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DESIGN DATA - ND 297 (DeMers Avenue)				
Traffic	Average Daily			
Current 2024	Pass:12,914 (96%)	Trucks:578 (4%)	Total: 13,492	
Forecast 2045	Pass: 18,164	Trucks: 757	Total: 18,921	
Clear Zone Distance: 16 ft - 18 ft		Design Speed: 40 MPH		
Minimum Sight Dist. for Stopping: 305'		Bridges: HL-93		
Sight Dist. for No Passing Zone:				
Pavement Design Life 30 (years)				
Design Accumulated One-way Heavy Trucks ESALs:2,930,170				

DESIGN DATA - South 42nd Street / North 42nd Street				
Traffic	Average Daily			
Current 2024	Pass:15,175 (98%)	Trucks:233 (2%)	Total: 15,408	
Forecast 2045	Pass: 19,081	Trucks: 389	Total: 19,470	
Clear Zone Distance: 16 ft - 18 ft		Design Speed: 35 MPH north / 40 MPH south		
Minimum Sight Dist. for Stopping: 250' / 305'		Bridges: N/A		
Sight Dist. for No Passing Zone:				
Pavement Design Life 30 (years)				
Design Accumulated One-way Heavy Trucks ESALs: 2,930,170				

DESIGN DATA - 7th Avenue South & South 43rd Street backage road				
Traffic	Average Daily			
Current N/A	Pass: N/A	Trucks: N/A	Total: N/A	
Forecast N/A	Pass: N/A	Trucks: N/A	Total: N/A	
Clear Zone Distance: 16 ft - 18 ft		Design Speed: 30 MPH		
Minimum Sight Dist. for Stopping: 200'		Bridges: N/A		
Sight Dist. for No Passing Zone:				
Pavement Design Life 30 (years)				
Design Accumulated One-way Heavy Trucks ESALs: 2,930,170				

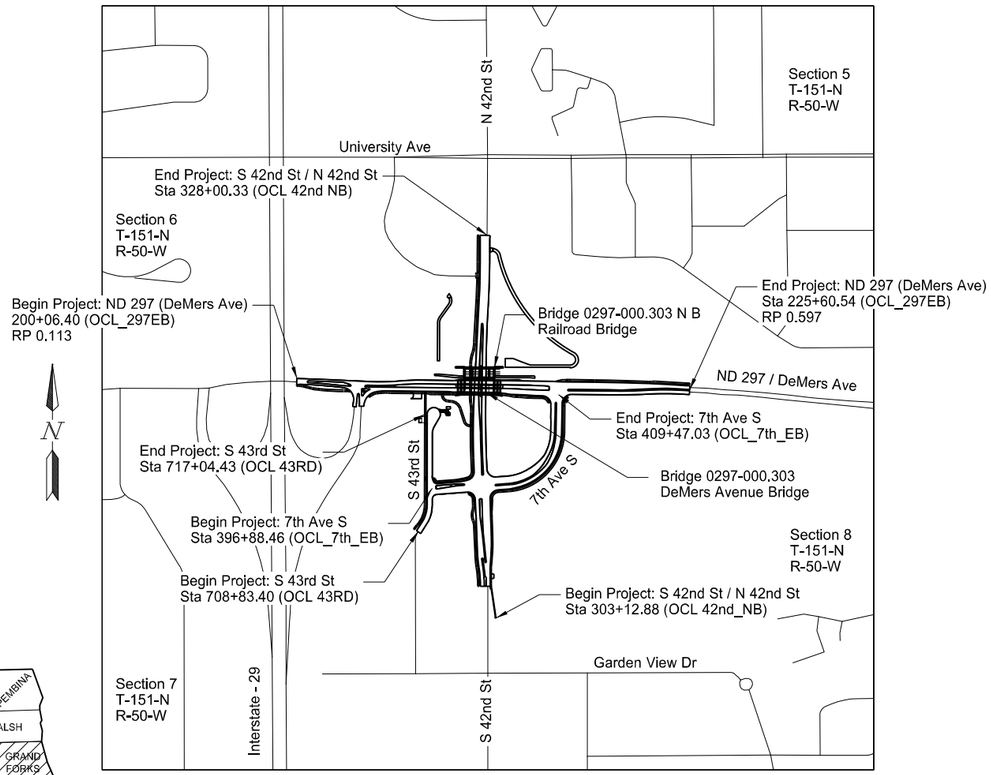
DESIGNER
Chris Dahl, Christian Kleve
DESIGNER Weston Mitchell, Ryan Genz
DESIGNER Matt Clevenger, Connor Kontz
DESIGNER Paul Strong, Bill Elliot, Tyler Schmaltz
DESIGNER Eric Leagjeld, Marco Weidmer
DESIGNER Jeremy McLaughlin, Wes Keller
DESIGNER Travis Schafer, Mark Hanigan
DESIGNER James Fuller, John Perkins
DESIGNER Trent Berg, Ben Williams
DESIGNER Jake Folkeringa, Jake Rick
DESIGNER Colton Brown, Jordan Reihe

NORTH DAKOTA
DEPARTMENT OF TRANSPORTATION

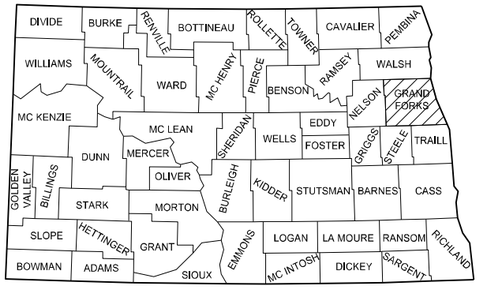
RCE-FTF-NHU-SU-6-297(014)000

Grand Forks
ND Highway 297 (DeMers Avenue) & 42nd Street Grade Separation

PCC Reconstruction, Structures, Grading, Aggregate Base, PCC Paving, Signals, Lighting, Storm Sewer, Lift Station, Watermain Relocation, Railroad Shoofly Temporary Track, and Railroad Permanent Track



Grand Forks, ND



STATE COUNTY MAP

STATE	PROJECT NO.	PCN	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	24115	1	1

GOVERNING SPECIFICATIONS	Date Published and Adopted by the North Dakota Department of Transportation
Standard Specifications	7/1/2024
Supplemental Specifications	NONE

ROADWAY \ DESCRIPTION	NET MILES	GROSS MILES
ND 297 (DeMers Ave)	0.484	0.484
N 42nd St / S 42nd St	0.471	0.471
7th Ave S	0.238	0.238
S 43rd St	0.155	0.155

ND DEPARTMENT OF TRANSPORTATION
OFFICE OF PROJECT DEVELOPMENT

Jon Ketterling
Jon Ketterling 01/29/26

Bolton & Menk

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE 13256
DATE: 01/29/26
NORTH DAKOTA

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6-297(014)000

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20	1 - 30	General Details
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SP 394(24)	Temporary Water Diversion
SP 395(24)	Utility Coordination
SP 396(24)	Painting Over Galvanized Steel
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SP 398(24)	Soil Stabilizer
SP 399(24)	Commercial Grade Hot Mix Asphalt
SP 400(24)	Temporary Pedestrian Facilities
SP 401(24)	Dispute Resolution
SP 402(24)	Interconnect Cable
SP 403(24)	Lift Stations
SP 404(24)	Pumping Equipment
SP 405(24)	Railroad Requirements
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N

End Project
328+00.33 (OCL 42nd NB)

N 42nd St

Campus Rd

UND

James Ray Dr

Landscape Plantings

UND

BNSF RR

BNSF Access Road

BNSF Access Road

UND Aerospace
Foundation

Bridge 0297-000.303 N B
(Railroad)

I-29

BNSF Access Road

W-Beam Guardrail

BNSF Access Road

Railroad Shoofly

Crash Cushion

Crash Cushion

Chain Link
Fence

BNSF RR

BNSF RR

ND 297 (DeMers Ave)

W-Beam Guardrail

Crash Cushion

Begin Project
200+06.40 (OCL_297EB)
RP. 0.113

Convenience
Store

End Project
Sta 409+47.03 (OCL 7th)

End Project
Sta 717+04.43 (OCL 43rd)

End Project
225+60.54 (OCL_297EB)
RP 0.597

Bridge: 0297-000.303
(Roadway)

Lift Station

Cass Oil, LLC

20" Potable Water
Dual 30" Raw Water
14" RO Concentrate

Construct Dry Basin

Double Culvert
Wetland Drainage Crossing

7th Ave S

Expand Drainage Wetland

Construct Dry Basin

Campus Crest
Apartments

Ray Richards Golf Course

Portions of golf course to be renovated by others

Begin Project
Sta 396+88.46 (OCL 7th)

Double Culvert
Wetland Drainage Crossing

REMOVE

Begin Project
Sta 708+83.40 (OCL 43rd)

Verge Apartments

S 43rd St

Campus Crest
at Grand Forks II, LLC

McEnroe Apartments

Begin Project
Sta 305+18.68 (OCL 42nd NB)

S 42nd St

Peer Group, LLC

EWR Grand Forks
Garden View, LLC

LEGEND

- Right of Way Line Existing
- Railroad Right of Way
- Right of Way Line Proposed
- R/W Not State Owned
- Temporary Construction Esmt
- Grading Tie Line
- Railroad Tracks
- Shared Use Path / Sidewalk
- Curb & Gutter
- Concrete Pavement
- Driveway Pavement
- Sloped Paving
- Concrete Median Pavement
- Grass Median
- Traffic Signal System
- Light Standard

Scope of Work

Proposed Permanent Improvements

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9296
DATE:2026.01.28 16:25:33 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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N

UND

James Ray Dr

N 42nd St

Campus Rd

UND

BNSF RR

UND Aerospace Foundation

I-29

Railroad Shoofly

Railroad Sheet Piling

BNSF RR

ND 297 (DeMers Ave)

Temporary Pavement

EX MH1
Temporary Lift Station

Temporary Pavement

Convenience Store

Temporary Drainage Pipe

Temporary Bypass Roadway

Temporary Pavement

Temporary Vehicle and Pedestrian Bypass along 7th Ave S & S 43rd St Backage Road

Cass Oil, LLC

Temporary Shared Use Path

Temporary Curb Ramp

Temporary Drainage Pipe

Temporary Bypass Roadway

Temporary Shared Use Path

Temporary Drainage Pipe

Campus Crest Apartments

Temporary Drainage Pipe

Temporary Striping

Ray Richards Golf Course

Portions of golf course to be renovated by others

Verge Apartments

S 43rd St

Campus Crest at Grand Forks II, LLC

S 42nd St

Peer Group, LLC

EWR Grand Forks Garden View, LLC

McEnroe Apartments

LEGEND

- Right of Way Line Existing
- Railroad Right of Way
- Right of Way Line Proposed
- R/W Not State Owned
- Temporary Construction Esmt
- Grading Tie Line
- Shoofly Railroad Tracks
- Temporary Sheet Piling
- Temporary Drainage Pipe
- Temporary Curb Ramp
- Temporary Bypass Road
- Temporary Sidewalk
- Temporary Traffic Signal System
- Temporary Lighting System

During road closure of ND 297 (DeMers Ave) and 42nd St use temporary bypass and shared use path. Install temporary bypass before closing off traffic to ND 297 (DeMers Ave). Construction of the temporary bypass road and shared use path, temporary span-wire & pole signal system for vehicle traffic, and temporary lighting system.

Scope of Work

Proposed Temporary Improvements

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9226
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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N

UND

James Ray Dr

N 42nd St

Campus Rd

UND

20IN PVC Watermain

BNSF RR

20IN PVC Watermain

UND Aerospace Foundation

I-29

Railroad Shoofly

Shoofly Grading Tie Line

Replace curb with ADA compliant curb

BNSF RR

BNSF RR

ND 297 (DeMers Ave)

Temporary Drainage Pipe

Remove raised median and Curb & Gutter. Install Temporary Pavement

Convenience Store

Temporary Vehicle and Pedestrian Bypass along 7th Ave S & S 43rd St Backage Road

Remove raised median and Curb & Gutter. Install Temporary Pavement

Cass Oil, LLC

20IN PVC Watermain

20IN PVC Watermain
Dual 30IN DIP Raw Water
14IN PVC RO Concentrate

Temporary Curb Ramp

Double Culvert
Wetland Drainage Crossing

Temporary Culvert

Ray Richards Golf Course

Portions of golf course to be renovated by others

Campus Crest Apartments

Verge Apartments

S 43rd St

Campus Crest at Grand Forks II, LLC

S 42nd St

Peer Group, LLC

EWR Grand Forks Garden View, LLC

McEnroe Apartments

LEGEND

- Right of Way Line Existing
- Railroad Right of Way
- Right of Way Line Proposed
- R/W Not State Owned
- Temporary Construction Esmt
- Grading Tie Line
- Railroad Tracks
- Shoofly Ballast
- Work Area
- Temporary Pavement
- Temporary Bypass
- Temporary Shared Use Path
- Temporary Traffic Signal System
- Temporary Lighting System

Single lane closures on ND 297 (DeMers Ave) westbound and eastbound as well as 42nd St northbound and southbound. Construct the temporary bypass road & shared use path, temporary span-wire & pole signal system for vehicle traffic, and temporary lighting system. Construct the railroad shoofly with the exception of the N 42nd St crossing. Replace watermain in northwest quadrant west of 42nd St and north of shoofly. Replace watermain in southeast quadrant in Ray Richards Golf Course.Embankment placement near intersection of DeMers and 7th Ave S to fill in golf course ditch and minimize future settlement improvement.

Scope of Work

Proposed Improvements

Phase 1A

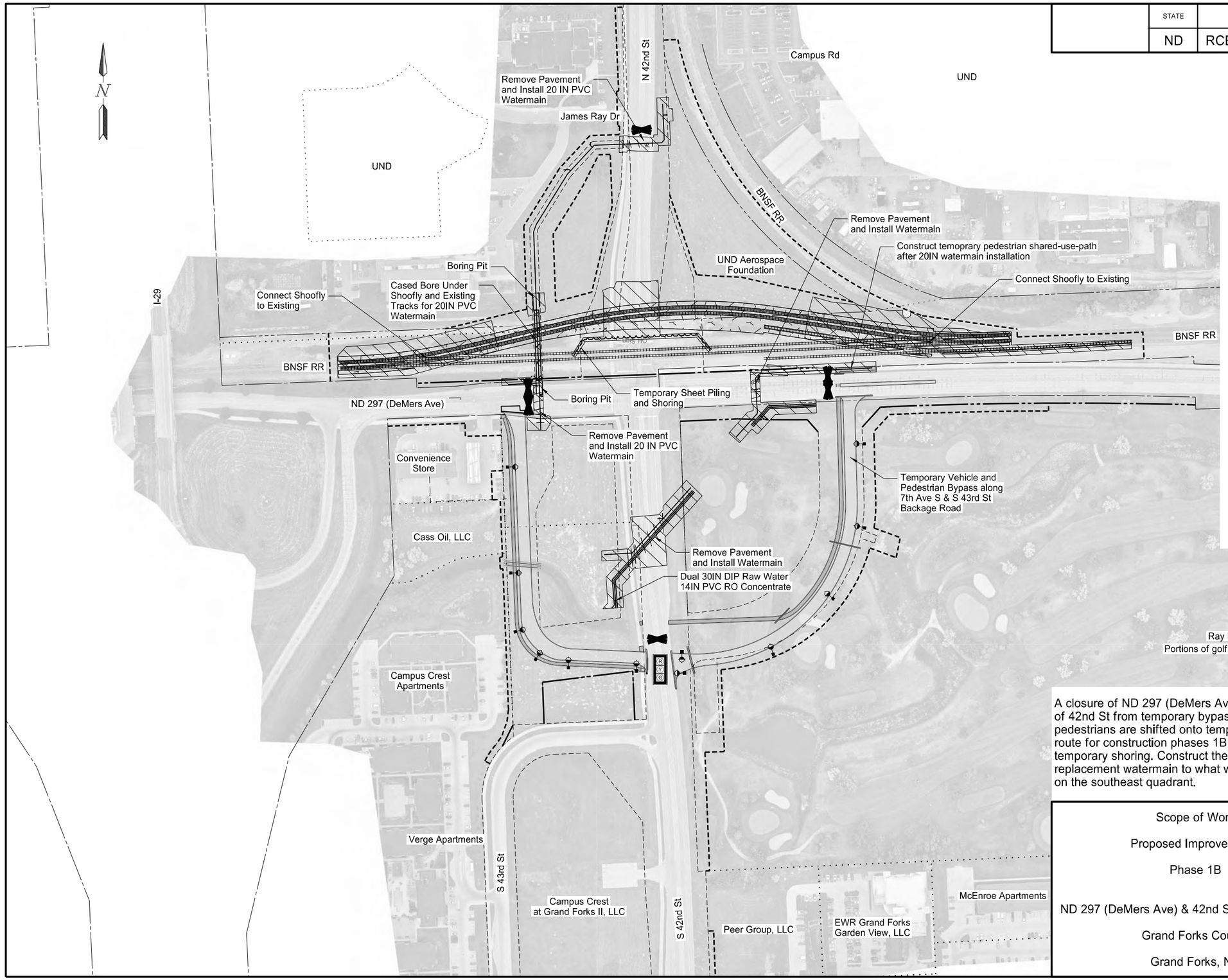
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8276
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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LEGEND

- Right of Way Line Existing
- Railroad Right of Way
- Right of Way Line Proposed
- R/W Not State Owned
- Temporary Construction Esmt
- Grading Tie Line
- Railroad Tracks
- Temporary Sheet Piling
- Temporary Pavement
- Temporary Bypass
- Temporary Shared Use Path
- Work Area
- Shoofly Ballast
- Road Closed
- Temporary Traffic Signal System
- Temporary Lighting System

A closure of ND 297 (DeMers Ave) between temporary bypass road tie ins. A Closure of 42nd St from temporary bypass road intersection to James Ray Drive. Traffic and pedestrians are shifted onto temporary bypass road & pedestrian path. Set up a detour route for construction phases 1B through 4B. Installation of railroad sheet piling and temporary shoring. Construct the railroad shoofly crossing existing 42nd St. Connect replacement watermain to what was done in Phase 1A on the northwest quadrant and on the southeast quadrant.

Scope of Work

Proposed Improvements

Phase 1B

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4256
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	4	5

N

UND

James Ray Dr

Abandon Watermain

N 42nd St

Campus Rd

UND

Remove Watermain

BNSF RR

UND Aerospace Foundation

Construct Railroad Bridge 0297-000.303 N B

I-29

Remove Pavement

W-beam Guardrail

BNSF RR

BNSF RR

ND 297 (DeMers Ave)

Temporary Pavement

Temporary Pavement

Convenience Store

W-beam Guardrail

Construct Roadway Bridge: 0297-000.303

Temporary Vehicle and Pedestrian Bypass along 7th Ave S & S 43rd St Backage Road

Cass Oil, LLC

Remove Watermain

Ray Richards Golf Course

Portions of golf course to be renovated by others

Campus Crest Apartments

S 42nd St

Verge Apartments

FO Vault

S 43rd St

Campus Crest at Grand Forks II, LLC

Peer Group, LLC

EWR Grand Forks Garden View, LLC

McEnroe Apartments

LEGEND

- Right of Way Line Existing
- Railroad Right of Way
- Right of Way Line Proposed
- R/W Not State Owned
- Temporary Construction Esmt
- Grading Tie Line
- Railroad Tracks
- Temporary Sheet Piling
- Temporary Pavement
- Temporary Bypass
- Temporary Shared Use Path
- Work Area
- Road Closed
- Temporary Traffic Signal System
- Temporary Lighting System

Maintain a closure of ND 297 (DeMers Ave) between temporary bypass road tie ins and closure of 42nd St from temporary bypass road to James Ray Drive. Traffic and pedestrians are using temporary bypass road & pedestrian path. Train traffic is shifted to shoofly track. Use detour route for access to N 42nd St. Construct portion of ND 297 (DeMers Ave), roadway bridge, railroad bridge, W-beam guardrails, storm sewer, and retaining walls between bridges. Construct portion of proposed railroad track on bridge. Continue existing watermain removals. Common excavation for grade separation.

Scope of Work

Proposed Improvements

Phase 2

ND 297 (DeMers Ave) & 42nd St Grade Separation

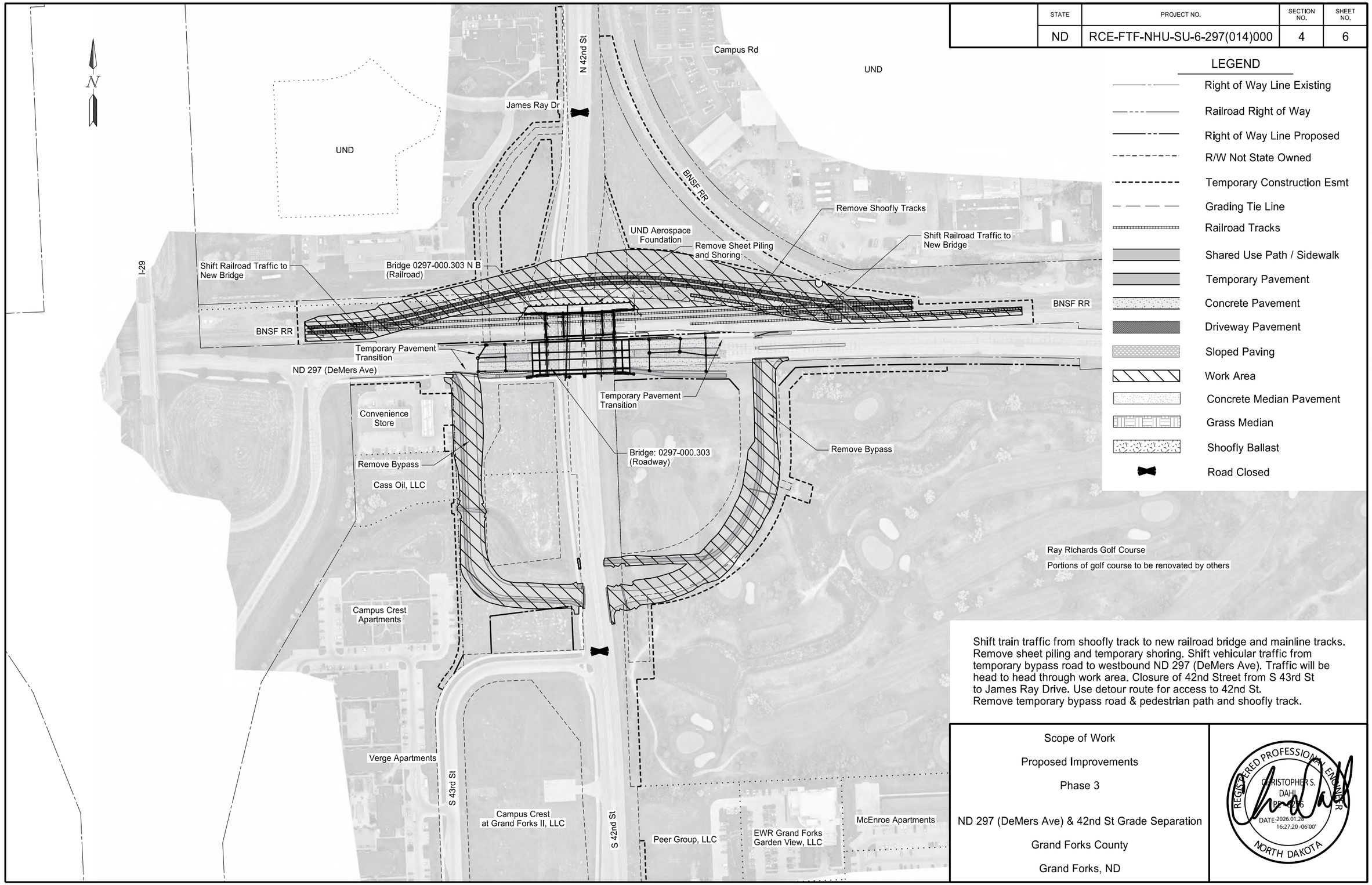
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8296
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	4	6



LEGEND

- Right of Way Line Existing
- Railroad Right of Way
- Right of Way Line Proposed
- R/W Not State Owned
- Temporary Construction Esmt
- Grading Tie Line
- Railroad Tracks
- Shared Use Path / Sidewalk
- Temporary Pavement
- Concrete Pavement
- Driveway Pavement
- Sloped Paving
- Work Area
- Concrete Median Pavement
- Grass Median
- Shoofly Ballast
- Road Closed

Shift train traffic from shoofly track to new railroad bridge and mainline tracks. Remove sheet piling and temporary shoring. Shift vehicular traffic from temporary bypass road to westbound ND 297 (DeMers Ave). Traffic will be head to head through work area. Closure of 42nd Street from S 43rd St to James Ray Drive. Use detour route for access to 42nd St. Remove temporary bypass road & pedestrian path and shoofly track.

Scope of Work

Proposed Improvements

Phase 3

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9206
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NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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N

N 42nd St

Campus Rd

UND

James Ray Dr

Landscape Plantings

UND

BNSF RR

Bridge 0297-000.303 (Railroad)

Remove Remaining Watermain

Bridge: 0297-000.303 (Roadway)

I-29

Temporary Transition Pavement

UND Aerospace Foundation

REMOVE

Crash Cushions

Temporary Transition Pavement

BNSF RR

BNSF RR

ND 297 (DeMers Ave)

Install Temporary Lift Station at EX MH1

Convenience Store

Remove Temporary Drainage Pipe

Cass Oil, LLC

Construct Dry Basin

Double Culvert Wetland Drainage Crossing

Expand Drainage Wetland

Campus Crest Apartments

7th Ave S

Temporary Transition Pavement

Ray Richards Golf Course

Portions of golf course to be renovated by others

Construct Dry Basin

Double Culvert Wetland Drainage Crossing

Remove Existing Road

Verge Apartments

S 43rd St

Campus Crest at Grand Forks II, LLC

S 42nd St

Peer Group, LLC

EWR Grand Forks Garden View, LLC

McEnroe Apartments

LEGEND

- Right of Way Line Existing
- Railroad Right of Way
- Right of Way Line Proposed
- R/W Not State Owned
- Temporary Construction Esmt
- Grading Tie Line
- Railroad Tracks
- Shared Use Path / Sidewalk
- Temporary Pavement
- Curb & Gutter
- Concrete Pavement
- Sloped Paving
- Concrete Median Pavement
- Grass Median
- Traffic Signal System
- Light Standard
- Temporary Drainage Pipe
- Work Area
- Road Closed

ND 297 (DeMers Ave) traffic shifted head-to-head on westbound lanes with the closure of eastbound lanes near where the jughandle is being constructed. Closure of 42nd St from Garden View Dr to University Ave with the exception southbound lanes of N 42nd St from James Ray Dr to University Ave. Use detour route for access to 42nd St. Reconstruct 42nd St, 43rd St, 7th Ave S. Install traffic signals, street lighting, signage, remaining storm drain, construct temporary access to convenience store from S 43rd St, and electrical conduit. Install storm sewer, lift station, and excavate for swale expansion and dry basins.

Scope of Work

Proposed Improvements

Phase 4A

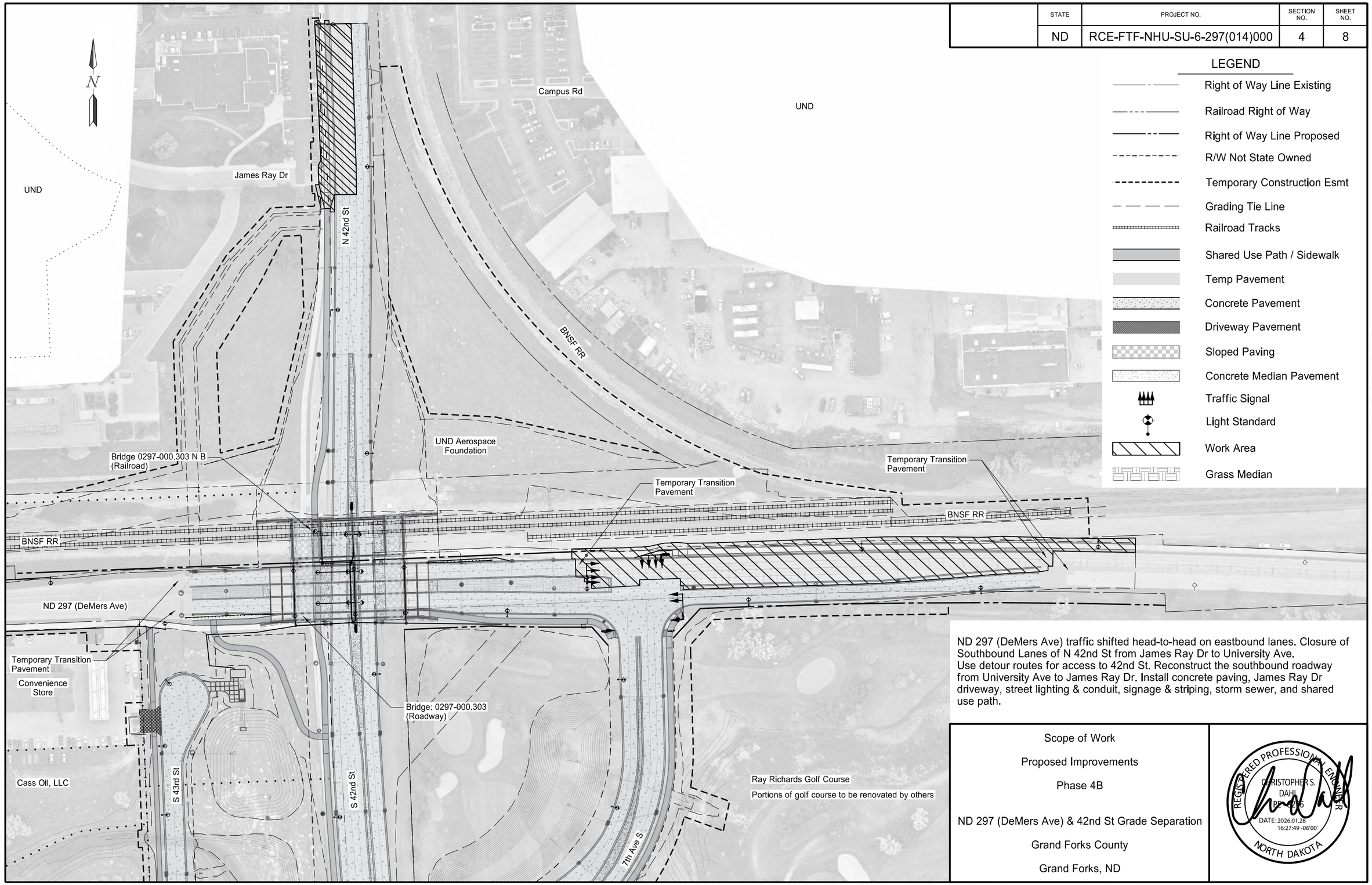
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9076
DATE: 2026.01.28 16:27:31 -06'00'
NORTH DAKOTA

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LEGEND

- Right of Way Line Existing
- Railroad Right of Way
- Right of Way Line Proposed
- R/W Not State Owned
- Temporary Construction Esmt
- Grading Tie Line
- Railroad Tracks
- Shared Use Path / Sidewalk
- Temp Pavement
- Concrete Pavement
- Driveway Pavement
- Sloped Paving
- Concrete Median Pavement
- Traffic Signal
- Light Standard
- Work Area
- Grass Median

ND 297 (DeMers Ave) traffic shifted head-to-head on eastbound lanes. Closure of Southbound Lanes of N 42nd St from James Ray Dr to University Ave.
Use detour routes for access to 42nd St. Reconstruct the southbound roadway from University Ave to James Ray Dr. Install concrete paving, James Ray Dr driveway, street lighting & conduit, signage & striping, storm sewer, and shared use path.

Scope of Work

Proposed Improvements

Phase 4B

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

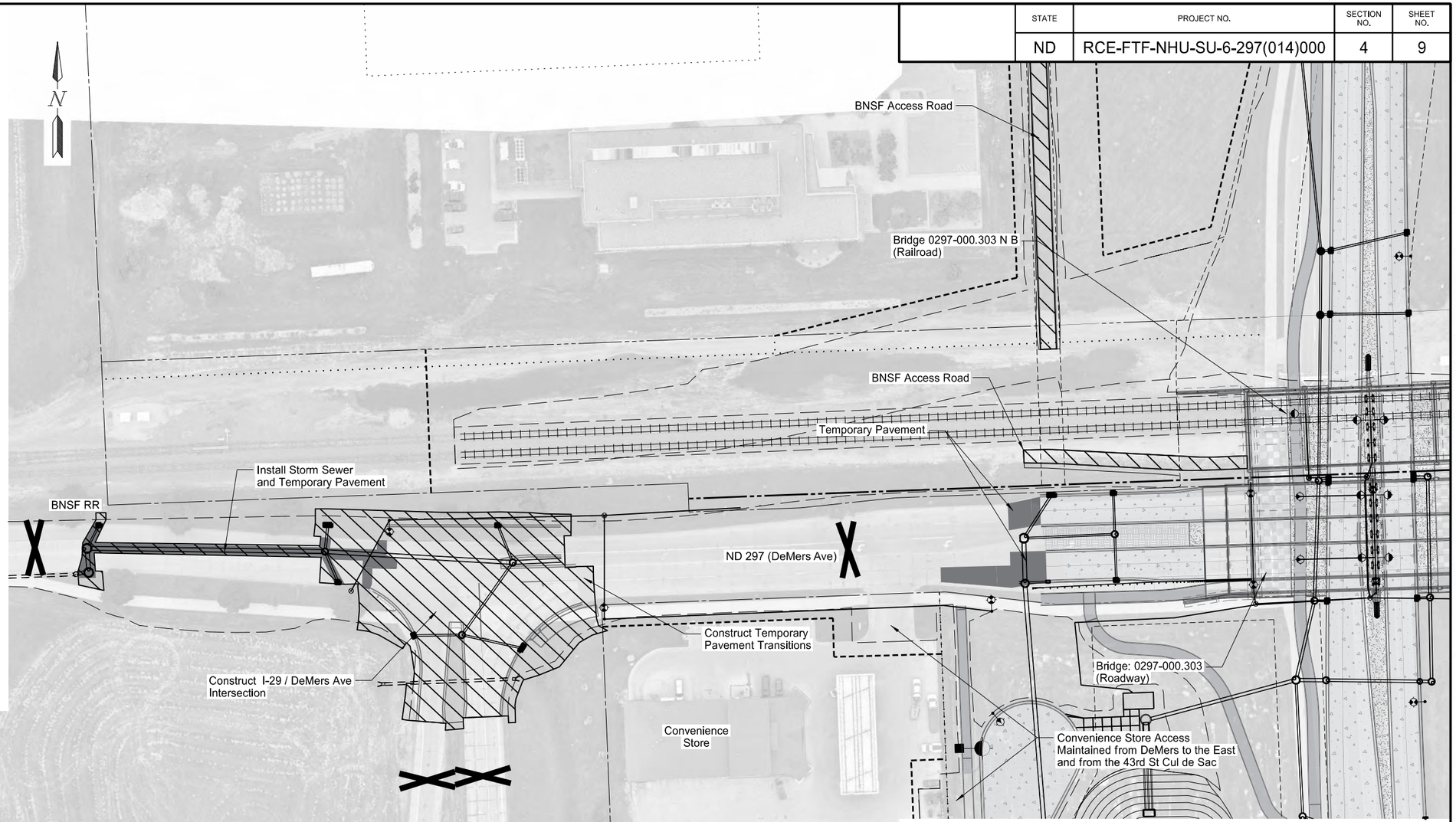
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CHRISTOPHER S. DAHL
PE-8256
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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LEGEND

- Concrete Pavement
- Shared Use Path / Sidewalk
- Curb and Gutter
- Concrete Median Paving
- Sloped Paving
- Grass Median
- Temporary Pavement
- Work Zone
- Right of Way Line Existing
- Right of Way Line
- Railroad Right of Way
- R/W Not State Owned
- Temporary Construction Esmt
- Grading Tie Line
- Railroad Tracks
- Road Closure
- Light Standard



Closure of ND 297 (DeMers Ave) from Convenience Store entrance to southbound I-29 on/off ramps. Closure of northbound I-29 on/off ramps. Use detour route for phase 5A. Install proposed storm sewer from west tie into existing 56' east of on/off ramp intersection. Reconstruct on/off ramps and intersection. Temporary pavement over proposed storm sewer locations and ties for proposed pavement to existing. Temporary surfacing over the pedestrian median crossing at on/off ramp intersection. Construct railroad access roads.

Scope of Work

Proposed Improvements

Phase 5A

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

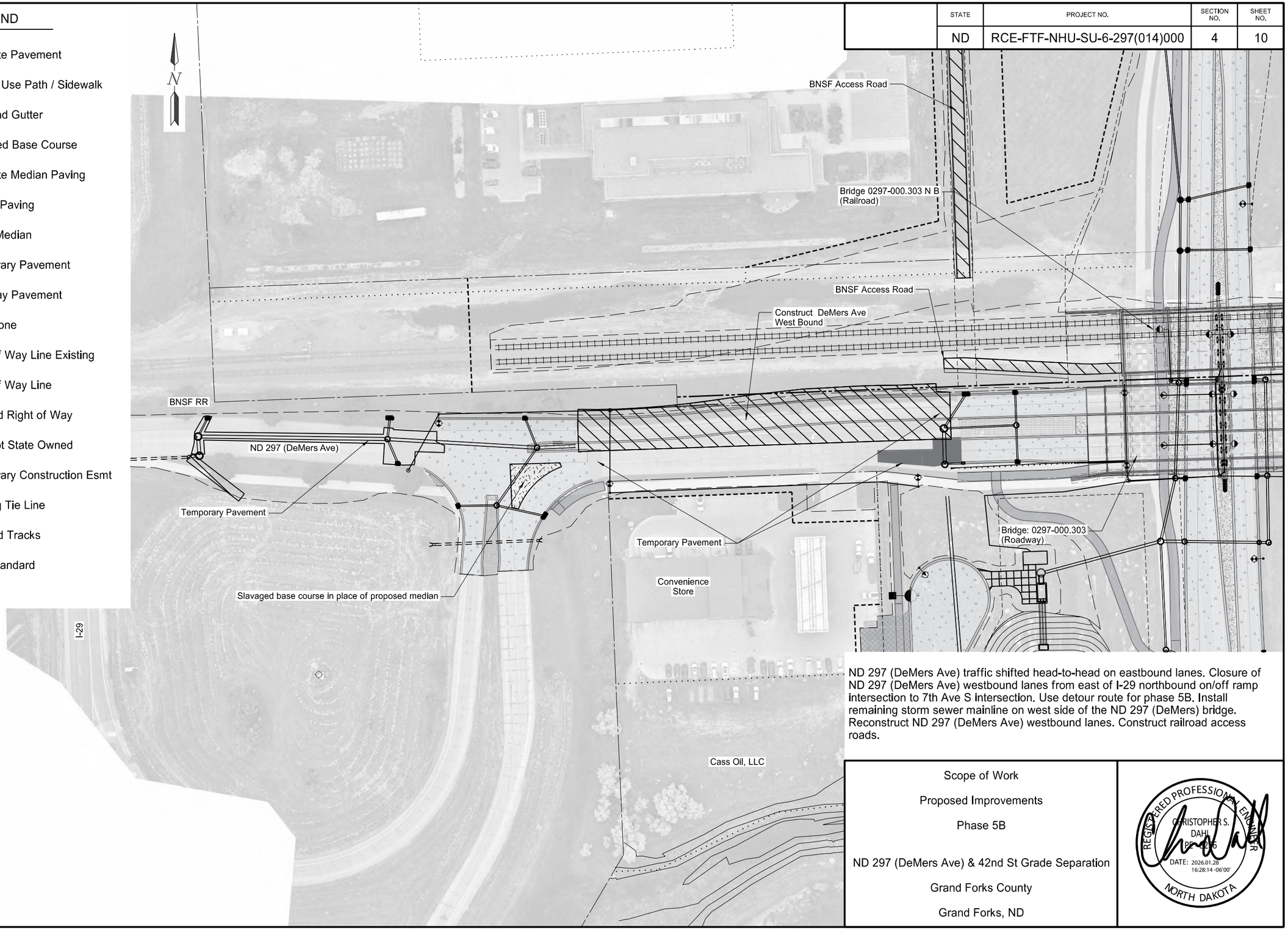
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PE-8276
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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	4	10

LEGEND

- Concrete Pavement
- Shared Use Path / Sidewalk
- Curb and Gutter
- Salvaged Base Course
- Concrete Median Paving
- Sloped Paving
- Grass Median
- Temporary Pavement
- Driveway Pavement
- Work Zone
- Right of Way Line Existing
- Right of Way Line
- Railroad Right of Way
- R/W Not State Owned
- Temporary Construction Esmt
- Grading Tie Line
- Railroad Tracks
- Light Standard



ND 297 (DeMers Ave) traffic shifted head-to-head on eastbound lanes. Closure of ND 297 (DeMers Ave) westbound lanes from east of I-29 northbound on/off ramp intersection to 7th Ave S intersection. Use detour route for phase 5B. Install remaining storm sewer mainline on west side of the ND 297 (DeMers) bridge. Reconstruct ND 297 (DeMers Ave) westbound lanes. Construct railroad access roads.

Scope of Work

Proposed Improvements

Phase 5B

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

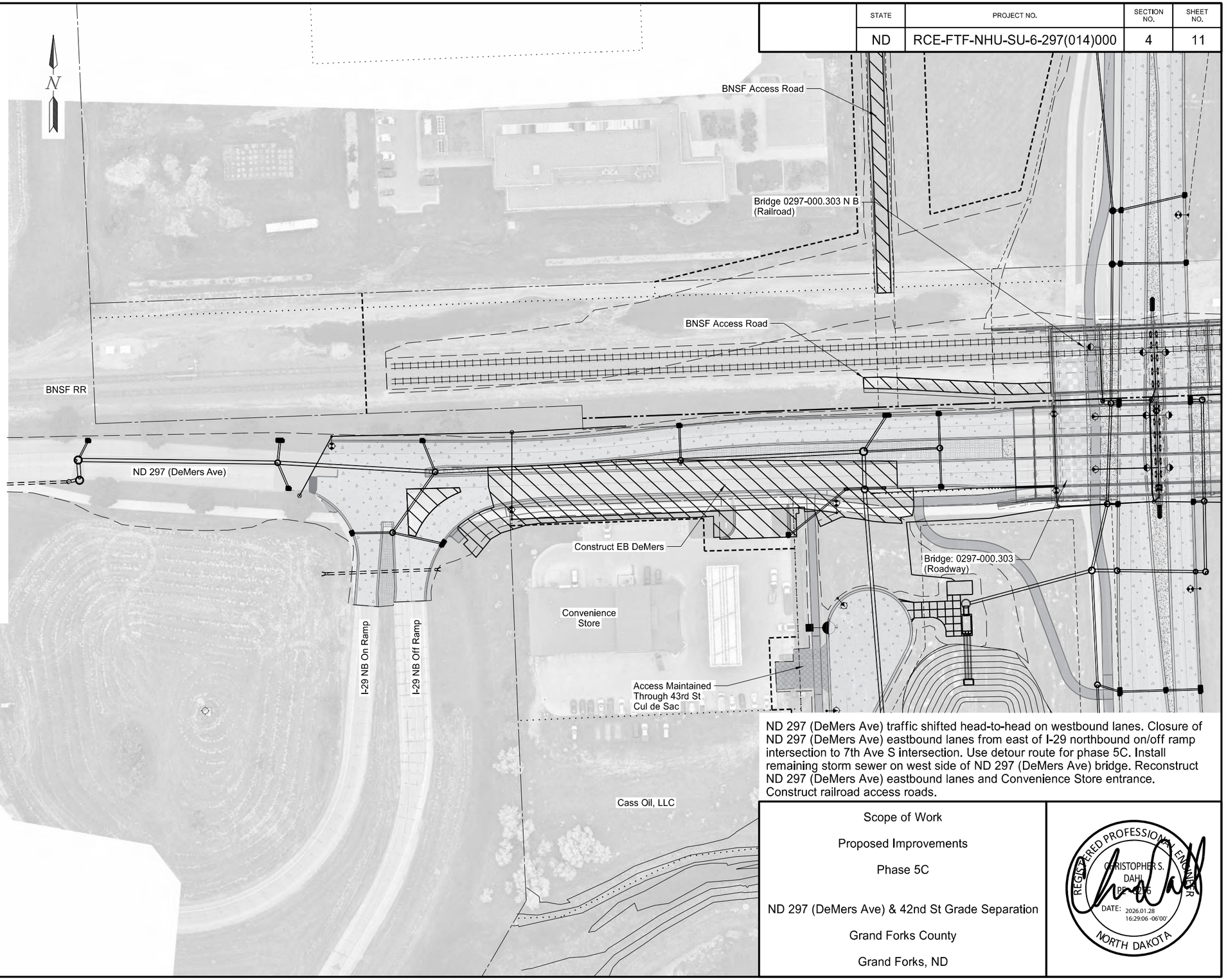
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PE-9076
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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	4	11

LEGEND

- Concrete Pavement
- Shared Use Path / Sidewalk
- Curb and Gutter
- Concrete Median Paving
- Sloped Paving
- Grass Median
- Temporary Pavement
- Driveway Pavement
- Work Zone
- Right of Way Line Existing
- Right of Way Line
- Railroad Right of Way
- Temporary Construction Esmt
- R/W Not State Owned
- Grading Tie Line
- Railroad Tracks
- Light Standard



ND 297 (DeMers Ave) traffic shifted head-to-head on westbound lanes. Closure of ND 297 (DeMers Ave) eastbound lanes from east of I-29 northbound on/off ramp intersection to 7th Ave S intersection. Use detour route for phase 5C. Install remaining storm sewer on west side of ND 297 (DeMers Ave) bridge. Reconstruct ND 297 (DeMers Ave) eastbound lanes and Convenience Store entrance. Construct railroad access roads.

Scope of Work

Proposed Improvements

Phase 5C

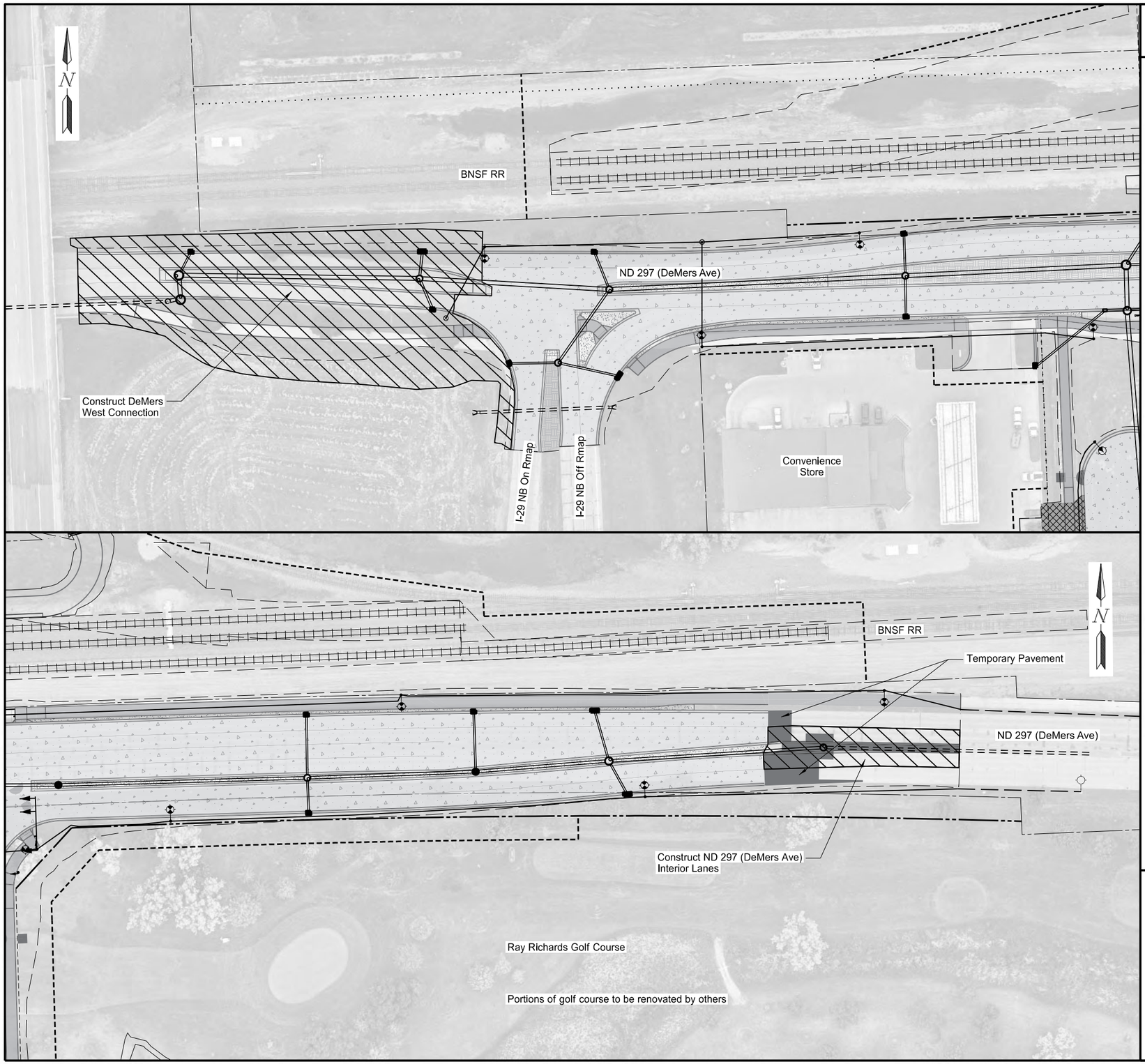
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9076
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NORTH DAKOTA

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ND	RCE-FTF-NHU-SU-6-297(014)000	4	12



LEGEND

- Right of Way Line Existing
- Railroad Right of Way
- Right of Way Line Proposed
- R/W Not State Owned
- Temporary Construction Esmt
- Grading Tie Line
- Railroad Tracks
- Grass Median
- Shared Use Path / Sidewalk
- Curb & Gutter
- Concrete Pavement
- Driveway Pavement
- Concrete Median Pavement
- Gravel
- Work Area
- Traffic Signal System
- Light Standard

Closure of ND 297 (DeMers Ave) from west of I-29 northbound on/off ramp intersection to east of I-29 southbound on/off ramp intersection. ND 297 (DeMers Ave) single lane closures on the east side of project from 7th Ave S to S 34th St. Install remaining storm sewer on east side of the project with the tie into existing infrastructure. Reconstruct inside lanes and median on the east side tie on along ND 297 (DeMers Ave) with complete reconstruction of lanes and median on the west side of I-29 northbound on/off ramps.

Scope of Work

Proposed Improvements

Phase 5D

ND297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

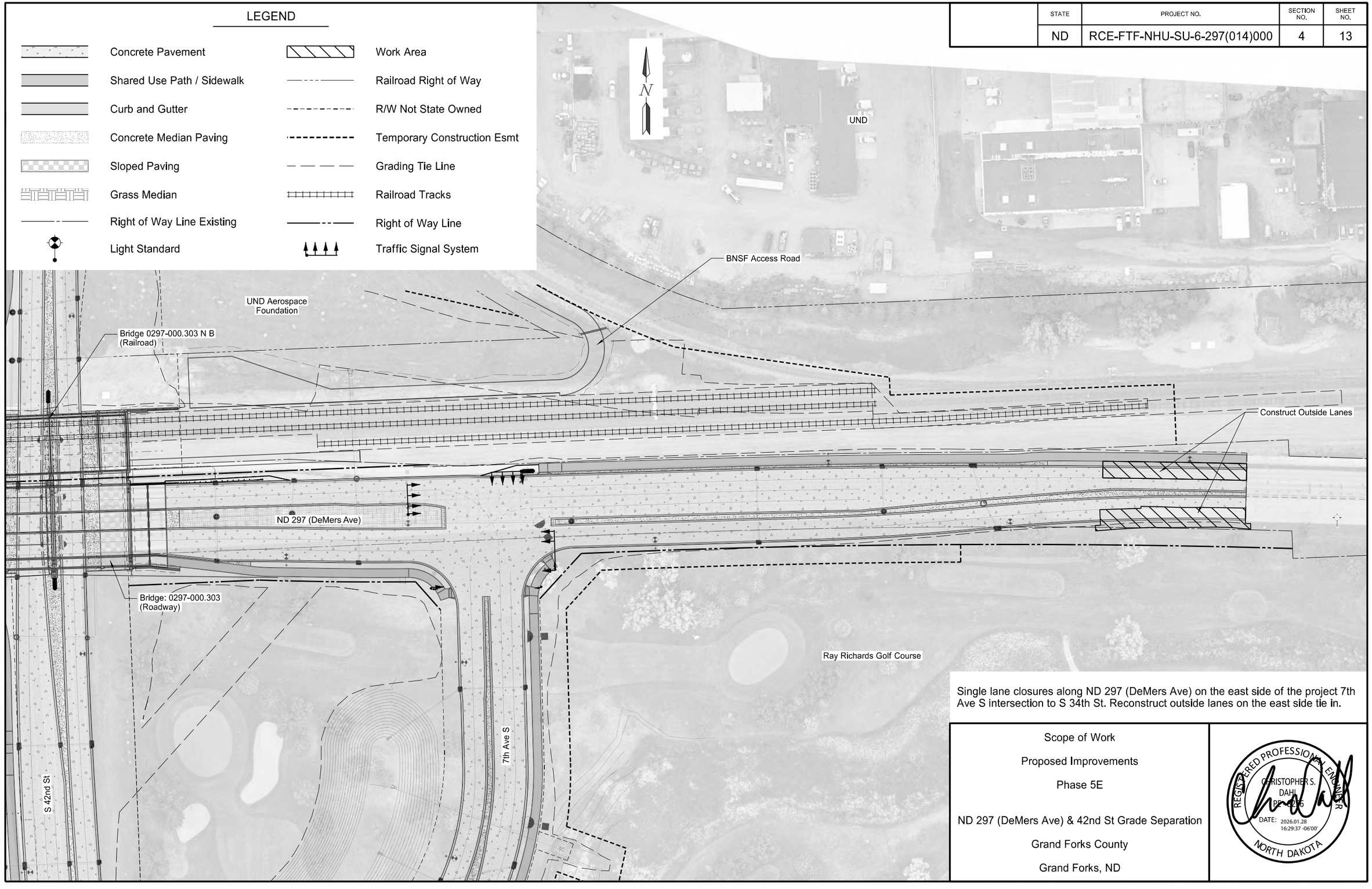
Grand Forks, ND

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CHRISTOPHER S. DAHL
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NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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LEGEND

- Concrete Pavement
- Shared Use Path / Sidewalk
- Curb and Gutter
- Concrete Median Paving
- Sloped Paving
- Grass Median
- Right of Way Line Existing
- Light Standard
- Work Area
- Railroad Right of Way
- R/W Not State Owned
- Temporary Construction Esmt
- Grading Tie Line
- Railroad Tracks
- Right of Way Line
- Traffic Signal System



Single lane closures along ND 297 (DeMers Ave) on the east side of the project 7th Ave S intersection to S 34th St. Reconstruct outside lanes on the east side tie in.

Scope of Work

Proposed Improvements

Phase 5E

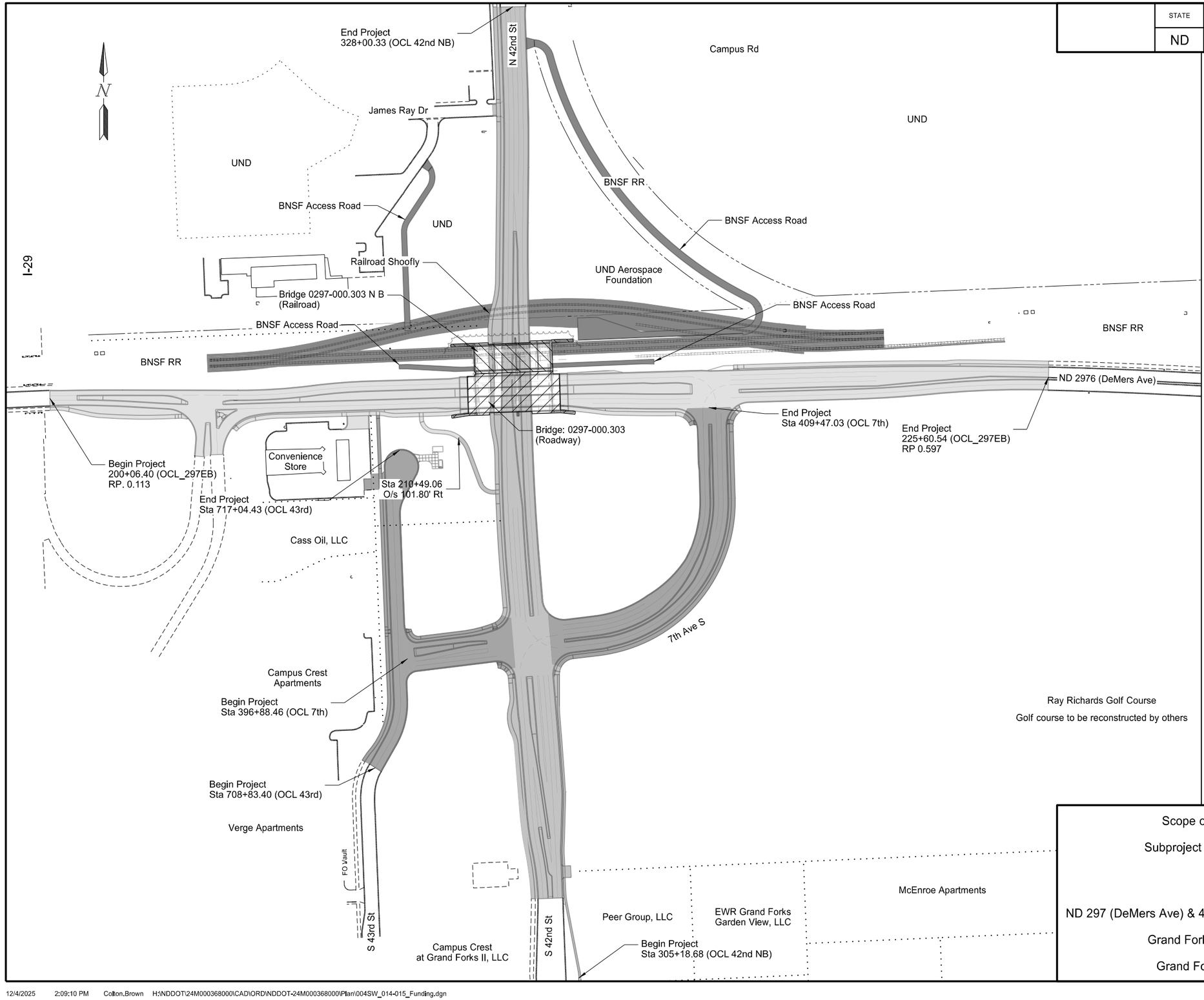
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8256
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Legend

- ND297 (DeMers Ave)
- S 42nd St / N 42nd St
- 7th Ave S & S 43rd St
- Railroad Mainline & Shoofly (BNSF - Rail & Ties) (Contractor - Dirtwork, Fabric Subballast, & Access Roads)
- DeMers Avenue Bridge
- Railroad Bridge

Scope of Work

Subproject Breakouts

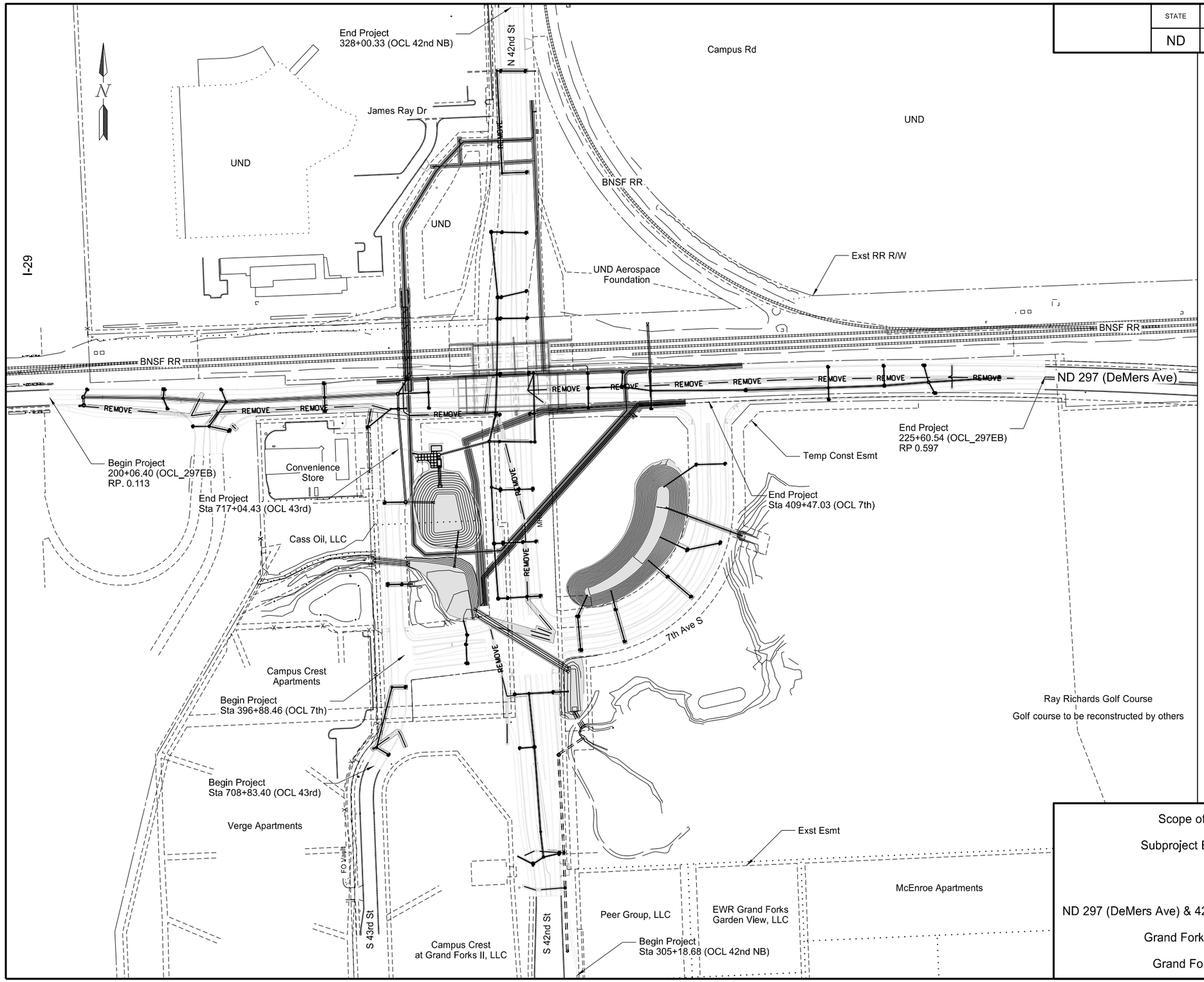
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
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NORTH DAKOTA

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Legend

- Storm Sewer & Storm Sewer Removals
- Drainage ponds / Dry Basin, Lift Station
- Watermain & Watermain Removals

Scope of Work

Subproject Breakouts

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8256
DATE: 2026.01.28 16:30:46 -06'00'
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NOTES

100-P01 COORDINATION OF PROJECTS: Other projects are in the vicinity of this project and under contract during the 2026 season include but are not limited to. Coordinate with Grand Forks District and City Staff for additional projects or changes to the below list.

- NDDOT Project IM-6-029(172)136 will have concrete pavement repair on the DeMers Avenue Interchange NB entrance loop, an asphalt overlay on the NB exit ramp, and work on the SB off loop exit ramp. The project limits are on I-29 from exit 138 to exit 145.
- City Project No. 8933 (District No. 792) for Altru Sports Complex Construction will be South of the Alerus Center adjacent to Interstate 29 and South 42nd Street.
- UND Project Private Development Ray Richards Golf Course.
- UND Project Ray Richards Golf Course Reconfiguration.
- NDDOT Grand Forks District Lighting Rehabilitation project SS-9-999(475) PCN 23283.
- City Project # 9041 Widening South 42nd Street near Birkholz 8th Addition.

Other anticipated projects in the vicinity of this project during the 2027 & 2028 seasons.

- 2027 Season: City Project # 8987 Gateway Drive & North 43rd Street Intersection Improvements. City Project # 8989 Gateway Drive & Columbia Road Intersection Improvements.
- 2028 Season: Tied NDDOT Projects NHU-6-002(142)355, PCN 24412 & NHU-6-002(142)355, PCN 23740; Concrete Pavement Repair and Traffic Signal Replacement.

100-P02 CONNECTIONS: Connect all proposed water, sanitary, and storm sewer systems to existing systems to provide a complete functional utility network. Include all costs for labor, equipment and materials necessary to connect proposed utilities to existing utilities in the contract unit price bid for other items.

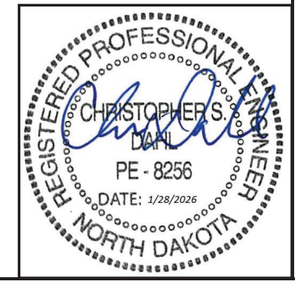
100-P03 EMERGENCY PERSONNEL: Provide the City of Grand Forks and the Engineer with the name, address, and telephone number of the contractors' personnel who have access to equipment and are authorized to make emergency repairs to complete the work. Provide personnel with authorization to maintain barricades, move materials, and correct other problems during weekends and off-work hours.

100-P04 PUBLIC NOTIFICATION: Provide written emailed notices to each property and business adjacent to the perimeter of the project limits in advance of work taking place. Primary Points of Contact:

1. Hilton Garden Inn, KAJ Hospitality
   Sara Lussman, (605)231-5815, sara@kajhospitality.com
2. UND Aerospace Foundation
   Chuck Pineo, (701)306-9680, chuck@undaerospace.com
3. University of North Dakota
   Karla Mongeon-Stewart, (701)777-3511, karla.stewart@und.edu
   Trinity Bohlman, (701)777-3924, trinity.bohlman@und.edu
4. Ray Richards Golf Course
   Brian Larson, (701)777-6844, Brian.s.larson@und.edu
5. City of Grand Forks
   Todd Feland, (701)787-3735, tfeland@grandforksgov.com
   John Bernstrom, (701)746-2707, jbernstrom@grandforksgov.com
6. Circle K / Cass Oil, LLC
   Joel Geil, (952) 830-8884, joel.geil@circlek.com
7. Campus Crest at Grand Forks, LLC & Campus Crest at Grand Forks II, LLC
   Maria Seager, (701)215-4321, cm@thevergegrandforks.com
   Courtney Richardson, (303)407-4500, courtney.richardson@cardinalgroup.com
8. Burlington Northern Railroad / Burlington Northern Santa Fe
   Alexis Jones, (901)495-3778, alexis.jones@bnsf.com

Include start/end date of construction, description of construction activities, and general schedule of activities for the project from start to end. Prior to emailing notices to the landowner submit notice to Engineer for approval.

