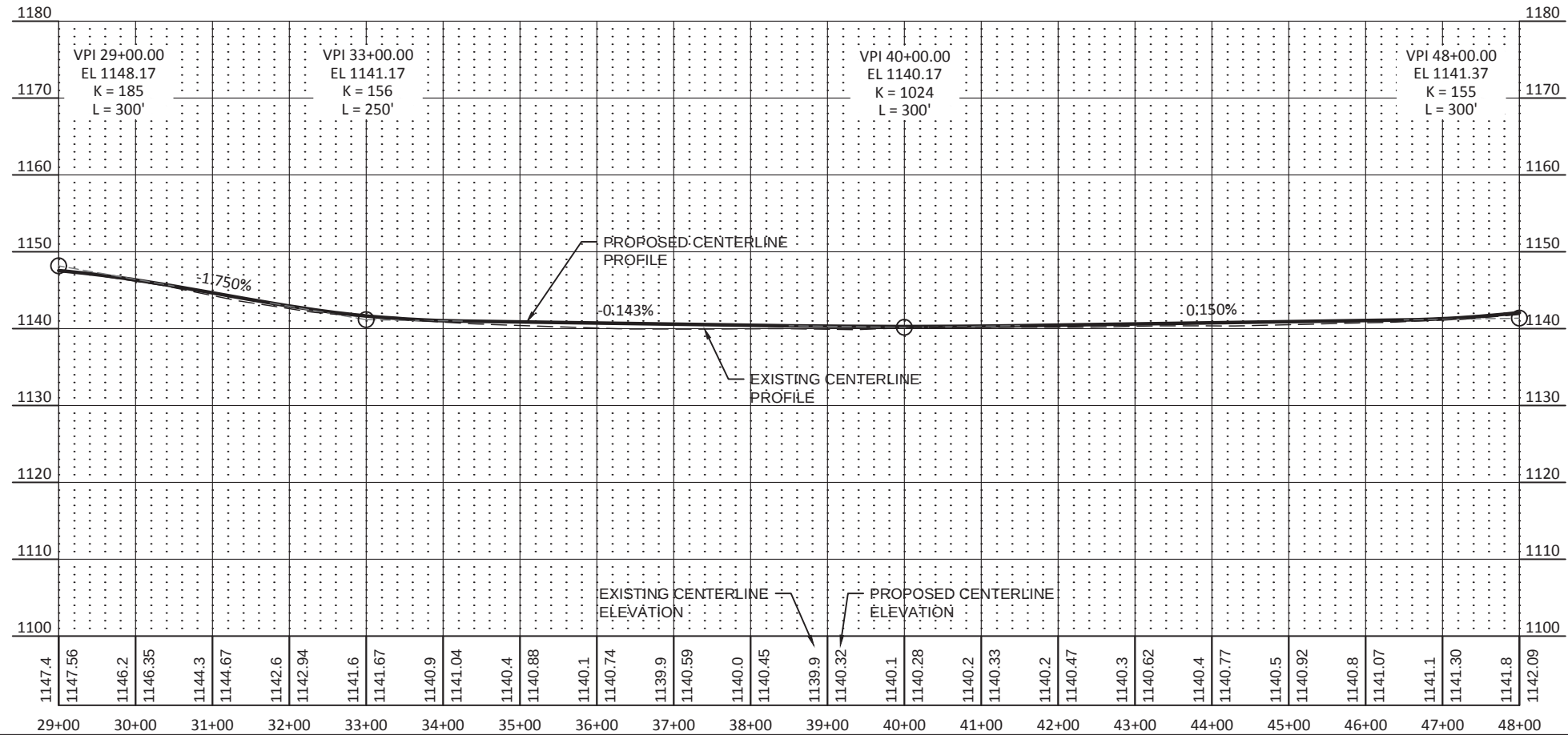
PROJECT NO.
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Match Line
29+00

Match Line
48+00



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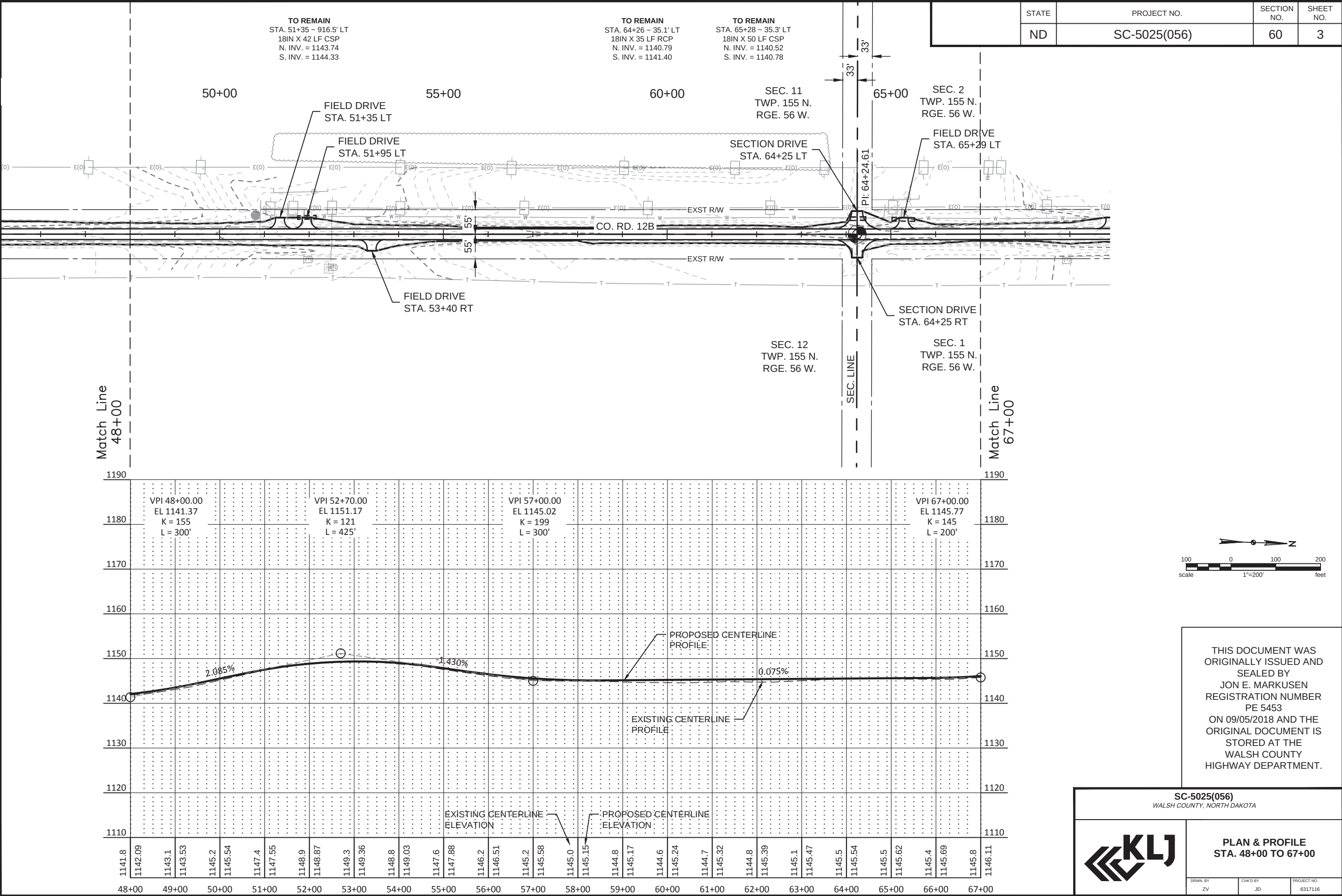


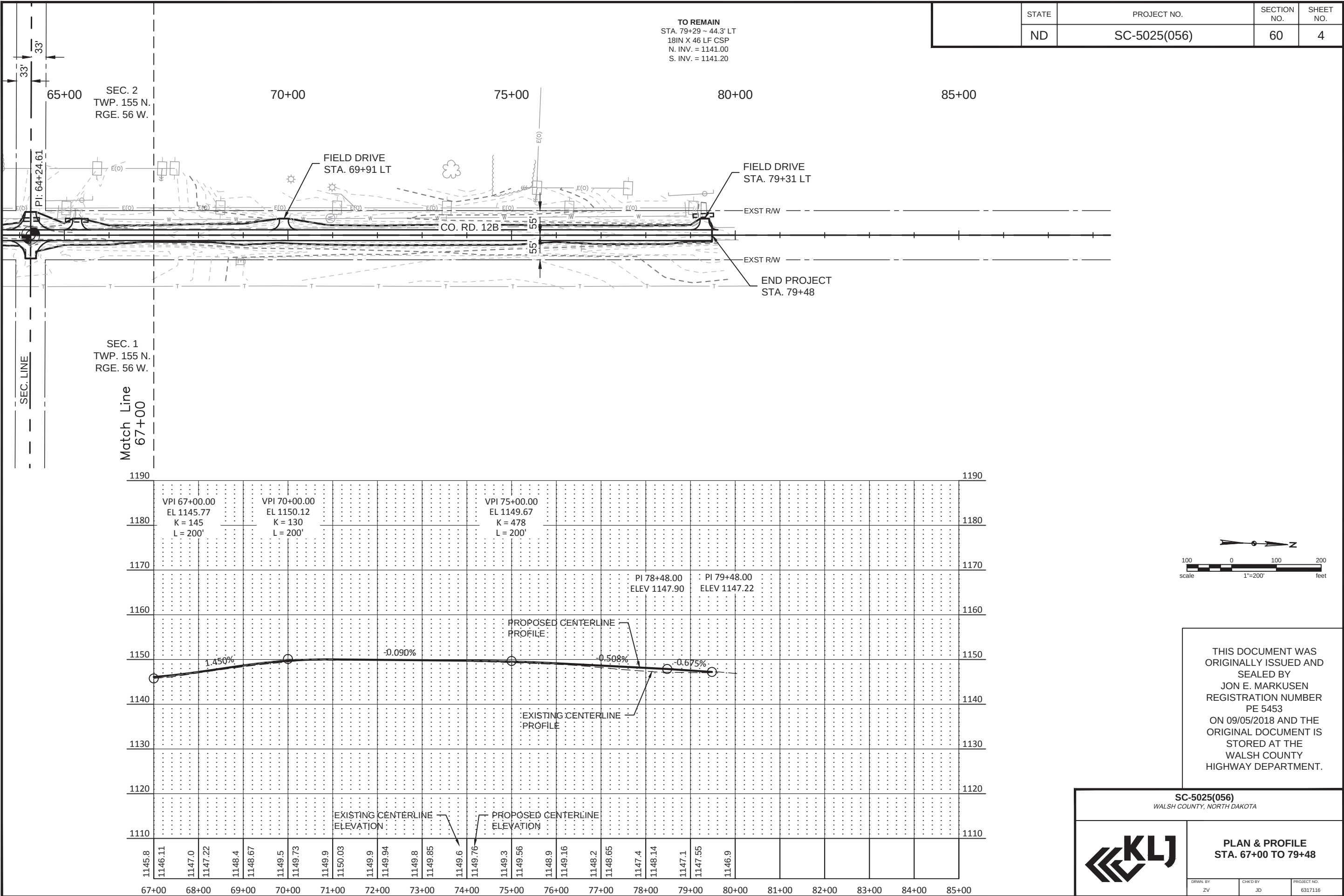
PLAN & PROFILE
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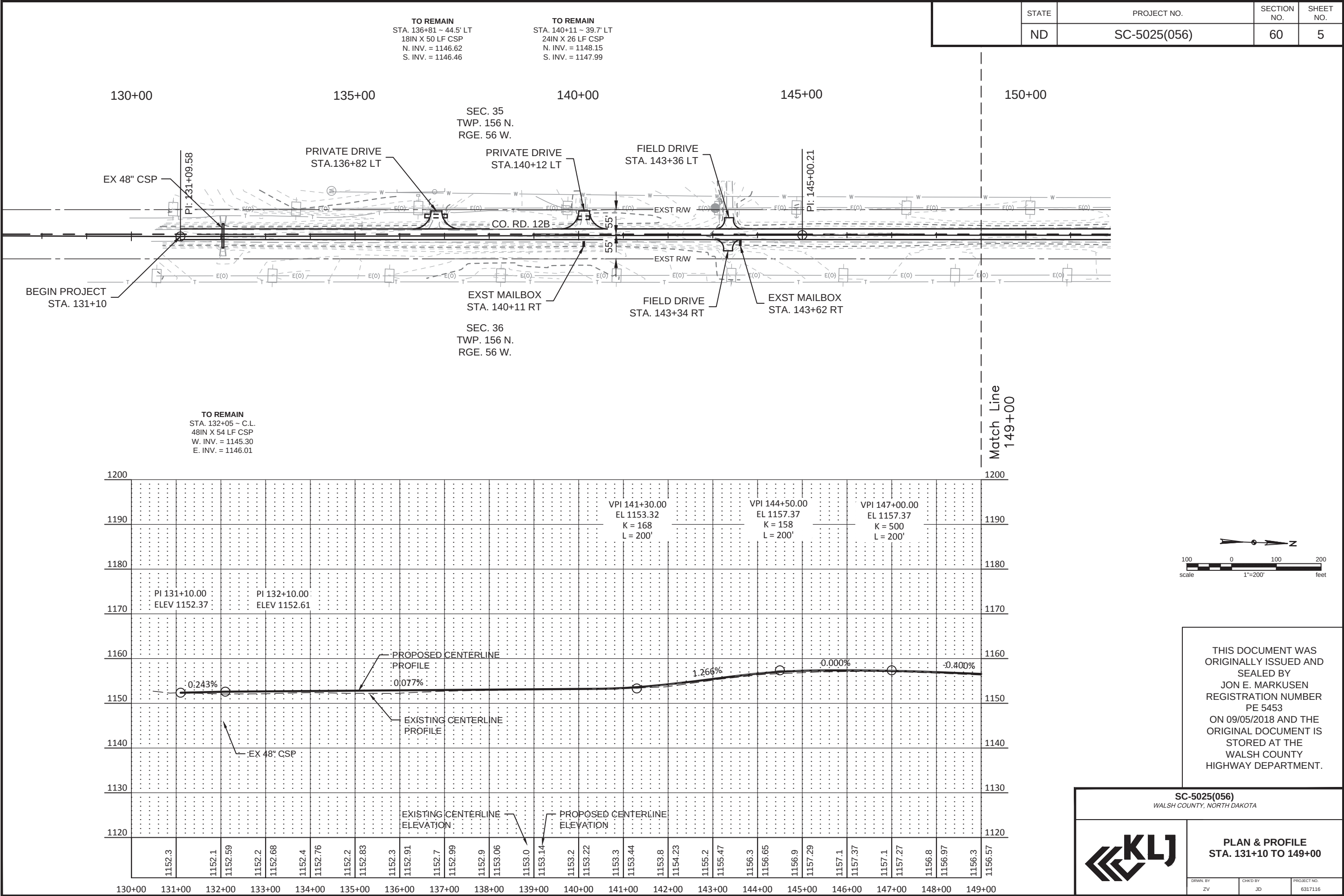
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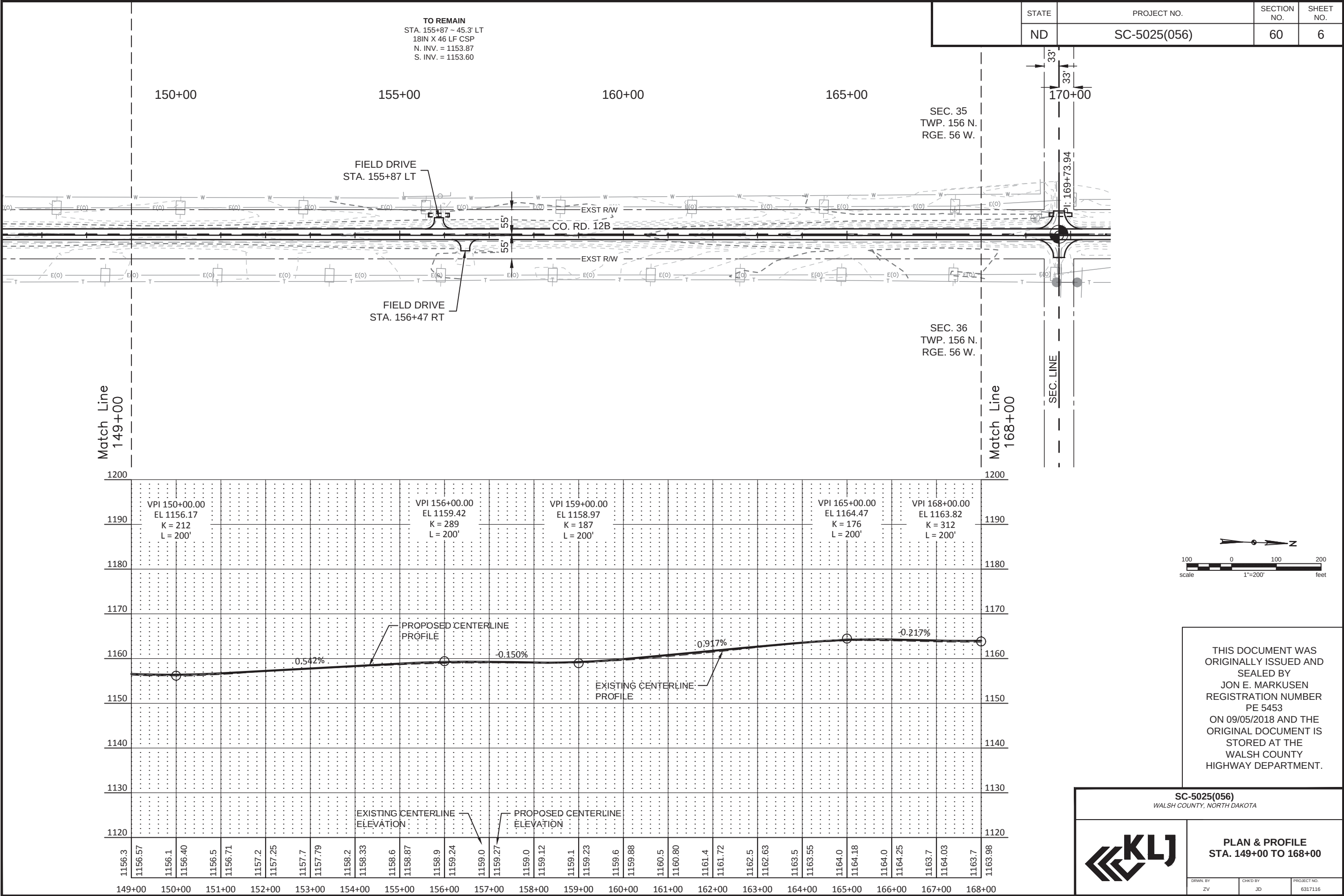
CHKD BY
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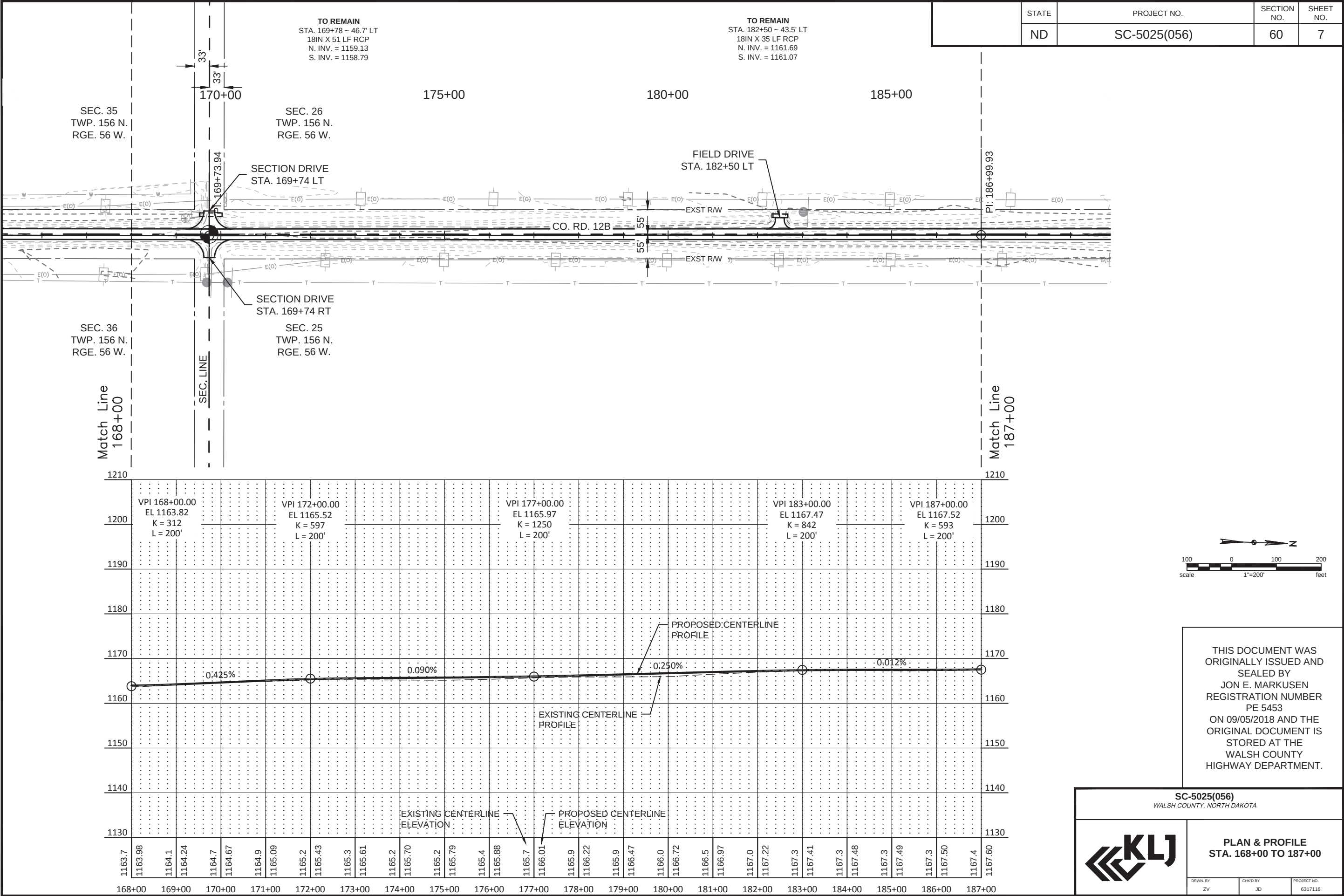
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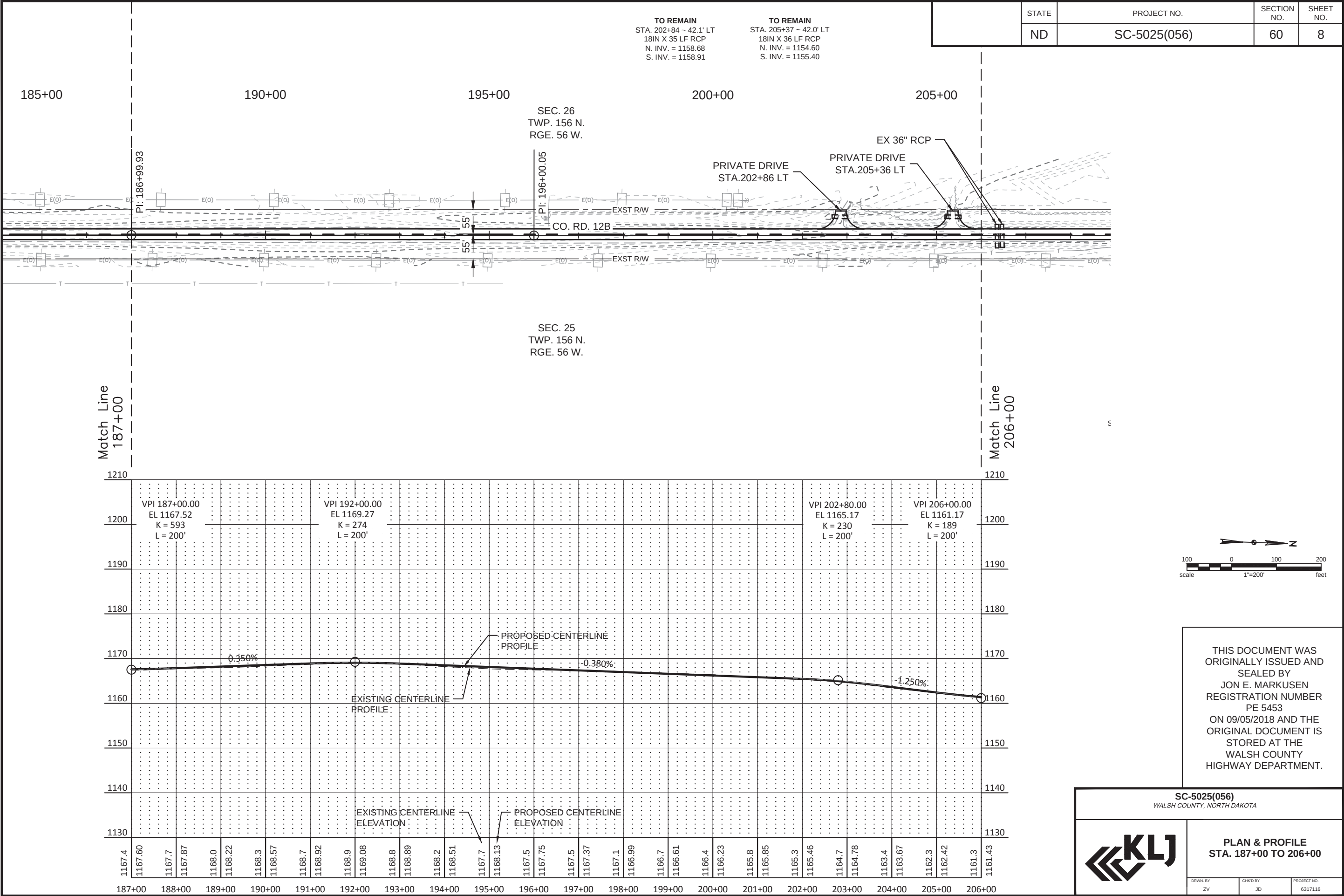