100-P05 NOISE RESTRICTIONS: Comply with the City of Grand Forks noise ordinance by scheduling operations between the hours of 6:30 AM and 10:00 PM. To request work outside these hours, submit a written request to the Grand Forks Public Health Department at 151 South 4th Street, Suite N-301, Grand Forks, ND 58201-4735 for each occurrence. Submit requests a minimum of 72 hours prior to beginning work, stating the specific nature of the work, additional hours required, and the number of days needed to complete the specified work. Notify the Grand Forks Police Department of the days and hours planned for work under each request. Furnish a copy of each approved permit to the Grand Forks Police Department a minimum of 24 hours prior to beginning applicable work.



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100-P06 CONVIENIENCE STORE (CIRCLE K) DUMPSTER AREA: The convenience store owner will relocate garbage & recycling dumpsters and debris from the dumpster area in the southeast corner of the parcel before September 1, 2026. Removal of fencing and concrete pavement, as shown in the plans, is the responsibility of the contractor.

105-110 PAVEMENT SWEEPING: Sweep paved areas that were used by construction traffic before opening these areas to public traffic. Sweep all newly constructed pavement no more than 24 hours before a scheduled final inspection. Use a vacuum or pick-up type sweeper to perform this work.

105-P01 UTILITIES ENCOUNTERED IN GOLF COURSE: It is anticipated that irrigation piping and electrical lines will be encountered in the acquired portion of Ray Richards Golf Course from UND. As shown in the removals plans, cut and cap the irrigation main lines at the edge of proposed right-of-way in such a way that the golf course side will continue to be operational. Coordinate with the Ray Richards Golf Course to ensure irrigation systems are shut down prior to excavation in these areas. Include all costs associated with the disconnection and removal or abandonment, capping, removal and proper disposal of the irrigation/electrical lines for the golf course irrigation/pump system in the contract unit price bid for "REMOVAL OF PIPE ALL TYPES AND SIZES."

108-P01 WEEKLY PLANNING & REPORTING MEETING: Two separate meetings are required. First, A weekly planning and reporting meeting. Provide a meeting location approved by the Engineer. Second, organize a bi-weekly (every other week) meeting with business owners and residents adjacent to the perimeter of the project limits. The meeting will follow the same requirements as the weekly planning meeting. Meetings will include EMS/PSAP (Public Safety Answering Point) to notify of any changes to traffic control as needed.

108-P02 PUBLIC RELATIONS COORDINATOR: Provide a public relations and information coordinator. The coordinator cannot be the project superintendent or construction foreman. The coordinator should be knowledgeable in construction operations, be able to develop effective media releases, possess written and verbal communication skills, and be able to organize productive meetings.

Provide the name, work address, and work phone number of the Public Relations Coordinator to the relevant project, community, and media personnel.

The Public Relations Coordinator will:

1. Organize, schedule, and conduct the meeting specified in Note 108-P01, “Weekly Planning & Reporting Meeting”.

2. Advise the Engineer of upcoming construction activities regarding road closures and traffic detour routes, so that city police, emergency services, schools, and other pertinent city agencies may be notified. Notify the Engineer a minimum of 48-hours in advance of these described road closures or related construction activities.

3. Provide information for news releases on construction activities to the Engineer, NDDOT Grand Forks District, and the City of Grand Forks prior to and during construction. Do not distribute news releases through any other means without prior approval from the NDDOT Grand Forks District and the City of Grand Forks.

   News releases should inform the public about construction activities, schedules, street closures, width or height restrictions to traffic, and traffic detour routes. Update the news release regarding construction activities every other week at a minimum.

4. Be available for media interviews. Inform the Engineer and City of Grand Forks Info Center of all interviews a minimum of 24 hours prior to the interviews taking place.

5. Work directly with property owners and businesses affected by construction activities. The coordinator must have sufficient knowledge and authority to resolve property owner and business concerns regarding scheduling, maintaining access, and construction operations.

201-P01 CLEARING & GRUBBING / REMOVAL OF TREES: Remove existing trees, shrubs, stumps, and roots as indicated in section 40 removals plans. Include all costs in the contract unit price bid for “CLEARING & GRUBBING” & “REMOVAL OF TREES __ IN.” Protect trees that are to remain in place.

202-P01 REMOVAL OF PAVEMENT: Removal of pavement consists of removing and salvaging concrete pavement from streets, driveways, sidewalk, shared use path, curb & gutter, and raised medians as well as underlying aggregate base. It also consists of removing and salvaging bituminous pavement at the existing at-grade railroad crossing, the proposed temporary bypass road, and additional temporary construction phasing pavement. The existing pavement and aggregate thicknesses are averages based on previous construction plans, maintenance data, and soil boring logs. Actual thickness may vary. Include all costs to remove and salvage pavement and the costs for removal of steel tie bars and dowel bars, in addition to saw cutting in the contract unit price bid for “REMOVAL OF PAVEMENT”.

202-P02 SALVAGE EXISTING FACILITIES: Salvage existing manhole castings and inlet castings. Clean concrete from salvaged castings. Allow the City of Grand Forks to inspect removed castings and covers to determine which items to deliver to the City. Deliver selected castings to the City of Grand Forks

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE - 8256
DATE: 1/28/2026
NORTH DAKOTA

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NOTES

maintenance shop located at 724 North 47th Street. Coordinate delivery with the City of Grand Forks Water Works Director at 701-738-8740 a minimum of 24 hours in advance of delivery. Dispose of items the City does not wish to salvage per Specification Section 107.17 REMOVED MATERIAL.

202-P03 ASBESTOS CEMENT PIPE (ACP): Existing asbestos cement pipe will be encountered as part of the construction. Follow current NDDEQ requirements for removal and disposal. Remove pipe in whole sections. Do not cut, crush, or create dust releasing asbestos fibers. Grand Forks landfill can accept asbestos cement pipe; contact Sharon Lipsh at slipsh@grandforksgov.com. Include all cost for this work in the contract unit price for "ACP WATERMAIN REMOVAL."

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

203-360 COMPACTION AND DENSITY CONTROL: Compact material as specified in Section 203.04 G.2.b, "ND T-99".

203-380 AVERAGE HAUL: No average haul has been computed for this project.

203-P01 EXCAVATION: The earthwork summary is shown in Section 11. Grading plans for swale expansion, dry basins (ponds), and the grade separation are shown in Section 70. Excess material from project excavation as well as material deemed to be unsuitable is to be disposed of in accordance with Specification Section 107.17 REMOVED MATERIAL, Special Provision 392(24) Contaminated Work Area, and plan sections 11 & 175.

Unsuitable material with elevated levels of naturally occurring heavy metals must be disposed of at a site that has similar values of naturally occurring heavy metals; the adjacent project reconfiguring Ray Richards Golf Course is an acceptable waste site for this material. Material with elevated levels of naturally occurring heavy metals cannot be placed within wetland or waterway portions of English Coulee. For additional information see the Material Source Certificate of Approval (COA) form and Approval of Soil Reuse letter from NDDEQ in the Supplementary Bid Information of PCN 24115. Coordinate with UND Project Liaison Brian Larson at 701-777-6844 or Brian.s.larson@und.edu.

Contaminated material must be disposed of at Grand Forks landfill as daily cover. The landfill may take additional material depending on their need, contact Sharon Lipsh at slipsh@grandforksgov.com.

203-P02 EMBANKMENT: Embankment material is to be placed in the project acquired northwest corner of Ray Richards Golf Course. The existing ditch along the south side of DeMers Avenue from 42nd St to the east project limits is to be filled in during phase 1 and 2 of construction. See section 20 detail for material placement and quantities.

203-P03 MUCK EXCAVATION: A quantity of 400 CY is included in the plans if muck excavation is deemed necessary at pipe culvert installations in the existing swale. Material deemed by the Engineer to qualify for muck excavation is to be treated as unsuitable material and must be removed in accordance with Specification Section 107.17 REMOVED MATERIAL. Depth of muck excavation below normal trench excavation to be determined by the Engineer. Include costs for muck excavation, removal/disposal of unsuitable material, and placement of suitable backfill material in the contract unit price bid per cubic yard for "MUCK EXCAVATION."

251-P01 SEEDING CLASS III: Seed the disturbed area shown in the plans. For Class III seeding provide the following seed mix:

Kentucky Bluegrass (two varieties): 60%
Creeping Red Fescue: 20%
Perennial Rye: 20%

Seed mixture must not contain less than 85% pure live seeds (PLS) and be mixed uniformly by weight as shown above. Apply seed at a rate of 6 pounds PLS/1,000 SF (260 pounds per acre). Include the costs for materials, equipment, and labor in the contract unit price for "SEEDING CLASS III."

302-P01 AGGREGATE BASE AND SUBGRADE INTEGRITY: Install pavement sections with construction methods that will maintain the integrity of the subgrade during subsequent placement of base and pavement materials operations. In order to maintain integrity of the subgrade during subsequent operations, the Engineer may determine that subgrade preparation work is required. It is the responsibility of the Engineer to determine the extent of the efforts necessary to maintain the subgrade integrity. Perform these efforts, if necessary, as they are considered incidental to the project.

302-P02 SALVAGED BASE COURSE: Salvaged Base Course must include a minimum of 50% concrete material and a maximum of 50% bituminous material. Substituting a 100% virgin aggregate base course in lieu of Salvaged Base Course will not be allowed.

550-P01 PAVEMENT REINFORCEMENT: Areas for reinforcement detailed in section 20 and shown in section 90. Modifications in the field must be approved by Engineer. Include all costs to furnish and install the reinforcing steel in the unit bid price for "9IN NON-REINF CONCRETE PVMT CL AE-DOWELED."

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550-P02 CONCRETE MIX DESIGN: For areas outlined in section 100 work zone traffic control, provide an AE or AAE concrete mix that attains a minimum compressive strength of 2,800 psi in 30 hours. Provide a separate mix design to the Engineer for review for this mix. Use a standard AE concrete mix in all other project segments not listed here. Include all costs associated with administering this mix design as indicated in the plans in the contract unit price bid for "9IN NON-REINF CONCRETE PVMT CL AE-DOWELED."

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

704-P01 TEMPORARY PAVEMENT: Designated locations calling for Temporary Pavement are accounted for with 6 IN of COMMERCIAL GRADE HOT MIX ASPHALT and the remaining depth being SALVAGED BASE COURSE to match depth of adjacent existing pavement.

704-P02 TRAFFIC CONTROL PHASING: The project traffic control phasing is to be installed in the following phases. The traffic control devices list includes the required number of devices for each phase. It is anticipated that the phases will be completed sequentially. Additional traffic control devices may be needed to maintain access to existing businesses. Include all costs to remove and reset traffic control devices in the contract unit bid price for each item. Provide Type R temporary pavement markings at own cost, or continue to use temporary traffic control devices, if permanent markings are not installed when the street opens to traffic.

Phase 1A – Single lane closures on ND 297 (DeMers Ave) westbound and eastbound as well as 42nd Street northbound and southbound. Construction of the temporary bypass road & shared use path, temporary span-wire & pole signal system for vehicle traffic, and temporary lighting system. Construction of the railroad shoofly with the exception of the N 42nd Street crossing. Replace watermain in the northwest quadrant west of 42nd St and north of shoofly. Replace watermain in southeast quadrant in Ray Richards Golf Course. Embankment placement near intersection of DeMers & 7th Ave S to fill in golf course ditch and minimize future settlement of permanent improvements.

Phase 1B – Set up detour route for construction phases 1B through 4A. Full closure of ND 297 (DeMers Ave) between temporary bypass road tie ins. Full closure of 42nd Street from temporary bypass road intersection to James Ray Drive. Traffic and pedestrians are shifted onto temporary bypass road & pedestrian path. Installation of railroad sheet piling and temporary shoring. Construction of the railroad shoofly crossing at 42nd Street. Installation of watermain, connections to existing mains, and watermain removals. Coordinate with City of Grand Forks for watermain connections and reactivations.

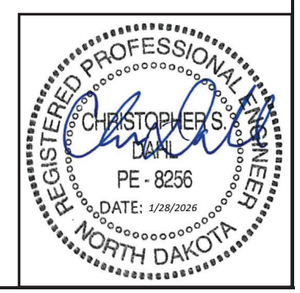
Phase 2 – Maintain closure of ND 297 (DeMers Ave) between temporary bypass road tie ins. Maintain closure of 42nd Street from temporary bypass road to James Ray Drive. Traffic and pedestrians are using temporary bypass road & pedestrian path. Train traffic is shifted to shoofly track. Use detour route for access to 42nd Street. Construction of ND 297 (DeMers Ave), stormsewer, roadway bridge, guardrail, railroad bridge and retaining walls between bridges. Construction of proposed railroad track. Existing watermain removals completed with the exception of existing watermain under shoofly track. Common excavation for grade separation.

Phase 3 –Shift train traffic from shoofly track to new railroad bridge and mainline tracks. Shift vehicular traffic from temporary bypass road to westbound ND 297 (DeMers Ave); traffic will be head-to-head through work area. Remove temporary bypass road, pedestrian path, temporary lighting & signal systems, shoofly track and ballast. Remove sheet piling, temporary shoring and remaining watermain. Closure of 42nd Street from S 43rd St to James Ray Drive. Use detour route for access to 42nd Street.

Phase 4A – ND 297 (DeMers Ave) traffic head-to-head on westbound lanes to reconstruct ND 297 (DeMers Ave) eastbound lanes. Closure of 42nd Street from Garden View Drive to University Ave with access provided to James Ray Drive. Use detour route for access to 42nd Street. Reconstruct 42nd Street, S 43rd Street, and 7th Ave S. Install stormsewer, temporary pavement, lift station, grade separation excavation, swale expansion, dry basins, traffic signals, lighting, signage.

Phase 4B – ND 297 (DeMers Ave) traffic shifted head-to-head on eastbound lanes to reconstruct ND 297 (DeMers Ave) westbound lanes. Lane closures on N 42nd Street at James Ray Drive to install remainder of stormsewer, reconstruct driveway and reconstruct west side of 42nd Street. Remainder of 42nd Street open to traffic. Installation of temporary pavement at designated locations, remaining lighting and signage.

Phase 5A – Closure of ND 297 (DeMers Ave) from SB I-29 Ramps to west of Convenience Store entrance to reconstruct DeMers & I-29 on/off ramp intersection with the exception of the pedestrian median crossing. Closure of northbound I-29 on/off ramps.



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Traffic to use phase 5A detour route. Install stormsewer from west project limits to I-29 on/off ramp intersection. Reconstruct on/off ramps and intersection. Install temporary pavement above new stormsewer mainline and laterals to maintain traffic. Construct railroad access roads.

Phase 5B – ND 297 (DeMers Ave) traffic shifted head-to-head on eastbound lanes. Closure of ND 297 (DeMers Ave) westbound lanes from east of I-29 northbound on/off ramp intersection to 7th Ave S intersection. Traffic to use phase 5B detour route. Install stormsewer mainline and north side laterals on ND 297 (DeMers). Reconstruct ND 297 (DeMers Ave) westbound lanes. Construct railroad access roads.

Phase 5C – ND 297 (DeMers Ave) traffic shifted head-to-head on westbound lanes. Closure of ND 297 (DeMers Ave) eastbound lanes from east of I-29 northbound on/off ramp intersection to 7th Ave S intersection. Traffic to use phase 5C detour route. Install remaining stormsewer mainline, curb inlet structure, and curb inlet structure tie in. Reconstruct ND 297 (DeMers Ave) eastbound lanes, pedestrian median crossing location within the I-29 off ramp intersection, and Convenience Store entrance. Construct railroad access roads.

Phase 5D – Reconstruct ND 297 (DeMers Ave) from west project limits to west of I-29 northbound on/off ramp intersection. Single lane closures on ND 297 (DeMers Ave) at east project limits to install remaining stormsewer and reconstruct inside lanes and raised median.

Phase 5E – Single lane closures on ND 297 (DeMers Ave) at east project limits to reconstruct outside lanes.

704-P03 TRAFFIC CONTROL DEVICES: The traffic control devices list has been developed using traffic control sign layouts (shown in section 100) and the standard drawings listed below:

- D-704-12 Portable Traffic Signal or Changeable Message Sign on Shoulder
- D-704-15 Type C Half Road Closure on a Multilane, High Speed Highway
- D-704-21 Detour Sign Layout
- D-704-23 Type Q Detour for a Closed Street

704-P04 PORTABLE CHANGEABLE MESSAGE SIGN: Provide two (2) Portable Changeable Message Signs (PCMS) prior to the Ramp closure on I-29 North Bound on/off ramps at ND 297 (DeMers Ave). Provide three (3) PCMS prior to construction on I-29 North Bound off ramp Exit 138 (32nd Ave S), I-29 South Bound off ramp Exit 141 (US Hwy 2/Gateway Dr), and on East Bound US Hwy 2/Gateway Drive. Install Portable Changeable Message Signs (PCMS) 7 calendar days before work begins on the project. The Engineer will determine the locations for PCMS installation. Relocate the PCMS as directed by the Engineer. The PCMS shall conform to the requirements of the MUTCD, Part 6, and specification. The PCMS(s) shall remain in place for the duration of the construction project or when all traffic control has been removed, whichever is sooner.

Provide an operator trained in the use of the PCMS.

The Engineer will determine the message to be displayed. The operator must program the message within one hour of the Engineer's request to change the message. If the message is not changed within one hour of the Engineer's request the Engineer will follow the corrective action procedure in Section 704.04 A.3 "Traffic Control Maintenance and Revisions."

The PCMS will be measured for payment per device installed per construction season.

704-P05 STATE ROUTE MARKERS: Provide State Route Marker signs for temporary traffic control. State Route Markers may be either the old design or the new state outline design; however, all Route Marker signs provided must be of the same type.

Include the price of furnishing, installing, maintaining and other incidentals in the contract unit price of "TRAFFIC CONTROL SIGNS"

704-P06 TRAFFIC CONTROL DURING UND SPRING COMMENCEMENT: On Saturday May 16th, 2026 all driving lanes, sidewalks, and shared use paths along 42nd Street and DeMers Avenue within the project area will be open to traffic and pedestrians.

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

1. Minimum total area of 800 square feet.
2. Indoor bathroom facilities with weekly cleaning facilities.
3. Hookups for heat, electricity, sewer, and potable water.
4. Minimum cabinet space of 32 cubic feet.
5. Minimum counter space of 60 square feet.
6. A heating and cooling system that is capable of maintaining the temperature between 65°F and 78°F.
7. Lighting with a minimum of 110 foot-candles.

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8. Photocopier/Printer with scanning capabilities capable of producing 11x17 photocopies and enough toner to last the duration of the project. Other features to include digital copying and scanning. Provide a photocopier/printer with operating software compatible with that used by the NDDOT.
9. Microsoft Windows 11 compatible laser color printer with updated drivers that are capable of both LAN and Wireless printing.

Place the field office within one block of the project. The Contractor is responsible for the following fees:

- Rental fees
- Cleaning Service
- Heating
- Electricity
- Sewer
- Potable Water

Make the field office available for occupancy one week before the start of the project and remain through project completion. The Engineer will approve the location and the condition of the office.
The Engineer is responsible for the following items:

- Furnishing office equipment
- Supplying paper
- Supplying and paying for internet service.

All requirements of the Field Office are subject to approval by the Engineer. Include the costs for the field office in the contract unit price for “FIELD OFFICE”.

Schedule for Payments:

- 25% when set up on site.
- 50% when 30% of the work is complete.
- 75% when 60% of the work is complete.
- 100% when the project is complete.

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714-P01 STORM SEWER & STORMWATER MANAGEMENT: Manage existing and proposed storm sewer systems for the duration of the project. Maintain continuous drainage flow to designated discharge locations.

This project is to not impact upstream property owners to an extent greater than existing conditions as well as traffic. This includes, but is not limited to, phasing or optimizing the storm sewer removals and installation to maintain storm sewer drainage. If temporary storm sewer connections are unable to be completed, then pumping of storm water from existing to proposed drainage structures will be allowed, as long as traffic is not impacted.

Submit a Storm Water Management Plan to the Engineer 7 days prior to each traffic control phase which includes, but not limited to, inspection schedules, contingency plans, and obtaining all permits required. Copies of permits shall be provided to the Engineer. In areas of ponding caused by construction activities, sweep/remove water, mud and debris from the pavement surface immediately after any rain event. Include all storm water management costs in the contract unit price bid for “PIPE CONDUIT __IN – STORM DRAIN”.

714-P02 CULVERTS, STORM DRAINS & UNDERDRAINS EXCAVATION: Trench excavation quantities to install culverts, storm sewer, and underdrains are not included in the plan quantities. Include costs for trench excavation of culverts, storm sewer, and underdrain in the respective bid price for "PIPE CONC REINF __IN CL III-STORM DRAIN", "PIPE CONC REINF _IN CL _", "PIPE CONC REINF ARCH _IN X _IN CL III-SEWER", “PIPE CONC REINF ARCH _IN X _IN CL III-S DRAIN, "PIPE CONC REINF ARCH _IN X _IN CL III", “, "PIPE CONDUIT _IN-STORM DRAIN", "UNDERDRAIN PIPE PVC PERFORATED 4IN".

714-P03 UNDERDRAIN PIPE PVC PERFORATED 4IN: Include all costs to construct, core drill holes, and rubber boot connection to inlets, PVC Bends, and PVC Tee’s in the contract unit price bid for “UNDERDRAIN PIPE PVC PERFORATED 4IN.”

714-P04 GROUND WATER MANAGEMENT: Dewater excavations that extend into the ground water. Submit dewatering plan to the Engineer 7 days before beginning work on the storm drain. Obtain all permits required for dewatering and provide copies of the permits to the Engineer. Include all costs for storm drain excavation dewatering in the contract unit price for “PIPE CONDUIT __IN – STORM DRAIN”.

714-P05 POTHOLING WATERMAIN: Pothole watermain to verify depth at all storm sewer lateral crossing locations. Allow the Engineer access to the watermain so an elevation can be obtained for City records. Include all costs to pothole the watermain in the contract unit price bid for “PIPE CONDUIT __IN – STORM DRAIN”.

714-P06 REINFORCED CONCRETE PIPE STORM SEWER: Join pipe sections to existing pipe so the ends are fully entered into an existing pipe joint, and the inner surfaces are flush and even. If necessary, in the opinion of the Engineer, mortar connection inside and out. If pipe diameter prohibits mortar inside pipe, submit alternative method to Engineer. Include the cost for material, equipment, labor, tools, and incidentals necessary to connect proposed storm sewer pipe to existing storm sewer pipe in the contract unit price bid for "PIPE CONC REINF __IN CL III-STORM DRAIN".

714-P07 REMOVE & RELAY PIPE-ALL TYPES & SIZES: Existing storm sewer drainage pipe sections will be removed and salvaged as shown in removals plans. Salvaged pipe sections will be relayed after proposed watermain is installed and existing watermain is removed. Relay pipe segments without gaps between spigot and socket ends, butt the final pipe joints together and pour a concrete collar around them to prevent infiltration & inflow into the gap. For culvert/pipe removals within BNSF right-of-way and beneath tracks, open cut removal will be required for all pipes within BNSF right-of-way and beneath railroad tracks, and BNSF bedding and compaction standards shall be met within BNSF right-of-way.” Tie all pipe joints under track embankment.



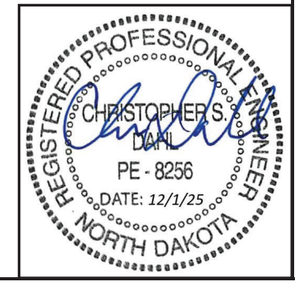
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720-P01 ALIGNMENT MONUMENT IN BRIDGE DECK: For alignment monuments located within the bridge deck, construct in accordance with Standard Drawing D-720-1 Alignment Monuments Details for a concrete roadway with the following changes:

1. Install the alignment monument into the bridge deck after the longitudinal grooving is complete.
2. The No. 5 x 18” deformed bar is not required.
3. Recess the top of the aluminum cap 1/8” to 1/4” below the finished bridge deck surface by drilling a hole slightly larger in diameter than the aluminum survey cap.
4. Modify the stem depth of the aluminum cap to be placed in a drilled hole of 3/4” max depth into the bridge deck.
5. Epoxy the cap into the bridge deck.

Include all costs for this work in the contract unit price bid for “ALIGNMENT MONUMENTS”.



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722-P01 ADJUSTMENT OF MANHOLES: Adjust all existing manholes not being removed. Work is to be performed as follows:

Remove and salvage existing manhole castings and covers. Free the existing manhole frames and covers and remove existing adjustment rings and clean top of existing manhole structure and adjust them to final grade. Prevent debris from falling into manholes and promptly remove any fallen debris. Provide protective wrapping over manhole covers to prevent infiltration from overnight rain events. Install new plastic adjustment rings, chimney seals, and as necessary chimney seal extensions. Install two wraps of 6 MIL poly on adjustment rings/chimney seals and casting flange, tape in place, for all manholes.

No Adjustment: No pay quantity.

Minor Adjustment: Adjustment may be made by raising or lowering the casting with adjusting rings. The minimum height of each adjusting ring will be 2 inches, unless approved by the Engineer.

Major Adjustment: The adjustment requires the removal of the top section and installation of a new manhole riser section, replacement of the top section and/or cover and casting.

All manhole riser lengths and adjustments shall be field verified by the Contractor and approved by the Engineer prior to submitting work drawings.

Minor adjustments shall be paid for as "ADJUST MANHOLE". Major adjustments shall be paid for as "ADJUST MANHOLE SPECIAL". Include all costs to adjust manholes to the proposed elevations including material, labor, and equipment in the contract unit price bid for “ADJUST MANHOLE” and “ADJUST MANHOLE SPECIAL”.

722-P02 INLETS AND MANHOLES: Inlets and manholes were designed with a minimum 5-foot riser height. Fill the bottom of each drainage structure with concrete, up to the lowest invert elevation.

722-P03 CATCH BASINS: All costs associated with the installation of the Catch Basins with Neenah R-3067, EJ 7030 or approved equal castings and including a 2 inch radius curb box will be included in the contract unit price bid for “INLET-TYPE 2”. All costs associated with the installation of the Catch Basin - Double will be included in the contract unit price bid for “INLET-TYPE 2 DOUBLE”.

722-P04 CHIMNEY SEALS: Provide external chimney seals and chimney seal extensions as needed on all manhole castings and inlets installed in pavement. Manholes in turf areas do not get chimney seals. Provide sleeve and extension extruded from a high-grade rubber compound conforming to the applicable requirements of ASTM C923. Use bands for compressing the sleeve and extension against the inlet fabricated from 16-gauge stainless steel conforming to ASTM A 240, Type 304. Use stainless steel screws, bolts, and nuts conforming to ASTM F593 and 594, Type 304. Include the costs of the chimney seals installed in pavement in the contract unit prices for “ADJUST MANHOLE”, “ADJUST MANHOLE SPECIAL”, “MANHOLE __IN”, “INLET-TYPE 2”, “INLET-TYPE 2 DOUBLE” and “INLET SPECIAL-TYPE 2 __IN”.

722-P05 ADJUST GATE VALVE BOX: Adjust existing gate valve boxes and curb boxes straight, plumb, centered and to final grade by turning or adjusting existing structures. Where existing gate valve boxes or curb boxes do not have sufficient adjustment or alignment, remove top section and construct additional sections as necessary to achieve desired adjustments. Verify valve access prior to and following construction. Double-wrap riser sections exposed with 6-mil polyethylene. Include all costs in the contract unit price bid for “ADJUST GATE VALVE BOX.”

722-P06 CATCH BASIN MANHOLES: All costs associated with the installation of the Catch Basin Manholes (CBMH) with Neenah R-3067, EJ 7030, or approved equal castings and including a 2 inch radius curb box will be included in the contract unit price bid for “INLET SPECIAL-TYPE 2 __IN”.

722-P07 FLOATING CASTINGS: Installing floating castings on all new and existing manholes and inlets located within the concrete pavement will be included in the prices bid for “ADJUST MANHOLE”, “ADJUST MANHOLE SPECIAL”, “MANHOLE __IN”, “INLET-TYPE 2”, “INLET-TYPE 2 DOUBLE” and “INLET SPECIAL-TYPE 2 __IN”.

722-P08 CONNECT STRUCTURE TO EXISTING PIPE: The existing pipe material and size shown in the plan set is based on record drawings and field data. No additional compensation will be paid for the existing pipe connection to a new structure if the existing pipe encountered is different than the material and size shown. Include all costs to connect existing pipe to new structures in the contract unit price bid for “MANHOLE STORM CONNECTION”.

722-P09 INLET CASTING INSTALLATION: Install inlet castings in a manner that does not create additional joints in the pavement, which were not part of the designed joint layout. Standard 2-ft wide type I curb will be used on DeMers Avenue only; see typical sections.

Install inlet castings without removal of adjacent portions of the concrete roadway. Notching-out or carving-out the concrete pavement is not allowed.

Either the inlet casting can be set with the mainline paving operation or the front flange of the inlet casting can be removed so the casting tightly abuts the mainline paving with a 2-ft wide type I curb section.

Include all costs for this work in the contract unit prices bid for “INLET-TYPE 2”, “INLET-TYPE 2 DOUBLE”, “INLET SPECIAL-TYPE 2 __IN”.



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722-P10 GRANULAR BASE FOR ADJACENT STRUCTURES: Extend granular base between structures (catch basins and manholes) that are within 5 feet from each other outside edge to outside edge. Includes costs associated with installation of additional material in the prices bid for “MANHOLE__IN”, “INLET-TYPE 2”, “INLET-TYPE 2 DOUBLE” AND “INLET SPECIAL-TYPE 2 __IN”



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724-P01 WATERMAIN SHUTOFF: Some watermain valves may require being shut down for water connections as part of this project. Work with the Engineer and the City of Grand Forks to determine the following:

1. Valve locations that will need to be shutdown.
2. Contact the City of Grand Forks Water Department's Water Operations Manager Dan Hanson (701-738-8772) and the Engineer at least 48 hours in advance to shut down a city valve.
3. If a shutdown is approved by the City, notify all properties affected by the shutdown a minimum of 48 hours prior to the shutdown. The Contractor will be required to work with affected properties/businesses to schedule a time frame to shut down the water main that would be acceptable. All shutdowns will be scheduled during optimal times as dictated by the City of Grand Forks Water Department.

Unauthorized valve operation resulting in a material, labor, or water cost to the City will be invoiced directly to the Contractor. Charges to the Contractor will be calculated at the City employee's direct wage rates with a 2.0 multiplier.

724-P02 PIPE EXCAVATION: Trench excavation quantities to install watermain and PVC piping are not included in the plan quantities. Include costs for trench excavation of watermain & PVC Piping in the bid price for "WATERMAIN _IN PVC", "WATERMAIN _IN", "PIPE PVC 12IN SEWER".

724-P03 WATERMAIN: Use potable water products meeting American National Standards Institute (ANSI) and National Sanitation Foundation International (NSF) Standard 61. Provide product certification by NSF, the Underwriters Laboratories, or other organizations accredited by ANSI.

14 IN PVC Reverse Osmosis: Use PVC C-900, DR 18 pipe. Connect to existing watermain using Hymax couplings. Include all costs for connection to the existing watermain in the contract unit price bid for "CONNECTION TO EXISTING MAIN".

20IN PVC Watermain: Use PVC C-900, DR 18 pipe. Install tracer wire along all PVC pipe. Connect to existing watermain using ROMAC RC 501 coupling. The RC 501 coupling assumes the existing watermain is Class 150 AC Pipe. Contractor to verify pipe class and outside diameter in the field and notify the Engineer of any discrepancies. Existing pipe class, material and diameter is based on record drawings available at the time of design. No additional compensation will be provided if existing pipe differs from assumptions made herein. Include all costs for connection to the existing watermain in the contract unit price bid for "CONNECTION TO EXISTING MAIN".

30IN DIP Raw Water: Provide restrained Class 350 ductile iron fittings including bends, tees, reducers, plugs and adapters. Provide fittings manufactured by Tyler Union or American Cast Iron Pipe Company. Install watermain fittings with stainless steel bolts and nuts and anti-seize material placed on the threads. Wrap all buried pipeline and appurtenances, including pipe, fittings, branch lines, and hydrant leads with polyethylene for its entire length in accordance with ANSI 21.5/AWWA C105. Include all costs for connection to the existing watermain well in the contract unit price bid for "CONNECTION TO EXISTING MAIN".

724-P04 HYDRANTS: INSTALL 6IN: Include all components required for complete hydrant installation as shown on the plans and described below. Provide compression type fire hydrants with five-inch valves and conform to the following:
1. Bottom Connection: 6 Inch
2. Open: Left
3. Color: Yellow
4. Hose Nozzles: Two 2-1/2 Inch and One 4-1/2 Inch Pumper Nozzle with NST Sizes 7532 and 40518 respectively.
5. Manufacturer and Model: American Flow Control (Waterous Company) Pacer Traffic Model WB-67-250, American Darling Model B-62-B. Provide 22" upper standpipe length resulting in a top nut 36"-38" above finished surface, or to the elevation indicated on the Plans. Measure bury depth from the bottom of the branch pipe connection to the finished surface at the hydrant.
6. Hydrant Tag: Required for each hydrant or extension.
7. AWWA Standard: C-502.
8. Working Pressure: 250 psig.
9. Joint: Restrained mechanical joint, including joints for tapping valves.

Provide hydrants meeting the finished surface or provide hydrants with hydrant extensions (include cost of extensions in the bid item "HYDRANT - INSTALL 6IN"). If extensions are used, install extensions as directed by the Engineer.

Provide resilient seated wedge type valves and conform to the following:
1. Open: Counterclockwise.
2. Manufacturer and Model: American Flow Control (American Darling Valve Series 2500 Resilient Wedge Gate Valve), Clow Valve Company (Resilient Wedge Valve with Clow Cleantrack Technology), Muellller (2360 & 2361 Series), M&H Valve Company (Style 7000 12" or smaller).
3. Bolting Materials: Stainless steel with hex heads and nuts in accordance with ASTM A-307 and A-563 respectively.
4. AWWA Standard: C-515 with latest revision, ductile iron (ASTM A536) resilient wedge.
5. Coating: AWWA C550. Provide electrostatically applied fusion-bonded-epoxy coating on internal and external surfaces of the body and bonnet. Provide wedges totally encapsulated with rubber complying with ASTM D-2000. Use NSF 61 approved epoxy coating.
6. Working Pressure: 250 psig and 100% leak-tight.
7. Seals: O-rings at all pressure retaining joints. Flat gaskets will not be allowed.
8. Joint: Restrained mechanical joint, including joints for tapping valves.

Thoroughly clean all hydrant components that will come into contact with potable water and sterilize. Unless otherwise



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indicated, install hydrants with tapping tees and gate valve. Saw hole for tapping tee prior to lowering pipe into trench. Install hydrant plumb and position the pumper nozzle facing the curb. Set the hydrant on either cast-in-place or precast concrete blocks, and brace against unexcavated earth. Upon completion of the installation, backfill the trench around the hydrant with Size 2 aggregate. Leave drain holes open upon installation.

Provide Size 2 aggregate meeting the following gradation:

Sieve Size (Inches)	Percent Passing by Weight
2”	100
1 ½”	90-100
1”	20-55
¾”	0-15

Install the break-off flange within 0-2 inches above the finished surface. Set the center of the pumper nozzle to 28 to 30 inches above the surrounding finished surface. Adjust hydrants that are not within these specified tolerances.

Fire hydrants shall be installed with a hydrant marker. Hydrant markers shall be 60” tall. Hydrant marker will be installed on the back side of the hydrant (opposite the pumper nozzle) by attaching to one of the upper hydrant bolts. Markers shall be red in color, with a reflective hydrant decal on the top of the marker, and American style bracket assembly.

Include all materials, equipment, labor, and incidentals necessary for installation of 6" hydrants, including, fittings, hydrant, concrete base, hydrant marker, pipe bedding, sterilizing, testing, flushing, backfill and other miscellaneous work in the contract unit price for "HYDRANT - INSTALL 6 IN."

724-P05 REMOVE HYDRANT: Coordinate with the City of Grand Forks Water Department for shut down of the watermain. Remove existing hydrant assemblies as indicated on the Plans. Include all materials, equipment, labor, and incidentals in the contract unit price for "REMOVE HYDRANT" to perform the following work:

1. Excavation and dewatering.
2. Removal of existing hydrant.

724-P06 WATERMAIN FITTINGS: Unless otherwise noted on the plans, watermain fittings will be measured by the pound without joint accessories or cement lining. The weight for fittings shall be in accordance with AWWA C153. The weight for fittings not listed in the tables below or in AWWA C153 shall be the actual weight of the fitting(s) furnished and installed based on acceptable documentation provided by the Contractor.

724-P07 GATE VALVES: For pipe over 16 inches, place butterfly gate valves on precast concrete blocks. Provide valve boxes manufactured by Tyler Union or Star Pipe Products. Provide cast iron, 3-piece units with lids marked "WATER", and 5-1/4" screw type shafts. Set valve box plumb and on a gate valve adaptor. Provide 1 /4" steel gate valve adaptor with UV polyurethane protective coating and a 3/4" rubber gasket attached to the gate valve adaptor. Use adaptors manufactured for the exact size and brand of valve.

724-P08 TEMPORARY WATER SERVICE: Coordinate water service shut-off with Grand Forks City Water Department. Notify affected customers in writing 48 hours in advance, excluding weekends and holidays, of any water service shut-off. Provide temporary water service for the duration of normal service disruption to Grand Forks City water customers when water service shut-off extends beyond a 4-hour period. Include costs for materials, equipment, labor, maintenance, and incidentals in the contract unit price for "TEMPORARY WATER SERVICE."

724-P09 CONVIENENCE STORE WATER SERVICE: The 1.5-inch copper service line providing potable water to the convenience store gas station at 4315 DeMers Ave will not be shut off or impacted by construction. The contractor will protect-in-place the service line and curb stop during construction. The location of the service line is at station 206+00 on DeMers Ave, between the watermain in the north boulevard of DeMers Ave and the convenience store. The contractor will adjust the curb stop riser to be set in the proposed concrete roadway pavement, similar to the existing condition. Include all costs for material, equipment, labor, tools, and incidentals necessary in the contract unit price for "WATERMAIN __IN” and “WATERMAIN__IN PVC”.

724-P10 WATERMAIN CHLORINIZATION: Swab sections of the new watermain pipe, fittings, pipe flange/plug, gate valves, hydrants and existing watermain with a chlorine solution prior to installation. Protect the watermain from becoming contaminated. If the Grand Forks City Water Department is not satisfied with the Contractor's protection of the existing watermain, the Contractor will be required to chlorinate the entire watermain as per the City's standard procedures at no cost to the Owner.

Conduct chlorination applications in the presence of the Grand Forks City Water Department. After the watermain and related items have been tested, flush until all foreign material has been removed, and chlorine levels are consistent with normal water system chlorine levels. Include all costs for material, equipment, labor, tools, and incidentals necessary to sterilize the system in the contract unit price for “WATERMAIN__IN” and "WATERMAIN __IN PVC".



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724-P11 WATERMAIN TESTING: Perform a hydrostatic test of the completed watermain work to 1.5 times the City working pressure or 150 psi, whichever is greater. Backfill the pipe where it is not restrained as necessary to conduct pressure testing. The Contractor is responsible for any defects to the pipe as result of improper restraint during pressure testing. The test pressure shall be applied and maintained without interruption within plus or minus 5 psi of test pressure for a minimum of 2 hours and cannot exceed the rate established by the following formula.

$$Q = (L \times D \times \sqrt{P}) / 148{,}000$$

In which:

Q = maximum permissible leakage rate in gallons per hour for the length of the line being tested.
L = Length of the line being tested in feet.
D = Internal diameter of the pipe in inches.
P = average test pressure in psig.

Locate defects and repair the line at the Contractor's expense and retest until the leakage is eliminated. Conduct testing in the presence of the Grand Forks City Water Department. Include the cost of hydrostatic testing in the contract unit price for “WATERMAIN __IN”, and “WATERMAIN _IN PVC”.

724-P12 BACTERIOLOGICAL TESTING: Bacteriological testing is required on all new and replaced watermain before the watermain is placed in service in accordance with AWWA C651 – Disinfecting Water Mains. One bacteria test location is required for every 1,200 feet of water main installed. Two bacteria test samples will be taken at each location with a minimum 24-hour separation of the sampling. The first test shall occur no sooner than 24 hours after flushing has been completed. The Owner will coordinate all testing with a NDDoH-certified independent testing firm. Coordinate with Logan Letexier with the Grand Forks City Water Department. The Contractor will be responsible for costs associated with bacteria testing of samples obtained. The Contractor is also responsible for costs associated with additional bacteria testing as the result of failed tests. All bacteria testing is to conform to AWWA C651 - Disinfecting Water Mains. Include all costs for bacteriological testing in the contract unit price for "WATERMAIN __IN", and "WATERMAIN __IN PVC".

724-P13 14IN REVERSE OSMOSIS: Water from the existing reverse osmosis pipe cannot be drained to the environment. Truck reverse osmosis water to the nearest wastewater treatment facility or sanitary sewer manhole designated by the City of Grand Forks. Coordinate with the Grand Forks City Water Department. Contact Dan Hanson at (701) 317-6405 no less than one week prior to taking the existing line out of service. The reverse osmosis line cannot be taken out of service for longer than 24 hours. Include all costs for draining and properly disposing of the reverse osmosis water, including materials, equipment, and labor, in the contract unit price for "WATERMAIN 14IN".

724-P14 ABANDON WATER MAIN/SERVICE LINE: Watermain not indicated to be removed is to be abandoned in place. Fill pipes with blown sand and cap or plug the ends with 4000 psi concrete. Include all labor, materials, and equipment associated with abandoning the pipe in the price bid for “ABANDON WATER MAIN/SERVICE LINE”.

724-P15 GROUND WATER MANAGEMENT: Dewater excavations that extend into the ground water. Submit dewatering plan to the Engineer 7 days before beginning work on the potable watermain, raw water lines, and reverse osmosis lines. Obtain all permits required for dewatering and provide copies of the permits to the Engineer. Include all costs for potable watermain, raw water line, and reverse osmosis line trench excavation dewatering in the contract unit price for “WATERMAIN_IN PVC”, “WATERMAIN 14IN”, and “WATERMAIN 30IN”.

744-P01 INSULATION BOARD: Polystyrene 4” insulation board will be required over portions of the pipe as noted in Section 55. Include the cost for material, equipment, labor, tools, and incidentals necessary to install the insulation board in the contract unit price for “INSULATION BOARD”.

REGISTERED PROFESSIONAL ENGINEER
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748-P01 CURB AND GUTTER: At connections to existing curb & gutter, place tie bars into pre-drilled holes that are cleaned and grouted with epoxy. Include all cost for tie bar installation, including materials, equipment, and labor, in the contract unit price for “CURB & GUTTER TYPE I”, “CURB & GUTTER TYPE I 30IN”, and “VALLEY GUTTER 36IN”.

750-P01 SIDEWALK CONCRETE__IN: At connections to existing sidewalk and shared use path concrete, place tie bars into pre-drilled holes that are cleaned and grouted with epoxy. At connections between sidewalk / shared use path concrete and pigmented boulevard and raised median concrete, place tie bars into pre-drilled holes that are cleaned and grouted with epoxy. Include all costs for labor and equipment necessary to construct sidewalk and shared use path to line and grade, including all reinforcement and tie bars, in the contract unit price bid for “SIDEWALK CONCRETE __IN”.

750-P02 DETECTABLE WARNING PANELS: Install unpainted, cast-iron plates manufactured by East Jordan Iron Works, Neenah Foundry, or approved equal. All panels to be cast-iron. Include all costs to furnish and install in the contract unit price bid for “DETECTABLE WARNING PANELS”.

750-P03 CONCRETE MEDIAN NOSE PAVING: Paint all concrete median noses with yellow epoxy meeting material requirements of Section 880.02 in the Standard Specifications. Prepare concrete surface as specified by the epoxy paint manufacturer. Use a pneumatic spray machine for paint application and apply glass beads by machine or by hand. Include all costs for concrete surface preparation for paint application, to remove curing compound, and materials in the contract unit price bid for “CONCRETE MEDIAN NOSE PAVING”.

750-P04 CONCRETE MIX DESIGN: For areas outlined in section 100 work zone traffic control, provide an AE or AAE concrete mix that attains a minimum compressive strength of 2,800 psi in 30 hours. Provide a separate mix design to the Engineer for review for this mix. Use a standard AE concrete mix in all other project segments not listed here. Include all costs associated with administering this mix design as indicated in the plans in the contract unit price bid for “DRIVEWAY CONCRETE 8IN.”

752-P01 TEMPORARY SAFETY FENCE: An extra quantity of 1400 LF has been added to be used as requested by Contractor and approved by the Engineer. Install temporary safety fence where hazardous situations may occur. Include all costs for installation, maintenance, and removal in the contract unit price bid for “TEMPORARY SAFETY FENCE”.

752-P02 FENCE CHAIN LINK: Provide a 6-foot high, hot-dipped galvanized chain link fence.

754-P01 SIGN & SUPPORT REMOVALS: Remove and reset existing signs and supports as specified in the plans. All signs and supports not to be reset or returned to owners as specified in the plan’s become property of the contractor.

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

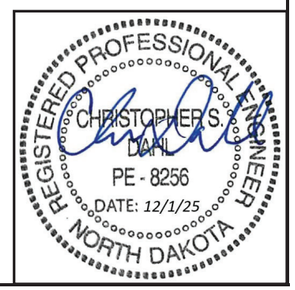
764-P01 ATTENUATING CRASH CUSHION TL-2: Install two - 24” wide crash cushions at the ends of the bridge pier transition barriers in the raised median of 42nd Street. Install a crash cushion with a width greater than the width of the traffic signal standard base at the intersection of DeMers Ave and 7th Ave S.

Install crash cushions on concrete pad in accordance with the crash cushion manufacturer’s recommendations, with transition panels on both sides of the unit.

Install crash cushions at the bridge pier ends during construction phase 4A. If opening 42nd Street to public traffic, maintain at least 14-feet separation from bridge pier end hazard to driving lane until the crash cushions are installed.

Install a crash cushion at the traffic signal base during construction phase 4B. If opening DeMers Avenue to public traffic, maintain at least 14-feet separation from the traffic signal base hazard to driving lane until the crash cushion is installed.

Include all costs for supplying and installing the concrete slab, transition panels, and tension strut backup in the contract unit price bid for “ATTENUATING CRASH CUSHION TL-2.”



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SECTION 140

770-P01 REMOVALS AND SALVAGING: Remove and salvage lighting equipment as shown on the plans. This includes the removal of lighting poles, lighting fixtures, foundations, lighting wires, and conduits as required. Coordinate delivery of salvaged lighting poles and fixtures to the city yard with City Electrician, Rick Hanson (701-738-8796) at the Public Works Department located at 724 N 47th Street, Grand Forks, ND 58203.

Include the cost for all labor, materials, and equipment necessary for removing, salvaging, and delivering these items to the City in the contract unit price for "REMOVE LIGHTING SYSTEM".

770-P02 LIGHTING: See the City of Grand Forks Standards, Specifications, and the Section 20 Detail Drawings for lighting standards:

- "LED LUMINAIRE - TYPE A" - Use AEL American Autobahn (with catalog number ATB0-P453-MVOLT-R3-NL-NR-A0) for all luminaires mounted on 40' light standards.
- "LED LUMINAIRE - TYPE B" - Use the luminaire AEL American Autobahn (with catalog number ATB0-P453-MVOLT-R2-NL-NR-A0 for all luminaires on top bridge mounted ornamental light poles and traffic signal poles.
- "LED LUMINAIRE - TYPE C" - Use AEL American Revolution (with catalog number 247L-P104-MVOLT-40K-R3-AY-BK-SCC-PR3-SH-AO-TL-NL1X1-HSW) for all luminaires mounted on 20' decorative light standards.
- "LED LUMINAIRE - TYPE D" - Use Holophane WCNP P2 40K MVOLT PYU4W, LSI TMWP-LED-07L-40, or Approved Equal for the wall pack lights.
- "LED LUMINAIRE – TYPE E"- Use Holophane PPSQL2 P30 40K PY T5W STM, LSI WCP-05L-DA-W-40, or Approved Equal for sidewalk hanger mounted canopy lights under bridge.
- "LED LUMINAIRE – TYPE F" – Use Holophane WCNP P2 40K MVOLT PY T3M, LSI TMWP-LED-04L-40, or Approved Equal for wall pack light under rail bridge for sidewalk.

Installation of Type D and F lights, embed a flush-mounted, UL-listed junction box in the concrete bridge cap for wall-pack lighting. Construct the box from galvanized steel (ASTM A36/A123) or non-metallic NEMA 4X material. Install a weatherproof, gasketed cover with stainless steel tamper-resistant hardware. Ensure the box face is no more than ¼ inch recessed from the finished concrete surface in accordance with NEC 314.20. Embed and seal all conduits to maintain alignment and integrity. Size the box to provide adequate volume for splices and comply with NEC conductor fill requirements. Ensure the installation is durable, corrosion-resistant, and accessible for maintenance. Supply lights that are multi-voltage and bronze in color.

Install TYPE E canopy lights under the bridge per Section 170a – Conduit Hanger Details (Sheet 53). Align and secure 1" rigid conduit with approved hangers, braced anchor points, and expansion devices per manufacturer recommendations. Ensure all conduit penetrations and pullboxes are sealed and aligned to preserve system integrity and accessibility for maintenance. Supply lights that are multi-voltage and bronze in color.

Include cost for labor, materials, and equipment for furnishing and installing lighting standards in the contract unit price for "LIGHTING SYSTEM _".

770-P03 PULL BOX: Provide HDPE pull box and install in accordance with standard drawing D-770-3. Include the cost for labor, materials, and equipment necessary for furnishing and installing the pull boxes in the contract unit price for "LIGHTING SYSTEM _".

770-P04 EXISTING CONDUIT CONNECTIONS: Any existing conduit being reused will have mandrel pulled through to remove all debris before installing new conductors. Existing conduits will have a straight cut where connection is made to new conduit. New conduit connecting to existing conduit will have long factory coupling, and existing conduit will be thoroughly cleaned, deburred, and a primer will be applied prior to glue. Include the cost for labor, materials, and equipment necessary for connecting conduits, then furnishing and installing the conductors in existing conduits in the contract unit price for "LIGHTING SYSTEM _".

770-P05 TEMPORARY STREET LIGHTING: Provide temporary street lighting equipment. Place lighting according to locations and details in the plans. Furnish and install wood poles, luminaires, span wire, and mounting supports as necessary. Lighting luminaires to have a wattage between 150w and 170w and minimum of 22,000 lumens. Minimum vertical clearance from roadway to bottom of span wire is 19'. Streetlight luminaires are to be mounted on a pole via mast arm. The Contractor is responsible for all coordination and costs to providing the electrical source and any costs required to operate and maintain the lighting. All labor and equipment necessary to furnish, install, maintain, move (if needed) and remove when new lighting is operational will be included in the contract unit price for bid item "TEMPORARY LIGHTING SYSTEM"

SECTION 150

772-P01 REMOVALS AND SALVAGING: Remove and salvage existing traffic signals and combo lighting equipment as shown on the plans. The equipment being removed includes but is not limited to signal standards, foundations, traffic signal controller and cabinet, video detection or surveillance equipment, EVP equipment, pedestrian pushbuttons, pushbutton posts, vehicle heads, pedestrian heads, mast arms signs, light extensions, and luminaires. Coordinate delivery of signal standards, mast arms, and equipment to the city yard with City Electrician, Rick Hanson (701-738-87960 at the Public Works Department located at 724 N 47th Street, Grand Forks, ND 58203). All other equipment removed not wanted by the City is the property of the Contractor and must be disposed of properly. Include the cost for labor, materials and equipment necessary for removing, salvaging, and delivering to the City these items in the contract unit price for "REMOVE TRAFFIC SIGNAL SYSTEM".



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772-P02 TRAFFIC SIGNAL SYSTEM-SITE X: This plan covers furnishing and installing new traffic signals at two signalized intersection sites as follows:
SITE 1: 42nd St S & 7th Ave S
SITE 2: ND 297 (DeMers Ave) & 7th Ave S

This includes but is not limited to furnishing and installation for the signal cabinet, controller, video detection system, traffic signal standards, mast arms, pedestrian pushbuttons, pushbutton posts, vehicular and pedestrian units, cabinet battery back-up, foundations, pull boxes, feed point, conduit, conductors, control cables, emergency vehicle pre-emption system, city furnished coordination plans, connection of interconnect system, and full restoration of the disturbed area. Include the cost for labor and equipment necessary for the signal system to be fully operational in the contract unit bid price for “TRAFFIC SIGNAL SYSTEM-SITE X”.

772-P03 LED LUMINAIRE: Provide LED luminaries for combo signal standards according to the plans. Lighting extensions will match height, finish and style of new street light poles:

- Use the luminaire AEL American Autobahn (with catalog number ATB0-P453-MVOLT-R2-NL-NR-A0 for all luminaires on signal standard combos.

Include the cost for labor, materials, and equipment necessary for furnishing and installing the LED luminaires in the contract unit price for “TRAFFIC SIGNAL SYSTEM-SITE X”.

772-P04 GRAND FORKS TRAFFIC SIGNAL CABINET: Use Econolite 332D, pre-wired with all necessary ancillary components including an EDI-2018KCLip (with program key) model Traffic Signal Conflict Monitor with Ethernet port. Adhere to the City of Grand Forks cabinet Specifications at Traffic Control Corporation. Include the cost for labor, materials, and equipment necessary for furnishing and installing the cabinet in the contract unit price for “TRAFFIC SIGNAL SYSTEM-SITE X”.

772-P05 TRAFFIC SIGNAL CONTROLLER: Furnish the controller cabinet and auxiliary control equipment furnished by a manufacturer whose Econolite Cobalt RM with Transit Key/2M Series NEMA TS2/NTCIP and operates on EOS software. This includes but is not limited to the emergency vehicle preemption unit, cabinet, new detector amplifiers (furnished and installed), other ancillary signal components (such as load switches, conflict monitors, etc.) and controller cabinet components connected as required to make the new controller equipment operational with the proposed signal equipment. Include the cost for labor, materials, and equipment required to install the new controller in the contract unit price for “TRAFFIC SIGNAL SYSTEM-SITE X”.

772-P06 CONCRETE CONTROLLER CABINET FOUNDATION AND WORKING SLAB: Contractor will check work drawings to ascertain the actual cabinet footprint as a structural member on the floor in the middle exists. Connect the concrete controller cabinet pad to the sidewalks. See detail in Section 20. Place slab on both sides of base as door on controller cabinet. Include the cost for labor, materials, and equipment necessary for furnishing and installing a new concrete pad to mount the new traffic signal cabinet in the contract unit price for “TRAFFIC SIGNAL SYSTEM-SITE X”.

772-P07 SIGNAL TIMING AND COORDINATION: Deliver the controllers and cabinets for SITES 1 & 2 to the City Electrician, Rick Hanson (701-738-8796), at the Public Works Department located at 724 N 47th Street, Grand Forks, ND 58203 a minimum of 35 days prior to installation. Due to limited space, coordinate with the City at the start of the project to determine the dates and times to deliver and pick up the equipment. Provide controller preloaded with signal timing as shown in the plans. The City Electrician will conduct operations tests and operate the controller for a test period of 30 consecutive days at the Public Works Department shop without any malfunctions of the controllers. Any controller that does not operate satisfactorily for the 30 days (as determined by the City Electrician) will be rejected and replaced. After the controllers have operated satisfactorily for the 30 days, they are approved to be installed. Include the cost for labor, materials, and equipment necessary for furnishing and installing the controllers, programming timings, as well as delivery for the City Electrician in the contract unit price for “TRAFFIC SIGNAL SYSTEM-SITE X”.

772-P08 BATTERY BACKUP SYSTEM: Provide an Alpha FXM 1100 Rugged UPS Module with Ethernet connection, an AlphaCell 195 XTV 100 ah batteries, and Alpha Remote Battery Monitoring System, and an Alpha ACSY SCLF with UATS/UGTS/120V 30A transfer switch battery backup system for the traffic signal system. Include the cost of labor materials and equipment necessary for furnishing and installing the battery backup system in the contract unit price for “TRAFFIC SIGNAL SYSTEM-SITE X”.

772-P09 VIDEO DETECTION SYSTEM: Provide Autoscope Vision Video Detection Equipment for the signalized intersection. Provide all cable connections, camera aiming and system set-up, including programming detection zones and verification of reliable operation by the manufacturer’s representative. The locations of cameras in the plans are for reference only. Include (2) spare camera(s), (1) interface panel and (1) detector port master for each Video Detection System. Provide a supplier warranty for the video detection system that is for a minimum of three years after the final inspection and acceptance, and ongoing software support by the supplier and include updates of the MVP sensor and application software for one year after final acceptance.

Include all costs, labor, materials and equipment necessary for furnishing and installing a fully operational video detection system in the contract unit price bid for “TRAFFIC SIGNAL SYSTEM – SITE X”.

772-P10 EMERGENCY VEHICLE PREEMPTION: Use Miovision Global GPS Vehicle Preemption; model 764 phase selector, Model 1010 GPS Radio Unit containing a GPS receiver with Antenna and a 2.4 GHz Spread Spectrum Transceiver with Antenna and Model 1070 GPS Installation Cable.



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The location of the GPS EVP detector as denoted in the plans may vary based on GPS signal availability. Install continuous/un-spliced cable between the controller cabinet and the EVP equipment on the pole/arm. Provide LED indicator lamps. Ensure EVP equipment is compatible with the other EVP equipment used within the City of Grand Forks. Provide all labor and equipment necessary for the emergency vehicle preemption system to be fully operational. Notify the City of Grand Forks Fire Chief Charles Marcott (701-746-2566) and City Electrician Rick Hanson (701-738-8796) when the proposed signalized intersection EVP system is tested and operable. Include the cost for labor, materials and equipment necessary for furnishing and installing the EVP system in the contract unit price for “TRAFFIC SIGNAL SYSTEM-SITE X”.

772-P11 MALFUNCTION MANAGEMENT UNIT: Use the EDI-2018KCLip (with program key) model with an Ethernet port. Perform a complete controller malfunction management unit test prior to turn on of the traffic signal system to traveling public. Include the cost for labor, materials, and equipment necessary for furnishing and installing the unit and to conduct malfunction management unit testing in the contract unit price for “TRAFFIC SIGNAL SYSTEM-SITE X”.

772-P12 VEHICULAR TRAFFIC SIGNAL HEADS: Use 12” vehicular signal heads with aluminum housings for each section. All traffic signal back plates will be louvered aluminum and will require 1” DG3 yellow tape outlining. Equip all sections with General Electric GTx LED illuminating elements conforming to the Institute of Transportation Engineers Equipment and Materials Standards and Specifications. Include the cost for labor, materials and equipment necessary for furnishing and installing the vehicular traffic signal heads in the contract unit price for “TRAFFIC SIGNAL SYSTEM-SITE X”

772-P13 PEDESTRIAN SIGNAL HEADS: Equip heads with LED illuminating elements displaying the pedestrian signals as shown. Include the cost for labor, materials, and equipment necessary for furnishing and installing the pedestrian signal heads in the contract unit price for “TRAFFIC SIGNAL SYSTEM-SITE X”.

772-P14 TRAFFIC SIGNAL HEAD MOUNTINGS: Furnish all hardware to mount the vehicle and pedestrian signal heads to the side of the poles. Do not mount heads directly to the pole or on the face of the pole directly adjacent to the street. No banding permitted. Include the cost for labor materials, and equipment necessary for installing traffic signal heads in the contract unit price for “TRAFFIC SIGNAL SYSTEM- SITE X”.

772-P15 SIGNAL STANDARD PAINT COLOR: Galvanize all new traffic signal standards, and then paint all traffic signal system components at SITES 1 & 2 in accordance with the following:

- Transformer Base – black
- Mast arm – black
- Signal head mounting hardware – black
- Shaft – black
- Signal housing – black
- Luminaire Extension-Galvanized

Use #27038 of Federal Standard No. 595B for the color black. Include the cost for labor, materials, and equipment necessary for painting signal components in the contract unit price for “TRAFFIC SIGNAL SYSTEM-SITE X”.

772-P16 PULL BOXES: Provide HDPE pull box and install in accordance with standard drawing D-770-3. Include the cost for labor, materials, and equipment necessary for furnishing and installing the pull boxes in the contract unit price for “TRAFFIC SIGNAL SYSTEM-SITE X”.

772-P17 ADDITIONAL CONDUIT: Install additional spare conduits in the following foundation(s). Extend conduit two feet beyond any working slab footprints. Cap the conduits with expandable metal plugs and label which direction the conduits are facing. The direction of the conduit will be determined in the field by the Engineer:

- Controller Cabinet Foundations – 4” - 2 total
- Feed Point – 2” – 2 total
- Signal Standard Foundation 4” – 1 total

Include all costs to supply and install the additional conduit in the contract unit price for “TRAFFIC SIGNAL SYSTEM-SITE X”.

772-P18 PEDESTRIAN PUSH BUTTON POSTS: See Grand Forks Standard Drawing 70.12A for instructions on materials, finish and installation. Include the cost for labor, materials, and equipment necessary for furnishing and installing the pedestrian push button posts in the contract unit price for “TRAFFIC SIGNAL SYSTEM-SITE X”.

772-P19 PEDESTRIAN PUSHBUTTON UNITS: Install Polara iNS2 2-wire 300 series system. Mount each pedestrian sign and pushbutton on one framed enclosure to the signal pole or bolt directly to the pedestrian pushbutton post. Do not use bandit for this purpose. Do not extend the top of the pushbutton signs above the top of the pedestrian pushbutton post. Include the Advisor Advanced APC Pedestrian Controller and compatibility of remote network either connection for real-time monitoring or control of operating parameters. Orient the push button and its sign (with arrow) in accordance with the positioning shown in the plans.

Include the following items per intersection, for each Polara iNS2 2-wire Navigator System

- POL-iCCU-C: iCCU Rack Mounted (300 series Cabinets) – 1 total
- POL-iN2-C4CABLE-C: C4 cable for iCCU-C- 1 total
- POL-iN2-ICB-C: Interconnect Board for iCCU-C -1 total
- POL-iN2-150WPS-C: 150-Watt Power Supply for iCCU- 2 total (1 spare)

REGISTERED PROFESSIONAL ENGINEER
DARRIN RICKBEIL
PE-4097
DATE: 12/5/2025
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- POL-iN29CB1-B: Int-PBS-9x12 Option C (countdown signs) Brail-Special Message-Blk Pedestrian Push Buttons – See Plans (1 spare required)
- Factory Representative Setup

Include the cost for labor, materials, and equipment necessary for furnishing, and installing the pedestrian pushbutton units in the contract unit price for “TRAFFIC SIGNAL SYSTEM-SITE X”.

772-P20 CONDUCTOR COLOR CONTINUITY: Maintain conductor color continuity where any 12 AWG 2, 12 AWG 3, 12 AWG 5, 12 AWG 7, 12 AWG 12 conductor cables are connected to 14 AWG 2, 14 AWG 3, 14 AWG 5, 14 AWG 7, 14 AWG 12 conductor cables within the termination of a traffic signal standard.

772-P21 LABEL ALL FIELD CABLES: Labels must be readable without moving the cables. When installing cable bundles in conduit, bundles will not be taped. Label tape will have a minimum outdoor durability rating of 5 years in temperature ranging from 180°F to -40°F

Label all field cables with cable designations as specified in the Table 772-01 of the standard specifications.

Include the cost for labor, materials, and equipment necessary for labeling field cables in the contract unit price for “TRAFFIC SIGNAL SYSTEM-SITE X”

772-P22 RED LIGHT CONFIRMATION INDICATORS: Provide blue omni-directional LED law enforcement confirmation lights that are visible from 360°when mounted on the signal heads. Provide a lens for the confirmation light in which the blue tint is integrated into the lens. Blue coating is not allowed. Provide lights that are manufactured specifically for use as law enforcement confirmation lights and have been used for that purpose at intersections within the United States. Mount the confirmation lights on a riser to the traffic signal heads. Provide unbrushed aluminum risers that can adjust to the height and angle of the confirmation lights. The confirmation lights must be visible above or below the signal heads backplate. Provide a connection between the riser and traffic signal head that is weatherproof and will not allow moisture into the traffic signal head. Connect the confirmation light to the red indication in the corresponding traffic signal heads. Place anti-seize compound on all threaded components. Include all costs associated with furnishing and installing the law enforcement confirmations lights in the contract unit price for “TRAFFIC SIGNAL SYSTEM-SITE X”.

772-P23 TRAFFIC SIGNAL – FATIGUE CATEGORY: All new traffic signal standards according to Section 896.05 of NDDOT Standard Specifications meet Fatigue Category 1 for SITES 1 & 2.

772-P24 TRAFFIC SIGNAL AND INTERCONNECT: Connect interconnect cables to new cabinets as shown on plans. See special provisions for fiber optic related materials. Coordinate all interconnect work with the City of Grand Forks electrical department to cause minimum interference with other parts of the system.

Include the cost for labor, materials, and equipment necessary for the interconnect connections in the contract unit price for “TRAFFIC SIGNAL SYSTEM -SITE X”

772-P25 FIBER OPTIC NETWORK: Connect interconnect cables to new cabinets as shown on plans. See special provisions for fiber optic related materials. Coordinate all fiber optic network disconnections and reconnections with the City of Grand Forks IT and Traffic Signal Departments to prevent minimum disruptions with the existing fiber network. Use plan conduit footages and cable footages on existing fiber cables to ensure that rerouted fiber is cut with enough slack to reach termination destinations on plans.

Include the cost for labor, materials, and equipment necessary for the interconnect connections in the contract unit price for “IT SYSTEM”

772-P26 FEED POINT-TYPE IV PAD MOUNTED: New feed point locations are shown in the plans. Install Povolny Specialties Model POVS20GRFRKS at all locations.

For Xcel Energy facilities, coordinate with Kyle Christenson (218-779-9938) to establish the service connection.

For Nodak Rural Electric Cooperative Facilities, coordinate with Steve Breidenbach (701-795-6759) to establish the service connection.

Include the cost for labor, materials, utility hook-up fees and equipment necessary for the feed point connections in the contract unit price for “TRAFFIC SIGNAL SYSTEM-SITE X”.

772-P27 2IN DIAMETER RIGID CONDUIT: Provide HDPE conduit in accordance with Section 895.02 “Conduit”, Subsection D “HDPE” for all underground conduits.

Install pull tape and locatable trace wire in all spare or future conduits.

772-P28 IT-PULL BOX: Provide ITS pull boxes that meet the following requirements (see ITS Detail – IT-Pull Box):

- 24” wide by 36” long by 36” deep
- UL listed
- Tier 22 rated in accordance with ANSI/SCTE 77
- Stainless steel hardware
- Barrier to separate Traffic and IT fibers

772-P29 INTERIM TRAFFIC SIGNALS: Provide interim signal equipment capable of phasing for the required movements of the intersection called out in the plans, and place signals according to locations and details in the plans. Ensure any required supplementary traffic control devices are in place before the interim traffic signal system is activated.