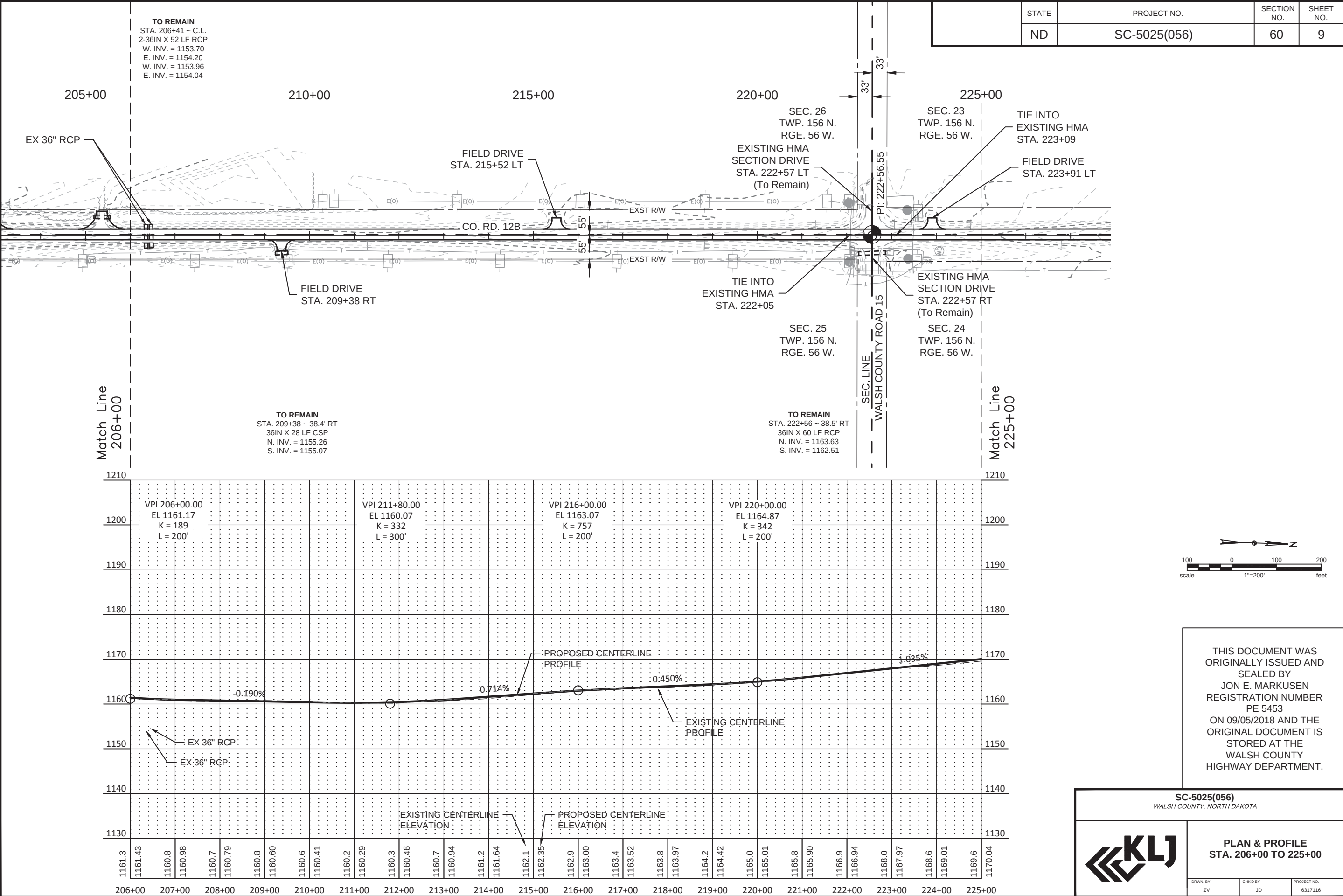


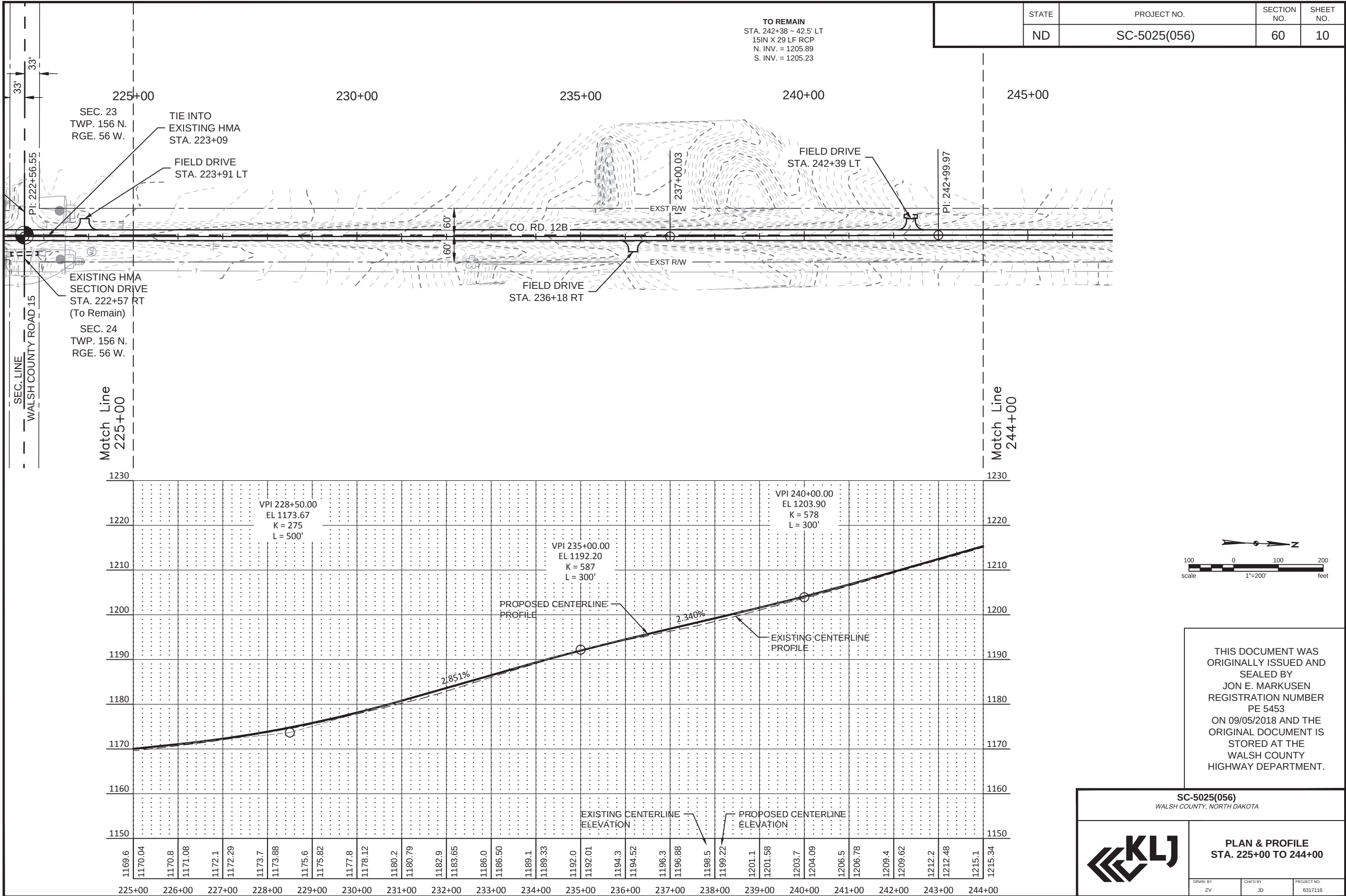


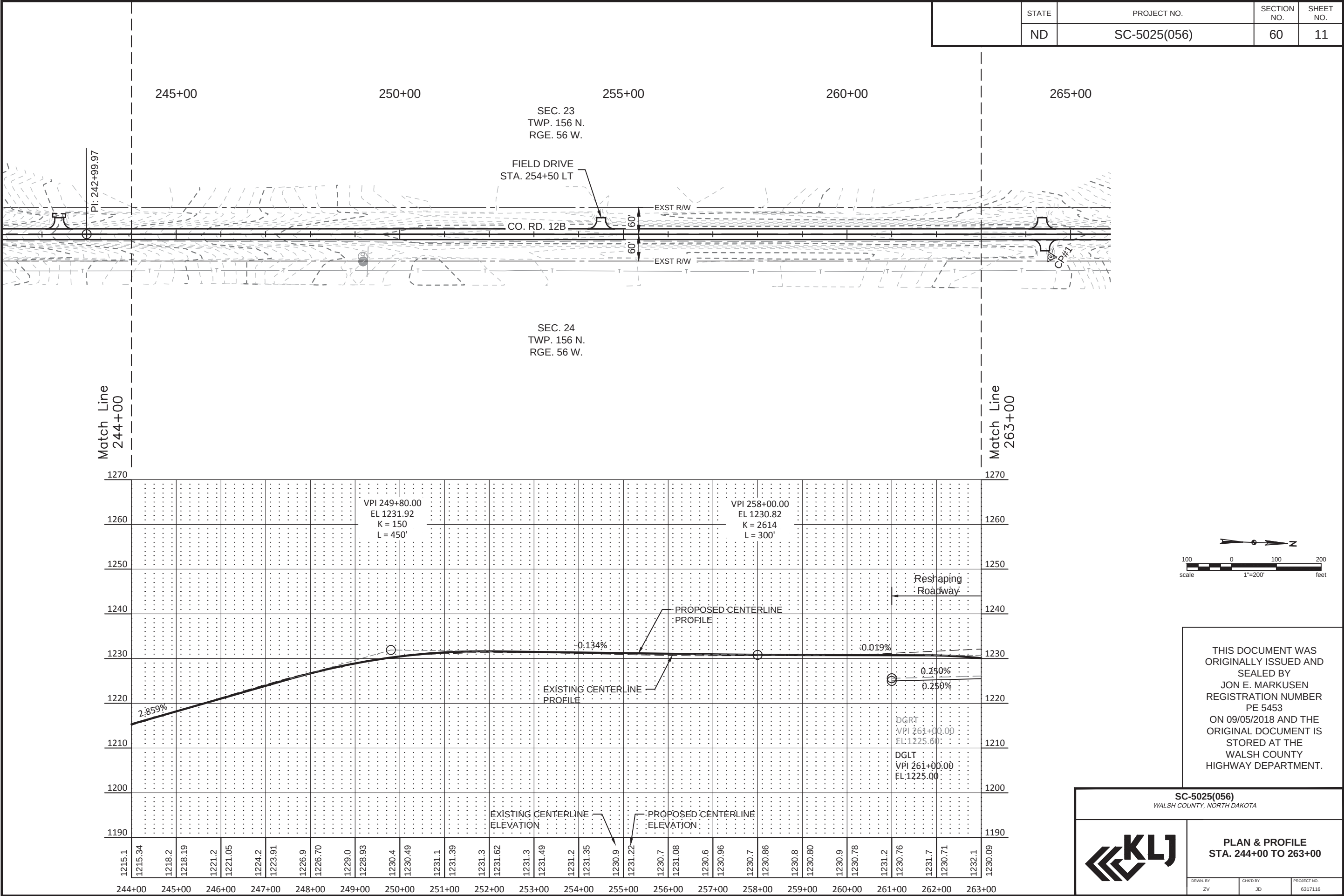


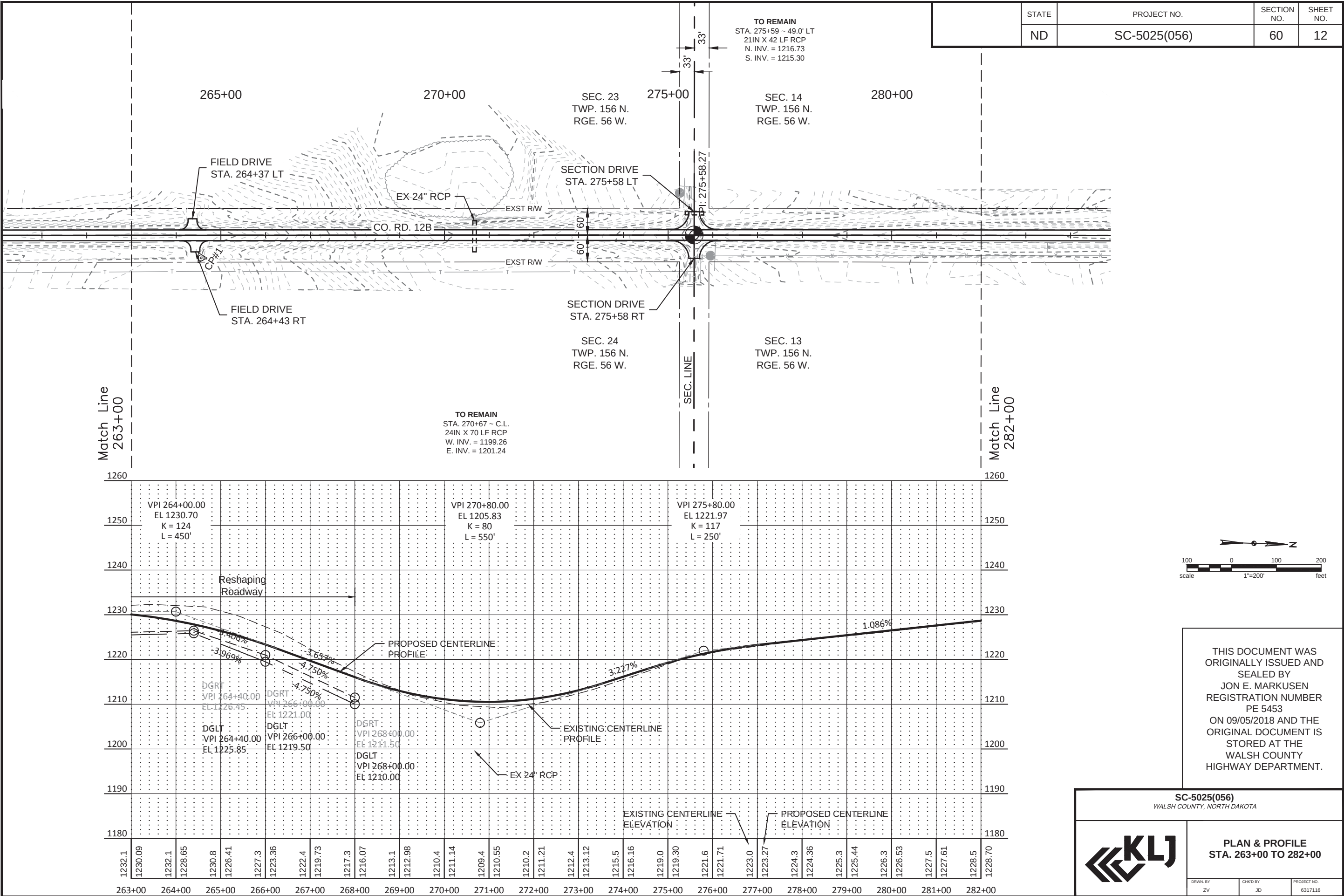






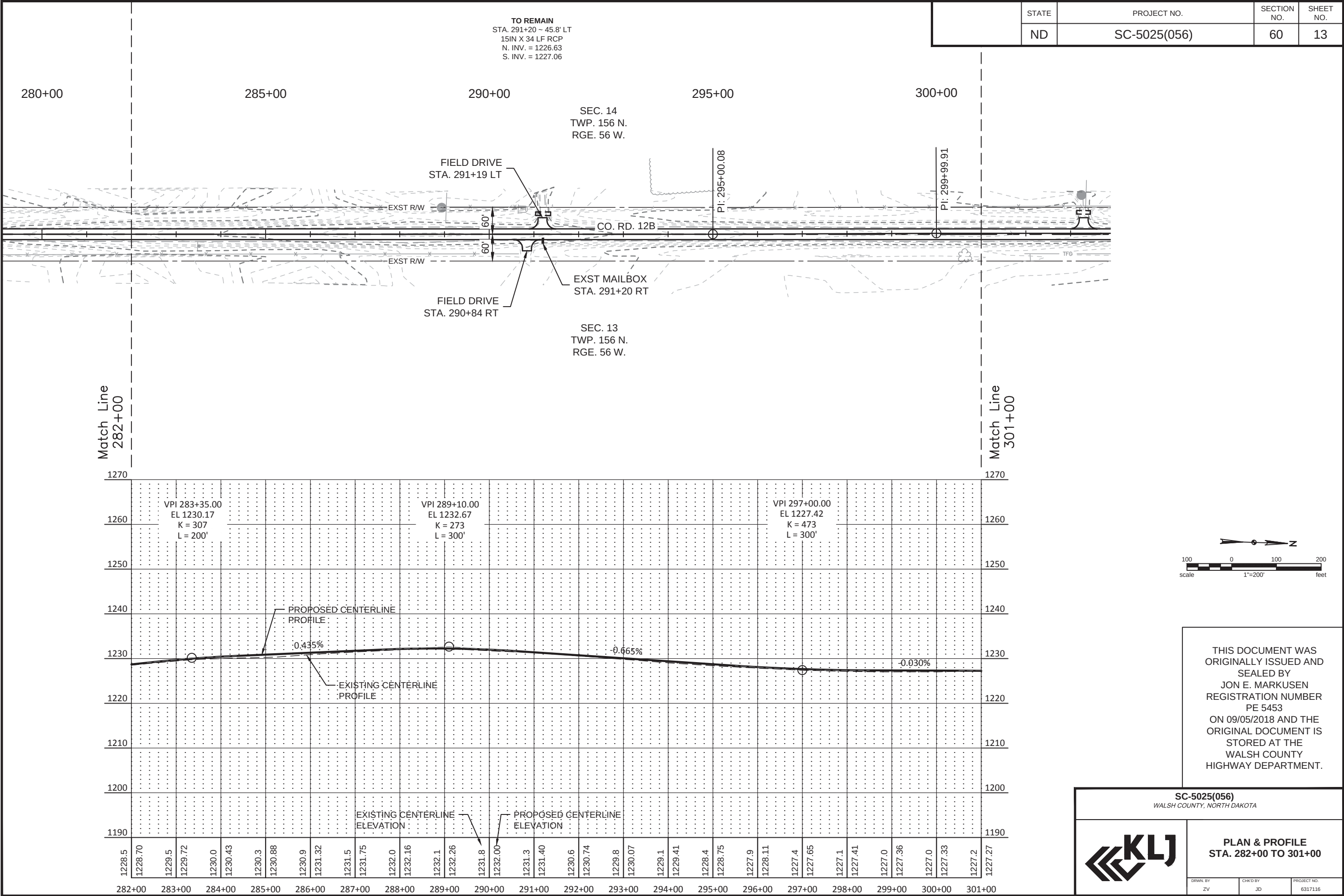


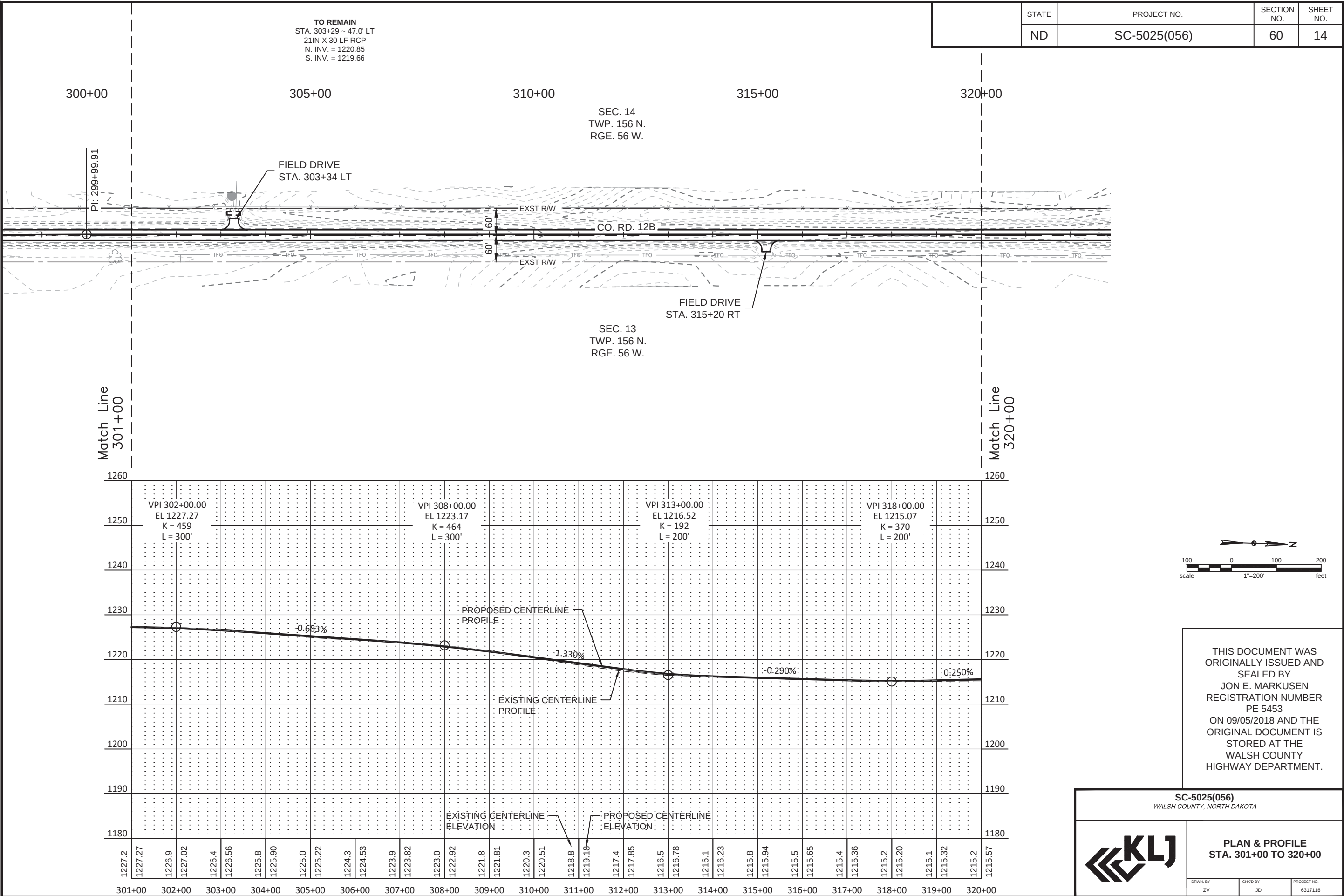


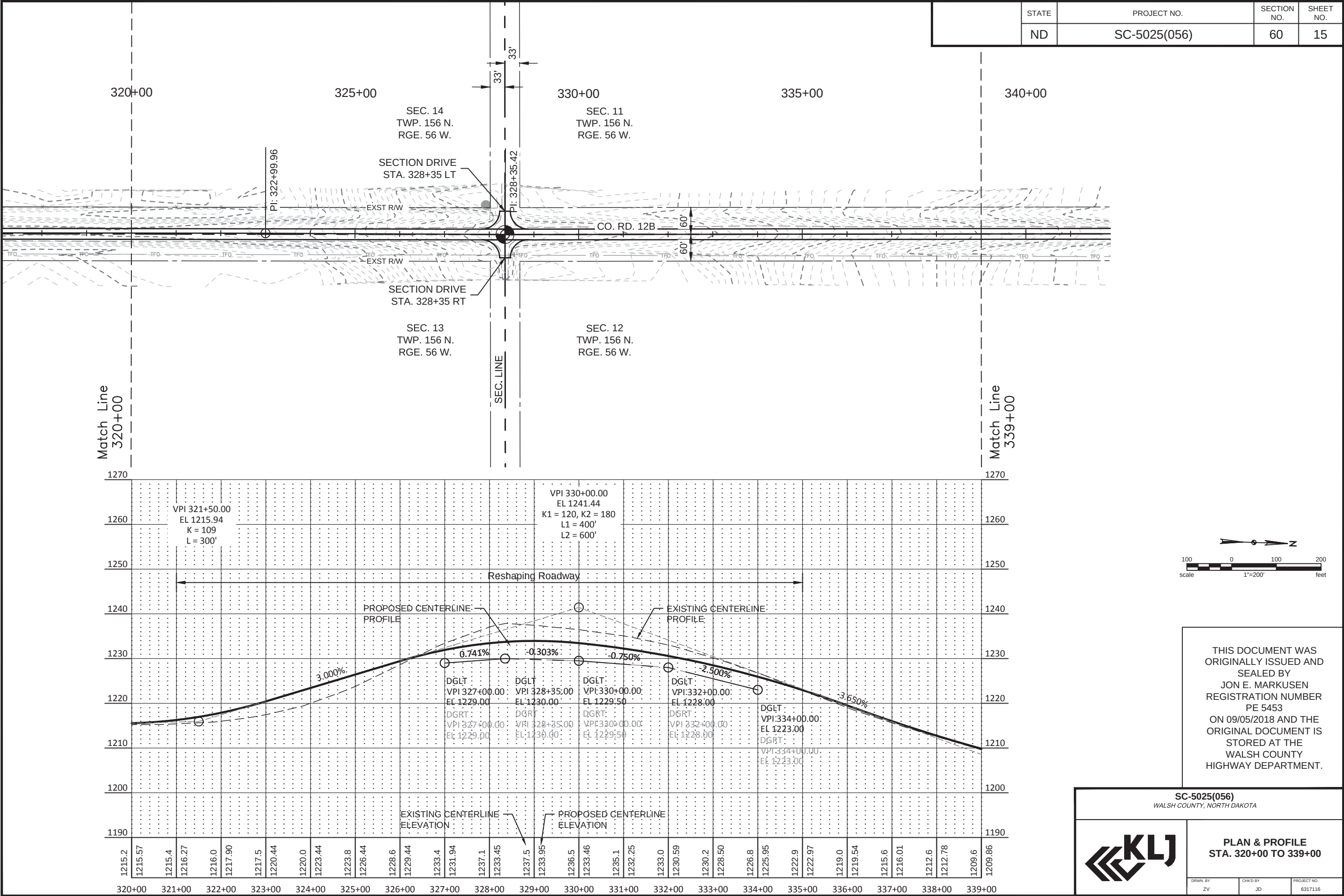


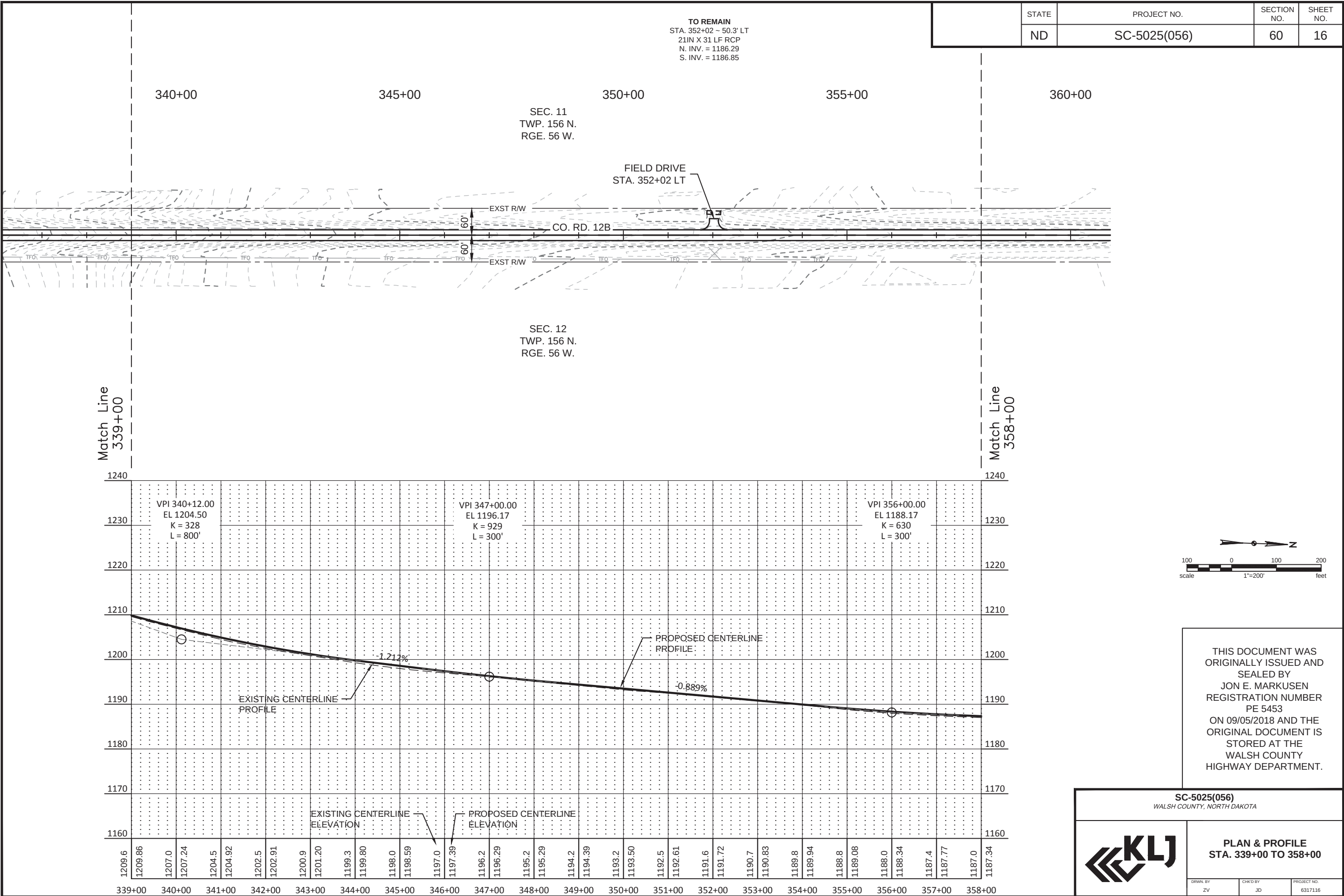
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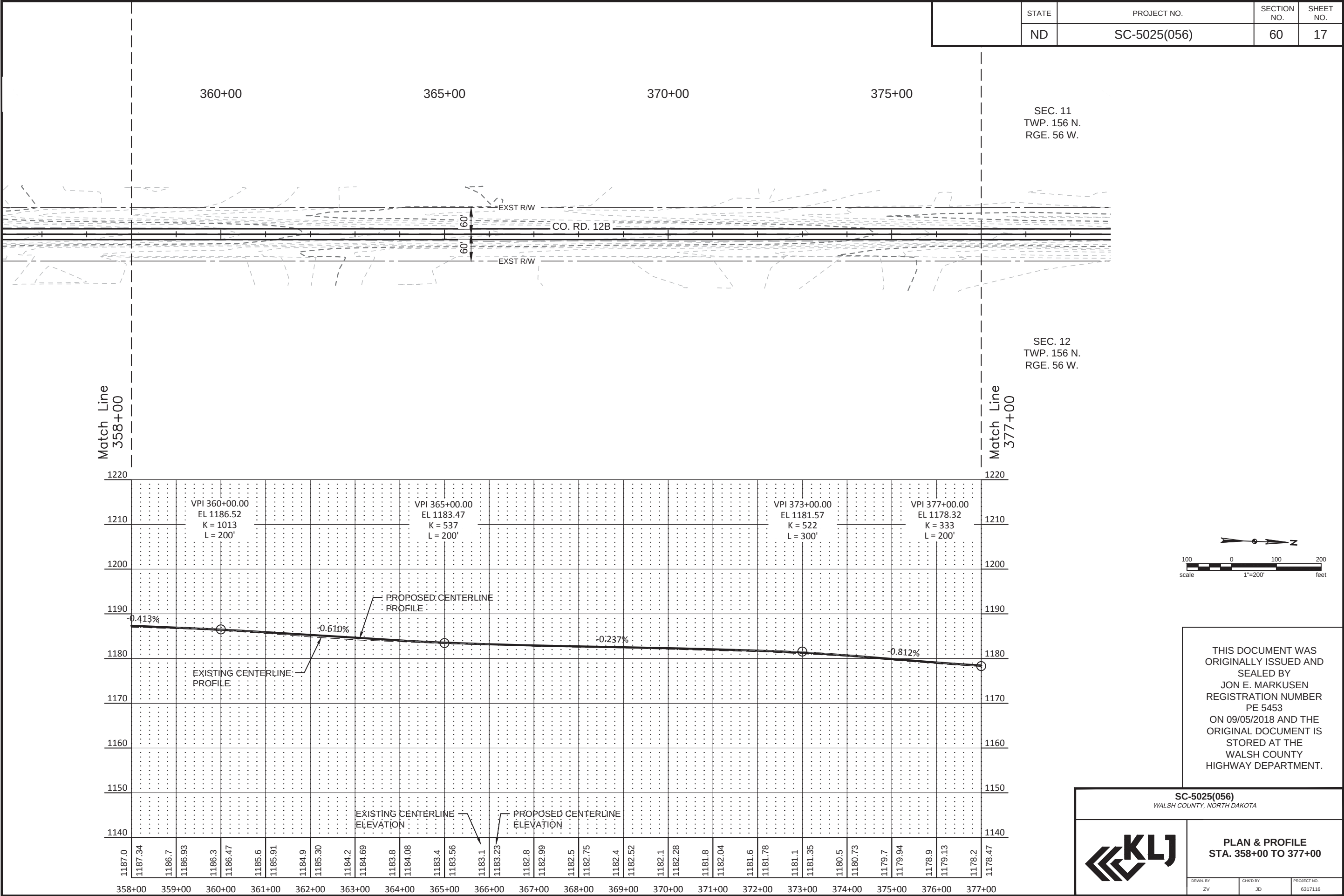
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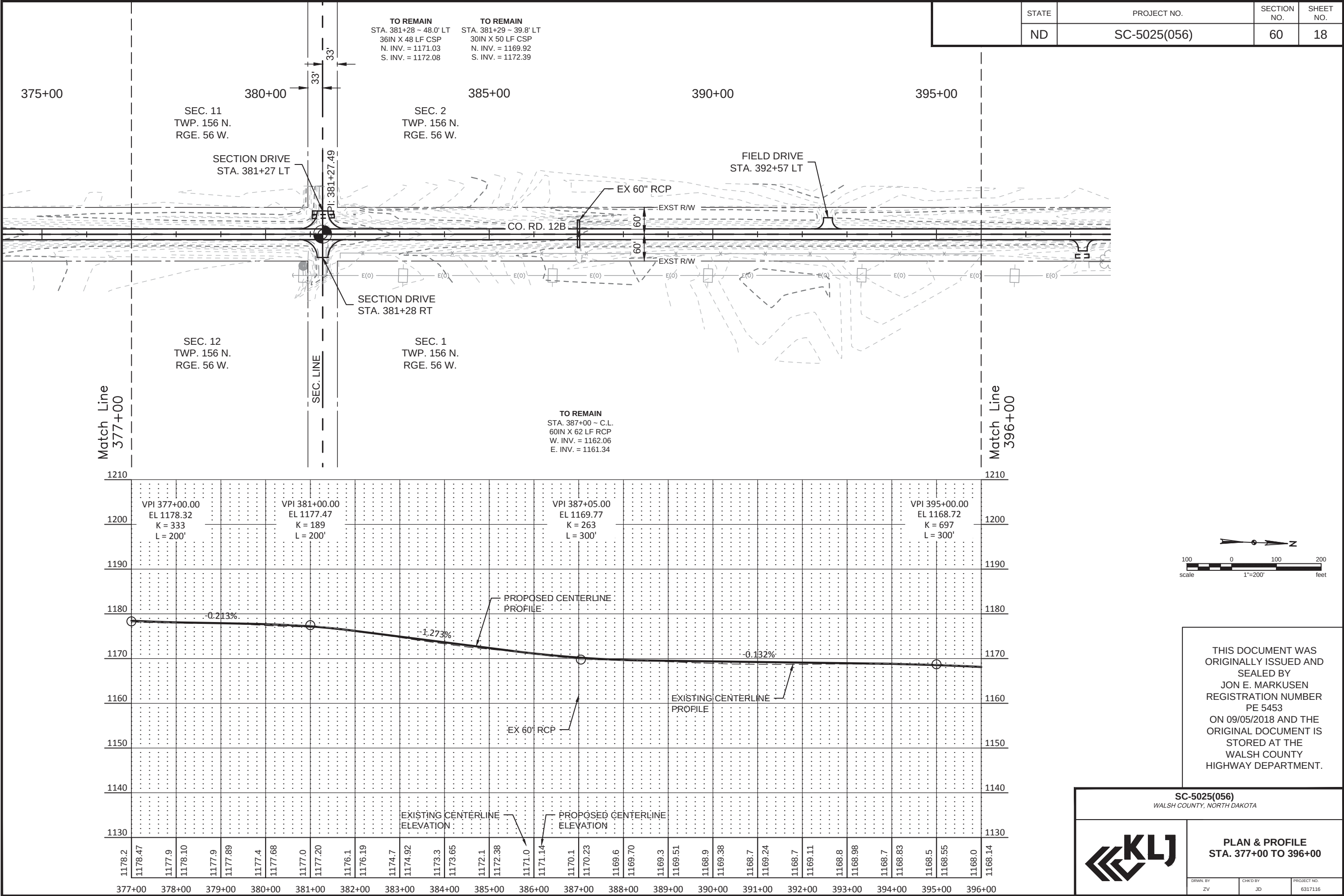


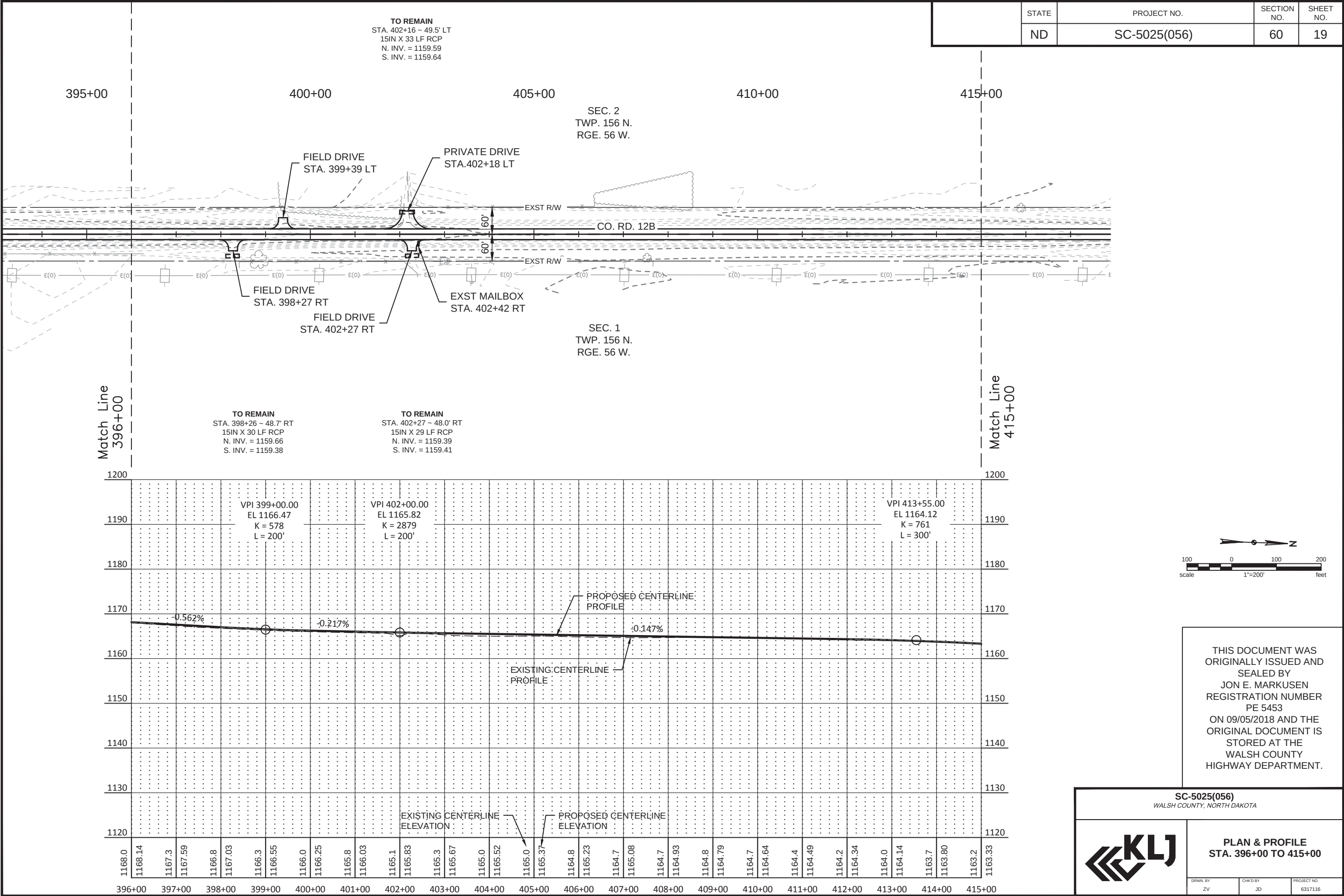




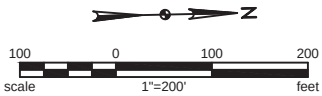
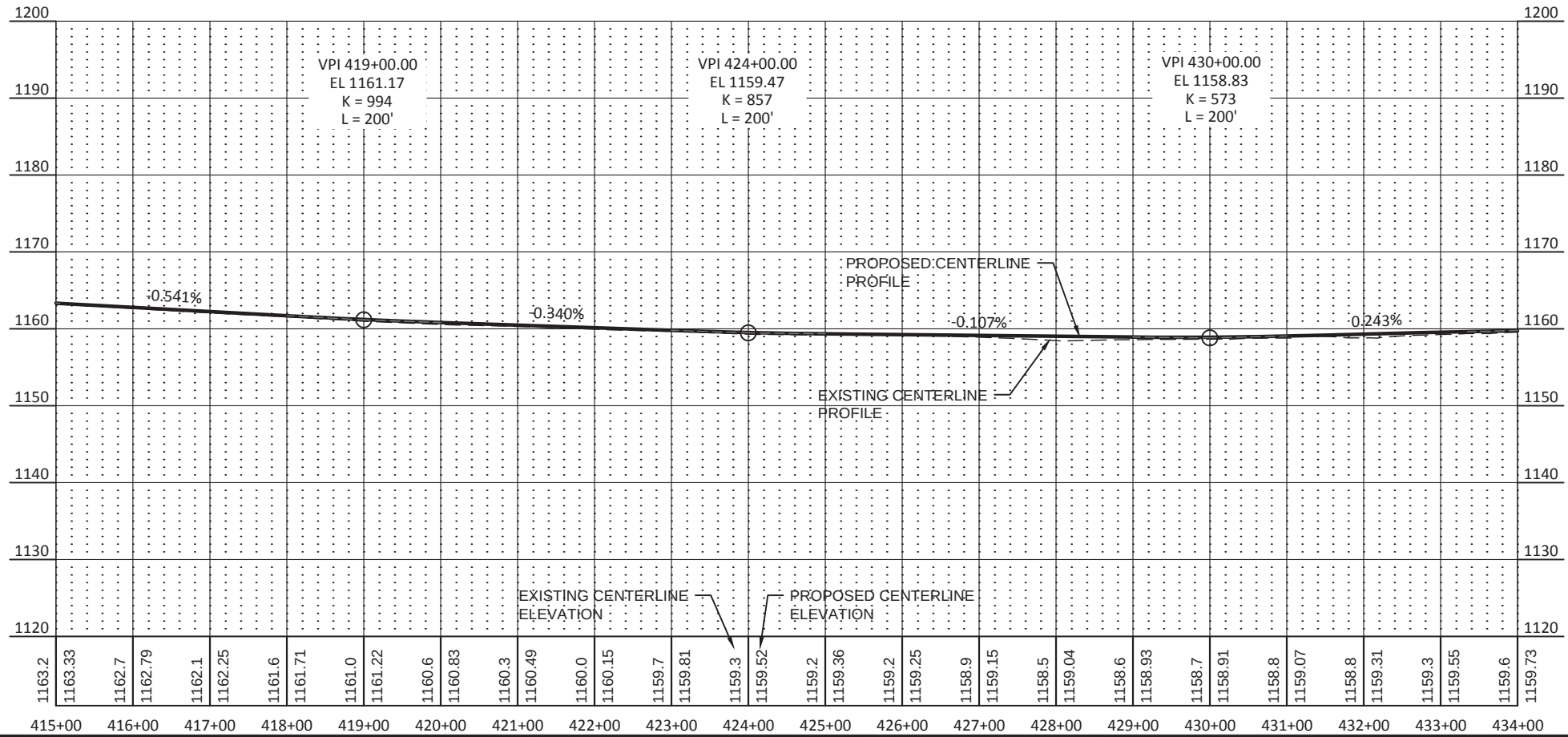
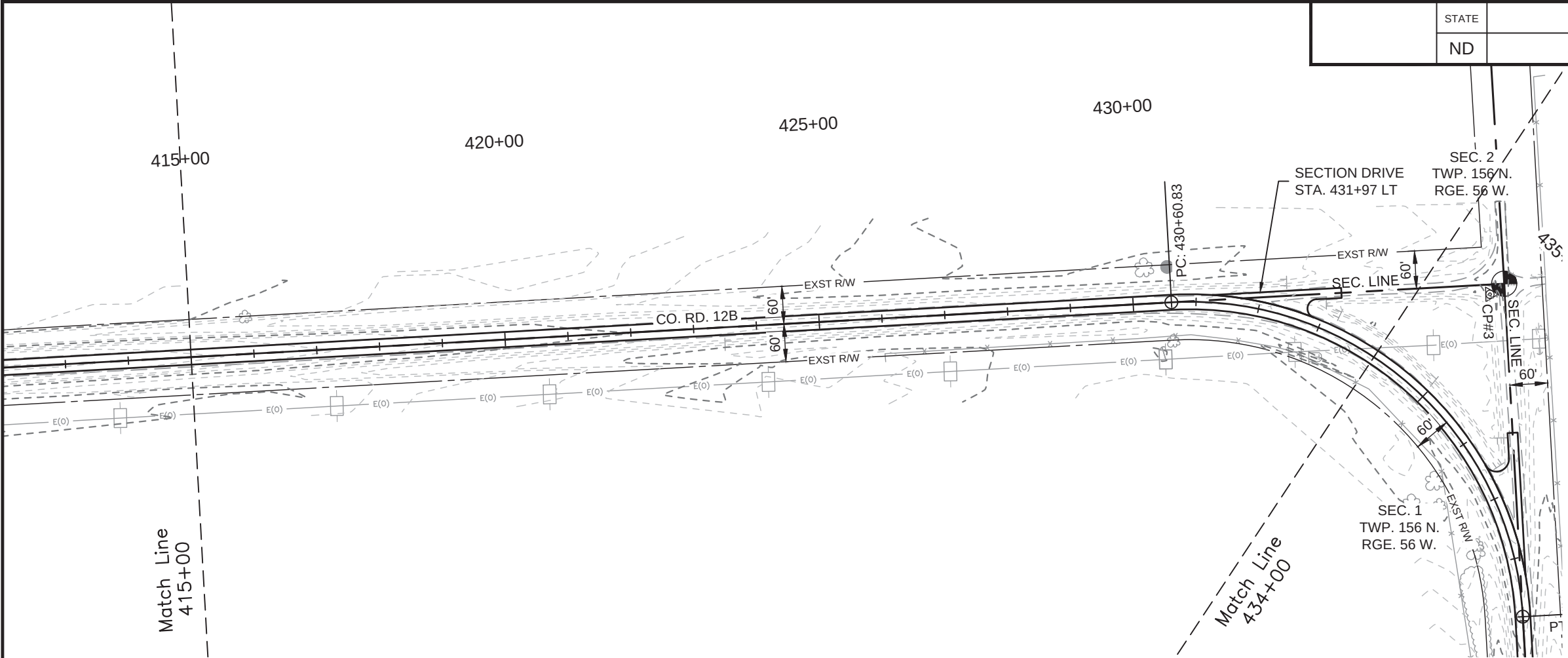








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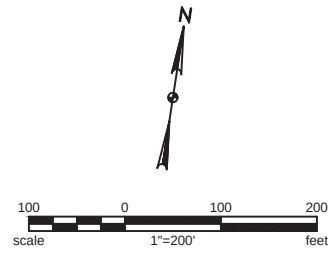
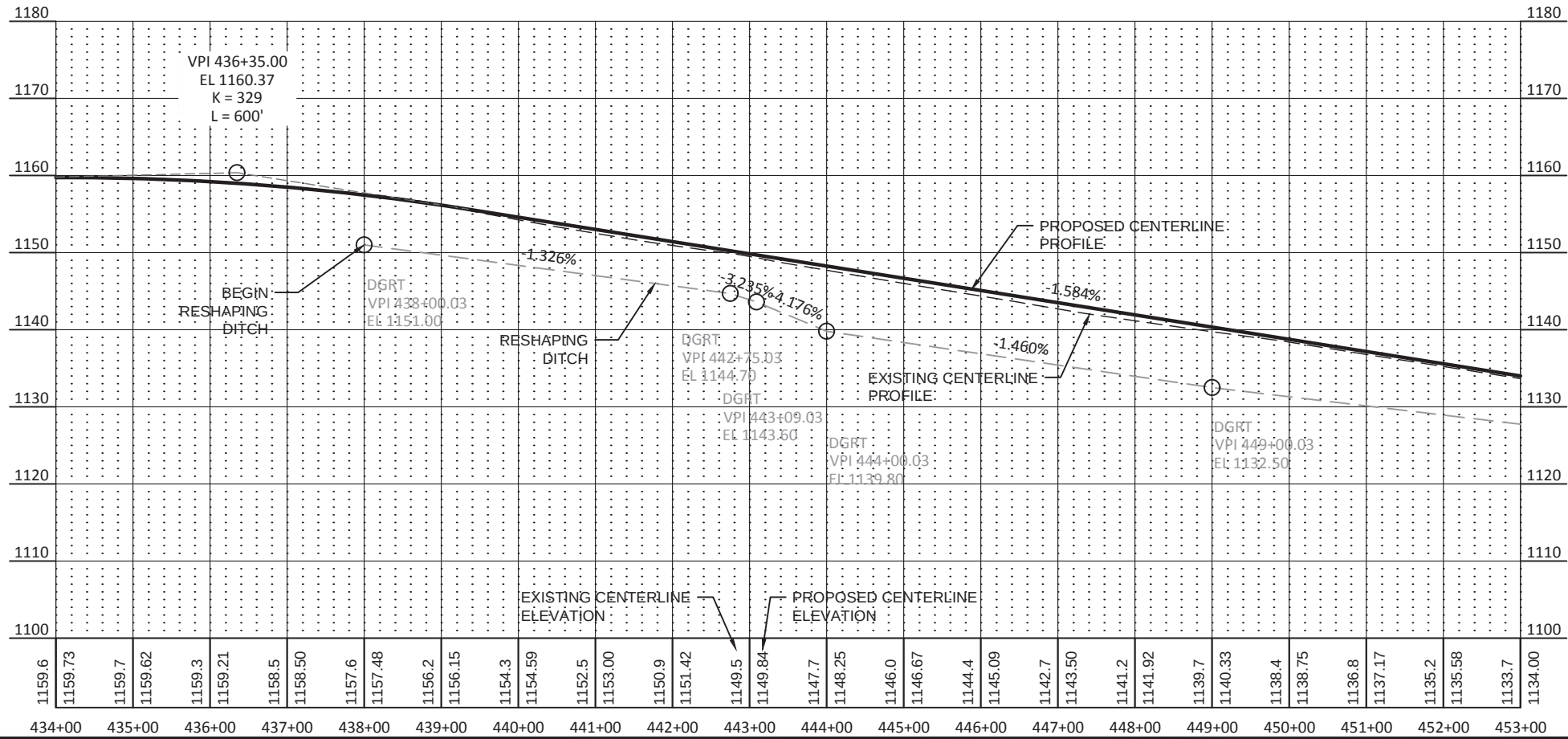
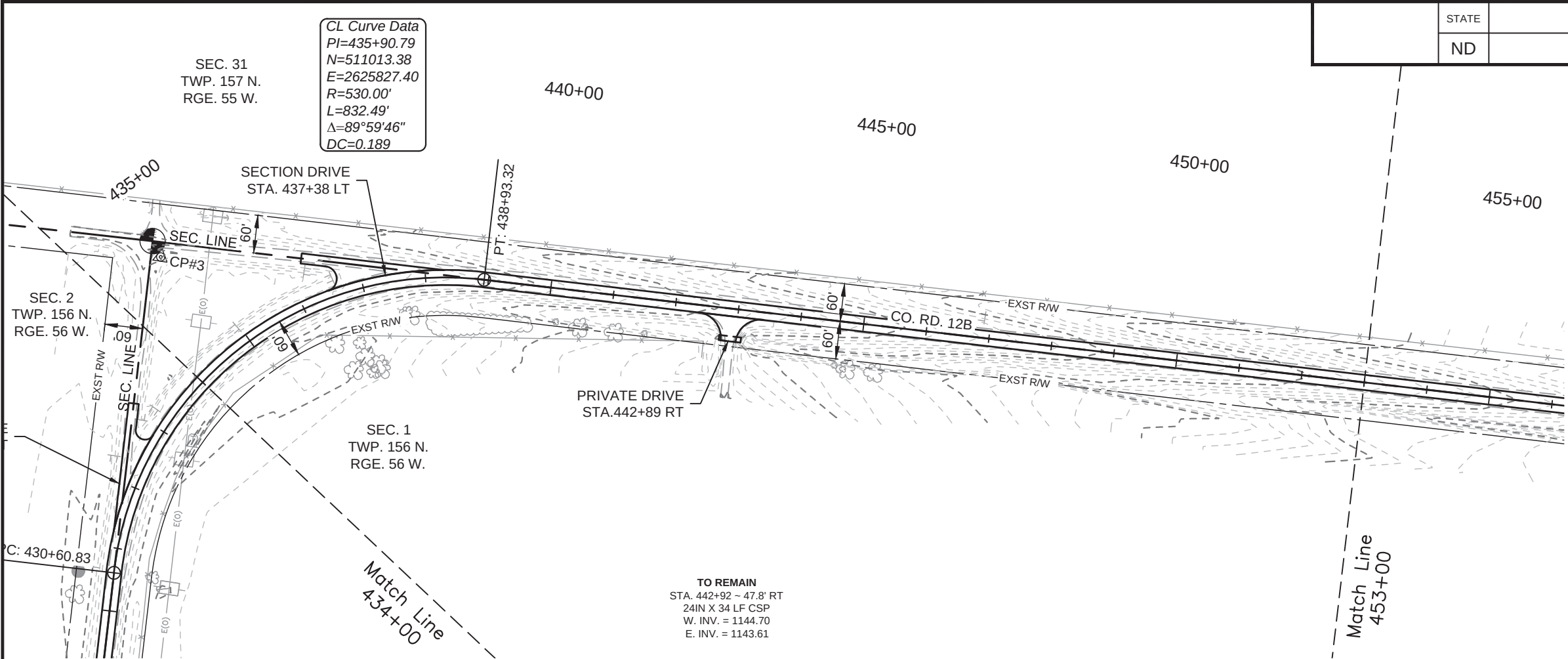
PLAN & PROFILE
STA. 415+00 TO 434+00

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PROJECT NO.
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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		60	21



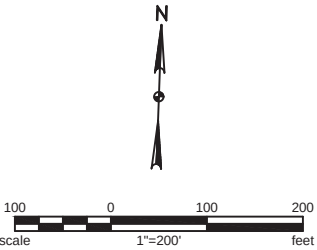
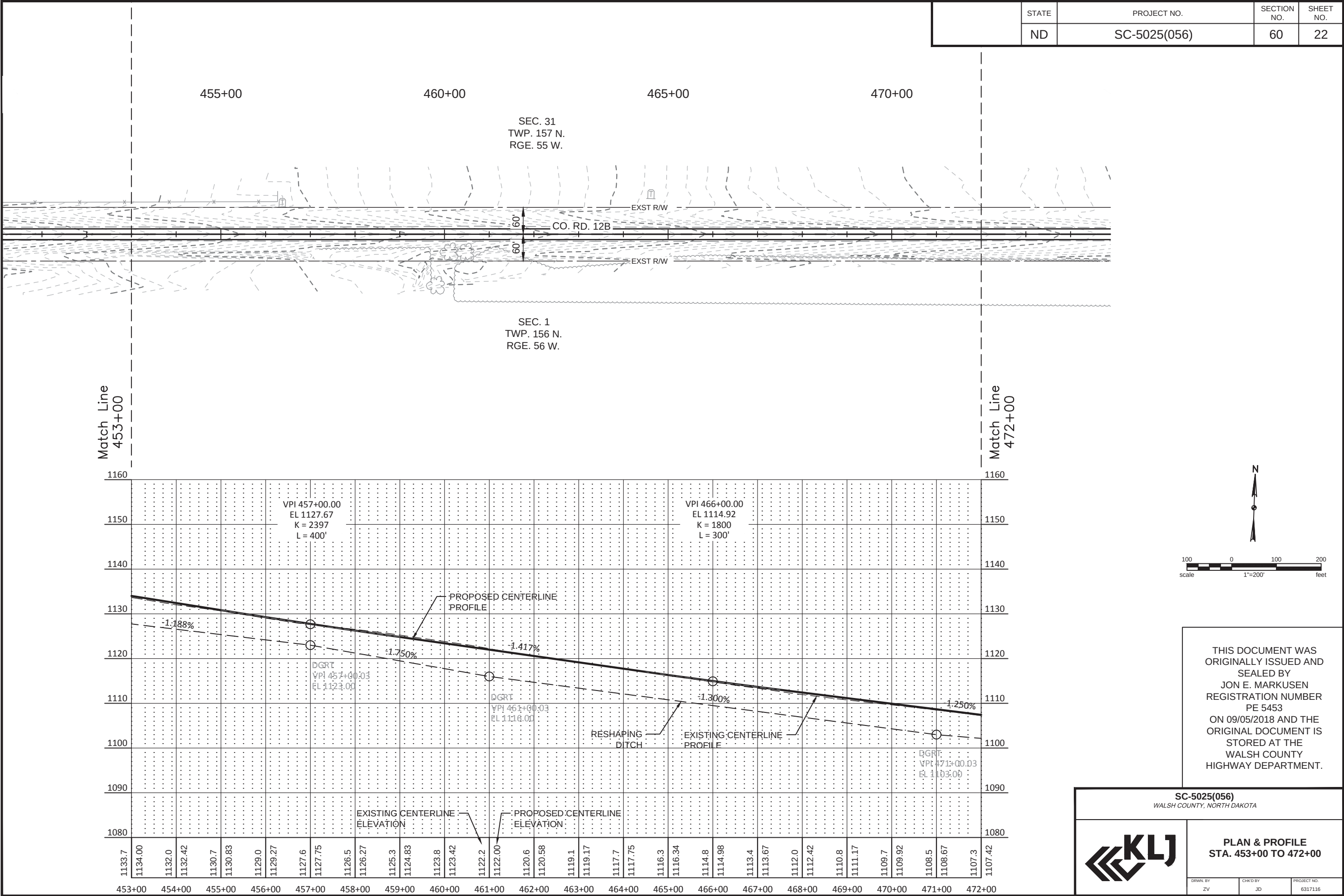
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**PLAN & PROFILE
STA. 434+00 TO 453+00**

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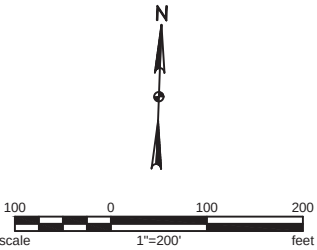
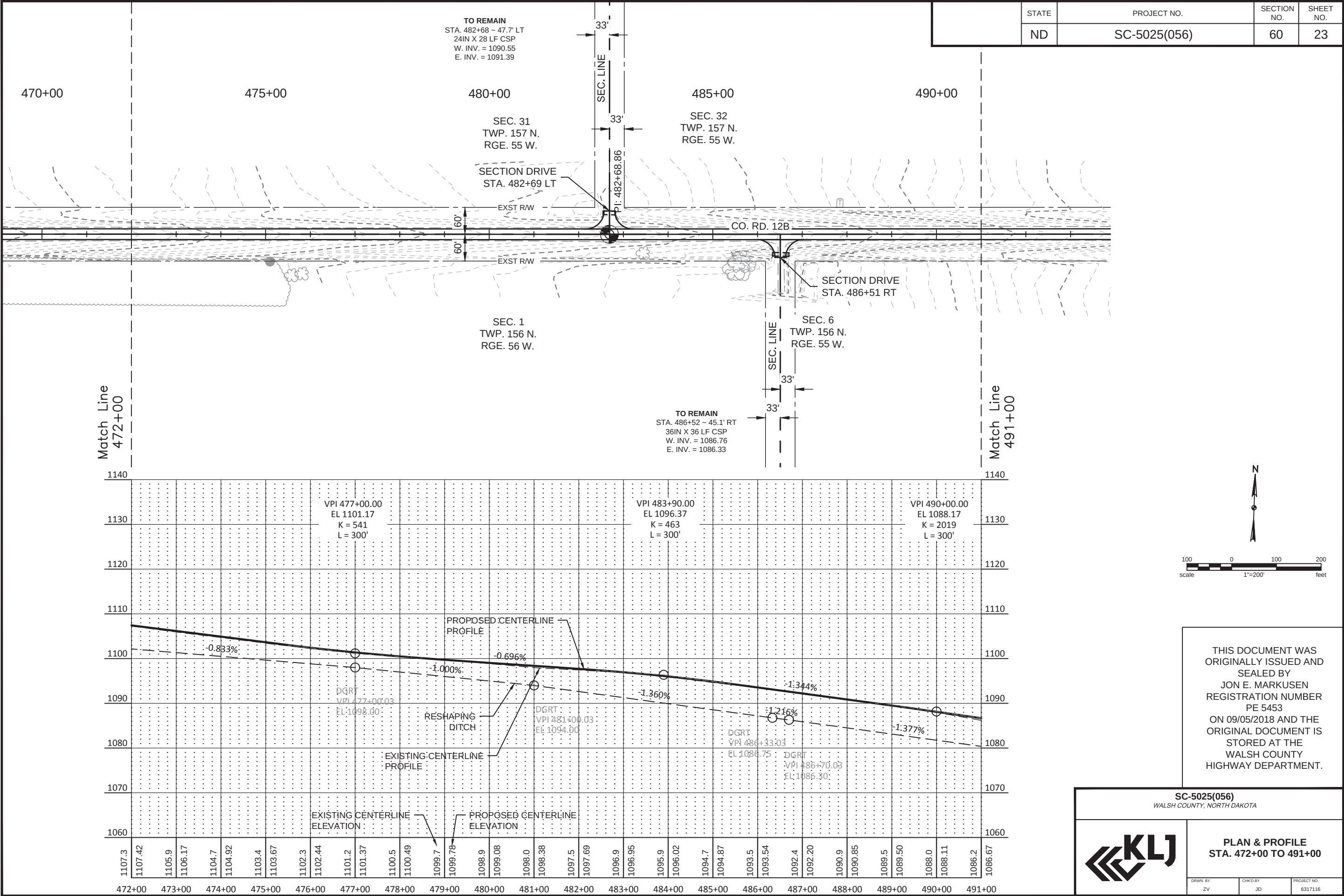
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STA. 453+00 TO 472+00

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PLAN & PROFILE
STA. 472+00 TO 491+00

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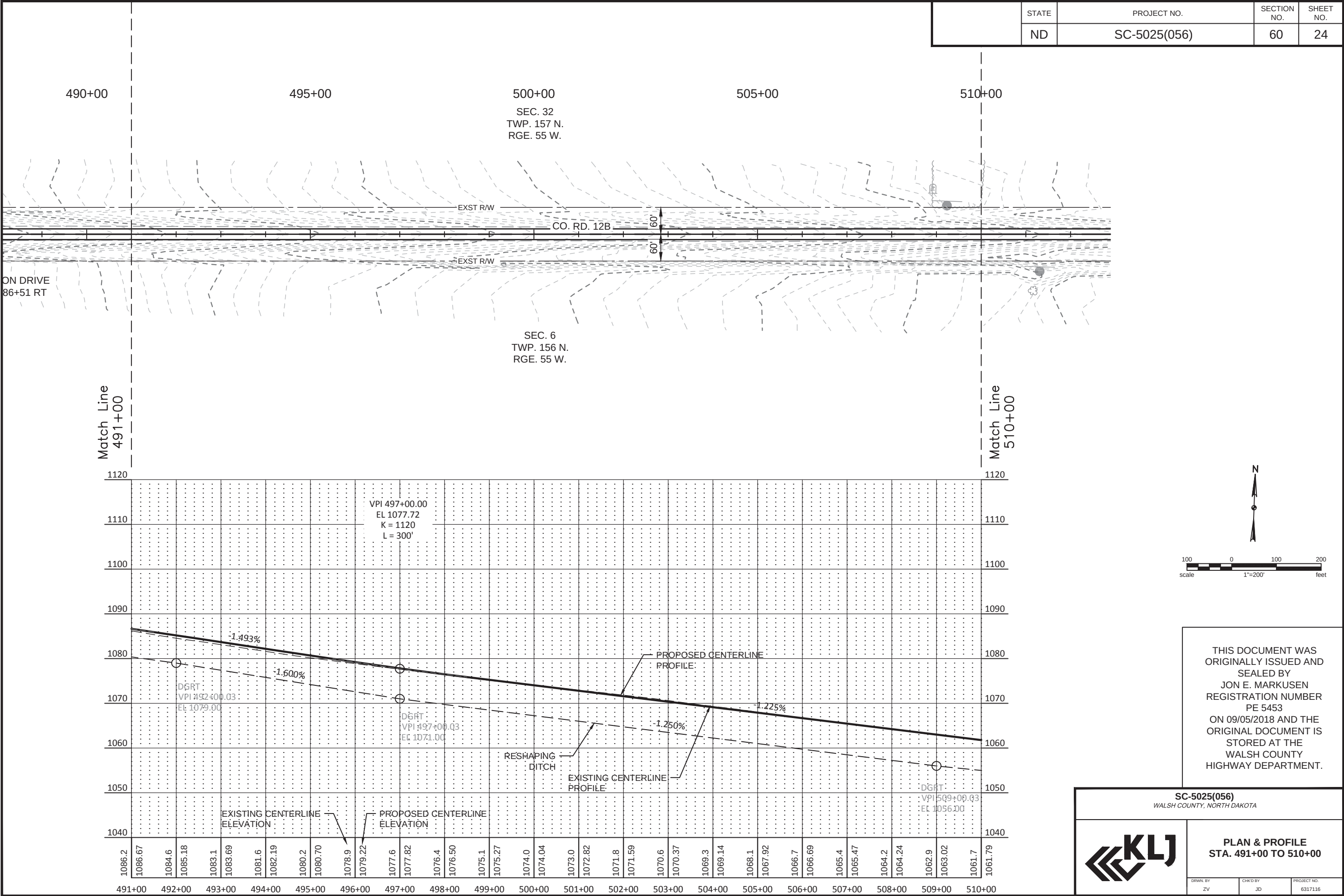
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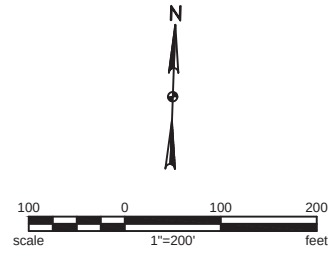
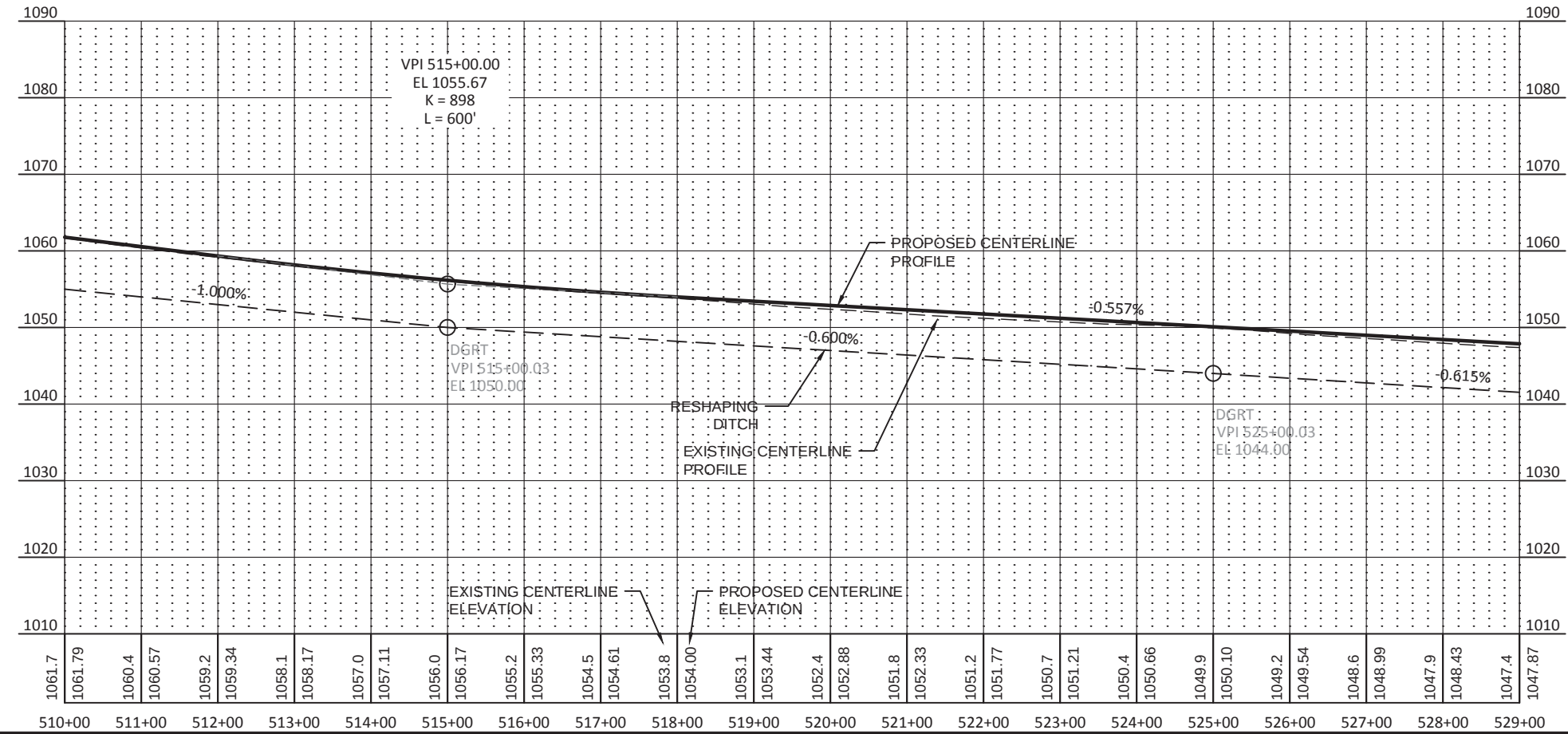
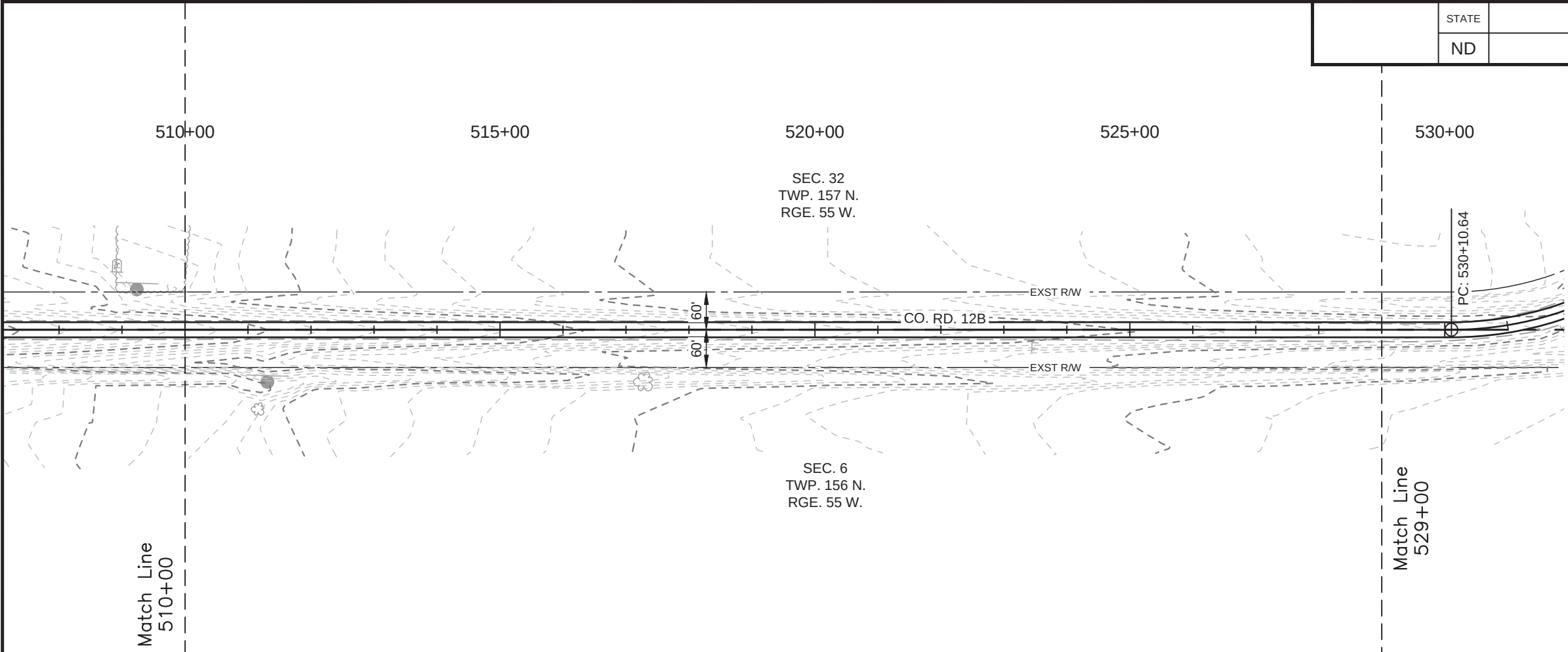
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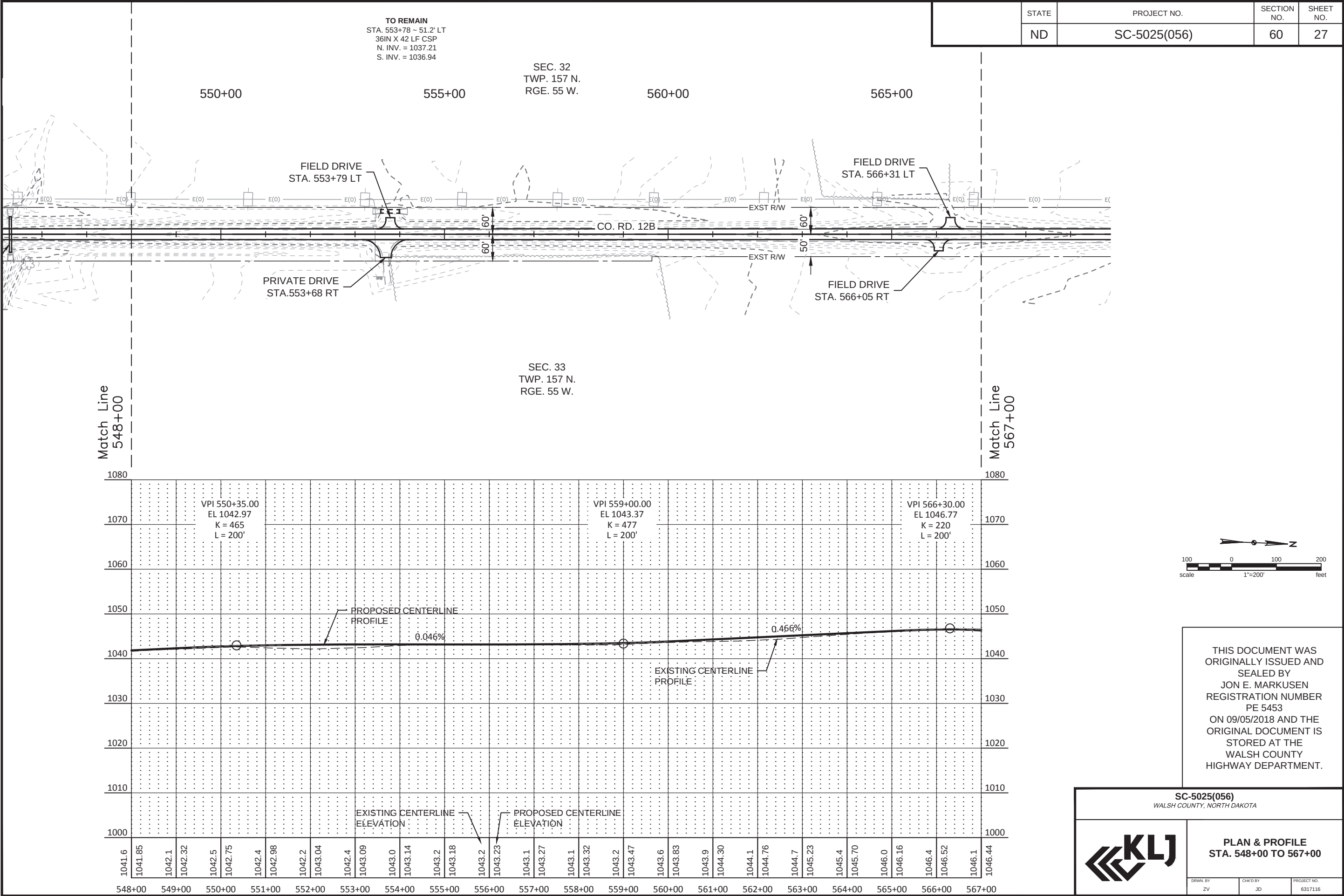


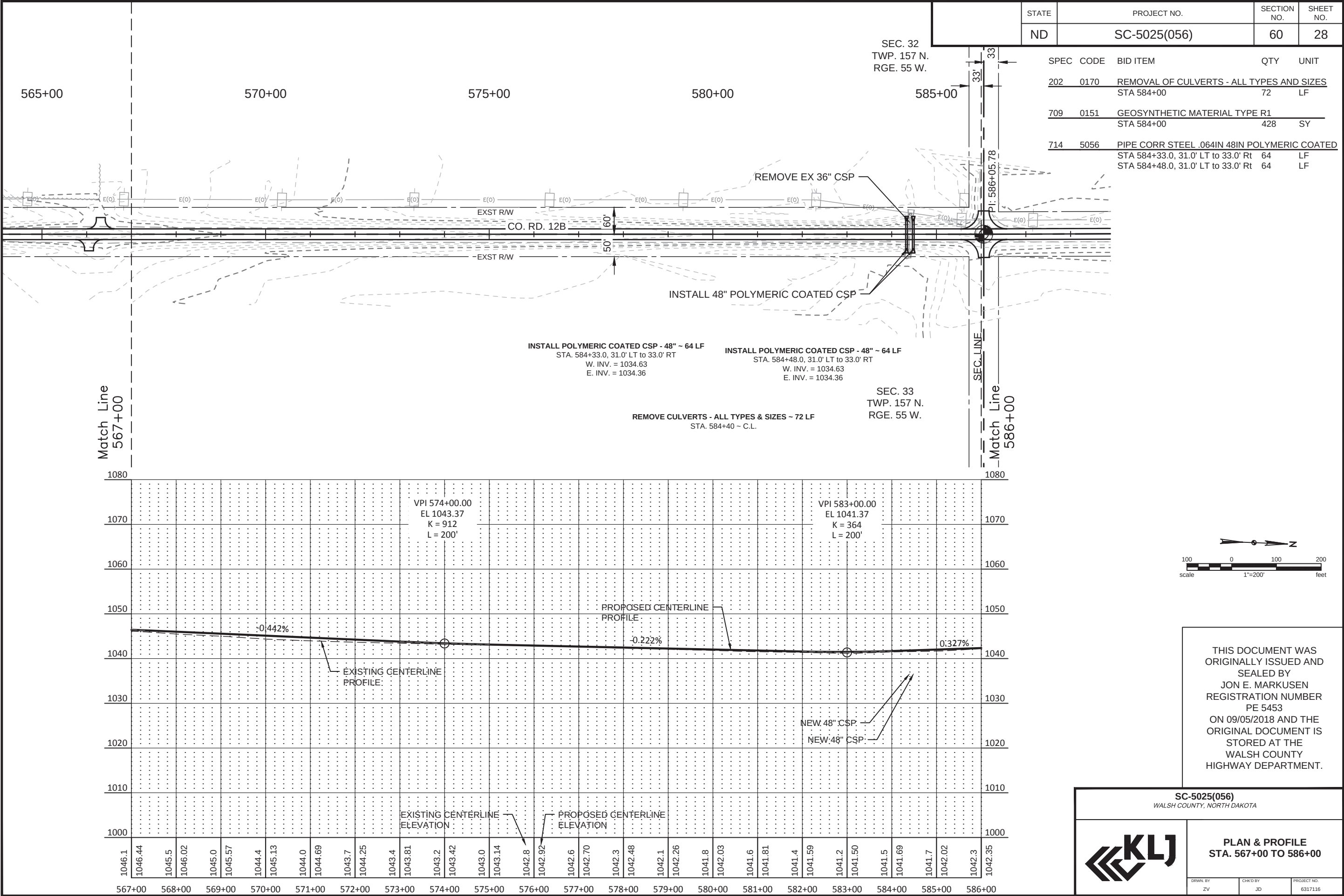
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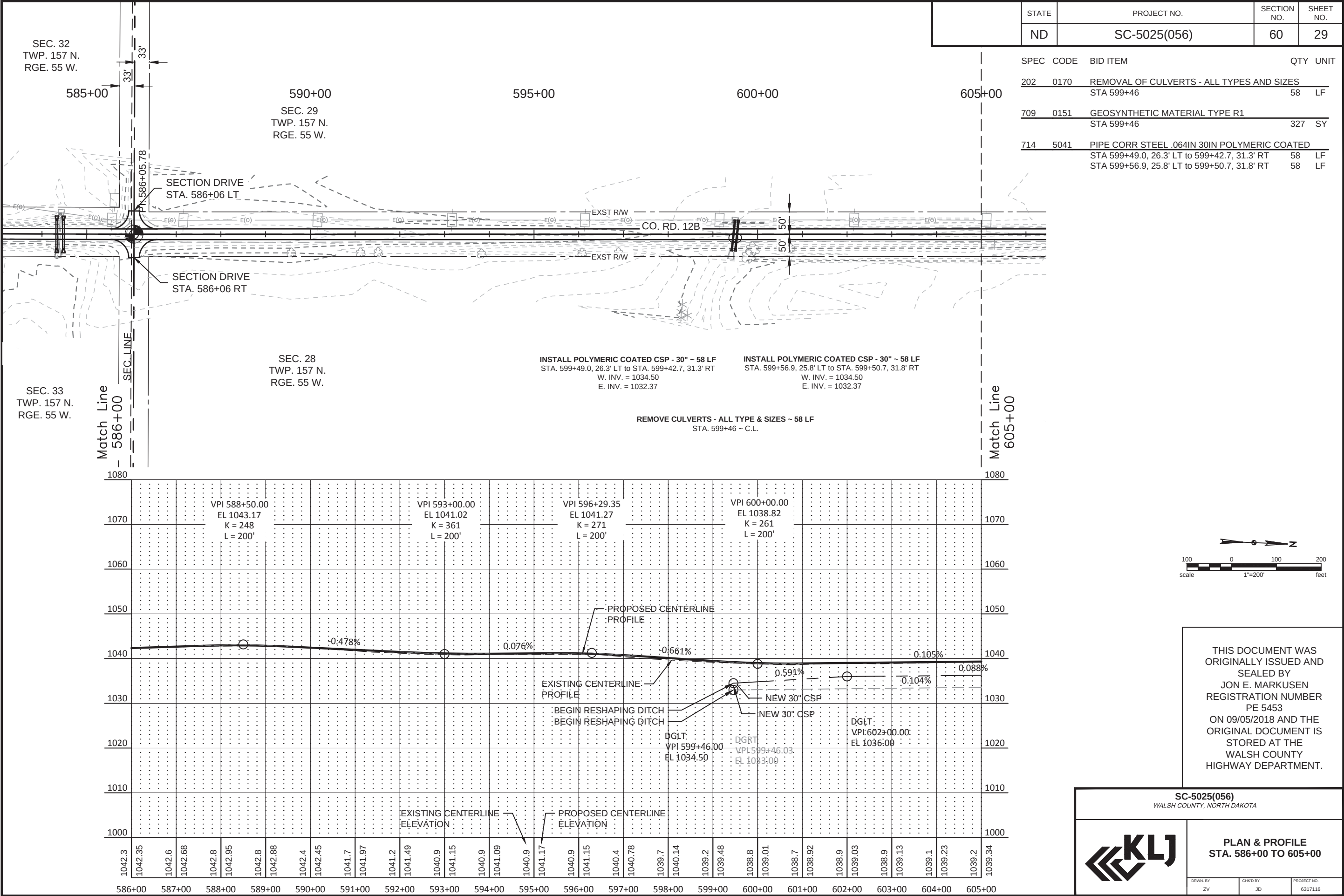
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SEC. 32
TWP. 157 N.
RGE. 55 W.

585+00

33'

33'

590+00

SEC. 29
TWP. 157 N.
RGE. 55 W.

595+00

600+00

605+00

Match Line
586+00

Match Line
605+00

SECTION DRIVE
STA. 586+06 LT

SECTION DRIVE
STA. 586+06 RT

CO. RD. 12B

EXST R/W

EXST R/W

INSTALL POLYMERIC COATED CSP - 30" ~ 58 LF
STA. 599+49.0, 26.3' LT to STA. 599+42.7, 31.3' RT
W. INV. = 1034.50
E. INV. = 1032.37

INSTALL POLYMERIC COATED CSP - 30" ~ 58 LF
STA. 599+56.9, 25.8' LT to STA. 599+50.7, 31.8' RT
W. INV. = 1034.50
E. INV. = 1032.37

REMOVE CULVERTS - ALL TYPE & SIZES ~ 58 LF
STA. 599+46 ~ C.L.

1080

1070

1060

1050

1040

1030

1020

1010

1000

VPI 588+50.00
EL 1043.17
K = 248
L = 200'

VPI 593+00.00
EL 1041.02
K = 361
L = 200'

VPI 596+29.35
EL 1041.27
K = 271
L = 200'

VPI 600+00.00
EL 1038.82
K = 261
L = 200'

PROPOSED CENTERLINE
PROFILE

EXISTING CENTERLINE
PROFILE

BEGIN RESHAPING DITCH

BEGIN RESHAPING DITCH

DGLT:
VPI 599+46.00
EL 1034.50

DGLT:
VPI 599+46.03
EL 1033.00

DGLT:
VPI 602+00.00
EL 1036.00

NEW 30" CSP

NEW 30" CSP

1042.3

1042.35

1042.6

1042.68

1042.8

1042.95

1042.8

1042.88

1042.4

1042.45

1041.7

1041.97

1041.2

1041.49

1040.9

1041.15

1040.9

1041.09

1040.9

1041.17

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1041.15

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1039.2

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1038.8

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1038.7

1038.92

1038.9

1039.03

1038.9

1039.13

1039.1

1039.23

1039.2

1039.34

586+00

587+00

588+00

589+00

590+00

591+00

592+00

593+00

594+00

595+00

596+00

597+00

598+00

599+00

600+00

601+00

602+00

603+00

604+00

605+00

100

0

100

200

scale

1"=200'

feet

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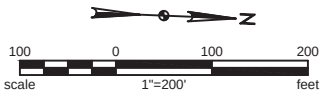
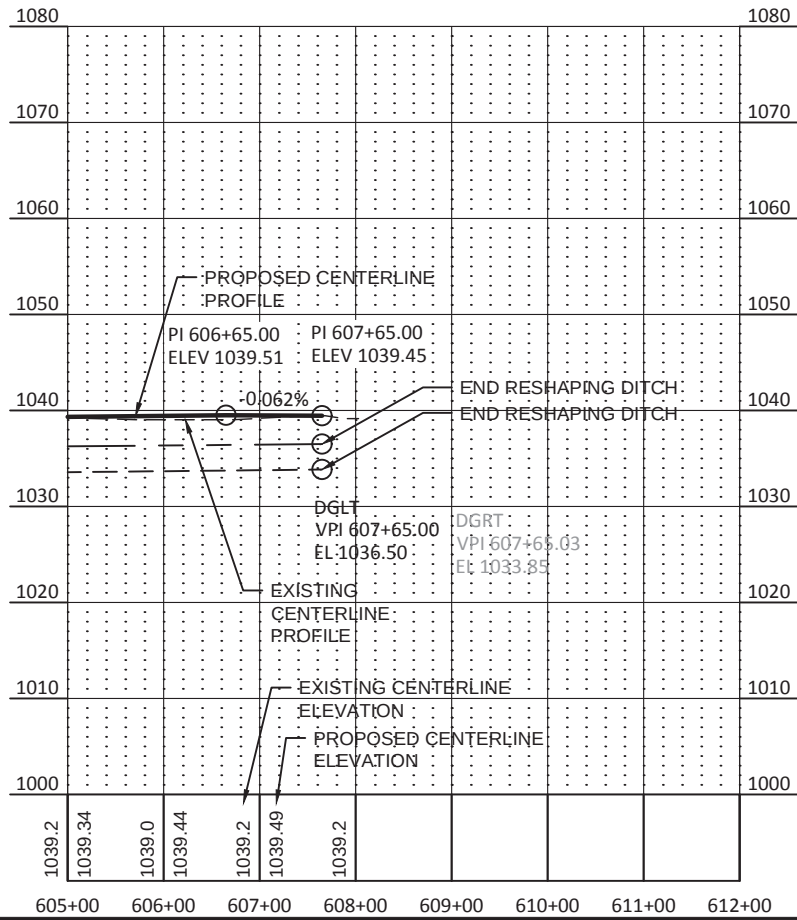
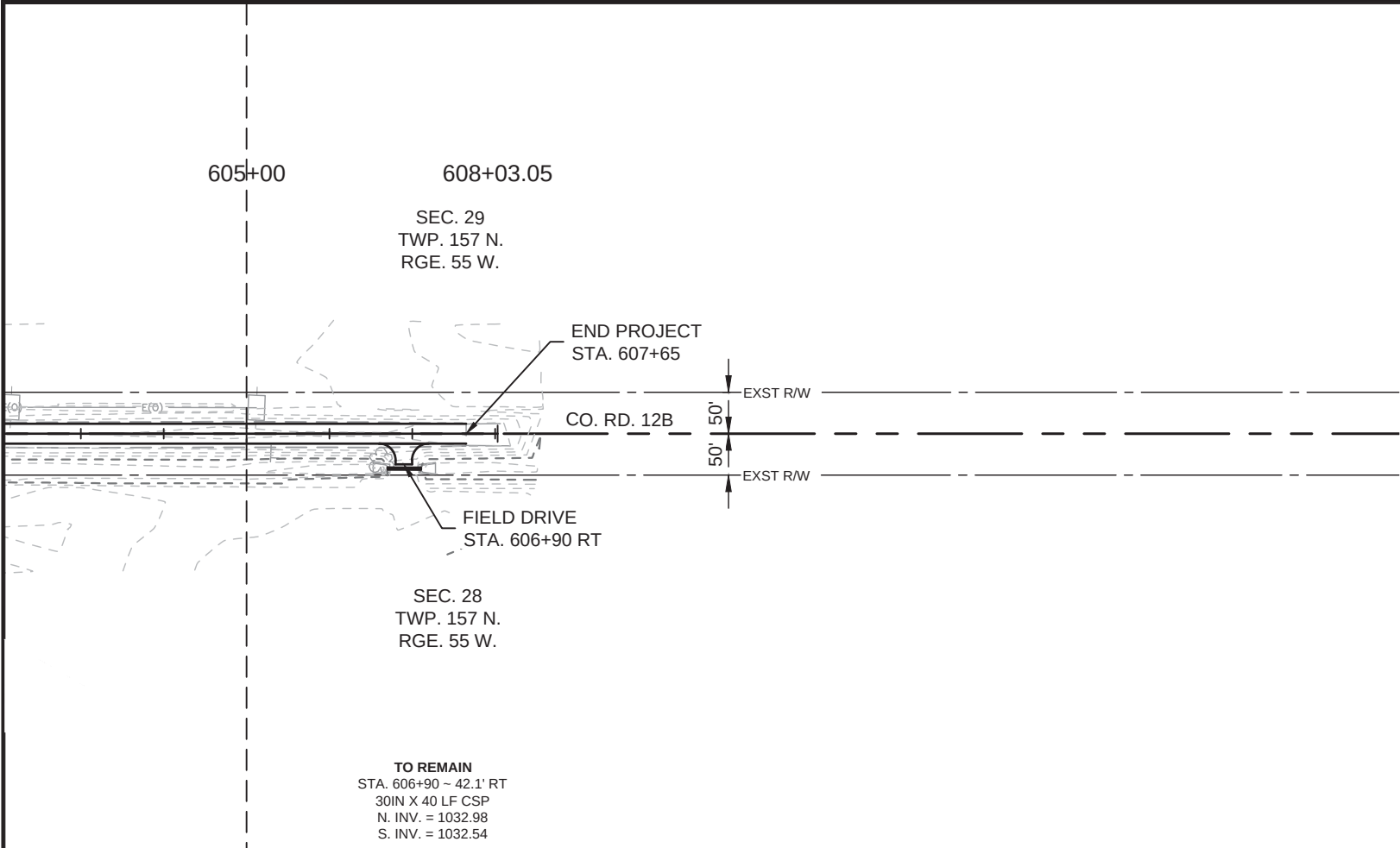
PLAN & PROFILE
STA. 586+00 TO 605+00

DRWN. BY
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PROJECT NO.
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WALSH COUNTY, NORTH DAKOTA



PLAN & PROFILE
STA. 605+00 TO 607+65

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PROJECT NO.
6317116

Wetland Impact Table																			
Wetland Number	Location	Wetland Feature	USACE Jurisdictional Wetlands ¹	Wetland Impacts Acre(s)		USFWS Easement Impacts Acre(s)		Wetland Mitigation											
								Mitigation Required			USACE/11990 Bank		11990 Bank		USFWS Bank		Onsite		
				Temp.	Perm.	Temp.	Perm.	EO 11990	USACE	USFWS	Location	Acre(s)	Location	Acre(s)	Location	Acre(s)	Mitigation Location; Ratio	Acre(s)	Constructed Site #
1	Sec.11, T155N, R56W	Natural	Yes	-	-			N	N	N									
2	Sec. 23, T156N, R56W	Natural	No	-	-			N	N	N									
3	Sec.14, T156N, R56W	Natural	No	-	-			N	N	N									
4	Sec.14, T156N, R56W	Natural	No	-	-			N	N	N									
5	Sec.13, T156N, R56W	Natural	Yes	-	-			N	N	N									
6	Sec.14, T156N, R56W	Natural	No	-	-			N	N	N									
7a	Sec.11, T156N, R56W	Artificial	Yes	-	-			N	N	N									
7b	Sec.12, T156N, R56W	Artificial	Yes	-	-			N	N	N									
7c	Sec.2, T156N, R56W	Artificial	Yes	-	-			N	N	N									
7d	Sec.1, T156N, R56W	Artificial	Yes	-	-			N	N	N									

¹ A wetland Jurisdictional Determination was issued by the USACE on 07/12/2018; NWO-2018-00861-BIS.

² 11990 Mitigation requirements - All impacts to natural wetlands (natural/jurisdictional and natural/non-jurisdictional), regardless of size, as well as impacts greater than 0.10 acre to wetlands require mitigation. USACE Mitigation Requirements – All jurisdictional impacts greater than 0.10 acre to each resource (cumulative. eg 1a ,1b,1c..etc.) requires mitigation. Other Water impact greater than 300 linear feet requires mitigation.

³ All artificial/non-jurisdictional, deep water (impacts greater than 6.6 feet), Other Waters less than 300 linear feet (determined by the USACE on a case by case), and temporary impacts do not require mitigation.

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SC-5025(056)
Walsh County Highway 12B

Wetland Impacts
Wetlands, Mitigation and Environmental

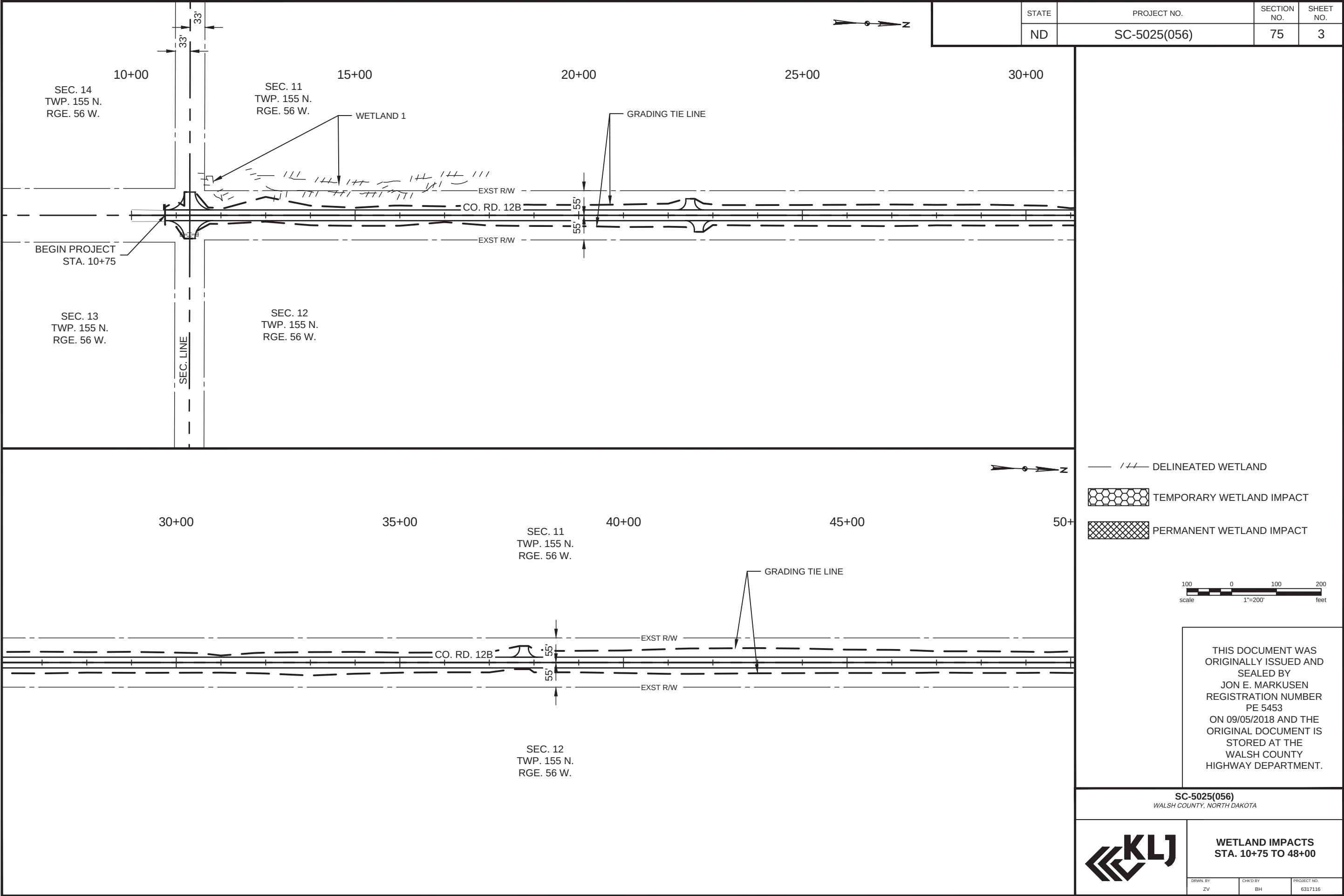
Wetland Impact Table																			
Wetland Number	Location	Wetland Feature	USACE Jurisdictional Wetlands ¹	Wetland Impacts Acre(s)		USFWS Easement Impacts Acre(s)		Wetland Mitigation											
								Mitigation Required			USACE/11990 Bank		11990 Bank		USFWS Bank		Onsite		
				Temp.	Perm.	Temp.	Perm.	EO 11990	USACE	USFWS	Location	Acre(s)	Location	Acre(s)	Location	Acre(s)	Mitigation Location; Ratio	Acre(s)	Constructed Site #
7e	Sec.1, T156N, R56W	Artificial	Yes	-	-			N	N	N									
7f	Sec.1, T156N, R56W	Artificial	Yes	-	-			N	N	N									
8a	Sec.2, T156N, R56W	Artificial	Yes	-	-			N	N	N									
8b	Sec.2, T156N, R56W	Artificial	Yes	-	-			N	N	N									
9a	Sec.1, T156N, R56W	Artificial	Yes	1.59	-			N	N	N									
9b	Sec.6, T156N, R55W	Artificial	Yes	1.25	-			N	N	N									
9c	Sec.33, T157N, R55W	Artificial	Yes	0.23	-			N	N	N									
10a	Sec.32, T157N, R55W	Natural	Yes	-	-			N	N	N									
10b	Sec.33, T157N, R55W	Natural	Yes	-	-			N	N	N									
11a	Sec.32, T157N, R55W	Natural	Yes	<0.01	-			N	N	N									
11b	Sec.33, T157N, R55W	Natural	Yes	<0.01	-			N	N	N									
12	Sec.28, T157N, R55W	Natural	Yes	0.25	-			N	N	N									
				3.34	0.00	NA	NA					NA		NA		NA		NA	

Impact Summary Table			
Permanent Impact Summary		Temporary Impacts and additional information	
Wetland Type	Total (Acres)	Wetland Type	Total (Acres/Lf)
Natural/JD	0.00	Temporary JD	3.34
Natural/Non-JD	0.00	Non-JD Temporary	0.00
Artificial/JD	0.00	Permanent JD > 0.10	0.00
Artificial /Non-JD	0.00	Permanent OW	NA
Total	0.00	Temporary OW	NA

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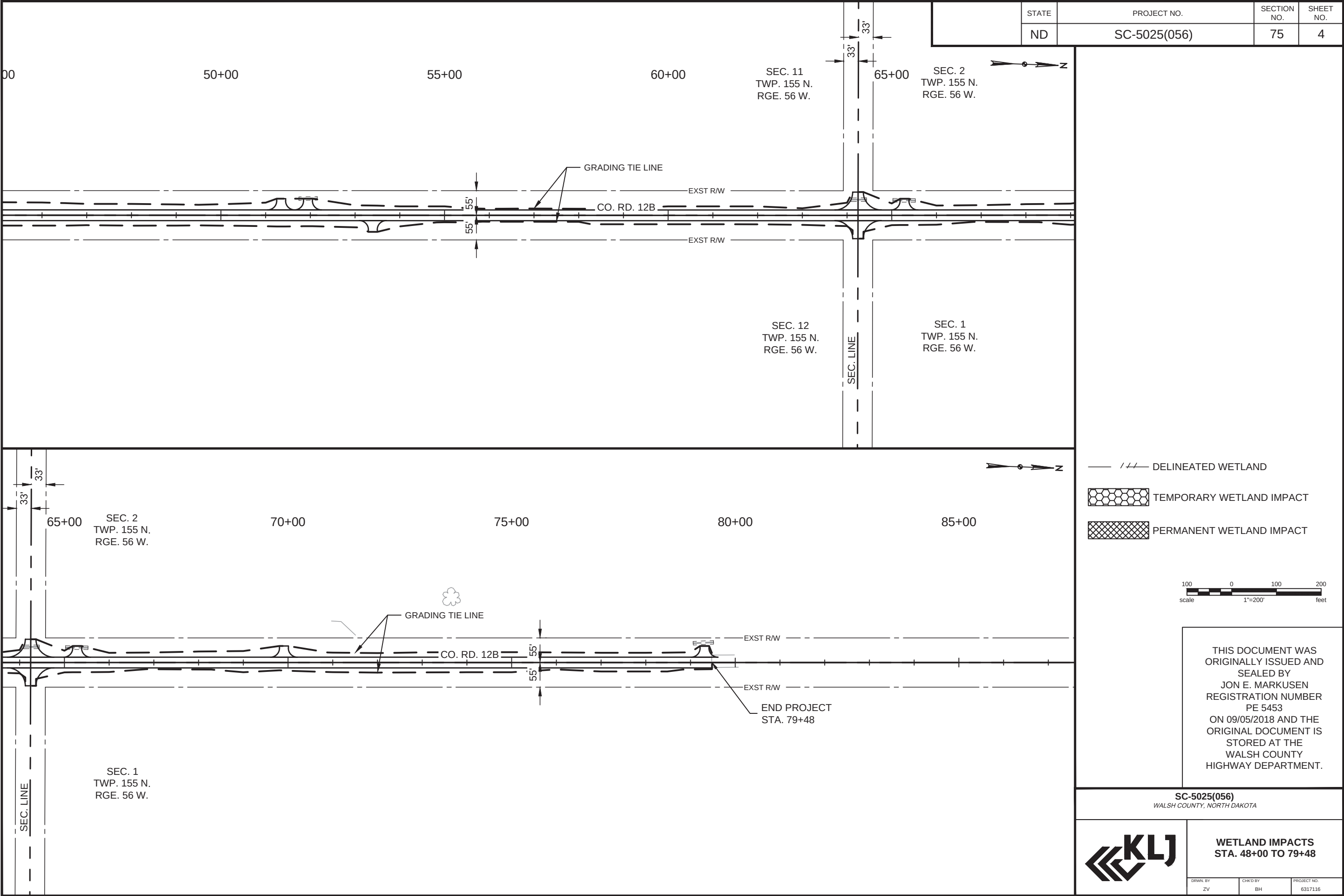
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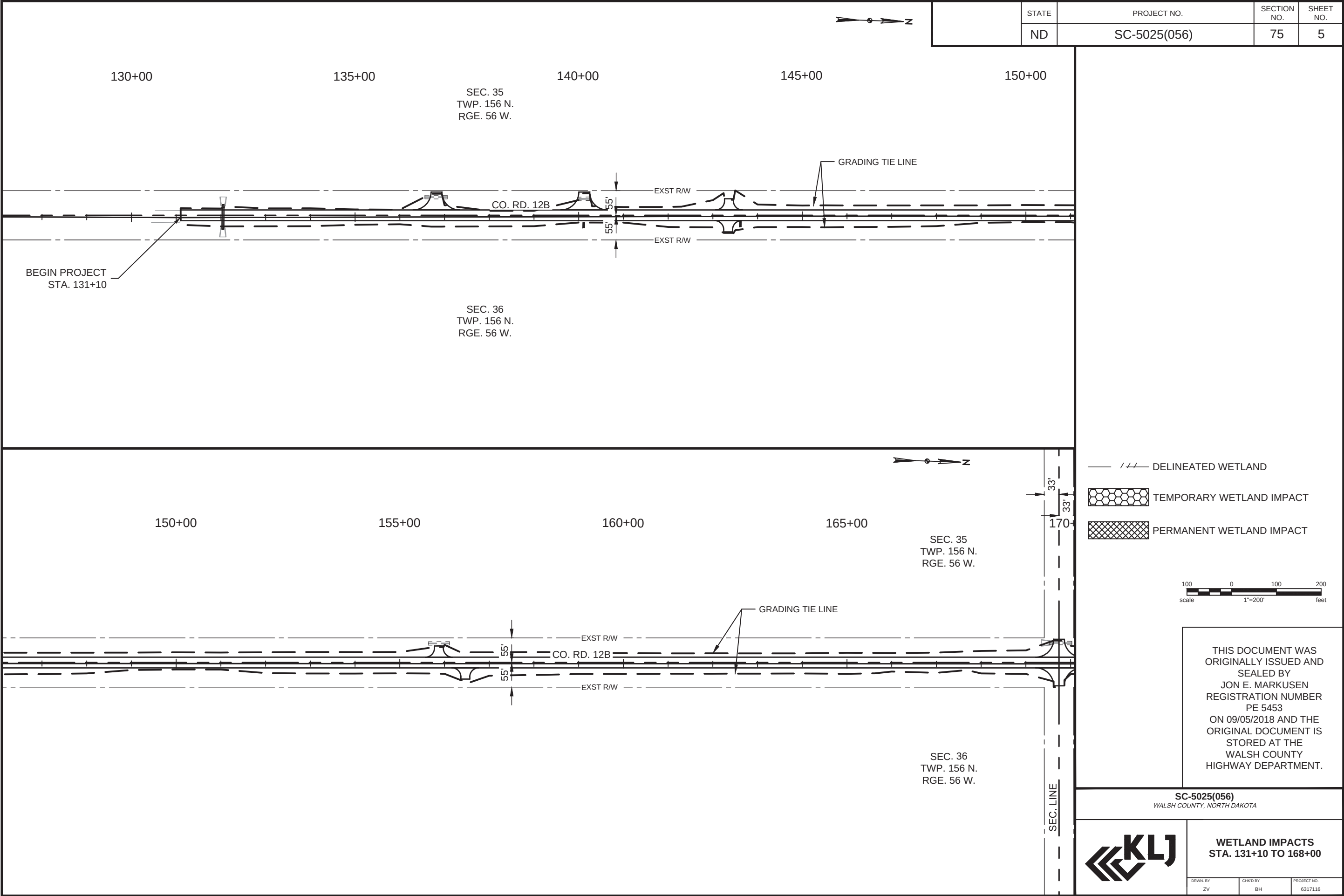
Wetland Impacts
Wetlands, Mitigation and Environmental