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NOTES

Furnish and install poles, signal heads, span wire, and supports as necessary according to NDDOT specifications. Minimum vertical clearance from roadway to bottom of sag is 19’. Ensure each device is compliant with all applicable MUTCD standards and guidance. Include, at a minimum, two vehicle signal heads for each approach, and pedestrian movement heads with countdowns. Include a signal controller that is NEMA compliant and capable of manual signal timing entry. Include a conflict monitor with connection to the signal controller. Perform a complete controller malfunction management unit test prior to turning on the traffic signal system to traveling public.

Adjust the interim traffic signal timing based on traffic volumes during construction. Coordinate with the Engineer on timing and phasing prior to startup or changes. The Contractor is responsible for the removal of the interim traffic signal system upon activation of the permanent signal or no longer needed. The Contractor is responsible for obtaining the electrical source to operate the interim traffic signals. The Contractor is responsible for all coordination and costs of providing the electrical source and any costs required to operate and maintain the traffic signals. All labor and equipment necessary to furnish, install, maintain and remove the interim traffic signal system intersection shall be included in the contract unit price bid item "INTERIM TRAFFIC SIGNALS".

REGISTERED PROFESSIONAL ENGINEER
DARRIN RICKBEIL
PE-10917
DATE: 12/5/2025
NORTH DAKOTA

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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 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-3 HAZARDOUS MATERIALS: Due to the potential to encounter contamination, the Contractor should follow steps outlined in Special Provision 392(24) provided for Contaminated Work Area. A qualified Environmental Geologist/Engineer will be required for work occurring in identified contamination zones or if contamination is encountered. A copy of the Phase II ESA will be provided to the Contractor to determine if additional safety considerations need to be addressed in their health and safety plan.

EN-4 CONTAMINATED SOIL: Due to the potential to encounter contaminated soils, 1,361 CY of excavation and disposal of contaminated soil is included in the plans. If contaminated soils are found, the Contractor will follow methods outlined in Special Provision 392(24) provided for Contaminated Work Area.

NOTIFICATIONS TO BE FILED BY CONTRACTOR:

EN-5 FAA Notice: 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).

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE - 8256
DATE: 12/1/25
NORTH DAKOTA

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103	0100	CONTRACT BOND	L SUM	0.12	0.13	0.06	0.18	0.28	0.04	0.07	0.12	1
107	0100	RAILWAY PROTECTION INSURANCE	L SUM						1			1
107	0140	RAILROAD COORDINATION	L SUM						1			1
107	0145	RAILROAD FLAGGING	DAY						1,600			1,600
108	0001	CRITICAL PATH METHOD SCHEDULE	L SUM	0.12	0.13	0.06	0.18	0.28	0.04	0.07	0.12	1
109	1000	E-TICKETING	L SUM	0.11	0.14	0.07	0.18	0.28	0.05	0.06	0.11	1
201	0330	CLEARING & GRUBBING	L SUM	0.25	0.25	0.25				0.25		1
201	0370	REMOVAL OF TREES 10IN	EA	6	3	33						42
201	0380	REMOVAL OF TREES 18IN	EA	7	8	52						67
201	0390	REMOVAL OF TREES 30IN	EA	1		2						3
202	0128	REMOVE AGGREGATE BASE	TON	69	169				12,798			13,036
202	0136	REMOVAL OF PAVEMENT	TON	36,975	31,753	3,418						72,146
202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES	EA								11	11
202	0174	REMOVAL OF PIPE ALL TYPES AND SIZES	LF	897		3,548			102	3,591	4,934	13,072
202	0210	REMOVAL OF MANHOLES	EA							1	15	16
202	0230	REMOVAL OF INLETS	EA								32	32
202	0231	REMOVE & RESET INLETS	EA								2	2
202	0286	REMOVAL OF FOUNDATIONS-ALL SIZES	L SUM						1			1
202	0288	EXCAVATION & DISPOSAL OF CONTAMINATED SOIL	CY		1,361							1,361
202	0312	REMOVE EXISTING FENCE	LF			56						56
202	0500	ACP WATERMAIN REMOVAL	LF							1,794		1,794
203	0101	COMMON EXCAVATION-TYPE A	CY	12,807	4,731	3,399			8,913		38	29,888
203	0109	TOPSOIL	CY	1,498	2,123	4,033			2,513		1,958	12,125
203	0113	COMMON EXCAVATION-WASTE	CY	362	72,356	3,329			3,293		16,319	95,659
203	0130	MUCK EXCAVATION	CY								400	400
210	0102	CLASS 1 EXCAVATION-SITE 1	L SUM				1					1
210	0103	CLASS 1 EXCAVATION-SITE 2	L SUM					1				1
210	0202	FOUNDATION PREPARATION-SITE 1	L SUM				1					1
210	0203	FOUNDATION PREPARATION-SITE 2	L SUM					1				1
210	0210	FOUNDATION FILL	CY				4,720	2,540				7,260
216	0100	WATER	M GAL	456	446	241						1,143
230	0165	SUBGRADE PREPARATION-TYPE A-12IN	STA						48			48
251	0300	SEEDING CLASS III	ACRE	5.68	5.68	5.68			5.68			22.72
251	1000	WETLAND SEED	ACRE		0.59							0.59
251	2000	TEMPORARY COVER CROP	ACRE	14.84	14.84	14.84			14.83			59.35
253	0201	HYDRAULIC MULCH	ACRE	14.84	14.84	14.84			14.83			59.35
255	0102	ECB TYPE 2	SY	162	161	161			161			645
255	0300	CONCRETE EROSION CONTROL BLANKET	SY								42	42
258	0100	CONCRETE SLOPE PROTECTION	SY				749	551				1,300
261	0112	FIBER ROLLS 12IN	LF	19,824	19,824	19,824			19,823			79,295
261	0113	REMOVE FIBER ROLLS 12IN	LF	9,491	9,491	9,491			9,491			37,964
265	0100	STABILIZED CONSTRUCTION ACCESS	EA	2	2							4
265	0101	REMOVE STABILIZED CONSTRUCTION ACCESS	EA	2	2							4
302	0100	SALVAGED BASE COURSE	TON	13,344	14,484	9,897					98	37,823
302	0120	AGGREGATE BASE COURSE CL 5	TON	2,450	4,916							7,366
302	0401	SALVAGE & RELAY AGGREGATE SURFACE COURSE	TON						6,243			6,243
430	0500	COMMERCIAL GRADE HOT MIX ASPHALT	TON	3,288								3,288
550	0305	9IN NON-REINF CONCRETE PVMT CL AE-DOWELED	SY	14,781	16,445	11,907						43,133
602	0500	BRIDGE SUBSTRUCTURE CONCRETE	CY		56		1,203	1,505				2,764
602	0510	BRIDGE DECK CONCRETE	CY				633					633
602	0520	BRIDGE BARRIER CONCRETE	CY				88					88
602	1120	SUPERSTRUCTURE CONCRETE	CY					421				421
602	1133	CONCRETE BRIDGE APPROACH SLAB	SY				424					424

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602	1134	PILE SUPPORTED APPROACH SLAB	SY				420					420
602	1250	PENETRATING WATER REPELLENT TREATMENT	SY				2,803	124				2,927
604	3910	PRESTRESSED I-BEAM-MN45IN	LF				1,923					1,923
604	9550	PRESTRESSED CONCRETE FASCIA GIRDER	LF					192				192
612	0115	REINFORCING STEEL-GRADE 60	LBS				36,543	108,093				144,636
612	0116	REINFORCING STEEL-GRADE 60-EPOXY COATED	LBS		5,808		270,039	250,185				526,032
616	0360	STRUCTURAL STEEL	LBS				5,805					5,805
616	5890	STRUCTURAL STEEL	L SUM					1				1
616	7000	A36 STEEL-ROLLED	LBS					9,605				9,605
622	0020	STEEL PILING HP 10 X 42	LF				2,880					2,880
622	0040	STEEL PILING HP 12 X 53	LF				5,850					5,850
622	0060	STEEL PILING HP 14 X 73	LF				12,480					12,480
622	0068	STEEL PILING HP 14 X 89	LF					24,071				24,071
622	0076	STEEL PILING HP 14 X 117	LF					10,920				10,920
622	0260	GROUND STABILIZATION PILING 14 X 73	LF				4,620					4,620
622	0268	GROUND STABILIZATION PILING 14 X 89	LF					3,976				3,976
622	7001	DYNAMIC PILE TEST	EA				5					5
624	0123	PEDESTRIAN RAILING	LF				251					251
624	0124	PEDESTRIAN FENCE	LF				187					187
702	0100	MOBILIZATION	L SUM	0.12	0.13	0.06	0.18	0.28	0.04	0.07	0.12	1
704	0100	FLAGGING	MHR	188	187	187						562
704	1000	TRAFFIC CONTROL SIGNS	UNIT	2,782	2,781	2,781						8,344
704	1052	TYPE III BARRICADE	EA	7	7	6						20
704	1054	SIDEWALK BARRICADE	EA	3	2	2						7
704	1058	PEDESTRIAN WALKWAY	LF	175	175	174						524
704	1060	DELINEATOR DRUMS	EA	94	94	94						282
704	1067	TUBULAR MARKERS	EA	49	49	48						146
704	1087	SEQUENCING ARROW PANEL-TYPE C	EA	1	1	1						3
704	1150	TEMPORARY TRAFFIC SIGNALS	EA	1	1	1						3
704	1500	OBLITERATION OF PAVEMENT MARKING	SF	192	192	192						576
704	2108	TEMPORARY CURB RAMP	EA	1	1							2
704	4011	PORTABLE CHANGEABLE MESSAGE SIGN	EA	2	1	1						4
704	5050	COVER SIGN	EA	1								1
706	0400	FIELD OFFICE	EA	0.2	0.2	0.2	0.2	0.2				1
706	0500	AGGREGATE LABORATORY	EA	0.2	0.2	0.2	0.2	0.2				1
708	1540	INLET PROTECTION-SPECIAL	EA	22	22	22			20			86
708	1541	REMOVE INLET PROTECTION-SPECIAL	EA	22	22	22			20			86
709	0100	GEOSYNTHETIC MATERIAL TYPE G	SY	18,261	20,753	14,220						53,234
709	0110	GEOSYNTHETIC MATERIAL TYPE RG	SY						9,283			9,283
709	0151	GEOSYNTHETIC MATERIAL TYPE R1	SY								156	156
709	0152	GEOSYNTHETIC MATERIAL TYPE R2	SY						15,130			15,130
709	0155	GEOSYNTHETIC MATERIAL TYPE RR	SY								42	42
714	0210	PIPE CONC REINF 15IN CL III-STORM DRAIN	LF								1,485	1,485
714	0315	PIPE CONC REINF 18IN CL III-STORM DRAIN	LF								1,466	1,466
714	0330	PIPE CONC REINF 18IN CL V	LF						94			94
714	0620	PIPE CONC REINF 24IN CL III-STORM DRAIN	LF								1,113	1,113
714	0825	PIPE CONC REINF 30IN CL III-STORM DRAIN	LF								280	280
714	0840	PIPE CONC REINF 30IN CL V	LF								148	148
714	0910	PIPE CONC REINF 36IN CL III-STORM DRAIN	LF								64	64
714	0922	PIPE CONC REINF 36IN CL V	LF								116	116
714	1230	PIPE CONC REINF 54IN CL V	LF								10	10
714	2102	PIPE CONC REINF ARCH 22IN X 13IN CL III	LF								52	52

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714	2119	PIPE CONC REINF ARCH 51IN X 31IN CL III-S DRAIN	LF								610	610
714	2130	PIPE CONC REINF ARCH 44IN X 27IN CL III	LF								158	158
714	4092	PIPE CONDUIT 12IN-STORM DRAIN	LF								139	139
714	4097	PIPE CONDUIT 15IN-STORM DRAIN	LF								964	964
714	4101	PIPE CONDUIT 18IN-STORM DRAIN	LF								128	128
714	4107	PIPE CONDUIT 24IN-STORM DRAIN	LF								1,603	1,603
714	4112	PIPE CONDUIT 30IN-STORM DRAIN	LF								6	6
714	4117	PIPE CONDUIT 36IN-STORM DRAIN	LF								800	800
714	5010	PIPE CORR STEEL .064IN 15IN	LF						66			66
714	8018	PIPE STEEL SMOOTH WALL .469IN 36IN	LF							180		180
714	8025	PIPE BORING PIT BRACING	L SUM							1		1
714	9659	REMOVE & RELAY PIPE-ALL TYPES & SIZES	LF								288	288
714	9720	UNDERDRAIN PIPE PVC PERFORATED 4IN	LF	4,462	6,256	3,890						14,608
720	0110	RIGHT OF WAY MARKERS	EA	10								10
720	0125	ALIGNMENT MONUMENTS	EA	9								9
720	0130	IRON PIN R/W MONUMENTS	EA	20								20
720	0135	IRON PIN REFERENCE MONUMENTS	EA	7								7
722	0100	MANHOLE 48IN	EA								9	9
722	0110	MANHOLE 60IN	EA								17	17
722	0120	MANHOLE 72IN	EA								2	2
722	0130	MANHOLE 84IN	EA								3	3
722	0140	MANHOLE 96IN	EA								1	1
722	1100	MANHOLE RISER 48IN	LF								63	63
722	1110	MANHOLE RISER 60IN	LF								120	120
722	1120	MANHOLE RISER 72IN	LF								17	17
722	1130	MANHOLE RISER 84IN	LF								23	23
722	1140	MANHOLE RISER 96IN	LF								36	36
722	2490	MANHOLE STORM CONNECTION	EA								7	7
722	3510	INLET-TYPE 2	EA								46	46
722	3520	INLET-TYPE 2 DOUBLE	EA								19	19
722	3701	INLET SPECIAL-TYPE 2 48IN	EA								5	5
722	3713	INLET SPECIAL MOUNTABLE-TYPE B 48IN	EA								2	2
722	3761	INLET SPECIAL-TYPE 2 60IN	EA								3	3
722	3766	INLET SPECIAL-TYPE 2 72IN	EA								1	1
722	3773	INLET SPECIAL MOUNTABLE-TYPE B 72IN	EA								1	1
722	6140	ADJUST GATE VALVE BOX	EA	1	1	1						3
722	6200	ADJUST MANHOLE	EA	1	1							2
722	6201	ADJUST MANHOLE SPECIAL	EA								1	1
724	0110	BUTTERFLY VALVE & BOX 20IN	EA							3		3
724	0114	BUTTERFLY VALVE & BOX 30IN	EA							4		4
724	0210	FITTINGS-DUCTILE IRON	LBS							29,071		29,071
724	0270	REMOVE GATE VALVE & BOX	EA							10		10
724	0300	GATE VALVE & BOX 6IN	EA							1		1
724	0310	GATE VALVE & BOX 8IN	EA							1		1
724	0321	GATE VALVE & BOX 14IN	EA							2		2
724	0400	HYDRANT-INSTALL 6IN	EA							3		3
724	0430	REMOVE HYDRANT	EA							3		3
724	0670	TEMPORARY WATER SERVICE	L SUM							1		1
724	0810	WATERMAIN 6IN PVC	LF							15		15
724	0830	WATERMAIN 8IN PVC	LF							20		20
724	0853	WATERMAIN 20IN PVC	LF							2,553		2,553
724	0856	WATERMAIN 14IN	LF							791		791

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724	0875	WATERMAIN 30IN	LF							1,583		1,583
724	0944	CONNECTION TO EXISTING MAIN	EA							11		11
724	5150	PIPE PVC 12IN SEWER	LF								133	133
724	6031	ABANDON WATER MAIN/SERVICE LINE	LF							124		124
744	0050	INSULATION BOARD	CF							792	294	1,086
748	0140	CURB & GUTTER-TYPE I	LF	8,873		161						9,034
748	0141	CURB & GUTTER-TYPE 1 SPECIAL	LF		833							833
748	0190	CURB & GUTTER-TYPE I 30IN	LF		6,571	5,620						12,191
748	1000	VALLEY GUTTER 36IN	LF	333								333
750	0020	PIGMENTED CONCRETE	SY	1,082	2,148	670	643					4,543
750	0115	SIDEWALK CONCRETE 4IN	SY		416							416
750	0125	SIDEWALK CONCRETE 5IN	SY	2,401	2,504	2,143						7,048
750	0210	CONCRETE MEDIAN NOSE PAVING	SY	51	36	27						114
750	1000	DRIVEWAY CONCRETE	SY	292	185	218			97			792
750	1021	DRIVEWAY CONCRETE 8IN REINFORCED	SY								156	156
750	2115	DETECTABLE WARNING PANELS	SF	182	80	112						374
752	0600	FENCE CHAIN LINK	LF	711								711
752	0850	ORNAMENTAL FENCE	LF				117	527				644
752	0911	TEMPORARY SAFETY FENCE	LF	200	200	200	200	200	2,342	200	200	3,742
754	0110	FLAT SHEET FOR SIGNS-TYPE XI REFL SHEETING	SF	206	124	138						468
754	0112	FLAT SHEET FOR SIGNS-TYPE IV REFL SHEETING	SF	170	79	73						322
754	0206	STEEL GALV POSTS-TELESCOPING PERFORATED TUBE	LF	293	195	236						724
754	0210	GALV STEEL POST-STANDARD PIPE	LF	30								30
754	0592	RESET SIGN PANEL	EA	2	3							5
754	0593	RESET SIGN SUPPORT	EA		1							1
754	1100	CLASS AE CONCRETE-SIGN FOUNDATIONS	CY	1								1
754	1104	REMOVE SIGN FOUNDATION	EA	3								3
762	0110	EPOXY PVMT MK 4IN LINE-GROOVED	LF	1,875	3,107	150						5,132
762	0132	EPOXY PVMT MK 8IN LINE-GROOVED	LF	1,879	2,436	2,439						6,754
762	0135	EPOXY PVMT MK 24IN LINE-GROOVED	LF	400	118	178						696
762	0136	EPOXY PVMT MK MESSAGE-GROOVED	SF	204	262	410						876
762	0420	SHORT TERM 4IN LINE-TYPE R	LF	2,247	2,247	2,246						6,740
762	0422	SHORT TERM 6IN LINE-TYPE R	LF	70	70	70						210
762	0426	SHORT TERM 24IN LINE-TYPE R	LF	19	19	19						57
762	0430	SHORT TERM 4IN LINE-TYPE NR	LF	2,708	2,708	2,708						8,124
762	0432	SHORT TERM 6IN LINE-TYPE NR	LF	65	65	65						195
762	0434	SHORT TERM 8IN LINE-TYPE NR	LF	23	23	22						68
762	0436	SHORT TERM 24IN LINE-TYPE NR	LF	17	17	17						51
764	0131	W-BEAM GUARDRAIL	LF	178								178
764	0145	W-BEAM GUARDRAIL END TERMINAL	EA	2								2
764	9010	ATTENUATING CRASH CUSHION TL-2	EA	1	2							3
770	0003	LIGHTING SYSTEM A	EA		1							1
770	0004	LIGHTING SYSTEM B	EA	1								1
770	0005	LIGHTING SYSTEM C	EA		1							1
770	0013	LIGHTING SYSTEM D	EA			1						1
770	0014	LIGHTING SYSTEM E	EA	1								1
770	1003	ORNAMENTAL LIGHT STANDARD	EA				18					18
770	4501	TEMPORARY LIGHTING SYSTEM	EA	0.5	0.5							1
770	4567	REMOVE LIGHTING SYSTEM	EA	0.47	0.45	0.08						1
770	9402	LIGHTING SYSTEM (AESTHETIC)	L SUM				0.5	0.5				1
772	2800	INTERIM TRAFFIC SIGNALS	EA	1								1
772	3125	REMOVE TRAFFIC SIGNAL SYSTEM	EA	1								1
772	9200	IT SYSTEM	L SUM	0.5	0.5							1

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SPEC	CODE	ITEM DESCRIPTION	UNIT	*Subproject 1* ND297 (DeMers Ave)	*Subproject 2* S 42nd St / N 42nd St	*Subproject 3* 7th Ave S & S 43rd St	*Subproject 4* DeMers Avenue Bridge	*Subproject 5* Railroad Bridge	*Subproject 6* Railroad Mainline & Shoofly	*Subproject 7 - CO FUNDED WORK* Watermain	Drainage	TOTAL
772	9811	TRAFFIC SIGNAL SYSTEM - SITE 1	EA	1								1
772	9812	TRAFFIC SIGNAL SYSTEM - SITE 2	EA		1							1
900	1000	TEMPORARY STREAM DIVERSION	EA								1	1
920	0090	LIFT STATION	EA								1	1
920	0100	PUMPING EQUIPMENT	L SUM								1	1
920	0199	PUMP HOUSE	EA								1	1
920	0265	OUTLET STRUCTURE	EA								1	1
930	3000	BRIDGE BENCH MARKS	SET				1					1
930	3040	BEARINGS (EXPANSION)	EA				20					20
930	3051	BEARINGS - TYPE I	EA					44				44
930	3052	BEARINGS - TYPE II	EA					44				44
930	8600	ELASTOMERIC BEARING PAD	SF				59					59
930	8700	3 IN EXPANSION JOINT	LF				188					188
930	9535	DECK DRAINAGE SYSTEM	L SUM					1				1
930	9537	ABUTMENT UNDERDRAIN SYSTEM	EA				2	2				4
970	0008	LANDSCAPE PREPARATION	SY		456							456
970	0060	PLANTING SOIL	CY		228							228
970	0074	WOOD MULCH	CY		38							38
970	1000	TREES	EA		8							8
970	1012	SHRUBS GROUP A	EA		233							233
980	0510	RAILROAD SUB-BALLAST	TON						13,707			13,707

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	10	1

BASIS OF ESTIMATE

Water
25 MGal/Mile for Dust Palliative
15 Gal/SY for Blended Base
20 Gal/Ton for Aggregates
10 Gal/CY for Embankment

216 0100 WATER												
Road	Dust Palliative			Aggregate Base			Embankment			Qty	Unit
	Length MILE	Rate MGAL/MILE	Qty MGAL	Weight TON	Rate GAL/TON	Qty MGAL	Volume CY	Rate GAL/CY	Qty MGAL		
ND 297 (DeMers Ave)	0.484	25	12.09	12,872.92	20	257.46	8,454.00	10	84.54	354.09	MGAL
N 42nd St / S 42nd St	0.432	25	10.80	19,400.54	20	388.01	4,731.00	10	47.31	446.12	MGAL
7th Avenue S	0.241	25	6.02	6,985.42	20	139.71	1,629.00	10	16.29	162.02	MGAL
S 43rd St	0.132	25	3.30	2,910.75	20	58.21	1,150.00	10	11.50	73.01	MGAL
Removed 7th Ave S		25			20		599.00	10	5.99	5.99	MGAL
Temporary Bypass		25		2903.00	20	58.06	4,353.00	10	43.53	101.59	MGAL
		Sub Total	32.21		Sub Total	901.45		Sub Total	209.16		MGAL
									Total	1,143	MGAL

Removal of Pavement
Salvaged Aggregate Base Course @ 1.875 Ton/CY
Concrete @ 2 Ton/CY
Accounts for full existing pavement depth and underlying aggregate
Base except for the bottom 2” of aggregate base

Salvage Base Course Summary						
Phase	Location	Pavement Removed (TON)		Aggregate Removed (TON)		Total (TON)
1A	ND 297	254	304	700	789	1,093
	42nd St	50		89		
1B	ND 297	357	1,924	619	4,194	6,118
	42nd St	1,567		3,575		
2	ND 297	3,084	4,186	6,877	9,377	13,563
	42nd St	1,102		2,500		
3	Bypass	2,703	2,703	1,701	1,701	4,404
4A	ND 297	1,250	8,754	2,780	19,412	28,166
	42nd St	6,464		14,143		
	S 43rd St	973		2,445		
	Phasing	67		44		
4B	ND 297	1,665	2,518	3,549	5,126	7,644
	42nd St	730		1,532		
	Phasing	123		45		
5A	ND 297	1,190	1,190	1,928	1,928	3,118
5B	ND 297	737	755	1,672	1,681	2,436
	Phasing	18		9		
5C	ND 297	666	767	1,216	1,264	2,031
	Phasing	101		48		
5D	ND 297	806	1,054	1,658	1,775	2,829
	Phasing	248		117		
5E	ND 297	211	250	476	494	744
	Phasing	39		18		

Salvaged Base Course Balance				
Phase	Removal of Pavement (TON) A	Salvaged Base Course Required (TON) B	Excess Material (TON) C = A-B	Balance (TON)
1A	1,093	40	1,053	1,053
1B	6,118	0	6,118	7,171
2	13,563	2,012	11,551	18,722
3	4,404	0	4,404	23,126
4A	28,166	25,725	2,441	25,567
4B	7,644	4,441	3,203	28,770
5A	3,118	1,507	1,611	30,381
5B	2,436	863	1,573	31,954
5C	2,031	1,289	742	32,696
5D	2,829	1,581	1,248	33,944
5E	744	365	379	34,323
Totals	72,146	37,823	34,320	34,323

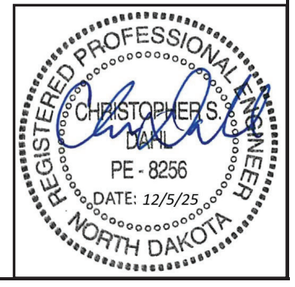
REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE - 8256
DATE: 12/5/25
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	10	2

BASIS OF ESTIMATE

Removals Totals					Subtotal Description								
Spec	Code	Item Description	Unit	ND 297 (DeMers Ave)	S 42nd St / N 42nd St	S 43rd St / 7th Ave S	Watermain	Storm Sewer	Construction Phasing	RR Mainline & Shoofly	Temporary Bypass	TOTALS
202 -	0128	REMOVE AGGREGATE BASE	TON						238	12,191		**12,429**
202 -	0136	REMOVAL OF PAVEMENT	TON	31,694	31,753	3,418			877		4,404	**72,146**
202 -	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES	EA					11				**11**
202 -	0174	REMOVAL OF PIPE ALL TYPES AND SIZES	LF			3,528	3,591	4,934	685	102	212	**13,072**
202 -	0210	REMOVAL OF MANHOLES	EA				1	15				**16**
202 -	0230	REMOVAL OF INLETS	EA					33				**33**
202 -	0231	REMOVE & RESET INLETS	EA					2				**2**
202 -	0288	EXCAVATION & DISPOSAL OF CONTAMINATED SOIL	CY		1,361							**1,361**
202 -	0312	REMOVE EXISTING FENCE	LF			56						**56**
202 -	0500	ACP WATERMAIN REMOVAL	LF				1,794					**1,794**
714 -	9659	REMOVE & RELAY PIPE-ALL TYPES & SIZES	LF					286				**286**
724 -	0270	REMOVE GATE VALVE & BOX	EA				10					**10**
724 -	0430	REMOVE HYDRANT	EA				3					**3**
724 -	6031	ABANDON WATER MAIN/SERVICE LINE	LF				124					**124**

Inlet Protection by Phase						
Spec	-	Code	Item Description	Unit	Phase	Total
708	-	1540	INLET PROTECTION-SPECIAL	EA	1A	35
					1B	30
					2	24
					3	32
					4A	86
					4B	36
					5A	18
					5B	18
					5C	19
					5D	20
					5E	20
708	-	1541	REMOVE INLET PROTECTION-SPECIAL	EA	1A	35
					1B	30
					2	24
					3	32
					4A	86
					4B	36
					5A	18
					5B	18
					5C	19
					5D	20
					5E	20
Total Inlet Devices needed						86



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	10	3

BASIS OF ESTIMATE

Roadway Surfacing Totals					Subtotal Description									
Spec	Code	Item Description	Unit		ND 297 (DeMers Ave)	S 42nd St / N 42nd St	7th Ave S	S 43rd St	Construction Phasing	Temporary Bypass	Lift Station Driveway	BNSF Access Roads	Roadway Bridge	TOTALS
302 -	0100	SALVAGED BASE COURSE	TON		12,894	14,484	6,986	2,911	450		98			**37,823**
302 -	0120	AGGREGATE BASE COURSE CL 5	TON			4,916				2,450				**7,366**
430	0500	COMMERCIAL GRADE HOT MIX ASPHALT	TON		34				454	2,810				**3,298**
550 -	0305	9IN NON-REINF CONCRETE PVMT CL AE-DOWELED	SY		14,781	16,445	8,401	3,506						**43,133**
748 -	0140	CURB & GUTTER-TYPE I	LF		8,849		161			24				**9,034**
748 -	0141	CURB & GUTTER-TYPE 1 SPECIAL	LF			833								**833**
748 -	0190	CURB & GUTTER-TYPE I 30IN	LF			6,571	3,988	1,632						**12,191**
748 -	1000	VALLEY GUTTER 36IN	LF							333				**333**
750 -	0020	PIGMENTED CONCRETE	SY		1,082	2,148	670						643	**4,543**
750 -	0115	SIDEWALK CONCRETE 4IN	SY			416								**416**
750 -	0125	SIDEWALK CONCRETE 5IN	SY		2,401	2,504	1,347	796						**7,048**
750 -	0210	CONCRETE MEDIAN NOSE PAVING	SY		51	36	27							**114**
750 -	1000	DRIVEWAY CONCRETE	SY		292	185		218				97		**792**
750 -	1021	DRIVEWAY CONCRETE 8IN REINFORCED	SY								156			**156**
750 -	2115	DETECTABLE WARNING PANELS	SF		182	80	80	32						**374**

Permanent Pavement Marking											
Spec - Code	Item Description	Unit	Color	Location	ND 297 (DeMers Ave)	S 42nd St / N 42nd St	7th Ave S	S 43rd St	Totals	
762 - 0110	EPOXY PVMT MK 4IN LINE-GROOVED	LF	White	Centerline Skip	740	1,059	150		5,132	LF
			White	Edge Line	857					
			Yellow	Double Barrier	278	2,048				
762 - 0132	EPOXY PVMT MK 8IN LINE-GROOVED	LF	White	Channel Line	1,384	1,882	1,587		6,754	LF
				Dotted Line	237	171	267			
				Extension Line	74	36	44			
				Crosswalk	184	194	314	69		
				Chevron Line		153	158			
762 - 0135	EPOXY PVMT MK 24IN LINE-GROOVED	LF	White	Stop Bar	140	118	146	32	696	LF
				Continental Crosswalk	260					
762 - 0136	EPOXY PVMT MK MESSAGE-GROOVED	SF	White	Left Turn Arrow (16SF EA)	128	160	160		876	SF
				Right Turn Arrow (16SF EA)	32	48	64			
				Thru/Right Arrow (27SF EA)		54	54			
				"ONLY" Message (22SF EA)	44		132			

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE - 8256
DATE: 12/5/25
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	11	1

Subproject	Location	Excavation (CY)	Embankment (CY)	By Source: COMMON EXCAVATION- TYPE A (1)	By Source: COMMON EXCAVATION- WASTE (5)	By Funding: 203-0101 COMMON EXCAVATION - TYPE A (CY)	By Funding: 203-0113 COMMON EXCAVATION - WASTE (CY)	By Funding: 203-0130 MUCK EXCAVATION (CY)	203-0109 TOPSOIL (2) (CY)
		A	B	C = B x 1.25	D=A-C				
ND 297 (DeMers Ave)	ND 297 (DeMers Avenue) (3)	2,984	6,711	8,389	-5,405	12,807	362		12,125
	I-29 Ramps	182	52	65	117				
	Temporary Bypass	4,598	3,482	4,353	245				
N 42nd St / S 42nd St	N 42nd Street / S 42nd St	82,492	3,785	4,731	77,761	4,731	72,356		
7th Ave S & S 43rd St	7th Avenue South	4,976	1,303	1,629	3,347	3,399	3,329		
	S 43rd Street	1,752	937	1,171	581				
	Removed Section of Existing S 43rd St (4)		479	599	-599				
Storm Sewer	East Basin Excavation	9,826	30	38	9,788	38	16,319	400	
	West Basin Excavation	4,484			4,484				
	Drainage Swale Excavation	2,047			2,047				
	Totals	113,341	16,779	20,975	92,366	20,975	92,366	400	
						Pay Item	Pay Item	Pay Item	Pay Item

Notes:
(1) Quantity Includes 25% additional volume for shrinkage
(2) Quantity of TOPSOIL split among listed subprojects groups & "Railroad Mainline & Shoofly"
(3) Negative Quantity Satisfied from N 42nd St / S 42nd St
(4) Negative Quantity Satisfied from 7th Ave S & S 43rd St
(5) Quantity includes unsuitable material waste as shown on sheet 11-2

Earthwork Summary

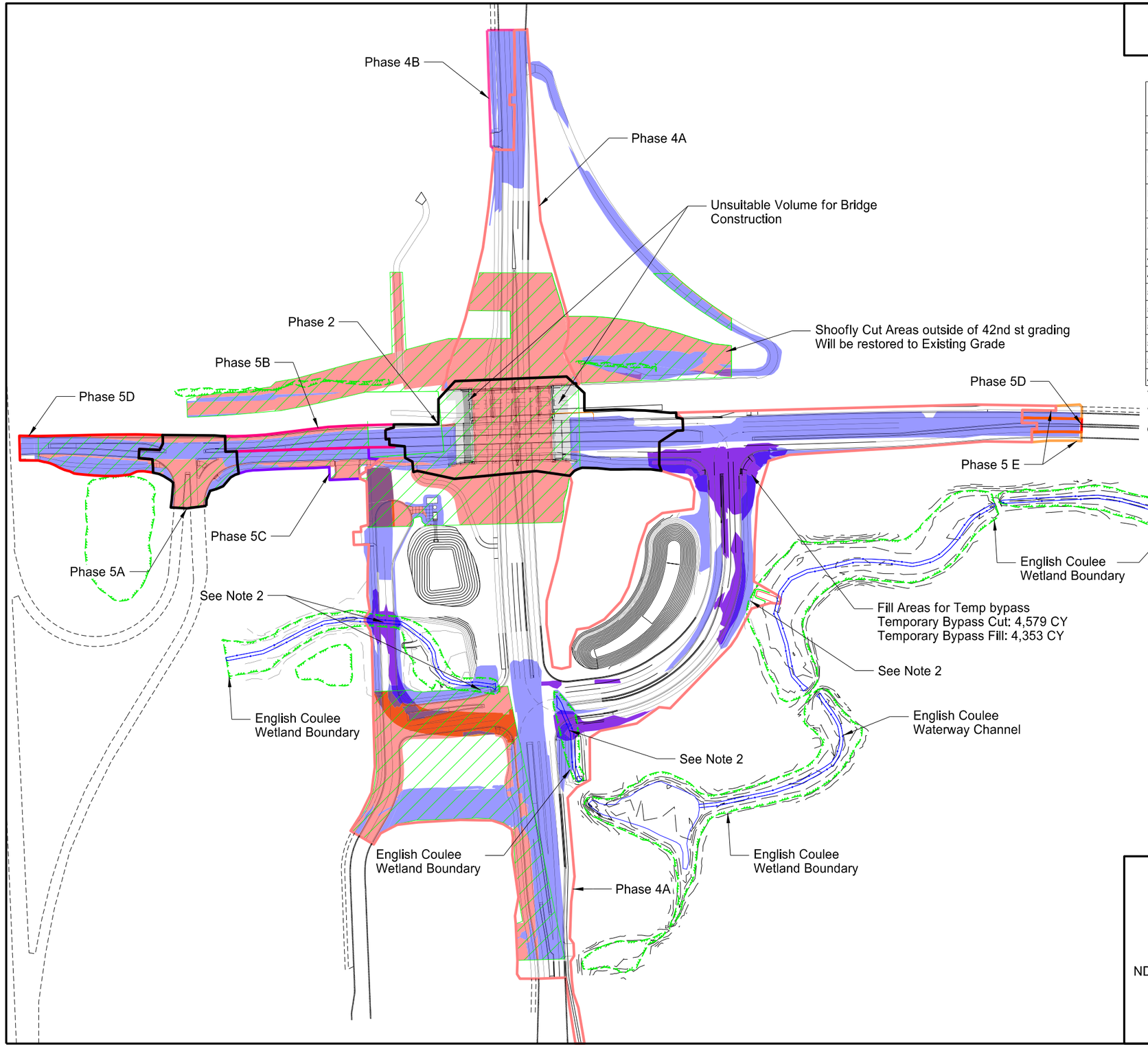
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.05 14:23:14 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	11	2



Construction Phase	Excavation CY	Unsuitable Excavation CY	Embankment CY*	Excess Unsuitable Soil (running total) CY°
Phase 1	14,628	12,085	5,683	7,084
Phase 2	32,379	30,568	2,158	35,494
Phase 2: Class 1 Site 1 Excavation	6,120	6,120	0	41,614
Phase 2: Class 1 Site 2 Excavation	4,635	4,635	0	46,249
3 (Shoofly Restoration)	575	575	4,656	42,168
4A	74,774	32,971	9,439	66,390
4B	450	0	1,357	65,033
5A	471	450	575	64,908
5B	291	240	961	64,187
5C	144	137	564	63,760
5D	213	196	934	63,022
5E	20	0	116	62,906
Access Roads	83	83	2,880	60,109

*Quantity Includes 25% additional volume for shrinkage

°Assuming all embankment outside of the english coulee to use unsuitable soils, excludes 1,372 CY placed within english coulee wetland boundary during phases 1 and 4A

Unsuitable Material Excavated (CY)	88,060
Unsuitable Material Reused as Fill on Site (CY)	27,951
Unsuitable Material Waste (CY) Pay Item 203-0113 Common Excavation - Waste	60,109

Unsuitable Soils: Heavy Metals (Arsenic, Barium, Lead)

Fill Areas

Unsuitable Cut Areas

Fill Areas (temp bypass)

Unsuitable Cut Areas (temp bypass)

Note:
1. Does not include utility trench excavation; all material will be placed back into the trench as backfill.
2. Unsuitable Soils cannot be used as fill material within the English Coulee Wetland Boundary or the English Coulee Waterway Channel

Unsuitable Soils
Heavy Metals (Arsenic, Barium, Lead)

ND 297 (DeMers Ave) & 42nd St Grade Separation

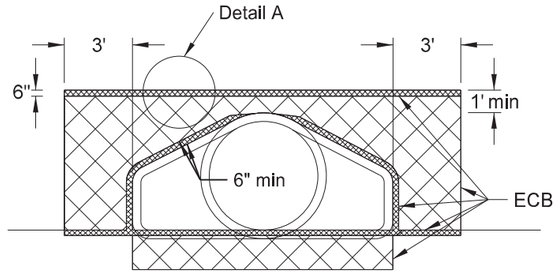
Grand Forks County

Grand Forks, ND

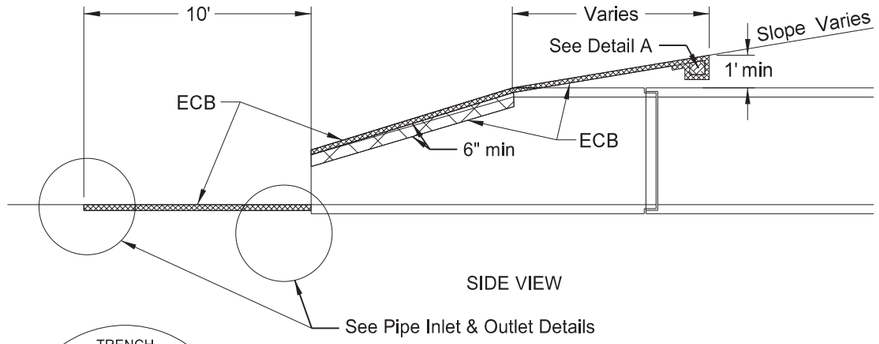
REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2026.01.28 16:18:14 -06'00'
NORTH DAKOTA

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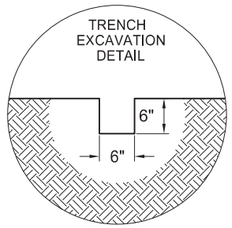
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	20	1

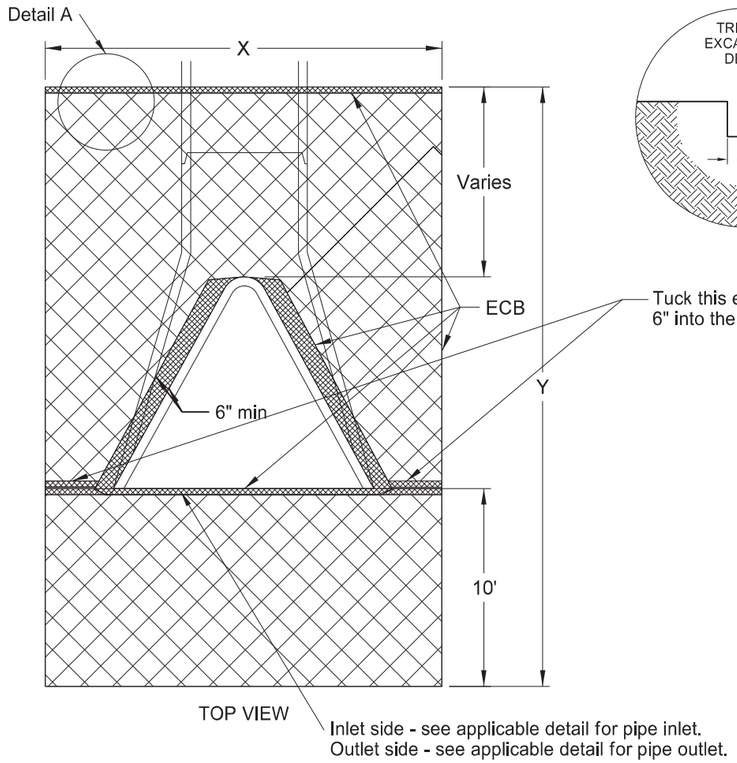


FRONT VIEW



SIDE VIEW

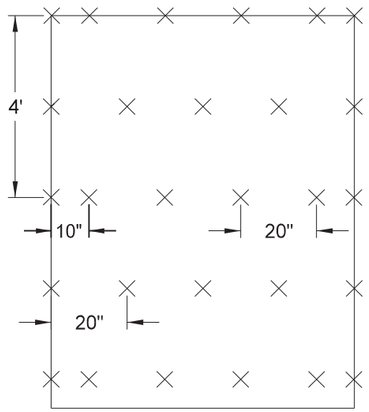




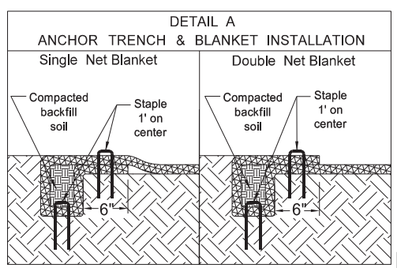
TOP VIEW

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

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
Note: Quantities based on 8:1 slope.				

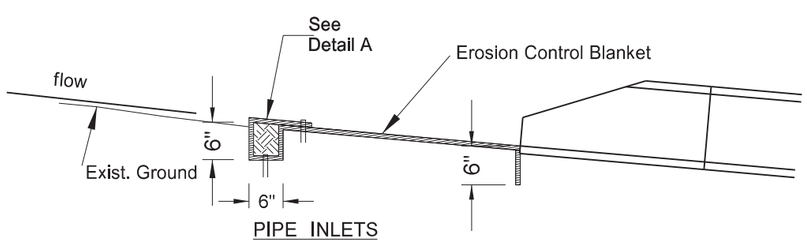


STAPLE PATTERN

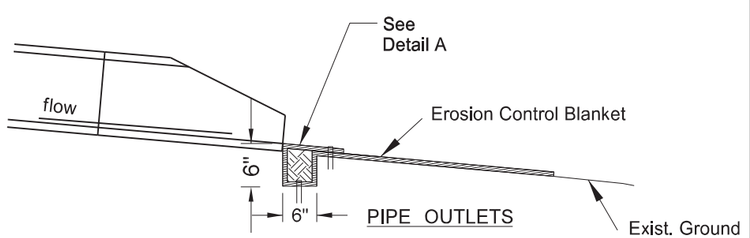


Erosion Control Blanket (ECB)					
Location to be Protected Station	Culvert Type Appr/CL	Pipe Diam (Inch)	No	Unit Quantitiy (SY)	Total Quantity SY
OCL_297EB: 204+63	CL	24	1	20	20
OCL_297EB: 215+39	CL	36	1	24	24
NE Access Road: 9+44	CL	15	2	20	40
OCL_42nd_NB: 306+24	CL	18	1	20	20
OCL_42nd_NB: 309+20	CL	48	1	27	27
OCL_42nd_NB: 310+24	CL	24	1	20	20
OCL_42nd_NB: 313+79	CL	30	1	22	22
OCL_42nd_NB: 314+66	CL	18	1	20	20
OCL_42nd_NB: 327+05	Appr	15	2	20	40
OCL_7th_EB: 398+45	CL	15	1	20	20
OCL_7th_EB: 398+80	CL	48	2	27	54
OCL_7th_EB: 400+99	CL	48	2	27	54
OCL_7th_EB: 401+69	CL	15	1	20	20
OCL_7th_EB: 402+57	CL	15	1	20	20
OCL_7th_EB: 404+47	CL	15	1	20	20
OCL_7th_EB: 405+53	CL	15	1	20	20
OCL_7th_EB: 406+45	CL	24	2	20	40
OCL_7th_EB: 407+45	CL	15	1	20	20
OCL_43rd: 713+63	CL	18	1	20	20
OCL_43rd: 714+17	CL	42	2	25	50
OCL_43rd: 714+26	CL	42	2	25	50
OCL_43rd: 715+70	CL	36	1	24	24
			Total (SYs)		645

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.				



PIPE INLETS



PIPE OUTLETS

General Details

Erosion Control at Culvert

ND 297 (DeMers Ave) & 42nd St Grade Separation

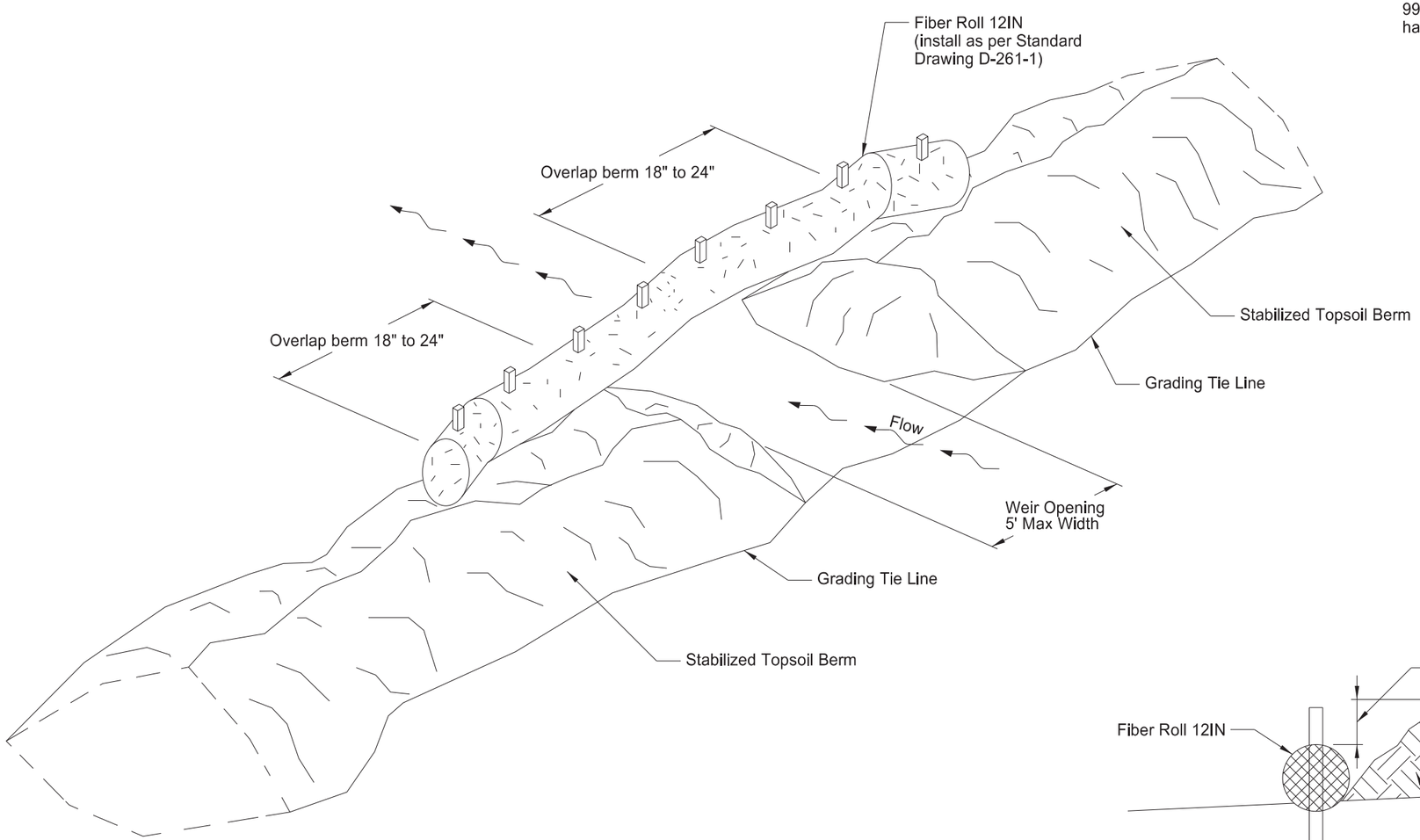
Grand Forks County

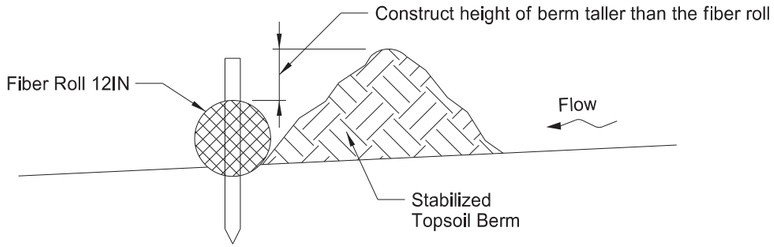
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.19 11:10:24 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	20	2

990 LF of Fiber Roll 12IN
have been included in the quantities for use at weirs.





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. The Engineer will measure and pay for fiber rolls separately.
7. The Engineer will measure and pay for removal of fiber rolls separately when required by the specifications.
8. The Engineer will measure and pay for soil stabilization and temporary cover crop separately.
9. Include the costs to create, maintain, and dismantle the berm in the unit price bid for "Topsoil".
10. For Wetland areas if there is no standing water, immediate placement of temporary cover crop (seeding) and soil stabilization (mulching) of the temporary topsoil berm may replace the fiber rolls. If Temporary cover crop and soil stabilization are not immediately applied fiber rolls are required. Fiber rolls will still be required at weir openings along the topsoil berms.

General Details

Temporary Topsoil Berm and Weir Detail

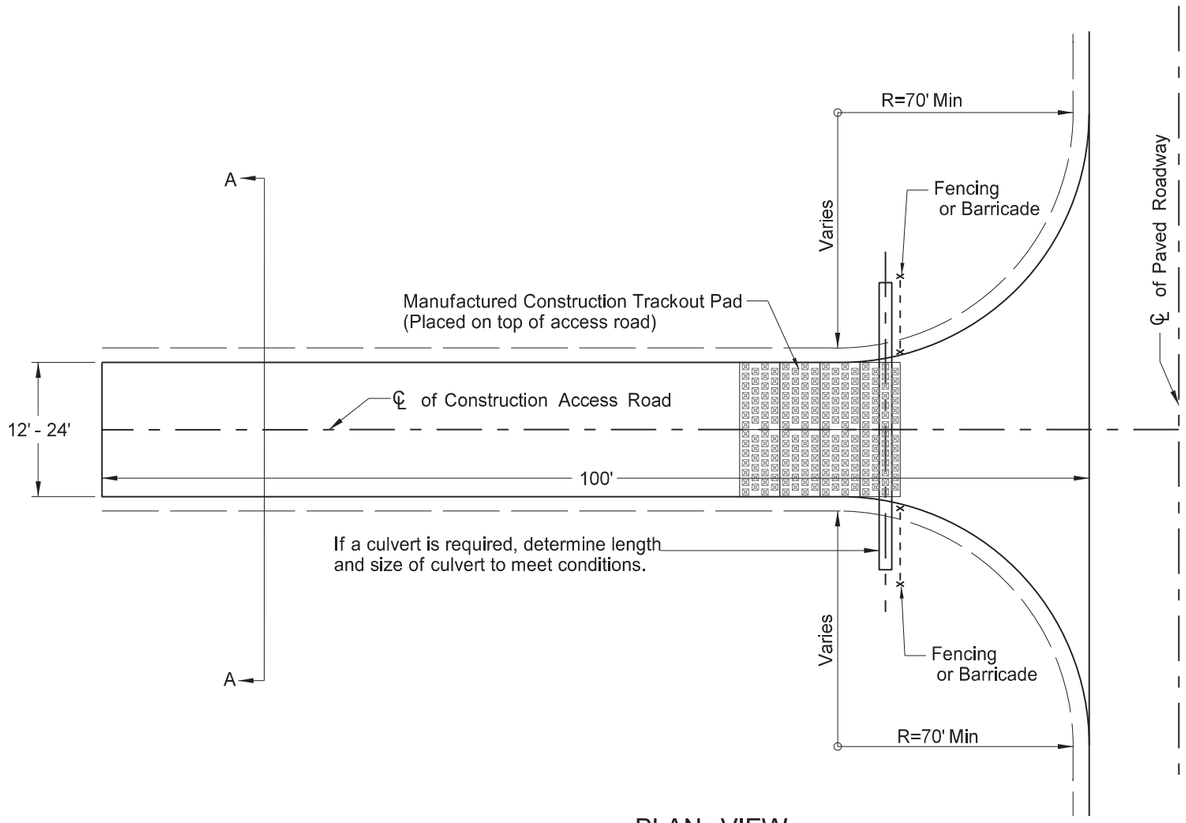
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

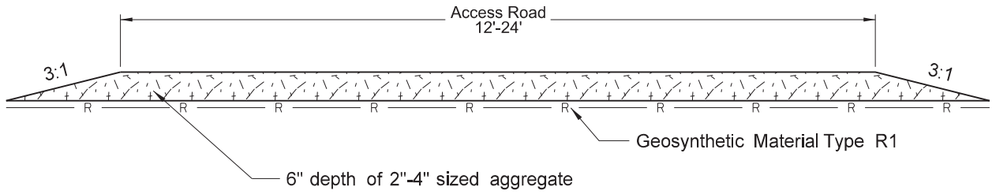
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-10276
DATE: 2025.12.11 11:10:41 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	20	3



PLAN VIEW



A - A Cross Section

Notes:
1. Coordinate the locations of the construction access with the Engineer.
2. Maintain access in a manner to minimize the tracking of sediment to outside the work area.
3. Upon completion of the project the contractor shall remove the temporary construction entrance unless noted otherwise, and the site shall be restored to its previous condition.
4. Install fencing or barricades on each side of tire cleaning device, spaced to force construction vehicles over device.

265 0100 STABILIZED CONSTRUCTION ACCESS
Location Varies as Required 4 EA

265 0101 REMOVE STABILIZED CONSTRUCTION ACCESS
Location Varies as Required 4 EA

General Details

Stabilized Construction Access

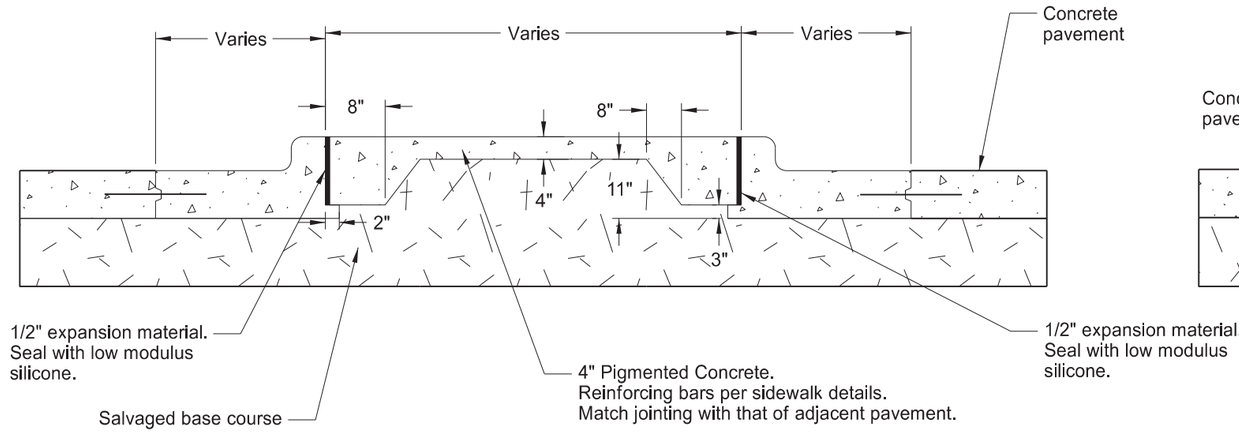
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

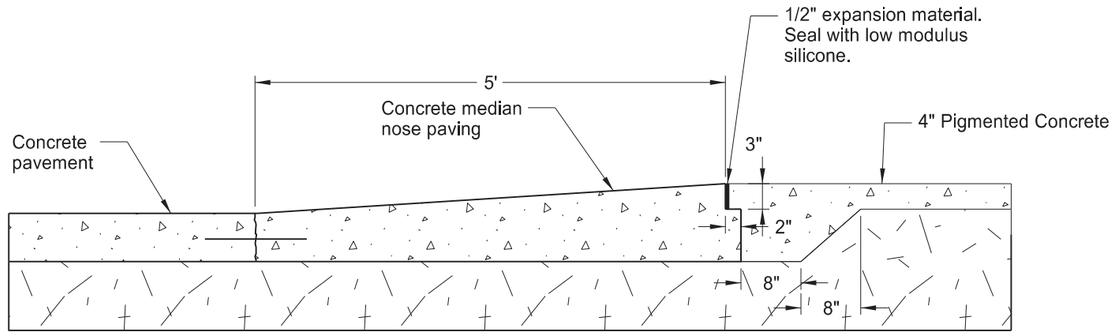
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE:2025.12.19 11:10:59 -06'00'
NORTH DAKOTA

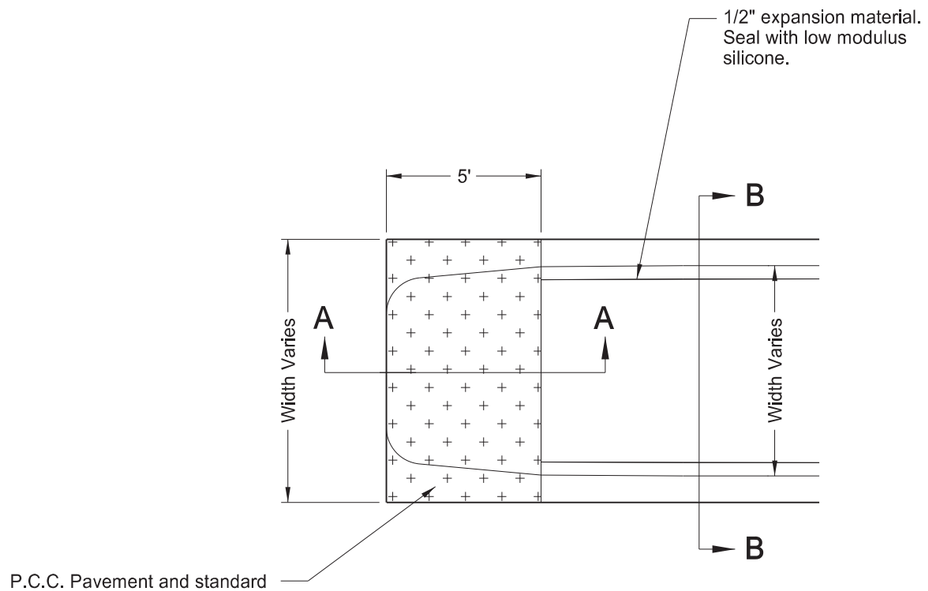
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	20	4



Median Section B-B



Section A-A



Concrete Median Nose Detail

Notes:

Paint all concrete median noses with yellow epoxy meeting material requirements of Section 880.02 in the Standard Specifications. Prepare concrete surface as specified by the epoxy paint manufacturer. Use a pneumatic spray machine for paint application and apply glass beads by machine or by hand. Include all costs for concrete surface preparation for paint application, to remove curing compound, and materials in the contract unit price bid for "CONCRETE MEDIAN NOSE PAVING".

General Details

Median Nose Paving

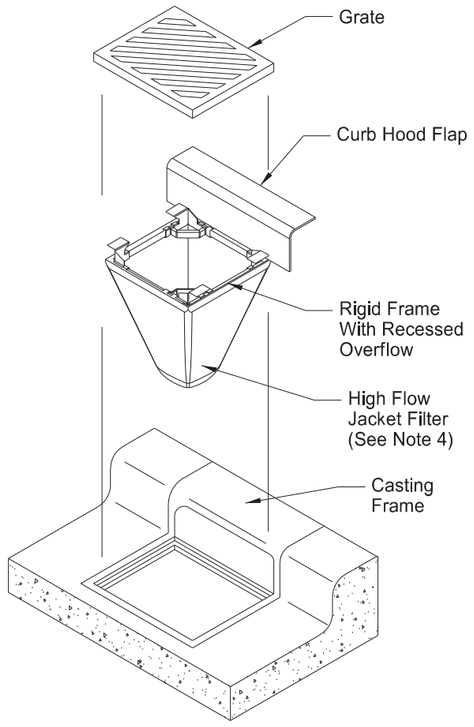
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

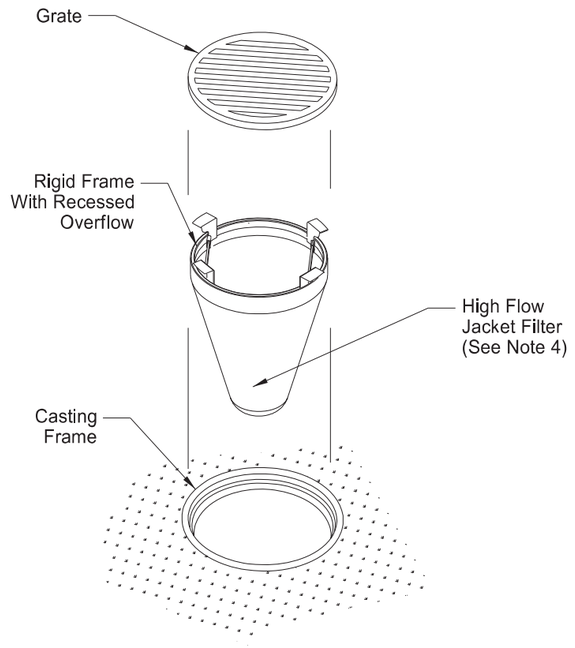
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.19 11:11:20 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	20	5



CATCH BASIN



AREA DRAIN

Inlet Protection Device

Notes:

1. Manufacture inlet protection device to be recessed within specified or existing casting.
2. Overflow sized at a minimum to accommodate the grate flow capacity.
3. Remove material that falls into the inlet during maintenance or removal of the device.
4. Use High Density Polyethylene (HDPE) high flow jacket filter (8,000 opening per SY) with an integrated 425um (micron meter) fine filter particle mesh.

General Details

Inlet Protection Device

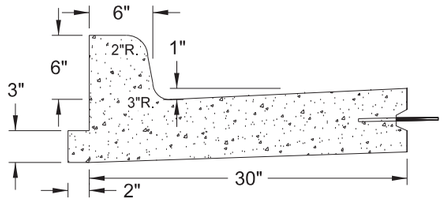
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

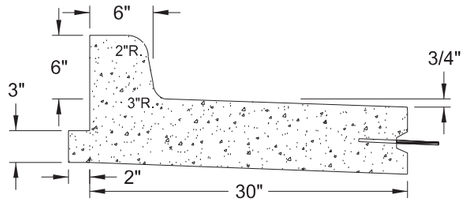
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.19 11:11:38 -06'00'
NORTH DAKOTA

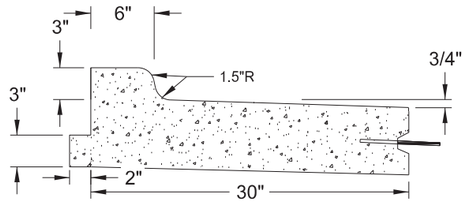
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	ND	RCE-FTF-NHU-SU-6-297(014)000	20	6



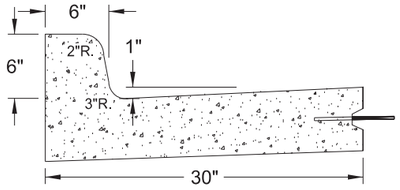
Inflow Curb & Gutter
Adjacent to Sidewalk, Boulevard, & Median Concrete



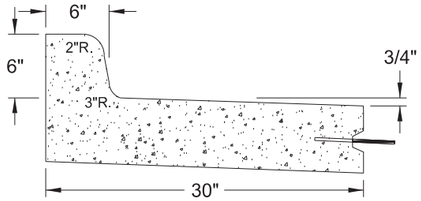
Outflow Curb & Gutter
Adjacent to Sidewalk, Boulevard, & Median Concrete



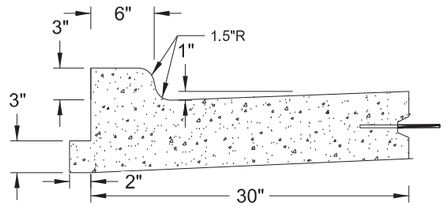
3" Curb Height Outflow Curb & Gutter



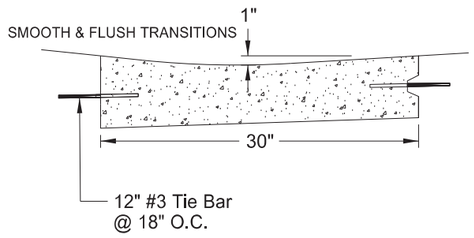
Standard Inflow Curb & Gutter
Section A-A



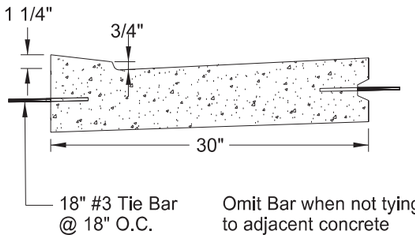
Standard Outflow Curb & Gutter



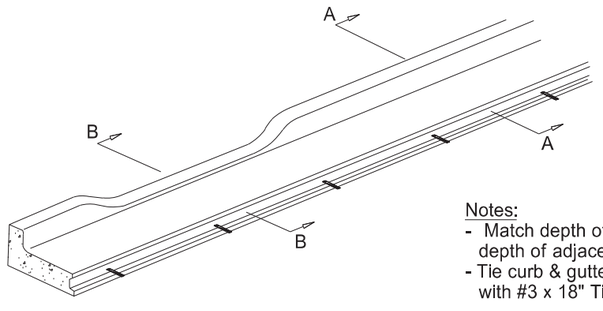
3" Curb Height Inflow Curb & Gutter



Curb Ramp Transitions



Depressed Curb
(Typical For A Driveway)
Section B-B



Notes:
- Match depth of curb to depth of adjacent pavement (6" min)
- Tie curb & gutter to adjacent pavement with #3 x 18" Tie Bars @ 4' C to C

CURB & GUTTER - TYPE I 30IN

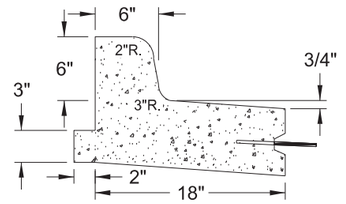
Notes:

42nd Street, 7th Avenue, 43rd Street, And Cul-De-Sac
To use 30IN Curb & Gutter per this detail.