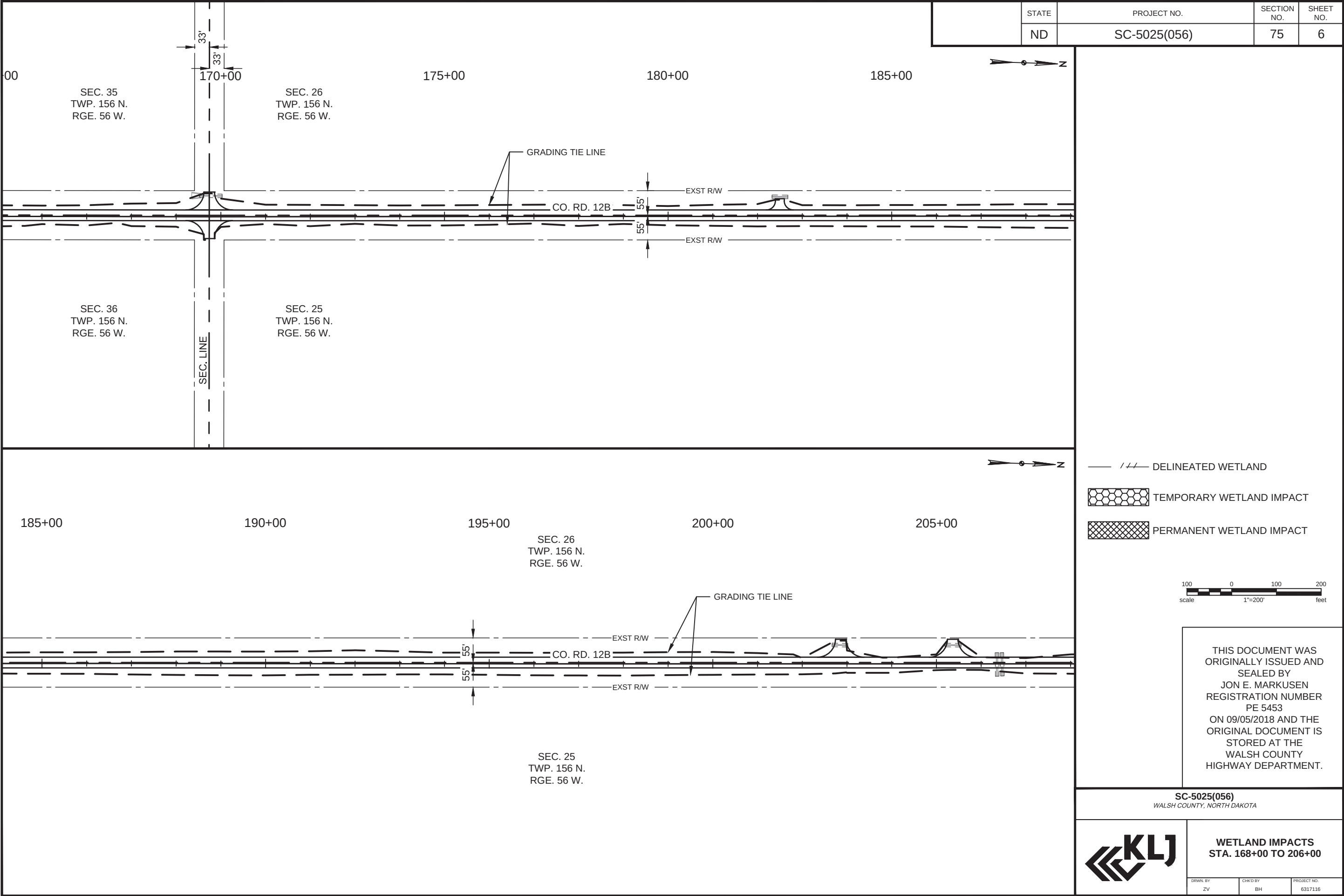


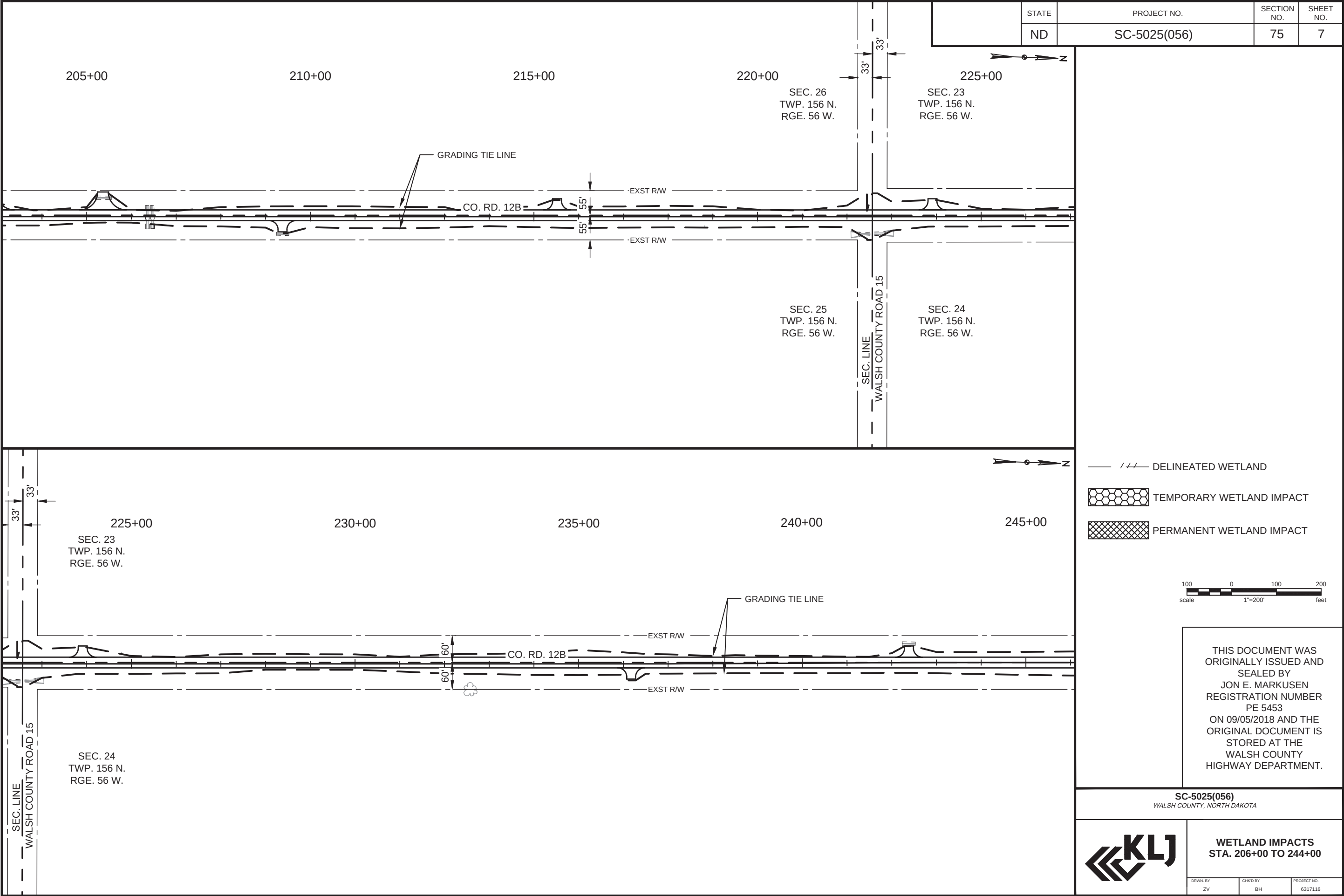
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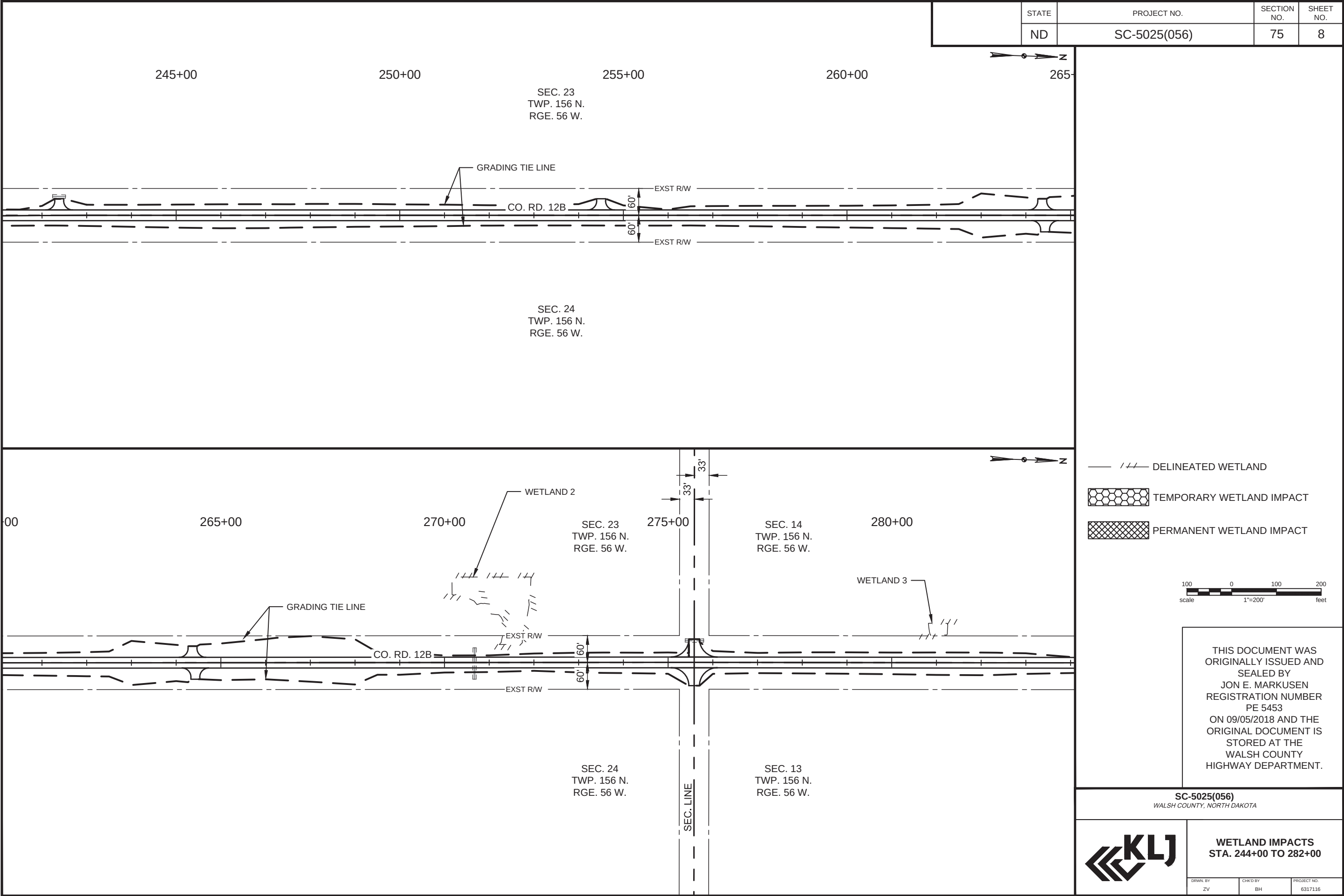
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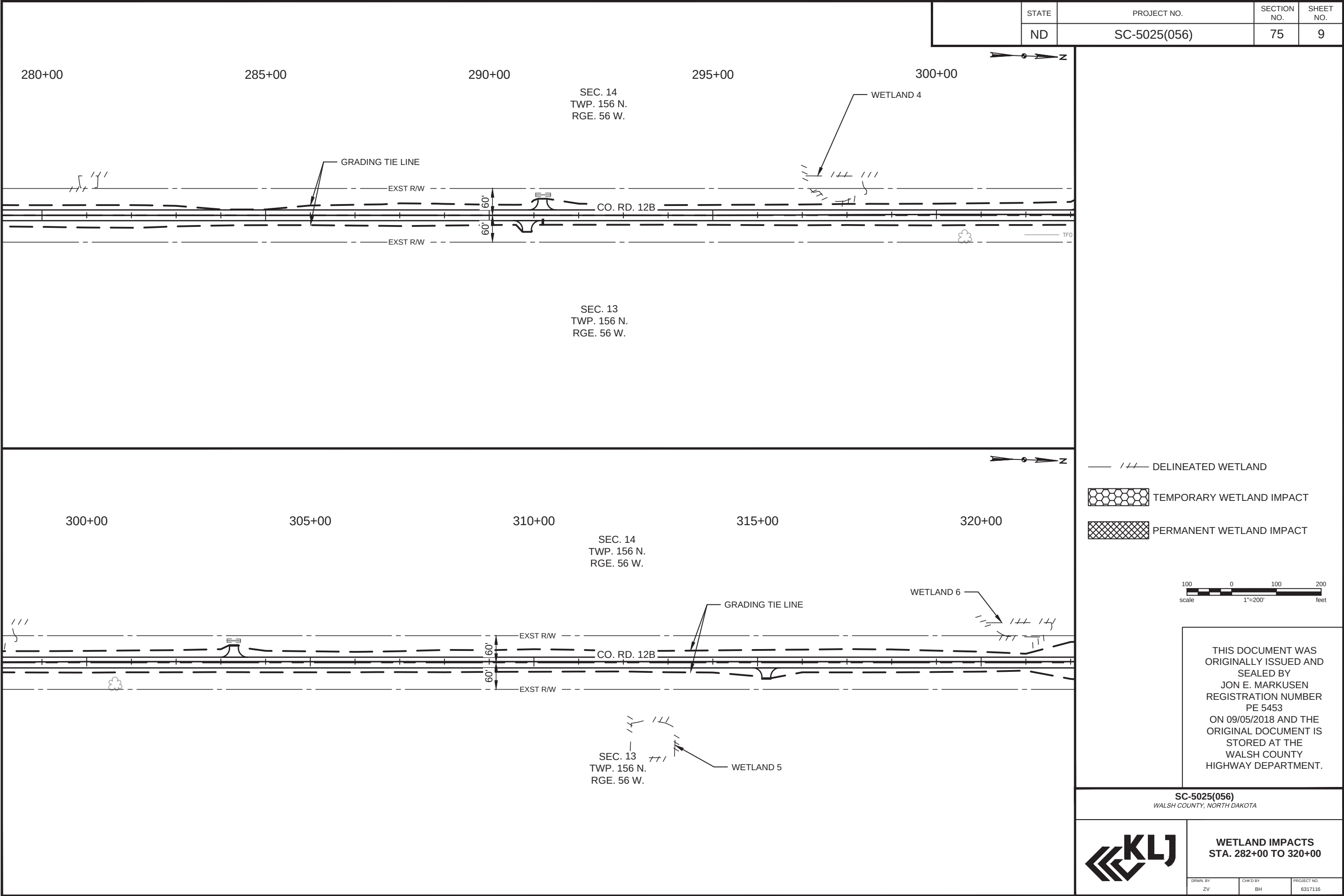


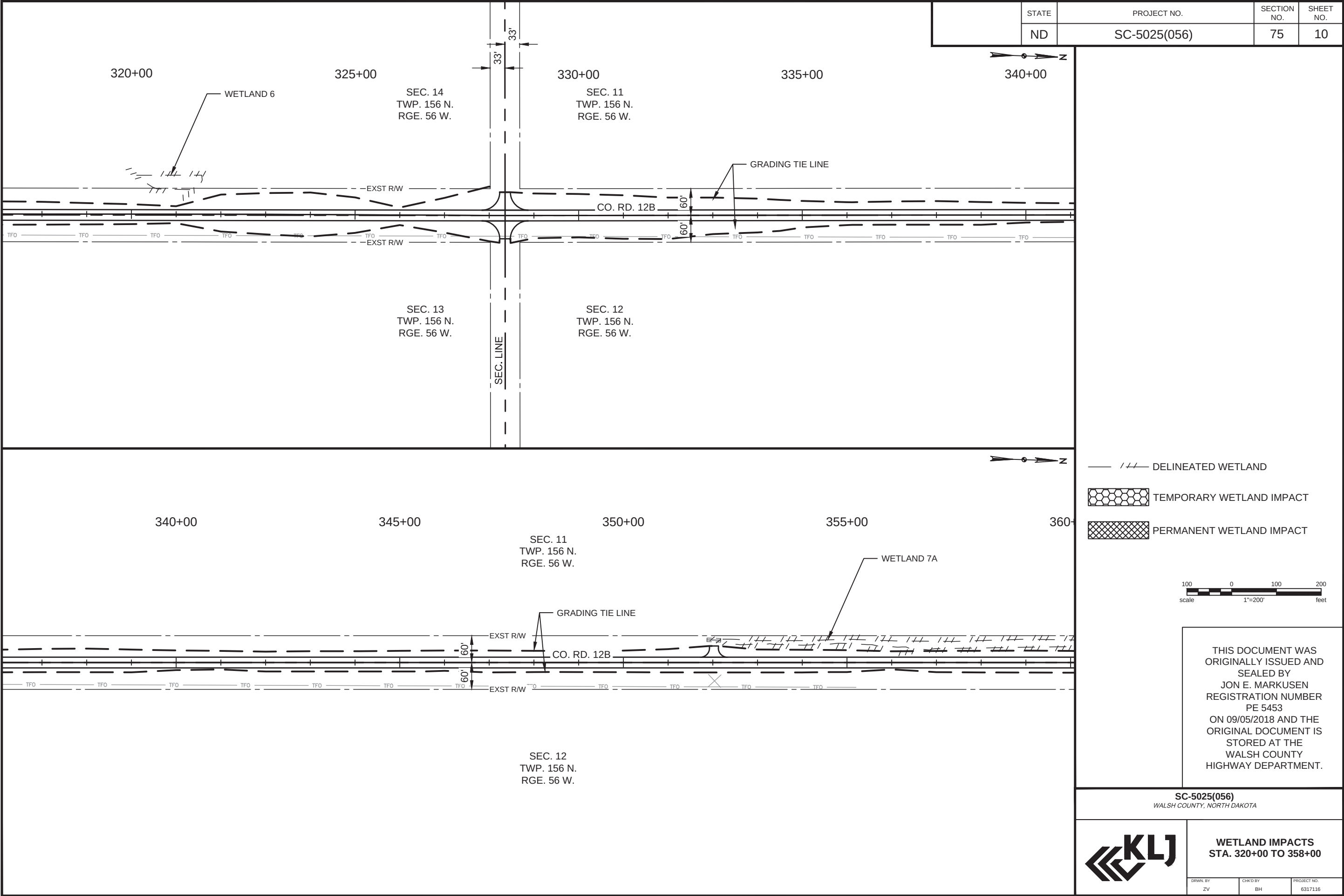


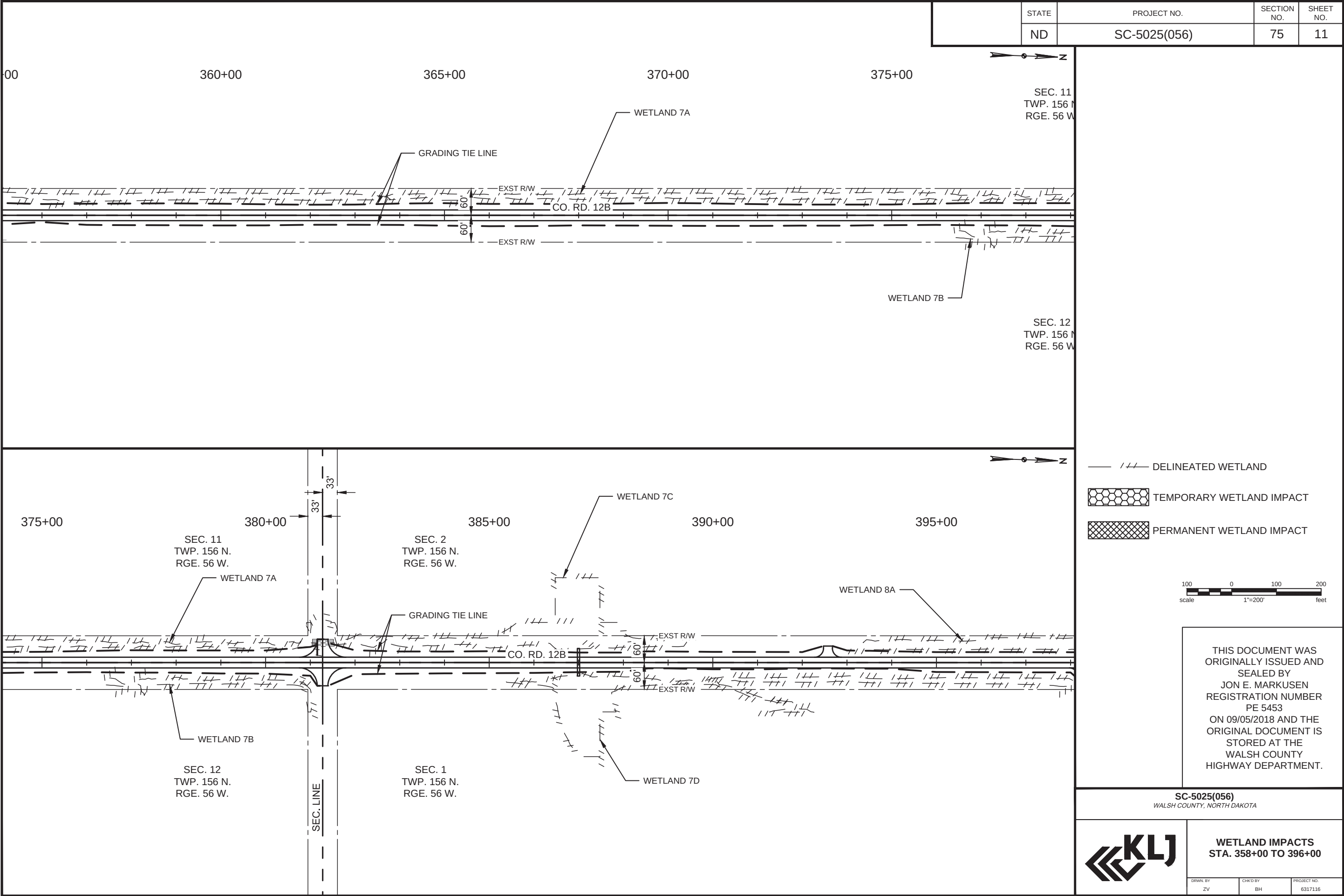


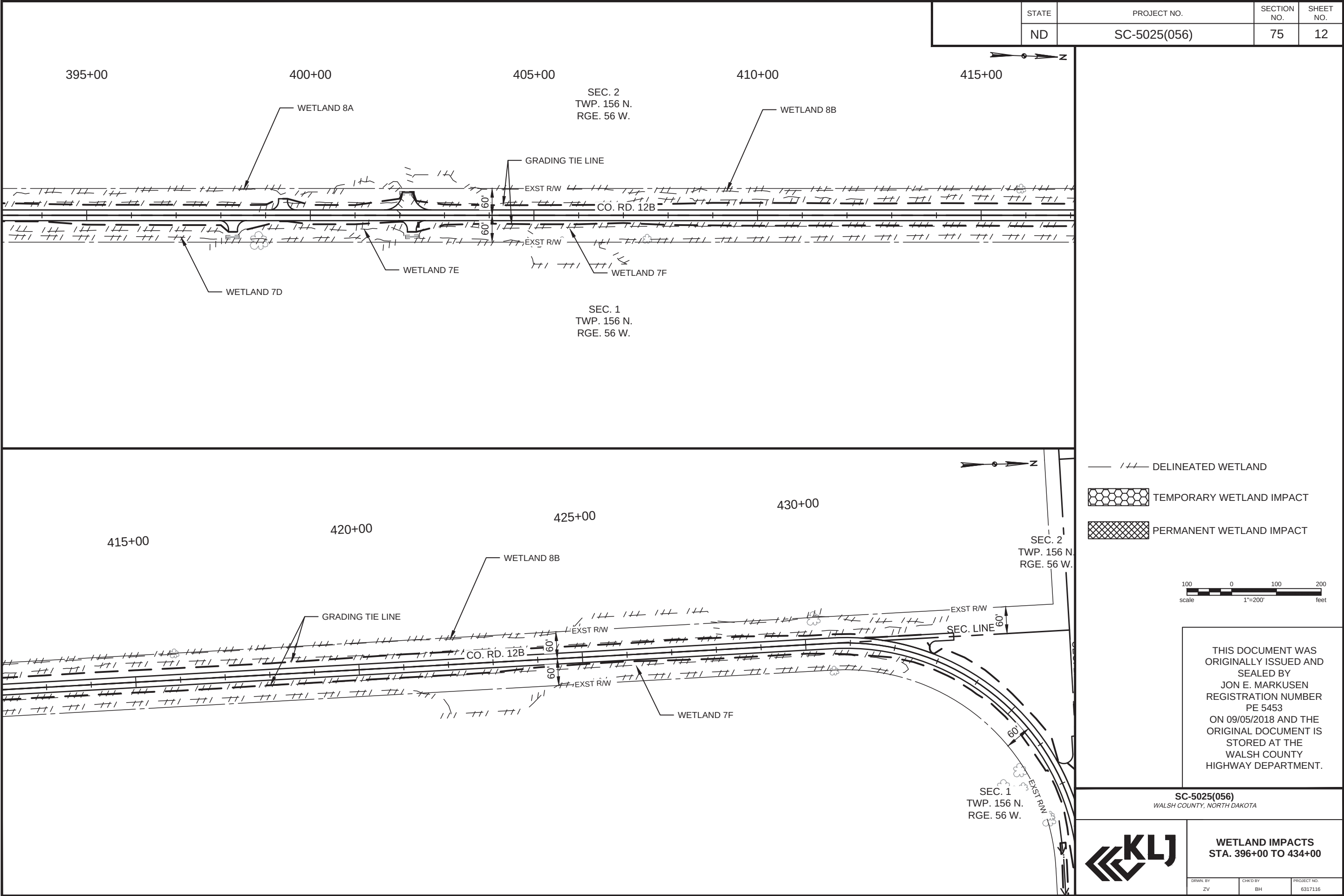


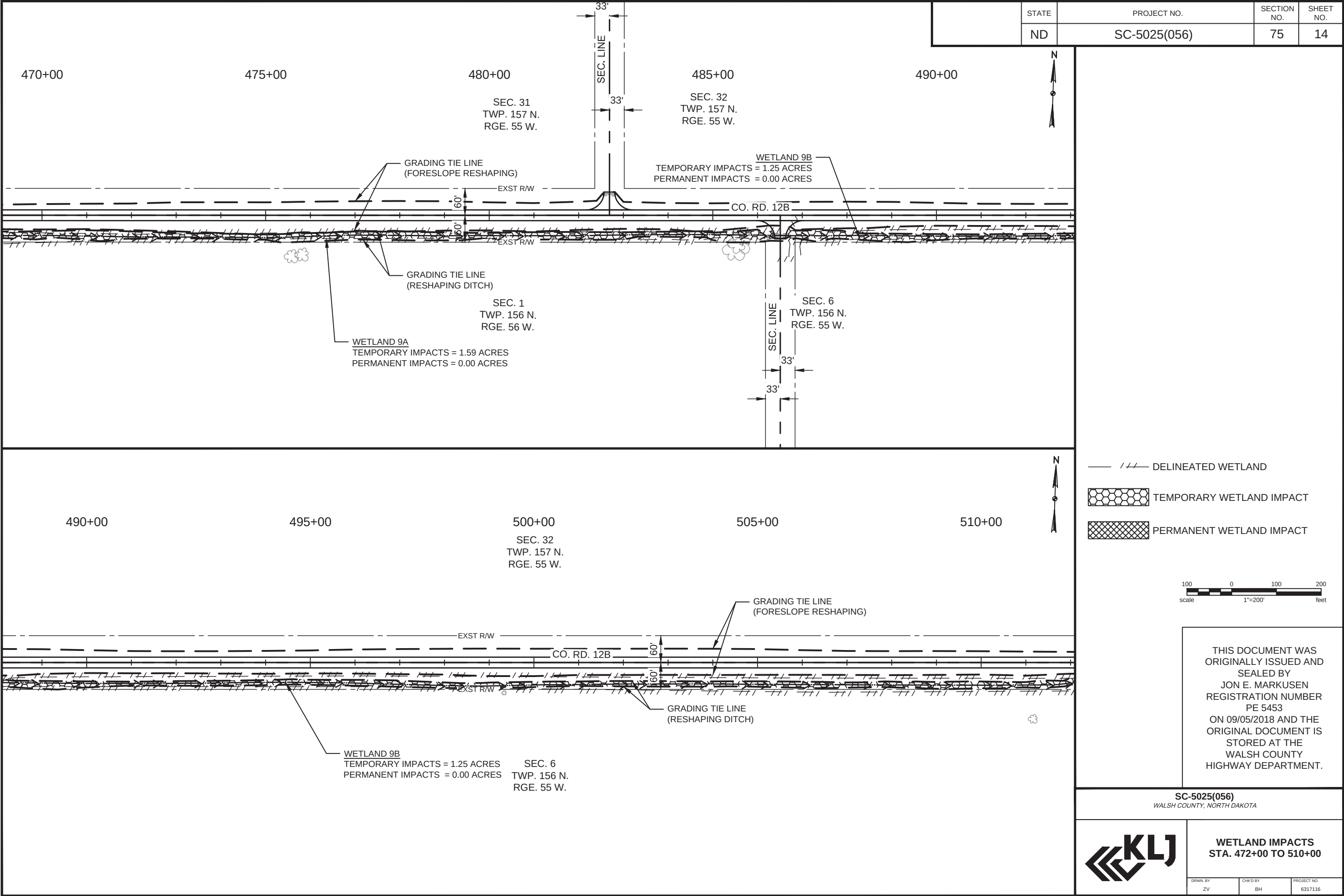


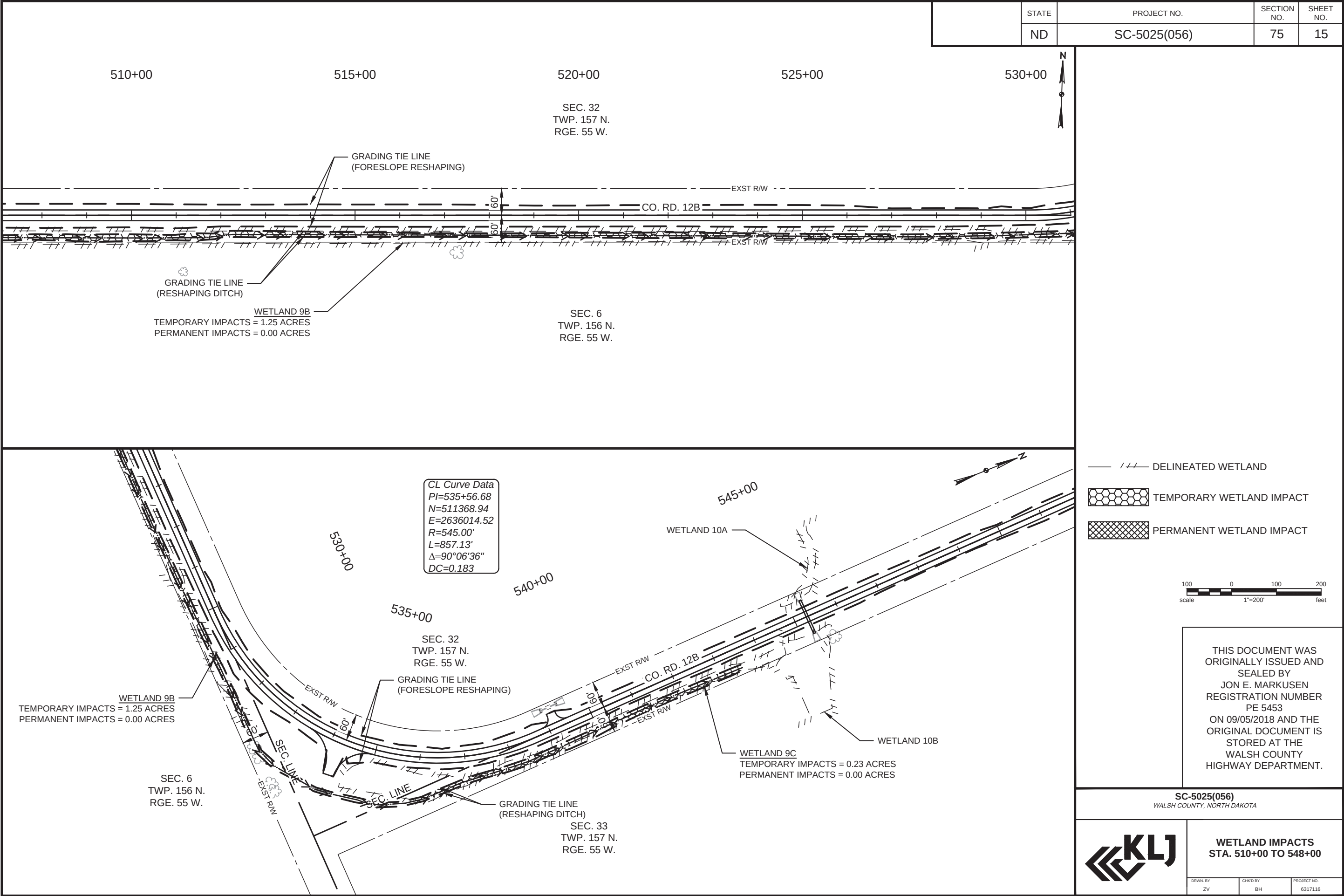


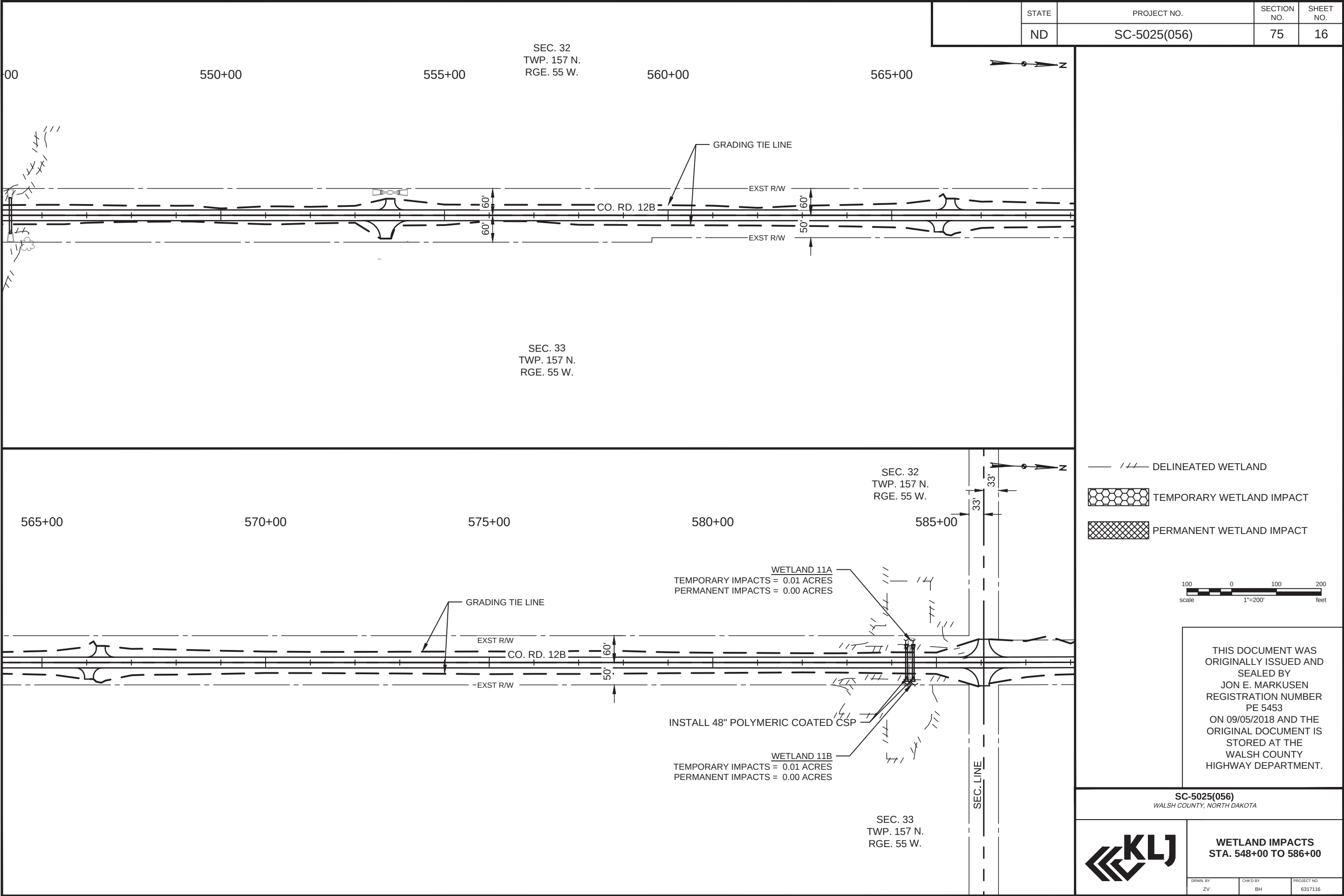


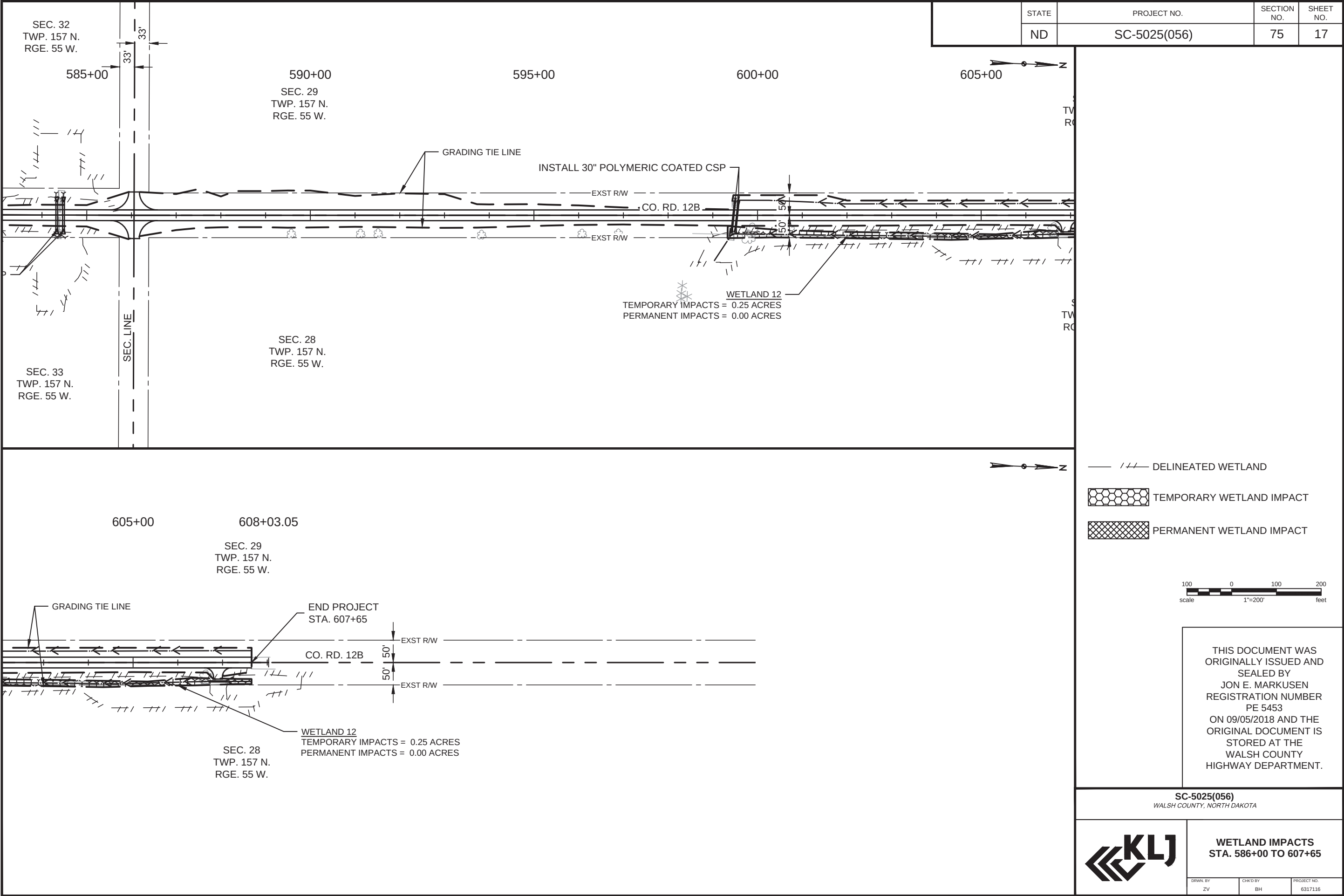


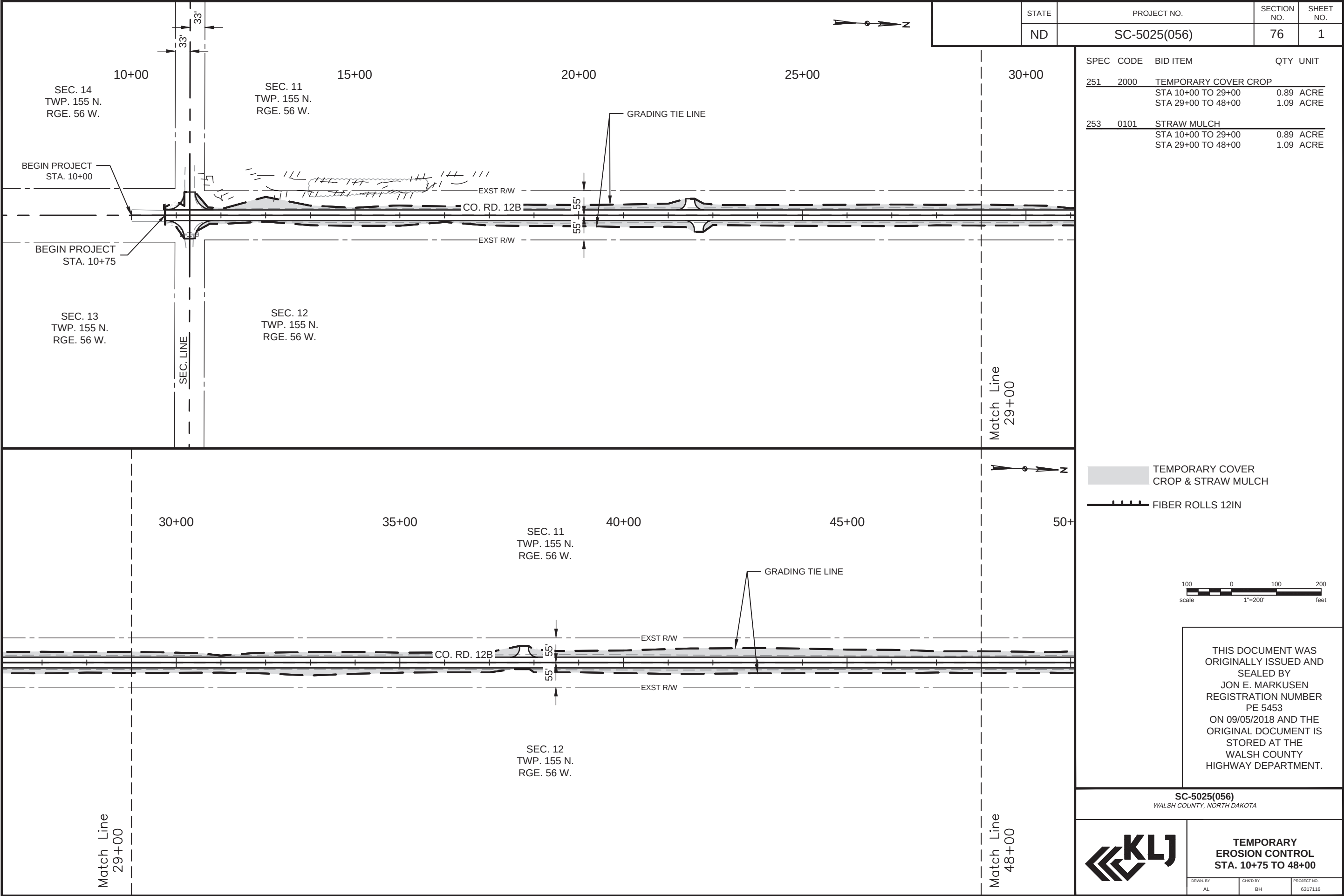












STATE		PROJECT NO.	SECTION NO.	SHEET NO.
ND		SC-5025(056)	76	1
SPEC	CODE	BID ITEM	QTY UNIT	
251	2000	TEMPORARY COVER CROP		
		STA 10+00 TO 29+00	0.89	ACRE
		STA 29+00 TO 48+00	1.09	ACRE
253	0101	STRAW MULCH		
		STA 10+00 TO 29+00	0.89	ACRE
		STA 29+00 TO 48+00	1.09	ACRE

100 0 100 200
scale 1"=200' feet

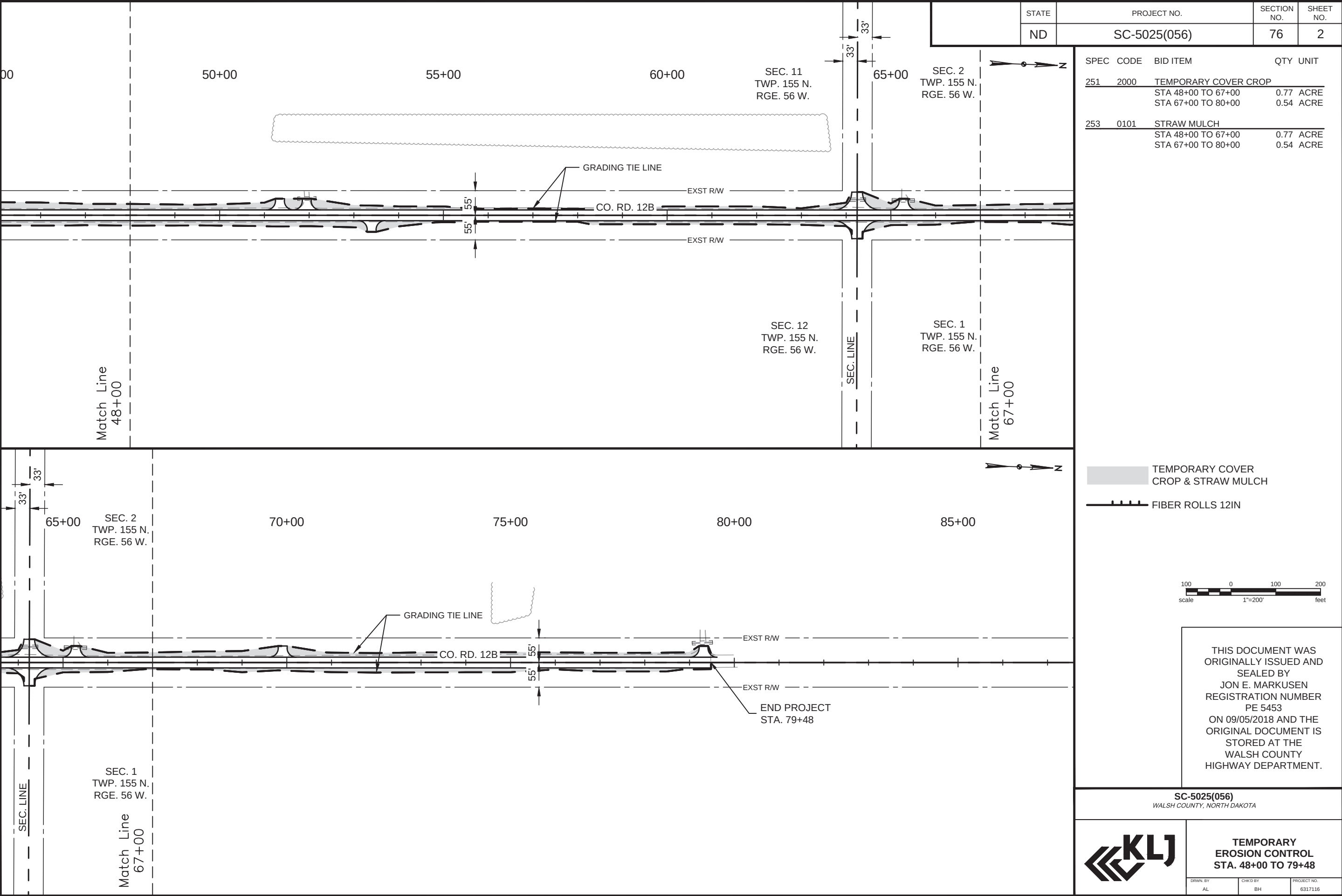
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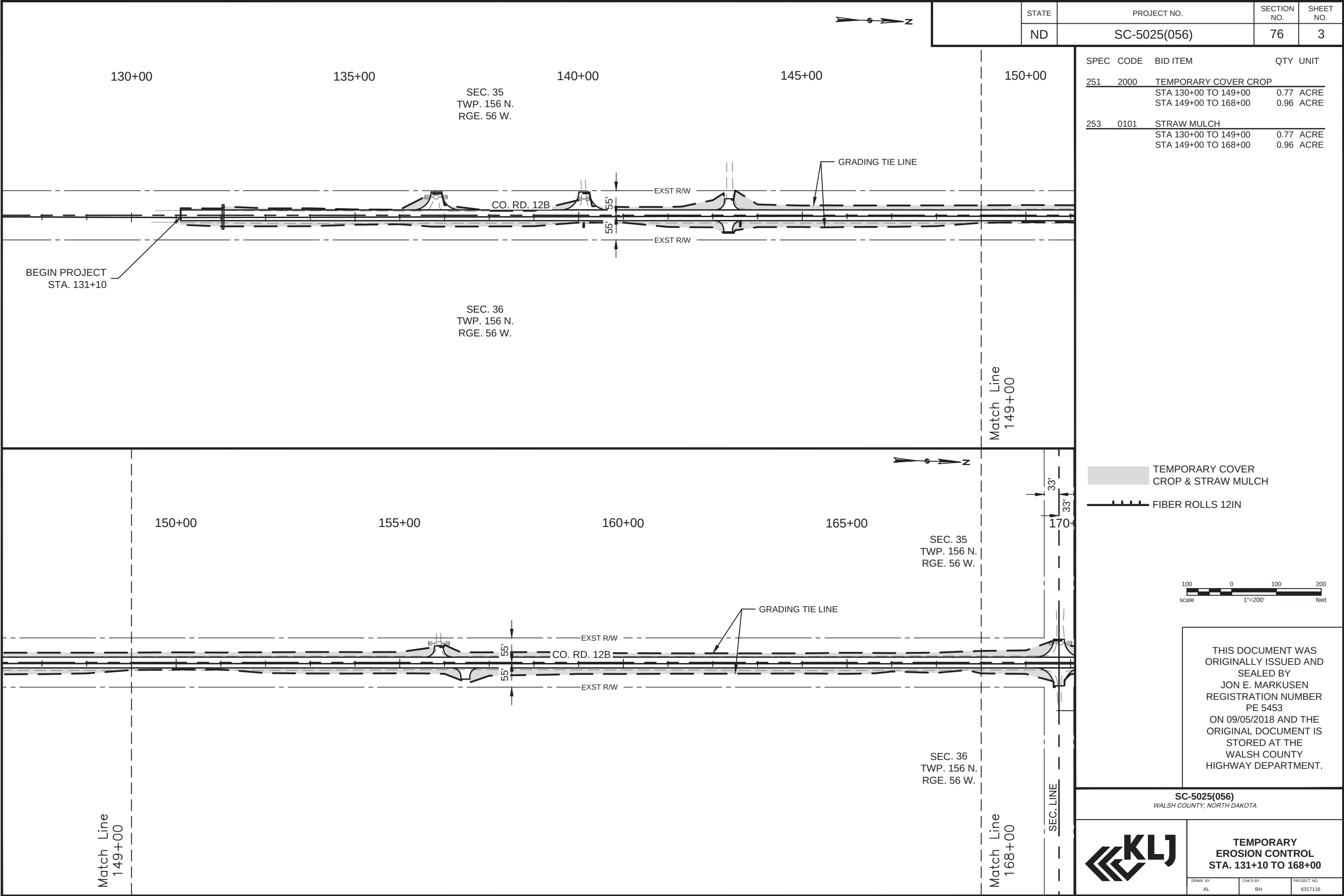
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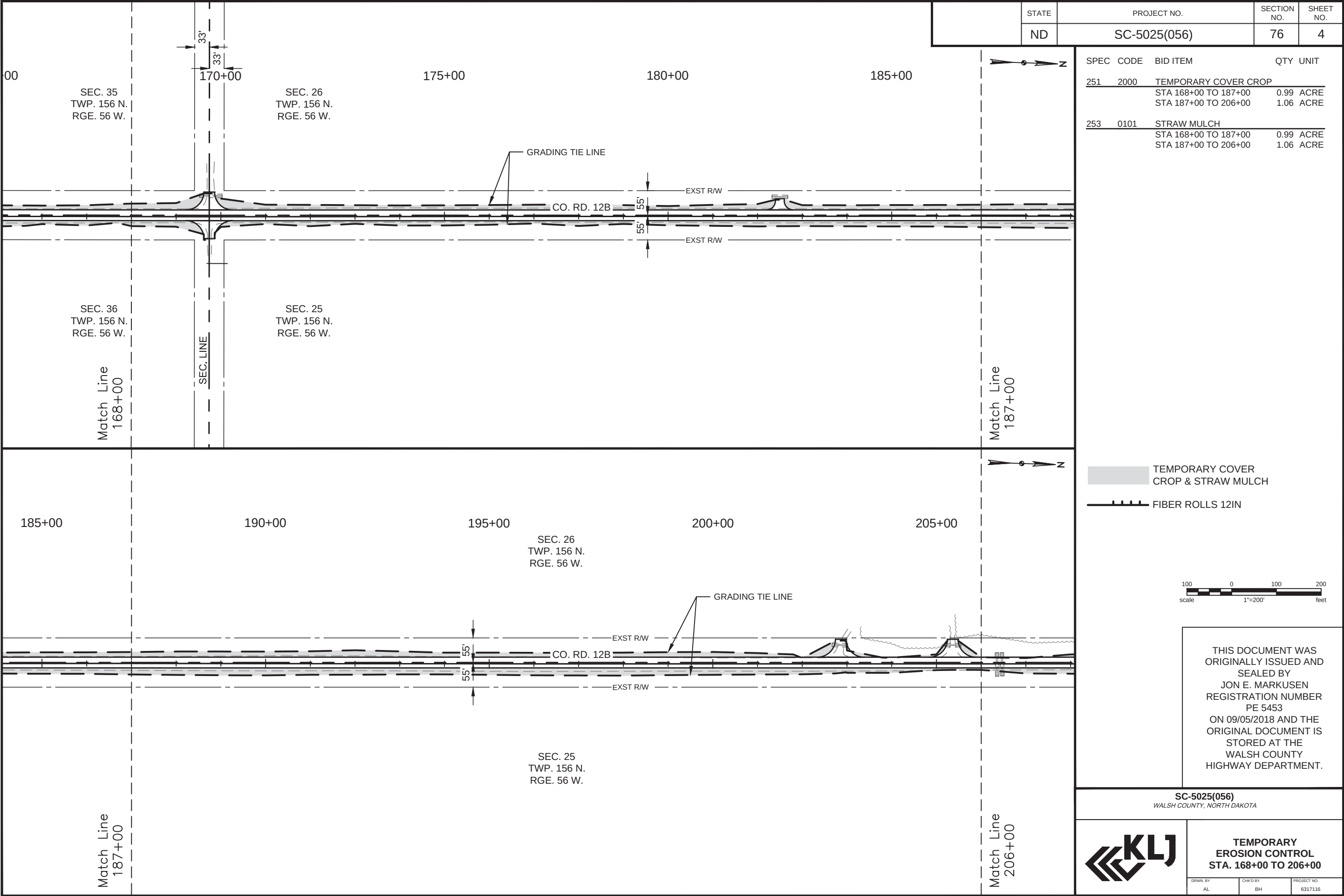
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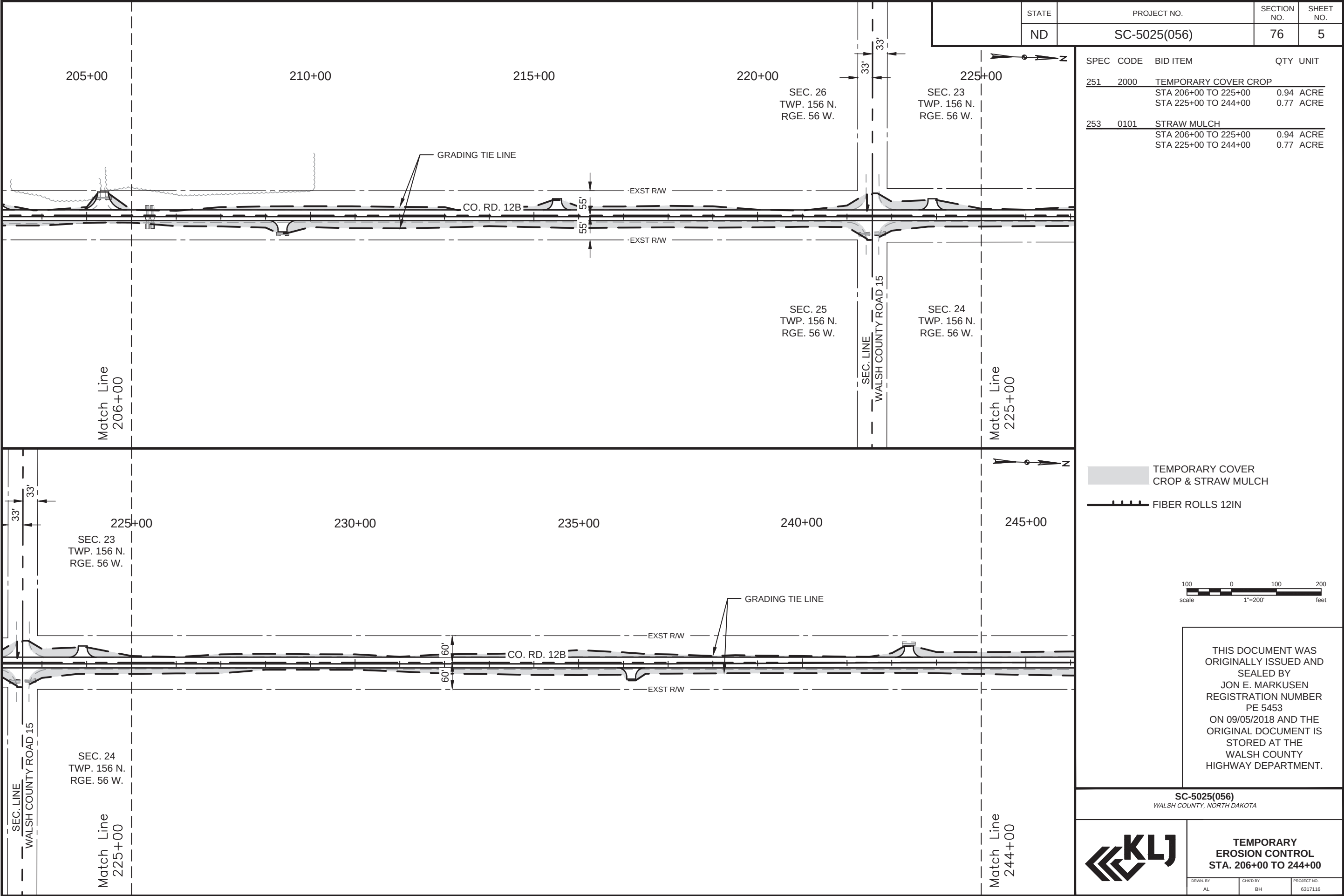
**TEMPORARY EROSION CONTROL
STA. 10+75 TO 48+00**

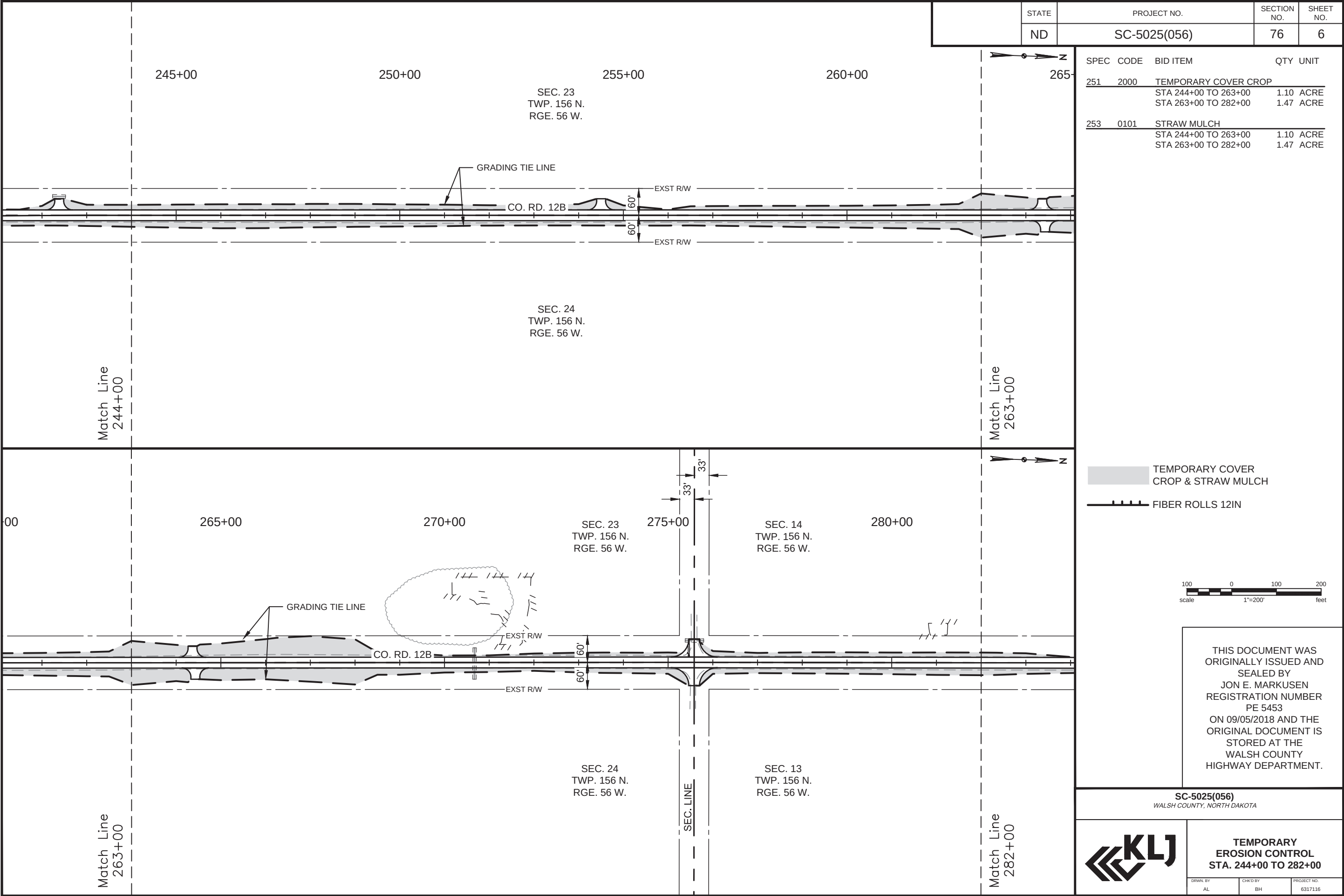
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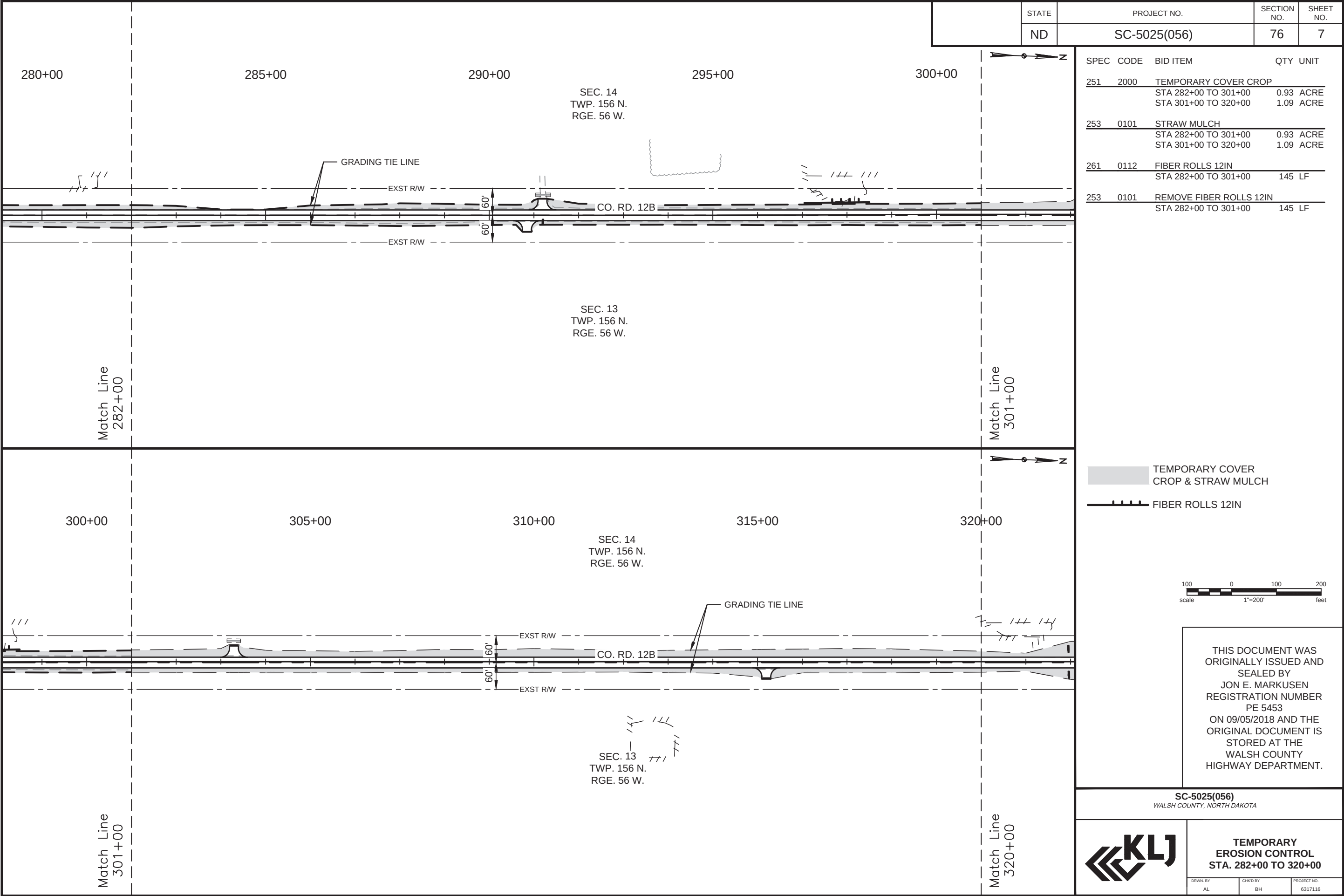


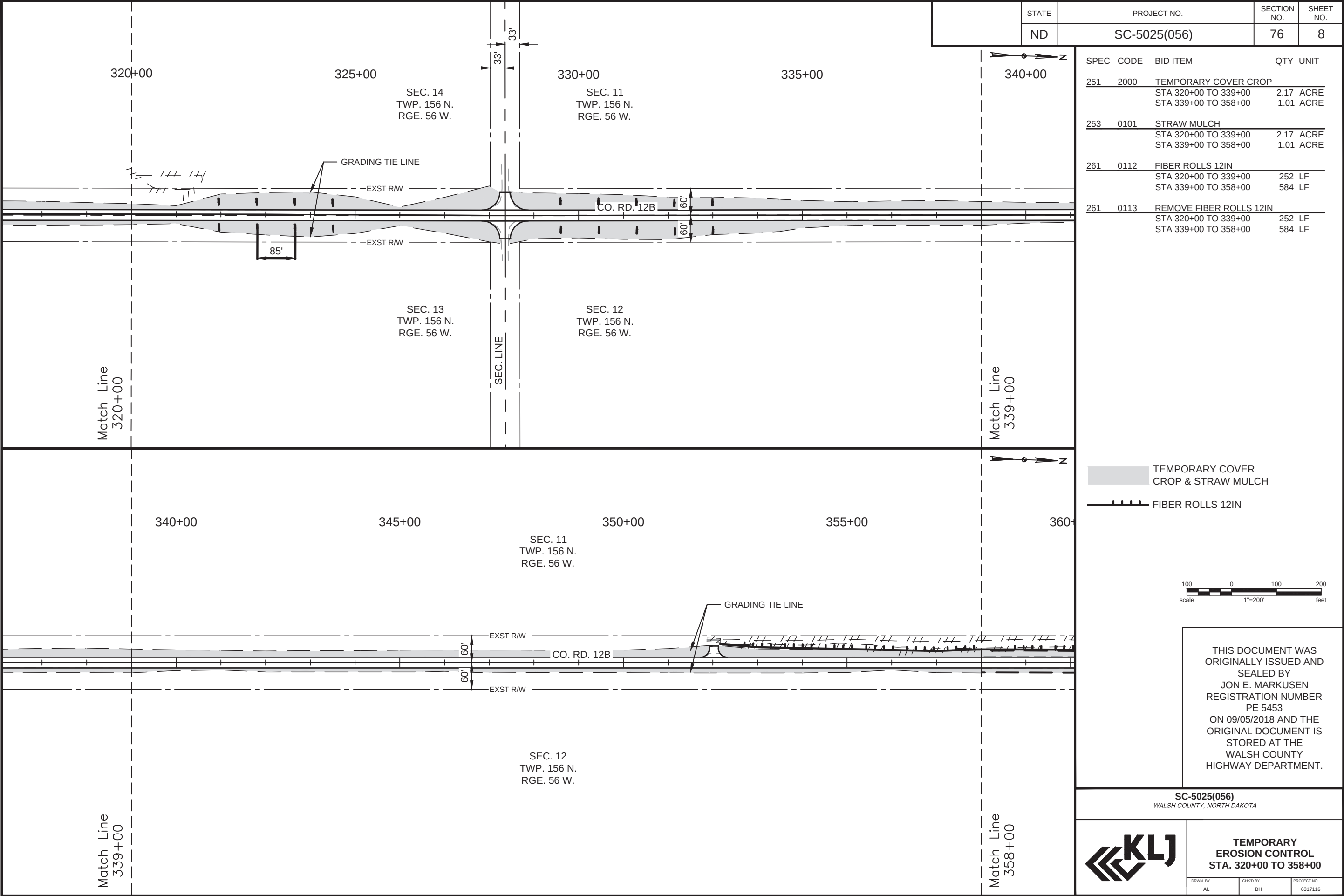


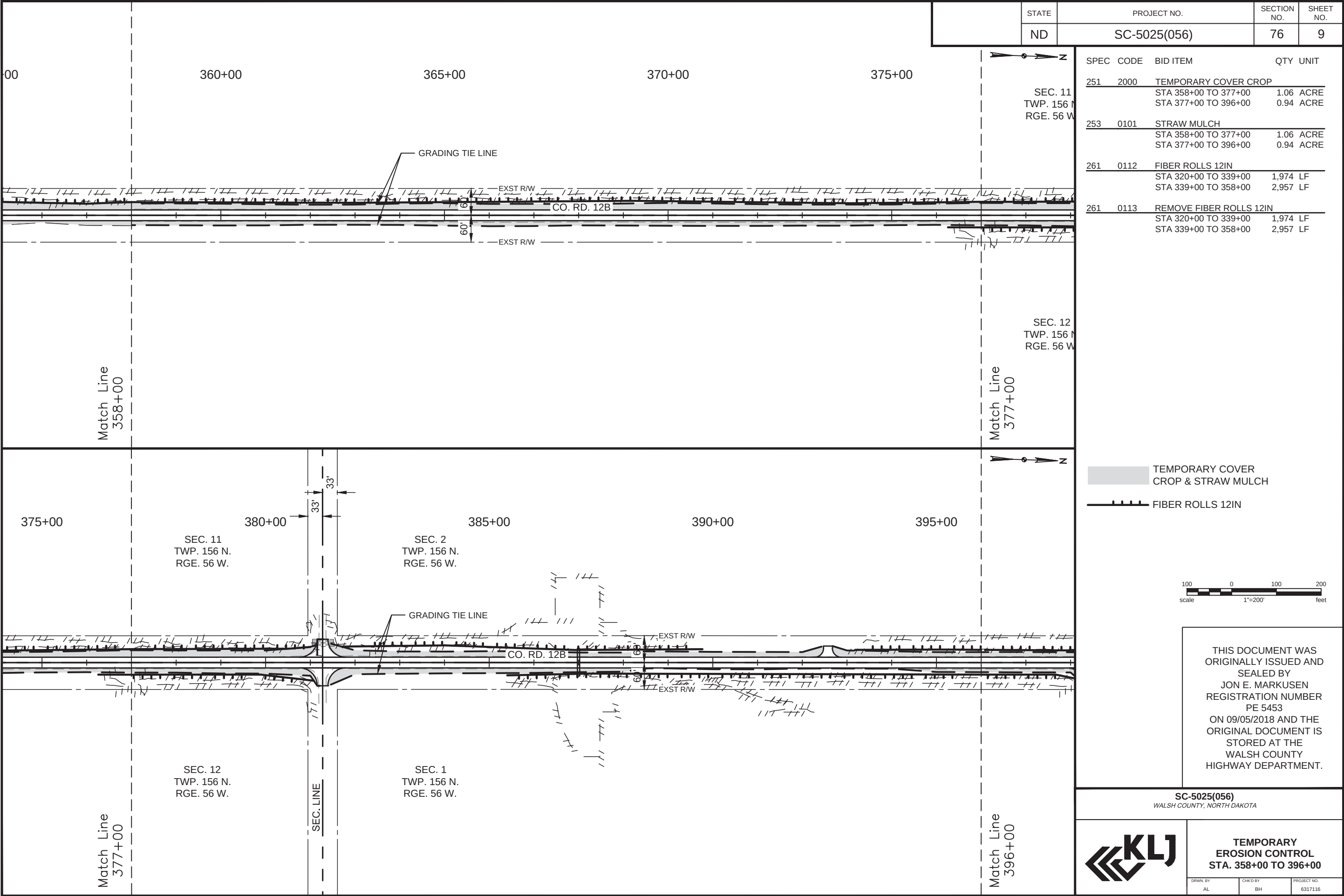


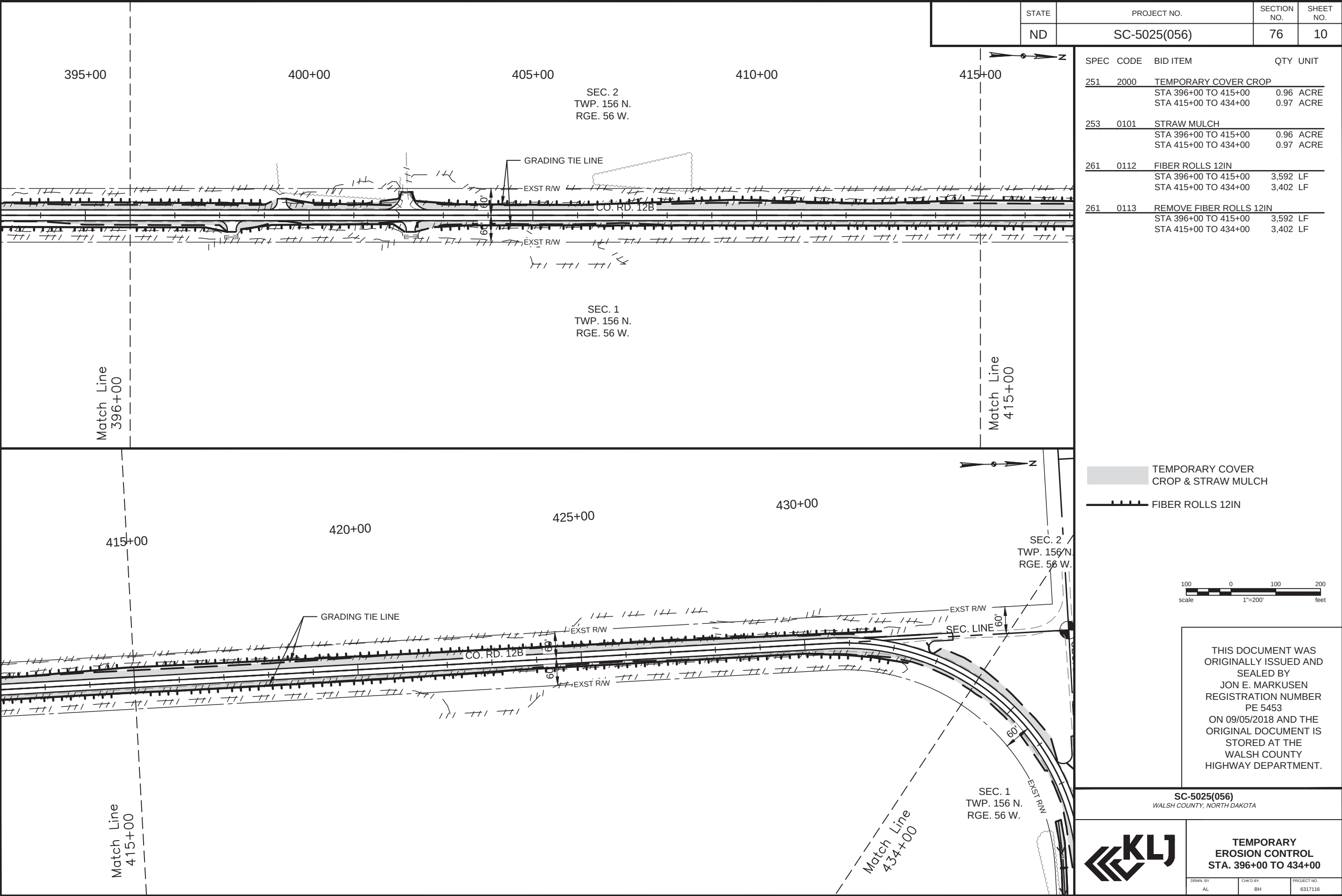


STATE		PROJECT NO.		SECTION NO.		SHEET NO.	
ND		SC-5025(056)		76		6	
Z 265-		SPEC	CODE	BID ITEM		QTY UNIT	
		251	2000	TEMPORARY COVER CROP			
				STA 244+00 TO 263+00		1.10	ACRE
				STA 263+00 TO 282+00		1.47	ACRE
		253	0101	STRAW MULCH			
				STA 244+00 TO 263+00		1.10	ACRE
				STA 263+00 TO 282+00		1.47	ACRE

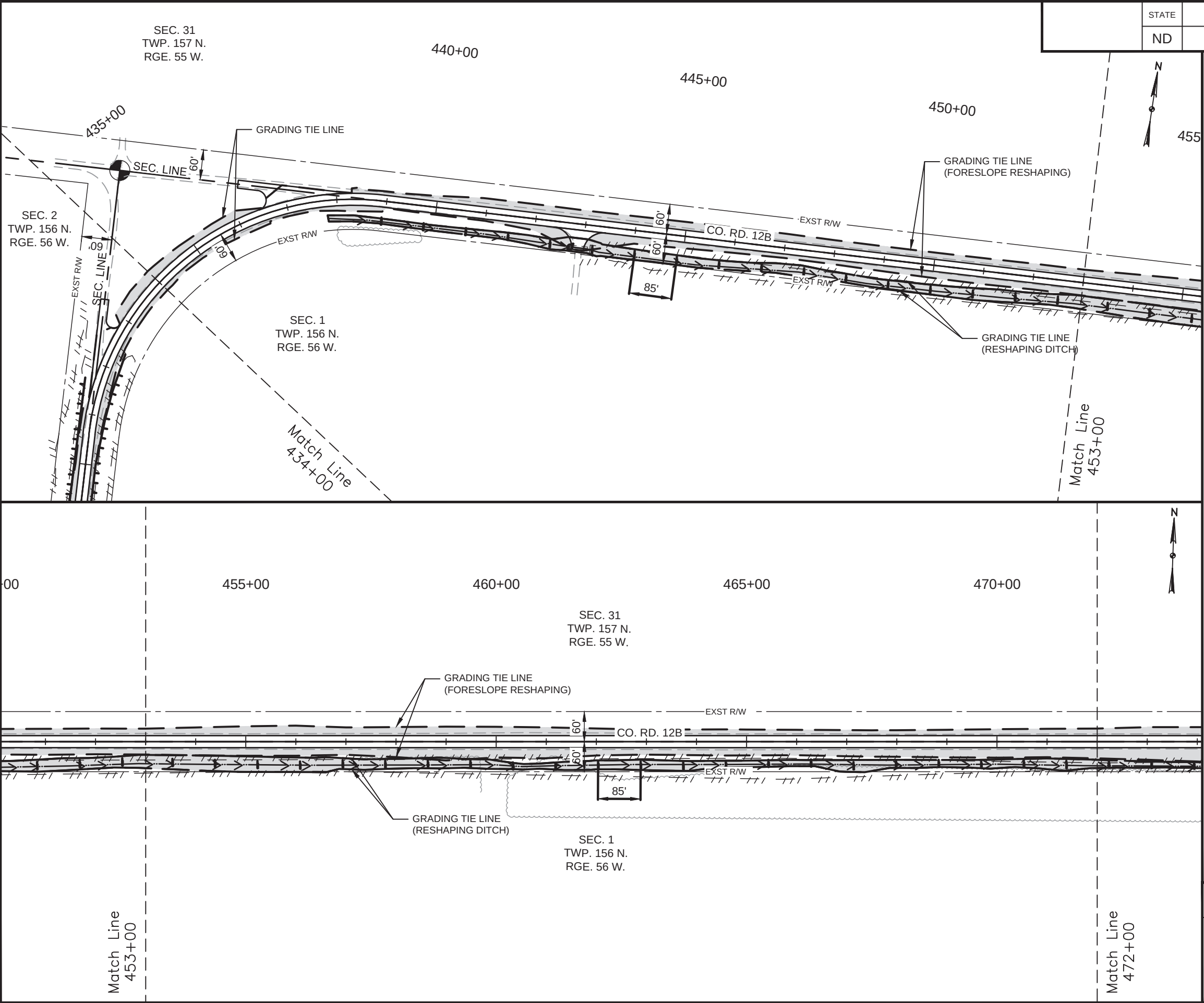








SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		STA 396+00 TO 415+00	0.96	ACRE
		STA 415+00 TO 434+00	0.97	ACRE
253	0101	STRAW MULCH		
		STA 396+00 TO 415+00	0.96	ACRE
		STA 415+00 TO 434+00	0.97	ACRE
261	0112	FIBER ROLLS 12IN		
		STA 396+00 TO 415+00	3,592	LF
		STA 415+00 TO 434+00	3,402	LF
261	0113	REMOVE FIBER ROLLS 12IN		
		STA 396+00 TO 415+00	3,592	LF
		STA 415+00 TO 434+00	3,402	LF



STATE		PROJECT NO.	SECTION NO.	SHEET NO.
ND		SC-5025(056)	76	11

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		STA 434+00 TO 453+00	1.64	ACRE
		STA 453+00 TO 472+00	2.27	ACRE
253	0101	STRAW MULCH		
		STA 434+00 TO 453+00	1.64	ACRE
		STA 453+00 TO 472+00	2.27	ACRE
261	0112	FIBER ROLLS 12IN		
		STA 434+00 TO 453+00	268	LF
		STA 453+00 TO 472+00	308	LF
261	0113	REMOVE FIBER ROLLS 12IN		
		STA 434+00 TO 453+00	268	LF
		STA 453+00 TO 472+00	308	LF

TEMPORARY COVER CROP & STRAW MULCH

FIBER ROLLS 12IN

100 0 100 200
scale 1"=200' feet

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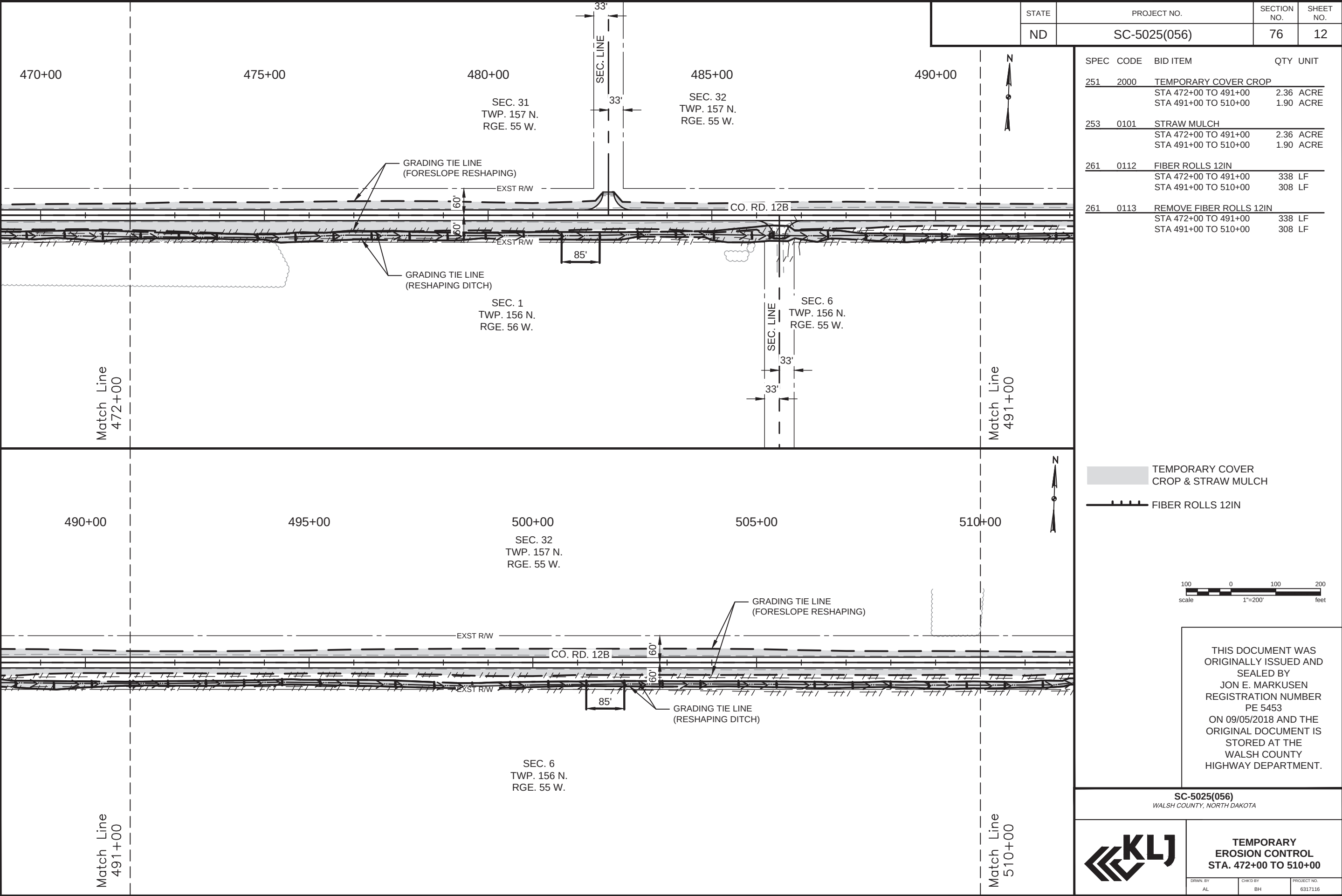
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WALSH COUNTY, NORTH DAKOTA

TEMPORARY
EROSION CONTROL
STA. 434+00 TO 472+00

DRWN. BY
AL

CHKD BY
BH

PROJECT NO.
6317116



STATE		PROJECT NO.	SECTION NO.	SHEET NO.
ND		SC-5025(056)	76	12
SPEC	CODE	BID ITEM	QTY UNIT	
251	2000	TEMPORARY COVER CROP		
		STA 472+00 TO 491+00	2.36	ACRE
		STA 491+00 TO 510+00	1.90	ACRE
253	0101	STRAW MULCH		
		STA 472+00 TO 491+00	2.36	ACRE
		STA 491+00 TO 510+00	1.90	ACRE
261	0112	FIBER ROLLS 12IN		
		STA 472+00 TO 491+00	338	LF
		STA 491+00 TO 510+00	308	LF
261	0113	REMOVE FIBER ROLLS 12IN		
		STA 472+00 TO 491+00	338	LF
		STA 491+00 TO 510+00	308	LF

TEMPORARY COVER CROP & STRAW MULCH

FIBER ROLLS 12IN

1000100200
scale1"=200'feet

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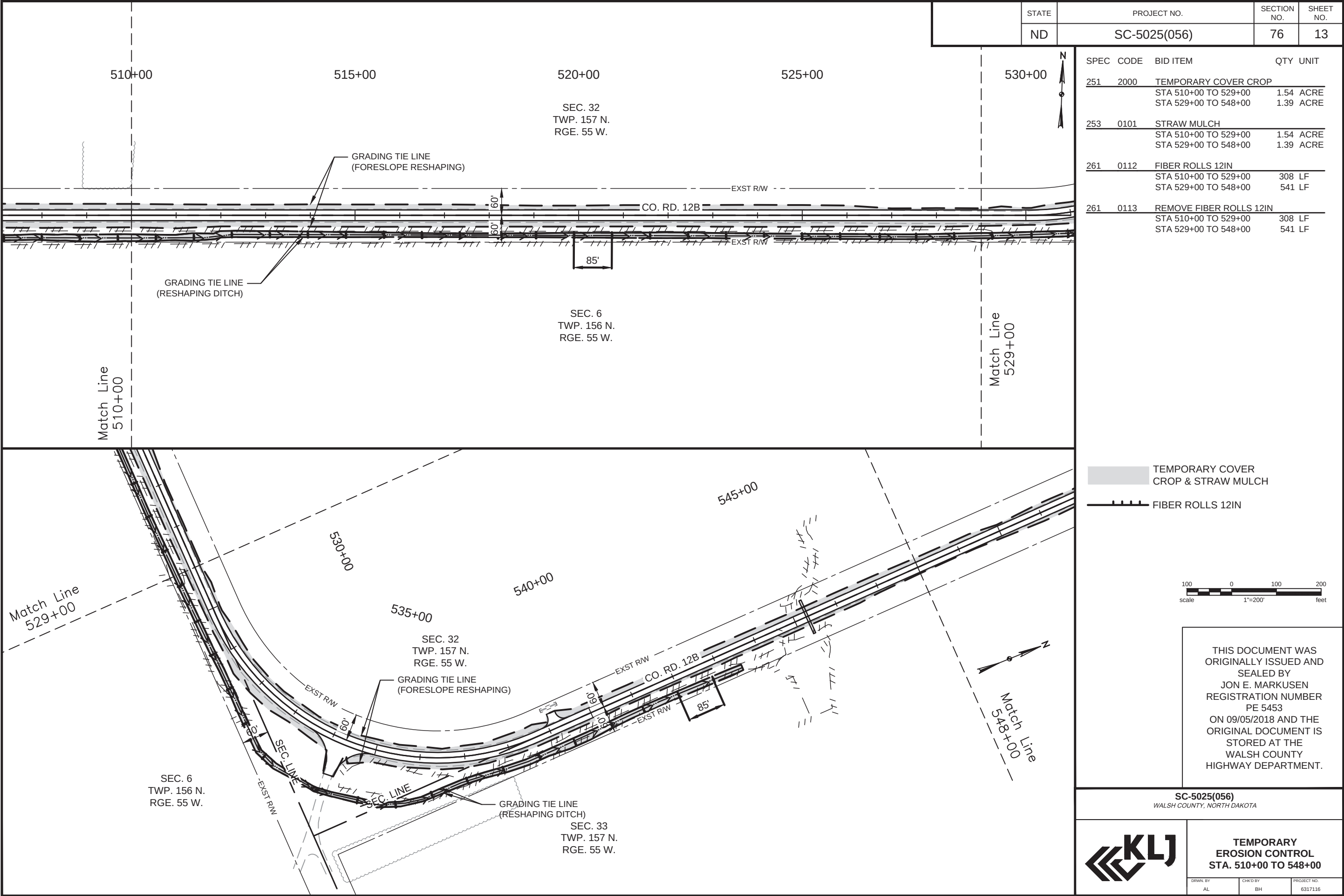
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TEMPORARY
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STA. 472+00 TO 510+00

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PROJECT NO.
6317116



STATE		PROJECT NO.	SECTION NO.	SHEET NO.
ND		SC-5025(056)	76	13

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		STA 510+00 TO 529+00	1.54	ACRE
		STA 529+00 TO 548+00	1.39	ACRE
253	0101	STRAW MULCH		
		STA 510+00 TO 529+00	1.54	ACRE
		STA 529+00 TO 548+00	1.39	ACRE
261	0112	FIBER ROLLS 12IN		
		STA 510+00 TO 529+00	308	LF
		STA 529+00 TO 548+00	541	LF
261	0113	REMOVE FIBER ROLLS 12IN		
		STA 510+00 TO 529+00	308	LF
		STA 529+00 TO 548+00	541	LF