See section 90 callouts for use of CURB & GUTTER-TYPE 1 SPECIAL
on medians South of intersection S 42nd St / 7th Ave S.

See section 90 & 130 Callouts for reductions to 3" Curb Heights in Underpass
and near guardrail / crash cushion installations.

DeMers Avenue To Use 24IN Curb & Gutter Per NDDOT
Standard Drawing D-748-01.



Median Outflow Curb & Gutter

CURB & GUTTER - TYPE 1 SPECIAL

General Details

City of Grand Forks Curb & Gutter Details

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

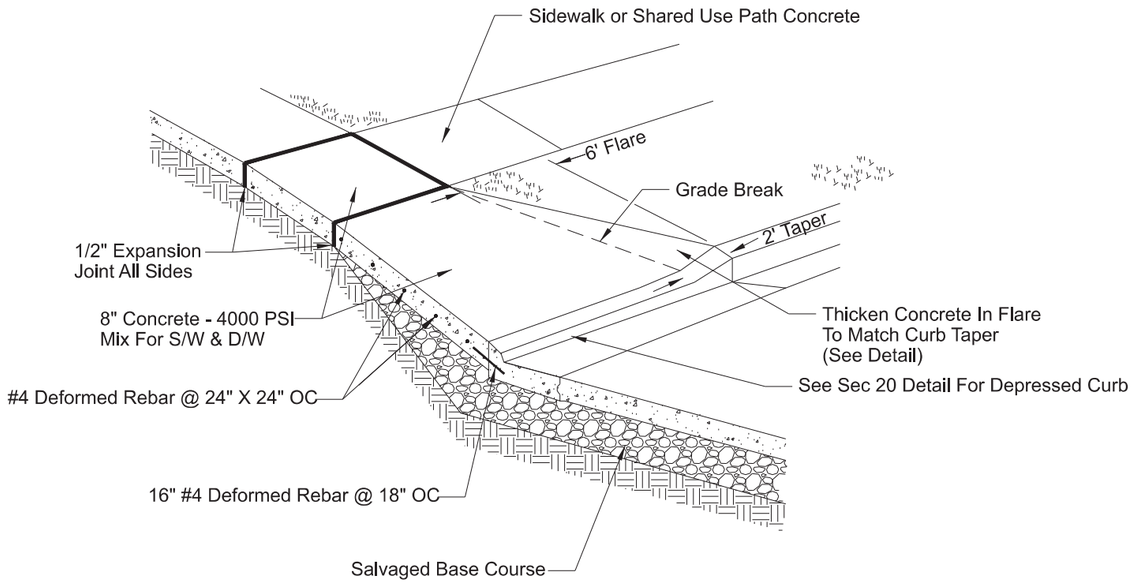
Grand Forks, ND

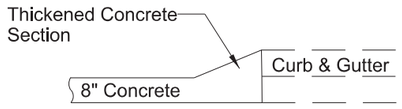
REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9026
DATE: 2025.12.19 11:11:54 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	20	7

For use at driveways on S 43rd St Cul-De-Sac, S 42nd St, & N 42nd St

For driveways on ND 297 (DeMers Ave) see Standard Drawing D-750-1





Driveway Flare Detail

Notes:
1. Provide contraction joints in driveway approaches. no panel to exceed 12' by 12'.
2. Reinforced driveway apron with #4 bar spaced @ 24" by 24"
3. City standard should be used for Dusterhoft Cenex off 43rd and lift station entrance.
4. Reference NDDOT Standard Detail D-750-03 for Dusterhoff Cenex driveway entrance off of ND297 (DeMers Ave).
5. Saw cut joints in driveway that follow roadway jointing.

General Details

City of Grand Forks Standard Driveway Detail

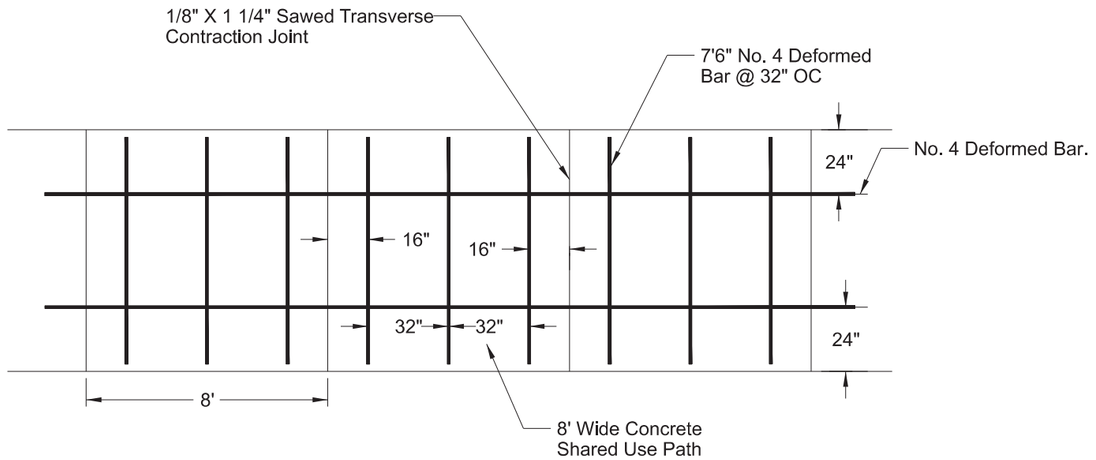
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

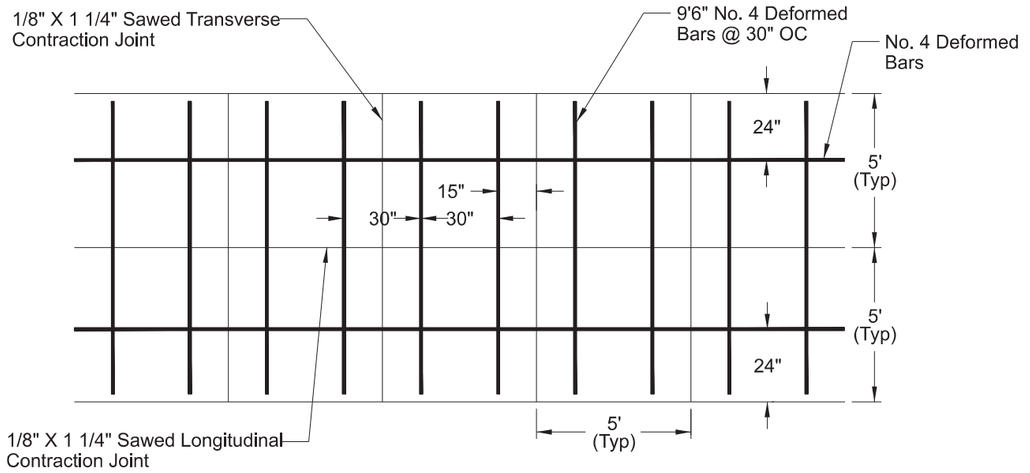
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.19 11:12:13 -06'00'
NORTH DAKOTA

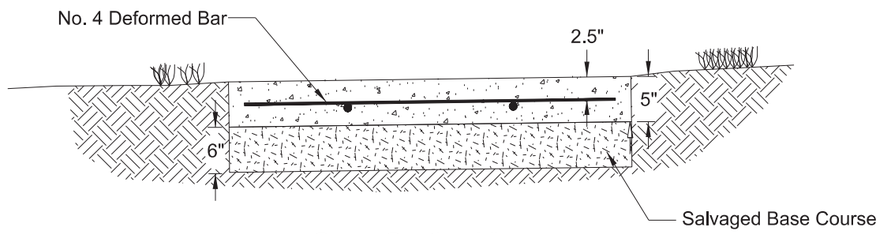
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	20	8



Plan View

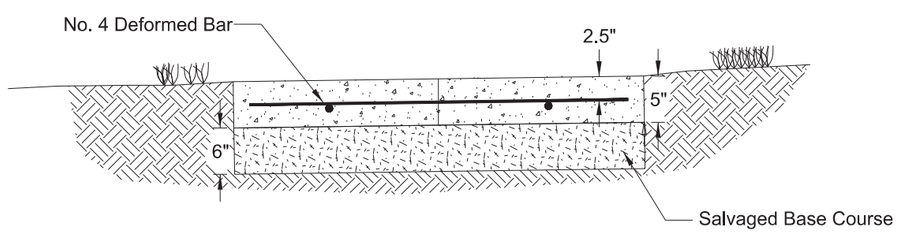


Plan View



Cross Section View

Typical 8' Wide Shared Use Path



Cross Section View

Typical 10' Wide Shared Use Path

General Details

Shared Use Path

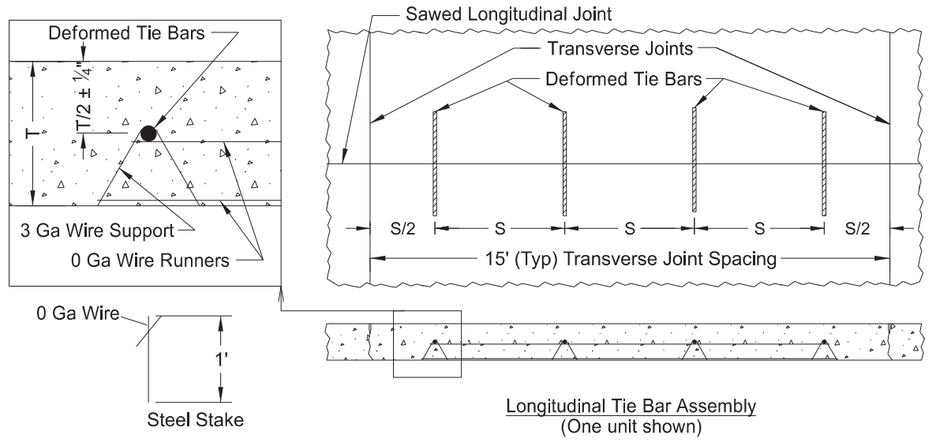
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

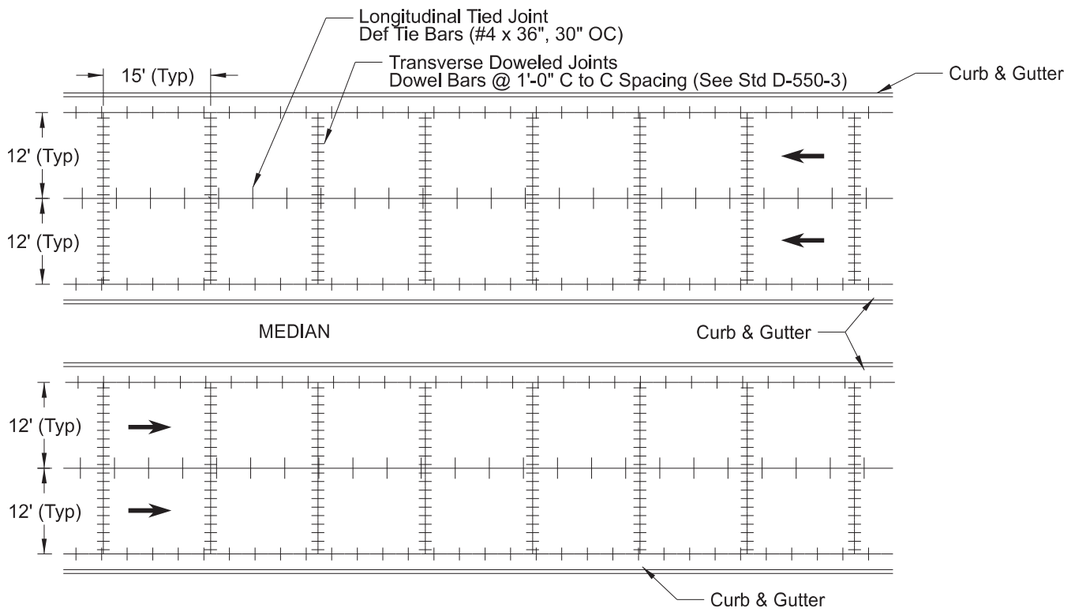
Grand Forks, ND

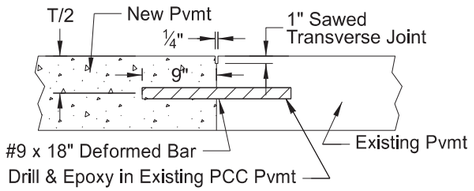
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CHRISTOPHER S. DAHL
PE-4276
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NORTH DAKOTA

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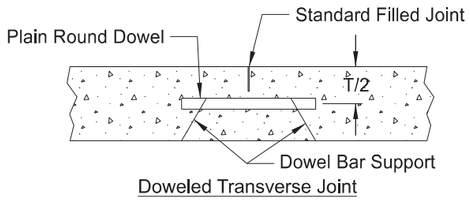


Longitudinal Tie Bar Assembly
(One unit shown)

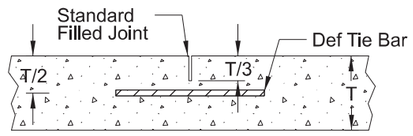




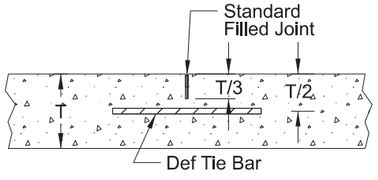
Deformed Bar Installation (2'-0" C to C)
(Transverse Joints)



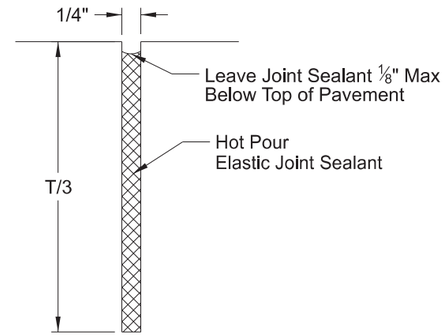
Doweled Transverse Joint



Longitudinal Joint Sawing Detail
(Transverse Joints)



Longitudinal Joint Sealing Detail
(Transverse Joints)



Standard Filled Joint

Use 1/4" Wide Standard Filled Joint on all Concrete Construction and Contraction Joints Unless Otherwise Noted
Clean Joints by Sandblasting & Dry by Air Blasting

Joint Width Tolerance is + 1/16" TO - 1/32"

NOTES:
1. Place no tie bar within 15" of a transverse joint.
2. S = Tie bar spacing = 30"
3. T = Pavement Thickness = 9"
4. See Standard Drawings for more Details
5. See Section 90 for paving/jointing layout. If the contractor decides to deviate from the paving plans, a revised paving/jointing plan needs to be submitted to the Engineer for approval.

Grade 60 Longitudinal Joint Tie Bars	
PCC Depth	9"
Centerline and Between Adjacent Driving Lanes	
Bar Size x Length (S=30")	#4 x 36"

Grade 40 Longitudinal Joint Tie Bars	
PCC Depth	9"
Curb and Gutter Sections	
Bar Size x Length (S=48")	#3 x 18"

Transverse Joint Dowel Bars
Diameter x Length
1 1/4" x 18"

General Details

Pavement Jointing

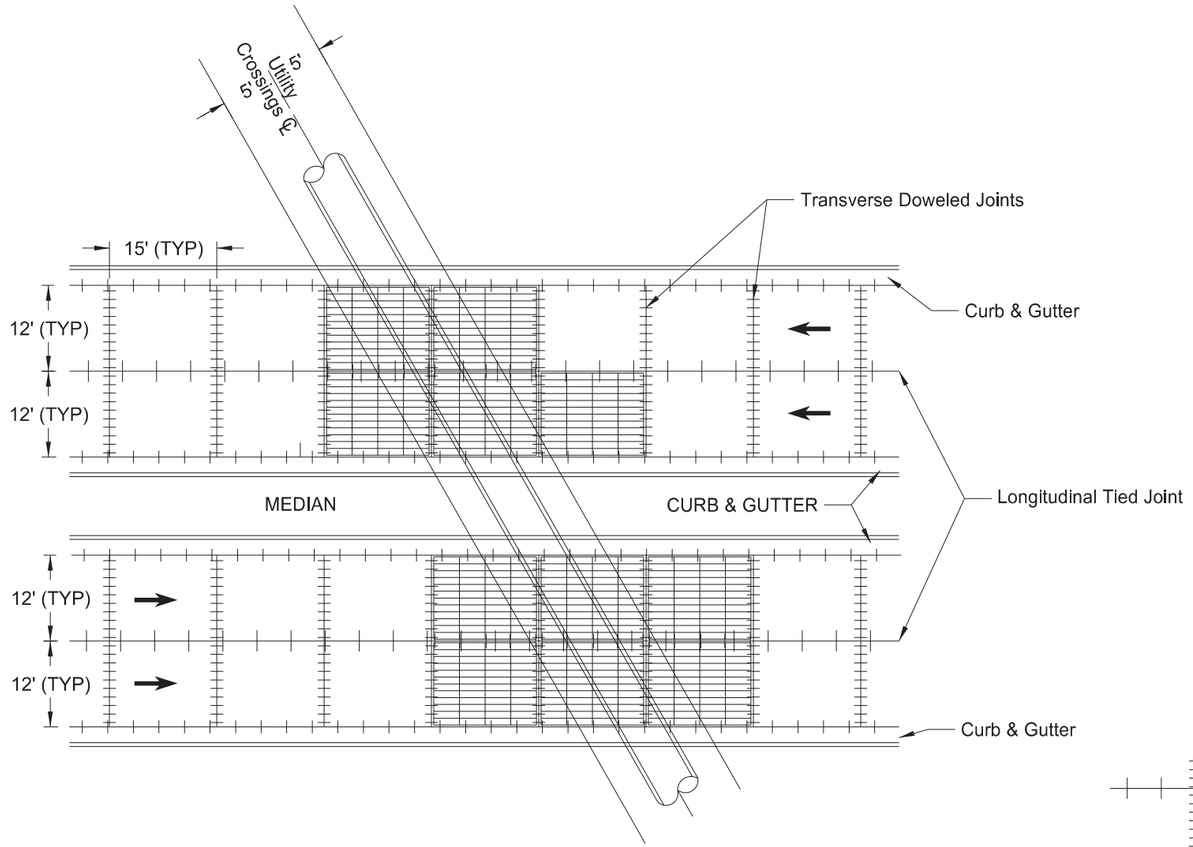
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

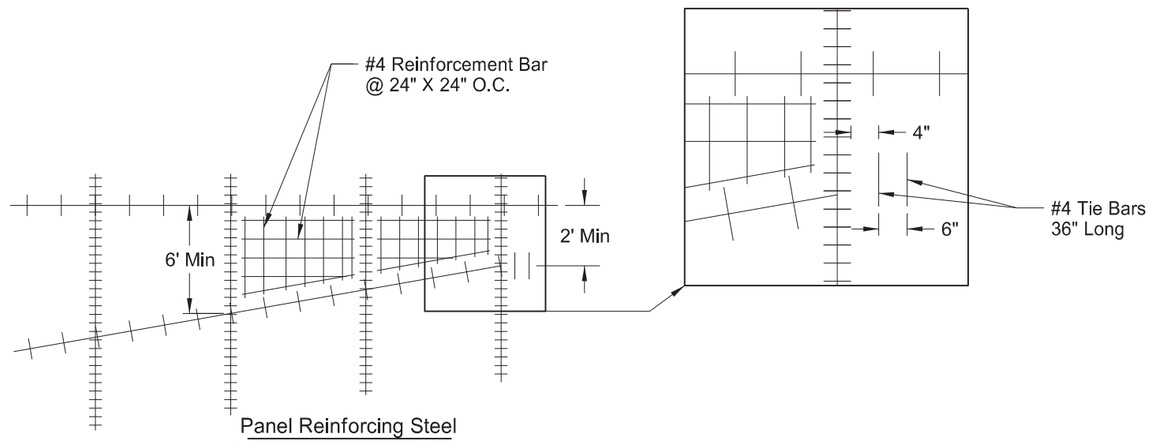
REGISTERED PROFESSIONAL ENGINEER
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DATE: 2025.12.19 11:12:59 -06'00'
NORTH DAKOTA

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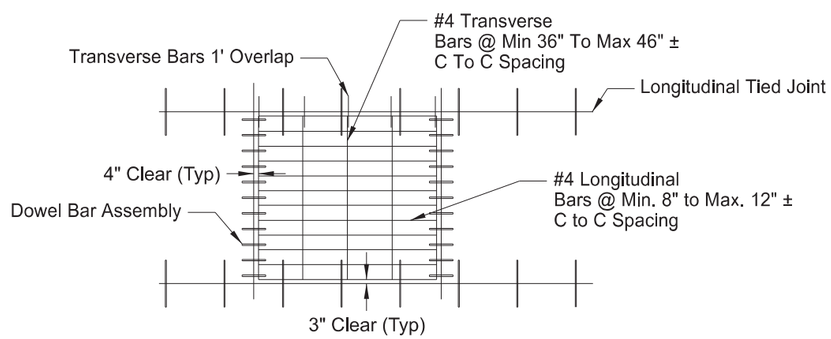


Pavement Reinforcement Over Pipe
See Detail A

NOTES:
1. Reinforce all panels designated by R
2. Reinforce the entire concrete panel if any part is within 5 feet of the pipe centerline.
3. Place reinforcing steel above dowel bars and longitudinal tie bars.
4. Provide a 1 foot minimum overlap of transverse reinforcing steel across the longitudinal tied joints.
5. For any pavement reinforcement outside of utility crossings use #4 bar spaced @ 24" X 24" O.C.
6. Include all costs to furnish and install the reinforcing steel as shown in the price bid for "9IN NON-REINF CONCRETE PVMT CL AE-DOWELED".



Panel Reinforcing Steel
Concrete Panels 6' or less.
Stopper Bars at end of Longitudinal Joint.



Detail A Reinforcement Layout

General Details

Pavement Reinforcement Over Pipe

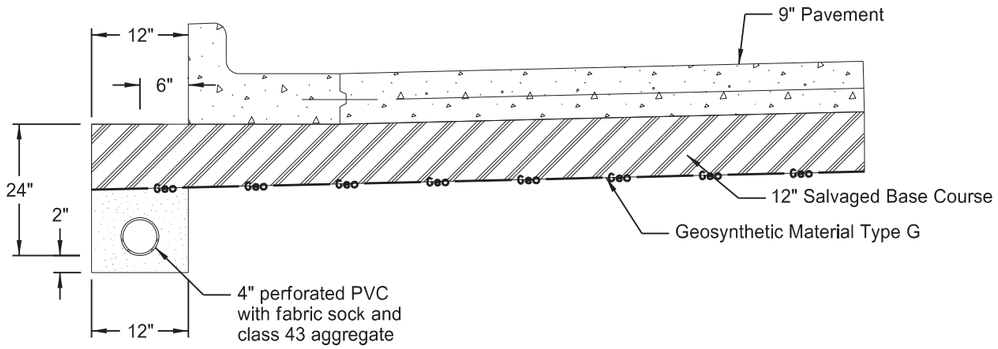
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

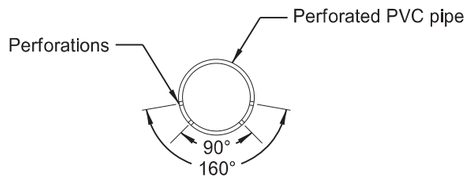
REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8256
DATE: 2025.12.19 11:13:15 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	20	11

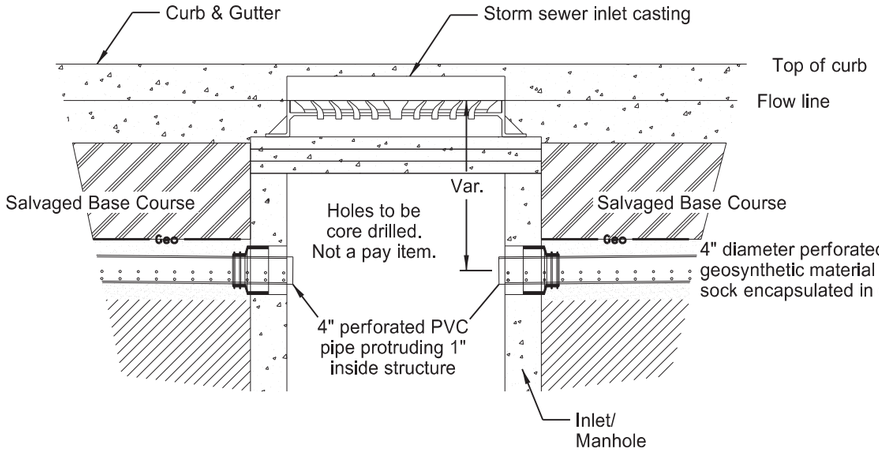


Underdrain Pipe PVC Perforated Placement

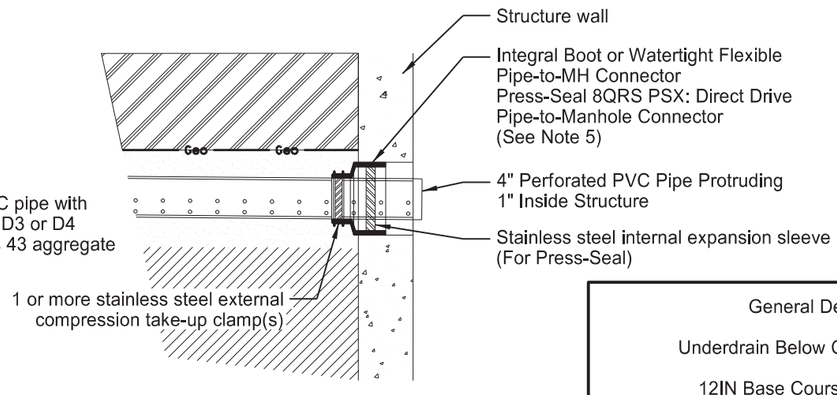
For Sections with 12" Salvaged Base Course (See Typicals)



4" PVC Pipe Detail



Inlet/Manhole Connection



Connection Detail

Notes:

1. Use polyvinyl chloride SCHEDULE 40 sewer pipe with solvent cemented joints as specified in ASTM Spec. No. F-758.
2. Perforations will be circular and 1/4" ± 1/16" in diameter. Arrange in rows parallel to the axis of the pipe and space approximately 3" center to center along the rows. The spigot end of the pipe will be unperforated for a length equal to the depth of the socket. The placement and total numbers of the rows will be as shown above with an allowable tolerance of ±10°.
3. Use Molded Fittings in accordance with ASTM Spec No. D 2665 or F1866. Cost of fitting and installation will be included in the price bid for "Underdrain Pipe PVC Perforated 4IN".
4. Encase perforated PVC in a Geosynthetic Material Type D3 or D4 and class 43 aggregate. Cost of aggregate and fabric will be included in the price bid for "Underdrain Pipe PVC Perforated 4IN".
5. Insert a Tee, Link-Seal, or other approved equal may be utilized with Engineer approval.
6. Pipe size: 4" diameter IPS SCH 40
7. Rows of perforations: 4
8. Hole size: 1/4"
9. Hole spacing per row: 3"

General Details

Underdrain Below Curb & Gutter

12IN Base Course Sections

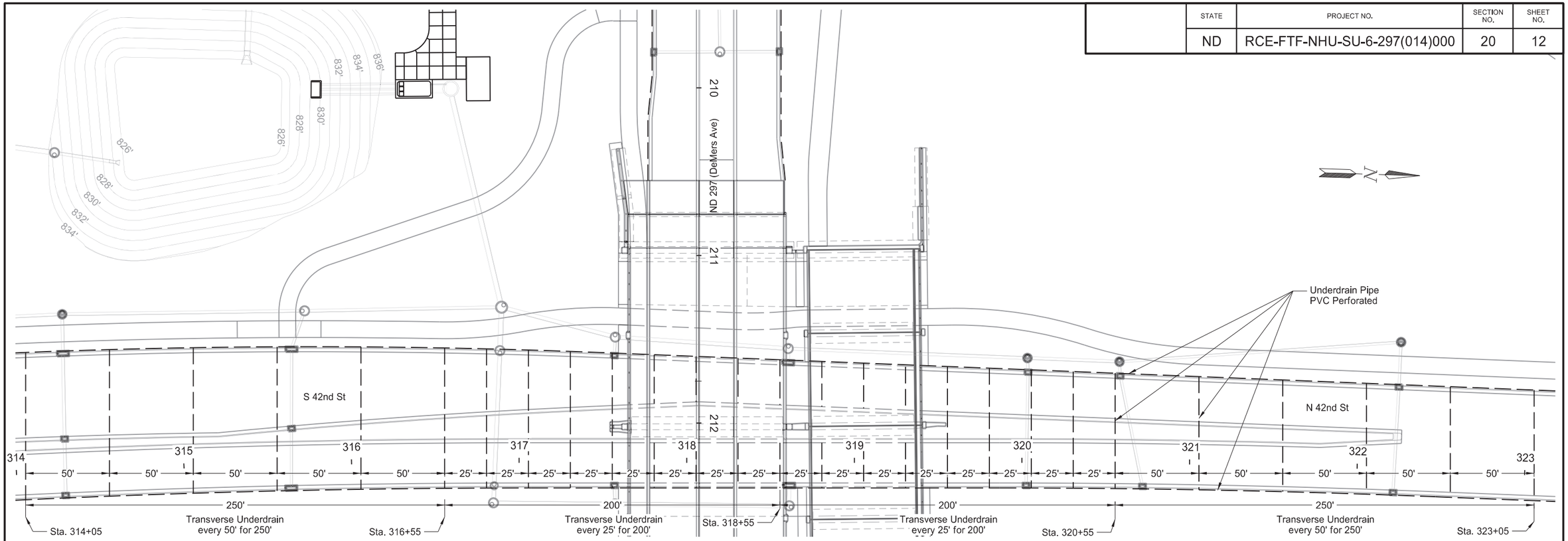
ND 297 (DeMers Ave) & 42nd St Grade Separation

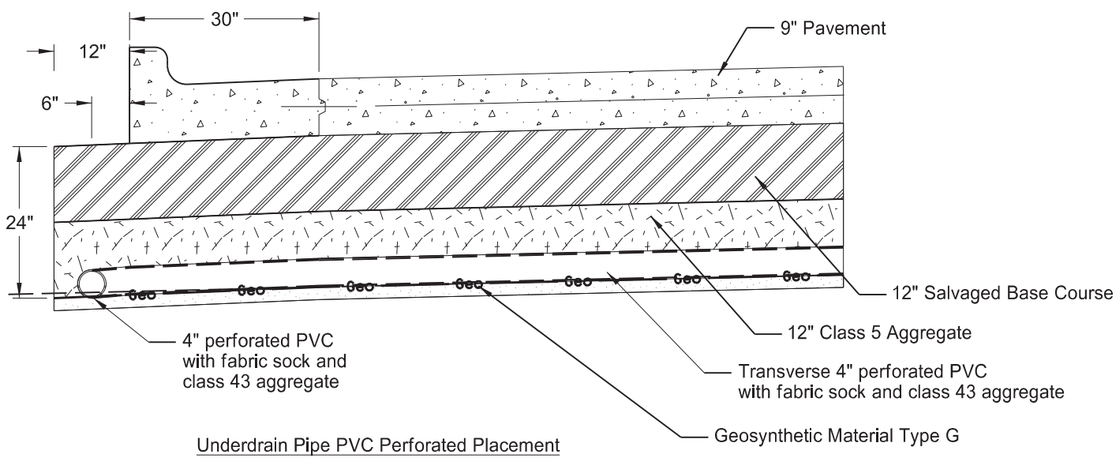
Grand Forks County

Grand Forks, ND

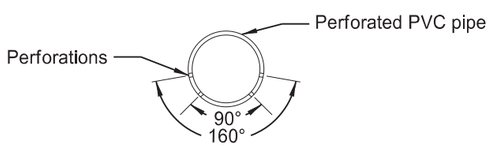
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CHRISTOPHER S. DAHL
PE-9256
DATE: 2025.12.19 11:13:34 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	20	12





Underdrain Pipe PVC Perforated Placement



4" PVC Pipe Detail

Notes:

1. Provide Salvaged Base Course meeting the requirements of Note 302-P02.
2. Use polyvinyl chloride SCHEDULE 40 sewer pipe with solvent cemented joints as specified in ASTM Spec. No. F-758.
3. Perforations will be circular and 1/4" ± 1/16" in diameter. Arrange in rows parallel to the axis of the pipe and space approximately 3" center to center along the rows. The spigot end of the pipe will be unperforated for a length equal to the depth of the socket. The placement and total numbers of the rows will be as shown above with an allowable tolerance of ±10°.
4. Use Molded Fittings in accordance with ASTM Spec No. D 2665 or F1866. Cost of fitting and installation will be included in the price bid for "Underdrain Pipe PVC Perforated 4IN".
5. Encase perforated PVC in a Geosynthetic Material Type D 3 or D4 and class 43 aggregate. Cost of aggregate and fabric will be included in the price bid for "Underdrain Pipe PVC Perforated 4IN".
6. Pipe Size: 4" diameter IPS SCH 40
7. Rows of Perforations: 4
8. Hole Size: 1/4"
9. Hole Spacing Per Row: 3"
10. Stop transverse underdrain at center bridge pier, do not install under pier footing.

General Details

Transverse Underdrain

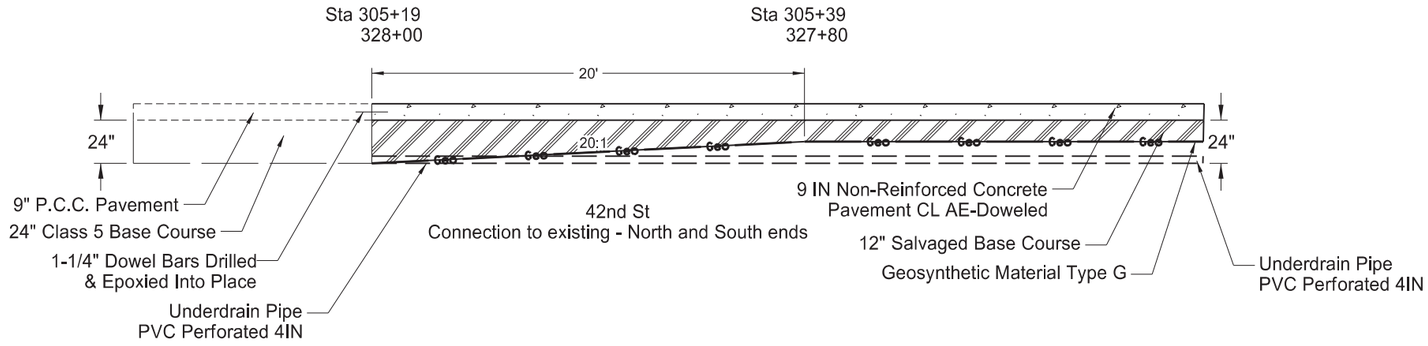
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8256
DATE: 2025.12.19 11:13:51 -06'00'
NORTH DAKOTA

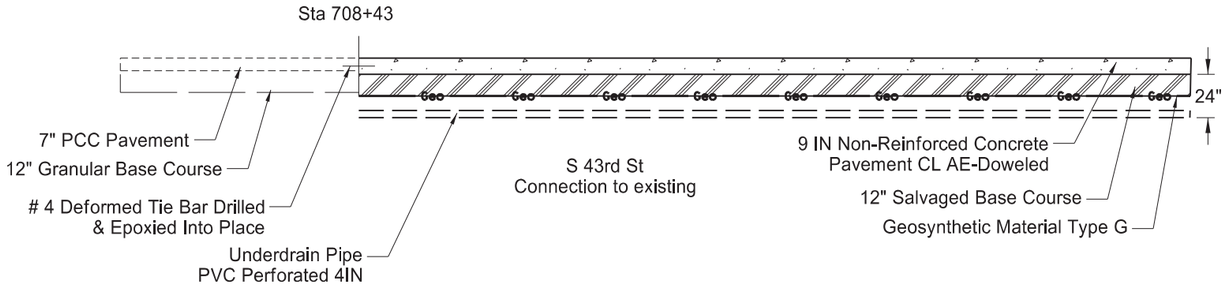
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	ND	RCE-FTF-NHU-SU-6-297(014)000	20	13

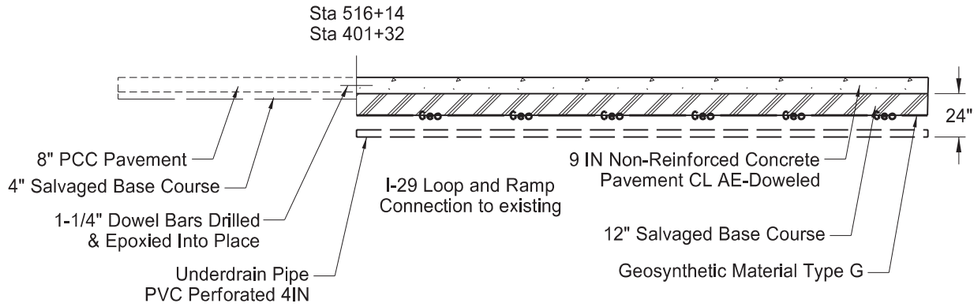


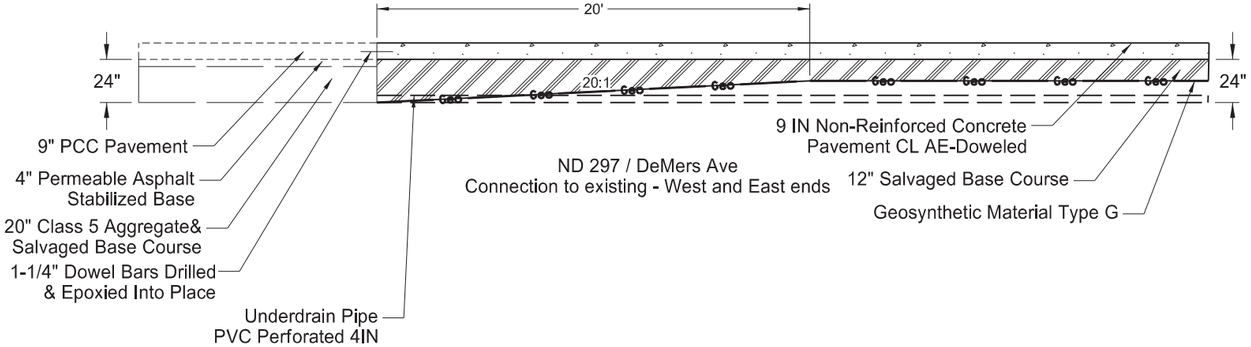
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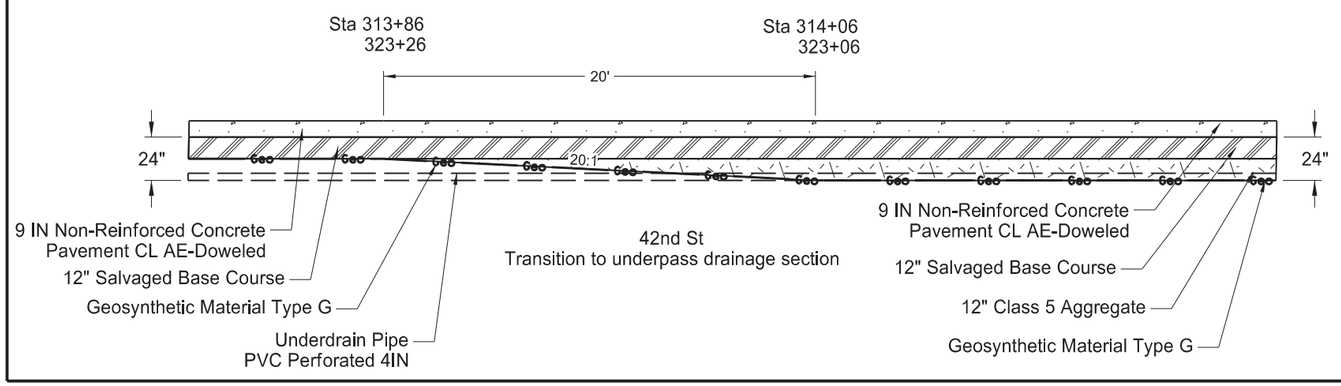
Underdrain Pipe PVC Perforated 4IN connection to existing to be made at existing depth and continue via gravity flow to next downstream inlet.

Depth of remainder of Underdrain Pipe PVC Perforated 4IN, outside of the connection to existing run to the next downstream inlet, per underdrain details and typical sections.









General Details

Pavement Section Transitions

ND 297 (DeMers Ave) & 42nd St Grade Separation

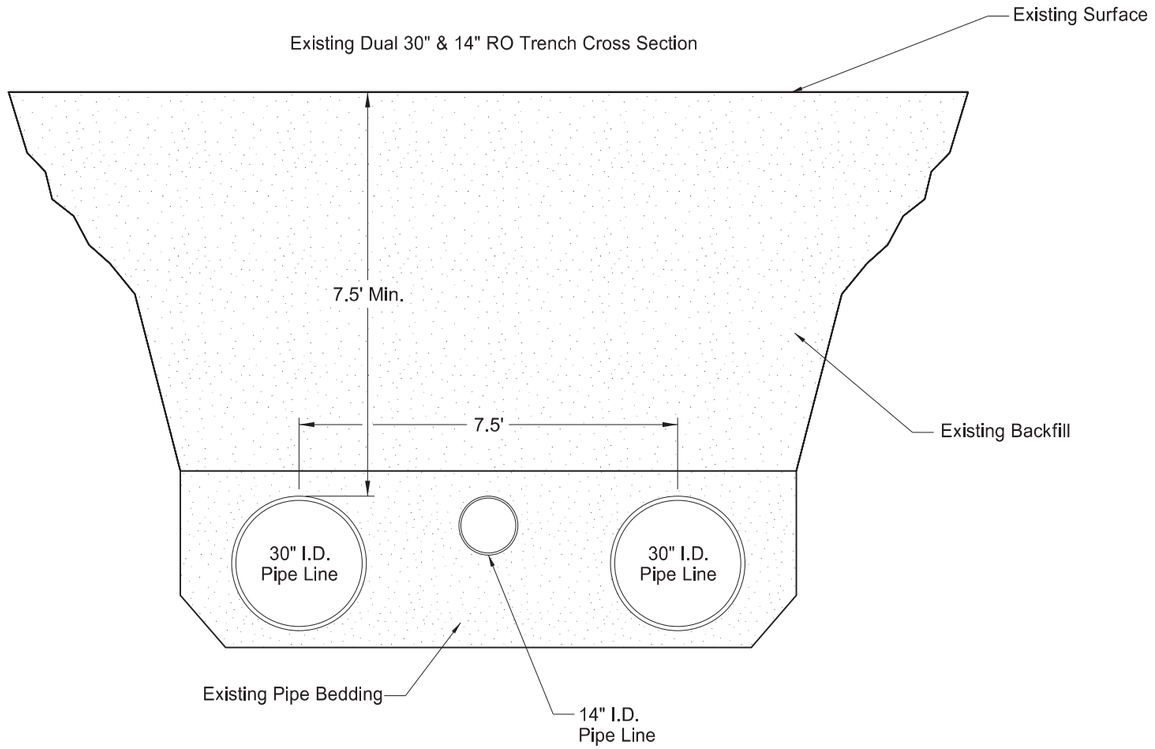
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8026
DATE: 2025.12.19 11:14:07 -06'00'
NORTH DAKOTA

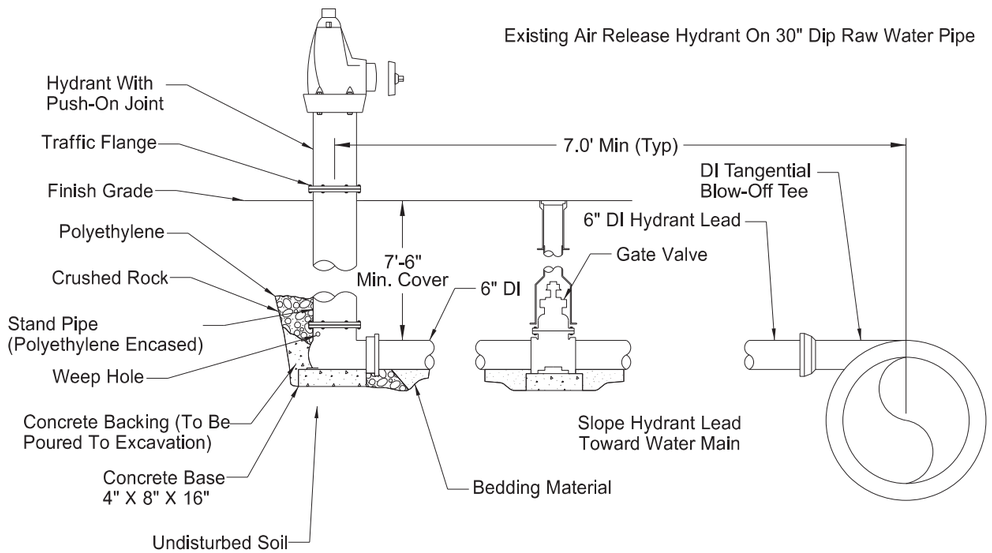
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	20	14

Existing Dual 30" & 14" RO Trench Cross Section



Note: Information taken from City of Grand Forks as-built plan set 4648.2 / 4948.1
Variability in trench cross section may exist

Existing Air Release Hydrant On 30" Dip Raw Water Pipe



General Details

Watermain Adjustments
Existing Details

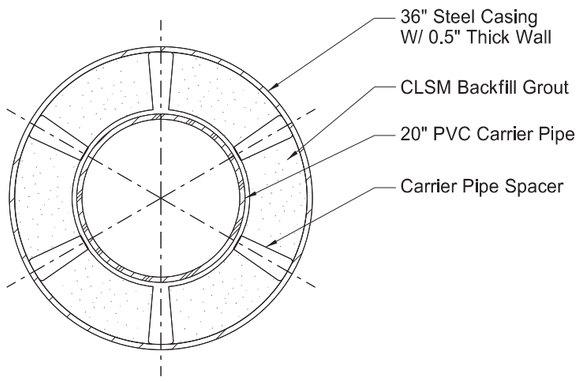
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

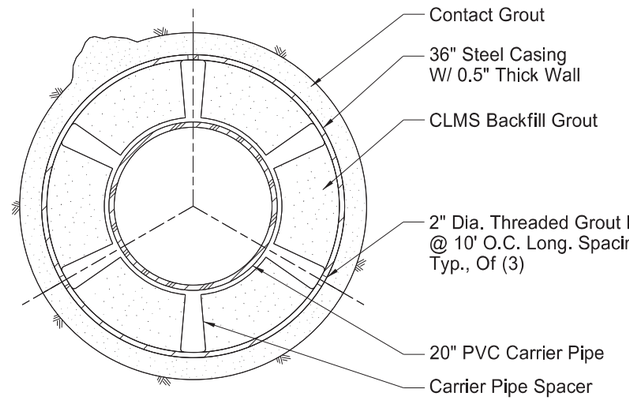
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
Marco Weidmer
PE-41185
DATE: 2025.12.19 12:41:19 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	20	15



36" Steel Casing W/ 20" PVC Carrier Pipe
Sanitary Crossing



36" Steel Casing W/ 20" PVC Carrier Pipe
Railroad Crossing

General Details

Watermain Adjustments
Casings

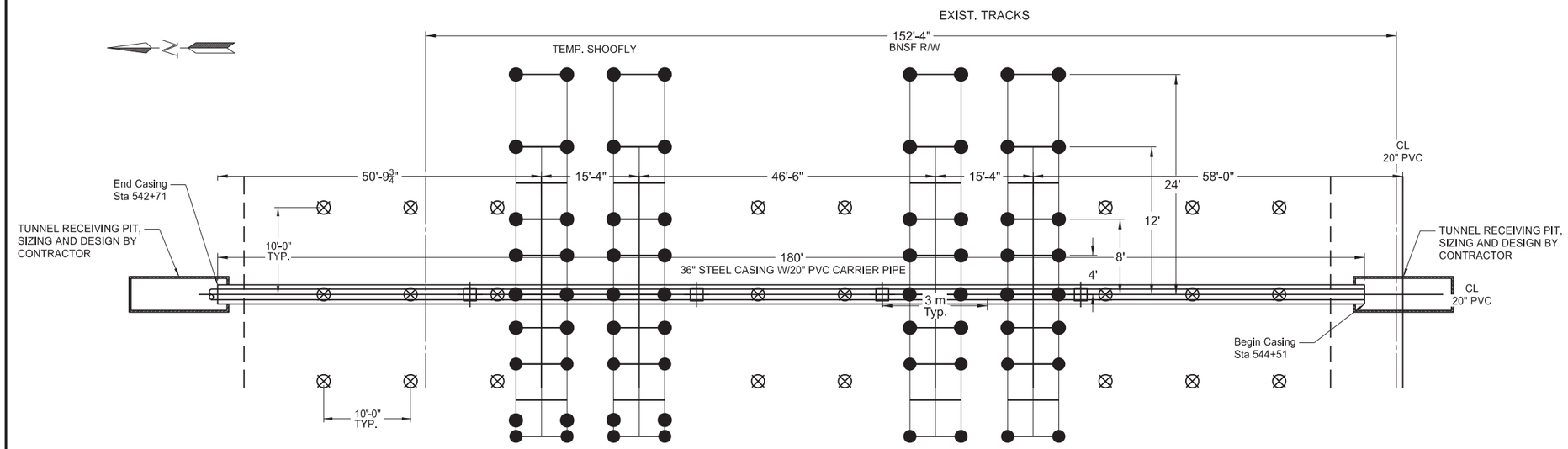
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

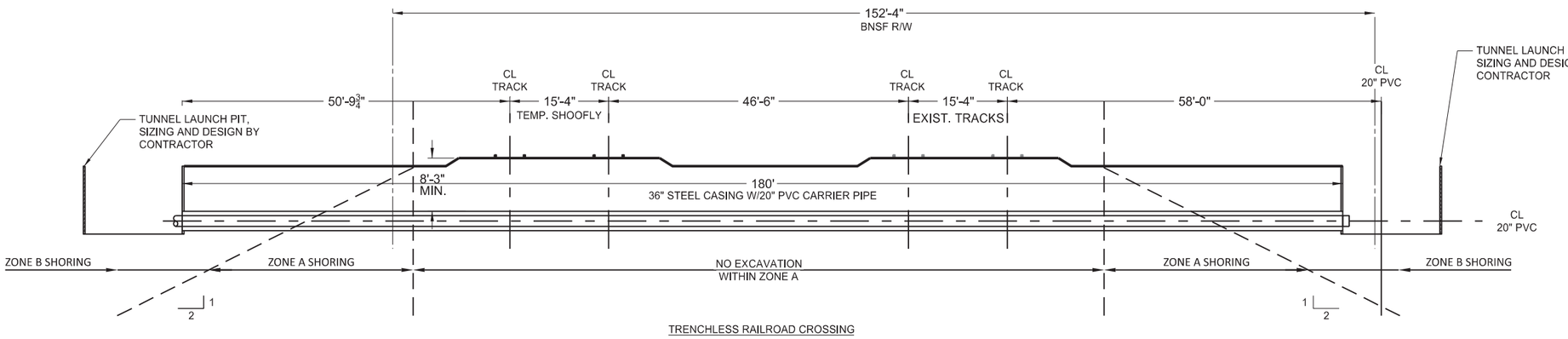
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
Marco Weidmer
PE-41185
DATE: 2025.12.19 12:41:55 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	20	16



SETTLEMENT MONITORING PLAN - RAILROAD CROSSING



TRENCHLESS RAILROAD CROSSING

LEGEND:

- TEMPORARY EXCAVATION SUPPORT, INCIDENTAL.
- ⊗ SURFACE SETTLEMENT POINT
- ● RAIL SETTLEMENT POINT PLACED ON ℄ TUNNEL
- ⊞ SUBSURFACE SETTLEMENT POINT

GENERAL NOTES:

ALL UTILITY DEPTHS AND LOCATIONS ARE APPROXIMATE. FIELD VERIFY ALL DIMENSIONS AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

SPECIFIC NOTES:

1. TUNNEL PIT (TRENCHLESS) BY CONTRACTOR DESIGN.
2. PLACE PK NAIL ON RAIL SETTLEMENT POINT LOCATIONS SHOWN TO MONITOR RAIL SETTLEMENT

BNSF RAILWAY CROSSING NOTES:

1. CALL 1-800-533-2891 TO ARRANGE FOR A BNSF UNDERGROUND CABLE LOCATE. BNSF FORM "UNDERGROUND CABLE LOCATION & ACKNOWLEDGE" WILL BE COMPLETED BY A BNSF REPRESENTATIVE AND A COPY PROVIDED TO THE CONTRACTOR. THE CONTRACTOR MUST HAVE THIS COMPLETED FORM IN POSSESSION AT THE JOB SITE AT ALL TIMES.
2. UTILITY WORK ON BNSF PROPERTY SHALL BE IN ACCORDANCE WITH THE BNSF UTILITY ACCOMMODATION POLICY.
3. TRENCHLESS METHODS MUST BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE BNSF UTILITY ACCOMMODATION POLICY.
4. TRENCHLESS CONSTRUCTION UNDER TRACKS WILL BE PERMITTED ONLY UNDER DIRECT SUPERVISION OF A BNSF ENGINEER.
5. TOP-OF-RAIL ELEVATIONS WILL BE MONITORED IN 50 FT INTERVALS 100 FT IN BOTH DIRECTIONS OF THE WORK AT A MINIMUM OF ONCE PER DAY AND MOVEMENTS OVER ONE-QUARTER ($\frac{1}{4}$) INCH VERTICALLY SHALL BE IMMEDIATELY REPORTED TO THE BNSF FLAGMAN.

SETTLEMENT MONITORING NOTES:

1. FURNISH AND INSTALL 18" LONG x $\frac{3}{4}$" DIA STEEL PIPES AT SURFACE SETTLEMENT POINTS IN ALL NON PAVED AREAS, DRIVE PIPES A MINIMUM OF 12" AND MAXIMUM OF 15" INTO THE GROUND. REMOVE ALL PIPES AT PROJECT COMPLETION.
2. PLACE PK NAILS ON END OF TIES TO MONITOR TRACK/TIE SETTLEMENT AT LOCATIONS SHOW, TYP.
3. INSTALL SURFACE SETTLEMENT MONITORING POINTS 10 DAYS PRIOR TO BEGINNING OF TUNNELING OPERATIONS AND TAKE INITIAL BASELINE READINGS.
4. SETTLEMENT MONITORING SHALL BE SURVEYED ONCE PER DAY DURING CONSTRUCTION OF EXCAVATION SUPPORT SYSTEMS AND TUNNELING OPERATIONS.

General Details

Watermain Adjustments
Settlement Monitoring
Trenchless Railroad Crossing

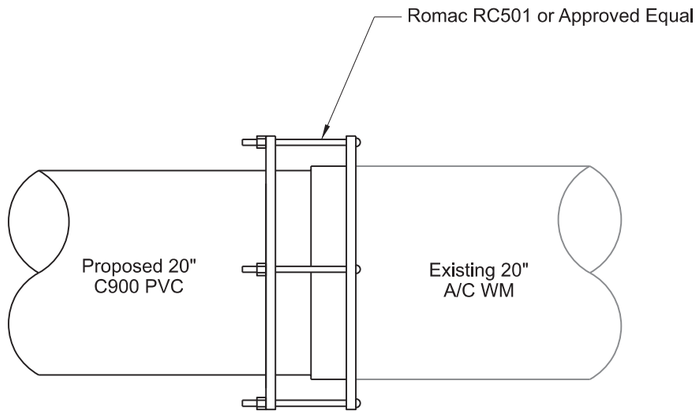
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

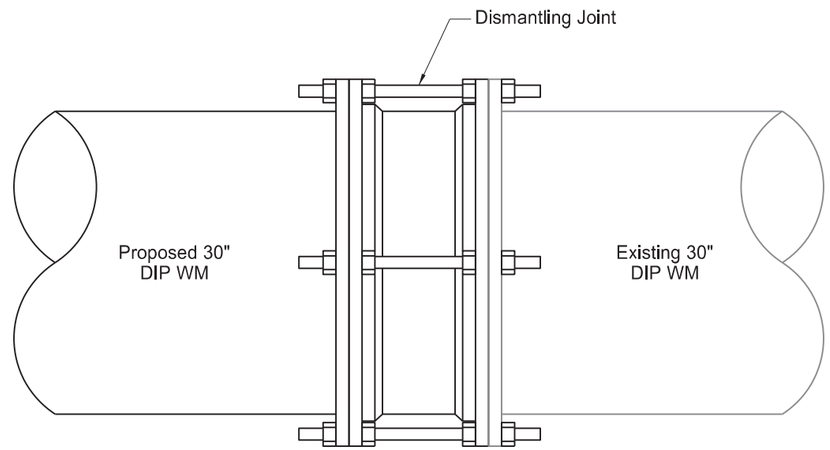
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
Marco Weidmer
PE-41185
DATE: 2025.12.19 12:42:25 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	20	17



Existing 20" A/C To Proposed 20" C900 PVC Connection



Existing 30" DIP To Proposed 30" DIP Connection

General Details

Watermain Adjustments
20" A/C to 20" PVC Connection

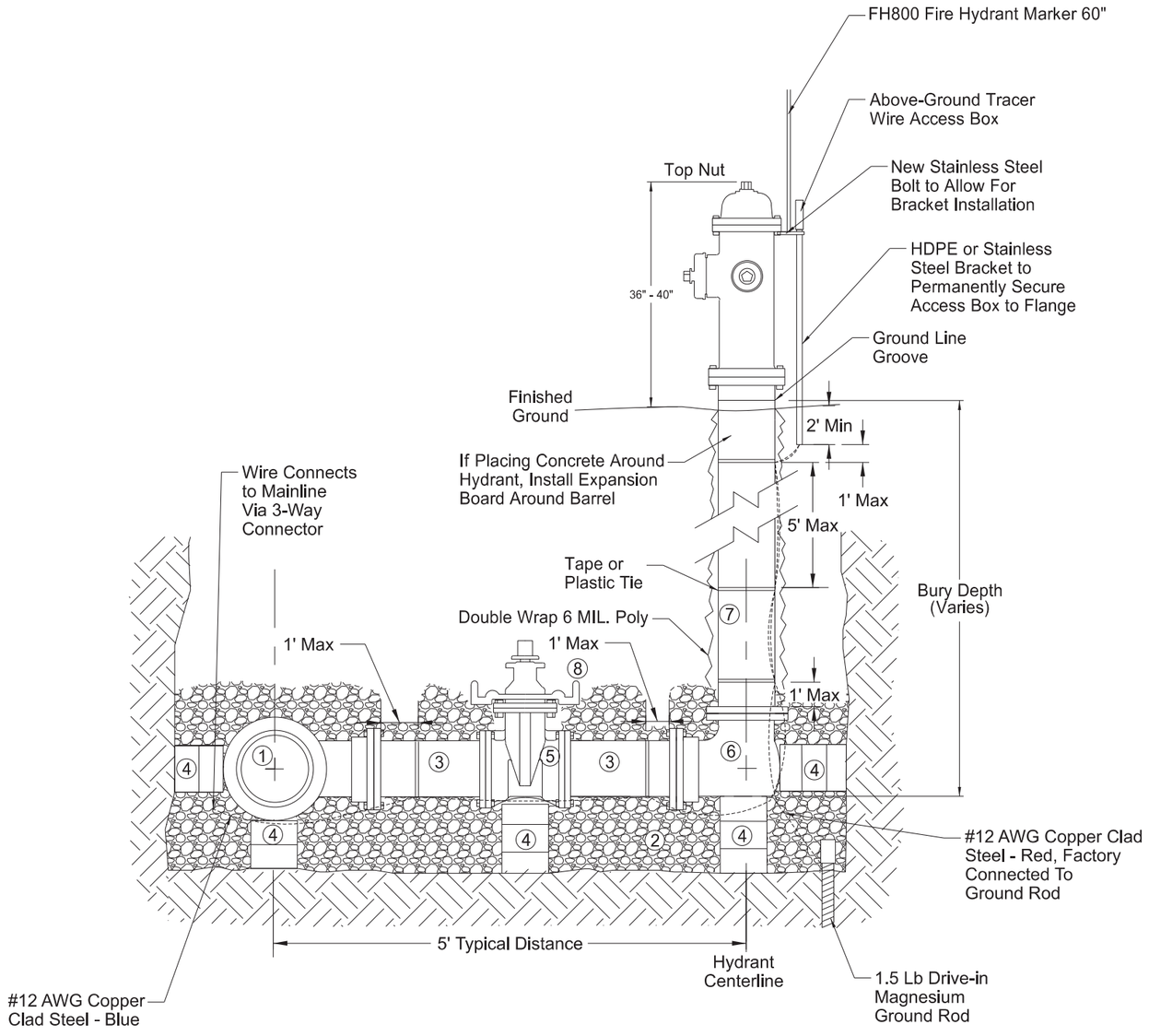
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
Marco Weidmer
PE-41185
DATE: 2025.12.19 12:42:50 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	20	18



Standard Hydrant Setting
Using Standard Tee

NOTES:

1. Place 3/4" - 1 1/2" size rock to a level 6" above waste opening or greater, with a minimum 30" wide & all along hydrant lead (MIN. Quantity 3/4 CU. YD.)
2. All hydrant leads to be 6" PVC C-900 and each section to have a minimum overall length of 18".
3. Wrap saddle, valve, & hydrants up to ground level with 2 layers of 6 MIL (MIN.) poly tape ends & seams.
   -Do not allow poly or concrete to cover waste opening.
4. Install hydrant marker on the opposite side of the pumper nozzle by attaching to one of the upper hydrant bolts.
5. Restrain all Joints.

KEY:

① Tee
② 3/4" - 1 1/2" Rock
③ Hydrant Lead
④ Concrete Block
⑤ Gate Valve
⑥ Hydrant Waste Opening
⑦ Hydrant
⑧ Gate Valve Adaptor

General Details

Watermain Adjustments
Hydrant Setting

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

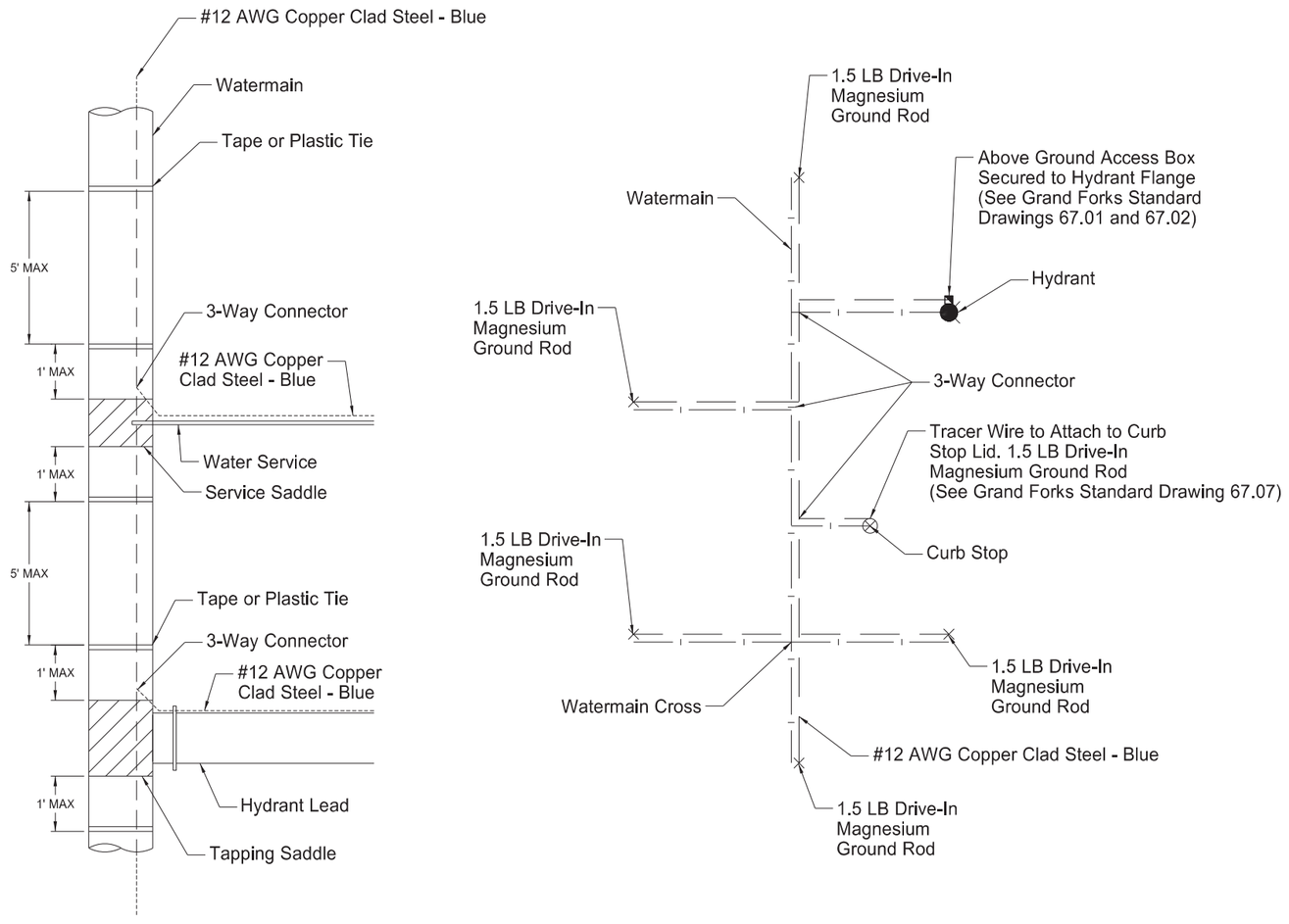
Grand Forks, ND

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NORTH DAKOTA

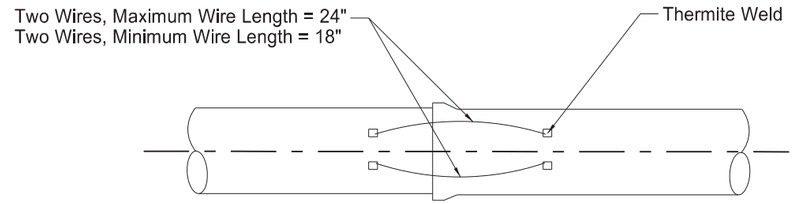
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	ND	RCE-FTF-NHU-SU-6-297(014)000	20	19

Notes:

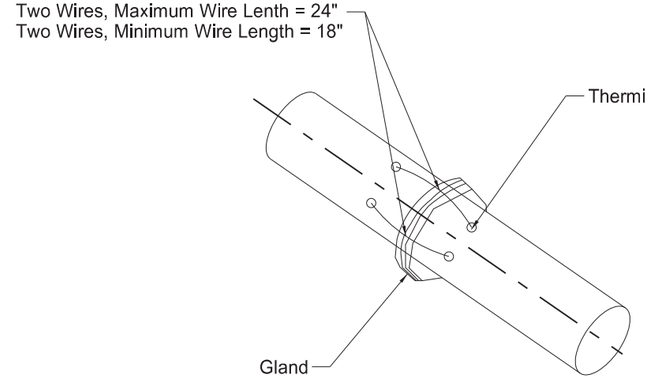
1. Wire Shown Away From Pipe for Clarity.
2. Fasten Wire to the Pipe with Tape or Plastic Ties at 5' Intervals.
3. Place Trace Wire Below Spring Line on the East or North Side of Pipe.
4. Terminate the Wire With Waterproof Connectors.



Tracer Wire on Watermain



Push on Joint



Mechanical Joint

General Details

Watermain Adjustments
Tracer Wire on Watermain

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
Marco Weidmer
PE-41185
DATE: 2025.12.19 12:43:49 -06'00'
NORTH DAKOTA

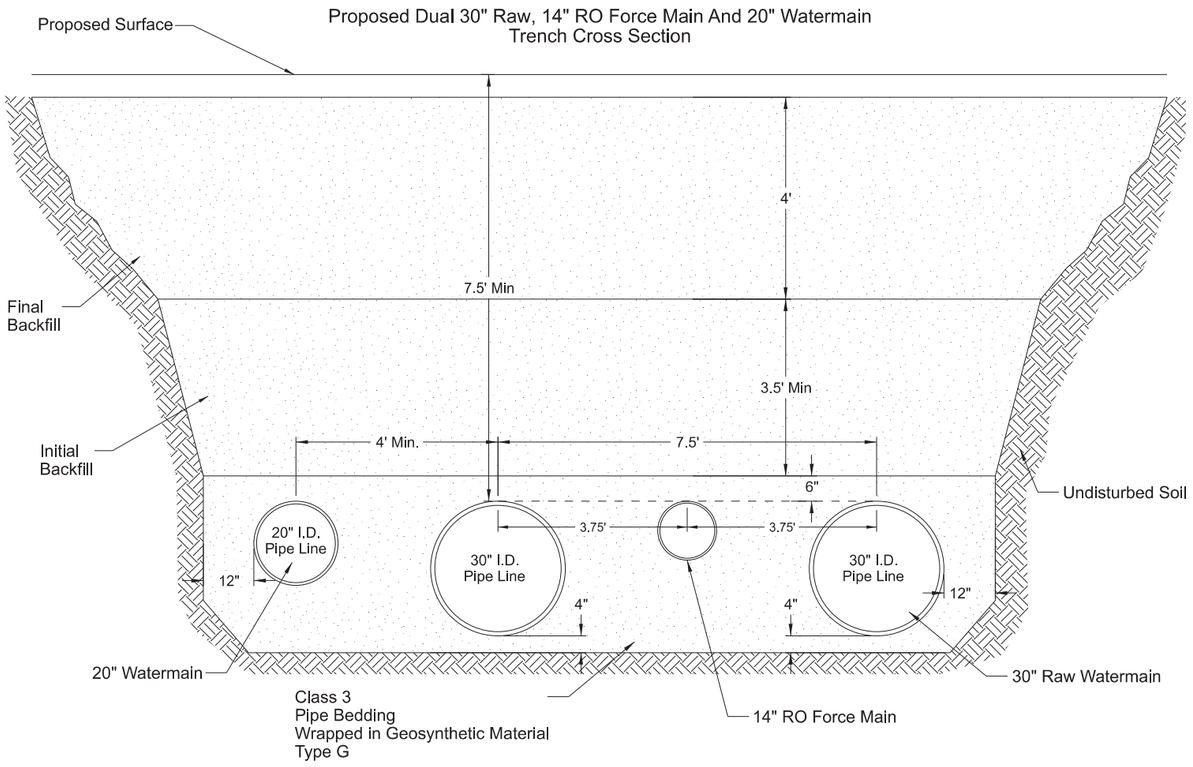
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	ND	RCE-FTF-NHU-SU-6-297(014)000	20	20

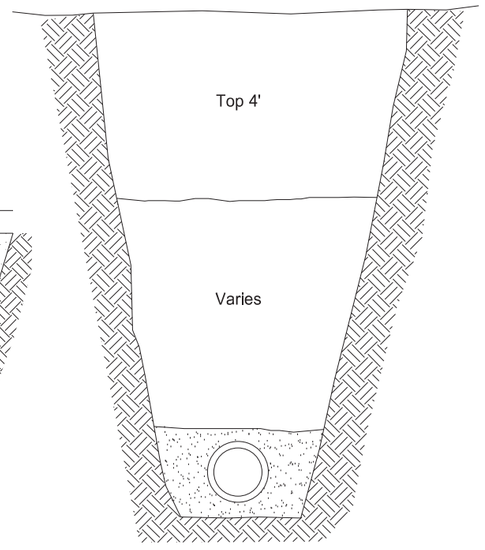
Notes:
1. Pipe, trench excavation, aggregate base course, geosynthetic material and backfill are all included in pay items "WATERMAIN IN"

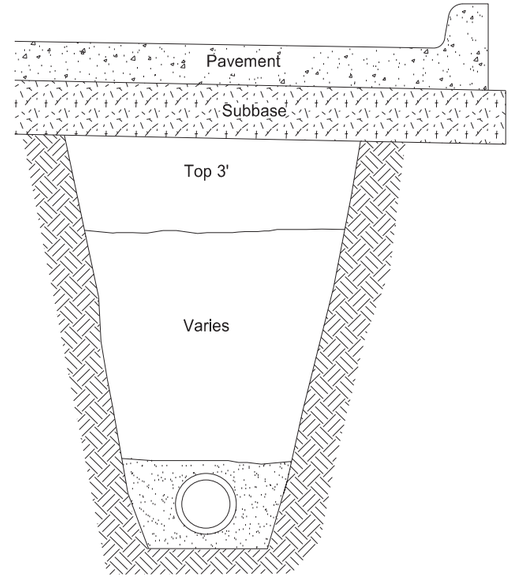
2. This drawing applies to new/replaced mainline and paved intersection roadways.

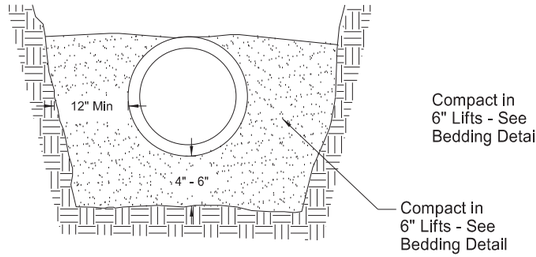
3. Except for backfill beneath the BNSF right of way, compact all base course and backfill to 90% of T-180 per NDDOT Section 203.04.G.2.a, unless otherwise noted.

4. Elevations and dimensions may vary, verify with watermain plan and profile.



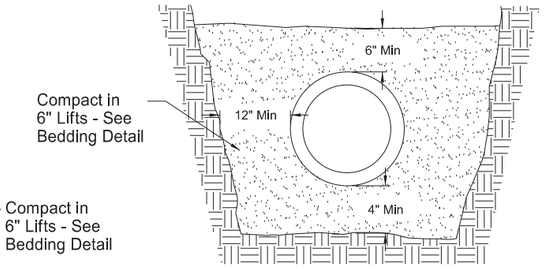






DIP Pipe Bedding

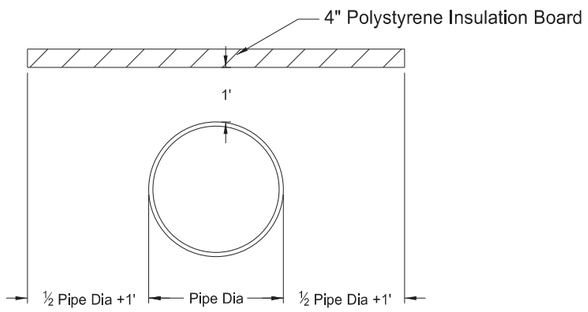
Class 3 Bedding for Watermain



PVC Pipe Bedding

Class 3 Bedding for Watermain

Backfill



Watermain Pipe Insulation

1. Insulation board is required over any watermain (treated, raw, or reverse osmosis) that has less than 8' of cover or passes under storm sewer pipe or storm sewer appurtenance that has less than 8' of total cover. See Section 55c for locations.

2. Where watermain passes beneath storm sewer pipe or storm sewer appurtenance, extend insulation board a minimum of 4' on either side of object.

General Details

Watermain Adjustments
Backfill

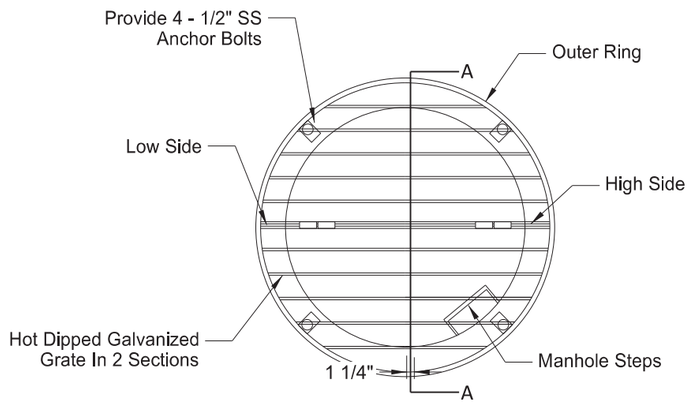
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

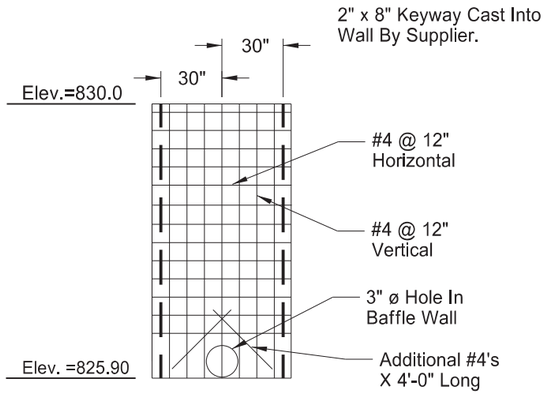
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
Marco Weidmer
PE-41185
DATE: 2025.12.19 12:44:12 -06'00'
NORTH DAKOTA

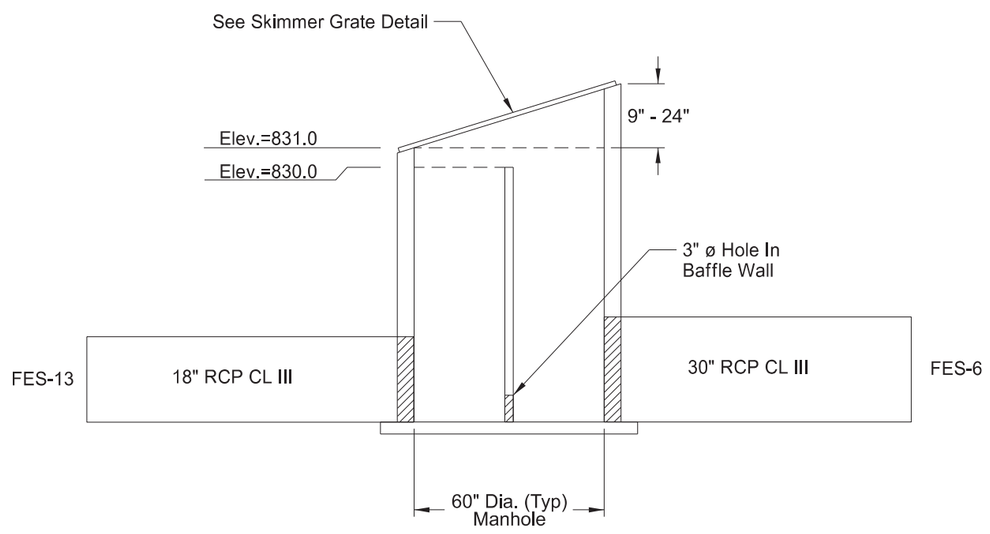
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	20	21



Skimmer Grate



Section A-A
Concrete Baffle Wall



General Details

Dry Basin Outlet - MH 11

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN J. PERKINS
PE-2958
DATE: 2025.12.1 9:10:48:21 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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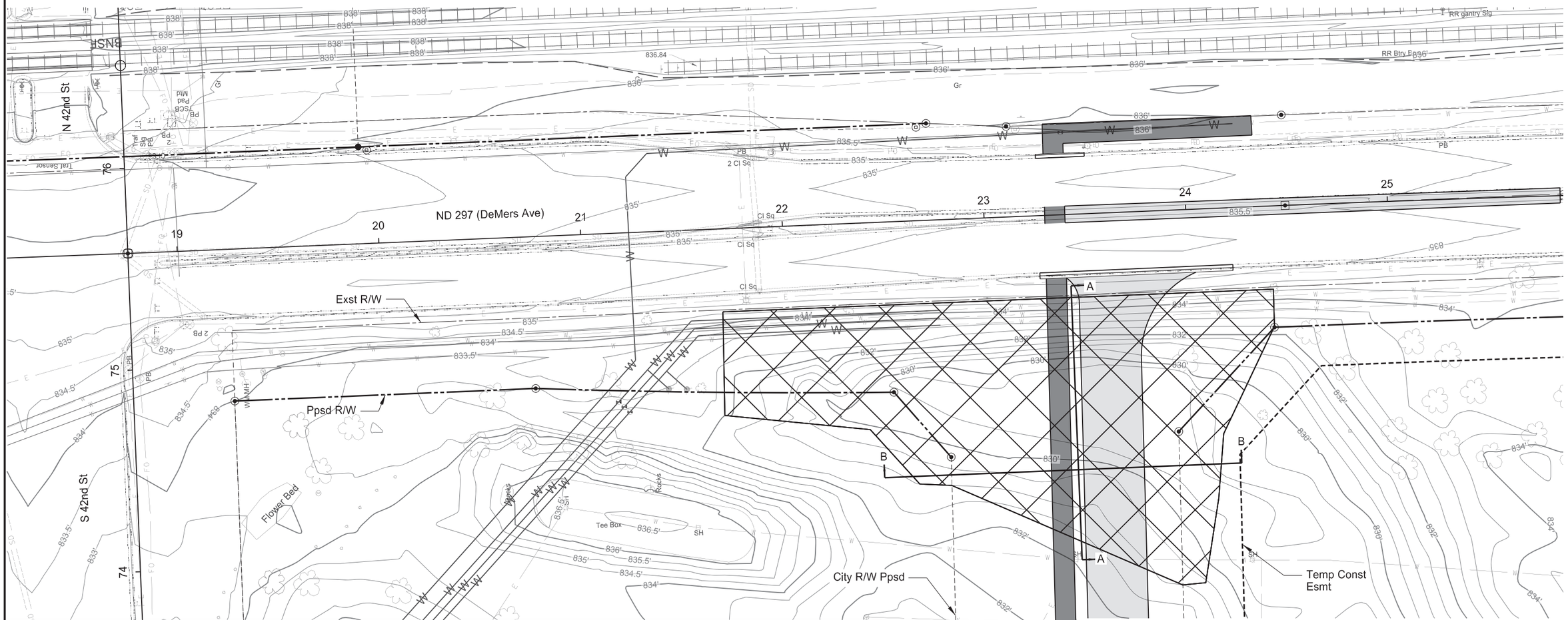
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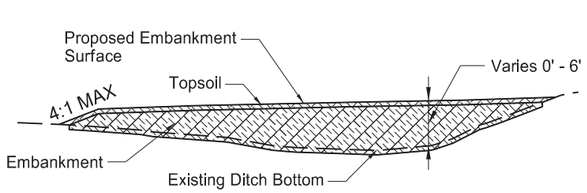
- Embankment Fill (24,600 SF) 2,650 CY
- Temporary Vehicular Bypass
- Temporary Pedestrian Shared Use Path

Note:
1. See section 6 plan note 203-P02 EMBANKMENT for more details.

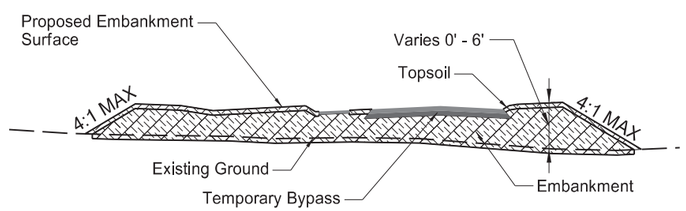
2. Place embankment material in phase 1A with construction of temporary bypass and in phase 1B after connecting watermain.

3. Embankment quantity included in Section 11 in the "Temporary Bypass" row.





Section AA



Section BB

General Details

Embankment Placement

7th Ave S & DeMers Ave

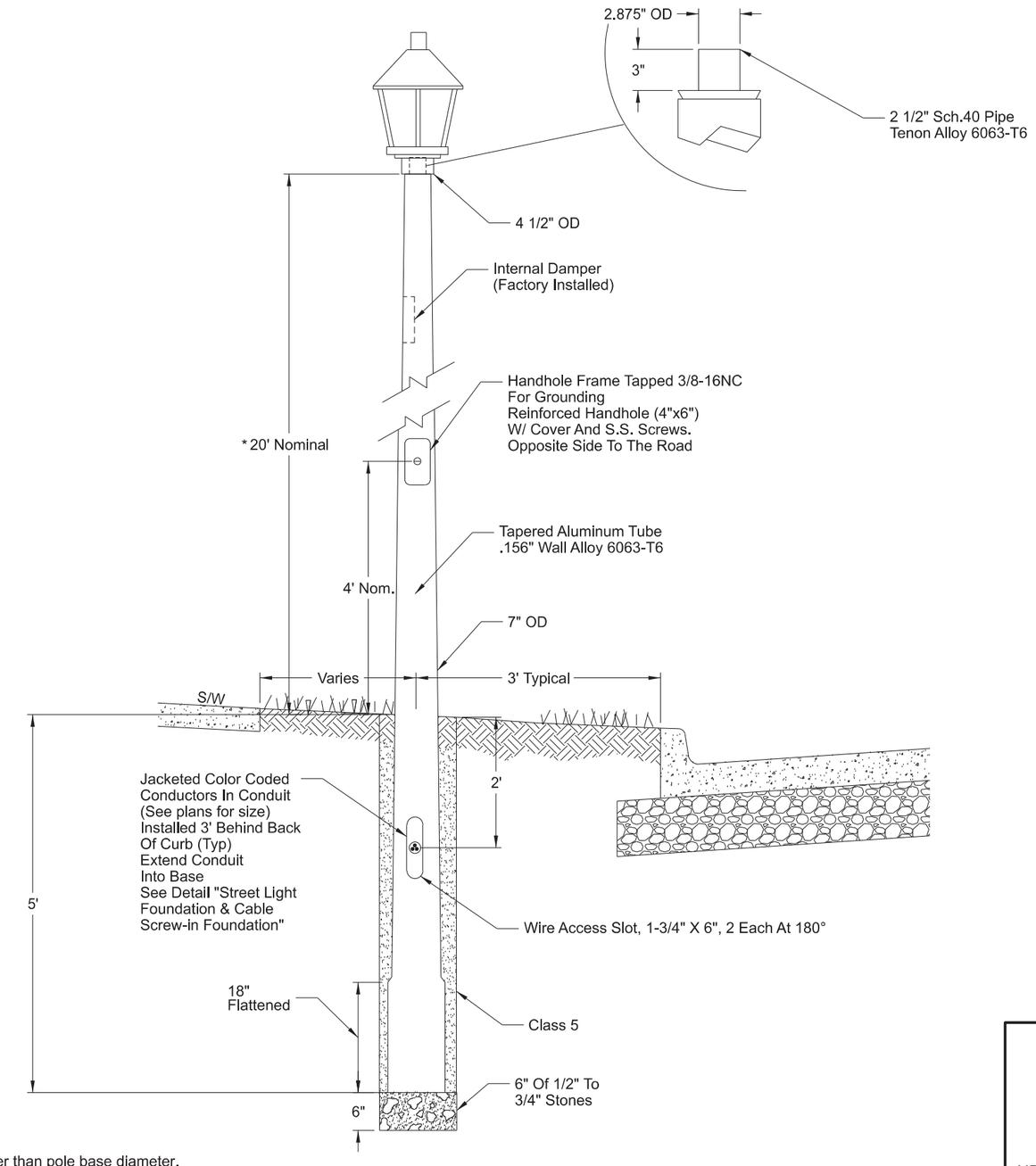
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9256
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NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	20	23



Notes:
Augered hole to be 4" to 6" larger than pole base diameter.

* Increase 5' for 25' poles

Conduit installed under the roadway to be located underneath geosynthetic fabric.

General Details

Residential Street Light

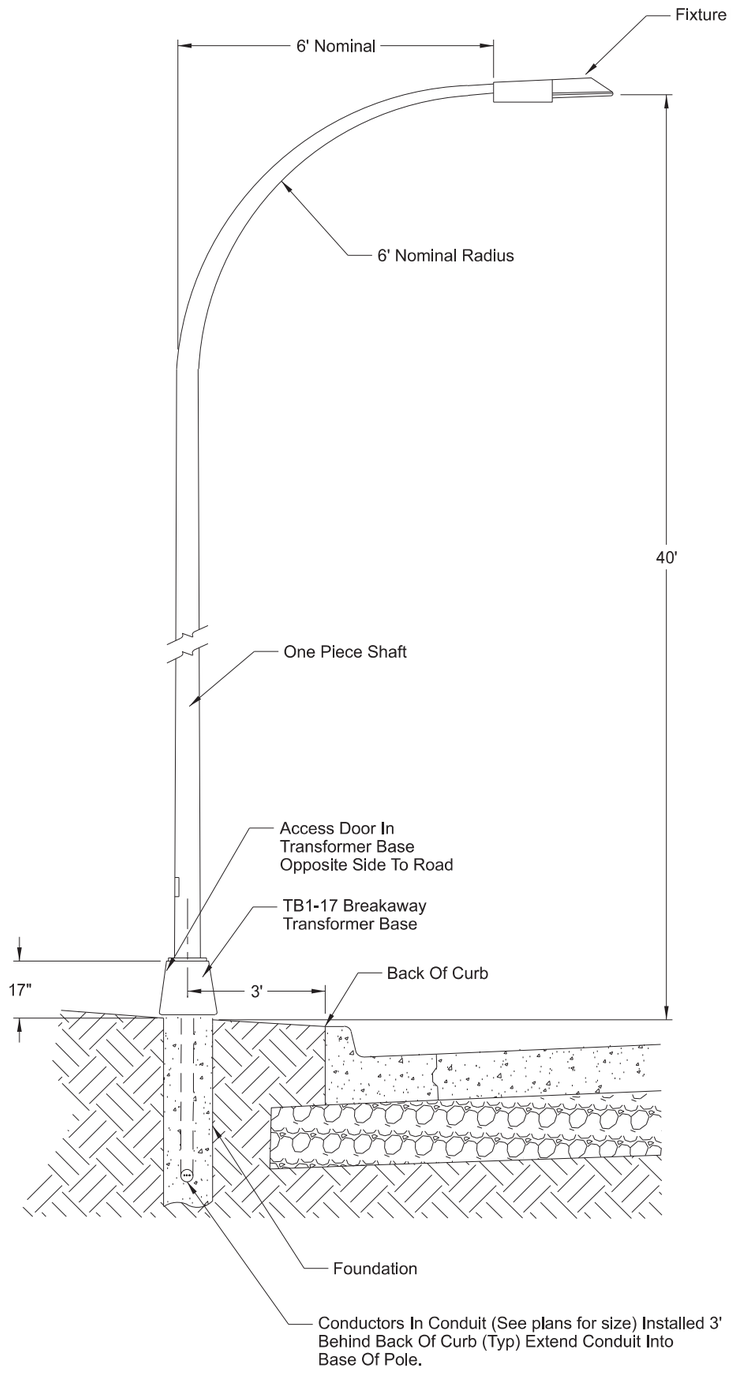
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

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PE-010157
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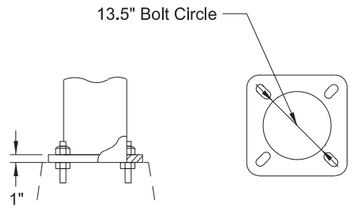
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	20	24



LIGHTING & TRAFFIC SIGNAL FOUNDATION TABLE
(USE FOR SINGLE MAST ARMS ONLY)

Description	Footing Depth, "D" 24" & 30" ø (ft)	Footing Depth, "D" 36" & 42" ø (ft)
Light Standard		
30-35' Mounting Height	6	5
36-44' Mounting Height	6	5
45-50' Mounting Height	8	7

Standard Pole Base



Notes:
Commercial street light is to have a round shaft, 6' davit arm, 40' mounting height unless otherwise noted in the plans, finish to be hot dip galvanized.

Install conduit under the Geosynthetic Type G when under the roadway section.

General Details

Commercial Street Light

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

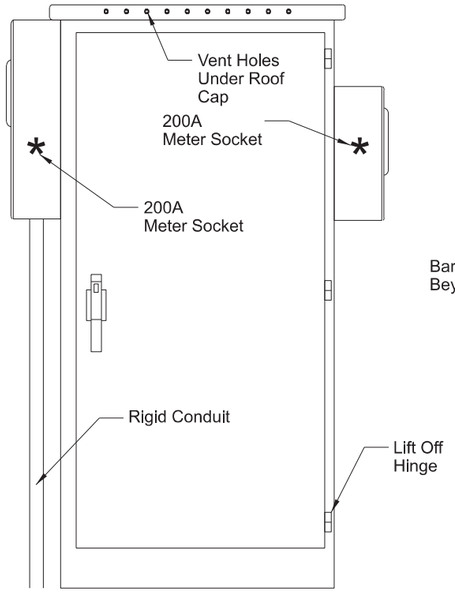
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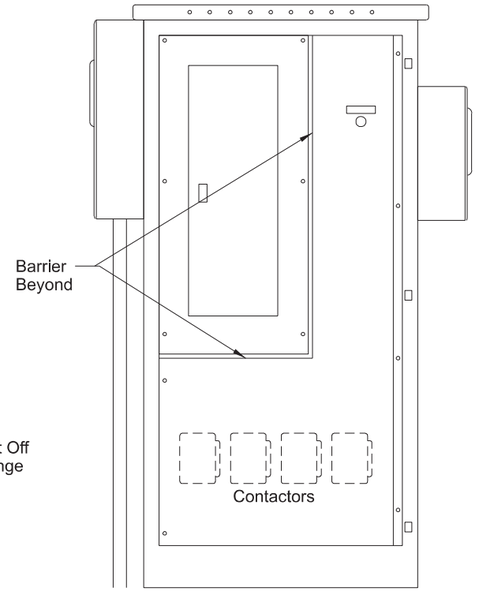
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ND	RCE-FTF-NHU-SU-6-297(014)000	20	25

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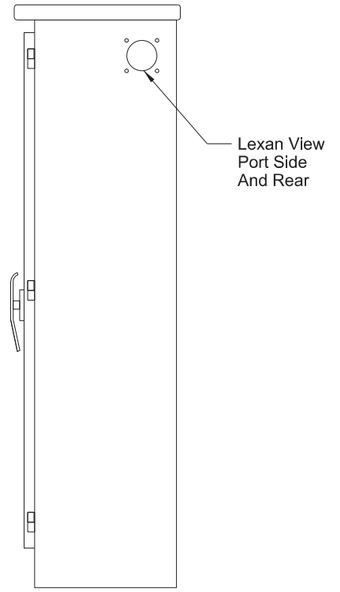
1. Combination feed point to be used for traffic signal and/or pedestrian crossing beacon and/or street lights as shown on the plans.
2. Use 14 gauge #304 stainless steel for cabinet.
3. Use padlockable stainless steel with three point latch for handle.
4. Use lift-off Southco #98-10-500-50 for hinges.
5. Inner dead front to be hinged.
6. Cabinet to be suitable for service entrance.
7. Assembly to be UL508 listed.
8. Provide concrete slab 4" min. thick 6" wider than cabinet at rear and sides & 36" wider at front.
9. Bill of material:
   - A. 200A, 1PH., 120/240V Load Center
   - B. 1 - 200A 2P Main Circuit Breaker
   - C. 1 - 15A 1P Branch Breaker
   - D. 1 - 20A 1P Branch Breaker
   - E. 1 - 50A 1P Branch Breaker
   - F. 4 - 60A 2P Branch Breaker
   - G. 4 - 60A 2P Mechanical Contractors, Eaton model # CN35GN2AB
   - H. Test switch - Allen Bradley #800T-H2A
   - I. Photocell base area lighting research AW2A-NB
   - J. Photocell - DTL#DP124-0.8-TJUJ50
   - K. 200A 2P by-pass meter socket - street lights
   - L. 200A 2P by-pass meter socket - traffic signal
10. Povolny Specialties model POVS20GRFRKS or equal as approved by city electrician



Front View

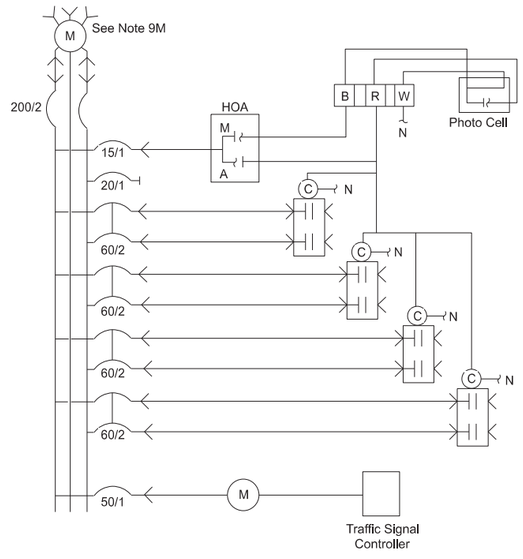


Front View
Door Removed



Side View

* Xcel Energy requires 200 amp meter on both meters



Wiring Diagram

General Details

Combination Feed Point

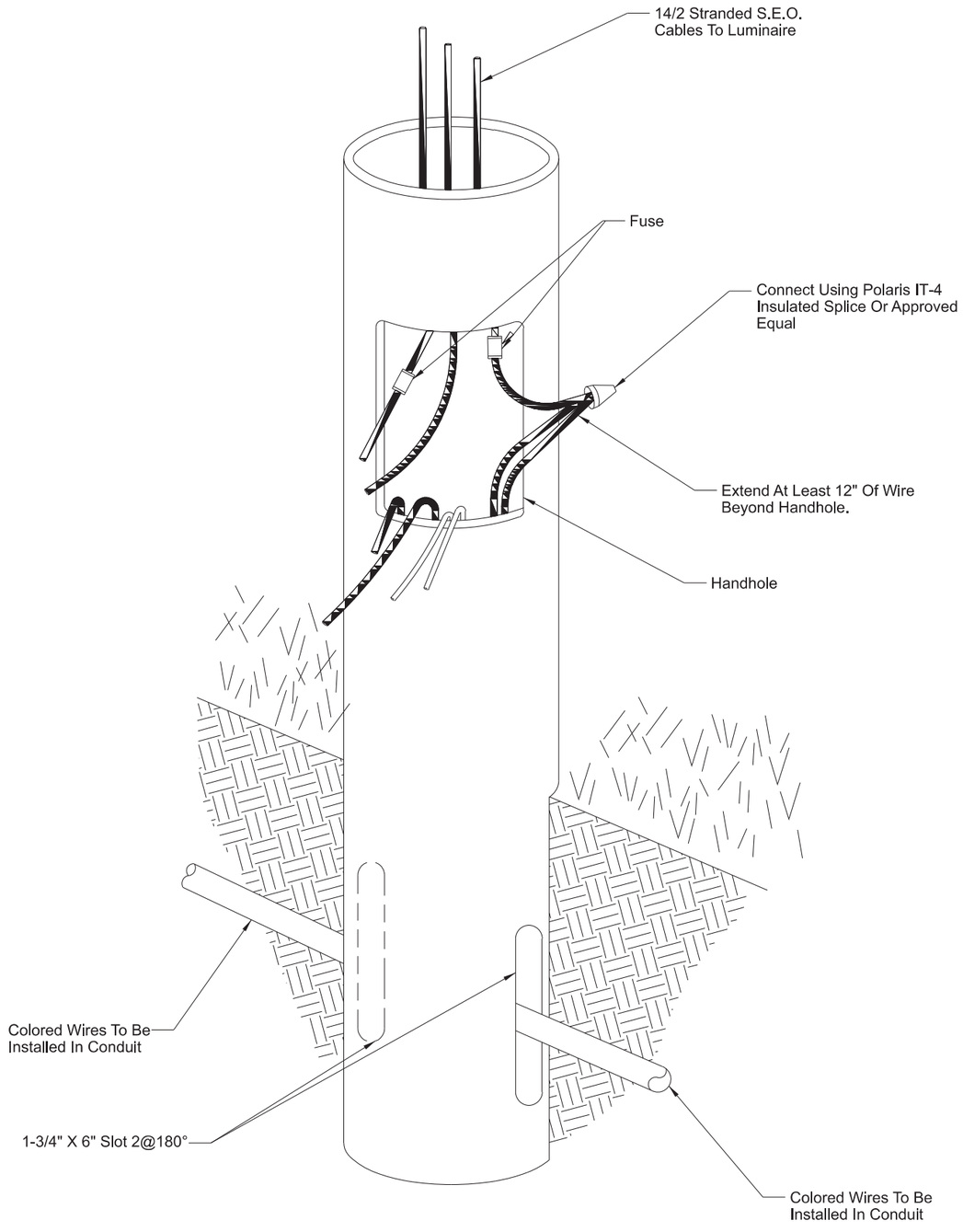
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
DARRIN RICHTEIL
PE-010157
DATE: 2025.12.22 09:16:14 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	20	26



General Details

Street Light Pole Wiring

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

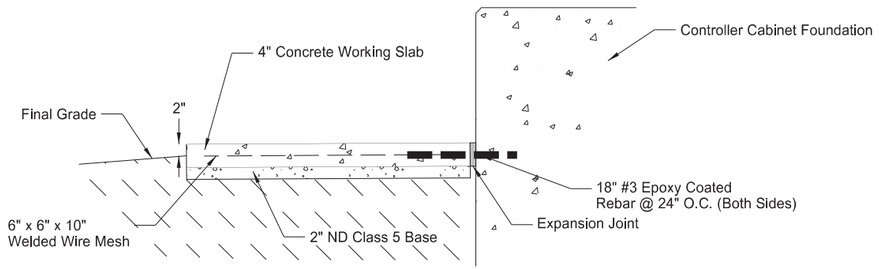
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
DARRIN RICHTER
LICENSEE
PE-010157
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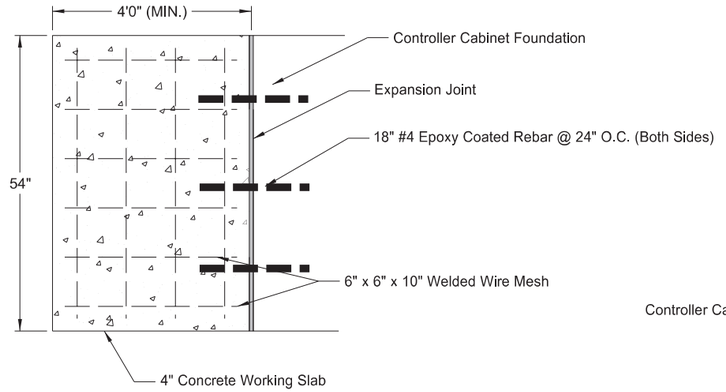
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Working Slab Notes:

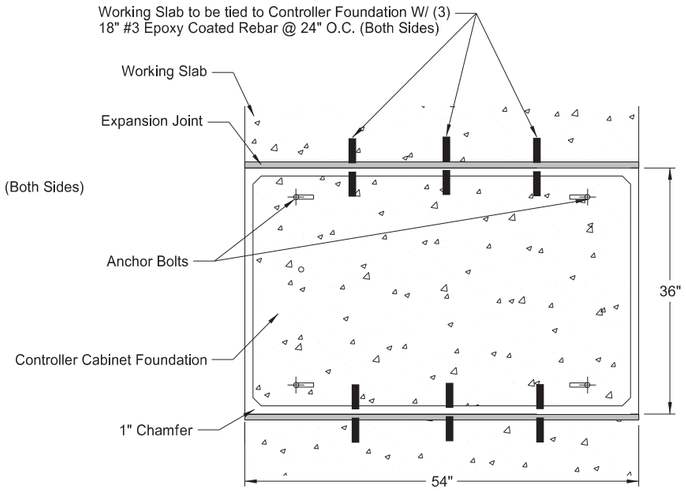
1. This is the minimum required for working slab, larger slab may be required per plan sheets.
2. Provide expansion joint only when working slab abuts other paving.
3. Install slab minimum of 2" above final grade on all sides, except when matching existing concrete.



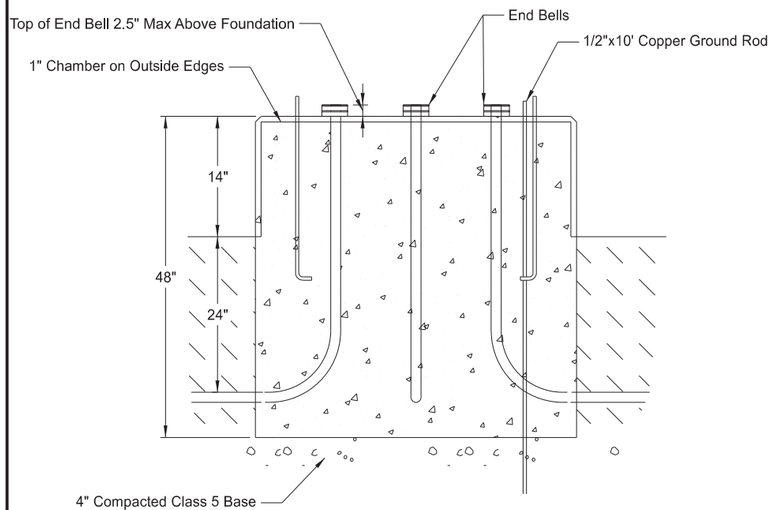
WORKING SLAB - SECTION



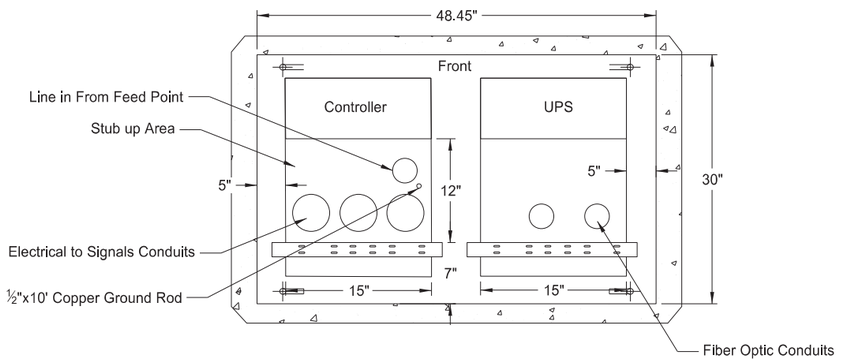
WORKING SLAB - PLAN



FOUNDATION - PLAN



FOUNDATION - SECTION



CONDUIT LAYOUT

Cabinet Foundation Notes:

1. Anchor bolts must be set into cabinet foundation when poured per manufacturer's template and recommendations.
2. Cabinet foundation will be level in all directions with a fully finished surface free of voids of divots.
3. Number and size of conduit shown on plans, include (2) 4" spares.
4. All conduits require end bells, install before cable is installed and spares require expanable plugs.

General Details

Controller Cabinet

ND 297 (DeMers Ave) & 42nd St Grade Seperation

Grand Forks County

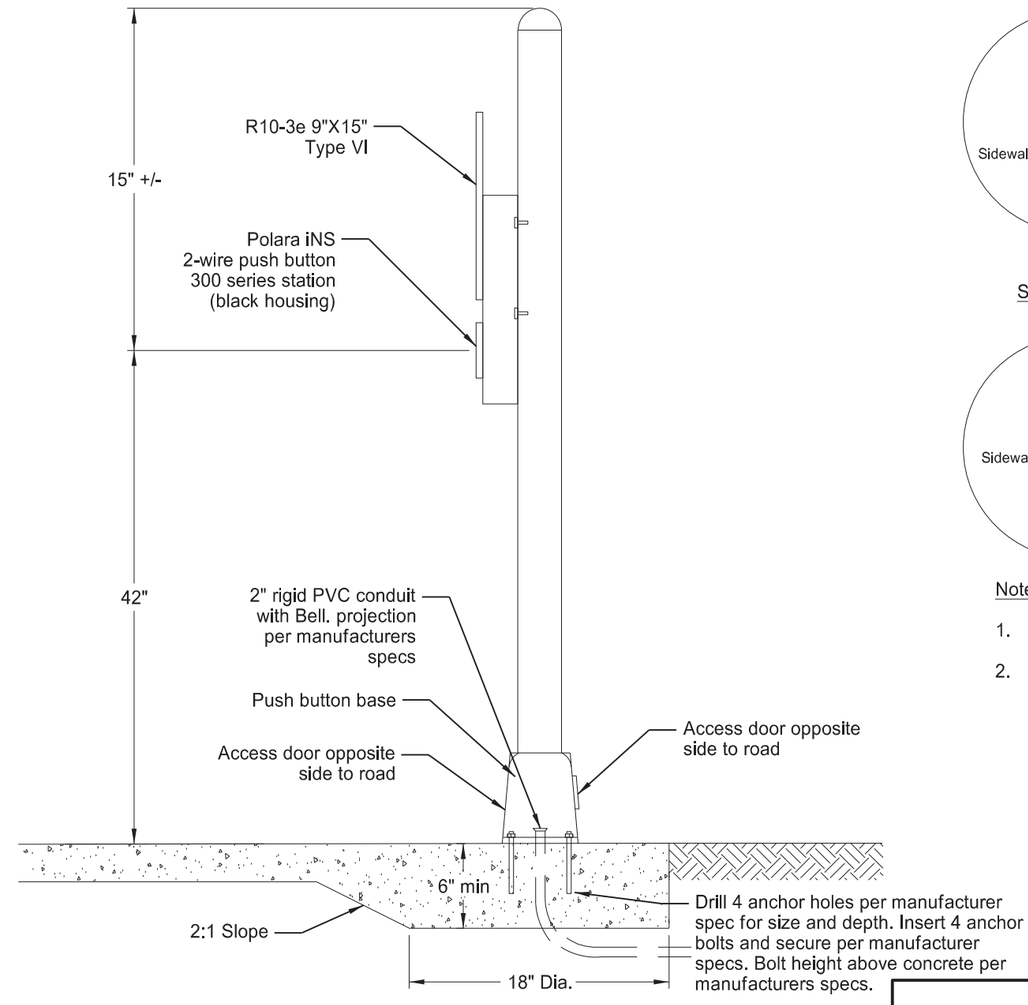
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
DARRIN RICHTER
LICENSE
PROJECT
DATE: 2025.12.22 09:17:04 -06'00'
NORTH DAKOTA

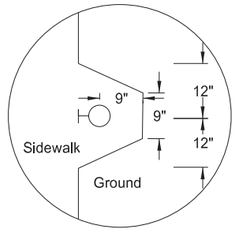
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	ND	RCE-FTF-NHU-SU-6-297(014)000	20	28

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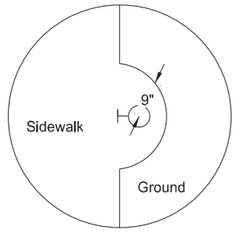
1. Station to be "Frey Manufacturing Corp Crosswalk Pedestal CP6ACT4840TCSS-NF".
2. Bent bar anchor (galvanized) may be used in place of drilling.
3. Mount push button so that face is parallel to sidewalk.
4. Shaft to be mounted and tightened prior to mounting accessible ped. push button unit.
5. Plumb the push button station with leveling shims.
6. Push button station foundation to be poured monolithic with the sidewalk.
7. Ensure concrete control joints and edge of oncrete walk are a minimum of 9" from the center of the push button foundation (see option 1 or 2).
8. Concrete thickness shall be the greater of 6" or the anchor bolt manufacturer's required thickness.



Surface Mount
Option 1



Surface Mount
Option 2



Note:

1. Option chosen must remain the same throughout the project.
2. Sidewalk joints shall not be placed in surface mount concrete area as depicted above.

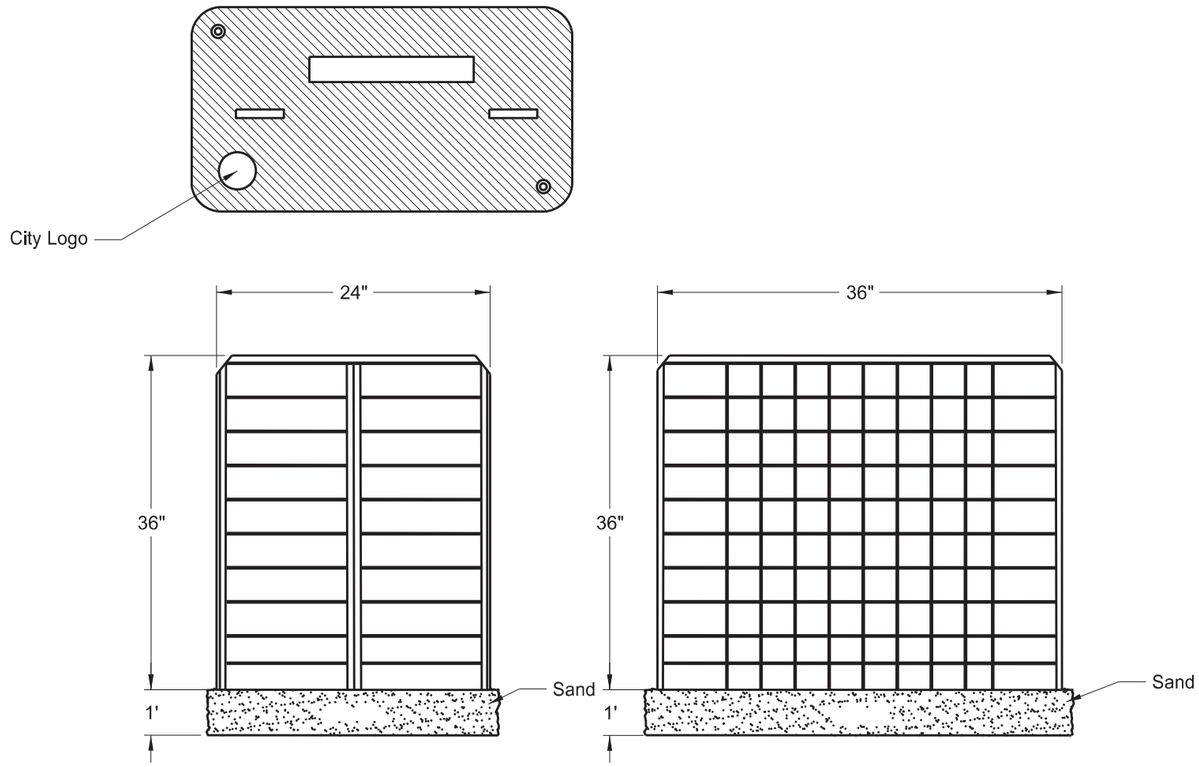
Push Button Foundation

ND 297 (DeMers Ave) & 42nd St Grade Seperation

Grand Forks County

REGISTERED PROFESSIONAL ENGINEER
DARRIN RICHTER
LICENSE
PRODUCT
DATE: 2025.12.22 09:17:27 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	20	29



Installation Notes

1. Place Compacted 1'-0" Aggregate Drain Bed(1" Minus Rock) Below Bottom of Handhole, to the Satisfaction of the Engineer

2. Conduit Holes Diameter Located in the Barrel Section are Sized no Larger then the Conduit Outside Diameter Used

3. After Handhole and Conduit Installation, Seal all Inside Walls Water Tight to the Satisfaction of the Engineer

4. All Conduits Shall Extend a Minimum of 3" Into Pull Box

5. All Pull Boxes and Covers Shall be a Minimum of 24" From Back of Curb Unless Approved by Engineer

Material Notes

-All Vaults & Covers Need to be Rated For Minimum of 22,000 lbs

-All Covers Shall have "Fiber Optic" On Them

-All Hardware Needs to be Stainless or Galvanized Steel

General Details

IT Pull Box Detail

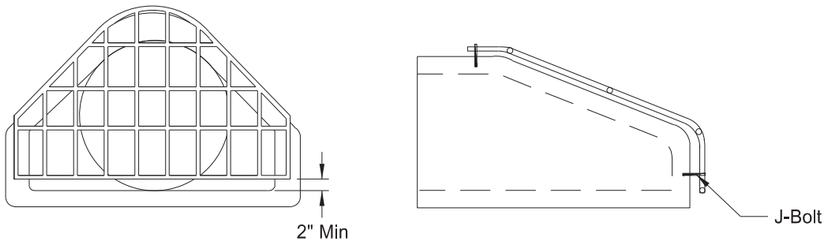
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

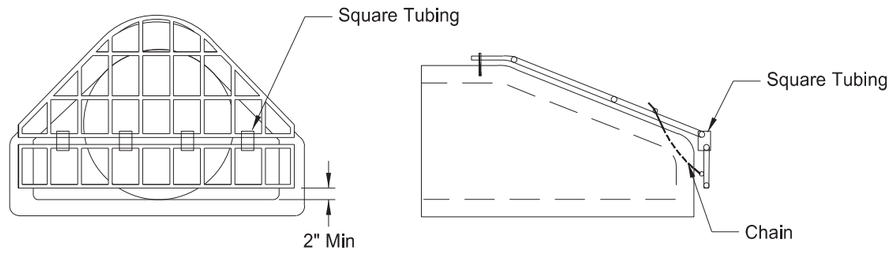
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
DARRIN RICKBEIL
LICENSEE
PE-10057
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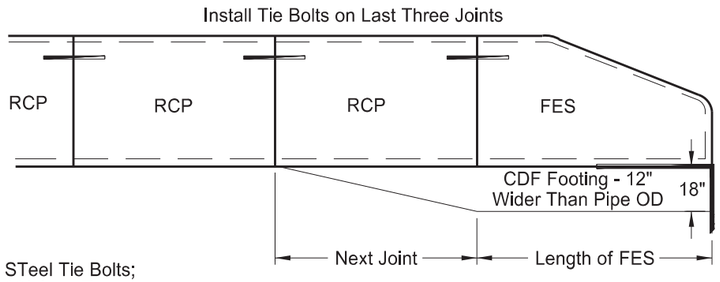
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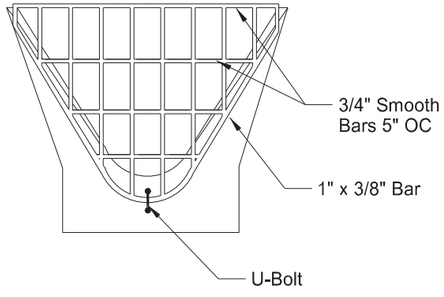
UNHINGED



HINGED



1/2" Diameter STeel Tie Bolts;
2 Per Joint @ 60° from Top,
Incidental Item



NOTES:
1. Trash Guard Required for Pipe 18" ø or Greater.
2. Trash Guard Shall be Hot Dip Galvanized per ASTM-A153.
3. Trash Guard Shall Conform to this Drawing or as Approved by Shop Drawings.
4. Trash Guards 48" ø or larger shall be hinged.
5. Outflow velocites at FES have been designed to be 10 feet per second or less. No riprap will be required.

General Details

Flared End Section Trash Guard

ND 297 (DeMers Ave) & 42nd St Grade Separation

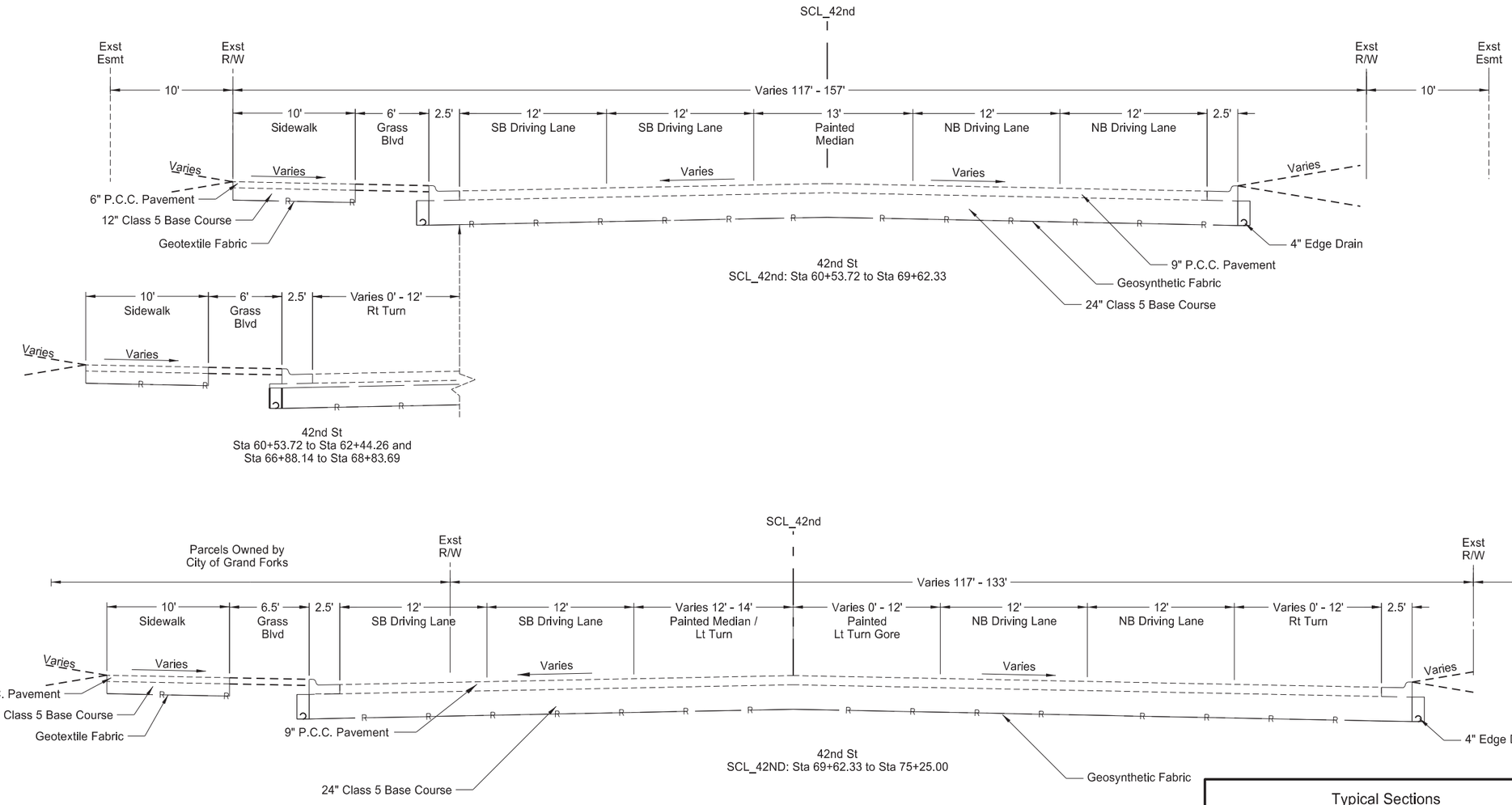
Grand Forks County

Grand Forks,ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.19 11:15:06 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	30	1

NOTE:
1. 42nd St Alignment = SCL_42nd, Location Varies Along Corridor
2. Existing Alignment Does Not Correspond With Roadway Centerline or Crown



Typical Sections

Existing

42nd Street

ND 297 (DeMers Ave) & 42nd St Grade Separation

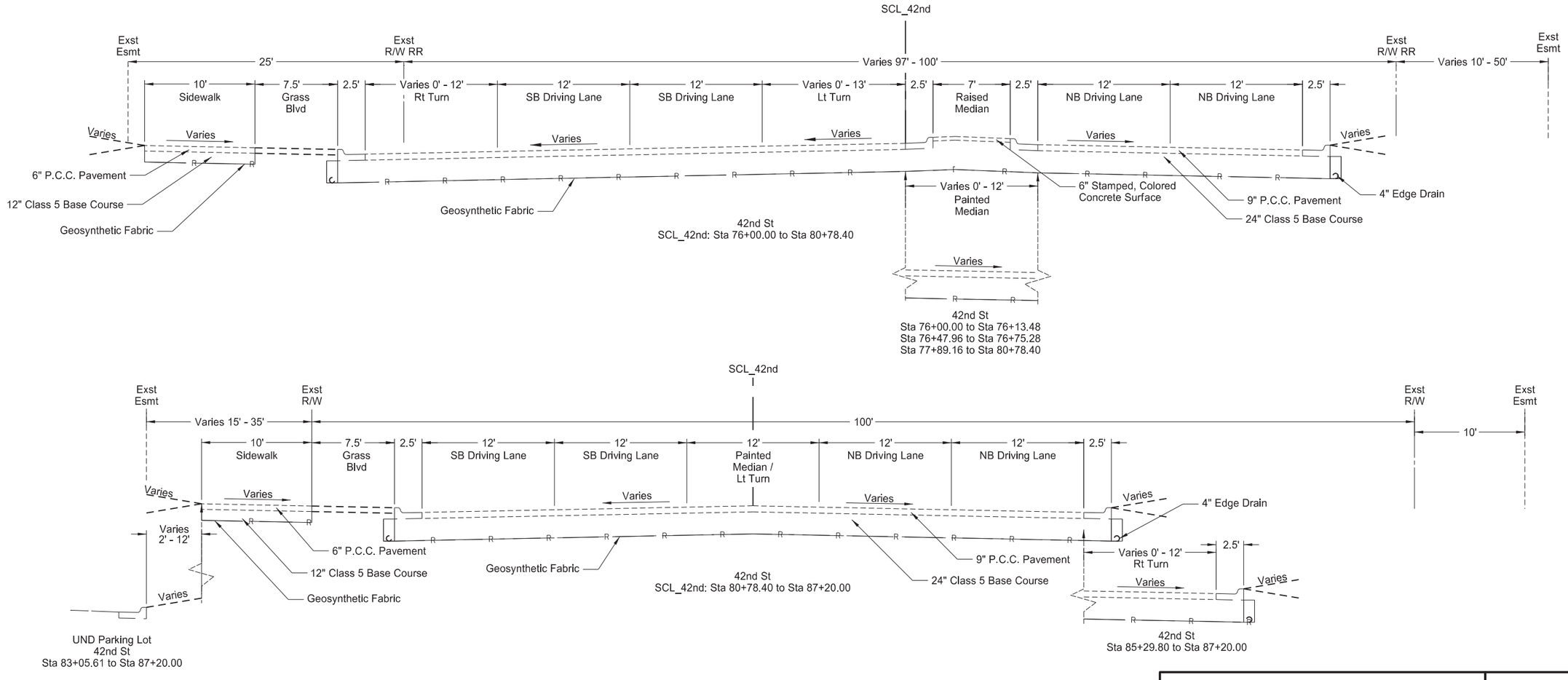
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.05 13:48:00 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	30	2

NOTE:
1. 42nd St Alignment = SCL_42nd, Location Varies Along Corridor
2. Existing Alignment Does Not Correspond With Roadway Centerline or Crown



Typical Sections

Existing

42nd Street

ND 297 (DeMers Ave) & 42nd St Grade Separation

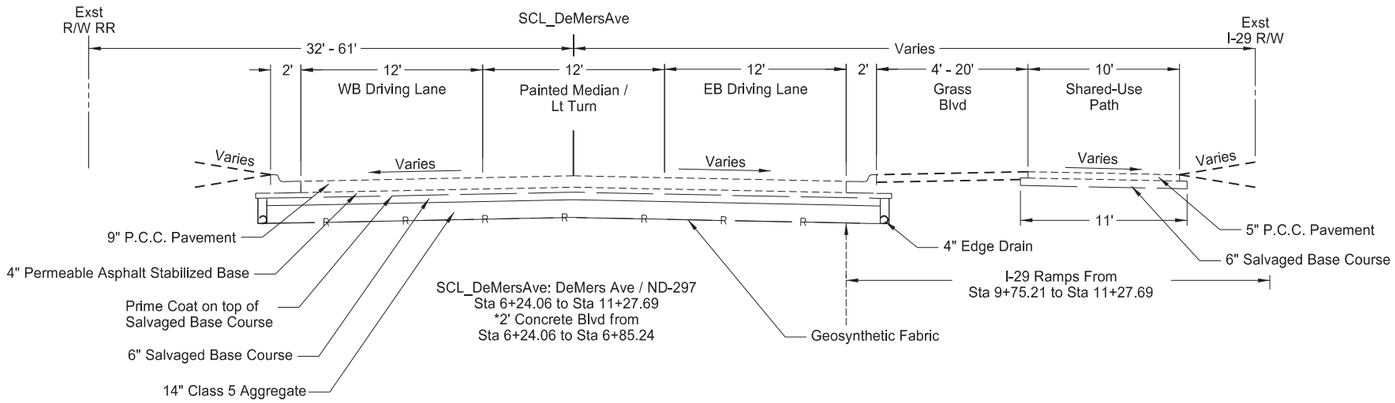
Grand Forks County

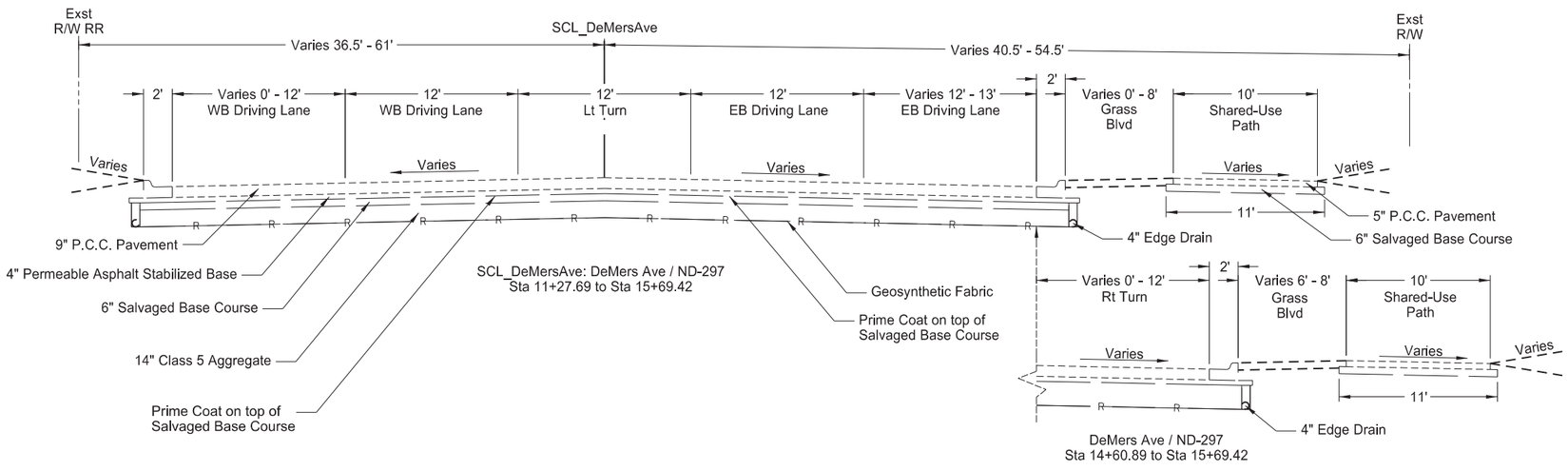
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.05 13:48:14 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	30	3

NOTE:
1. DeMers Ave Alignment = SCL_DeMersAve
2. Existing Alignment Does Not Correspond With Roadway Centerline or Crown





Typical Sections

Existing

ND 297 / DeMers Avenue

ND 297 (DeMers Ave) & 42nd St Grade Separation

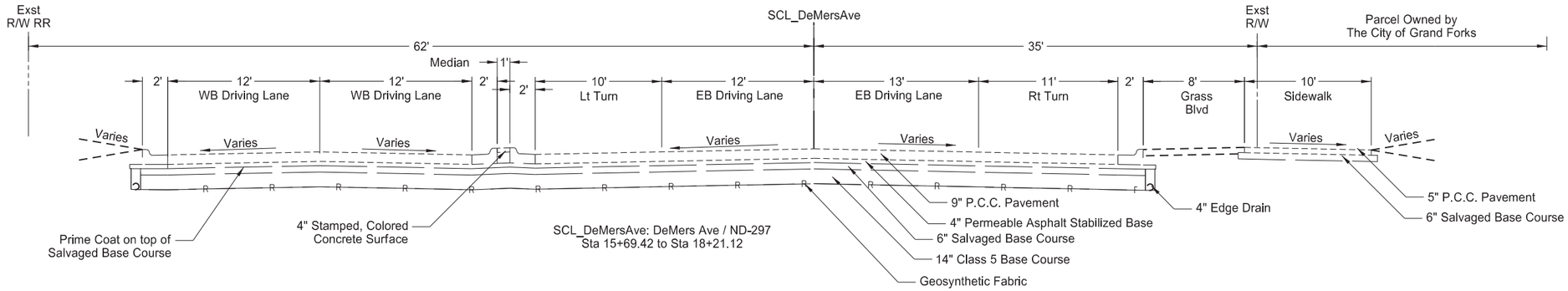
Grand Forks County

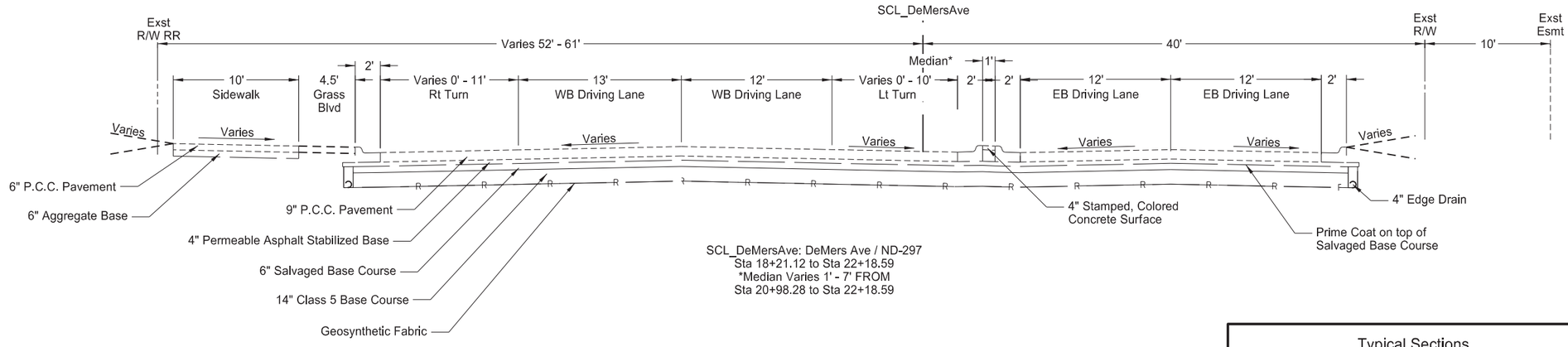
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.05 13:48:25 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	30	4

NOTE:
1. DeMers Ave Alignment = SCL_DeMersAve
2. Existing Alignment Does Not Correspond With Roadway Centerline or Crown