TEMPORARY COVER CROP & STRAW MULCH

FIBER ROLLS 12IN

100 0 100 200

scale 1"=200' feet

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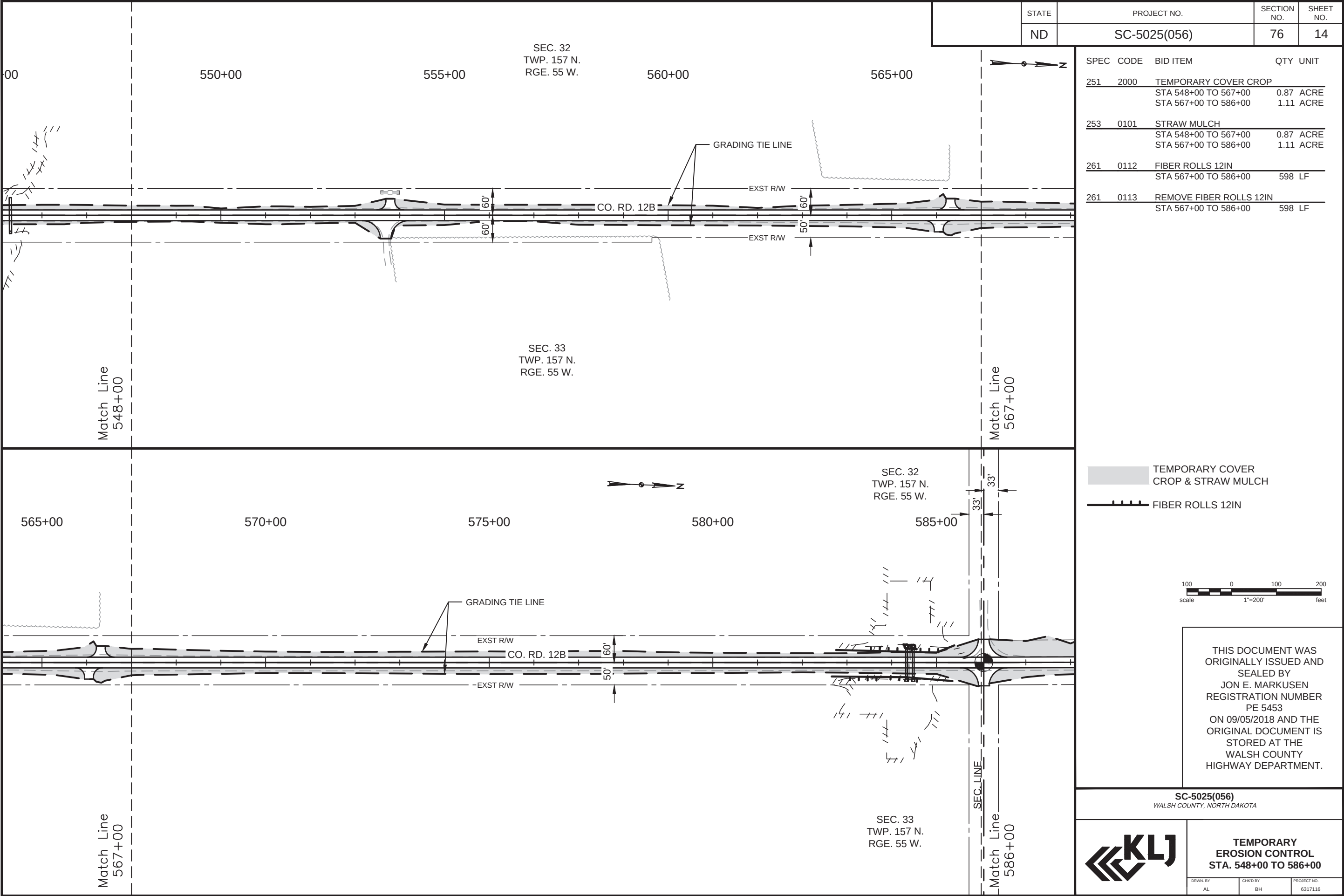
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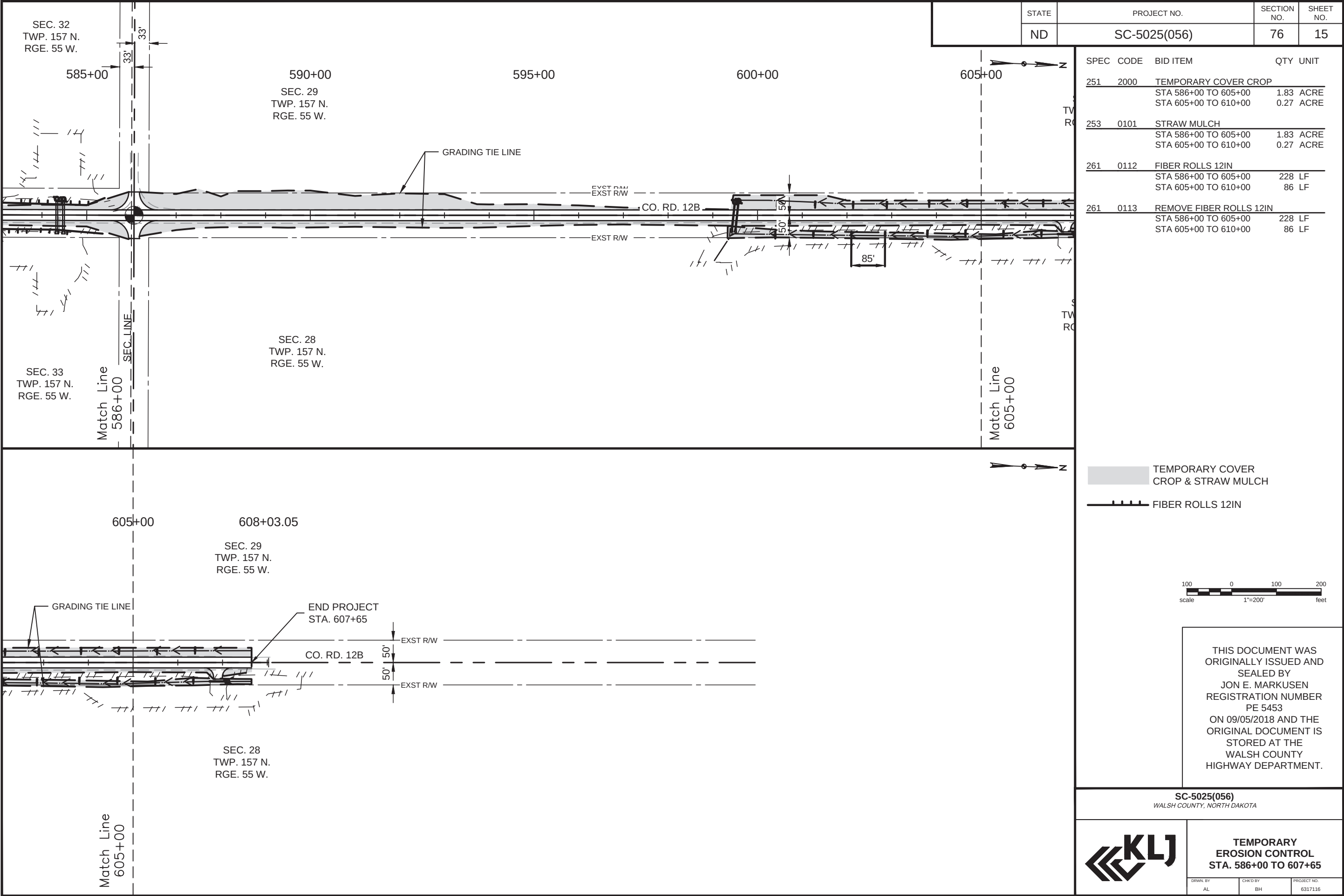
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STA. 510+00 TO 548+00

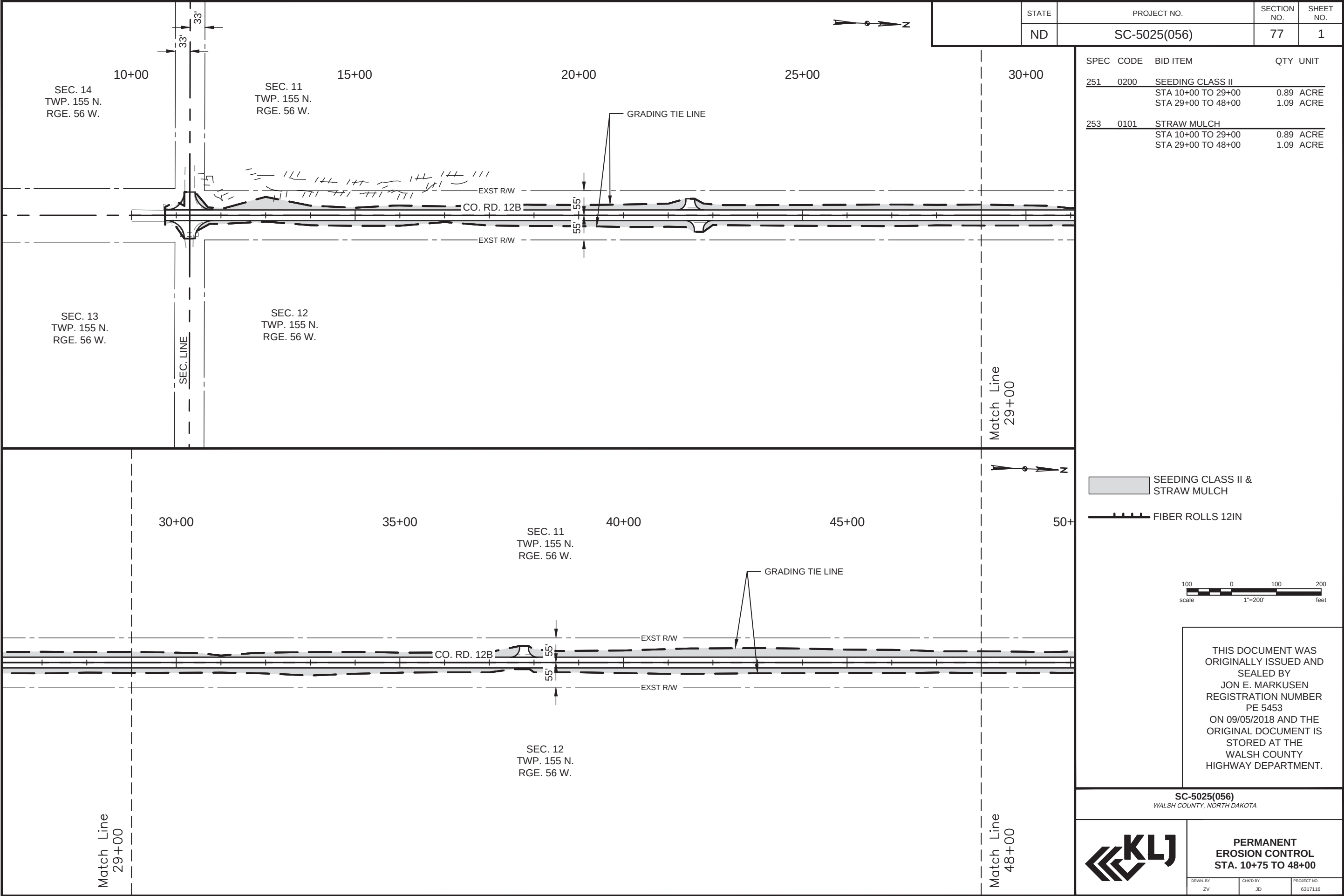
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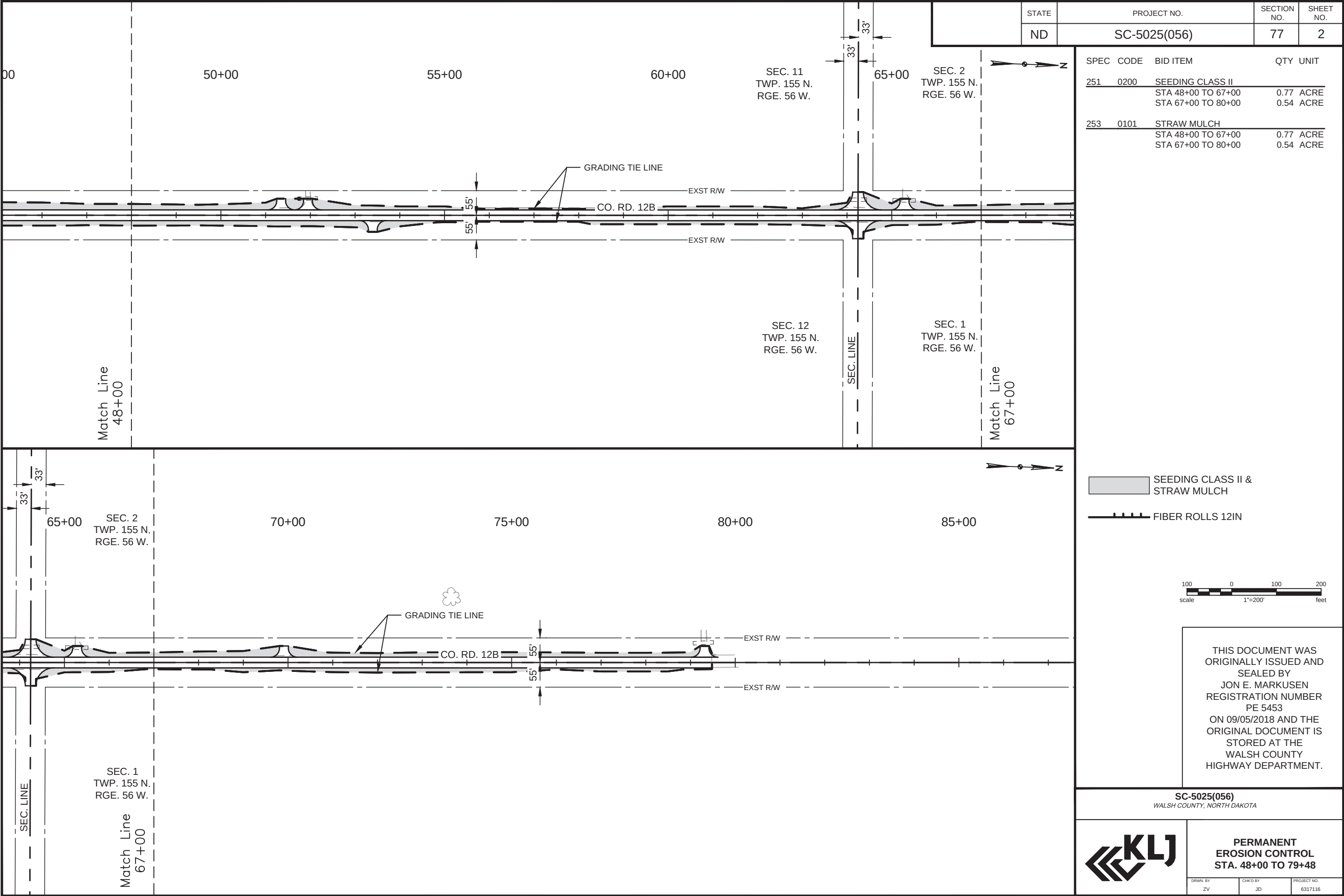
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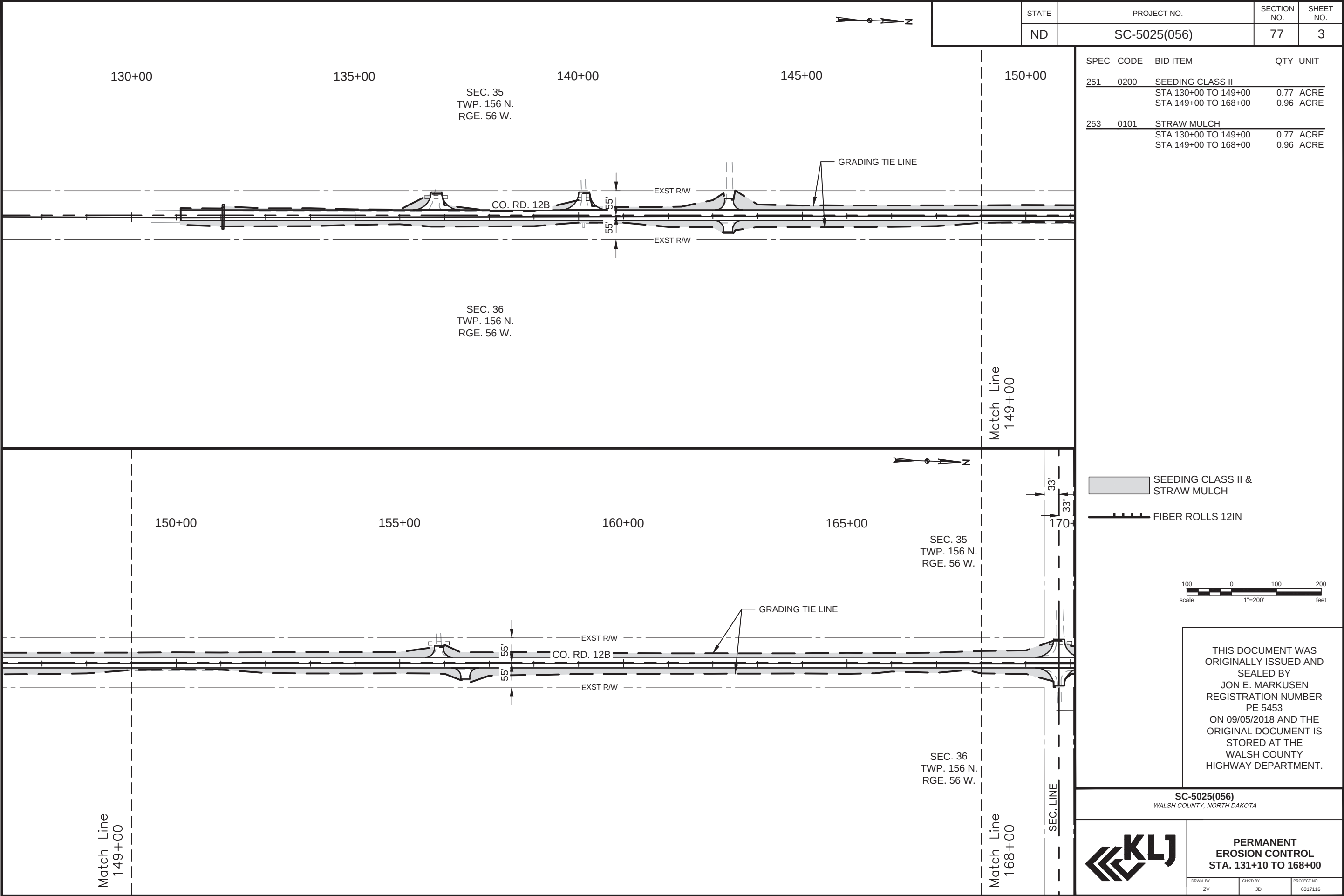
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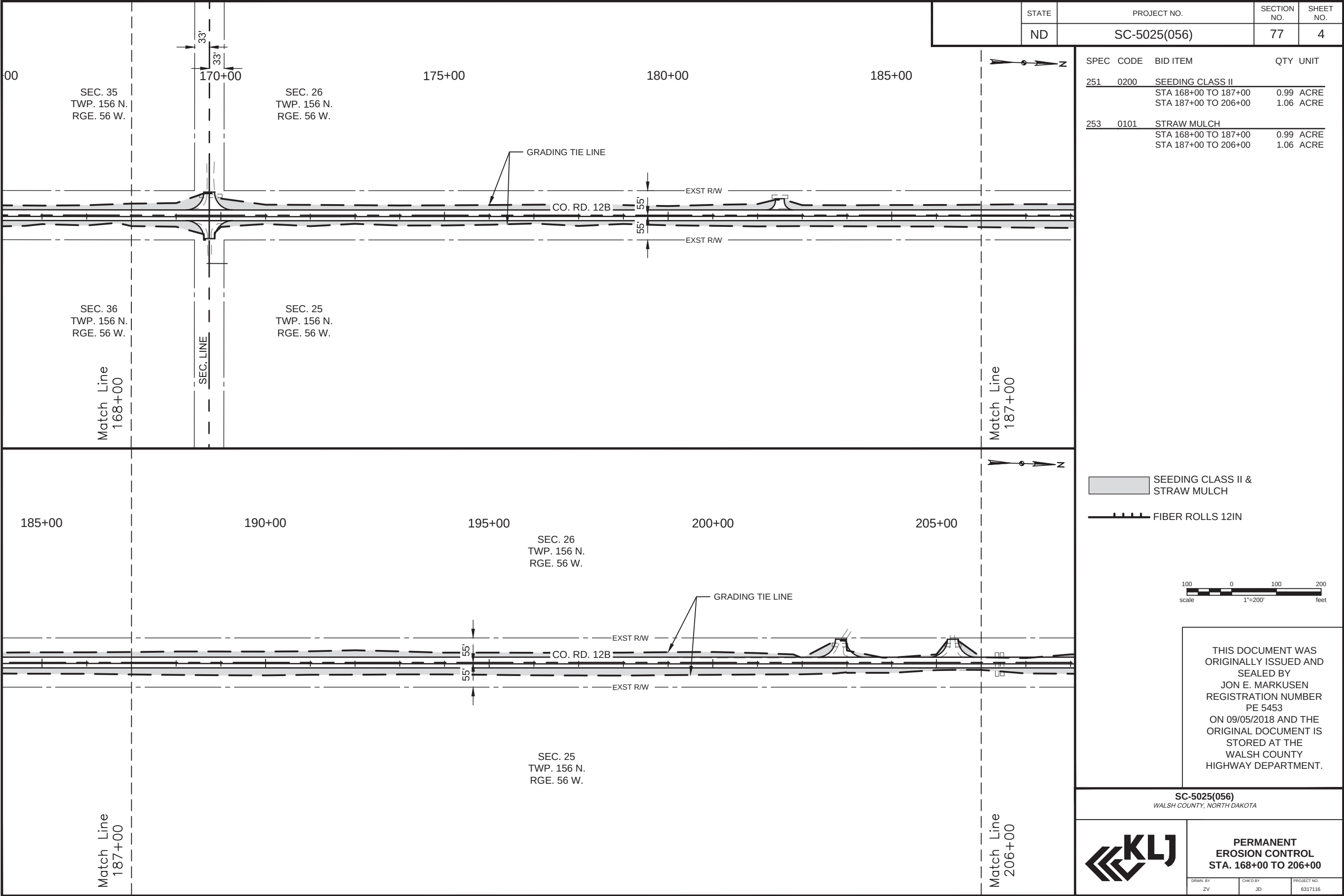


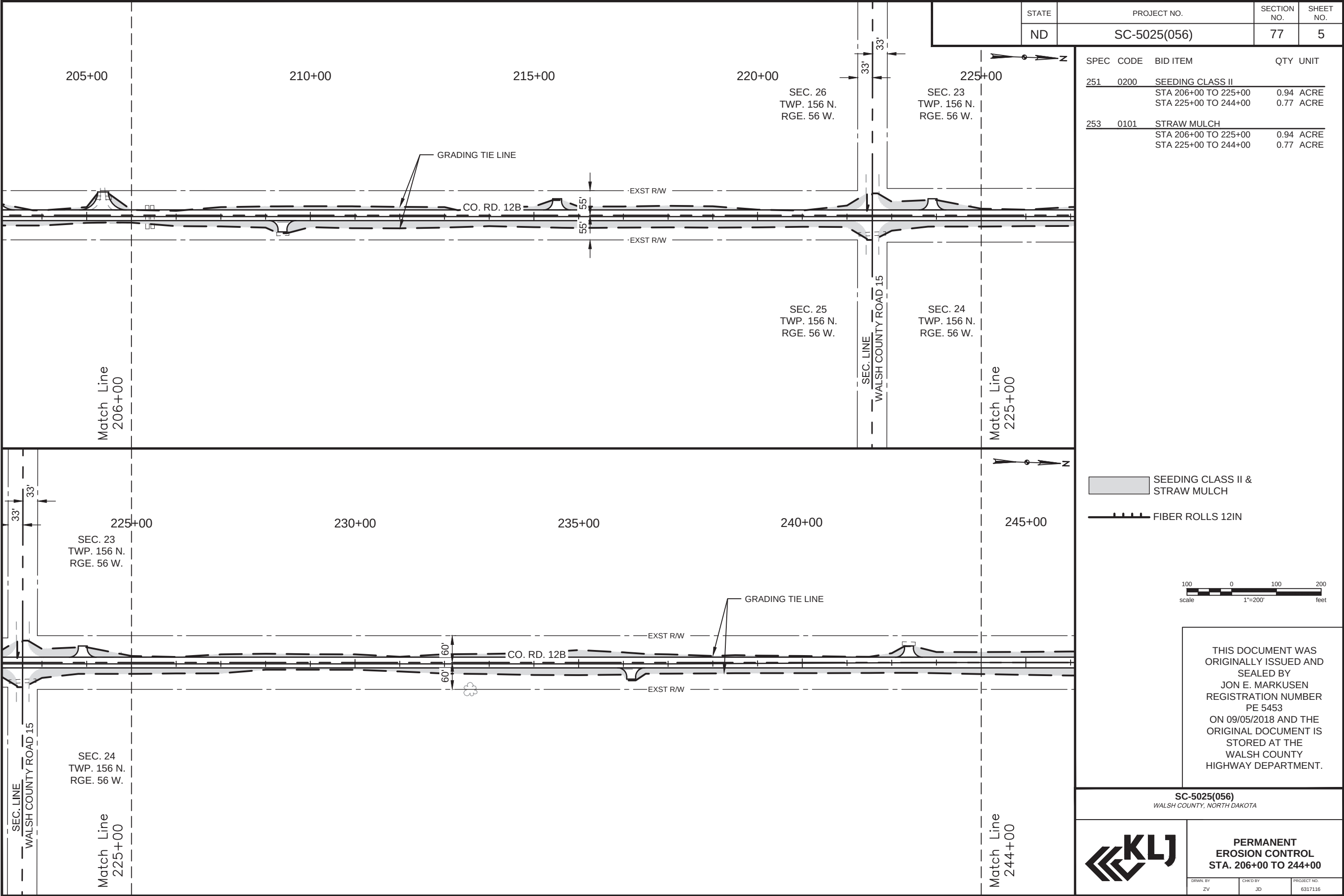




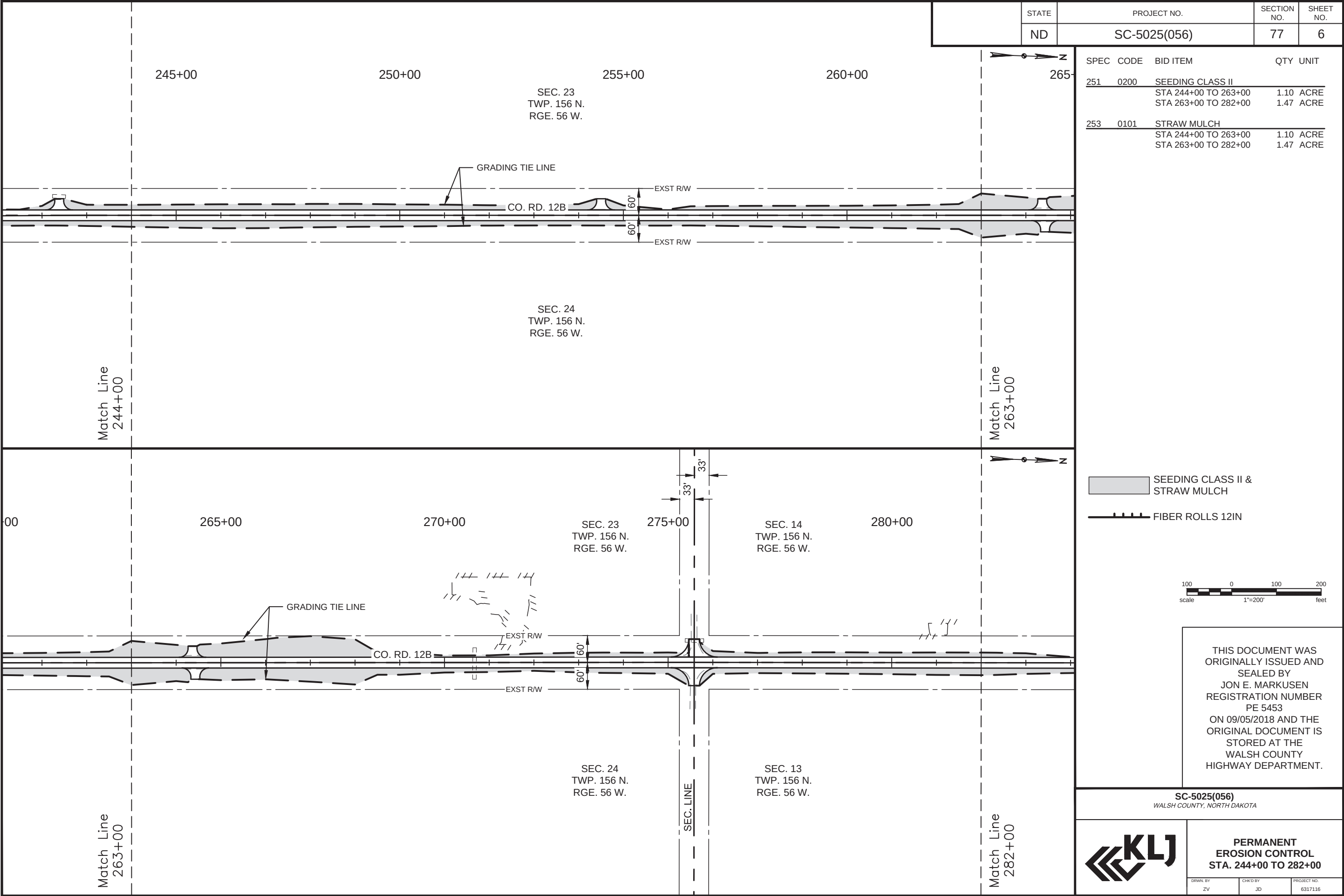


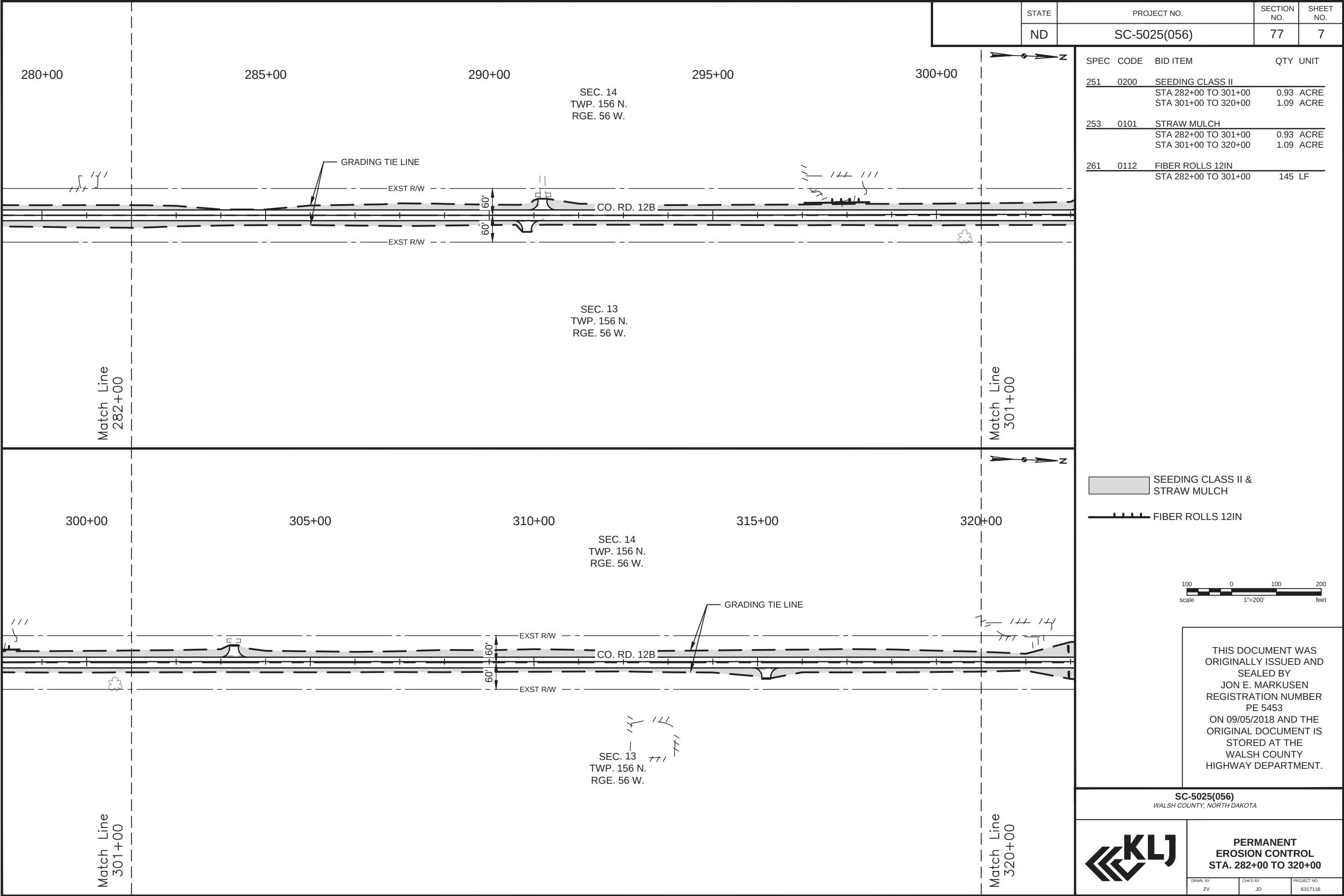


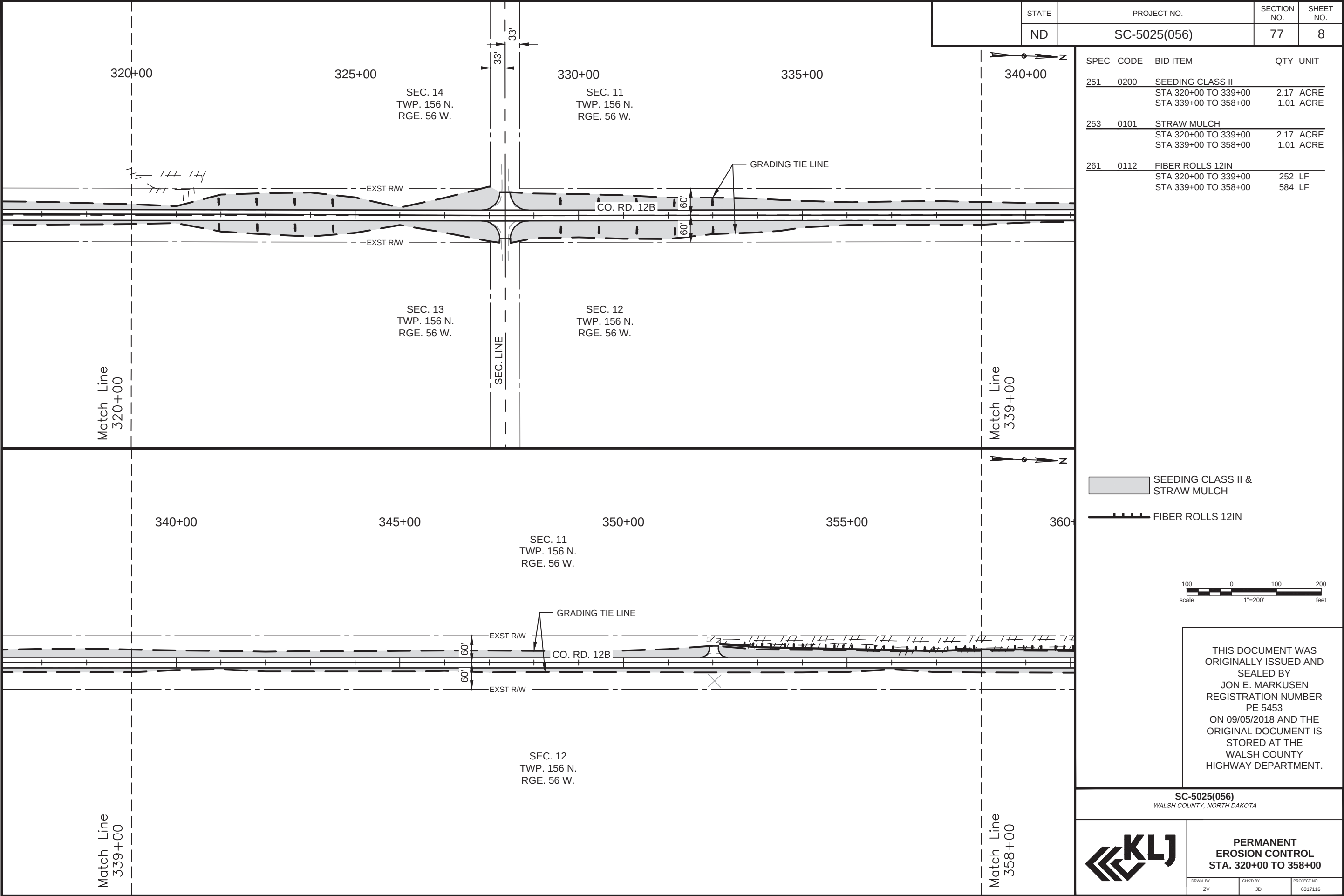


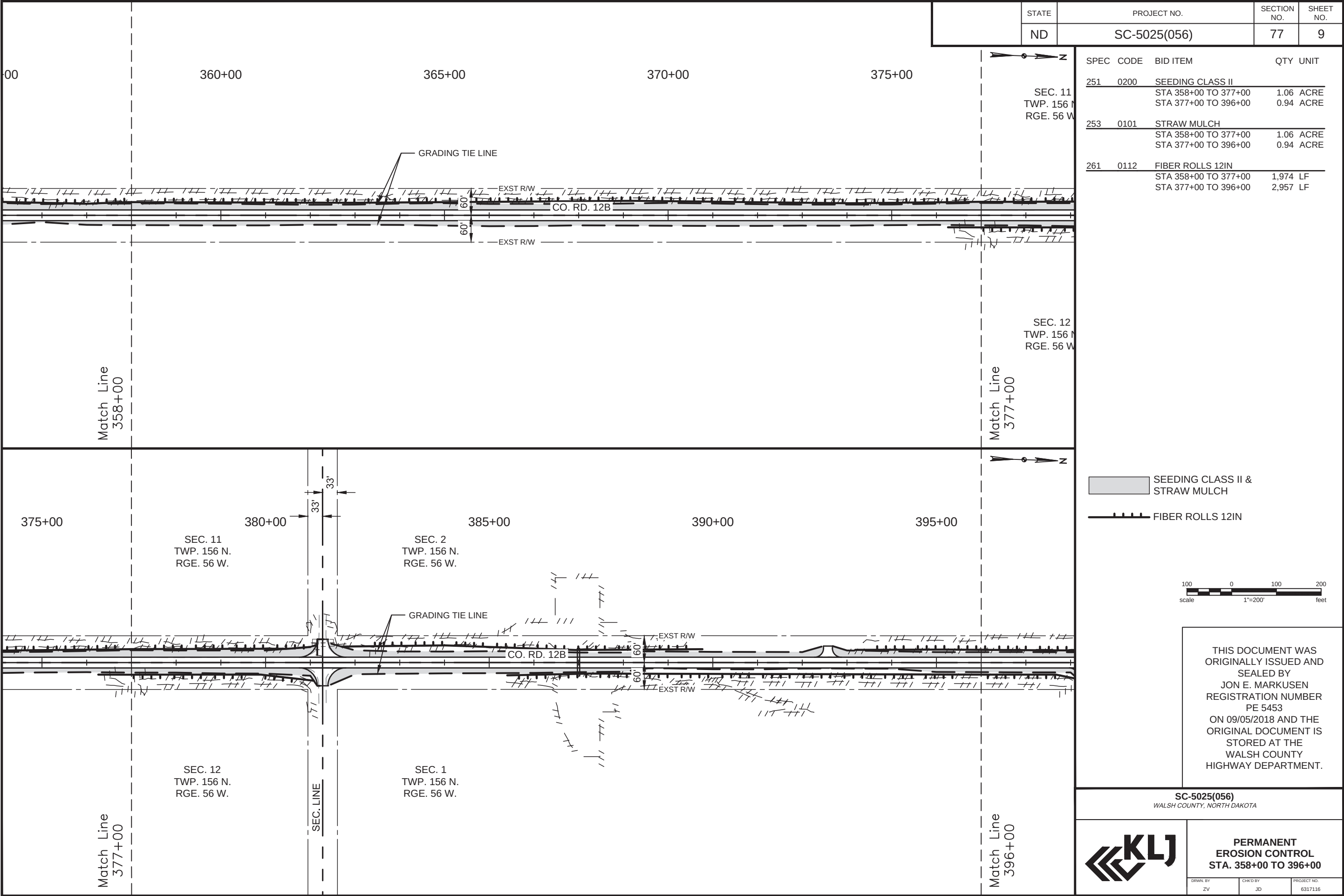


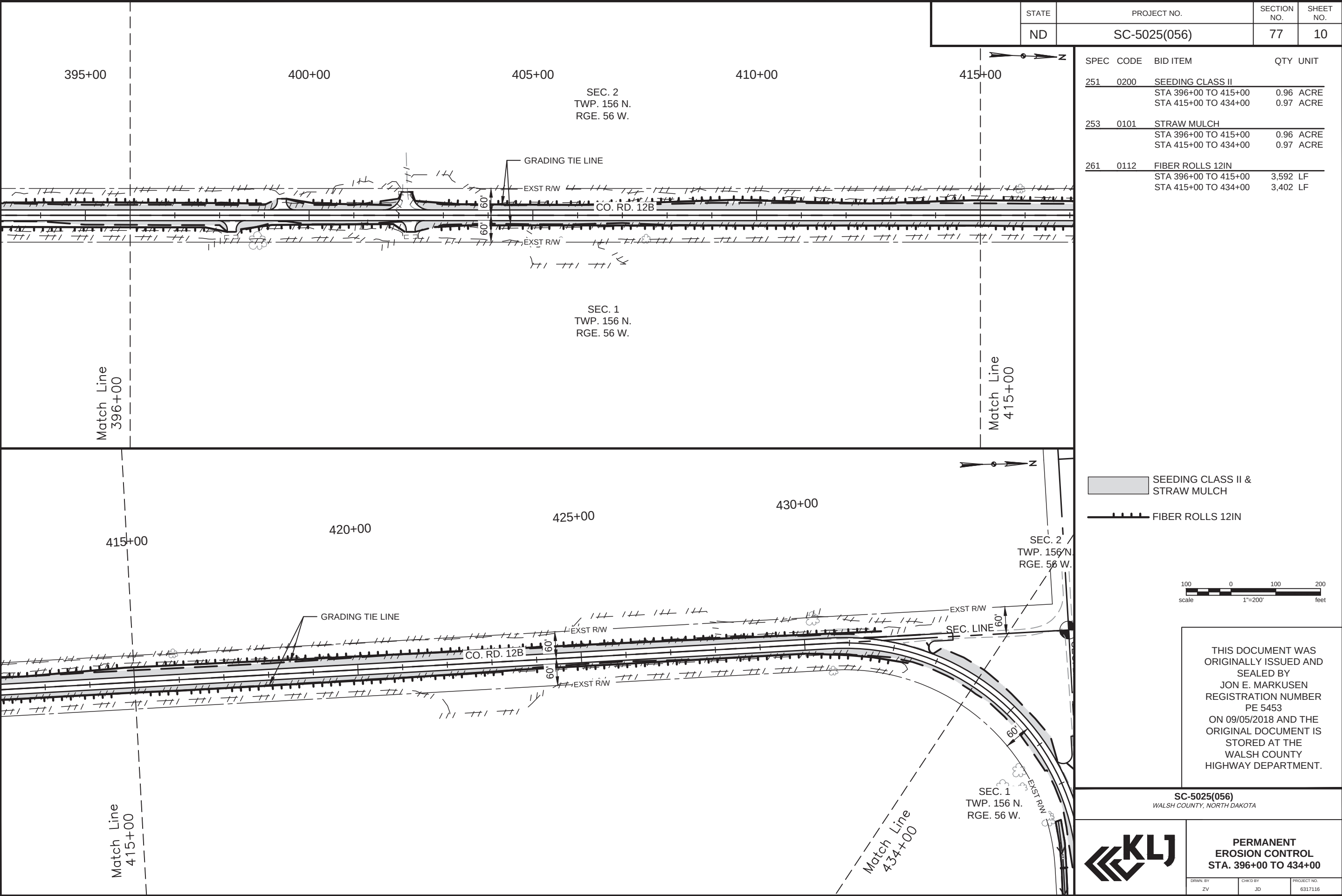
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ND	SC-5025(056)		77	5

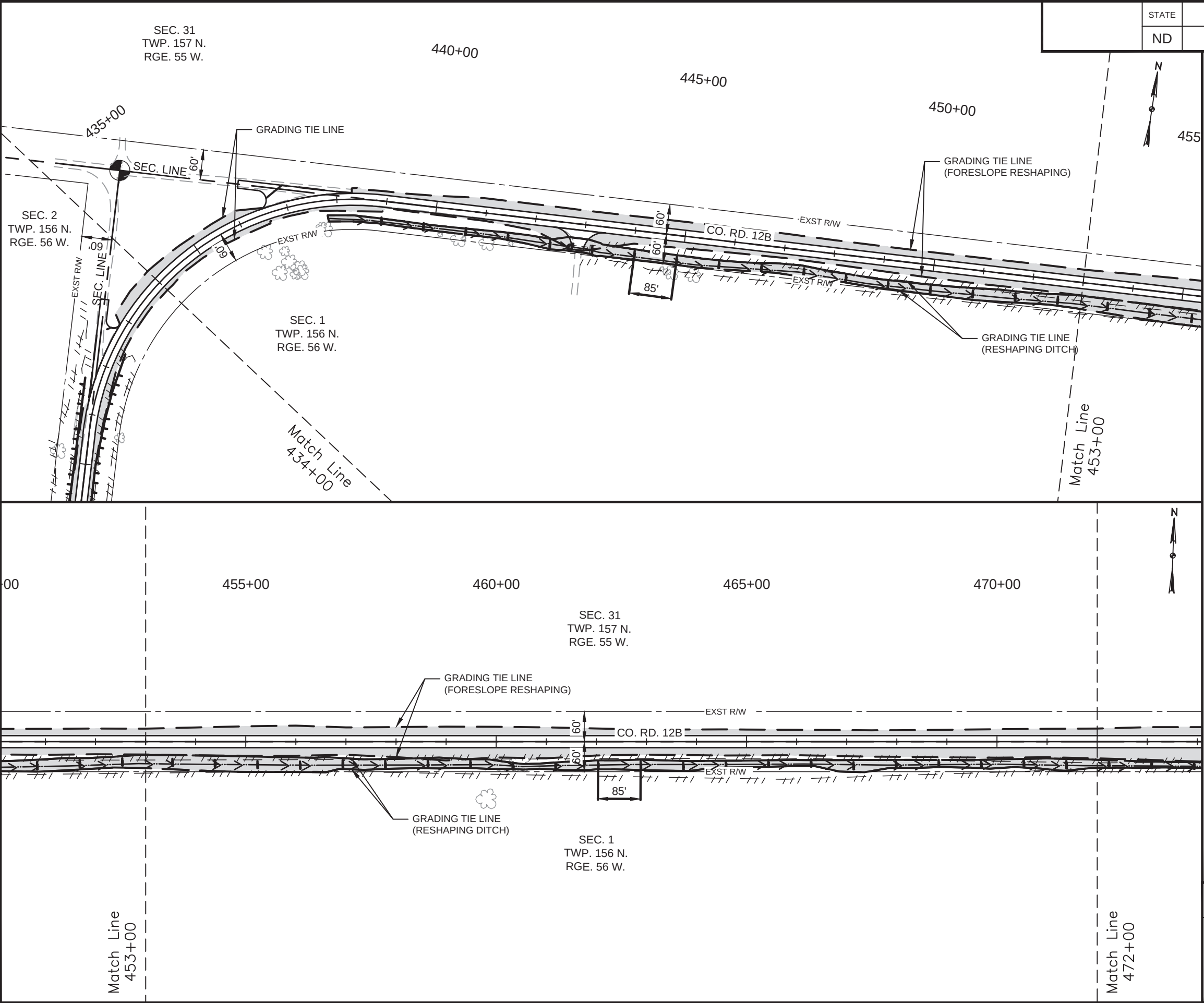












STATE		PROJECT NO.	SECTION NO.	SHEET NO.
ND		SC-5025(056)	77	11

SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	SEEDING CLASS II		
		STA 434+00 TO 453+00	1.64	ACRE
		STA 453+00 TO 472+00	2.27	ACRE
253	0101	STRAW MULCH		
		STA 434+00 TO 453+00	1.64	ACRE
		STA 453+00 TO 472+00	2.27	ACRE
261	0112	FIBER ROLLS 12IN		
		STA 434+00 TO 453+00	268	LF
		STA 453+00 TO 472+00	308	LF