Typical Sections

Existing

ND 297 / DeMers Avenue

ND 297 (DeMers Ave) & 42nd St Grade Separation

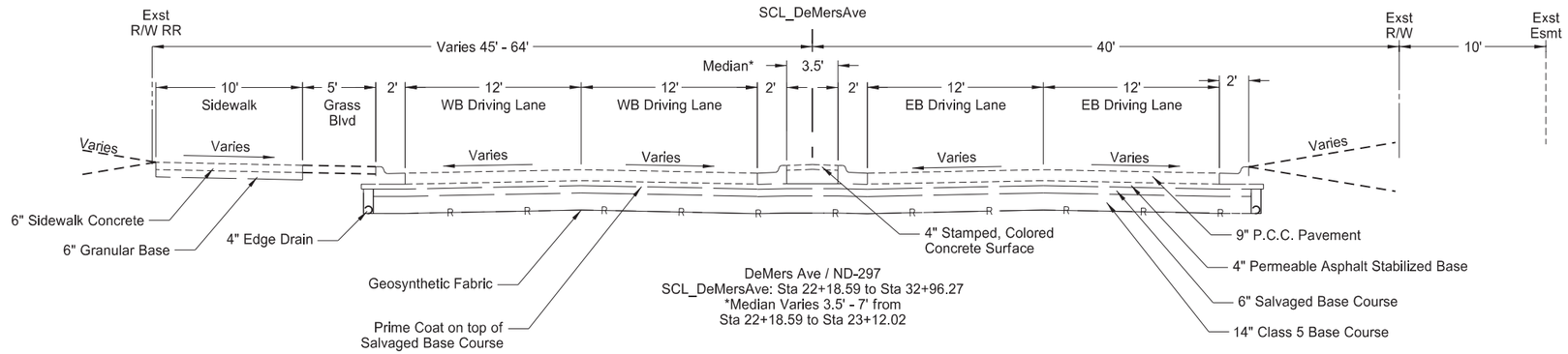
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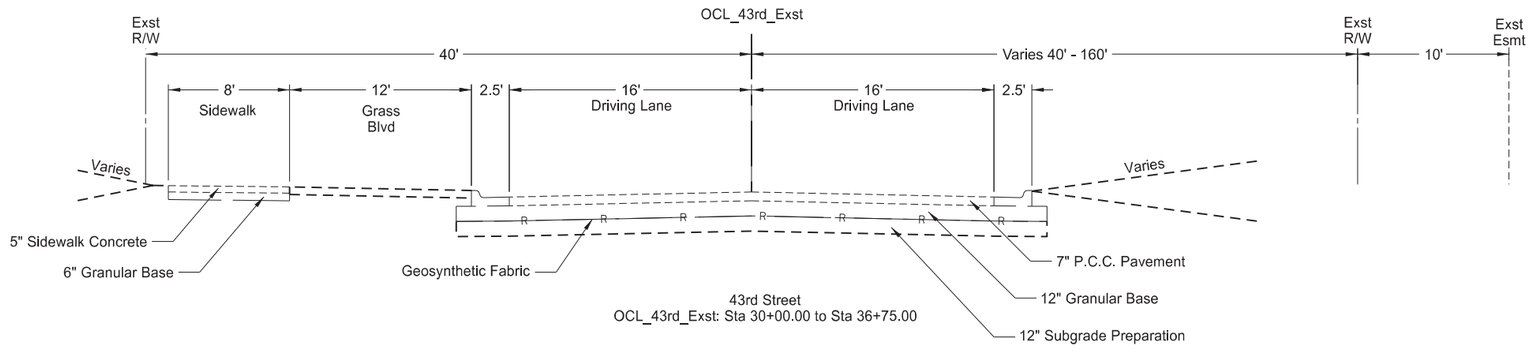
Grand Forks, ND

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CHRISTOPHER S. DAHL
PE-9276
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NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	30	5

NOTE:
1. DeMers Ave Alignment = SCL_DeMersAve
2. Existing DeMers Ave Alignment Does Not Correspond With Roadway Centerline or Crown
3. Existing 43rd St Alignment = OCL_43rd_Exst





Typical Sections

Existing

ND 297 / DeMers Avenue and 43rd Street

ND 297 (DeMers Ave) & 42nd St Grade Separation

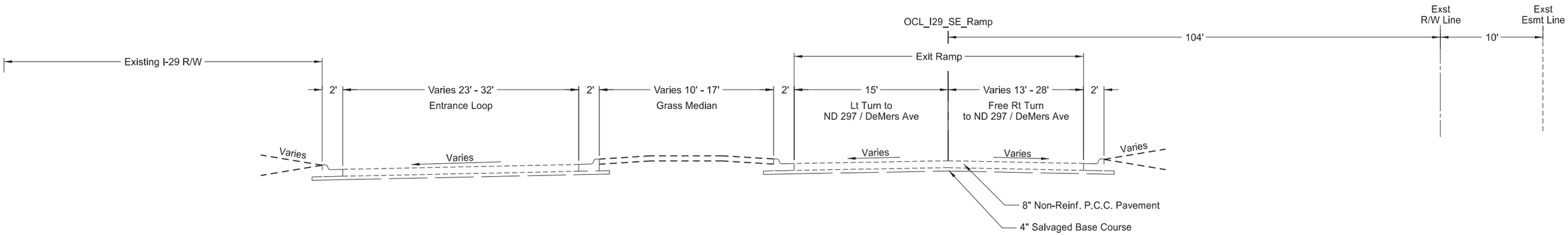
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.05 13:49:50 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	30	6

NOTE:
1. I-29 Alignment = OCL_I29_SE_Ramp
2. Existing Alignment Does Not Correspond With Roadway Centerline or Crown



I-29 Ramps
OCL_I29_SE_Ramp: Sta 17+60.48 to Sta 18+25.34

Typical Sections

Existing

I-29 Ramps

ND 297 (DeMers Ave) & 42nd St Grade Separation

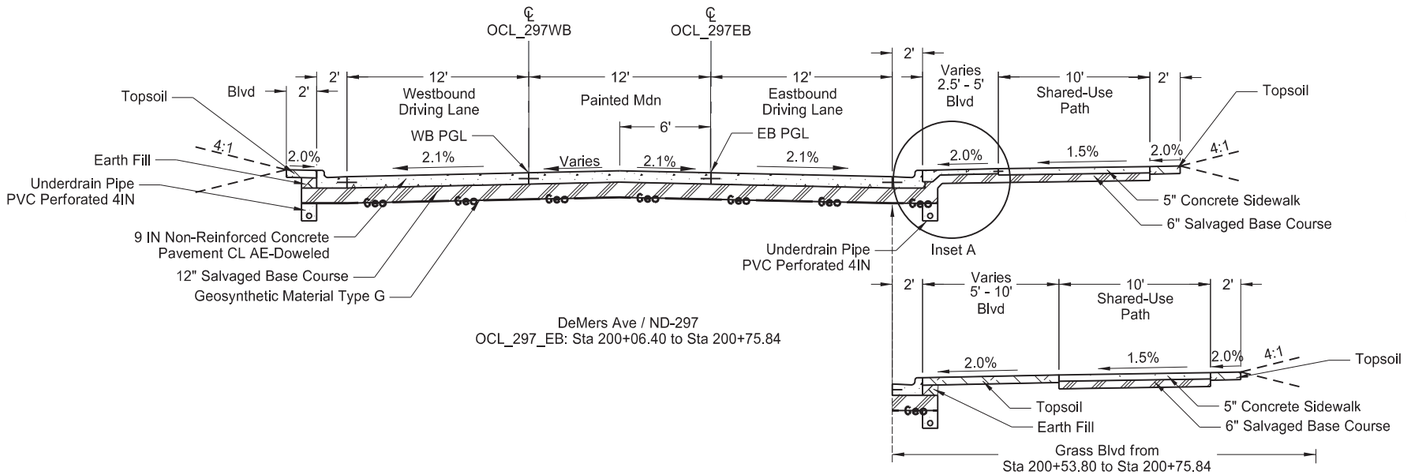
Grand Forks County

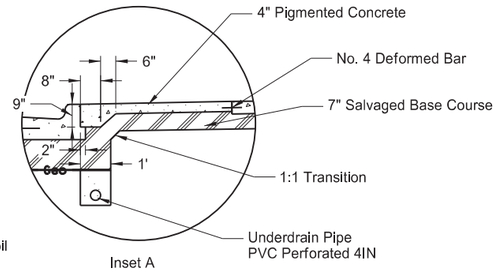
Grand Forks, ND

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PE-9256
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NORTH DAKOTA

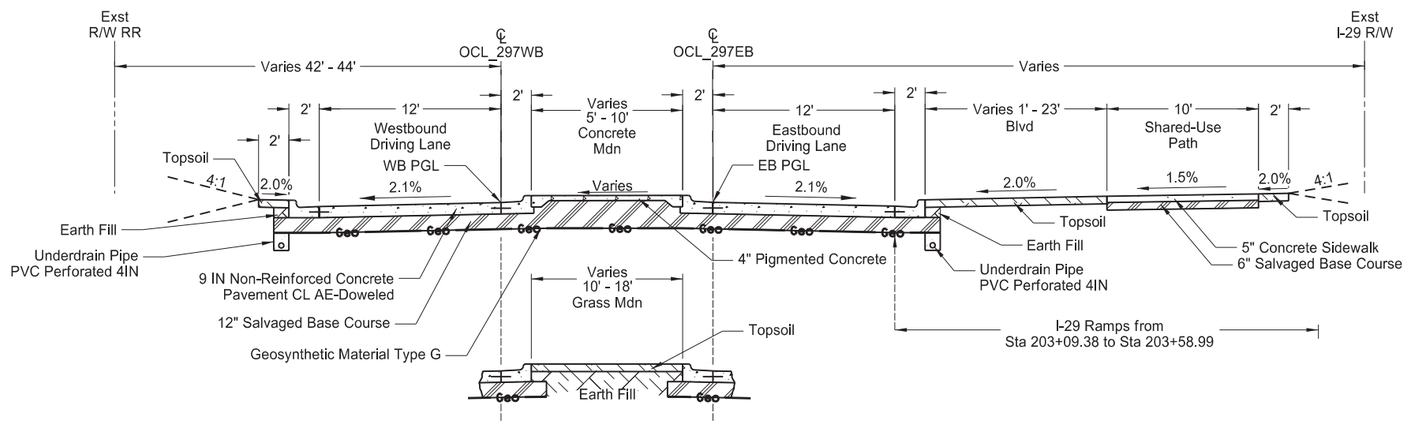
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	30	7

NOTE:
1. ND 297 (DeMers Ave) to use NDDOT Standard Type 1 curb & gutter (24").
2. PGL = Profile Grade Line
3. DeMers Ave Alignment = OCL_297EB
4. See Section 20 for Underdrain Details
5. Salvaged Base Course Extends 1' Behind Back of Curb (Typical)
6. See Section 100 for Temporary Bypass Typical Sections
7. See Section 170c for BNSF Access Road Typical Sections





Inset A



Typical Sections

Proposed

ND 297 / DeMers Avenue

ND 297 (DeMers Ave) & 42nd St Grade Separation

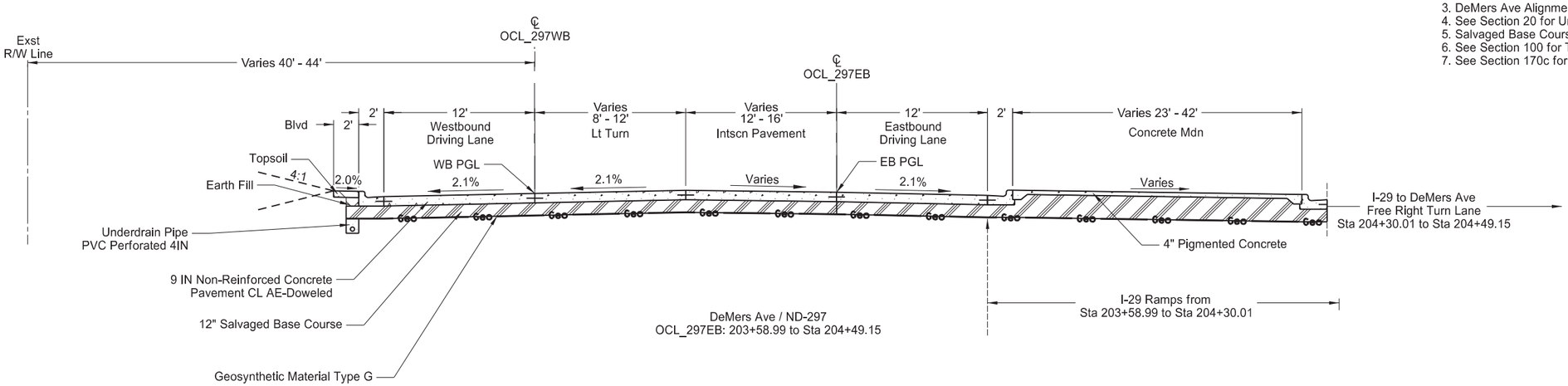
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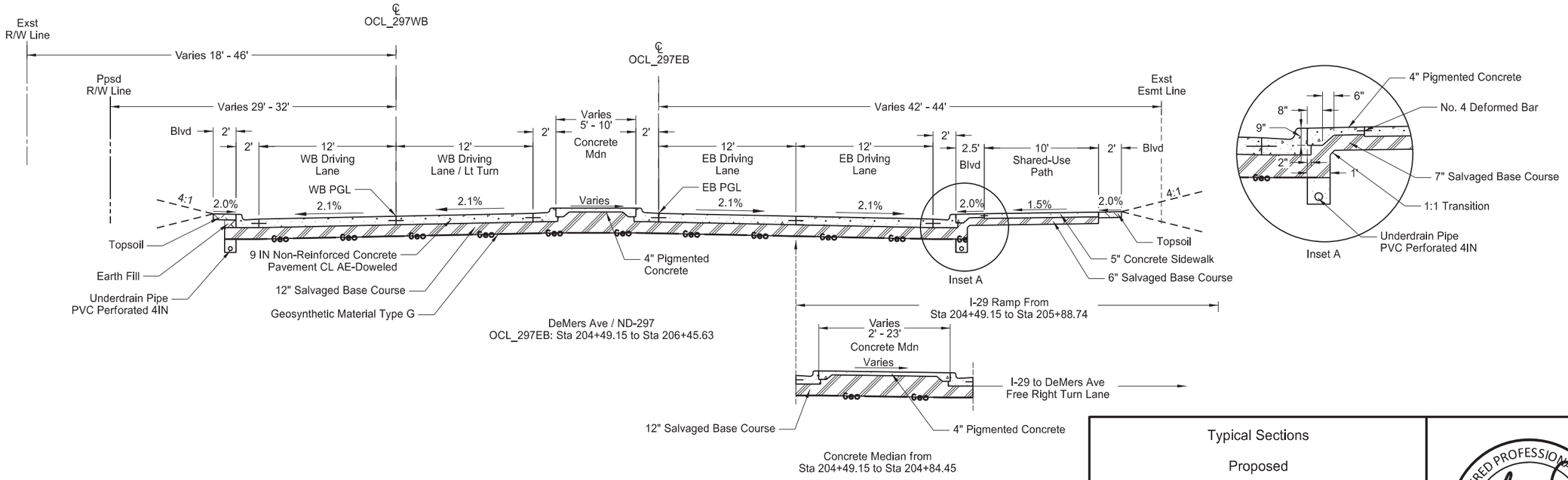
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.05 13:51:01 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	30	8

NOTE:
1. ND 297 (DeMers Ave) to use NDDOT Standard Type 1 curb & gutter (24").
2. PGL = Profile Grade Line
3. DeMers Ave Alignment = OCL_297EB
4. See Section 20 for Underdrain Details
5. Salvaged Base Course Extends 1' Behind Back of Curb (Typical)
6. See Section 100 for Temporary Bypass Typical Sections
7. See Section 170c for BNSF Access Road Typical Sections





Typical Sections

Proposed

ND 297 / DeMers Avenue

ND 297 (DeMers Ave) & 42nd St Grade Separation

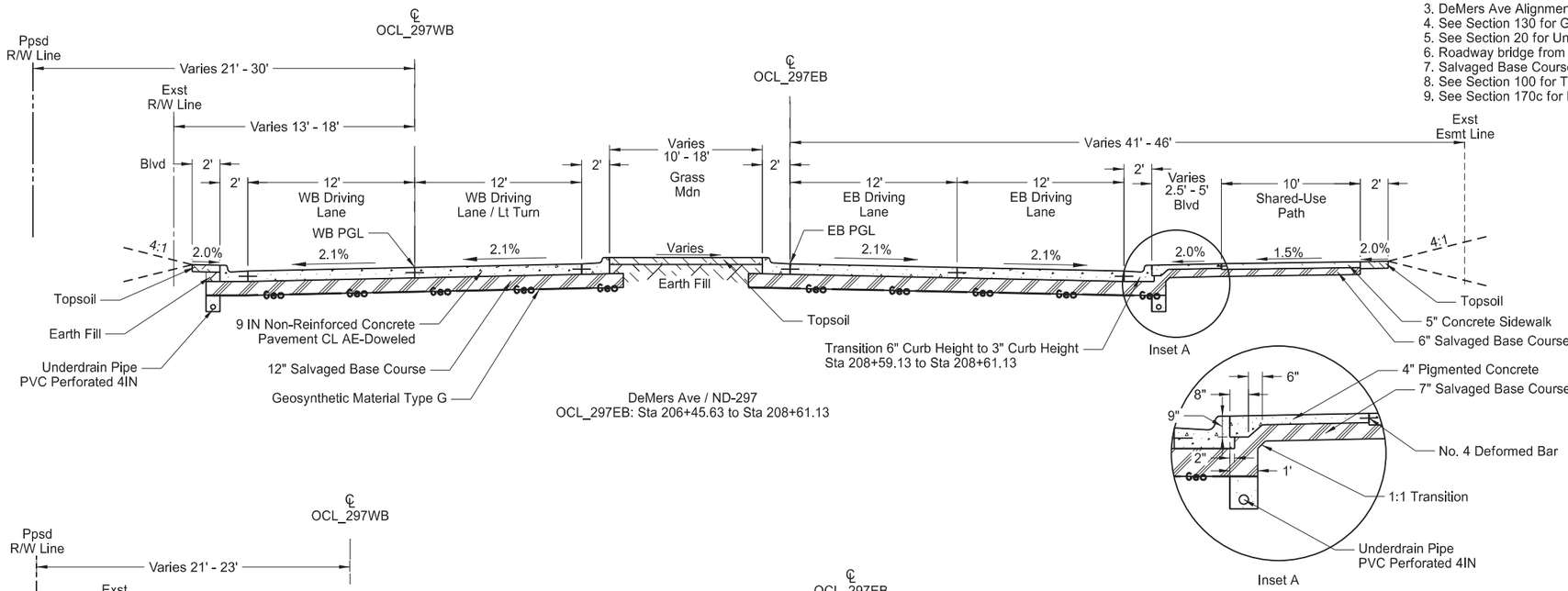
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-10276
DATE: 2025.12.05 13:51:20 -06'00'
NORTH DAKOTA

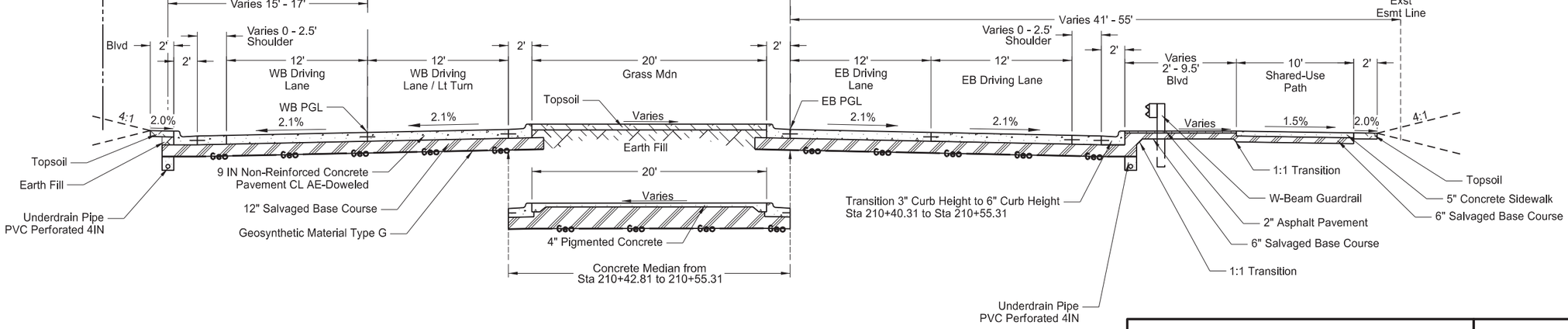
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	30	9

NOTE:
1. ND 297 (DeMers Ave) to use NDDOT Standard Type 1 curb & gutter (24").
2. PGL = Profile Grade Line
3. DeMers Ave Alignment = OCL_297EB
4. See Section 130 for Guardrail Details
5. See Section 20 for Underdrain Details
6. Roadway bridge from 210+55.31 to 213+31.14
7. Salvaged Base Course Extends 1' Behind Back of Curb (Typical)
8. See Section 100 for Temporary Bypass Typical Sections
9. See Section 170c for BNSF Access Road Typical Sections



DeMers Ave / ND-297
OCL_297EB: Sta 206+45.63 to Sta 208+61.13

Inset A



DeMers Ave / ND-297
OCL_297EB: Sta 208+61.13 to Sta 210+55.31

Typical Sections

Proposed

ND 297 / DeMers Avenue

ND 297 (DeMers Ave) & 42nd St Grade Separation

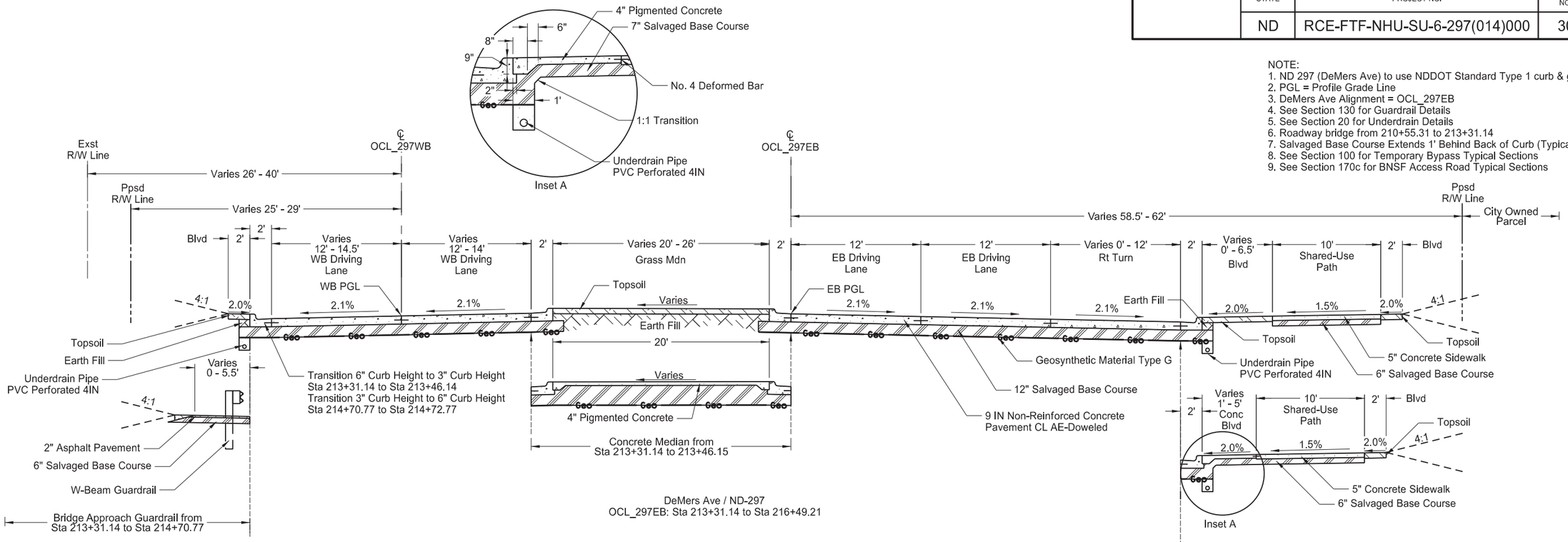
Grand Forks County

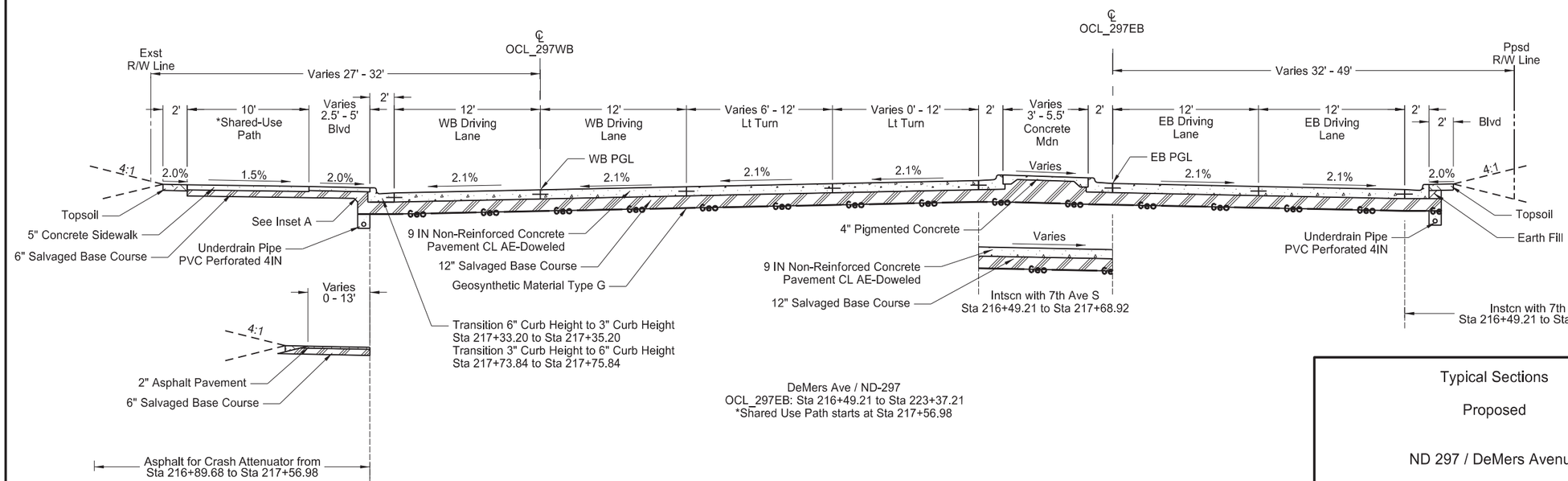
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9026
DATE: 2025.12.05 13:51:33 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	30	10

NOTE:
1. ND 297 (DeMers Ave) to use NDDOT Standard Type 1 curb & gutter (24").
2. PGL = Profile Grade Line
3. DeMers Ave Alignment = OCL_297EB
4. See Section 130 for Guardrail Details
5. See Section 20 for Underdrain Details
6. Roadway bridge from 210+55.31 to 213+31.14
7. Salvaged Base Course Extends 1' Behind Back of Curb (Typical)
8. See Section 100 for Temporary Bypass Typical Sections
9. See Section 170c for BNSF Access Road Typical Sections





Typical Sections

Proposed

ND 297 / DeMers Avenue

ND 297 (DeMers Ave) & 42nd St Grade Separation

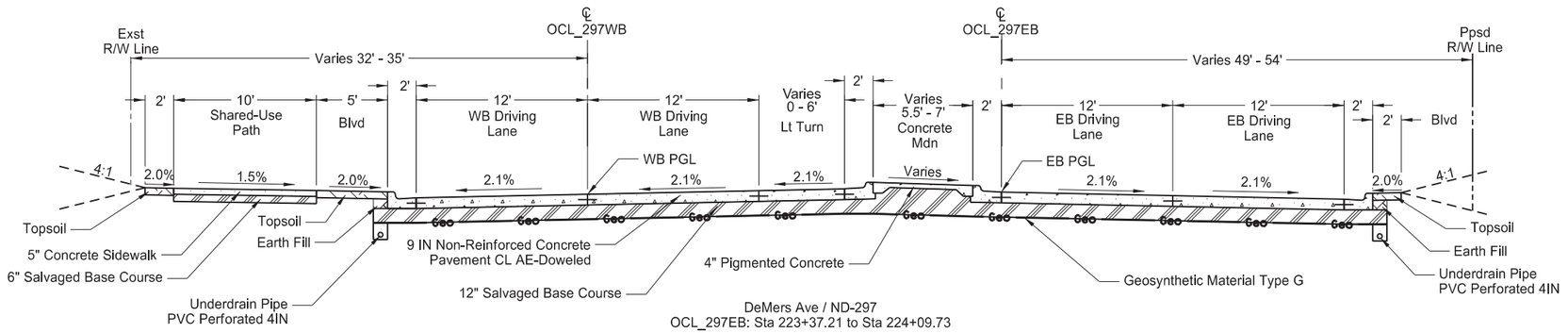
Grand Forks County

Grand Forks, ND

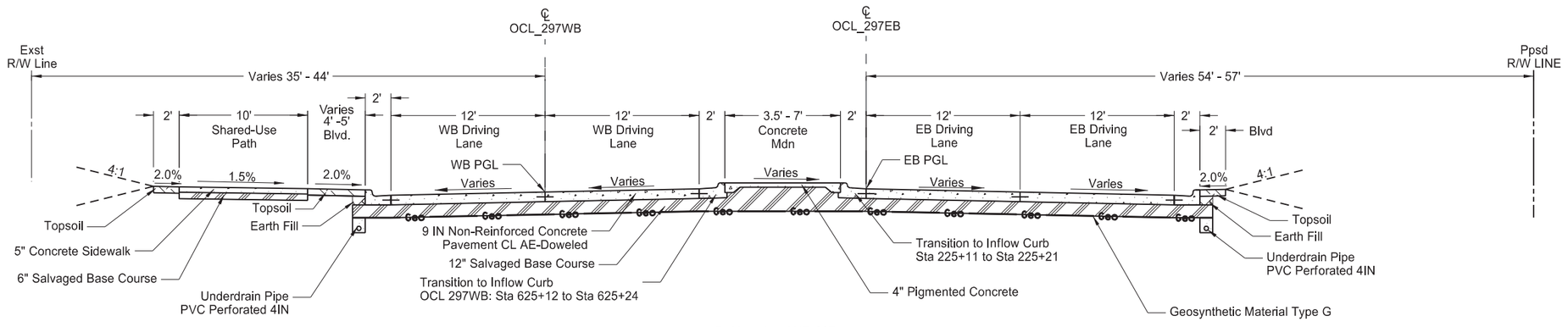
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CHRISTOPHER S. DAHL
PE-4296
DATE:2025.12.05 13:51:46 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	30	11

NOTE:
1. ND 297 (DeMers Ave) to use NDDOT Standard Type 1 curb & gutter (24").
2. PGL = Profile Grade Line
3. DeMers Ave Alignment = OCL_297EB
4. See Section 80 for Lane Slope Transitions
5. See Section 20 for Underdrain Details
6. Salvaged Base Course Extends 1' Behind Back of Curb (Typical)
7. See Section 100 for Temporary Bypass Typical Sections
8. See Section 170c for BNSF Access Road Typical Sections



DeMers Ave / ND-297
OCL_297EB: Sta 223+37.21 to Sta 224+09.73



DeMers Ave / ND-297
OCL_297EB: Sta 224+09.73 to Sta 225+60.54

Typical Sections

Proposed

ND 297 / DeMers Avenue

ND 297 (DeMers Ave) & 42nd St Grade Separation

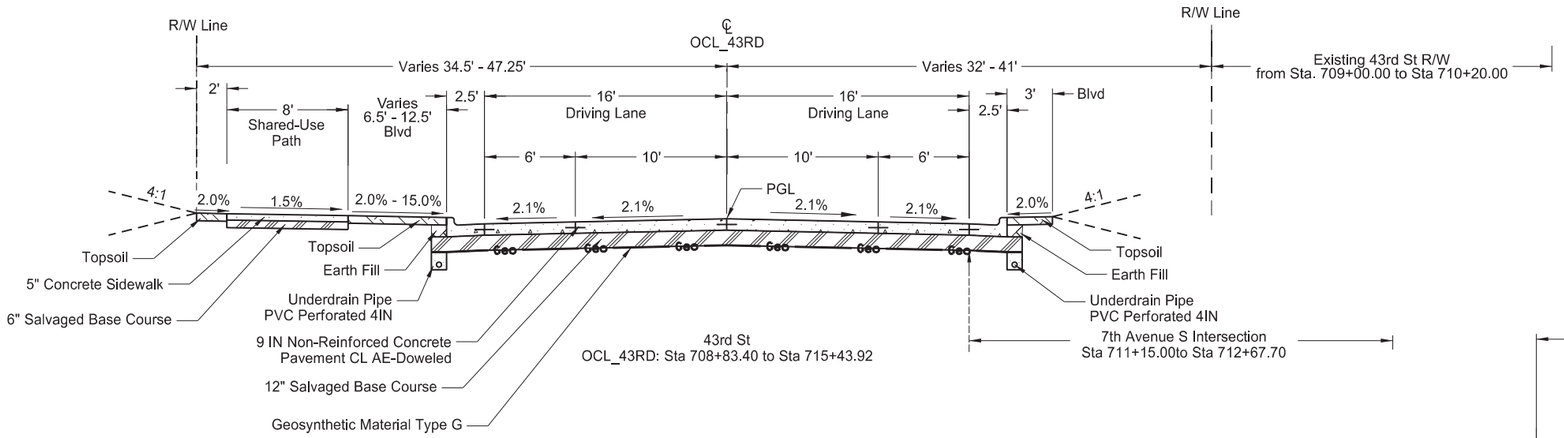
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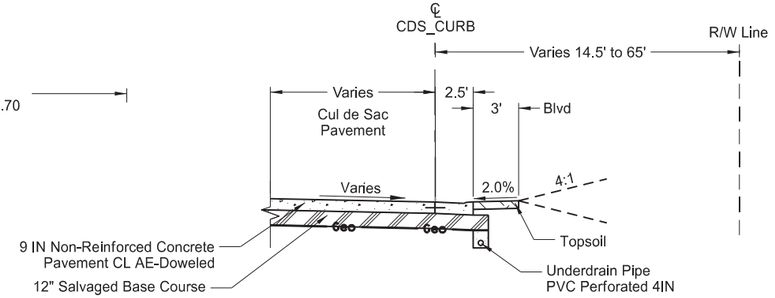
Grand Forks, ND

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CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.05 13:52:27 -06'00'
NORTH DAKOTA

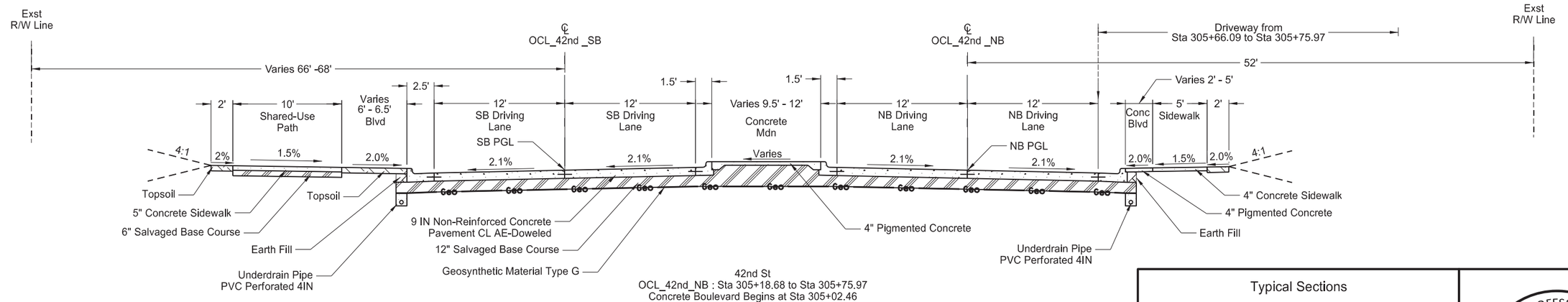
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	30	12

NOTE:
1. 43rd Street to use City of Grand Forks Standard curb & gutter (30").
2. 42nd Street to use City of Grand Forks Standard curb & gutter (30") and Curb and Gutter Type I Special (18")
3. PGL = Profile Grade Line
4. 42nd St Alignment = OCL_42nd_NB
5. 43rd St Alignment = OCL_43RD
6. 43rd St Cul de Sac Curb Alignment = CDS_CURB
7. See Section 20 for Underdrain Details
8. Salvaged Base Course Extends 1' Behind Back of Curb (Typical)
9. See Section 100 for Temporary Bypass Typical Sections
10. See Section 170c for BNSF Access Road Typical Sections





43rd St (Cul de Sac Bulb)
CDS_CURB: Sta 10+00.00 to Sta 12+68.13
Depressed Curb from 11+45.40 to 12+68.13
Standard Inflow from 10+00.00 to 11+43.47



Typical Sections

Proposed

43rd Street and 42nd Street

ND 297 (DeMers Ave) & 42nd St Grade Separation

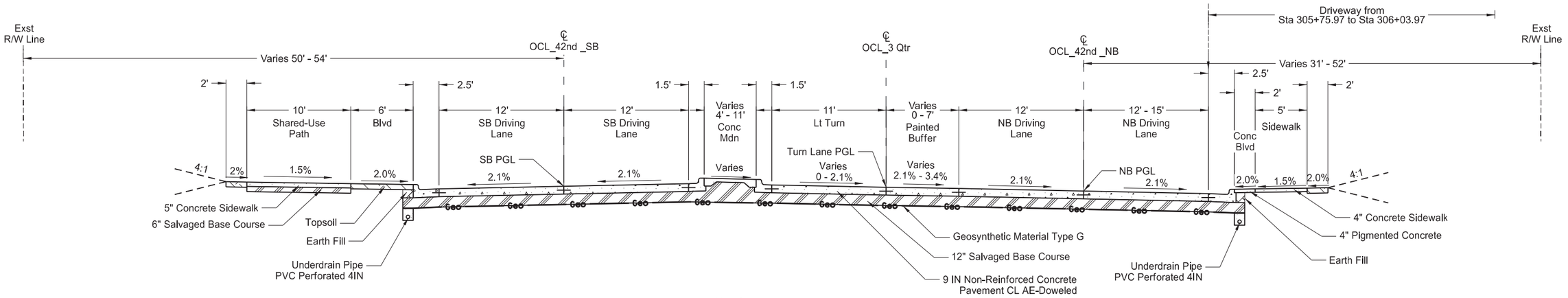
Grand Forks County

Grand Forks, ND

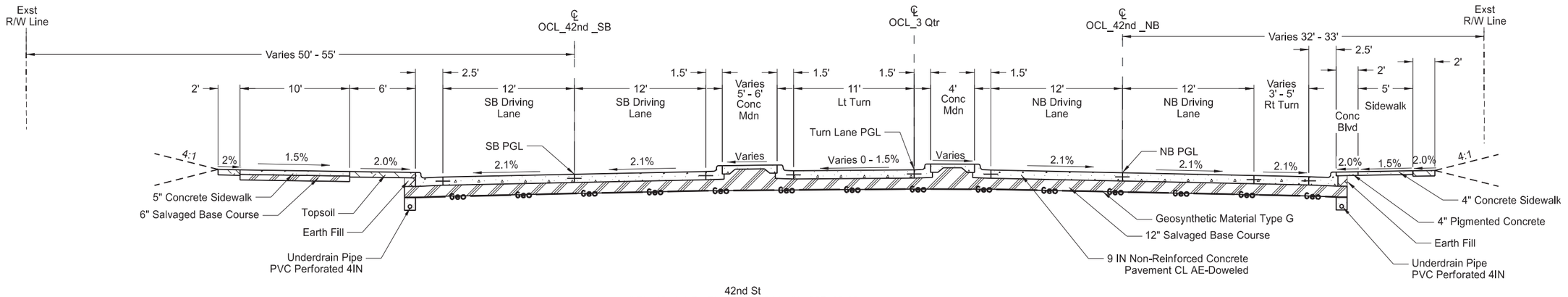
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PE-12256
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NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	30	13

NOTE:
1. 42nd Street to use City of Grand Forks Standard curb & gutter (30") and Curb and Gutter Type I Special (18")
2. PGL = Profile Grade Line
3. 42nd St Alignment = OCL_42nd_NB
4. ¾ Left Turn Lane Alignment = OCL_3 Qtr
5. See Section 20 for Underdrain Details
6. Salvaged Base Course Extends 1' Behind Back of Curb (Typical)
7. See Section 100 for Temporary Bypass Typical Sections
8. See Section 170c for BNSF Access Road Typical Sections



42nd St
OCL_42nd_NB : Sta 305+75.97 to Sta 306+72.04



42nd St
OCL_42nd_NB : Sta 306+72.04 to Sta 307+02.19

Typical Sections

Proposed

42nd Street

ND 297 (DeMers Ave) & 42nd St Grade Separation

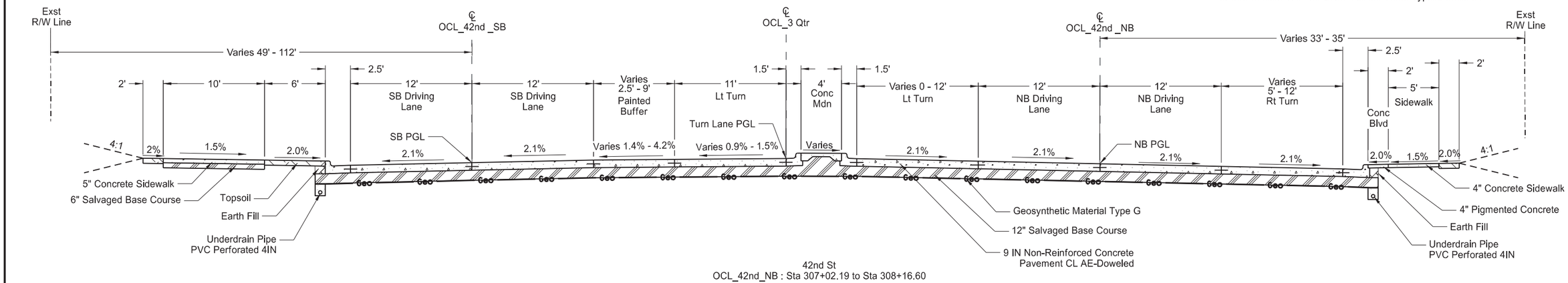
Grand Forks County

Grand Forks, ND

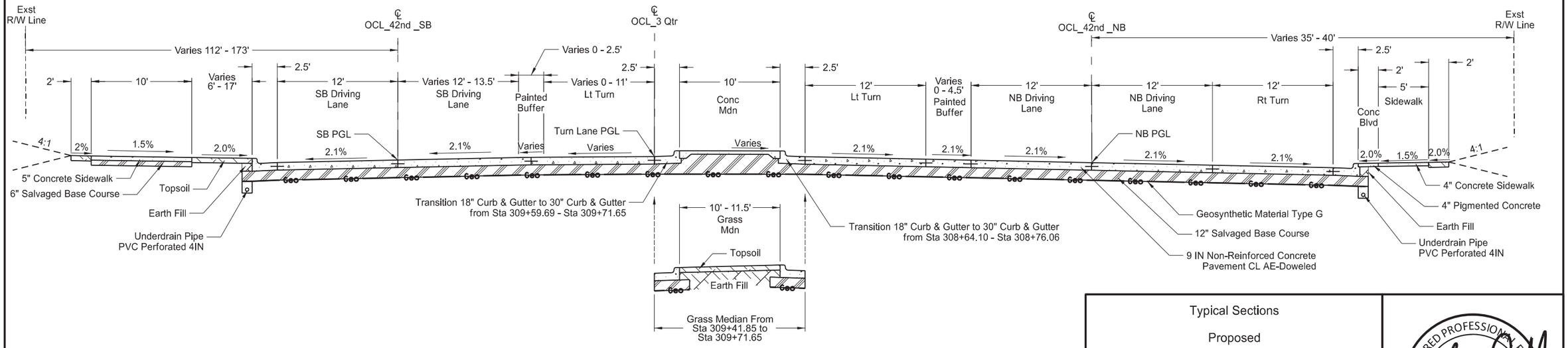
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CHRISTOPHER S. DAHL
PE-10276
DATE: 2025.12.05 13:53:46 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	30	14

NOTE:
1. 42nd Street to use City of Grand Forks Standard curb & gutter (30") and Curb and Gutter Type I Special (18")
2. PGL = Profile Grade Line
3. 42nd St Alignment = OCL_42nd_NB
4. ¾ Left Turn Lane Alignment = OCL_3 Qtr
5. See Section 20 for Underdrain Details
6. Salvaged Base Course Extends 1' Behind Back of Curb (Typical)
7. See Section 100 for Temporary Bypass Typical Sections
8. See Section 170c for BNSF Access Road Typical Sections



42nd St
OCL_42nd_NB : Sta 307+02.19 to Sta 308+16.60



42nd St
OCL_42nd_NB : 308+16.60 to Sta 309+71.65

Typical Sections

Proposed

42nd Street

ND 297 (DeMers Ave) & 42nd St Grade Separation

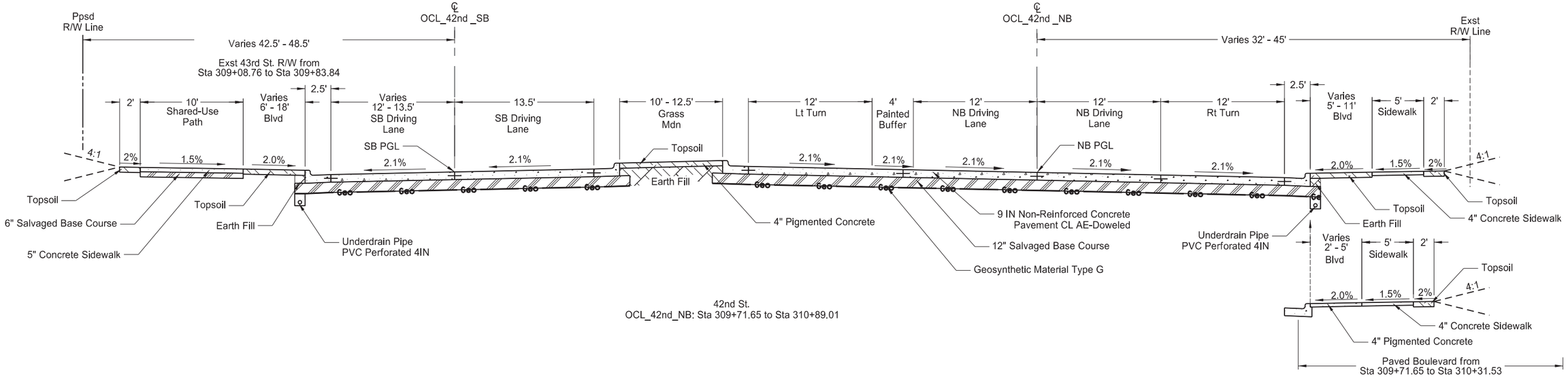
Grand Forks County

Grand Forks, ND

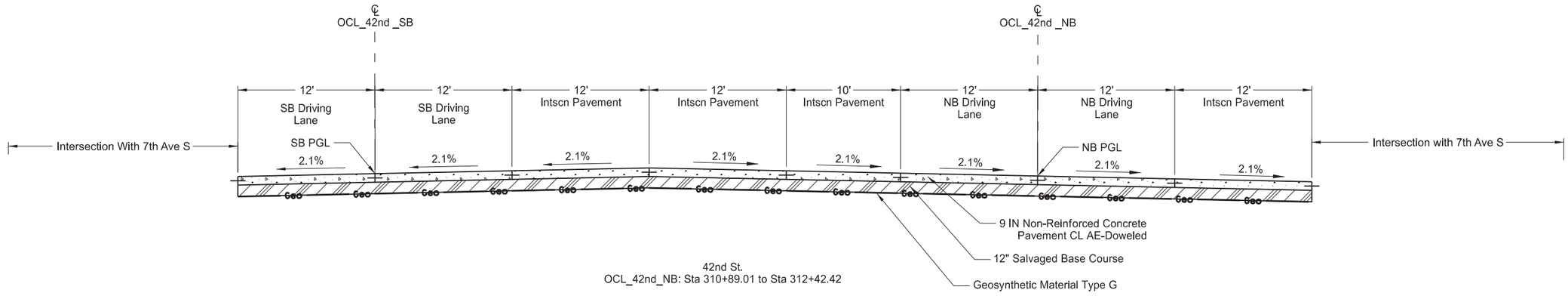
REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE:2025.12.05 13:53:58 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	30	15

NOTE:
1. 42nd Street to use City of Grand Forks Standard curb & gutter (30") and Curb and Gutter Type I Special (18")
2. PGL = Profile Grade Line
3. 42nd St Alignment = OCL_42nd_NB
4. See Section 20 for Underdrain Details
5. Salvaged Base Course Extends 1' Behind Back of Curb (Typical)
6. See Section 100 for Temporary Bypass Typical Sections
7. See Section 170c for BNSF Access Road Typical Sections



42nd St.
OCL_42nd_NB: Sta 309+71.65 to Sta 310+89.01



42nd St.
OCL_42nd_NB: Sta 310+89.01 to Sta 312+42.42

Typical Sections

Proposed

42nd Street

ND 297 (DeMers Ave) & 42nd St Grade Separation

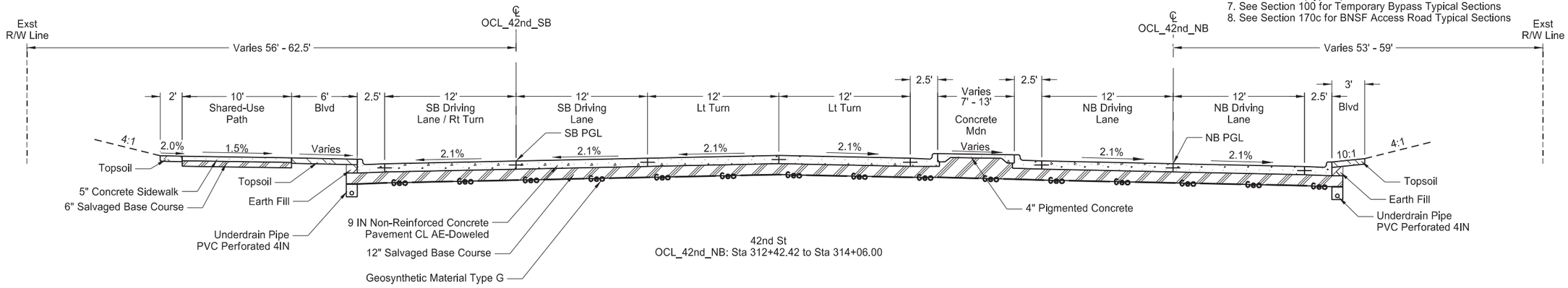
Grand Forks County

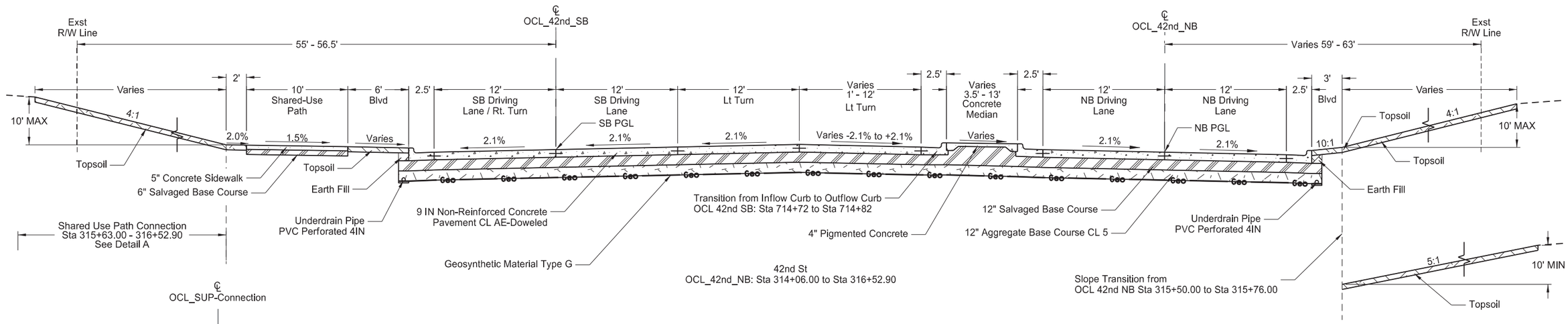
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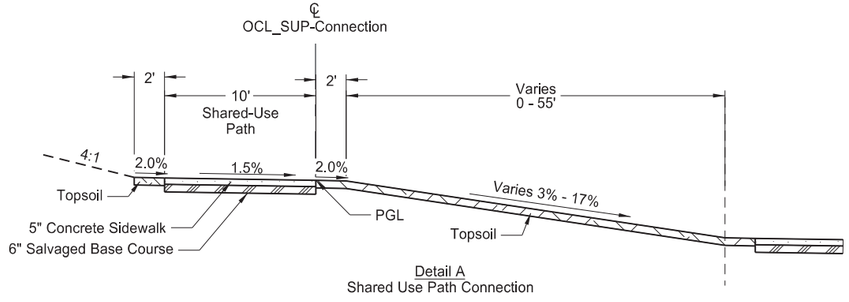
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CHRISTOPHER S. DAHL
PE-8026
DATE: 2025.12.05 13:54:11 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	30	16

NOTE:
1. 42nd Street to use City of Grand Forks Standard curb & gutter (30") and Curb and Gutter Type I Special (18")
2. PGL = Profile Grade Line
3. 42nd St Alignment = OCL_42nd_NB
4. Include 20:1 Vertical Transition from 12" Salvaged Base Course to 12" Salvaged Base Course on 12" Class 5 Aggregate (Sta 313+86.00 to 314+06.00). Class 5 Used for Transition.
5. See Section 20 for Underdrain Details
6. Salvaged Base Course and Aggregate Extends 1' Behind Back of Curb (Typical)
7. See Section 100 for Temporary Bypass Typical Sections
8. See Section 170c for BNSF Access Road Typical Sections







Detail A
Shared Use Path Connection

Typical Sections

Proposed

42nd Street

ND 297 (DeMers Ave) & 42nd St Grade Separation

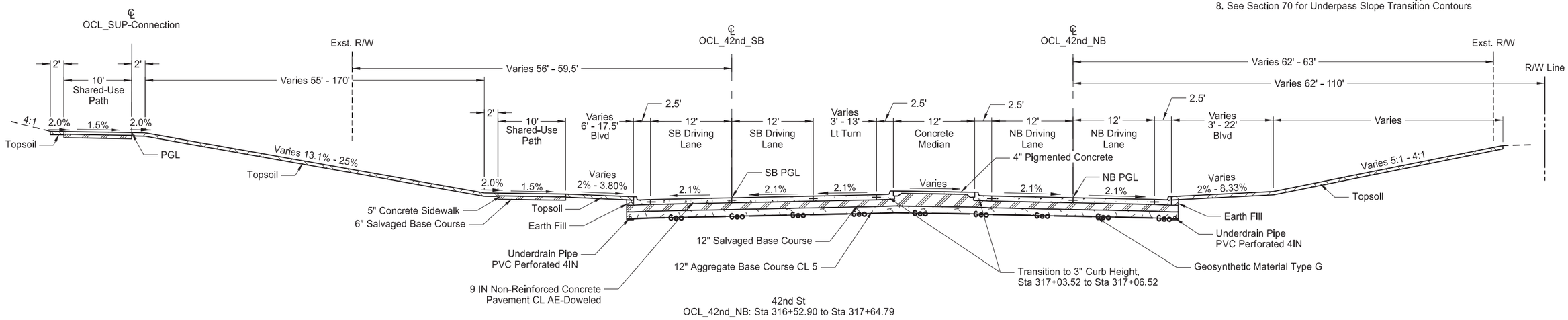
Grand Forks County

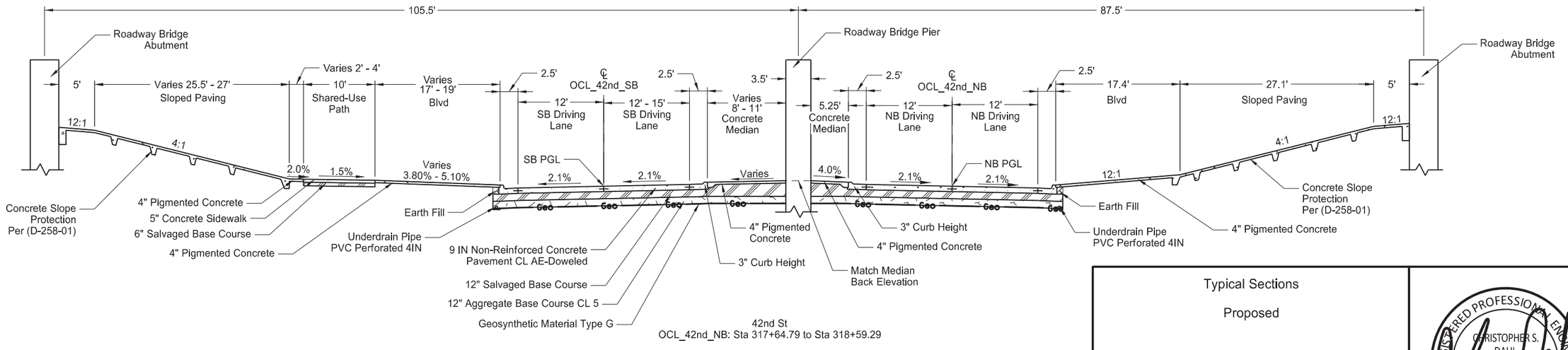
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8216
DATE: 2025.12.05 13:54:23 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	30	17

NOTE:
1. 42nd Street to use City of Grand Forks Standard curb & gutter (30") and Curb and Gutter Type I Special (18")
2. PGL = Profile Grade Line
3. 42nd Street Alignment = OCL_42nd_NB
4. See Section 20 for Underdrain Details
5. Aggregate Base Extends 1' Beyond Back of Curb (Typical)
6. See Section 100 for Temporary Bypass Typical Sections
7. See Section 170c for BNSF Access Road Typical Sections
8. See Section 70 for Underpass Slope Transition Contours





Typical Sections

Proposed

42nd Street

ND 297 (DeMers Ave) & 42nd St Grade Separation

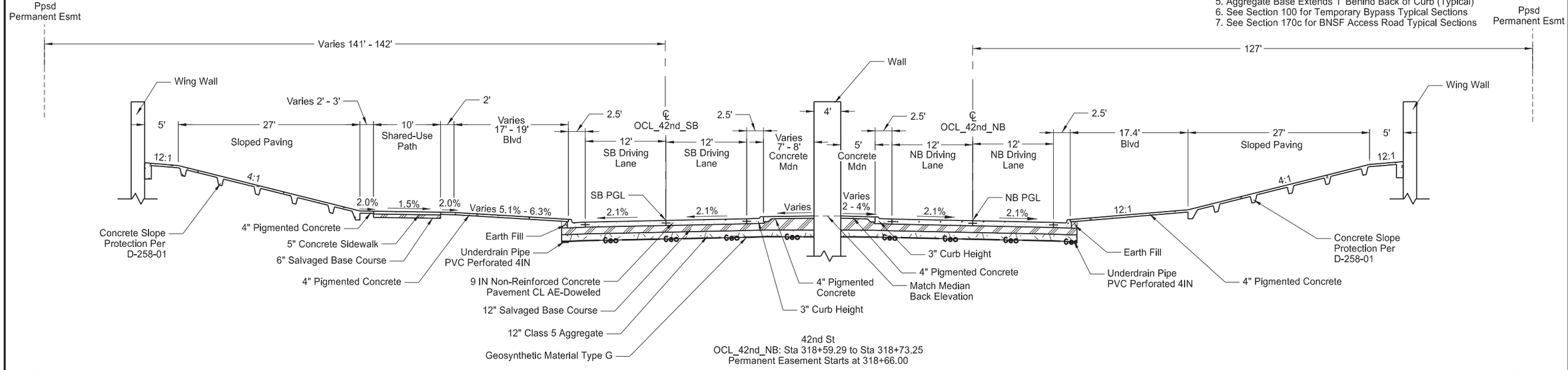
Grand Forks County

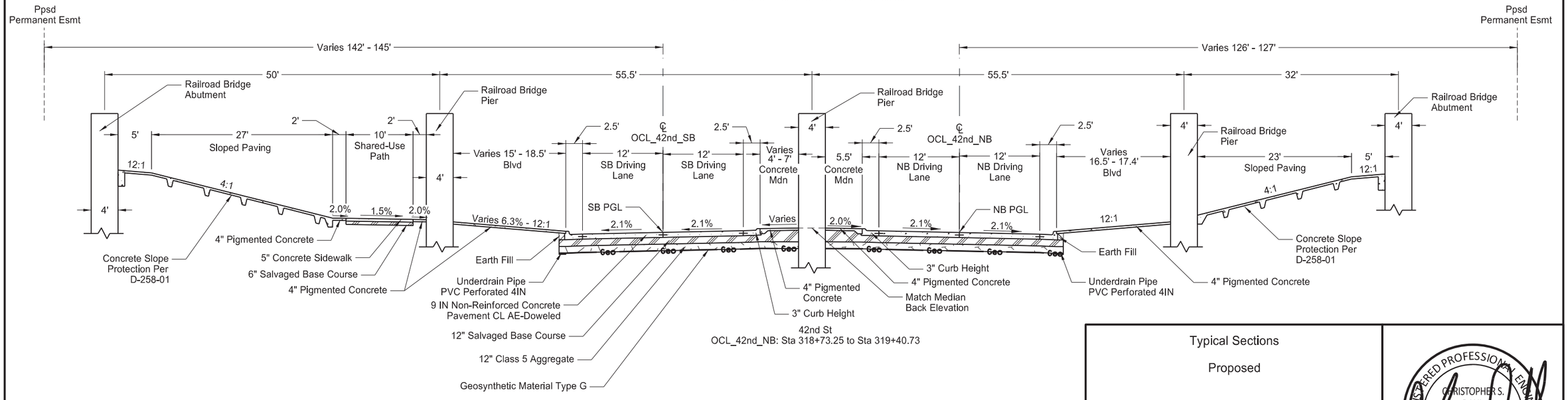
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.05 13:54:36 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	30	18

NOTE:
1. 42nd Street to use City of Grand Forks Standard curb & gutter (30") and Curb and Gutter Type I Special (18")
2. PGL = Profile Grade Line
3. 42nd Street Alignment = OCL_42nd_NB
4. See Section 20 for Underdrain Details
5. Aggregate Base Extends 1' Behind Back of Curb (Typical)
6. See Section 100 for Temporary Bypass Typical Sections
7. See Section 170c for BNSF Access Road Typical Sections





Typical Sections

Proposed

42nd Street

ND 297 (DeMers Ave) & 42nd St Grade Separation

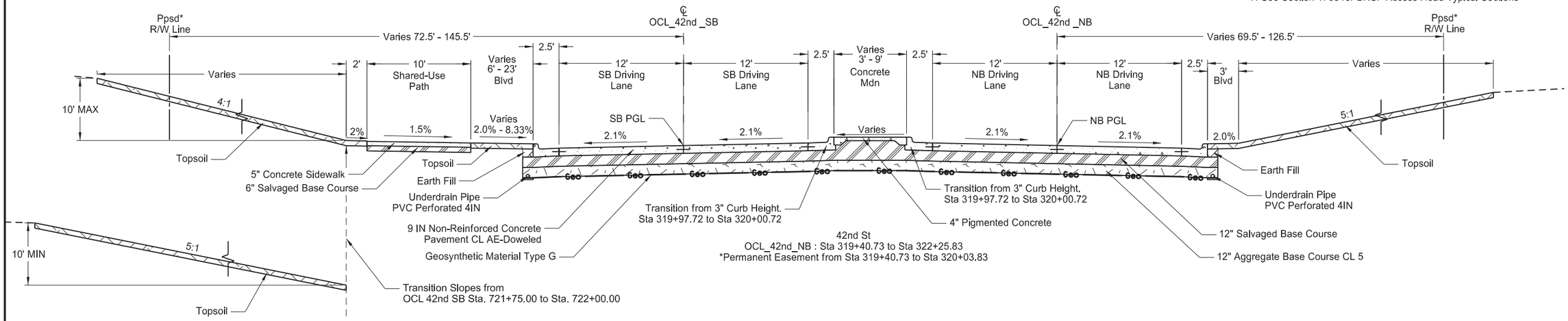
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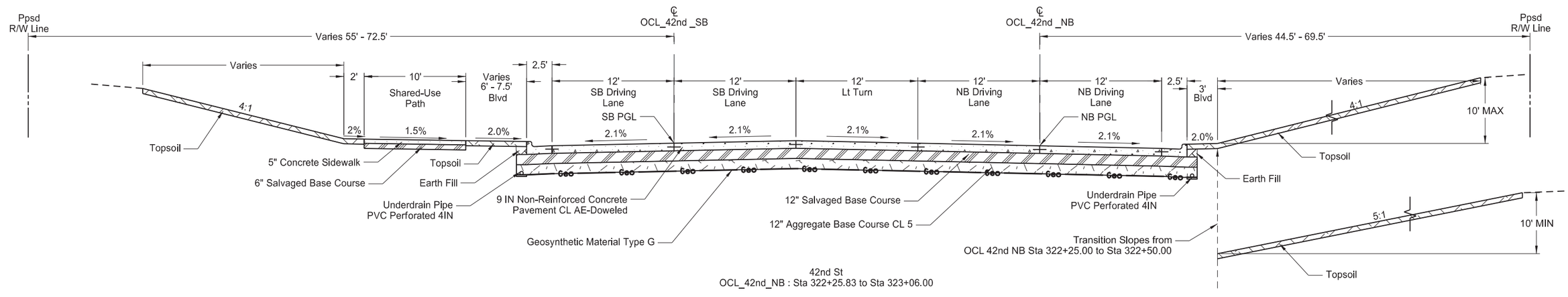
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE:2025.12.05 13:54:49 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	30	19

NOTE:
1. 42nd Street to use City of Grand Forks Standard curb & gutter (30") and Curb and Gutter Type I Special (18")
2. PGL = Profile Grade Line
3. 42nd St Alignment = OCL_42nd_NB
4. See Section 20 for Underdrain Details
5. Aggregate Base Extends 1' Behind Back of Curb (Typical)
6. See Section 100 for Temporary Bypass Typical Sections
7. See Section 170c for BNSF Access Road Typical Sections





Typical Sections

Proposed

42nd Street

ND 297 (DeMers Ave) & 42nd St Grade Separation

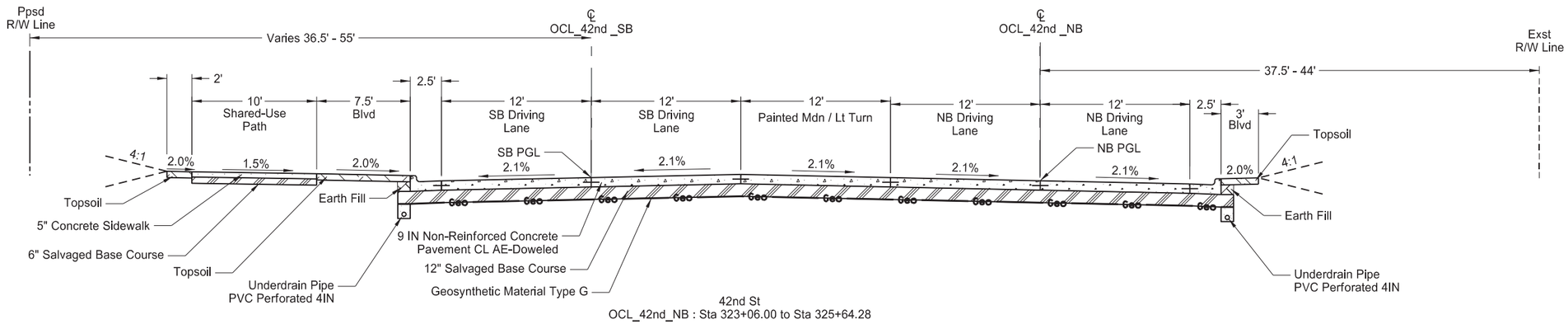
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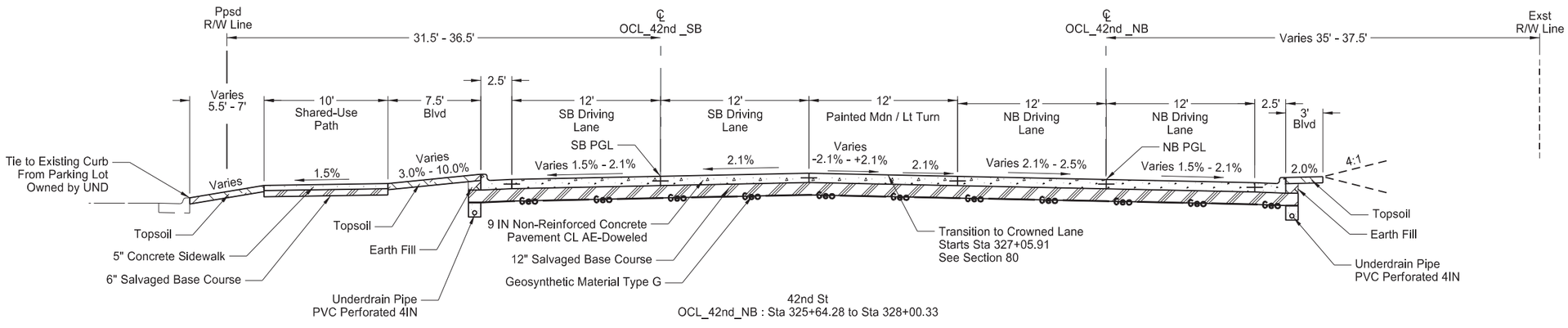
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.05 13:55:02 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	30	20

NOTE:
1. 42nd Street to use City of Grand Forks Standard curb & gutter (30") and Curb and Gutter Type I Special (18")
2. PGL = Profile Grade Line
3. 42nd St Alignment = OCL_42nd_NB
4. See Section 20 for Underdrain Details
5. Include 20:1 Vertical Transition from 12" Salvaged Base Course to 12" Salvaged Base Course on 12" Class 5 Aggregate (Sta 323+06.00 to 323+26.00). Class 5 Used for Transition.
6. Salvaged Base Course Extends 1' Behind Back of Curb (Typical)
7. See Section 100 for Temporary Bypass Typical Sections
8. See Section 170c for BNSF Access Road Typical Sections





Typical Sections

Proposed

42nd Street

ND 297 (DeMers Ave) & 42nd St Grade Separation

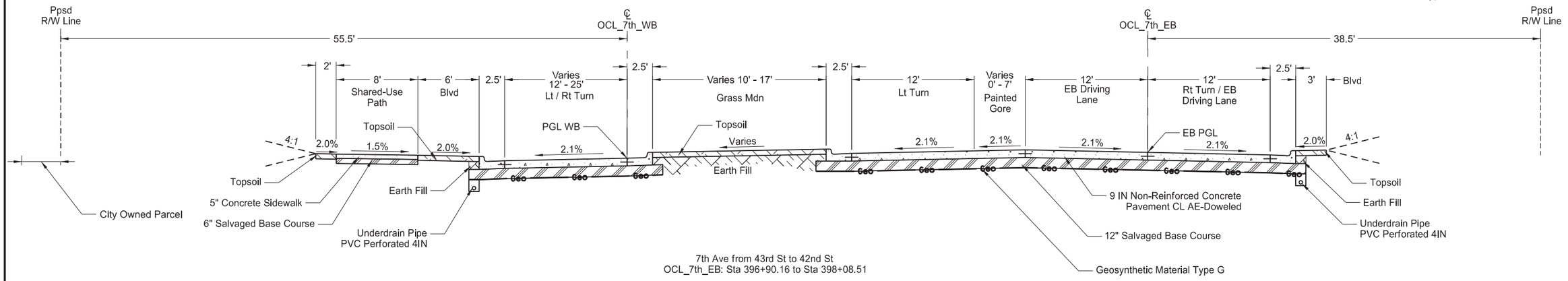
Grand Forks County

Grand Forks, ND

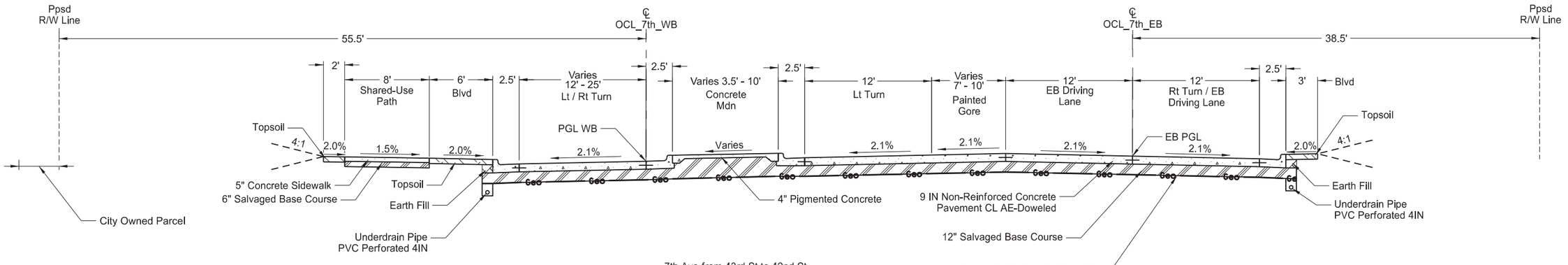
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CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.05 13:55:15 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	30	21

NOTE:
1. 7th Avenue to use City of Grand Forks Standard curb & gutter (30").
2. PGL = Profile Grade Line
3. 7th Avenue S Alignment = OCL_7th_EB
4. See Section 20 for Underdrain Details
5. Salvaged Base Course Extends 1' Behind Back of Curb (Typical)
6. See Section 100 for Temporary Bypass Typical Sections
7. See Section 170c for BNSF Access Road Typical Sections



7th Ave from 43rd St to 42nd St
OCL_7th_EB: Sta 396+90.16 to Sta 398+08.51



7th Ave from 43rd St to 42nd St
OCL_7th_EB: Sta 398+08.51 to Sta 399+60.00
No Median from 398+94.53 to 399+60.00

Typical Sections

Proposed

7th Avenue South

ND 297 (DeMers Ave) & 42nd St Grade Separation

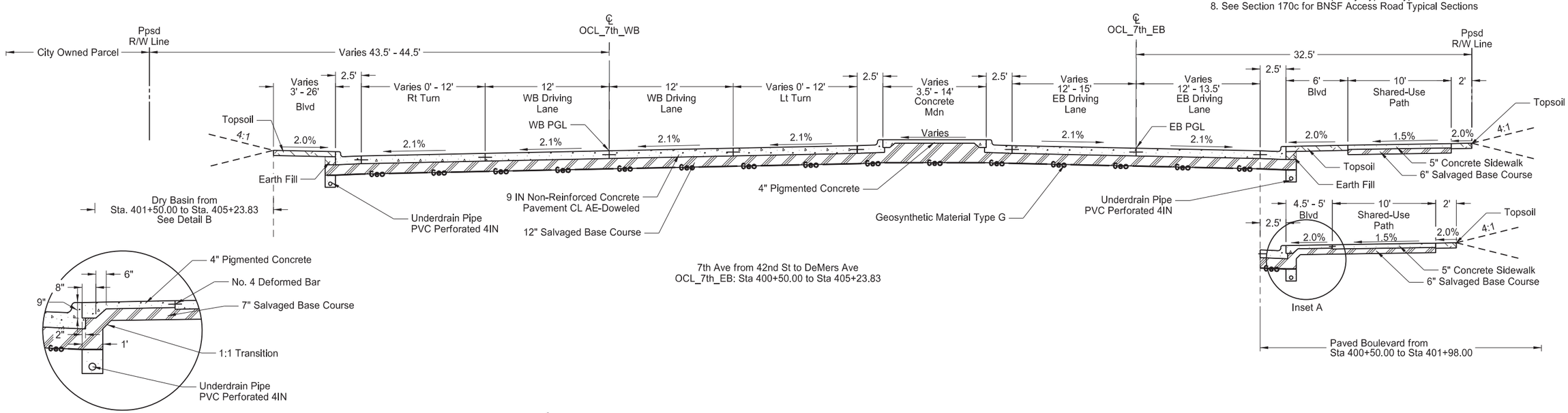
Grand Forks County

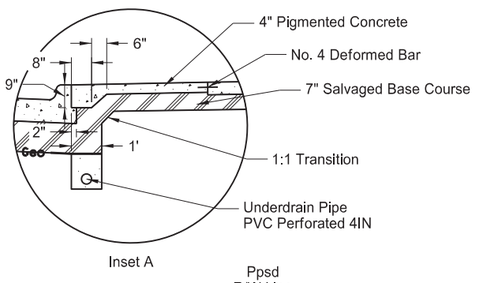
Grand Forks, ND

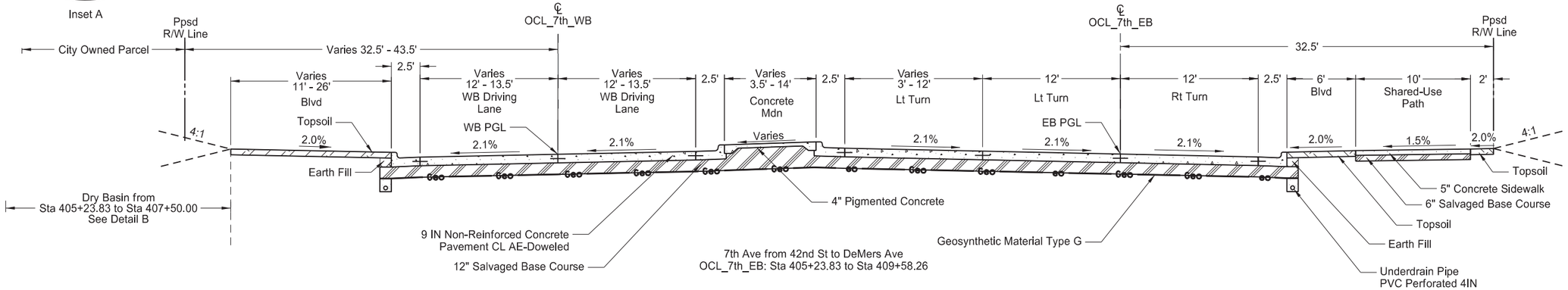
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PE-8276
DATE: 2025.12.05 13:55:28 -06'00'
NORTH DAKOTA

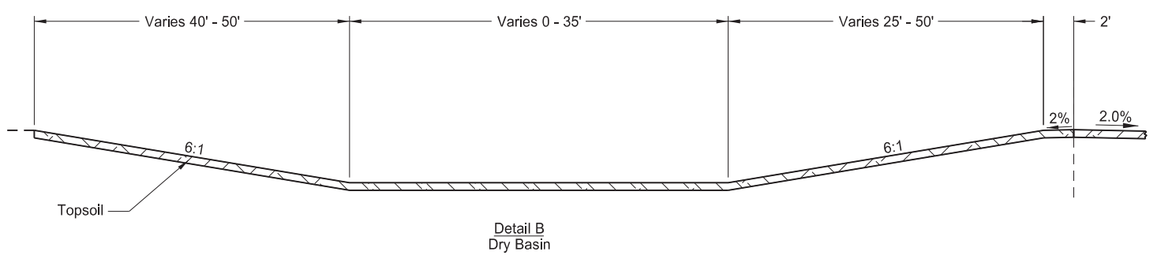
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	30	22

NOTE:
1. 7th Ave to use City of Grand Forks Standard curb & gutter (30").
2. PGL = Profile Grade Line
3. 7th Avenue S Alignment = OCL_7th_EB
4. See Section 70 for Dry Basin Contour Details
5. See Section 20 for Underdrain Details
6. Salvaged Base Course Extends 1' Behind Back of Curb (Typical)
7. See Section 100 for Temporary Bypass Typical Sections
8. See Section 170c for BNSF Access Road Typical Sections









Typical Sections

Proposed

7th Avenue South

ND 297 (DeMers Ave) & 42nd St Grade Separation

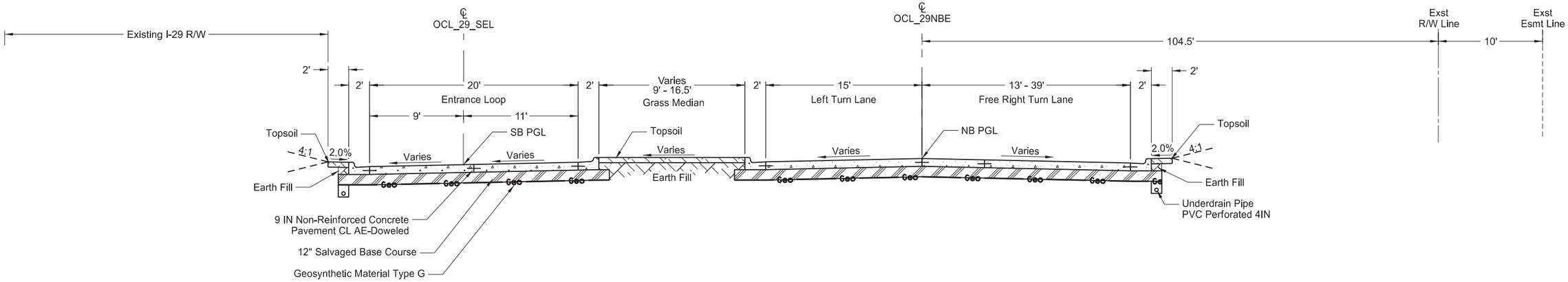
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8256
DATE:2025.12.05 13:56:23 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	30	23

NOTE:
1. I-29 Ramps to use NDDOT Standard Type 1 curb & gutter (24").
2. PGL = Profile Grade Line
3. I-29 Exit Ramp Alignment = OCL_29NBE
4. I-29 Entrance Loop Alignment = OCL_29_SEL
5. See Section 20 for Underdrain Details
6. See Section 80 for Lane Slope Transition
7. Salvaged Base Course Extends 1' Behind Back of Curb (Typical)
8. See Section 100 for Temporary Bypass Typical Sections
9. See Section 170c for BNSF Access Road Typical Sections



I-29 Ramps
OCL_29NBE: Sta 516+13.70 to Sta 516+81.13

Typical Sections

Proposed

I-29 Ramps

ND 297 (DeMers Ave) & 42nd St Grade Separation

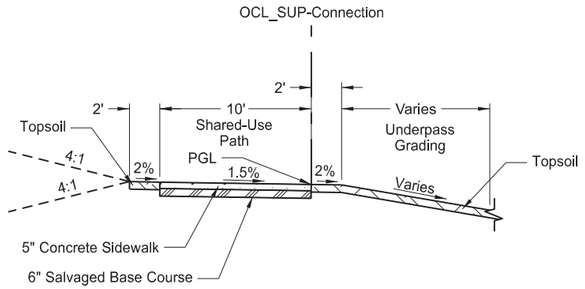
Grand Forks County

Grand Forks, ND

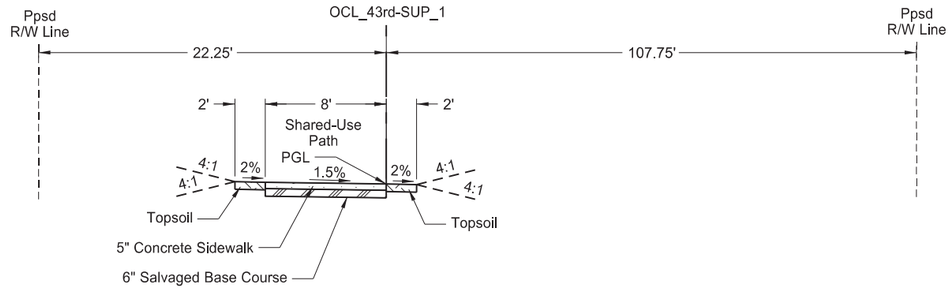
REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4256
DATE: 2025.12.05 13:56:39 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	30	24

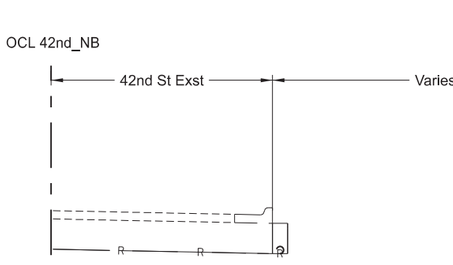
NOTE:
1. PGL = Profile Grade Line
2. 42nd St to DeMers Ave Connecting Path Alignment = OCL_SUP-Connection
3. Connection to Existing 42nd St Sidewalk Alignment = OCL_42nd_SW_1
4. Connection from 43rd St Cul de Sac to DeMers Ave Alignment = OCL-43rd_SUP_1
5. See Section 100 for Temporary Bypass Typical Sections
6. See Section 170c for BNSF Access Road Typical Sections
7. 42nd St Alignment = OCL_42nd_NB



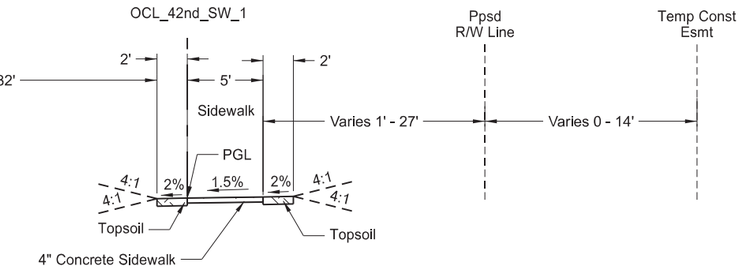
42nd St to DeMers Ave Connecting Path
OCL_SUP-Connection: Sta 75+00.00 to Sta 77+93.52
Path is within City of Grand Forks R/W and Owned Parcels



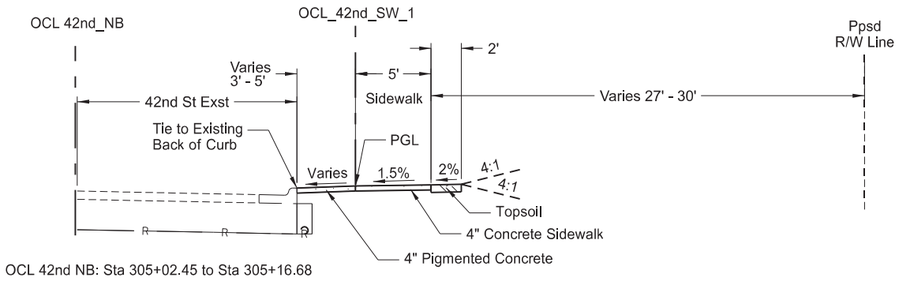
Connection from 43rd St Cul de Sac to DeMers Ave
OCL_43rd-SUP_1: Sta 82+75.09 to Sta 84+02.97



OCL 42nd NB: Sta 303+12.88 to Sta 305+02.45



Connection to Existing 42nd St Sidewalk
OCL_42nd_SW_1: Sta 20+00.00 to Sta 21+91.58



OCL 42nd NB: Sta 305+02.45 to Sta 305+16.68

Connection to Existing 42nd St Sidewalk
OCL_42nd_SW_1: Sta 21+91.58 to Sta 22+07.92

Typical Sections

Proposed

Pedestrian Facilities

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8076
DATE 2025.12.05 13:56:55 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	40	1

SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	REMOVAL OF PIPE ALL TYPES AND SIZES		
		2.5IN PVC: Sta 11+39 - 21' Rt to 15+83 - 334' Lt	401	LF
		1.5IN PVC: Sta 15+49 - 349' Lt to 17+32 - 363' Lt	298	LF
		3IN PVC: Sta 12+67 - 193' Lt to 14+75 - 57' Lt	193	LF
		1.5IN PVC: Sta 12+49 - 32' Rt to 13+00 - 34' Rt	61	LF
		4IN PVC: Sta 13+72 - 28' Rt to 17+47 - 125' Lt	375	LF
		3IN PVC: Sta 17+37 - 39' Rt to 17+47 - 124' Lt	164	LF
		1.5IN PVC: Sta 18+05 - 272' Lt to 17+84 - 128' Lt	146	LF
		2.5IN PVC: Sta 17+84 - 128' Lt to 17+70 - 46' Rt	175	LF
		Sprinkler Control Wire: Sta 12+57 - 33' Rt to 14+04 - 131' Lt	206	LF
		Sprinkler Control Wire: Sta 13+75 - 28' Rt to 14+04 - 131' Lt	161	LF
		Greens & Tees Pulse Wire: Sta 14+04 - 131' Lt to 14+99 - 42' R	192	LF
		Satellite Control Wire: Sta 14+04 - 131' Lt to 15+30 - 47' Rt	208	LF
		Sprinkler Control Wire: Sta 14+04 - 131' Lt to 16+20 - 45' Rt	255	LF
		Sprinkler Control Wire: Sta 14+04 - 131' Lt to 17+72 - 19' Lt	321	LF
		Sprinkler Control Wire: Sta 14+04 - 131' Lt to 18+05 - 272' Lt	392	LF

Note: All costs associated with the disconnection, removal or abandonment, and capping of irrigation/electrical lines for the golf course irrigation/ pump system are incidental to "REMOVAL OF PIPE ALL TYPES AND SIZES."



LEGEND

REMOVE — REMOVAL OF PIPE ALL TYPES AND SIZES (Irrigation Piping)

REMOVAL OF PIPE ALL TYPES AND SIZES (Electric Lines)

Golf Course Removals

Phase 1A

ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

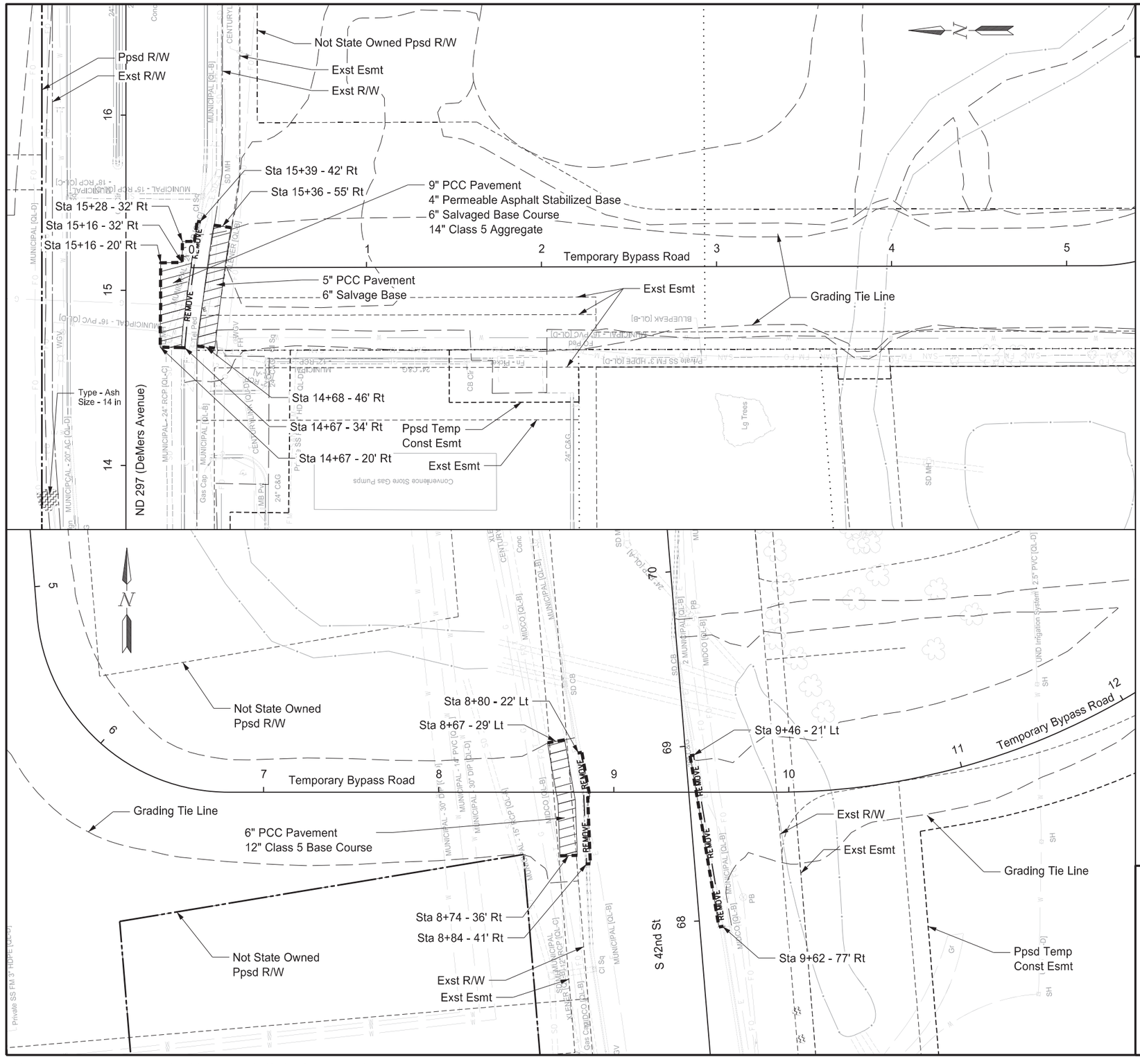
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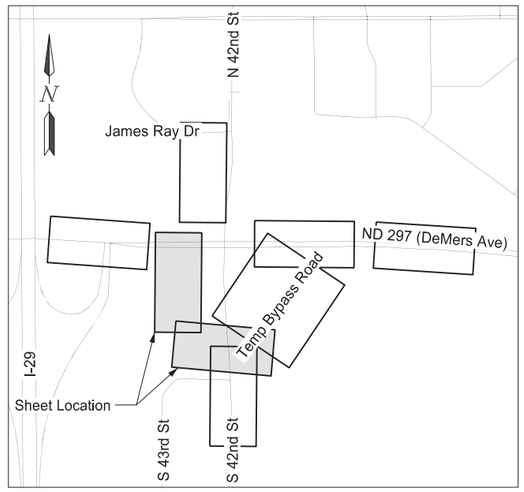
REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9016
DATE: 2025.12.01 21:22:52 -06'00'
NORTH DAKOTA

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	40	2

SPEC	CODE	BID ITEM	QTY	UNIT
201	0380	REMOVAL OF TREES 18IN		
		Sta 13+81 - 45' Lt (SCL_DeMersAve)	1	EA
202	0136	REMOVAL OF PAVEMENT		
		Mainline - Sta 14+67 to 15+28 Rt (SCL_DeMersAve)	143	TON
		Sidewalk - Sta 14+67 to 15+36 Rt (SCL_DeMersAve)	38	TON
		Sidewalk - Sta 8+00 to 12+00 (OCL_Bypass_Jug)	62	TON
		24" C&G - Sta 14+50 to 15+50 Rt (SCL_DeMersAve)	28	TON
		30" C&G - Sta 8+00 to 12+00 (OCL_Bypass_Jug)	78	TON





LEGEND

REMOVE	REMOVAL OF PAVEMENT	— REMOVE —	REMOVAL OF CURB & GUTTER
REMOVE	REMOVAL OF PAVEMENT (BITUMINOUS SURFACING)	- - - - -	SAW CUT LINE
	REMOVAL OF TREES___IN	~~~~~	REMOVAL OF EXISTING FENCE

Roadway Removals

Phase 1A

Temporary Bypass Road

ND 297 (DeMers Ave) & 42nd St Grade Separation

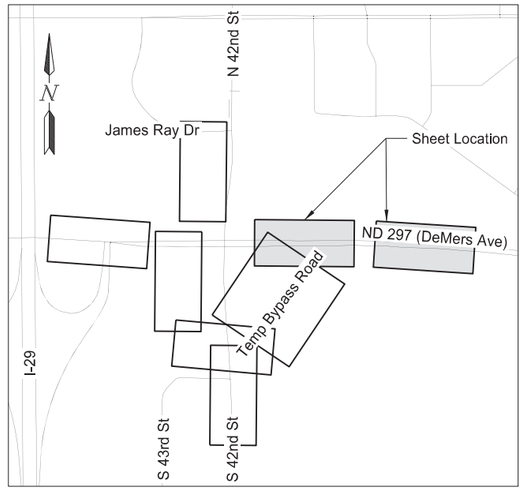
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE:2025.12.02 21:23:24 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	40	3

SPEC	CODE	BID ITEM	QTY	UNIT
201	0330	CLEARING & GRUBBING		
		Sta 22+00 to 26+00 (SCL_DeMersAve)	0.2	L SUM
201	0370	REMOVAL OF TREES 10IN		
		Sta 22+00 to 31+00 (SCL_DeMersAve)	5	EA
201	0380	REMOVAL OF TREES 18IN		
		Sta 22+00 to 31+00 (SCL_DeMersAve)	1	EA
202	0136	REMOVAL OF PAVEMENT		
		Mainline - Sta 30+69 to 30+93 (SCL_DeMersAve)	62	TON
		Median - Sta 23+26 to 25+90 (SCL_DeMersAve)	197	TON
		Median - Sta 30+46 to 32+01 (SCL_DeMersAve)	118	TON
		24" C&G - Sta 22+00 to 26+00 (SCL_DeMersAve)	250	TON
		24" C&G - Sta 30+46 to 32+01 (SCL_DeMersAve)	119	TON



LEGEND

REMOVE	REMOVAL OF PAVEMENT	— REMOVE —	REMOVAL OF CURB & GUTTER
REMOVE	REMOVAL OF PAVEMENT (BITUMINOUS SURFACING)	- - - - -	SAW CUT LINE
	REMOVAL OF TREES___IN	~~~~~	REMOVAL OF EXISTING FENCE

Roadway Removals

Phase 1A

ND 297 (DeMers Avenue)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

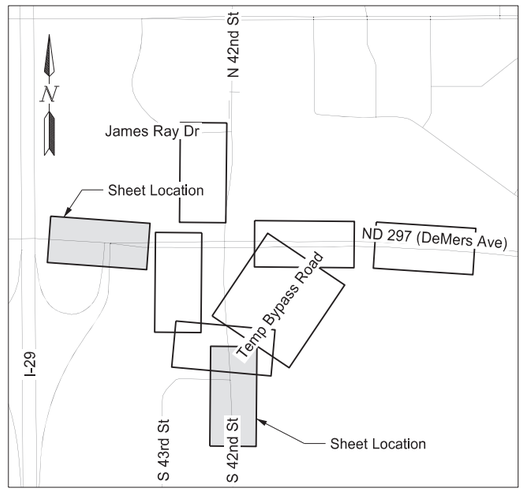
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.02 21:23:37 -06'00'
NORTH DAKOTA

12/1/2025 4:21:33 PM ryan.genz H:\NDDOT\24M000368000\CAD\ORD\NDDOT-24M000368000\Plan\040RM_003.dgn

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	40	4

SPEC	CODE	BID ITEM	QTY	UNIT
201	0330	CLEARING & GRUBBING		
		Sta 7+00 to 12+00 (SCL_DeMersAve)	0.1	L SUM
		Sta 63+00 to 67+50 (SCL_42nd)	0.1	L SUM
201	0370	REMOVAL OF TREES 10IN		
		Sta 7+00 to 12+00 (SCL_DeMersAve)	1	EA
		Sta 63+00 to 67+50 (SCL_42nd)	3	EA
201	0380	REMOVAL OF TREES 18IN		
		Sta 7+00 to 12+00 (SCL_DeMersAve)	5	EA
		Sta 63+00 to 67+50 (SCL_42nd)	8	EA
201	0390	REMOVAL OF TREES 30IN		
		Sta 7+00 to 12+00 (SCL_DeMersAve)	1	EA



LEGEND

- REMOVAL OF PAVEMENT
- REMOVAL OF PAVEMENT (BITUMINOUS SURFACING)
- REMOVAL OF TREES___IN
- REMOVAL OF CURB & GUTTER
- SAW CUT LINE
- REMOVAL OF EXISTING FENCE

Roadway Removals

Phase 1A

ND 297 (DeMers Ave) / S 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

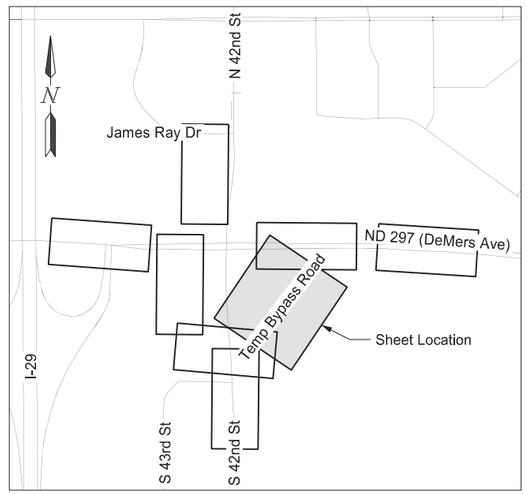
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4276
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NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	40	5

SPEC	CODE	BID ITEM	QTY	UNIT
201	0330	CLEARING & GRUBBING		
		Sta 12+00 to 18+20 (OCL_Bypass_Jug)	0.5	L SUM
201	0370	REMOVAL OF TREES 10IN		
		Sta 12+00 to 18+20 (OCL_Bypass_Jug)	33	EA
201	0380	REMOVAL OF TREES 18IN		
		Sta 12+00 to 18+20 (OCL_Bypass_Jug)	52	EA
201	0390	REMOVAL OF TREES 30IN		
		Sta 12+00 to 18+20 (OCL_Bypass_Jug)	2	EA
202	0312	REMOVAL OF EXISTING FENCE		
		Vinyl Fence - Sta 13+84 (OCL_Bypass_Jug)	19	LF



LEGEND

- REMOVAL OF PAVEMENT
- REMOVAL OF CURB & GUTTER
- REMOVAL OF PAVEMENT (BITUMINOUS SURFACING)
- SAW CUT LINE
- REMOVAL OF TREES___IN
- REMOVAL OF EXISTING FENCE

Roadway Removals

Phase 1A

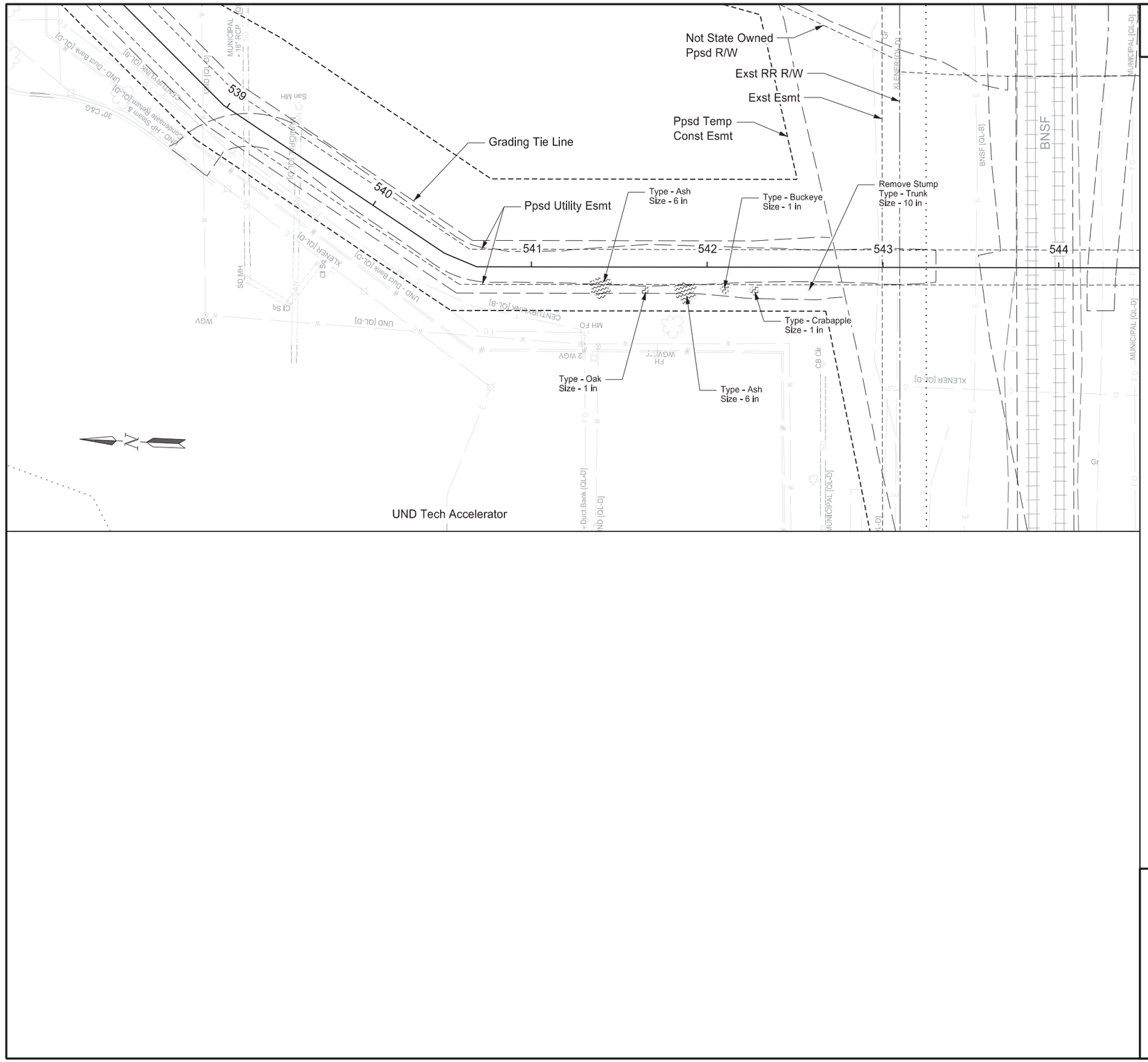
Temporary Bypass Road

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

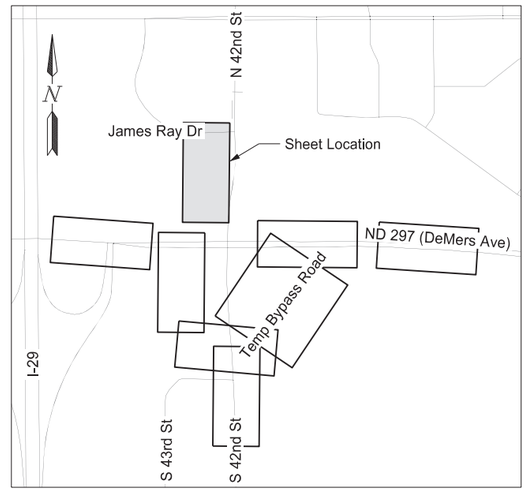
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CHRISTOPHER S. DAHL
PE-9076
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NORTH DAKOTA



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	40	6

SPEC	CODE	BID ITEM	QTY	UNIT
201	0330	CLEARING & GRUBBING		
		Sta 541+00 to 543+00 (PPSD_20IN_Line)	0.1	L SUM

Note:
Location is North of DeMers Ave / BNSF tracks & West of 42nd St.



LEGEND

REMOVE	REMOVAL OF PAVEMENT	— REMOVE —	REMOVAL OF CURB & GUTTER
REMOVE	REMOVAL OF PAVEMENT (BITUMINOUS SURFACING)	- - - - - -	SAW CUT LINE
	REMOVAL OF TREES___IN	~~~~~~~	REMOVAL OF EXISTING FENCE

Roadway Removals

Phase 1A

Proposed 20" PVC Watermain

ND 297 (DeMers Ave) & 42nd St Grade Separation

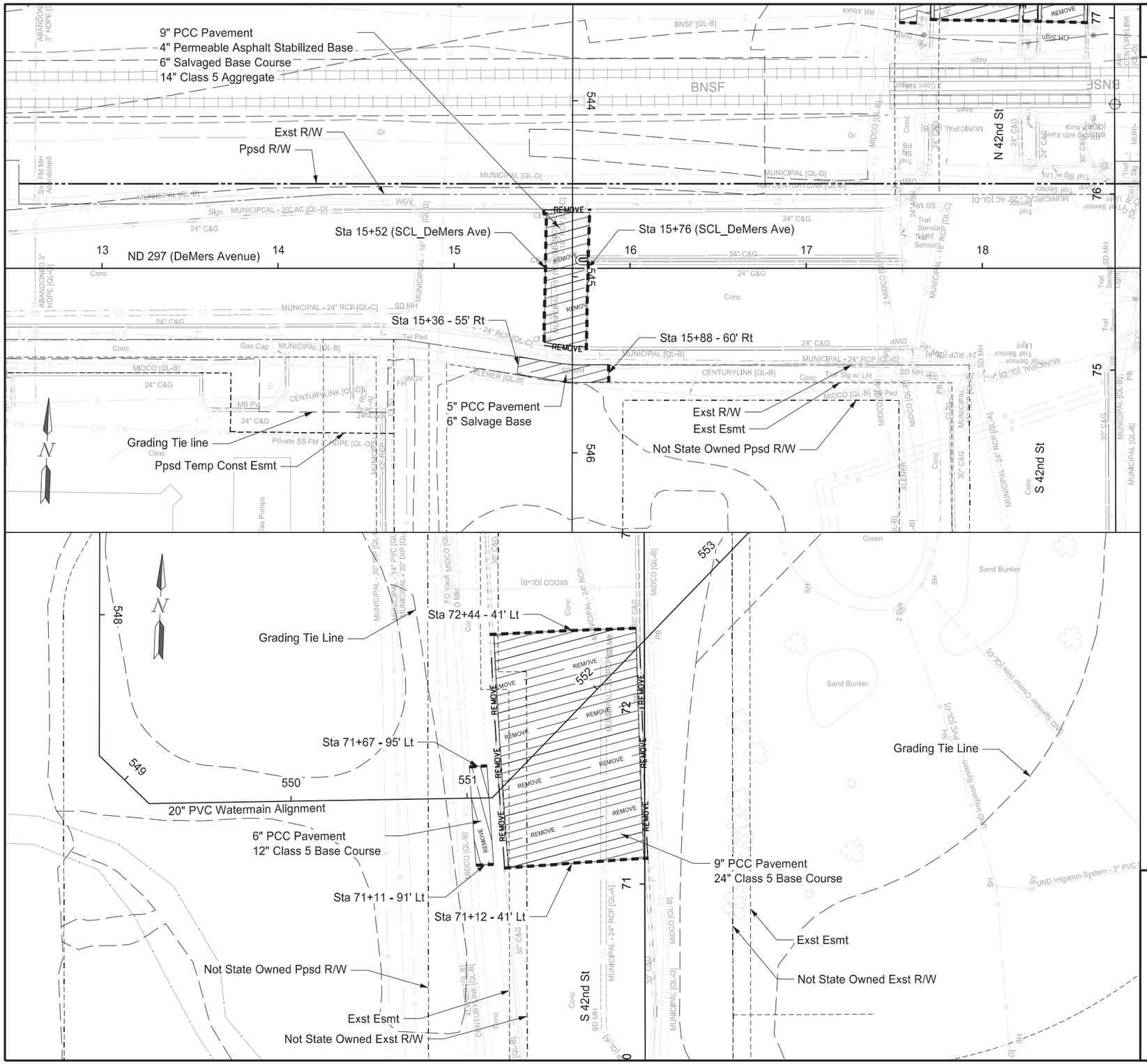
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
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NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	40	7

SPEC	CODE	BID ITEM	QTY	UNIT
202	0136	REMOVAL OF PAVEMENT		
		Mainline - Sta 15+52 to 15+76 (SCL_DeMersAve)	327	TON
		Median - Sta 15+52 to 15+76 (SCL_DeMersAve)	1	TON
		Sidewalk - Sta 15+36 to 15+88 Rt (SCL_DeMersAve)	28	TON
		Mainline - Sta 71+12 to 72+44 (SCL_42nd)	1906	TON
		Sidewalk - Sta 71+11 to 71+67 Lt (SCL_42nd)	53	TON
		24" C&G - Sta 15+52 to 15+87 (SCL_DeMersAve)	24	TON
		30" C&G - Sta 71+12 to 72+44 (SCL_42nd)	126	TON





LEGEND

REMOVE	REMOVAL OF PAVEMENT	— REMOVE —	REMOVAL OF CURB & GUTTER
REMOVE	REMOVAL OF PAVEMENT (BITUMINOUS SURFACING)	- - - - -	SAW CUT LINE
	REMOVAL OF TREES___IN	~~~~~	REMOVAL OF EXISTING FENCE

Removals

Phase 1B

ND 297 (DeMers Ave) / S 42nd Street

ND 297 (DeMers Ave) & 42nd St Grade Separation

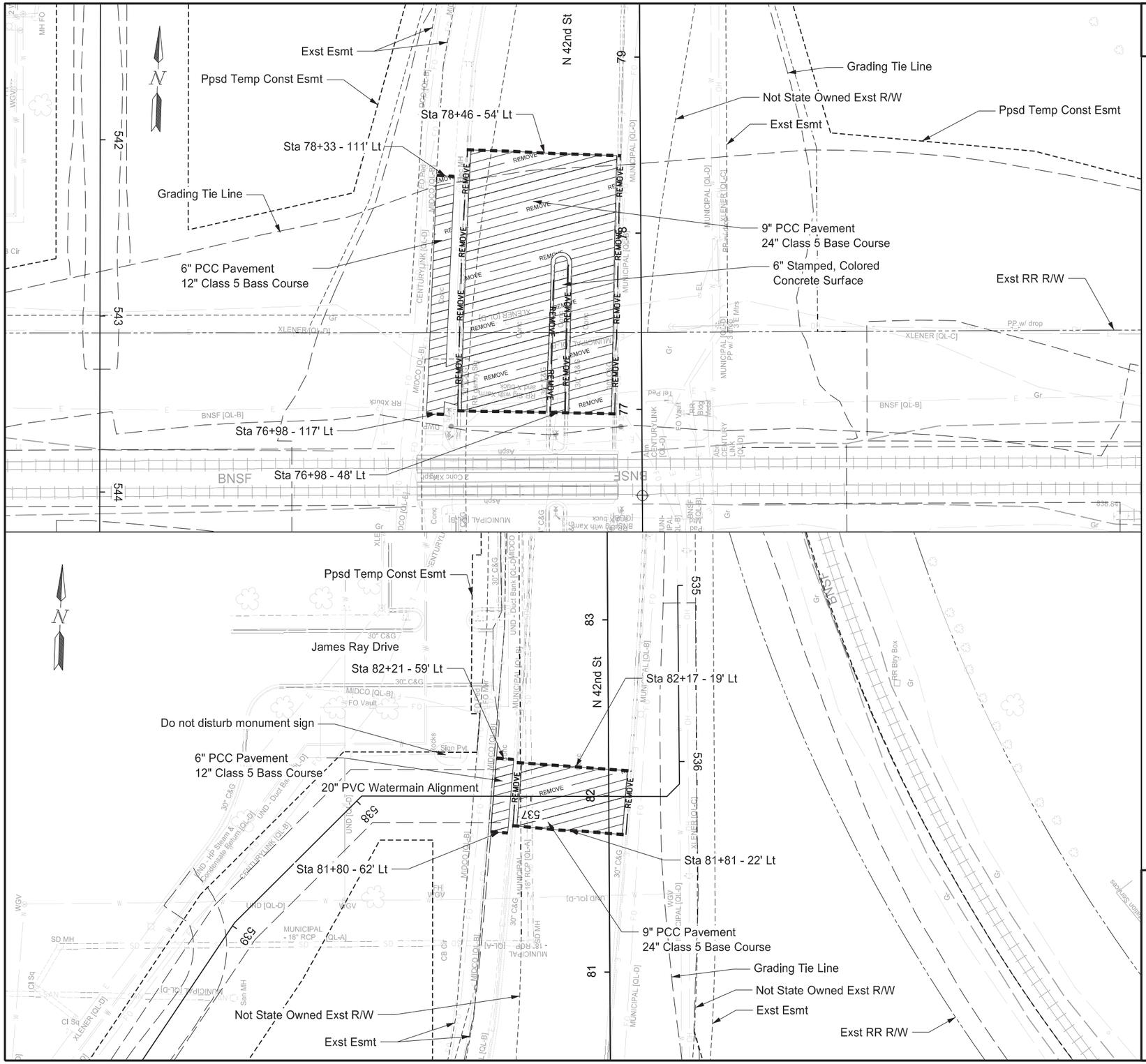
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8276
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NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	40	8

SPEC	CODE	BID ITEM	QTY	UNIT
202	0136	REMOVAL OF PAVEMENT		
		Mainline - Sta 76+98 to 78+46 (SCL_42nd)	2074	TON
		Median - Sta 76+98 to 77+87 (SCL_42nd)	142	TON
		Sidewalk - Sta 76+98 to 78+33 (SCL_42nd)	142	TON
		Mainline - Sta 81+79 to 82+15 (SCL_42nd)	397	TON
		Sidewalk - Sta 81+80 Lt to 82+21 Lt (SCL_42nd)	39	TON
		30" C&G - Sta 76+98 to 78+46 (SCL_42nd)	228	TON
		30" C&G - Sta 81+79 to 82+15 (SCL_42nd)	35	TON





LEGEND

- REMOVAL OF PAVEMENT
- REMOVAL OF CURB & GUTTER
- REMOVAL OF PAVEMENT (BITUMINOUS SURFACING)
- SAW CUT LINE
- REMOVAL OF TREES___IN
- REMOVAL OF EXISTING FENCE

Roadway Removals

Phase 1B

N 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

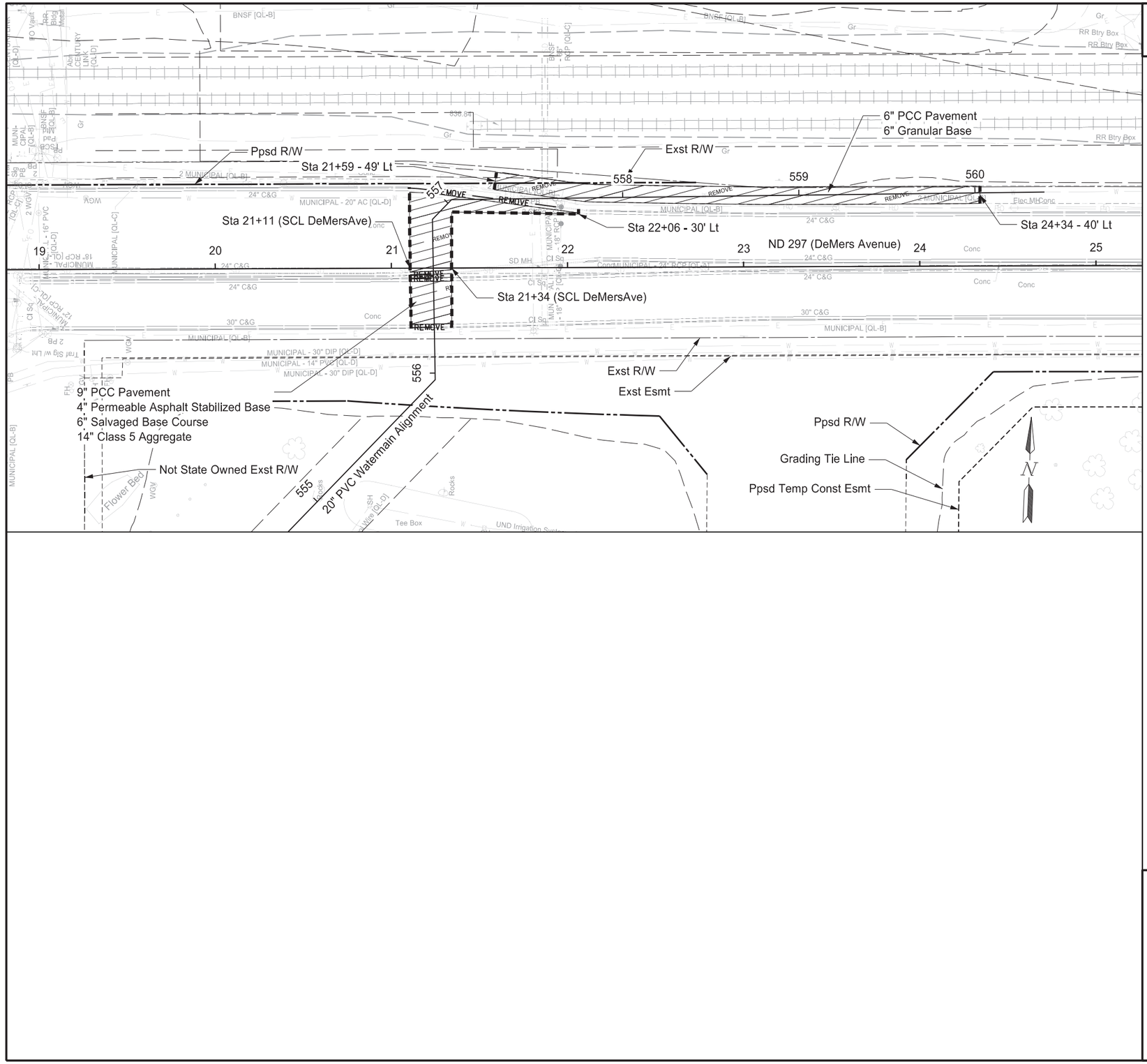
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8256
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NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	40	9

SPEC	CODE	BID ITEM	QTY	UNIT
202	0136	REMOVAL OF PAVEMENT		
		Mainline - Sta 20+11 to 22+06 (SCL_DeMersAve)	358	TON
		Median - Sta 20+11 to 21+34 (SCL_DeMersAve)	8	TON
		Sidewalk - Sta 21+59 to 24+34 Lt (SCL_DeMersAve)	165	TON
		24" C&G - Sta 20+11 to 22+06 (SCL_DeMersAve)	64	TON



LEGEND

REMOVE	REMOVAL OF PAVEMENT	— REMOVE —	REMOVAL OF CURB & GUTTER
REMOVE	REMOVAL OF PAVEMENT (BITUMINOUS SURFACING)	- - - - -	SAW CUT LINE
	REMOVAL OF TREES___IN	~~~~~	REMOVAL OF EXISTING FENCE

Roadway Removals

Phase 1B

ND 297 DeMers Avenue

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.02 21:31:58 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	40	10

SPEC	CODE	BID ITEM	QTY	UNIT
202	0136	REMOVAL OF PAVEMENT		
		Mainline - Sta 15+28 to 15+52 (SCL_DeMersAve)	252	TON
		Mainline - Sta 15+76 to 21+11(SCL_DeMersAve)	7303	TON
		Median - Sta 15+76 to 17+56 (SCL_DeMersAve)	46	TON
		Median - Sta 18+91 to 20+98 (SCL_DeMersAve)	93	TON
		Sidewalk - Sta 15+88 to 17+61 Rt (SCL_DeMersAve)	94	TON
		Sidewalk - Sta 18+66 to 21+94 Lt (SCL_DeMersAve)	173	TON
		Mainline - Sta 74+36 to 75+14 (SCL_42nd)	1246	TON
		Mainline - Sta 76+02 to 76+99 (SCL_42nd)	952	TON
		Median - Sta 76+15 to 76+99 (SCL_42nd)	82	TON
		Sidewalk - Sta 74+34 to 75+13 Lt (SCL_42nd)	77	TON
		Sidewalk -Sta 75+97 to 76+98 Lt (SCL_42nd)	62	TON
		24" C&G - Sta 15+28 to 20+98 (SCL_DeMersAve)	654	TON
		30" C&G - Sta 74+36 to 76+99 (SCL_42nd)	187	TON
		Bituminous Surfacing - Sta 76+46 to 76+77 (SCL_42nd)	228	TON



LEGEND

REMOVAL OF PAVEMENT

REMOVAL OF PAVEMENT (BITUMINOUS SURFACING)

REMOVAL OF TREES___IN

REMOVAL OF CURB & GUTTER

SAW CUT LINE

REMOVAL OF EXISTING FENCE

Roadway Removals

Phase 2

ND 297 (DeMers Avenue) / N & S 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

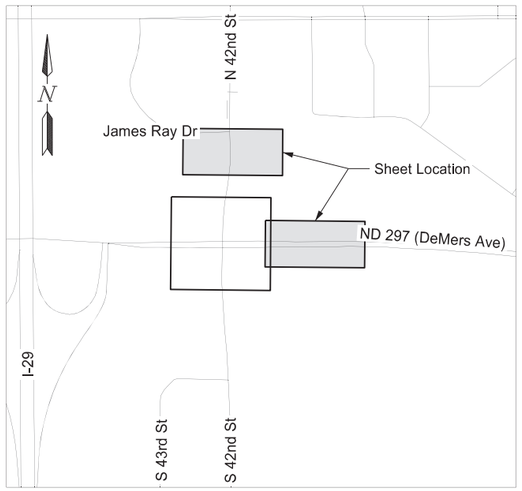
Grand Forks, ND

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NORTH DAKOTA

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	40	11

SPEC	CODE	BID ITEM	QTY	UNIT
202	0136	REMOVAL OF PAVEMENT		
		Mainline - Sta 21+34 to 22+54 (SCL_DeMersAve)	1077	TON
		Median - Sta 21+34 to 22+43 (SCL_DeMersAve)	121	TON
		Mainline - Sta 81+21 to 81+81 (SCL_42nd)	657	TON
		Sidewalk - Sta 81+24 to 81+80 (SCL_42nd)	53	TON
		24" C&G - Sta 21+34 to 22+54 (SCL_DeMersAve)	148	TON
		30" C&G - Sta 81+21 to 81+81 (SCL_42nd)	57	TON



LEGEND

REMOVAL OF PAVEMENT

REMOVAL OF PAVEMENT (BITUMINOUS SURFACING)

REMOVAL OF TREES___IN

REMOVAL OF CURB & GUTTER

SAW CUT LINE

REMOVAL OF EXISTING FENCE

Roadway Removals

Phase 2

N 42nd St / ND 297 (DeMers Avenue)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

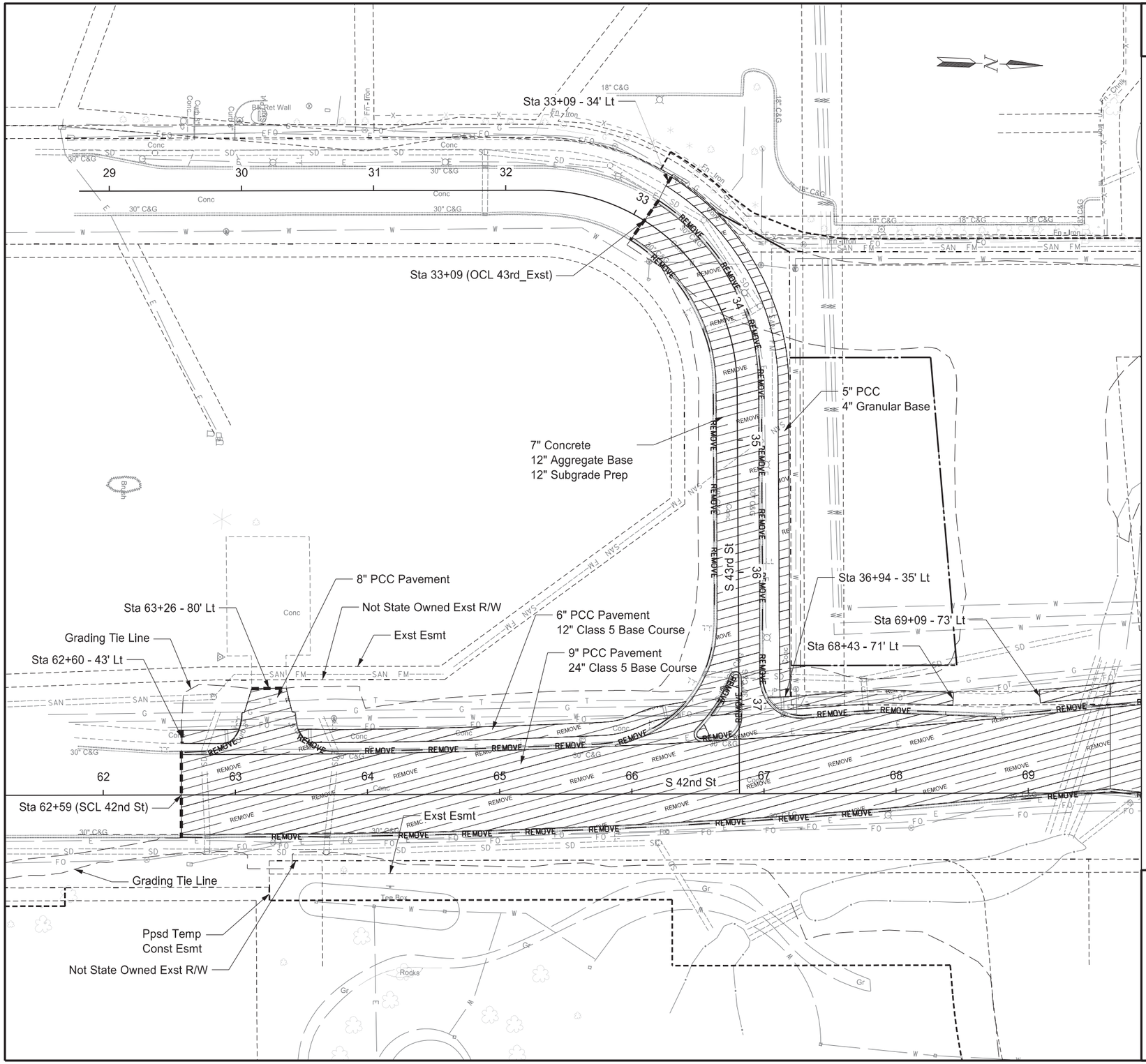
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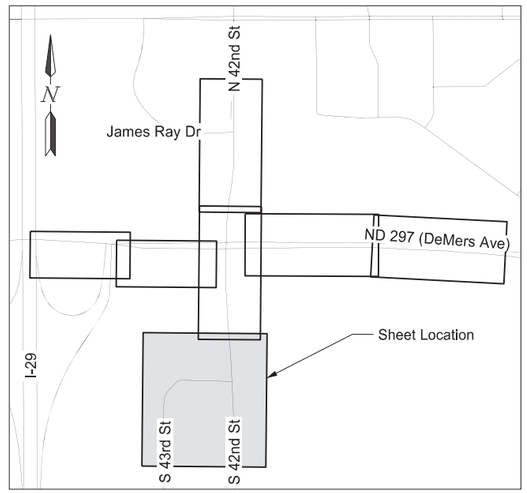
REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4256
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NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	40	12

SPEC	CODE	BID ITEM	QTY	UNIT
202	0136	REMOVAL OF PAVEMENT		
		Mainline - Sta 62+59 to 69+62 (SCL_42nd)	7758	TON
		Sidewalk - Sta 62+59 to 69+62 (SCL_42nd)	504	TON
		Driveway - Sta 62+81 to 63+73 (SCL_42nd)	165	TON
		Mainline - Sta 33+09 to 37+26 (OCL_43rd_Exst)	2719	TON
		Median - Sta 36+76 to 37+26 (OCL_43rd_Exst)	26	TON
		Sidewalk - Sta 33+09 to 36+94 (OCL_43rd_Exst)	180	TON
		30" C&G - Sta 62+59 to 69+62 (SCL_42nd)	554	TON
		30" C&G - Sta 708+83 (OCL_43RD) to S 42nd St	447	TON





LEGEND

REMOVE	REMOVAL OF PAVEMENT	— REMOVE —	REMOVAL OF CURB & GUTTER
REMOVE	REMOVAL OF PAVEMENT (BITUMINOUS SURFACING)	- - - - -	SAW CUT LINE
	REMOVAL OF TREES___IN	~~~~~	REMOVAL OF EXISTING FENCE

Roadway Removals

Phase 4A

S 42nd St / S 43rd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

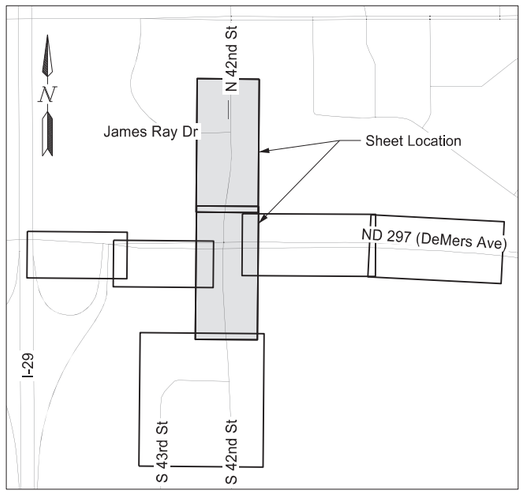
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4296
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NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	40	13

SPEC	CODE	BID ITEM	QTY	UNIT
202	0136	REMOVAL OF PAVEMENT		
		Mainline - Sta 69+62 to 71+12 (SCL_42nd)	1993	TON
		Mainline - Sta 72+44 to 74+36 (SCL_42nd)	2918	TON
		Mainline - Sta 78+46 to 81+21 (SCL_42nd)	3532	TON
		Mainline - Sta 82+17 to 85 +40 (SCL_42nd)	1713	TON
		Sidewalk - Sta 69+62 to 71+11(SCL_42nd)	143	TON
		Sidewalk - Sta 71+67 to 74+34 (SCL_42nd)	253	TON
		Sidewalk - Sta 78+33 to 81+24 (SCL_42nd)	278	TON
		Sidewalk - Sta 82+21 to 82+57 (SCL_42nd)	34	TON
		30" C&G - Sta 69+62 to 71+12 (SCL_42nd)	143	TON
		30" C&G - Sta 72+44 to 74+36 (SCL_42nd)	183	TON
		30" C&G - Sta 78+46 to 81+21 (SCL_42nd)	264	TON
		30" C&G - Sta 82+17 to 85+40 (SCL_42nd)	172	TON



LEGEND

- REMOVAL OF PAVEMENT
- REMOVAL OF PAVEMENT (BITUMINOUS SURFACING)
- REMOVAL OF TREES___IN
- REMOVE — REMOVAL OF CURB & GUTTER
- SAW CUT LINE
- REMOVAL OF EXISTING FENCE