SEEDING CLASS II & STRAW MULCH

FIBER ROLLS 12IN

100 0 100 200

scale 1"=200' feet

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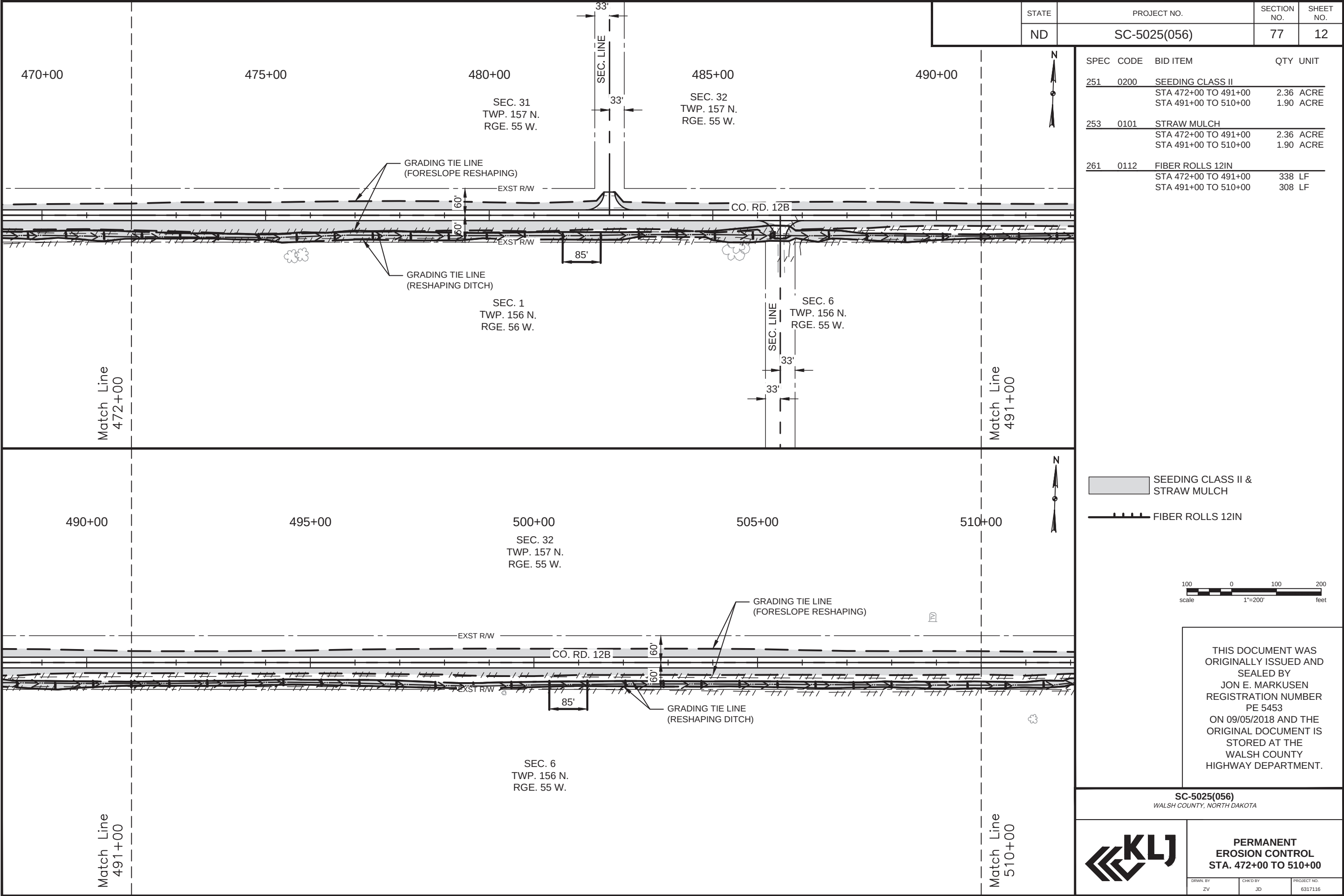
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WALSH COUNTY, NORTH DAKOTA

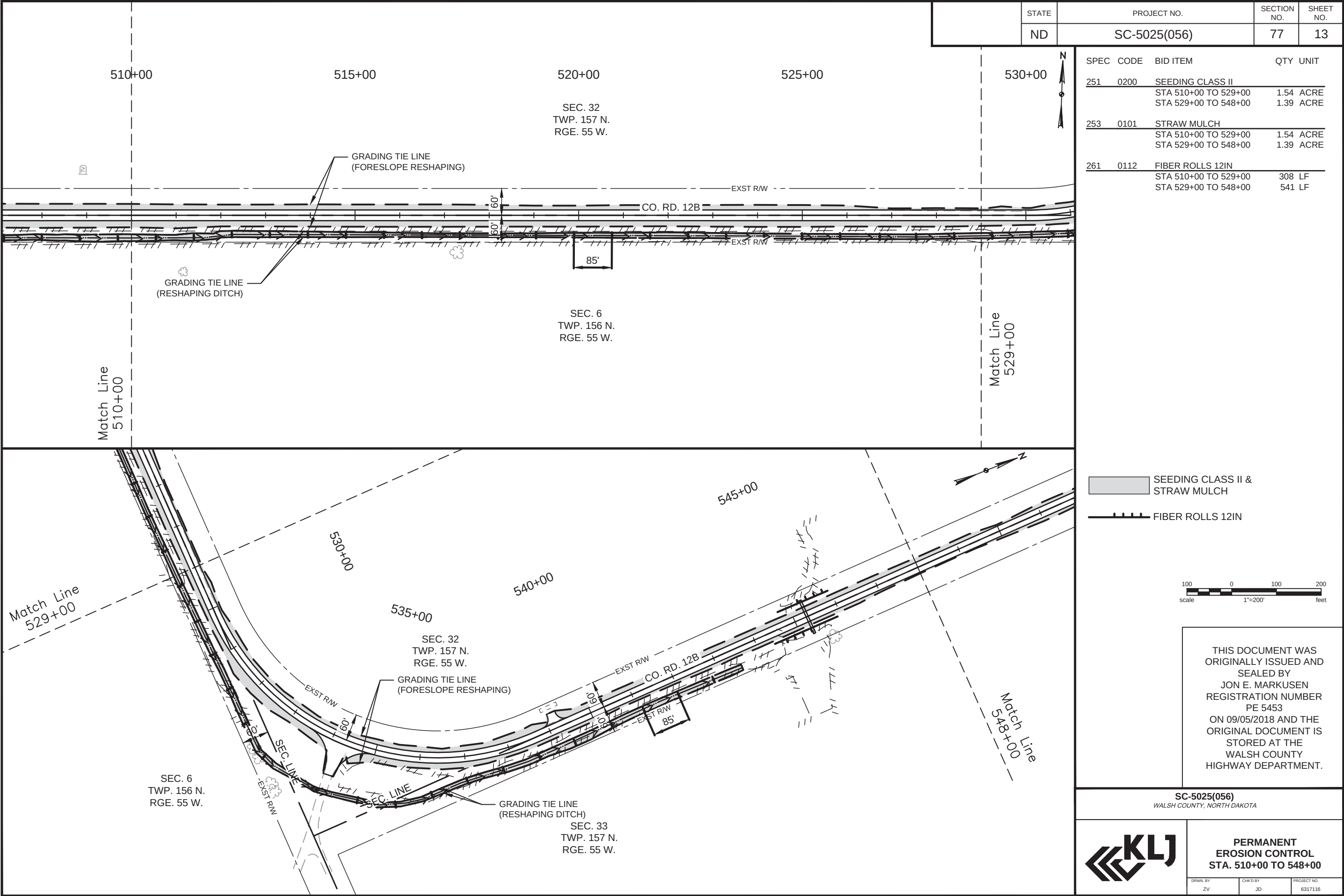
**PERMANENT
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STA. 434+00 TO 472+00**

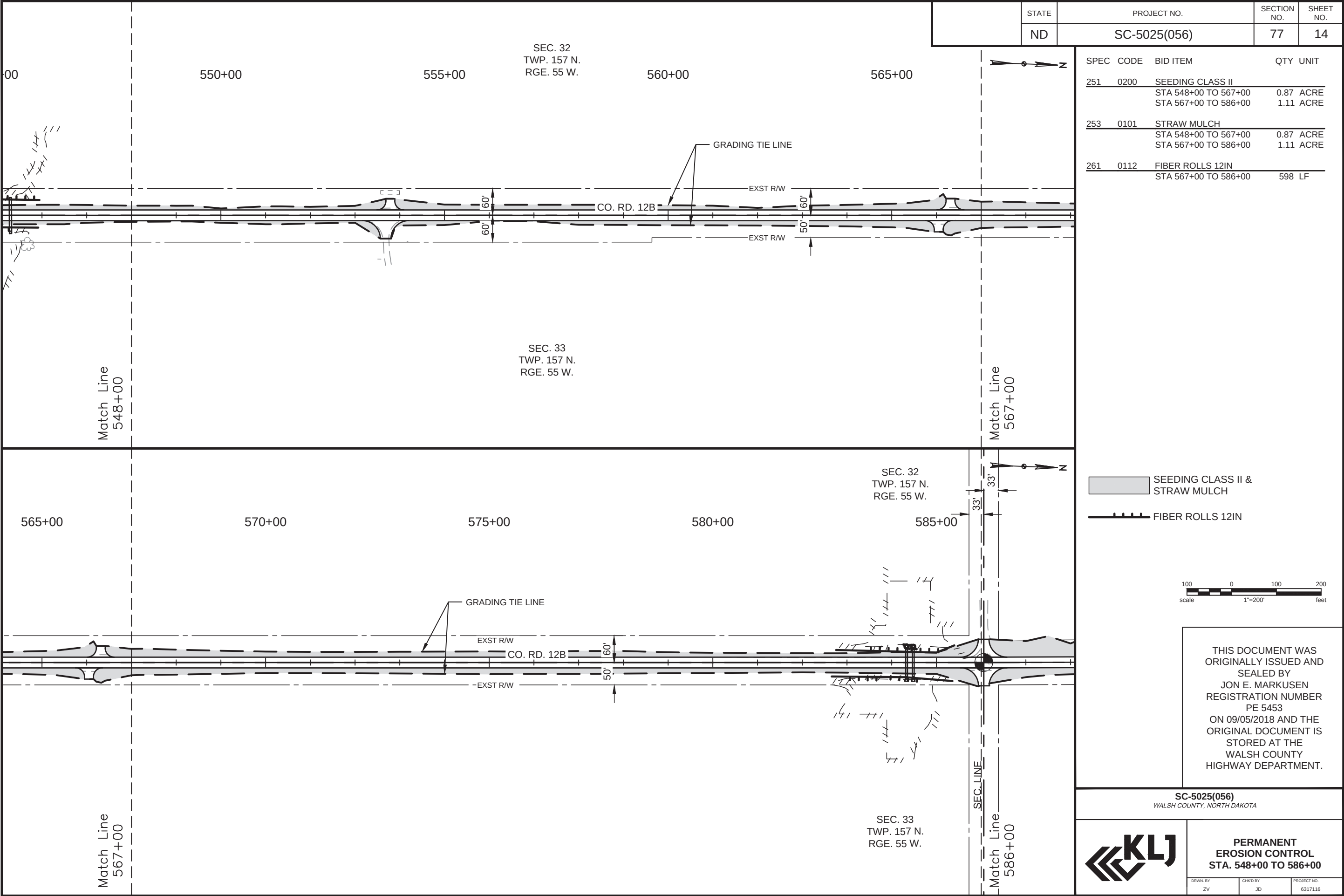
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ZV

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JD

PROJECT NO.
6317116







STATE		PROJECT NO.	SECTION NO.	SHEET NO.
ND		SC-5025(056)	77	14
SPEC	CODE	BID ITEM	QTY UNIT	
251	0200	SEEDING CLASS II		
		STA 548+00 TO 567+00	0.87	ACRE
		STA 567+00 TO 586+00	1.11	ACRE
253	0101	STRAW MULCH		
		STA 548+00 TO 567+00	0.87	ACRE
		STA 567+00 TO 586+00	1.11	ACRE
261	0112	FIBER ROLLS 12IN		
		STA 567+00 TO 586+00	598	LF

100 0 100 200
scale 1"=200' feet

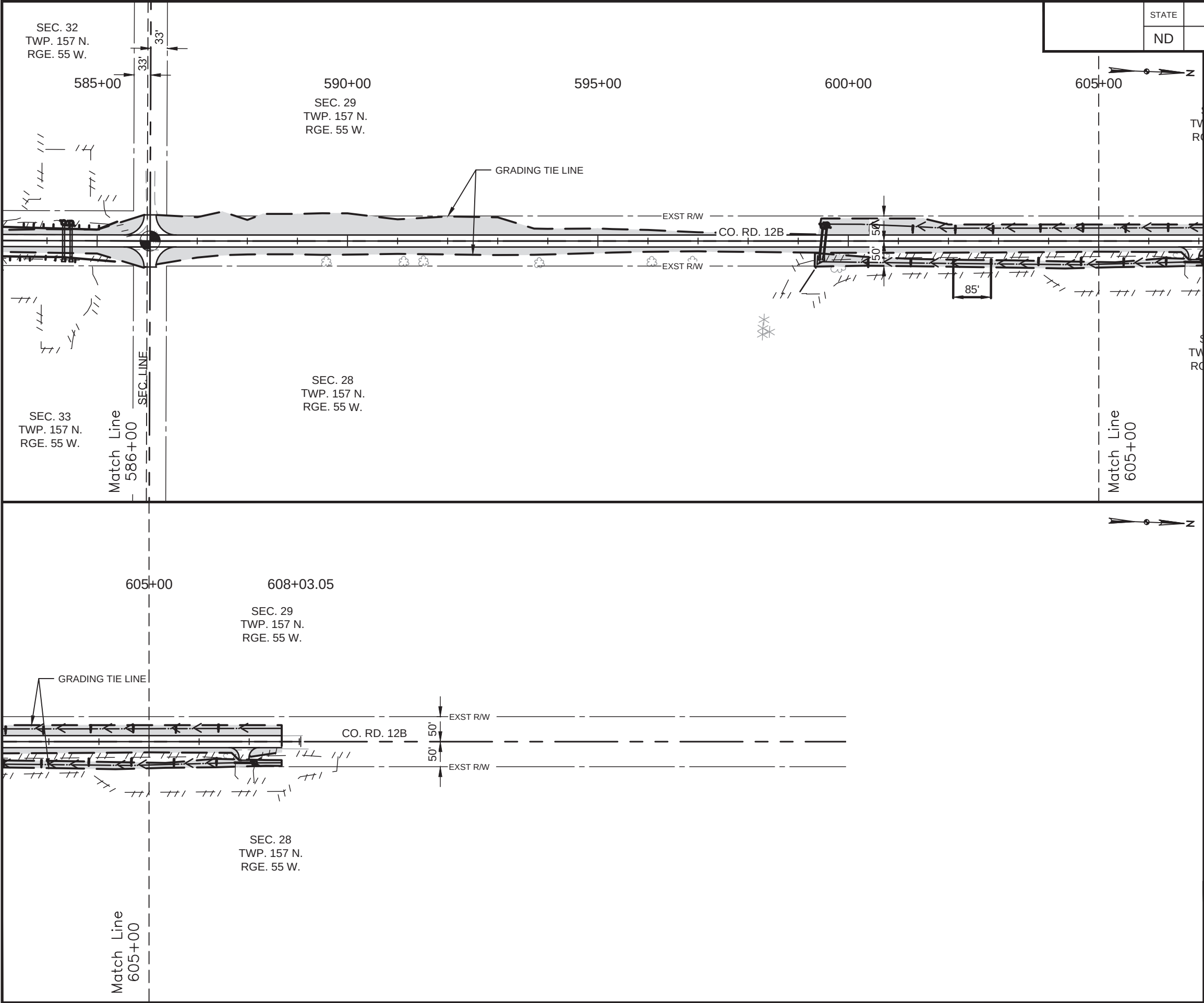
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WALSH COUNTY, NORTH DAKOTA

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**PERMANENT
EROSION CONTROL
STA. 548+00 TO 586+00**

DRWN. BY ZV	CHKD BY JD	PROJECT NO. 6317116
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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SC-5025(056)	77	15

SPEC	CODE	BID ITEM	QTY	UNIT
251	0200	SEEDING CLASS II		
		STA 586+00 TO 605+00	1.83	ACRE
		STA 605+00 TO 610+00	0.27	ACRE
253	0101	STRAW MULCH		
		STA 586+00 TO 605+00	1.83	ACRE
		STA 605+00 TO 610+00	0.27	ACRE
261	0112	FIBER ROLLS 12IN		
		STA 586+00 TO 605+00	228	LF
		STA 605+00 TO 610+00	86	LF

SEEDING CLASS II & STRAW MULCH

FIBER ROLLS 12IN

100 0 100 200
scale 1"=200' feet

THIS DOCUMENT WAS
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JON E. MARKUSEN
REGISTRATION NUMBER
PE 5453
ON 09/05/2018 AND THE
ORIGINAL DOCUMENT IS
STORED AT THE
WALSH COUNTY
HIGHWAY DEPARTMENT.

SC-5025(056)
WALSH COUNTY, NORTH DAKOTA

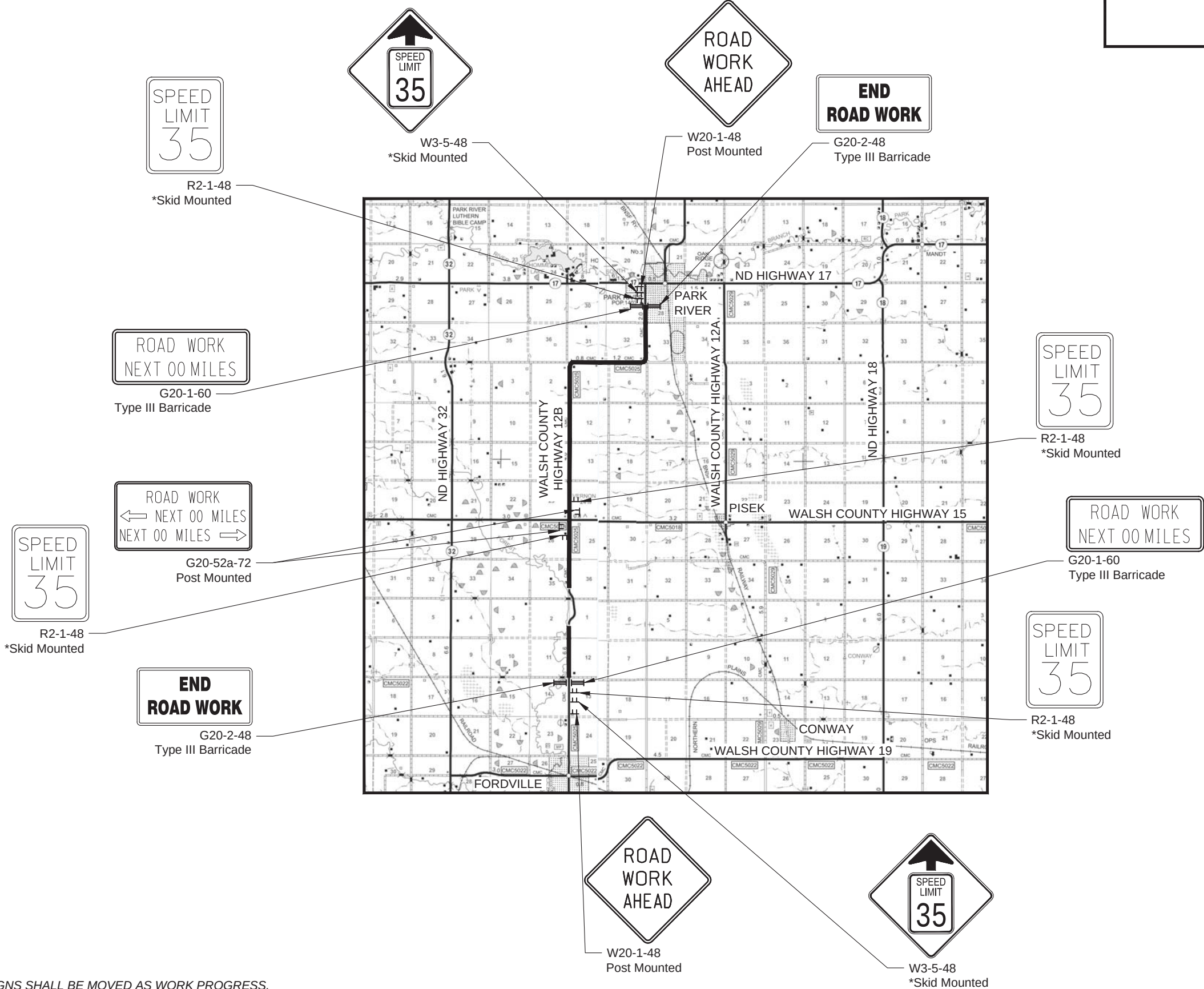
KLJ

**PERMANENT
EROSION CONTROL
STA. 586+00 TO 607+65**

DRWN. BY ZV	CHKD BY JD	PROJECT NO. 6317116
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PRELIMINARY SURVEY COORDINATE AND CURVE DATA - SC-5025(056)													STATE	PROJECT NO.	SECTION NO.	SHEET NO.							
												ND	SC-5025(056)		81	1							
HORIZONTAL ALIGNMENT				HORIZONTAL ALIGNMENT				US PUBLIC LAND SURVEY DATA				SURVEY CONTROL POINTS											
PNT	STATION	NORTHING	EASTING	PNT	STATION	NORTHING	EASTING	DESC.	SEC-TWP-RGE	NORTHING	EASTING	PNT	NORTHING	EASTING	ELEV	STA	OFFSET						
												CONTROL POINT DESCRIPTION											
PI	10+00.00	468,447.519	2,627,282.672	CURVE-1				NESEC	Sec 29 T-157 R-56	521,929.615	2,635,604.865												
BOP	10+75.00	468,522.473	2,627,280.060	PI STA=	435+90.76			NESEC	Sec 32 T-157 R-56	516,649.383	2,635,818.998	CP#1	493890.116	2626461.652	1231.586	264+55.81	50.47' RT						
PI	11+30.34	468,577.776	2,627,278.133	DELTA=	89° 59' 46"			SESEC	Sec 32 T-157 R-56	511,368.942	2,636,014.524	CP#2	479513.437	2627166.997	1148.110	120+63.94	275.50' RT						
PI	64+24.61	473,868.839	2,627,093.776	D=	0° 11' 20"			SESEC	Sec 31 T-157 R-56	511,183.414	2,630,729.959	CP#3	510990.378	2625843.780	1160.302	434+72.90	191.86' LT						
EOP	79+47.39	475,390.626	2,627,038.814	R=	530.00'			NESEC	Sec 2 T-156 R-56	511,013.378	2,625,827.395												
PI	116+96.41	479,137.208	2,626,903.501	T=	529.96			SESEC	Sec 35 T-157 R-56	510,998.618	2,625,445.046												
BOP	131+09.58	480,549.793	2,626,862.892	L=	832.49			SESEC	Sec 2 T-156 R-56	505,553.344	2,626,016.401												
PI	169+73.94	484,412.071	2,626,736.180					SECOR	Sec 11 T-156 R-56	500,264.525	2,626,201.964												
PI	186+99.93	486,137.049	2,626,677.046	CURVE-2				SESEC	Sec 24 T-156 R-56	494,990.170	2,626,373.393												
PI	196+00.05	487,036.692	2,626,647.727	PI STA=	535+56.65			SESEC	Sec 23 T-156 R-56	489,691.587	2,626,555.252												
PI	222+56.55	489,691.685	2,626,558.250	DELTA=	90° 06' 36"			SESEC	Sec 26 T-156 R-56	484,411.973	2,626,733.182												
PI	237+00.03	491,134.315	2,626,508.736	D=	0° 10' 59"			SESEC	Sec 35 T-156 R-56	479,137.208	2,626,903.501												
PI	242+99.97	491,733.784	2,626,485.159	R=	545.00'			SESEC	Sec 2 T-155 R-56	473,868.839	2,627,093.776												
PI	275+58.27	494,990.170	2,626,373.393	T=	546.05			SESEC	Sec 11 T-155 R-56	468,577.776	2,627,278.133												
PI	295+00.08	496,930.958	2,626,310.313	L=	857.13																		
PI	299+99.91	497,430.450	2,626,292.077																				
PI	322+99.96	499,729.286	2,626,217.360																				
PI	328+35.42	500,264.525	2,626,201.964																				
PI	381+27.49	505,553.344	2,626,016.401																				
PC	430+60.80	510,483.731	2,625,845.729																				
PI	435+90.79	511,013.378	2,625,827.395																				
PT	438+93.28	511,031.748	2,626,357.041																				
PI	482+68.83	511,183.414	2,630,729.959																				
PC	530+10.60	511,349.783	2,635,468.814																				
PI	535+56.65	511,368.942	2,636,014.524																				
PT	538+67.73	511,914.615	2,635,994.319																				
PI	586+05.75	516,649.383	2,635,818.998																				
EOP	607+65.04	518,806.866	2,635,731.504																				
PI	608+03.01	518,844.845	2,635,729.964																				
												THIS DOCUMENT WAS ORIGINALLY ISSUED AND SEALED BY JON E. MARKUSEN REGISTRATION NUMBER PE 5453 ON 09/05/2018 AND THE ORIGINAL DOCUMENT IS STORED AT THE WALSH COUNTY HIGHWAY DEPARTMENT.											
								☐ Assumed Coordinates				INITIALIZING BENCH MARK OPUS				SC-5025(056) WALSH COUNTY, NORTH DAKOTA SURVEY COORDINATE AND CURVE DATA DRWN BY ZV CHKD BY JD PROJECT NO. 5317116							
				☒ All coordinates on this sheet are North Dakota State Plane Coordinates. They are derived from the "North Dakota Coordinate System of 1983", NAD83(CONUS), North Zone				☒ NAVD-88 GEOID 09 ☐ NGVD-29															
								☒ ENGLISH UNITS ☐ METRIC UNITS															
NOTES:				Date Survey Completed 11/13/2017																			

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SC-5025(056)	100	2



*SIGNS SHALL BE MOVED AS WORK PROGRESS.

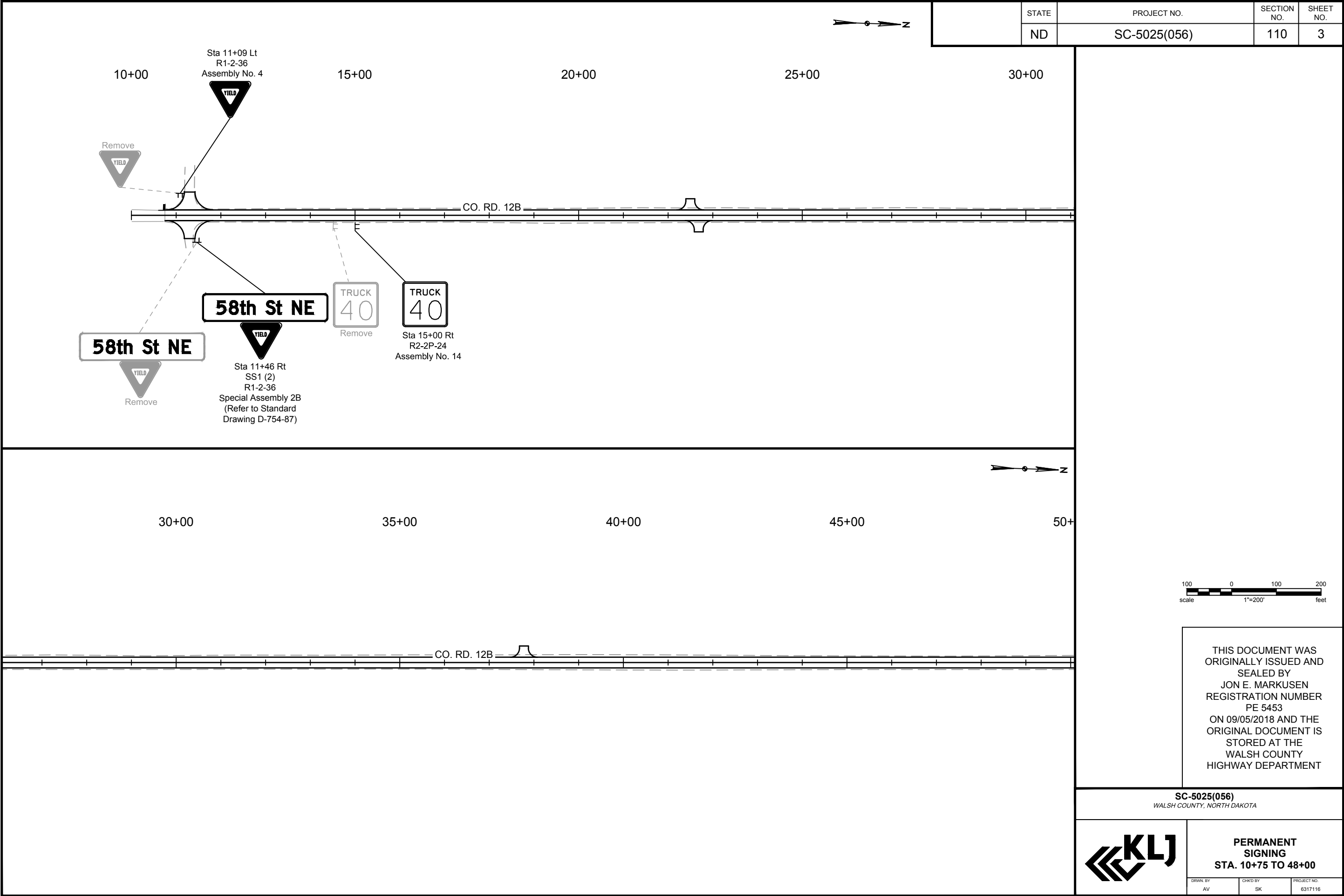
THE SIGN LAYOUT AS SHOWN IS FOR GENERAL INFORMATION PURPOSES ONLY. THE CONTRACTOR WILL BE REQUIRED TO CONFORM TO MUTCD AND THE STANDARD DRAWING WHEN INSTALLING THE TRAFFIC CONTROL SIGNING.

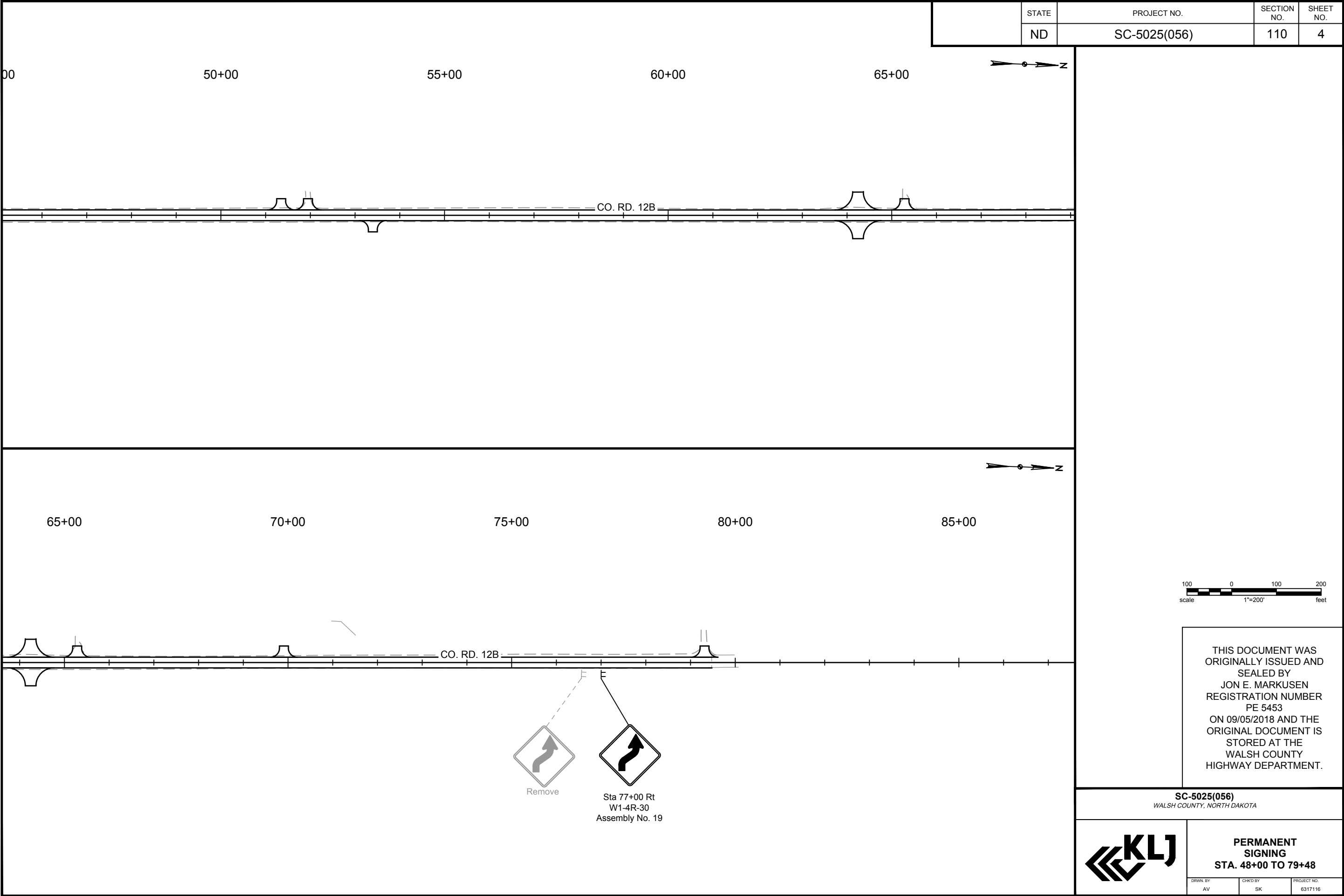
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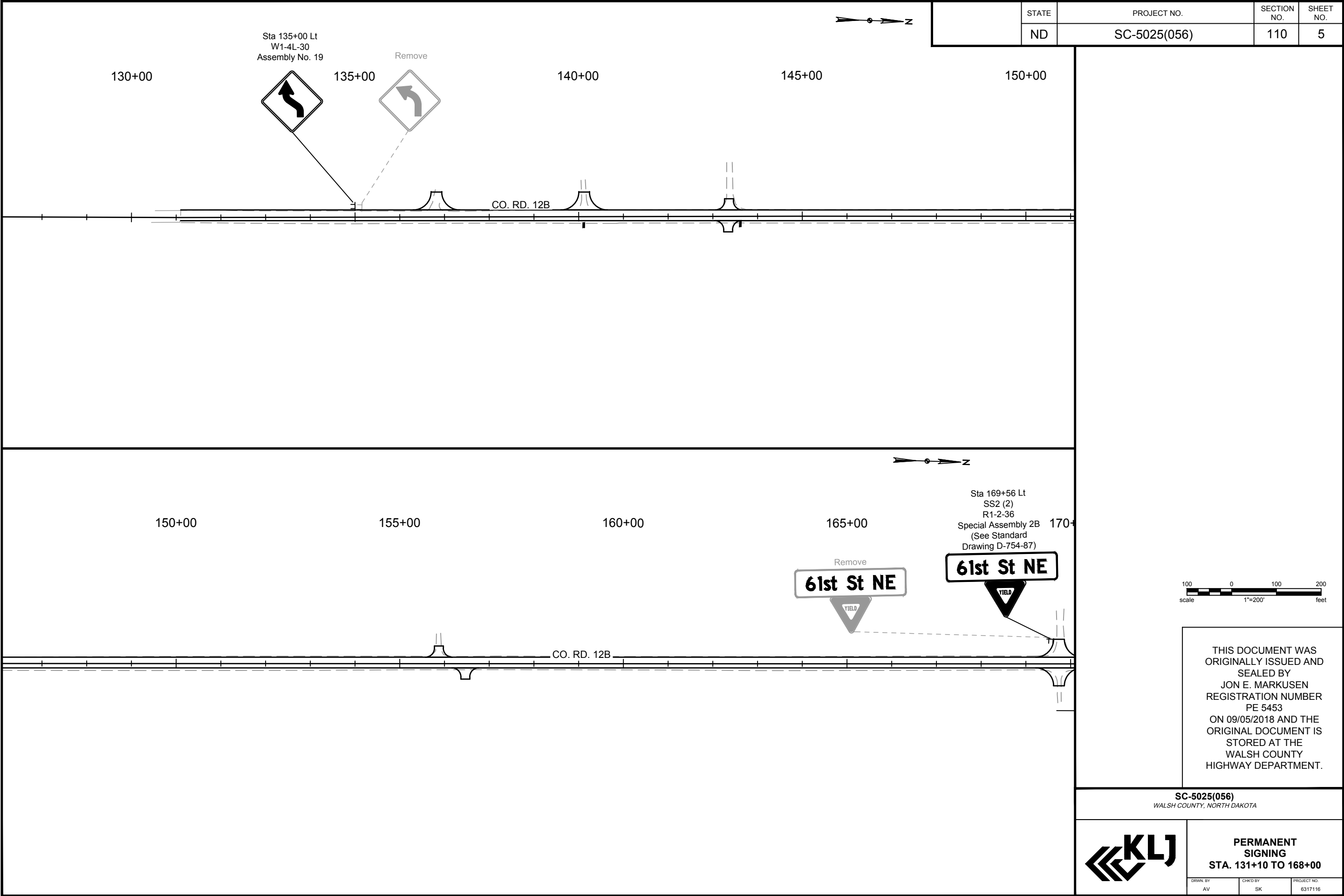
SC-5025(056) WALSH COUNTY, NORTH DAKOTA		
KLJ		
TRAFFIC CONTROL SIGNING LAYOUT		
DRWN. BY ZV	CHKD BY JD	PROJECT NO. 6317116

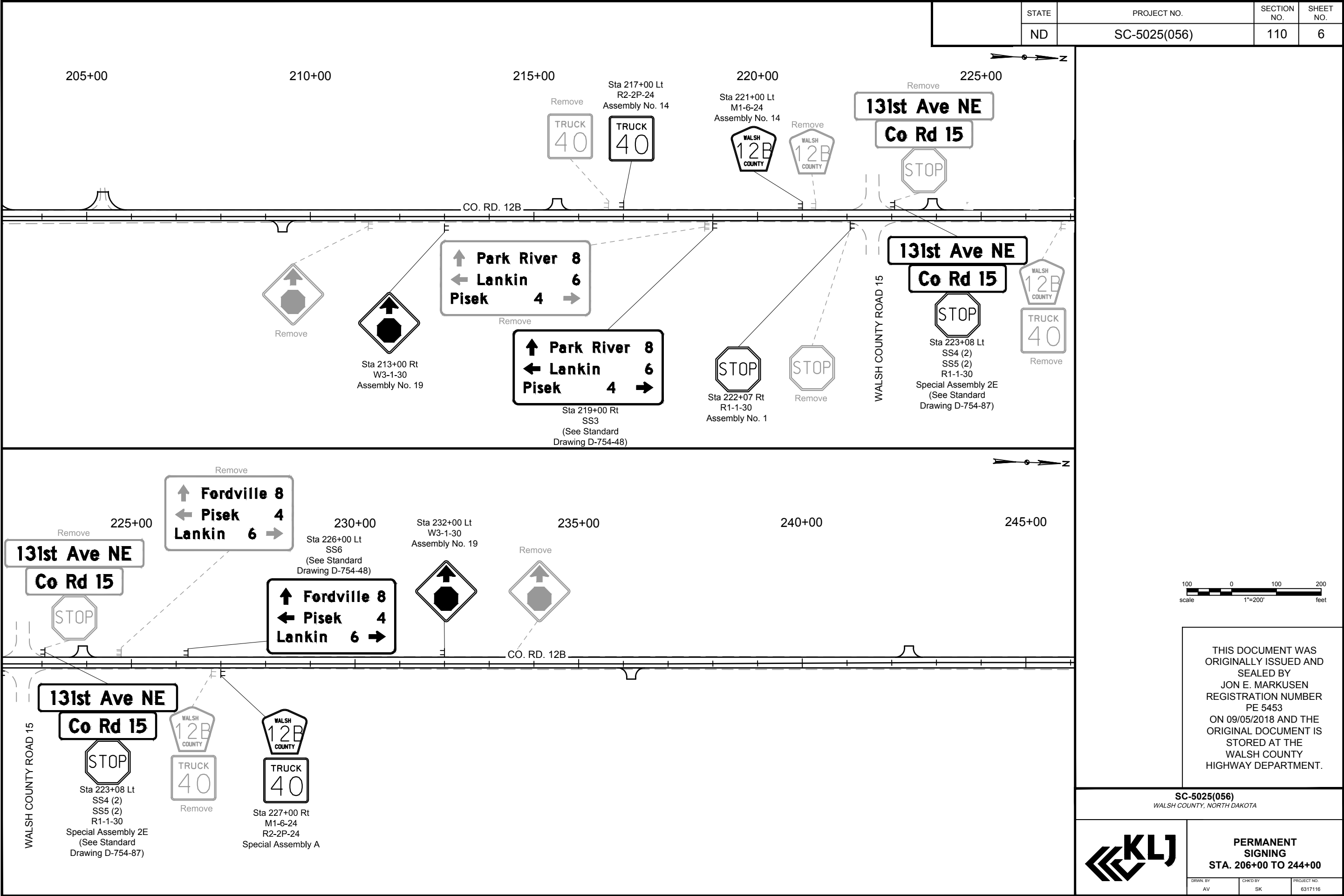
																			STATE	PROJECT NO.			SECTION NO.	SHEET NO.			
																			N.D.	SC-5025(056)			110	1			
	Sign	Assembly	Flat Sheet For Signs		Sign Support Length				Vert Clear-ance	Support	Max Post Len	Sleeve Length				Sleeve	Anchor	Anchor	Anchor	Reset Sign Panel	Reset Sign Support	Break-Away					
Station / RP	No.	No.	IV SF	XI SF	1st LF	2nd LF	3rd LF	4th LF	FT	Size	LF	1st LF	2nd LF	3rd LF	4th LF	Size	EA	LF	Size	EA	EA	EA	Comments				
Walsh County 12B																											
11+09 Lt	R1-2	4		3.9	11.2				5.0	2 x 2 12 ga	13.6						1	4	2.25 x 2.25 12 ga								
11+46 Rt	SA-2B		9.0	3.9	11.8				5.0	2.25 x 2.25 12 ga	12.9	3.7				2 x 2 12 ga	1	4	3 x 3 7 ga			1					
15+00 Rt	R2-2P	14		4.0	10.5				5.0	2 x 2 12 ga	13.0						1	4	2.25 x 2.25 12 ga								
77+00 Rt	W1-4R	19		6.3	13.1				5.0	2.5 x 2.5 12 ga	14.5						1	4	3 x 3 7 ga								
135+00 Lt	W1-4L	19		6.3	12.3				5.0	2.5 x 2.5 12 ga	14.5						1	4	3 x 3 7 ga								
169+56 Lt	SA-2B		8.0	3.9	11.8				5.0	2.25 x 2.25 12 ga	12.9	3.6				2 x 2 12 ga	1	4	3 x 3 7 ga			1					
213+00 Rt	W3-1	19		6.3	11.7				5.0	2.5 x 2.5 12 ga	14.5						1	4	3 x 3 7 ga								
217+00 Lt	R2-2P	14		4.0	10.5				5.0	2 x 2 12 ga	13.0						1	4	2.25 x 2.25 12 ga								
219+00 Rt	SS3		24.5		11.1	11.8			5.0	2.5 x 2.5 12 ga	13.2	3.1	3.8			2.25 x 2.25 12 ga	2	8	3 x 3 7 ga			2					
221+00 Lt	M1-6	14	4.0		10.5				5.0	2 x 2 12 ga	13.0						1	4	2.25 x 2.25 12 ga								
222+07 Rt	R1-1	1		5.2	11.0				5.0	2.25 x 2.25 12 ga	13.7						1	4	2.5 x 2.5 12 ga								
223+08 Lt	SA-2E		17.0	5.2	12.7				5.0	2.5 x 2.5 12 ga	15.1	3.0				2.25 x 2.25 12 ga	1	4	3 x 3 7 ga			1					
226+00 Lt	SS6		21.0		11.1	11.6			5.0	2.25 x 2.25 12 ga	12.0	3.7	4.2			2 x 2 12 ga	2	8	3 x 3 7 ga			2					
227+00 Rt	SA-A		4.0	4.0	12.5				5.0	2.5 x 2.5 12 ga	13.0						1	4	3 x 3 7 ga								
232+00 Lt	W3-1	19		6.3	11.7				5.0	2.5 x 2.5 12 ga	14.5						1	4	3 x 3 7 ga								
275+43 Lt	R1-2	4		3.9	11.2				5.0	2 x 2 12 ga	13.6						1	4	2.25 x 2.25 12 ga								
275+70 Rt	SA-2B		9.0	3.9	11.7				5.0	2.5 x 2.5 10 ga	12.7	3.6				2.19 x 2.19 10 ga	1	4	3 x 3 7 ga			1					
284+00 Rt	W11-4	19		6.3	13.1				5.0	2.5 x 2.5 12 ga	14.5						1	4	3 x 3 7 ga								
328+14 Lt	R1-2	4		3.9	11.2				5.0	2 x 2 12 ga	13.6						1	4	2.25 x 2.25 12 ga								
328+56 Rt	R1-2	4		3.9	11.2				5.0	2 x 2 12 ga	13.6						1	4	2.25 x 2.25 12 ga								
381+00 Lt	R1-2	4		3.9	11.2				5.0	2 x 2 12 ga	13.6						1	4	2.25 x 2.25 12 ga								
381+47 Rt	R1-2	4		3.9	11.2				5.0	2 x 2 12 ga	13.6						1	4	2.25 x 2.25 12 ga								
424+00 Rt	W1-10Rb	54		11.3	14.5				5.0	2.5 x 2.5 12 ga	15.8	4.7				2.25 x 2.25 12 ga	1	4	3 x 3 7 ga			1					
430+61 Lt	W1-8	8		3.0	8.8				5.0	2 x 2 12 ga	14.6						1	4	2.25 x 2.25 12 ga								
432+31 Lt	R1-2	4		3.9	11.2				5.0	2 x 2 12 ga	13.6						1	4	2.25 x 2.25 12 ga								
432+99 Lt	W2-4	19		6.3	11.7				5.0	2.5 x 2.5 12 ga	14.5						1	4	3 x 3 7 ga								
433+00 Lt	W1-8			6.0	8.5				5.0	2 x 2 12 ga	9.0						1	4	2.25 x 2.25 12 ga								
434+20 Lt	W1-8			6.0	8.5				5.0	2 x 2 12 ga	9.0						1	4	2.25 x 2.25 12 ga								
435+40 Lt	W1-8			6.0	8.5				5.0	2 x 2 12 ga	9.0						1	4	2.25 x 2.25 12 ga								
436+21 Lt	SA-2B		9.0	3.9					5.0																		
436+60 Lt	W1-8			6.0	8.5				5.0	2 x 2 12 ga	9.0						1	4	2.25 x 2.25 12 ga								
438+93 Lt	W1-8	8		3.0	8.5				5.0	2 x 2 12 ga	14.6						1	4	2.25 x 2.25 12 ga								
447+00 Lt	W1-10Lb	54		11.3	13.0				5.0	2.5 x 2.5 12 ga	15.8	3.2				2.25 x 2.25 12 ga	1	4	3 x 3 7 ga			1					
523+00 Rt	W1-10L	54		11.3	13.0				5.0	2.5 x 2.5 12 ga	15.8	3.2				2.25 x 2.25 12 ga	1	4	3 x 3 7 ga			1					
530+11 Rt	W1-8	8		3.0	8.5				5.0	2 x 2 12 ga	14.6						1	4	2.25 x 2.25 12 ga								
531+30 Rt	W1-8			6.0	8.5				5.0	2 x 2 12 ga	9.0						1	4	2.25 x 2.25 12 ga								
532+50 Rt	W1-8			6.0	8.5				5.0	2 x 2 12 ga	9.0						1	4	2.25 x 2.25 12 ga								
533+70 Rt	W1-8			6.0	8.5				5.0	2 x 2 12 ga	9.0						1	4	2.25 x 2.25 12 ga								
534+20 Lt	W1-7	34		8.0	10.7				5.0	2.5 x 2.5 12 ga	11.3						1	4	3 x 3 7 ga								
534+43 Rt	R1-2	4		3.9	11.2				5.0	2 x 2 12 ga	13.6						1	4	2.25 x 2.25 12 ga								
535+00 Rt	W1-8			6.0	8.5				5.0	2 x 2 12 ga	9.0						1	4	2.25 x 2.25 12 ga								
536+20 Rt	W1-8			6.0	8.5				5.0	2 x 2 12 ga	9.0						1	4	2.25 x 2.25 12 ga								
																		This document was originally issued and sealed by Jon E. Markusen, Registration Number 5453, on 9/5/2018 and is stored at the Walsh County Highway Department.					Sign Summary Perforated Tube Walsh County 12B				
9/4/2018 2:03:57PM																											
Page 1 of 2																											

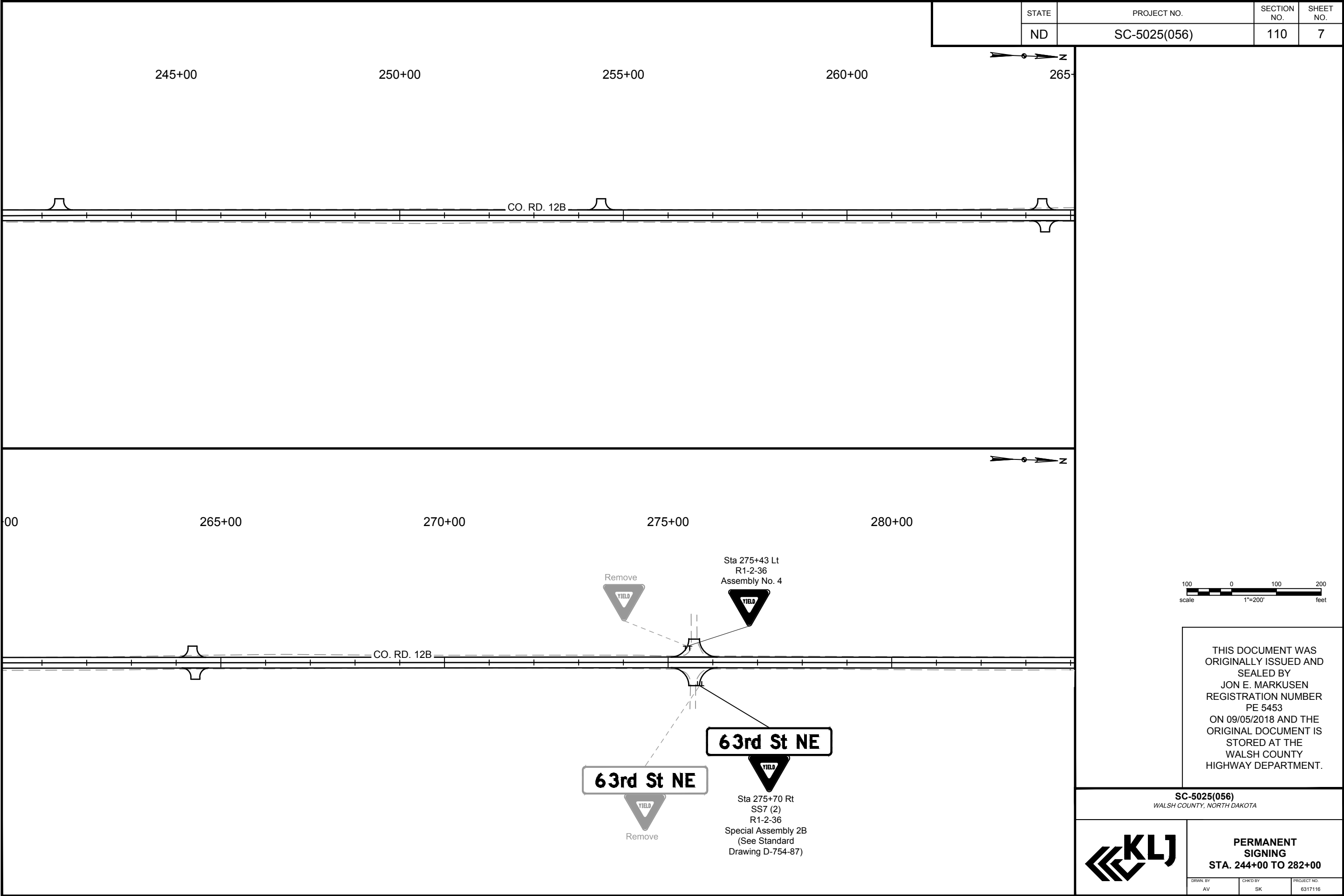
																				STATE	PROJECT NO.			SECTION NO.	SHEET NO.	
																			N.D.	SC-5025(056)			110	2		
			Flat Sheet For Signs		Sign Support Length				Vert Clear-ance	Support	Max Post Len	Sleeve Length								Reset Sign Panel	Reset Sign Support	Break-Away				
Station / RP	Sign No.	Assembly No.	IV SF	XI SF	1st LF	2nd LF	3rd LF	4th LF	FT	Size	LF	1st LF	2nd LF	3rd LF	4th LF	Sleeve Size	Anchor EA	Anchor LF	Anchor Size	EA	EA	EA	Comments			
537+40 Rt	W1-8			6.0	8.5				5.0	2 x 2 12 ga	9.0						1	4	2.25 x 2.25 12 ga							
538+68 Rt	W1-8	8		3.0	8.5				5.0	2 x 2 12 ga	14.6						1	4	2.25 x 2.25 12 ga							
547+00 Lt	W1-10R	54		11.3	14.5				5.0	2.5 x 2.5 12 ga	15.8	4.7				2.25 x 2.25 12 ga	1	4	3 x 3 7 ga			1				
585+85 Lt	R1-2	4		3.9	11.2				5.0	2 x 2 12 ga	13.6						1	4	2.25 x 2.25 12 ga							
591+00 Rt	W3-5	20		9.0	11.9				5.0	2.5 x 2.5 10 ga	12.9						1	4	3 x 3 7 ga			1				
601+00 Rt	R2-1	9		5.0	11.0				5.0	2 x 2 12 ga	11.5						1	4	2.25 x 2.25 12 ga							
601+00 Lt	R2-1	9		5.0	11.0				5.0	2 x 2 12 ga	11.5						1	4	2.25 x 2.25 12 ga							
606+00 Lt	R2-1	9		5.0	12.4				5.0	2.25 x 2.25 12 ga	15.0						1	4	2.5 x 2.5 12 ga							
606+00 Rt	R2-1	9		5.0	12.4				5.0	2.25 x 2.25 12 ga	15.0						1	4	2.5 x 2.5 12 ga							
Sub Total			105.5	265.1		Total	566.7										Total	208			0	0	13			
Grand Total			105.5	265.1		Total	566.7										Total	208	0		0	0	13			
																			This document was originally issued and sealed by Jon E. Markusen, Registration Number 5453, on 9/5/2018 and is stored at the Walsh County Highway Department.					Sign Summary Perforated Tube Walsh County 12B		
9/4/2018 2:03:57PM Page 2 of 2																										

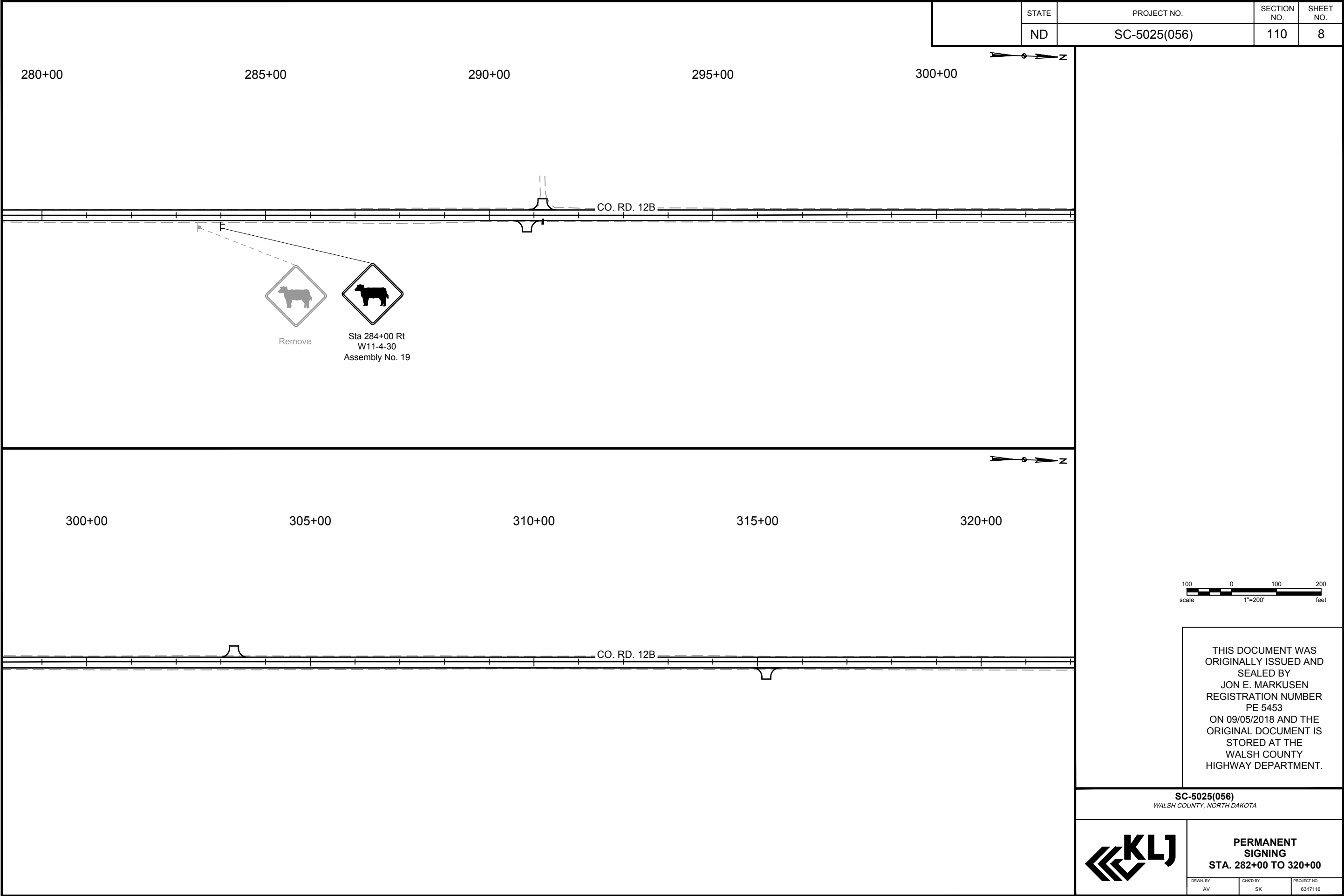


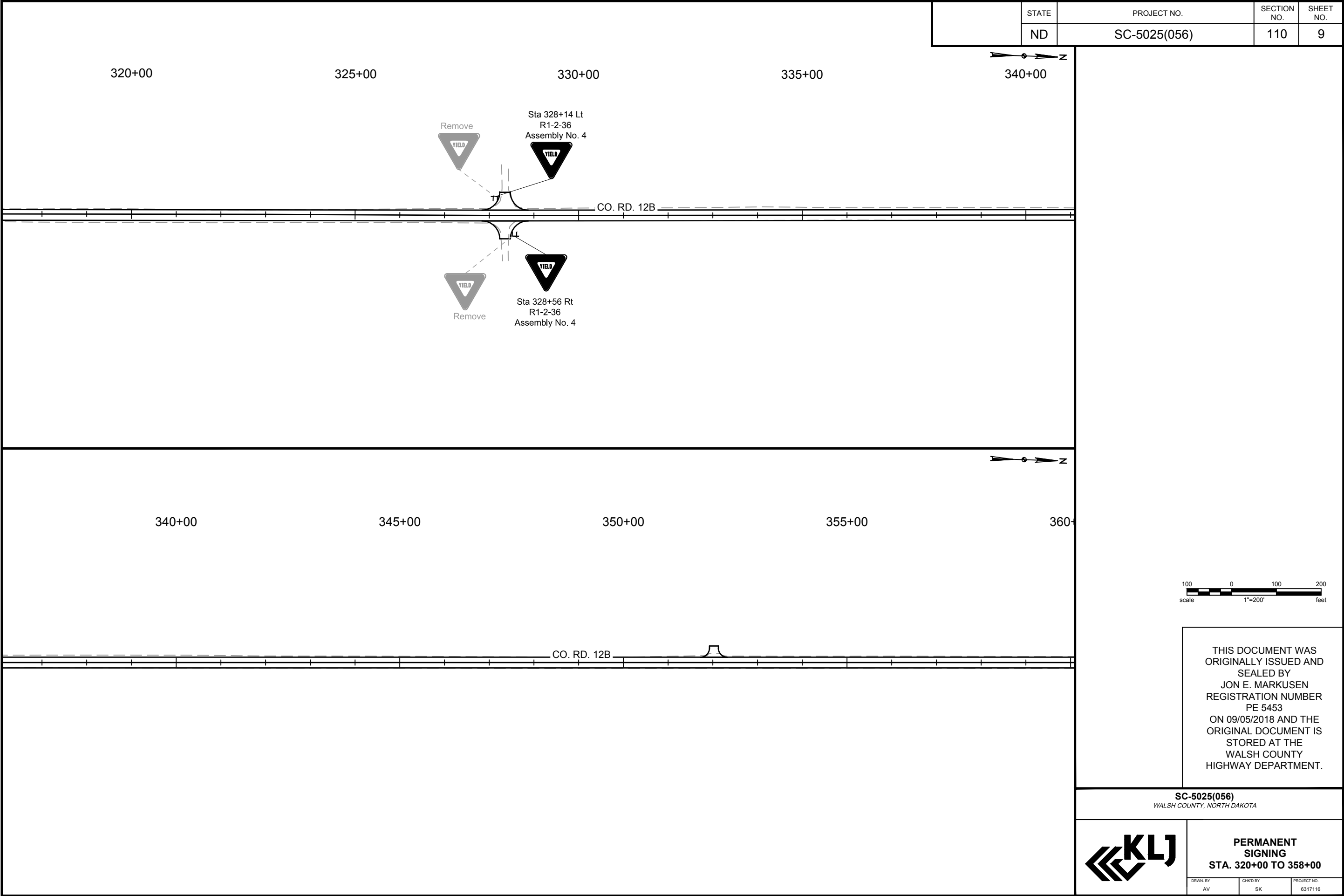


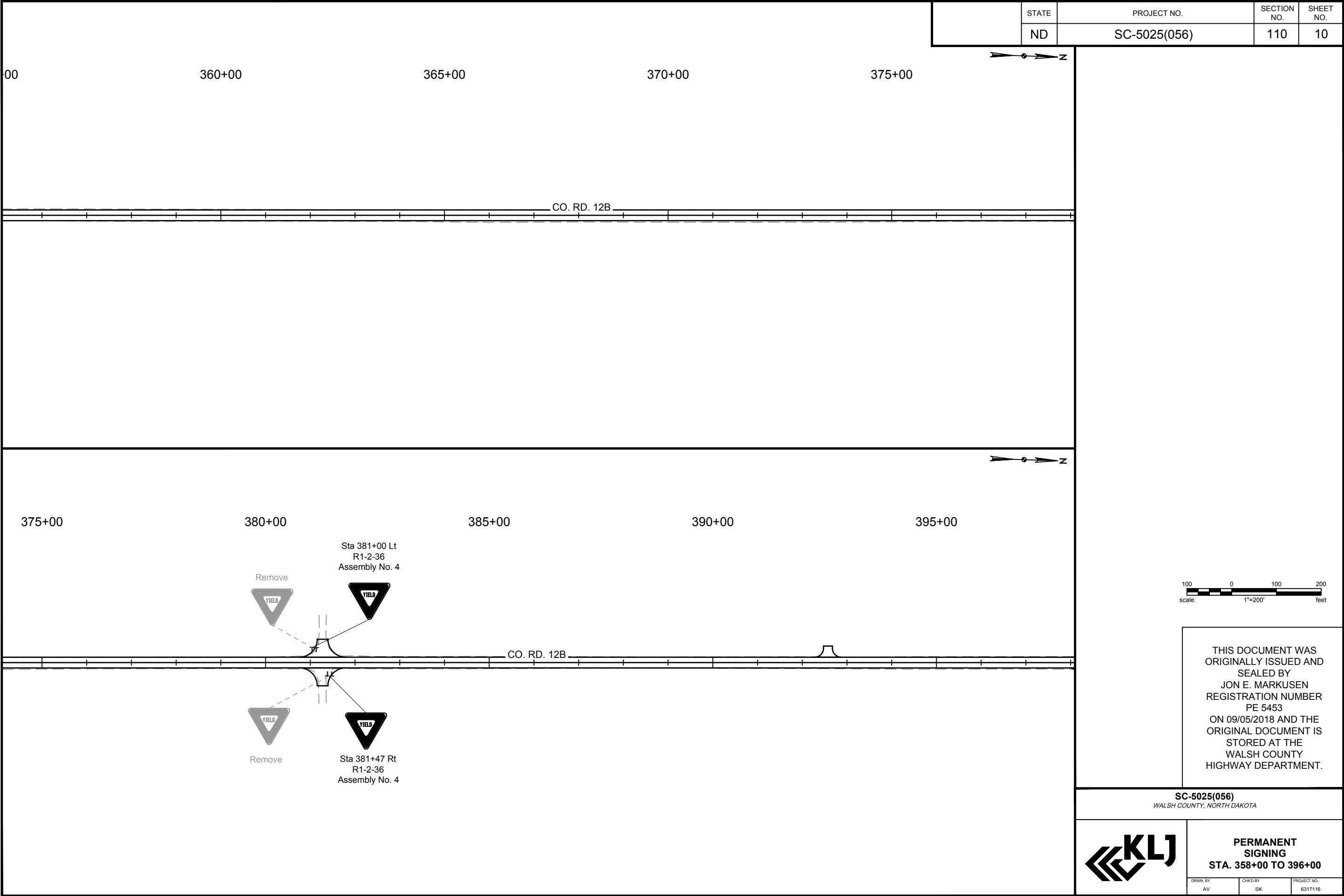


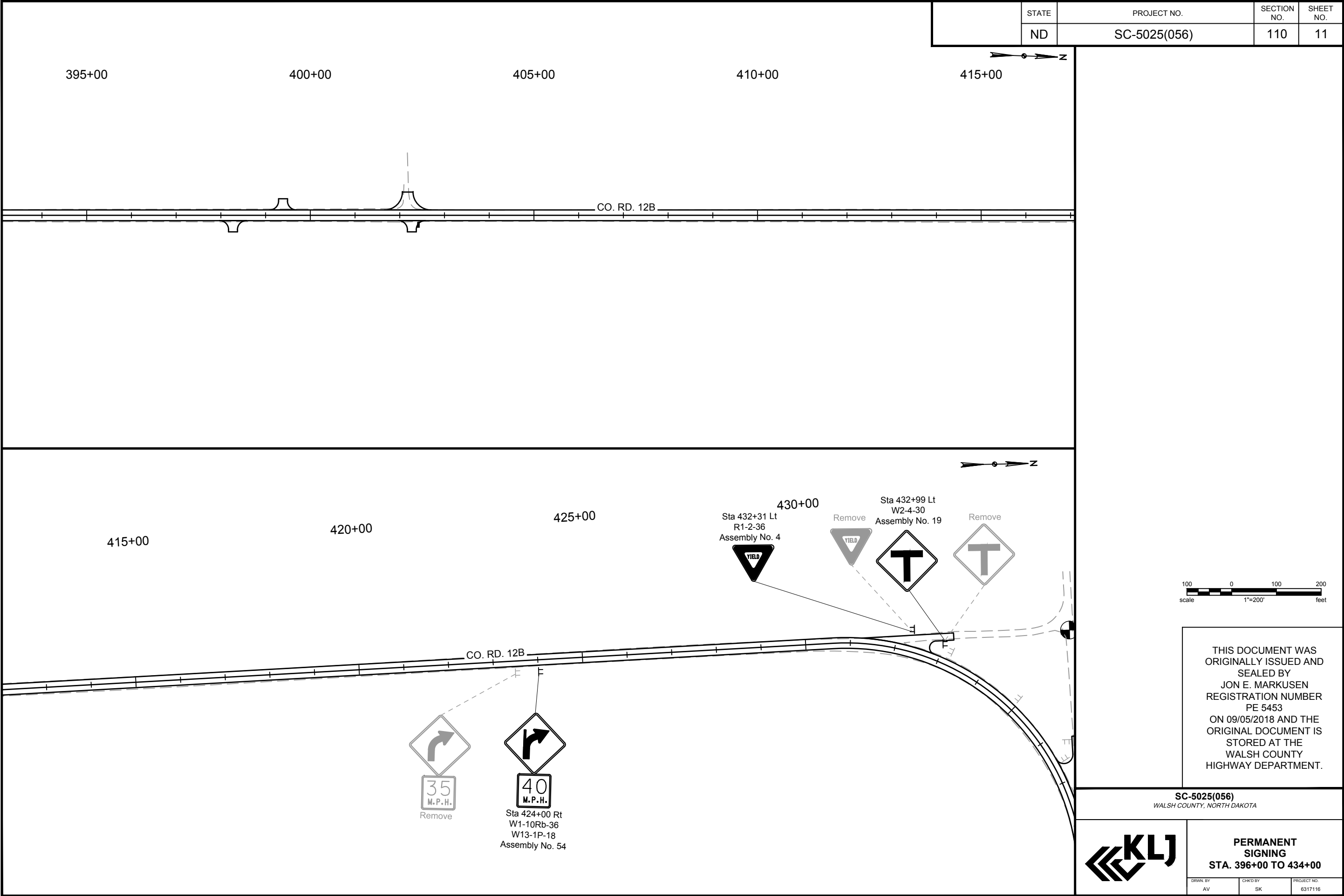


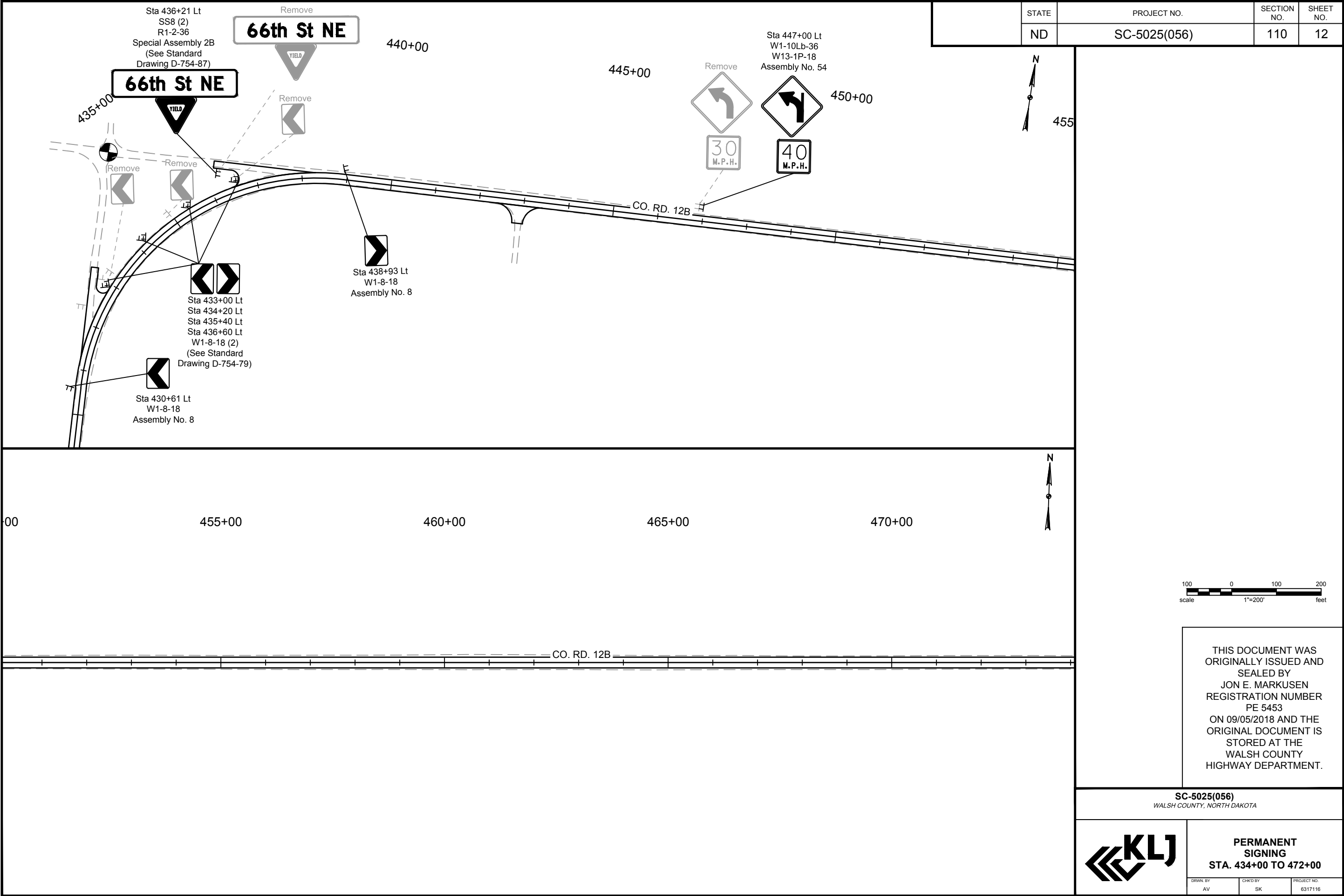




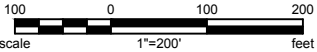
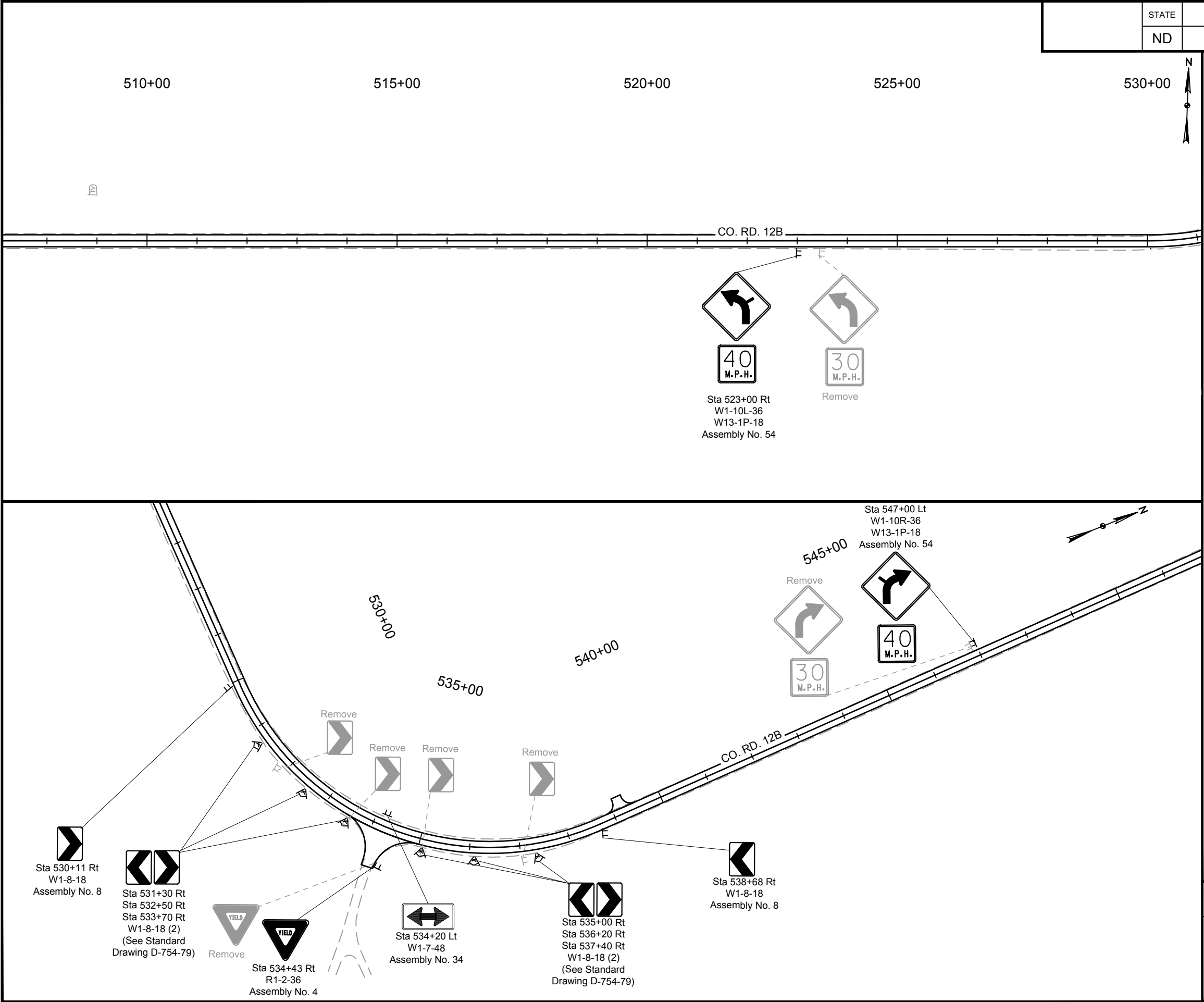






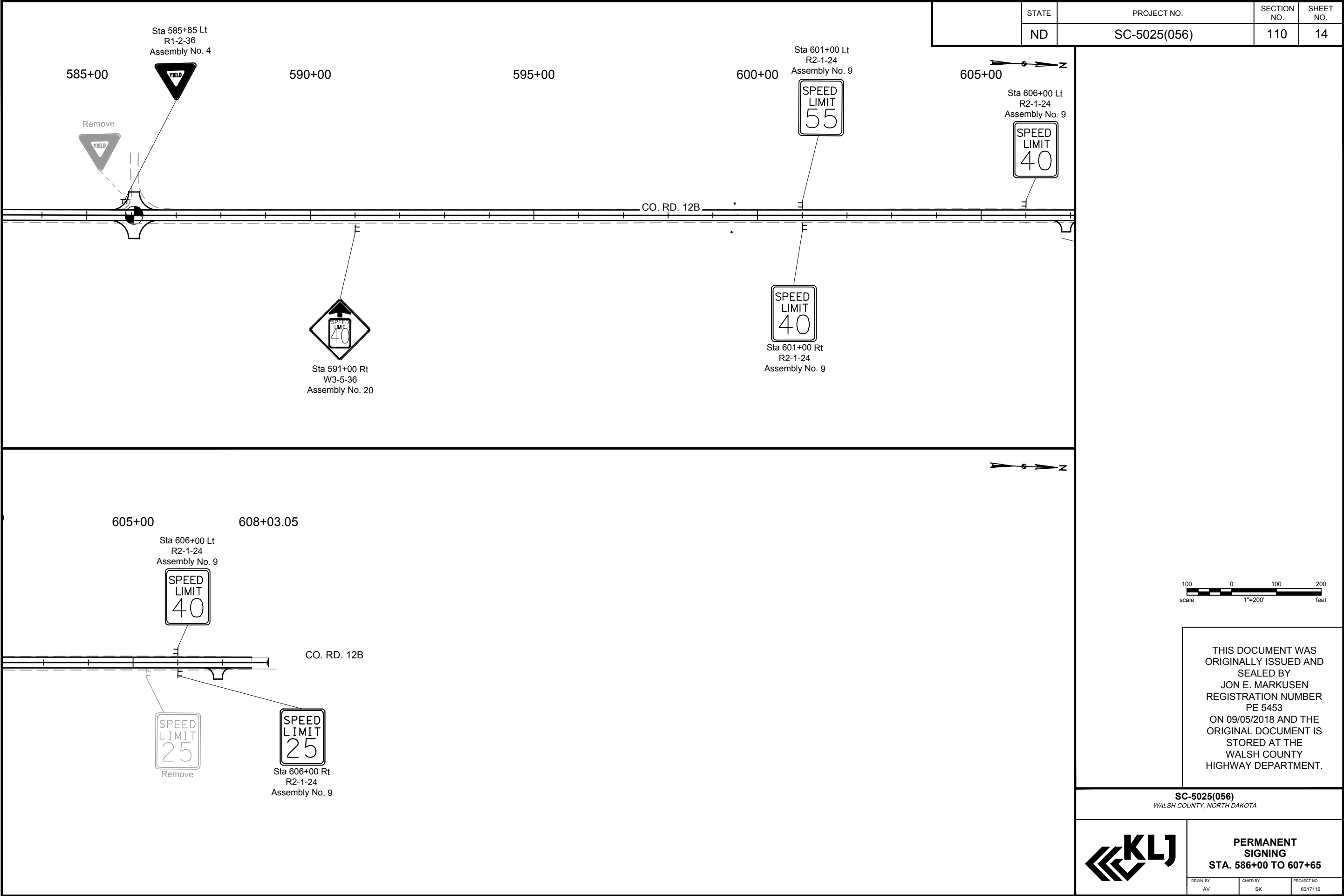


	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SC-5025(056)	110	13

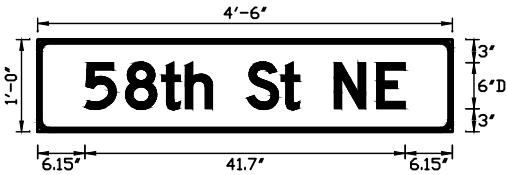


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JON E. MARKUSEN
REGISTRATION NUMBER
PE 5453
ON 09/05/2018 AND THE
ORIGINAL DOCUMENT IS
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HIGHWAY DEPARTMENT.

SC-5025(056) WALSH COUNTY, NORTH DAKOTA		
	PERMANENT SIGNING STA. 510+00 TO 548+00	
	DRWN. BY AV	CHKT BY SK
PROJECT NO. 6317116		



SIGN DETAIL
1:20



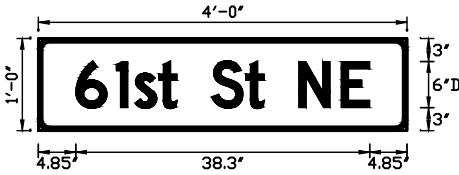
Panel Style: ND_Conv_Street Name.ssi
Dimensions are in inches.tenths
Letter locations are panel edge to lower left corner

LETTER POSITIONS (X)											LENGTH	SERIES/SIZE
5	8	t	h		S	t		N	E			D 2000
6.1	11.4	16.2	19.2	22.8	27.3	31.7	34.1	38.6	44.1		41.7	6/4.5

SIGN NUMBER	SS1
WIDTH x HGHT.	4'-6" x 1'-0"
BORDER WIDTH	0.5"
CORNER RADIUS	1.5"
MOUNTING	Ground
BACKGROUND	TYPE: Reflective
	COLOR: Green
LEGEND/BORDER	TYPE: Reflective
	COLOR: White/White

SYMBOL	ROT	X	Y	WID	HT

SIGN DETAIL
1:20



Panel Style: ND_Conv_Street Name.ssi
Dimensions are in inches.tenths
Letter locations are panel edge to lower left corner

LETTER POSITIONS (X)											LENGTH	SERIES/SIZE
6	1	s	t		S	t		N	E			D 2000
4.9	10.1	12.6	15.7	18.1	22.6	27	29.4	33.9	39.4		38.3	6/4.5

SIGN NUMBER	SS2
WIDTH x HGHT.	4'-0" x 1'-0"
BORDER WIDTH	0.5"
CORNER RADIUS	1.5"
MOUNTING	Ground
BACKGROUND	TYPE: Reflective
	COLOR: Green
LEGEND/BORDER	TYPE: Reflective
	COLOR: White/White

SYMBOL	ROT	X	Y	WID	HT

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SC-5025(056)
WALSH COUNTY, NORTH DAKOTA



SPECIAL
SIGN
DETAILS

DRWN. BY SK	CHKD BY BH	PROJECT NO. 6317116
----------------	---------------	------------------------

SIGN DETAIL
1:30



SIGN NUMBER	SS3
WIDTH x HGHT.	7'-0" x 3'-6"
BORDER WIDTH	0.75"
CORNER RADIUS	3"
MOUNTING	Ground
BACKGROUND	TYPE: Reflective COLOR: Green
LEGEND/BORDER	TYPE: Reflective COLOR: White/White

SYMBOL	ROT	X	Y	WID	HT
ND_6IN_TYPE D	0	7.5	27.8	6	9
ND_6IN_TYPE D	90	6	17.3	6	9
ND_6IN_TYPE D	270	69	6.8	6	9

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

LETTER POSITIONS (X)													LENGTH	SERIES/SIZE
P	a	r	k		R	i	v	e	r				D 2000	
21	25.9	31.4	34.9	38.7	44.7	50.4	52.6	57.7	62.7				44	6/4.5
8													4.1	D 2000
73.9														6
L	a	n	k	i	n								D 2000	
21	25.6	31	36.5	41.6	44.7								27.2	6/4.5
6													4.1	D 2000
73.9														6
P	i	s	e	k									D 2000	
6	11.5	13.9	17.7	22.7									20.5	6/4.5
4													D 2000	
52.5													4.5	6

SIGN DETAIL
1:30



SIGN NUMBER	SS4
WIDTH x HGHT.	5'-0" x 1'-0"
BORDER WIDTH	0.5"
CORNER RADIUS	1.5"
MOUNTING	Ground
BACKGROUND	TYPE: Reflective COLOR: Green
LEGEND/BORDER	TYPE: Reflective COLOR: White/White

SYMBOL	ROT	X	Y	WID	HT

Panel Style: ND_Conv_Street Name.ssi
Dimensions are in inches.tenths
Letter locations are panel edge to lower left corner

LETTER POSITIONS (X)													LENGTH	SERIES/SIZE
1	3	1	s	t		A	v	e		N	E		D 2000	
5.8	9.1	14.4	16.8	19.9	22.3	26.8	32.2	36.9	40.5	45	50.5		48.4	6/4.5

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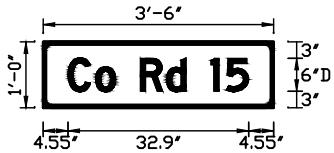
SC-5025(056)
WALSH COUNTY, NORTH DAKOTA



SPECIAL
SIGN
DETAILS

DRWN BY: SK
CHKD BY: BH
PROJECT NO.: 6317116

SIGN DETAIL
1:30



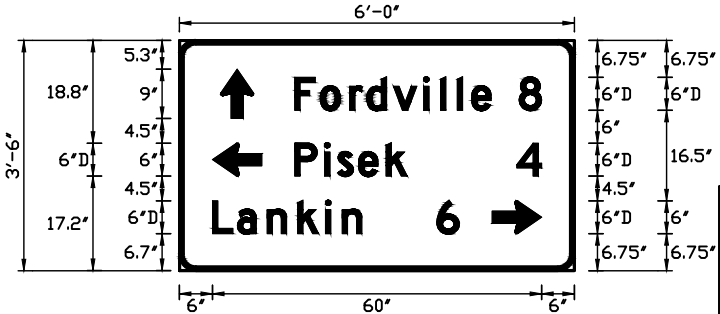
Panel Style: ND_Conv_Street Name.ssi
Dimensions are in inches.tenths
Letter locations are panel edge to lower left corner

LETTER POSITIONS (X)													LENGTH	SERIES/SIZE
C	o		R	d		1	5						D 2000	
4.5	9.6	13.2	17.7	22.5	26.1	30.6	33.4						32.9	6/4.5

SIGN NUMBER	SS6
WIDTH x HGHT.	3'-6" x 1'-0"
BORDER WIDTH	0.5"
CORNER RADIUS	1.5"
MOUNTING	Ground
BACKGROUND	TYPE: Reflective COLOR: Green
LEGEND/BORDER	TYPE: Reflective COLOR: White/White

SYMBOL	ROT	X	Y	WID	HT

SIGN DETAIL
1:30



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

LETTER POSITIONS (X)													LENGTH	SERIES/SIZE
F	o	r	d	v	i	l	l	e					D 2000	
21	25.7	31	34.1	39	44.5	47.6	50.6	53.3					35.8	6/4.5
8													D 2000	
61.9													4.1	6
P	i	s	e	k									D 2000	
21	26.5	28.9	32.7	37.7									20.5	6/4.5
4													D 2000	
61.5													4.5	6
L	a	n	k	i	n								D 2000	
6	10.6	16	21.5	26.6	29.7								27.2	6/4.5
6													D 2000	
46.9													4.1	6

SIGN NUMBER	SS6
WIDTH x HGHT.	6'-0" x 3'-6"
BORDER WIDTH	0.75"
CORNER RADIUS	3"
MOUNTING	Ground
BACKGROUND	TYPE: Reflective COLOR: Green
LEGEND/BORDER	TYPE: Reflective COLOR: White/White

SYMBOL	ROT	X	Y	WID	HT
ND_6IN_TYPE D	0	7.5	27.8	6	9
ND_6IN_TYPE D	90	6	17.3	6	9
ND_6IN_TYPE D	270	57	6.8	6	9

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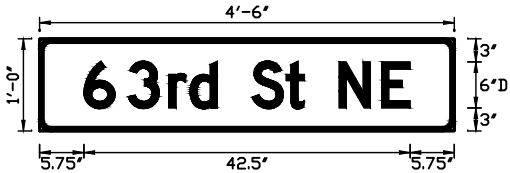
SC-5025(056)
WALSH COUNTY, NORTH DAKOTA



SPECIAL
SIGN
DETAILS

DRWN. BY SK	CHKD BY BH	PROJECT NO. 6317116
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SIGN DETAIL
1:20



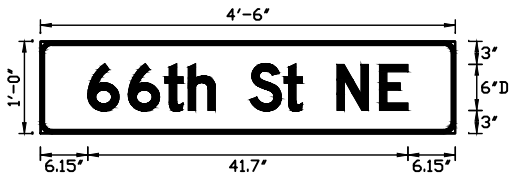
SIGN NUMBER	SS7
WIDTH x HGHT.	4'-6" x 1'-0"
BORDER WIDTH	0.5"
CORNER RADIUS	1.5"
MOUNTING	Ground
BACKGROUND	TYPE: Reflective COLOR: Green
LEGEND/BORDER	TYPE: Reflective COLOR: White/White

SYMBOL	ROT	X	Y	WID	HT

Panel Style: ND_Conv_Street Name.ssi
Dimensions are in inches.tenths
Letter locations are panel edge to lower left corner

LETTER POSITIONS (X)														LENGTH	SERIES/SIZE
6	3	r	d		S	t		N	E						D 2000
5.8	11.5	16.8	19.6	23.2	27.7	32.1	34.5	39	44.5					42.5	6/4.5

SIGN DETAIL
1:20



SIGN NUMBER	SS8
WIDTH x HGHT.	4'-6" x 1'-0"
BORDER WIDTH	0.5"
CORNER RADIUS	1.5"
MOUNTING	Ground
BACKGROUND	TYPE: Reflective COLOR: Green
LEGEND/BORDER	TYPE: Reflective COLOR: White/White

SYMBOL	ROT	X	Y	WID	HT

Panel Style: ND_Conv_Street Name.ssi
Dimensions are in inches.tenths
Letter locations are panel edge to lower left corner

LETTER POSITIONS (X)														LENGTH	SERIES/SIZE
6	6	t	h		S	t		N	E						D 2000
6.1	11.4	16.2	19.2	22.8	27.3	31.7	34.1	38.6	44.1					41.7	6/4.5

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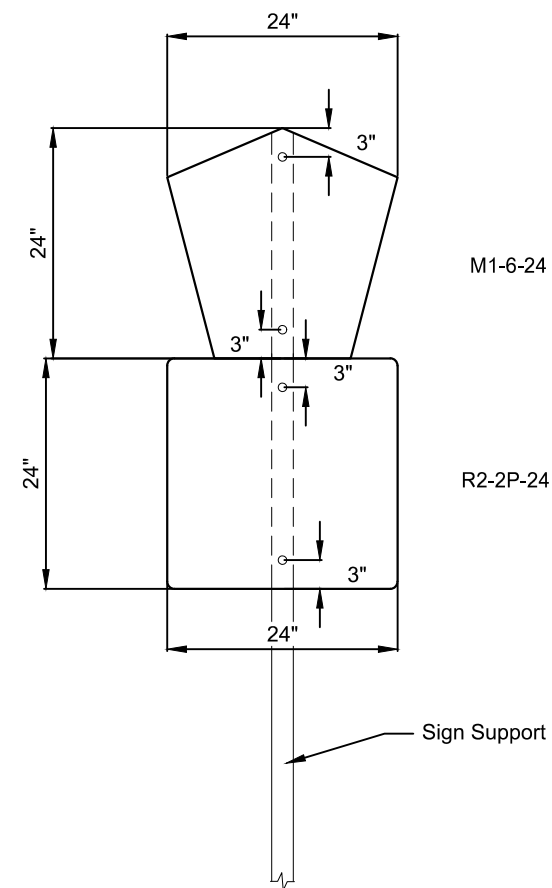
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SC-5025(056)	110	19



SPECIAL ASSEMBLY A
AREA = 8.0 SF
(PERFORATED STEEL TUBE)

Sta 227+00 Rt

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