Roadway Removals

Phase 4A

S 42nd St / N 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

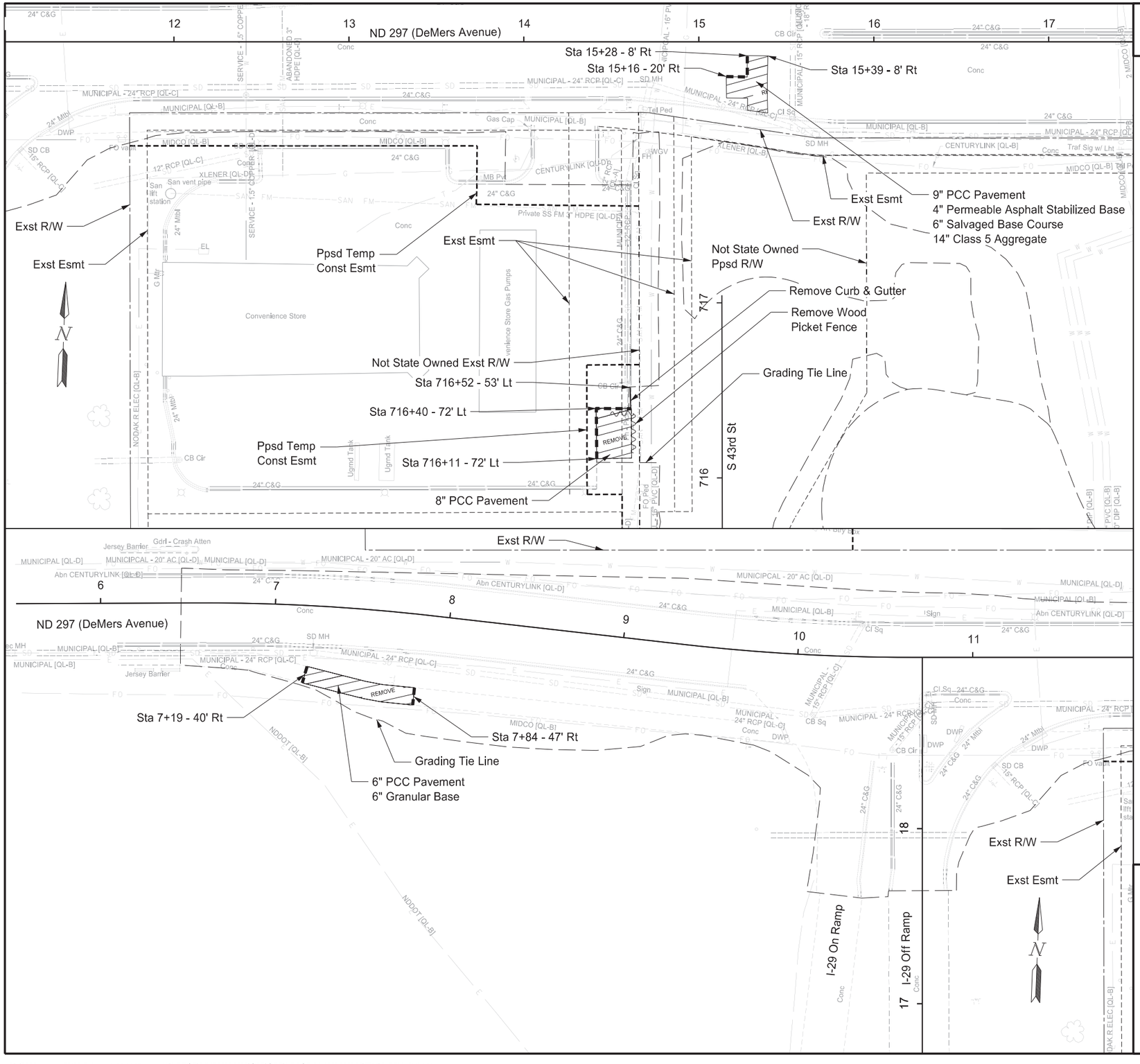
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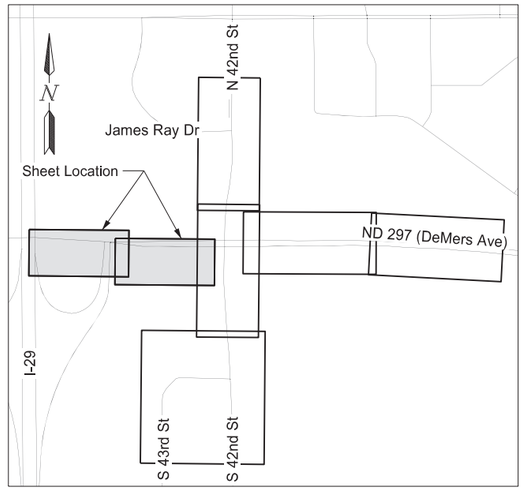
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9226
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NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	40	14

SPEC	CODE	BID ITEM	QTY	UNIT
202	0136	REMOVAL OF PAVEMENT		
		Mainline - Sta 15+16 to 15+39 Rt (SCL_DeMersAve)	94	TON
		Driveway - Sta 716+11to 716+40 Lt (OCL_43RD)	41	TON
		Sidewalk - Sta 7+19 to 7+84 (SCL_DeMers Ave)	34	TON
		24" C&G - Sta 716+40 to 716+53 Lt (OCL_43RD)	5	TON
202	0312	REMOVAL OF EXISTING FENCE		
		Sta 716+15 to 716+37 Lt (OCL_43RD)	37	LF





LEGEND

- REMOVAL OF PAVEMENT
- REMOVAL OF PAVEMENT (BITUMINOUS SURFACING)
- REMOVAL OF TREES___IN
- REMOVE — REMOVAL OF CURB & GUTTER
- SAW CUT LINE
- REMOVAL OF EXISTING FENCE

Roadway Removals

Phase 4A

ND 297 (DeMers Avenue) / S 43rd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

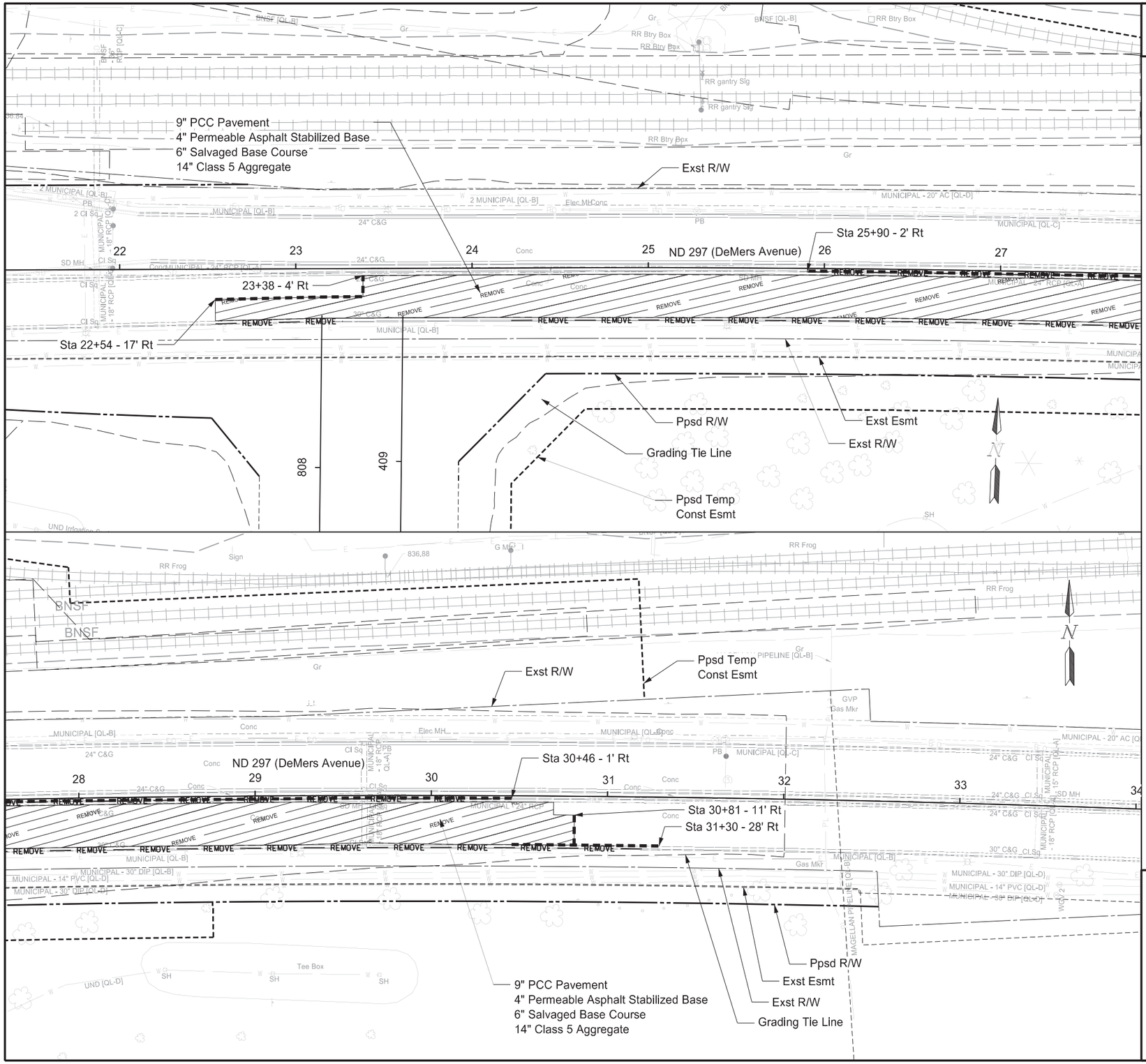
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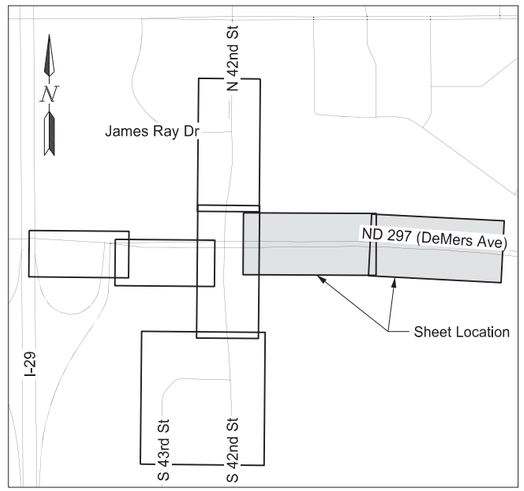
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8016
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NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	40	15

SPEC	CODE	BID ITEM	QTY	UNIT
202	0136	REMOVAL OF PAVEMENT		
		Mainline - Sta 22+54 to 30+81 (SCL_DeMersAve)	3428	TON
		24" C&G - Sta 22+54 to 31+30 (SCL_DeMersAve)	475	TON





LEGEND

REMOVE	REMOVAL OF PAVEMENT	— REMOVE —	REMOVAL OF CURB & GUTTER
REMOVE	REMOVAL OF PAVEMENT (BITUMINOUS SURFACING)	- - - - -	SAW CUT LINE
	REMOVAL OF TREES___IN	~~~~~	REMOVAL OF EXISTING FENCE

Roadway Removals

Phase 4A

ND 297 (DeMers Avenue)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9256
DATE: 2025.12.05 13:59:32 -06'00'
NORTH DAKOTA

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	40	16

SPEC	CODE	BID ITEM	QTY	UNIT
202	0136	REMOVAL OF PAVEMENT		
		Mainline - Sta 82+41 to 85+41 (SCL_42nd)	1844	TON
		Sidewalk - Sta 82+41 to 85+41 (SCL_42nd)	231	TON
		Driveway - Sta 82+59 to 82+99 (SCL_42nd)	51	TON
		Mainline - Sta 22+54 to 23+38 Rt (SCL_DeMersAve)	186	TON
		Mainline - Sta 22+43 to 27+80 Lt (SCL_DeMersAve)	2379	TON
		Median - Sta 22+43 to 23+26 (SCL_DeMersAve)	85	TON
		Median - Sta 25+90 to 27+80 (SCL_DeMersAve)	140	TON
		Sidewalk - Sta 24+34 to 27+80 Lt (SCL_DeMersAve)	208	TON
		30" C&G - Sta 82+42 to 85+41 (SCL_42nd)	137	TON
		24" C&G - Sta 22+43 to 27+80 (SCL_DeMersAve)	416	TON



LEGEND

REMOVAL OF PAVEMENT

REMOVAL OF PAVEMENT (BITUMINOUS SURFACING)

REMOVAL OF TREES___IN

REMOVAL OF CURB & GUTTER

SAW CUT LINE

REMOVAL OF EXISTING FENCE

Roadway Removals

Phase 4B

N 42nd St / ND 297 (DeMers Avenue)

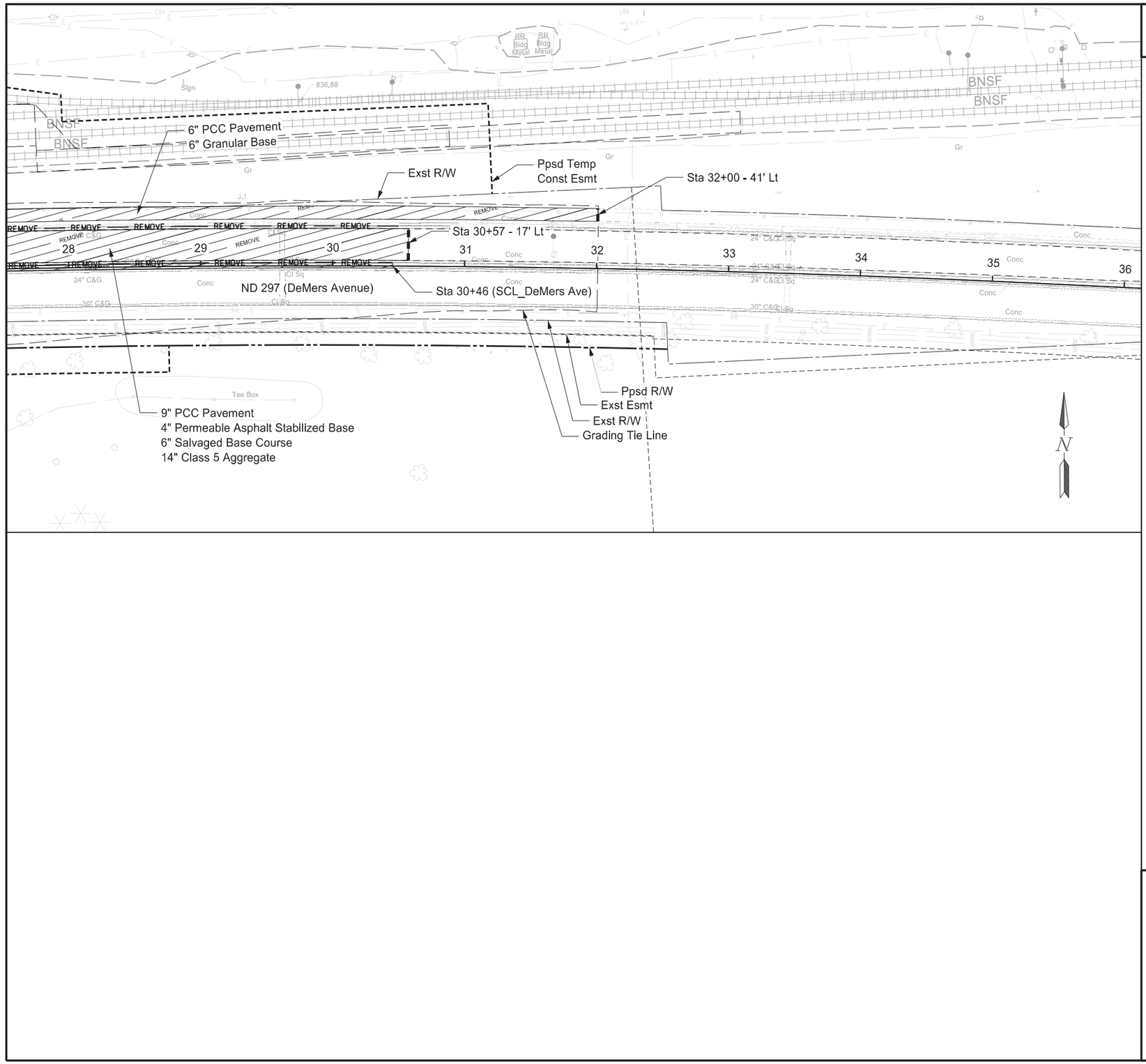
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

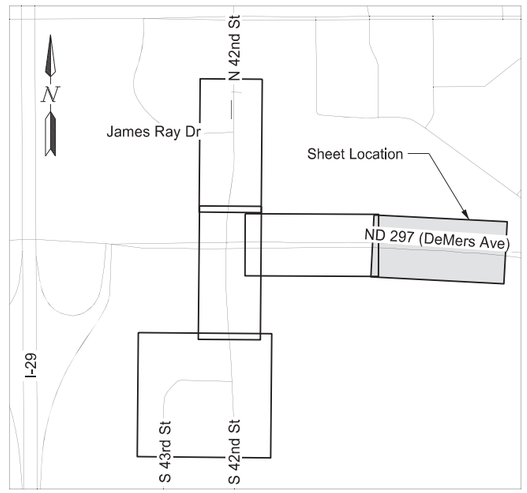
REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9226
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NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	40	17

SPEC	CODE	BID ITEM	QTY	UNIT
202	0136	REMOVAL OF PAVEMENT		
		Mainline - Sta 27+80 to 30+57 (SCL_DeMersAve)	1221	TON
		Median - Sta 27+80 to 30+46 (SCL_DeMersAve)	203	TON
		Sidewalk - 27+80 to 32+00 (SCL_DeMersAve)	251	TON
		24" C&G - Sta 27+80 to 30+46 (SCL_DeMersAve)	124	TON



LEGEND

REMOVAL OF PAVEMENT		REMOVE	REMOVAL OF CURB & GUTTER
REMOVAL OF PAVEMENT (BITUMINOUS SURFACING)			SAW CUT LINE
REMOVAL OF TREES___IN			REMOVAL OF EXISTING FENCE

Roadway Removals

Phase 4B

ND 297 (DeMers Avenue)

ND 297 (DeMers Ave) & 42nd St Grade Separation

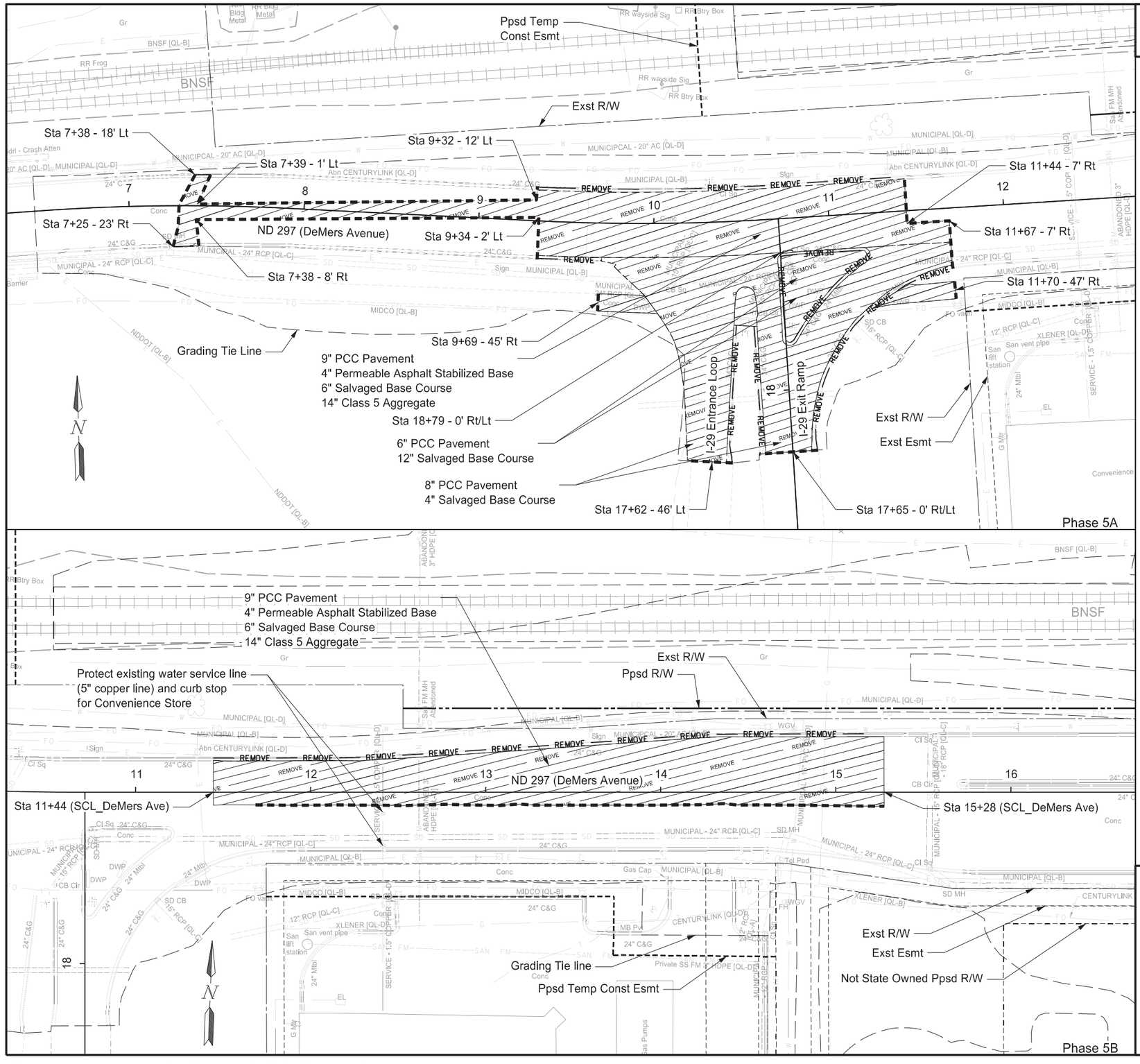
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8076
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NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	40	18

SPEC	CODE	BID ITEM	QTY	UNIT
202	0136	REMOVAL OF PAVEMENT		
		5A Mainline - Sta 7+18 to 11+67 (SCL_DeMersAve)	1909	TON
		5A Mainline - Sta 17+62 to 18+79 (OCL_I29_SE_Ramp)	563	TON
		5A Median - Sta 10+71 to 11+20 (SCL_DeMersAve)	329	TON
		5A Sidewalk - Sta 9+69 to 11+70 (SCL_DeMersAve)	37	TON
		5B Mainline - Sta 11+44 to 15+28 (SCL_DeMersAve)	2261	TON
		24" C&G - 5A Sta 7+18 to 11+69 (SCL_DeMersAve)	281	TON
		24" C&G - 5B Sta 11+44 to 15+28 (SCL_DeMersAve)	148	TON





LEGEND

- REMOVAL OF PAVEMENT
- REMOVAL OF PAVEMENT (BITUMINOUS SURFACING)
- REMOVAL OF TREES___IN
- REMOVE — REMOVAL OF CURB & GUTTER
- SAW CUT LINE
- REMOVAL OF EXISTING FENCE

Roadway Removals

Phase 5A & 5B

ND 297 (DeMers Avenue)

ND 297 (DeMers Ave) & 42nd St Grade Separation

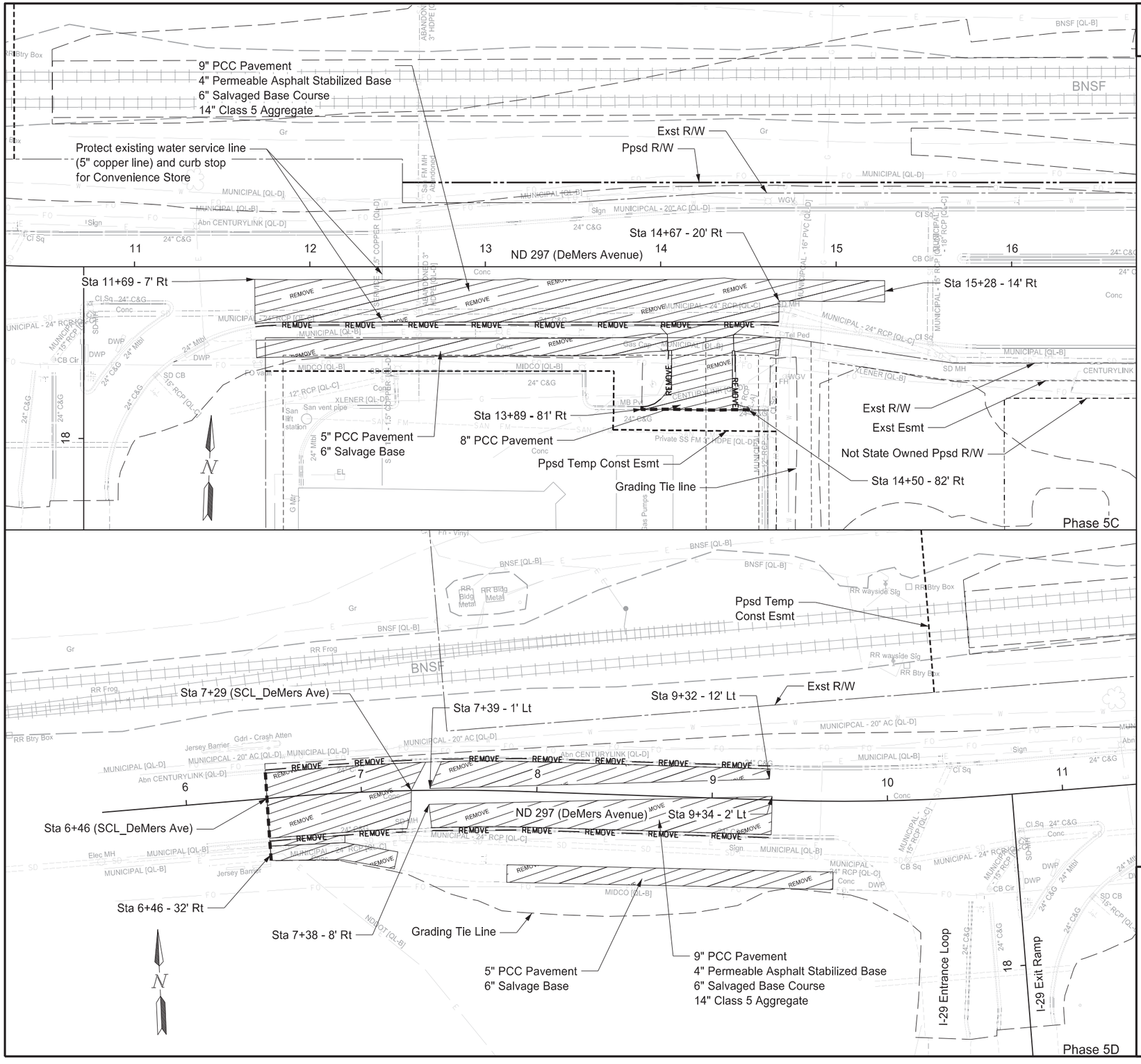
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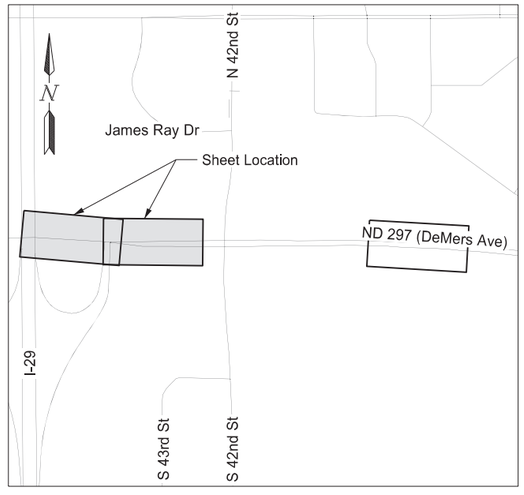
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CHRISTOPHER S. DAHL
PE-9276
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NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	40	19

SPEC	CODE	BID ITEM	QTY	UNIT
202	0136	REMOVAL OF PAVEMENT		
		5C Mainline - Sta 11+69 to 15+28 (SCL_DeMersAve)	1460	TON
		5C Sidewalk - Sta 11+21to 14+68 (SCL_DeMersAve)	141	TON
		5C Driveway - Sta 14+00 to 14+68 (SCL_DeMersAve)	137	TON
		5D Mainline - Sta 6+46 to 9+34 (SCL_DeMersAve)	1556	TON
		5D Sidewalk - Sta 6+46 to 10+02 (SCL_DeMersAve)	161	TON
		5C 24" C&G - Sta 11+69 to 14+68 (SCL_DeMersAve)	145	TON
		5D 24" C&G - Sta 6+46 to 9+82 (SCL_DeMersAve)	212	TON





LEGEND

REMOVE	REMOVAL OF PAVEMENT	REMOVE	REMOVAL OF CURB & GUTTER
REMOVE	REMOVAL OF PAVEMENT (BITUMINOUS SURFACING)		SAW CUT LINE
	REMOVAL OF TREES___IN		REMOVAL OF EXISTING FENCE

Roadway Removals

Phase 5C & 5D

ND 297 (DeMers Avenue)

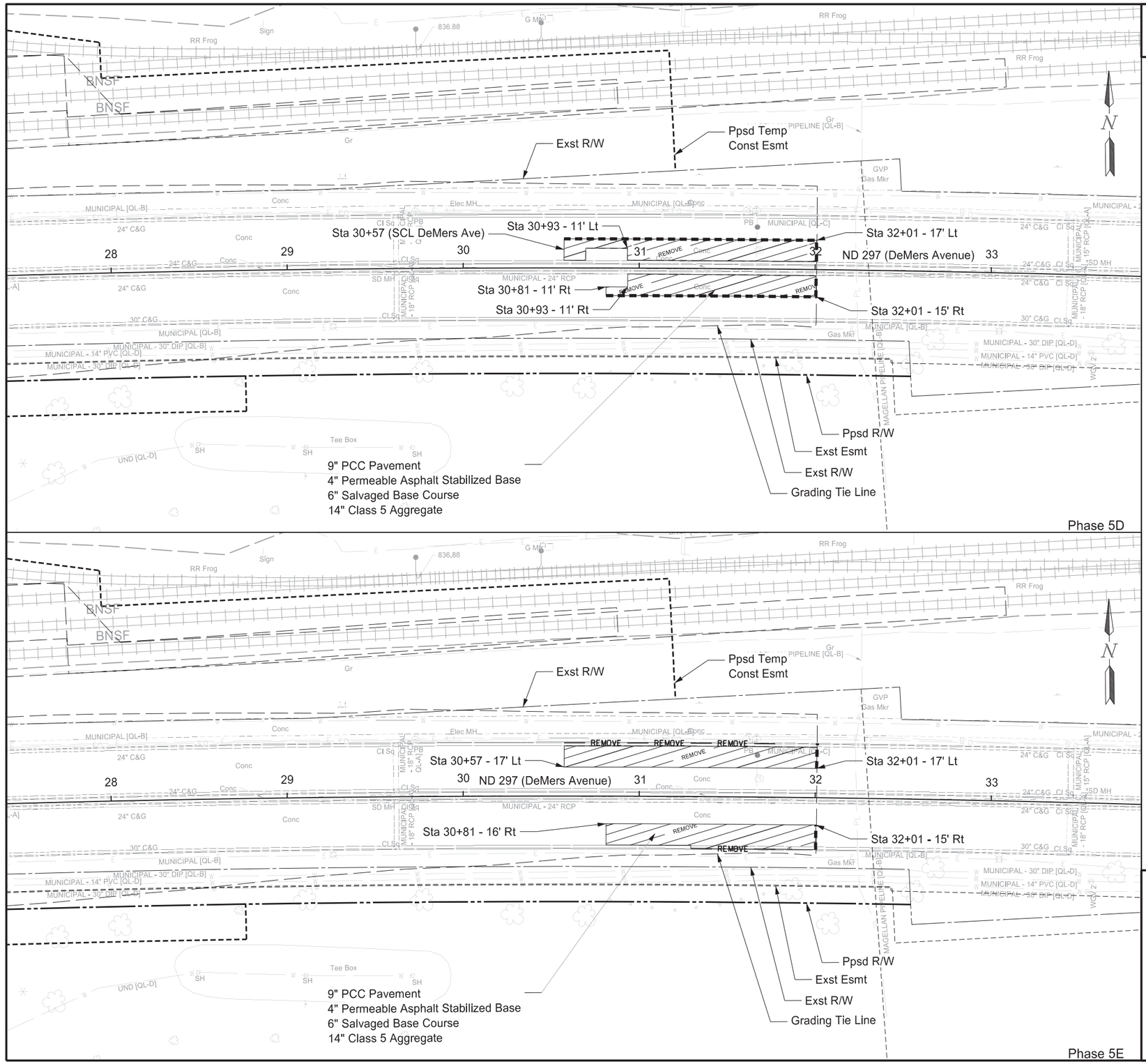
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

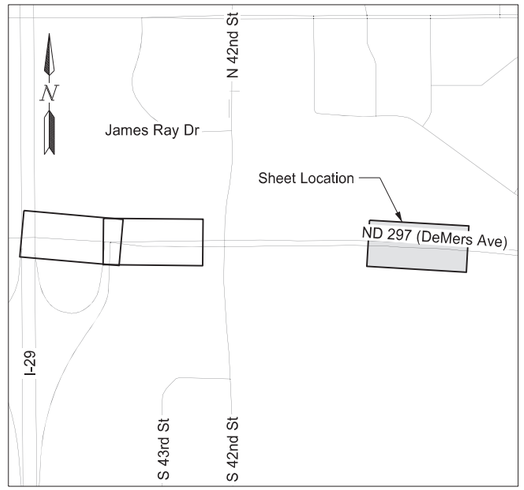
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CHRISTOPHER S. DAHL
PE-9026
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NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	40	20

SPEC	CODE	BID ITEM	QTY	UNIT
202	0136	REMOVAL OF PAVEMENT		
		5D Mainline - Sta 30+57 to 32+01 Lt (SCL_DeMersAve)	288	TON
		5D Mainline - Sta 30+81 to 32+01 Rt (SCL_DeMersAve)	248	TON
		5E Mainline - Sta 28+90 to 32+01 Lt (SCL_DeMersAve)	317	TON
		5E Mainline - Sta 30+46 to 32+01 Rt (SCL_DeMersAve)	287	TON
		5E 24" C&G - Sta 28+90 to 32+01 (SCL_DeMersAve)	83	TON



LEGEND

REMOVE	REMOVAL OF PAVEMENT	— REMOVE —	REMOVAL OF CURB & GUTTER
REMOVE	REMOVAL OF PAVEMENT (BITUMINOUS SURFACING)	- - - - -	SAW CUT LINE
	REMOVAL OF TREES___IN	~~~~~	REMOVAL OF EXISTING FENCE

Roadway Removals

Phase 5D & 5E

ND 297 (DeMers Avenue)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

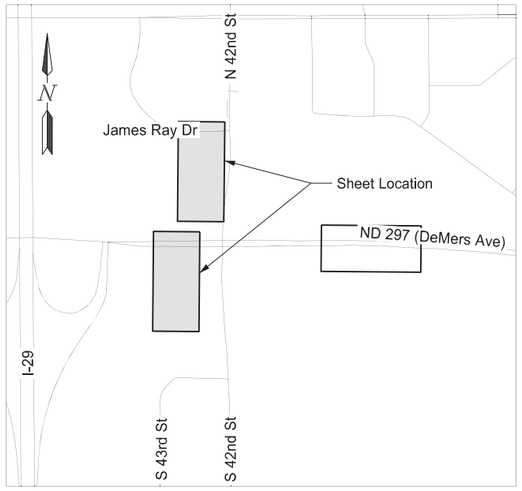
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9026
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NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	40	21

SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	REMOVAL OF PIPE ALL TYPES & SIZES		
		24IN RCP: Sta 14+72 - 24' Rt to 15+50 - 48' Rt	81	LF
714	9659	REMOVE & RELAY PIPE-ALL TYPES & SIZES		
		18IN RCP: Sta 539+03 - 15' Lt to 539+23 - 15' Rt	36	LF

Note: See Sections 6, 55a, and 55c for additional information on REMOVE & RELAY PIPE-ALL TYPES & SIZES.



LEGEND

- REMOVE — REMOVAL OF PIPE ALL TYPES & SIZES
- REMOVE & RELAY PIPE-ALL TYPES & SIZES
- REMOVAL OF INLETS
- REMOVAL OF MANHOLES
- REMOVE & RESET INLETS

Storm Sewer Removals

Phase 1A

Temporary Bypass Road / 20" PVC Watermain

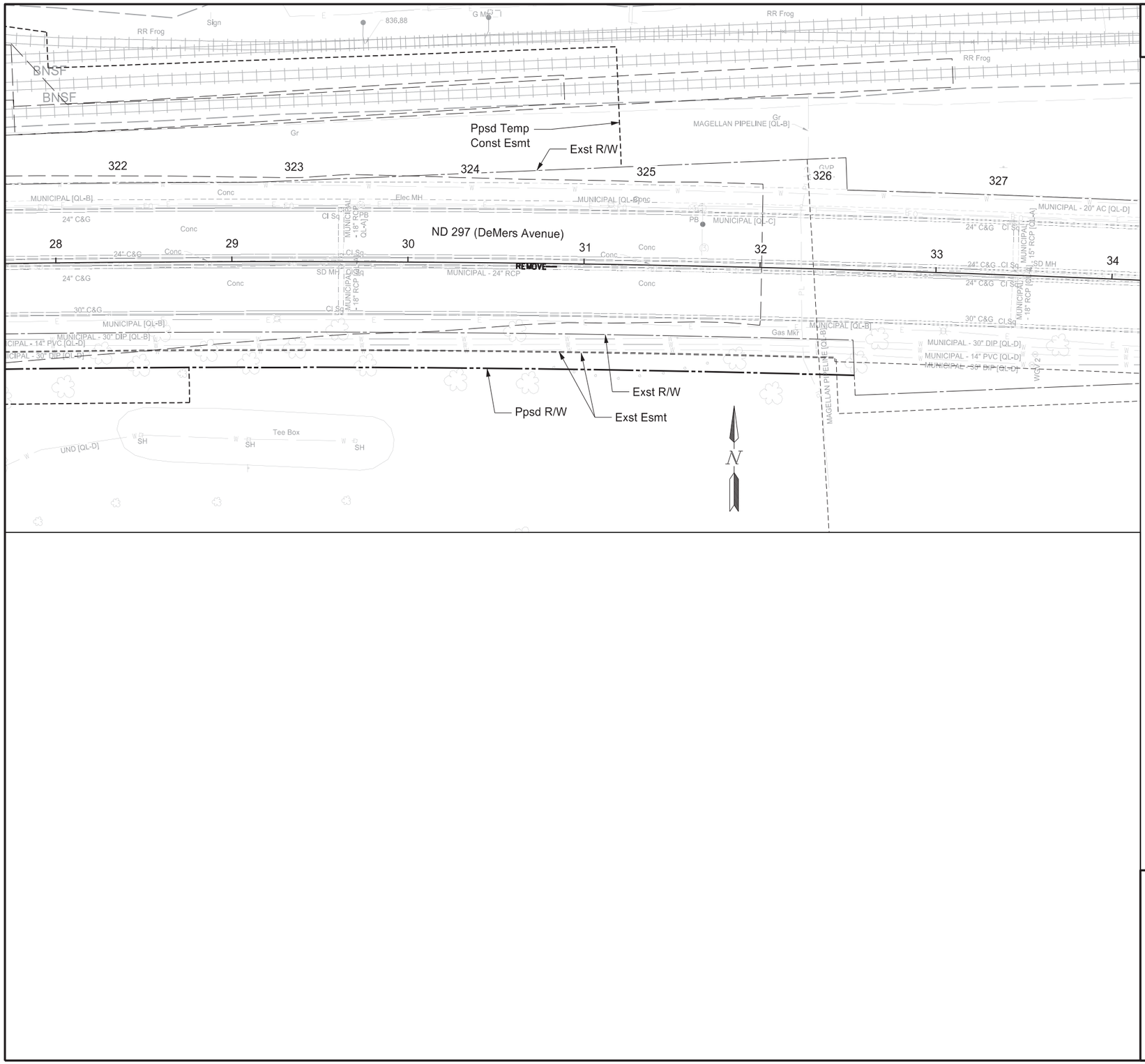
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

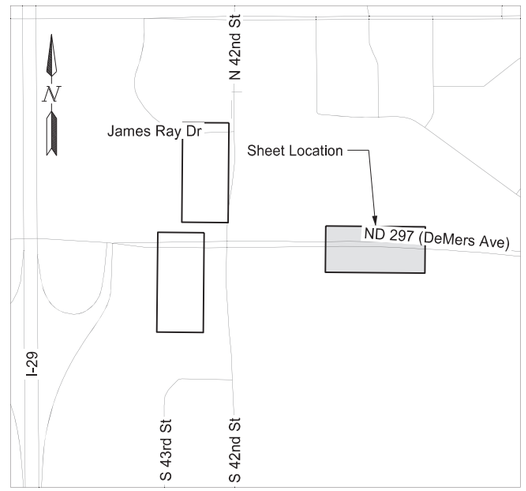
REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8256
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NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	40	22

SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	REMOVAL OF PIPE ALL TYPES & SIZES		
		24IN RCP: Sta 30+65 - 2' Rt to 30+65 - 2' Rt	20	LF



LEGEND

- REMOVE — REMOVAL OF PIPE ALL TYPES & SIZES
- REMOVE & RELAY PIPE-ALL TYPES & SIZES
- REMOVAL OF INLETS
- REMOVAL OF MANHOLES
- REMOVE & RESET INLETS

Storm Sewer Removals

Phase 1A

Temporary Bypass Road / 20" PVC Watermain

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4276
DATE: 2025.12.05 14:02:02 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	40	23

SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	REMOVAL OF PIPE ALL TYPES & SIZES		
		18IN RCP: Sta 15+54 - 5' Lt to 15+54 - 32' Lt	28	LF
		15IN RCP: Sta 15+53 - 44' Rt to 15+54 - 5' Lt	49	LF
		15IN RCP: Sta 15+53 - 44' Rt to 15+67 - 53' Rt	16	LF
		24IN RCP: Sta 15+50 - 48' Rt to 15+67 - 53' Rt	18	LF
		24IN RCP: Sta 15+67 - 53' Rt to 15+86 - 53' Rt	19	LF
202	0210	REMOVAL OF MANHOLES		
		Sta 15+67 - 53' Rt	1	EA
202	0230	REMOVAL OF INLETS		
		Sta 15+54 - 5' Lt	1	EA
		Sta 15+54 - 32' Lt	1	EA
		Sta 15+53 - 44' Rt	1	EA
714	9659	REMOVE & RELAY PIPE-ALL TYPES & SIZES		
		24IN RCP: Sta 71+13 - 23' Lt to 72+27 - 23' Lt	114	LF



LEGEND

- REMOVE — REMOVAL OF PIPE ALL TYPES & SIZES
- REMOVE & RELAY PIPE-ALL TYPES & SIZES
- REMOVAL OF INLETS
- REMOVAL OF MANHOLES
- REMOVE & RESET INLETS

Storm Sewer Removals

Phase 1B

ND 297 DeMers & S 42nd St

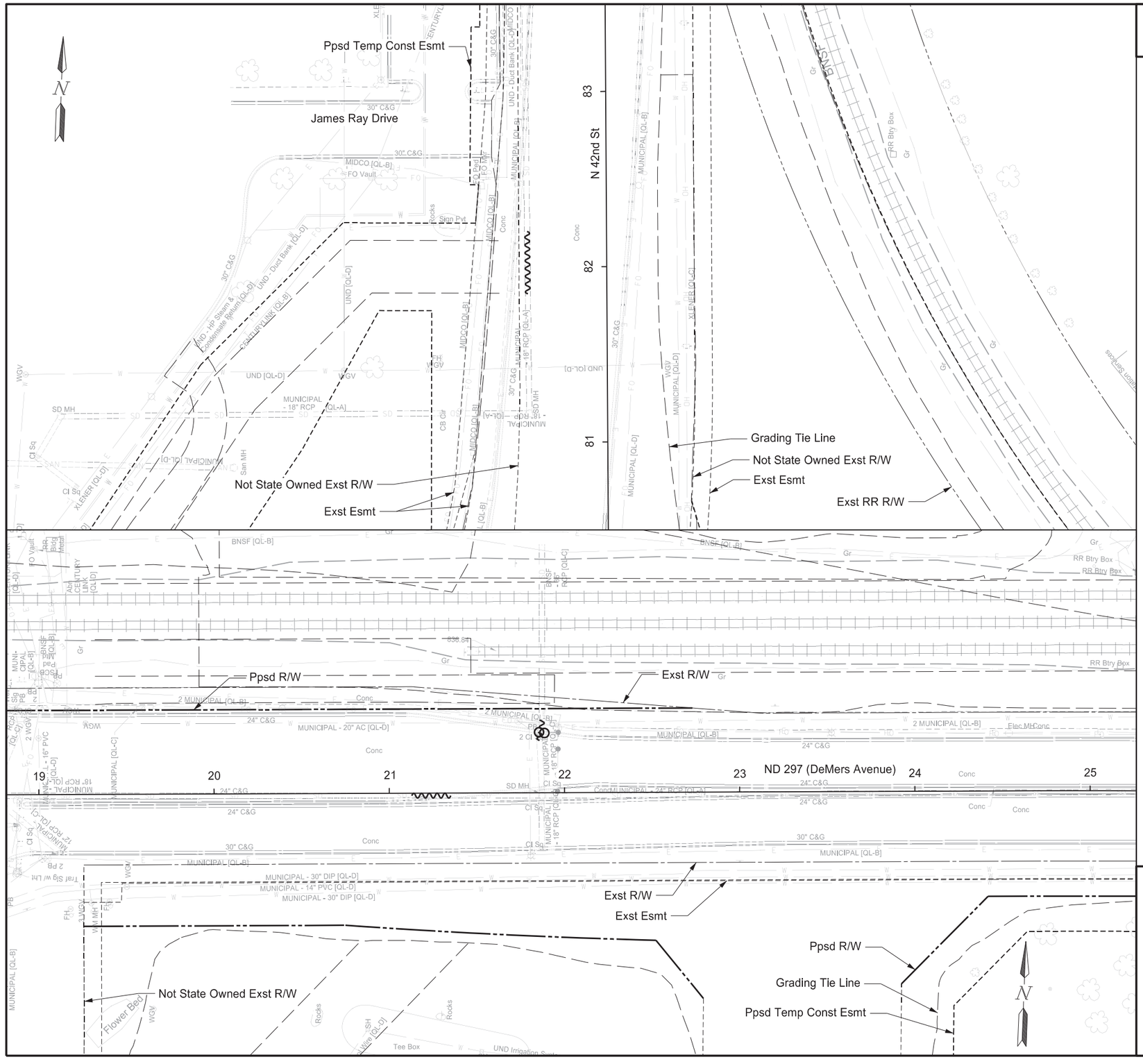
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8256
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NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	40	24

SPEC	CODE	BID ITEM	QTY	UNIT
202	0231	REMOVE & RESET INLETS		
		Sta 21+87 - 34' Lt	1	EA
		Sta 21+86 - 36' Lt	1	EA
714	9659	REMOVE & RELAY PIPE-ALL TYPES & SIZES		
		18IN RCP: Sta 81+83 - 45' Lt to 82+19 - 45' Lt	38	LF
		24IN RCP: Sta 21+11 -1' Rt to 21+34 - 2 Rt	24	LF
		18IN RCP: Sta 21+86 - 35' Lt to 21+86 - 28' Lt	8	LF
		36IN RCP: Sta 21+87 - 35' Lt to 21+87 - 42' Lt	8	LF

Note: See Sections 6, 55a, and 55c for additional information on REMOVE & RELAY PIPE-ALL TYPES & SIZES.



LEGEND

- REMOVE — REMOVAL OF PIPE ALL TYPES & SIZES
- REMOVAL OF PIPE-ALL TYPES & SIZES
- REMOVAL OF INLETS
- REMOVAL OF MANHOLES
- REMOVE & RESET INLETS

Storm Sewer Removals

Phase 1B

N 42nd St & ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9256
DATE: 2025.12.05 14:02:35 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	40	25

SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	REMOVAL OF PIPE ALL TYPES & SIZES		
		24IN RCP: Sta 15+86 - 53' Rt to 17+61 - 55' Rt	175	LF
		24IN RCP: Sta 17+61 - 55' Rt to 17+94 - 53' Rt	33	LF
		18IN RCP: Sta 17+61 - 55' Rt to 17+77 - 35' Rt	91	LF
		15IN RCP: Sta 74+79 - 92' Lt to 75+05 - 81' Lt	28	LF
		24IN RCP: Sta 74+36 - 67' Lt to 75+05 - 81' Lt	70	LF
		12IN RCP: Sta 18+73 - 1' Rt to 18+92 - 45' Lt	49	LF
		12IN RCP: Sta 18+73 - 1' Rt to 19+12 - 33' Rt	51	LF
		18IN RCP: Sta 18+73 - 1' Rt to 21+87 - 2' Rt	314	LF
		24IN RCP: Sta 21+87 - 2' Rt to 23+27 - 2' Rt	140	LF
		18IN RCP: Sta 21+87 - 2' Rt to 21+86 - 35' Lt	32	LF
		18IN RCP: Sta 21+87 - 6' Rt to 21+87 -32' Rt	26	LF
		36IN RCP: Sta 21+87 - 34' Lt to 21+88 - 141' Lt	107	LF
202	0210	REMOVAL OF MANHOLES		
		Sta 18+73 - 1' Rt	1	EA
		Sta 17+77 - 35' Lt	1	EA
		Sta 17+61 - 55' Rt	1	EA
		Sta 17+94 - 53' Rt	1	EA
		Sta 21+87 - 2' Rt	1	EA
202	0230	REMOVAL OF INLETS		
		Sta 18+92 - 45' Lt	1	EA
		Sta 19+12 - 33' Rt	1	EA
		Sta 74+79 - 92' Lt	1	EA
		Sta 21+87 - 2' Lt	1	EA
		Sta 21+87 - 6' Rt	1	EA
		Sta 21+88 - 32' Rt	1	EA
		Sta 21+87 - 34' Lt	1	EA
		Sta 21+86 - 36' Lt	1	EA

LEGEND

- REMOVE — REMOVAL OF PIPE ALL TYPES & SIZES
- REMOVE & RELAY PIPE-ALL TYPES & SIZES
- REMOVAL OF INLETS
- REMOVAL OF MANHOLES
- REMOVE & RESET INLETS

Storm Sewer Removals

Phase 2

ND 297 (DeMers Ave)

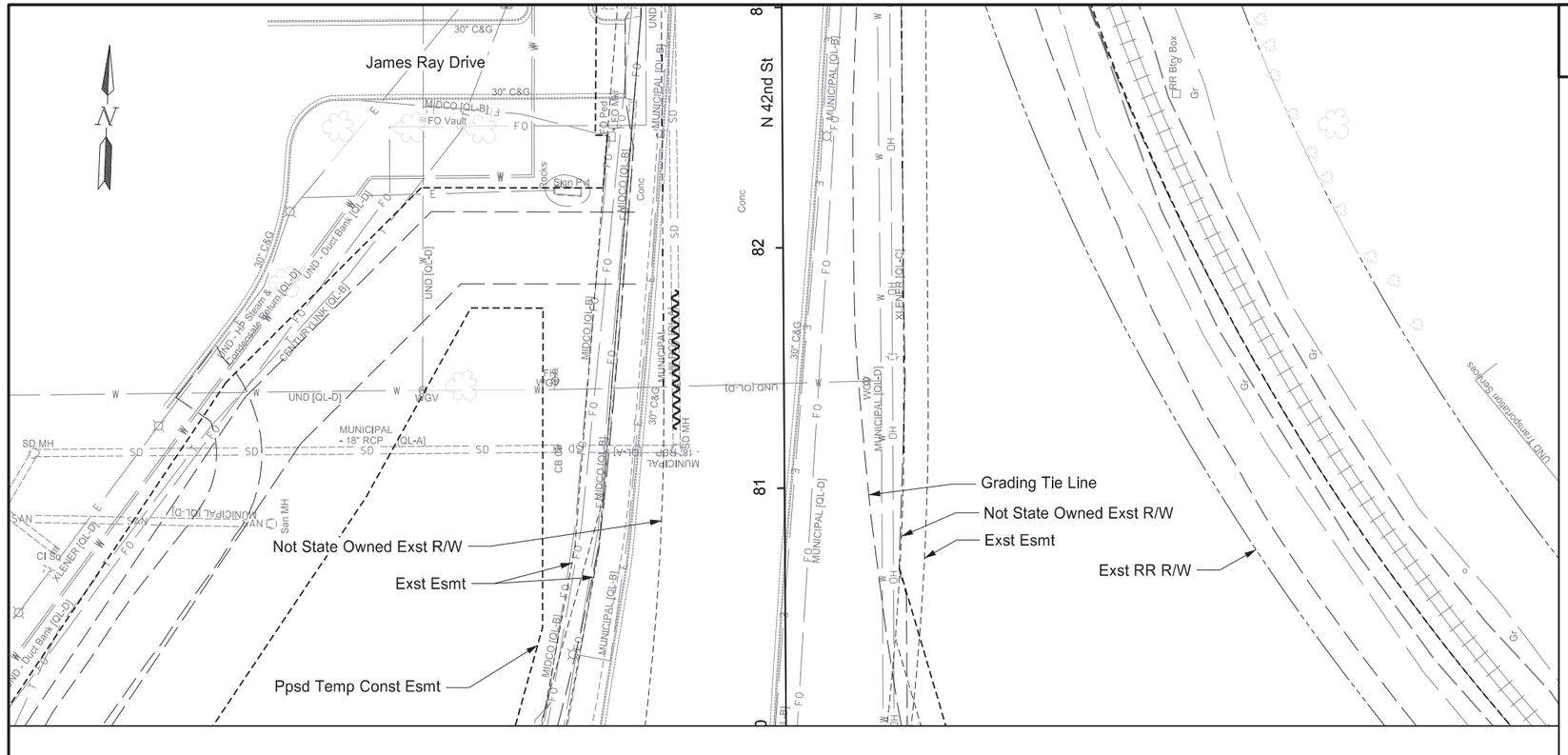
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
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PE-8076
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NORTH DAKOTA

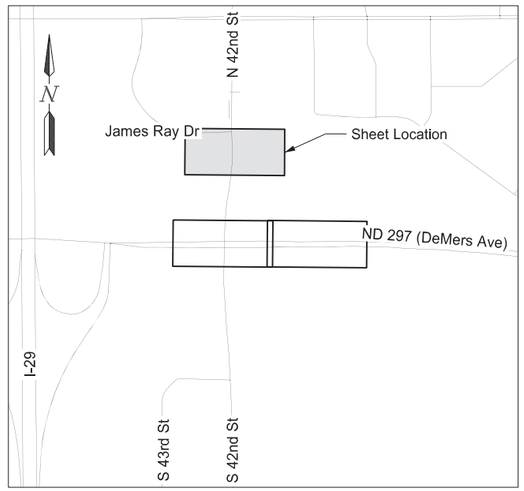
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	40	26

SPEC	CODE	BID ITEM	QTY	UNIT
714	9659	REMOVE & RELAY PIPE-ALL TYPES & SIZES		
		18" RCP: Sta 81+22 - 45' Lt to 81+83 - 45' Lt	60	LF

Note: See Sections 6, 55a, and 55c for additional information on REMOVE & RELAY PIPE-ALL TYPES & SIZES.



LEGEND

- REMOVE — REMOVAL OF PIPE ALL TYPES & SIZES
- REMOVE & RELAY PIPE-ALL TYPES & SIZES
- REMOVAL OF INLETS
- REMOVAL OF MANHOLES
- REMOVE & RESET INLETS

Storm Sewer Removals

Phase 2

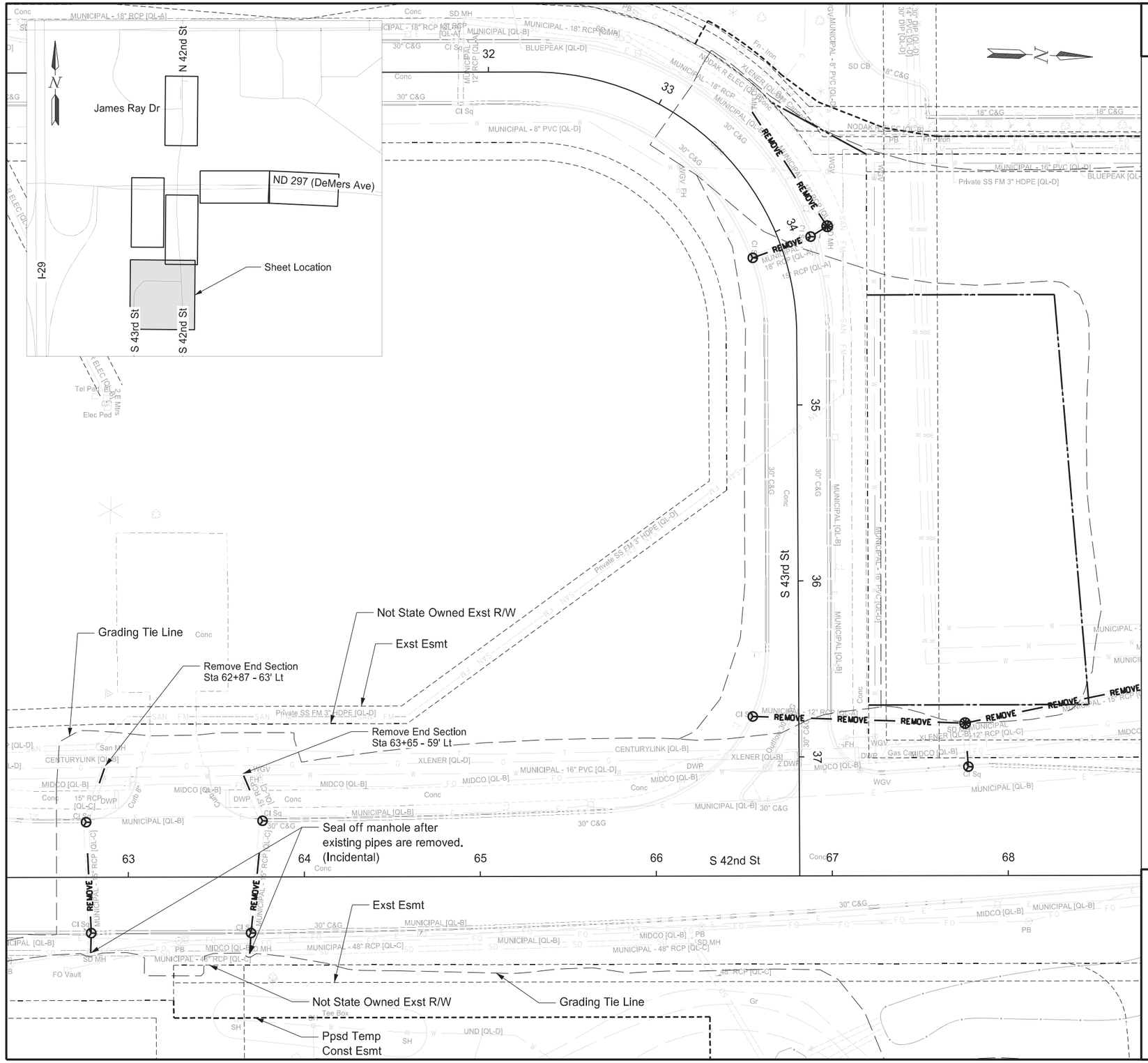
N 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8256
DATE: 2025.12.05 14:03:10 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	40	27

SPEC	CODE	BID ITEM	QTY	UNIT
202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES		
		Sta 62+87 - 63' Lt	1	EA
		Sta 63+65 - 59' Lt	1	EA
202	0174	REMOVAL OF PIPE ALL TYPES & SIZES		
		15IN RCP: Sta 62+76 - 31' Lt to 62+79 - 32' Rt	63	LF
		15IN RCP: Sta 62+76 - 31' Lt to 62+87 - 62' Lt	32	LF
		15IN RCP: Sta 62+78 - 43' Rt to 62+79 - 32' Rt	12	LF
		15IN RCP: Sta 63+66 - 58' Lt to 63+76 - 32' Lt	28	LF
		15IN RCP: Sta 63+70 - 32' Rt to 63+76 - 32' Lt	63	LF
		15IN RCP: Sta 63+69 - 44' Rt to 63+70 - 32' Rt	13	LF
		12IN RCP: Sta 66+55 - 91' Lt to 67+76 - 87' Lt	121	LF
		12IN RCP: Sta 67+76 - 87' Lt to 67+77 - 62' Lt	25	LF
		15IN RCP: Sta 67+76 - 87' Lt to 68+62 - 104' Lt	88	LF
		18IN RCP: Sta 34+10 - 17' Rt to 34+09 - 18' Lt	35	LF
		18IN RCP: Sta 33+41 - 28' Lt to 34+07 - 29' Lt	78	LF
		18IN RCP: Sta 34+07 - 29' Lt to 34+09 - 18' Lt	11	LF
202	0210	REMOVAL OF MANHOLES		
		Sta 67+76 - 87' Lt	1	EA
		Sta 34+07 - 29' Lt	1	EA
202	0230	REMOVAL OF INLETS		
		Sta 62+76 - 31' Lt	1	EA
		Sta 62+78 - 43' Rt	1	EA
		Sta 63+76 - 32' Lt	1	EA
		Sta 63+70 - 32' Rt	1	EA
		Sta 66+55 - 91' Lt	1	EA
		Sta 67+77 - 62' Lt	1	EA
		Sta 34+10 - 17' Rt	1	EA
		Sta 34+09 - 18' Lt	1	EA

LEGEND

- REMOVE — REMOVAL OF PIPE ALL TYPES & SIZES
- REMOVE & RELAY PIPE-ALL TYPES & SIZES
- REMOVAL OF INLETS
- REMOVAL OF MANHOLES
- REMOVE & RESET INLETS

Storm Sewer Removals

Phase 4A

S 43rd St & S 42nd St

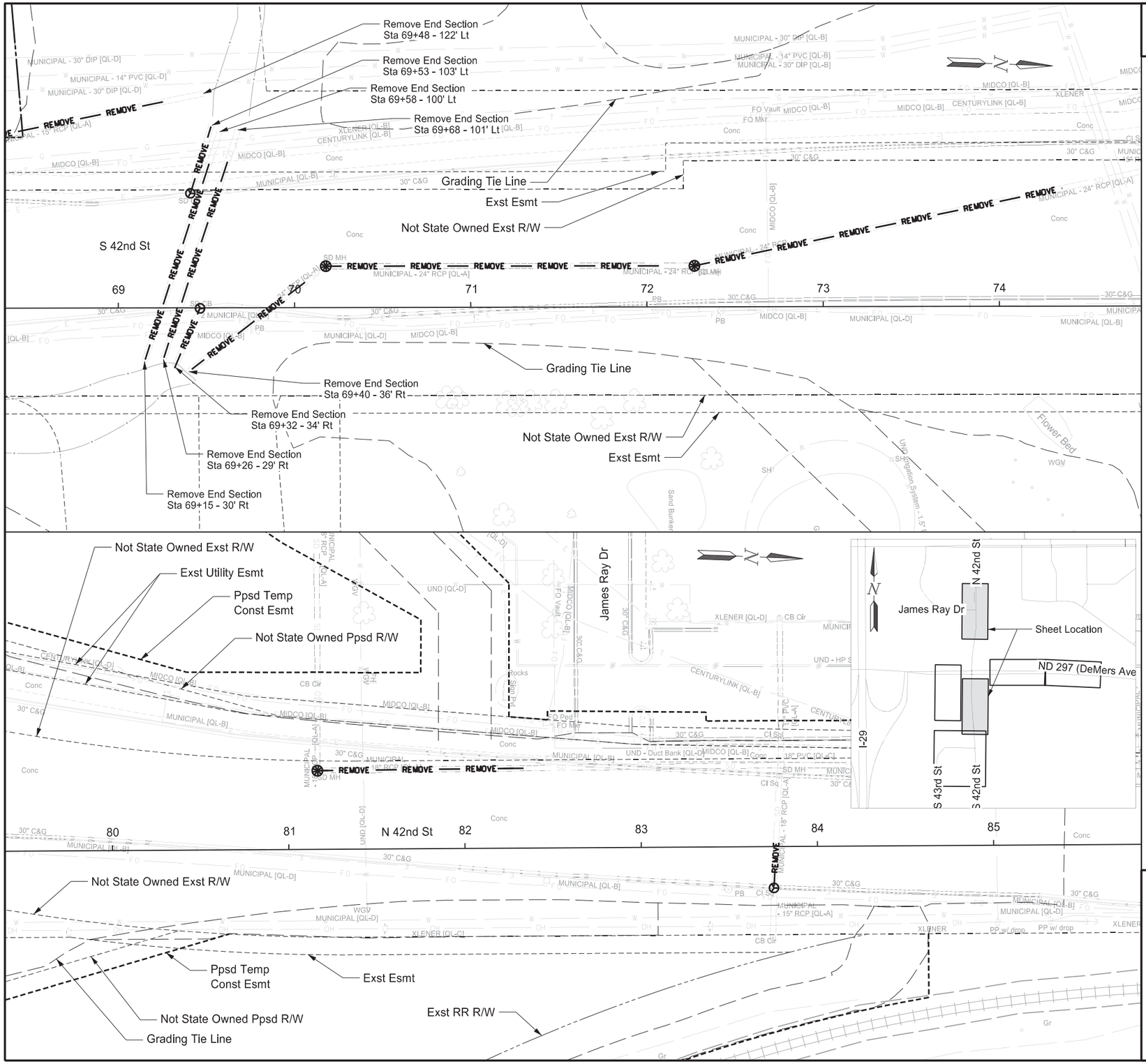
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4276
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NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	40	28

SPEC	CODE	BID ITEM	QTY	UNIT
202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES		
		Sta 69+15 - 30' Rt	1	EA
		Sta 69+26 - 29' Rt	1	EA
		Sta 69+32 - 34' Rt	1	EA
		Sta 69+40 - 36' Rt	1	EA
		Sta 69+48 - 122' Lt	1	EA
		Sta 69+53 - 103' Lt	1	EA
		Sta 69+58 - 100' Lt	1	EA
		Sta 69+68 - 101' Lt	1	EA
202	0174	REMOVAL OF PIPE ALL TYPES & SIZES		
		15IN RCP: Sta 68+62 - 104' Lt to 69+48 - 122' Lt	88	LF
		15IN RCP: Sta 69+41 - 65' Lt to 69+53 - 103' Lt	40	LF
		48IN RCP: Sta 69+15 - 30' Rt to 69+57 - 100' Lt	136	LF
		48IN RCP: Sta 69+26 - 29' Rt to 69+64 - 101' Lt	136	LF
		15IN RCP: Sta 69+32 - 34' Rt to 69+47 - 0' Lt	38	LF
		24IN RCP: Sta 69+42 - 35' Rt to 70+18 - 24' Lt	96	LF
		24IN RCP: Sta 70+18 - 24' Lt to 72+27 - 23' Lt	209	LF
		24IN RCP: Sta 72+27 - 23' Lt to 74+36 - 67' Lt	213	LF
		18IN RCP: Sta 81+17 - 45' Lt to 82+42 - 45' Lt	125	LF
		18IN RCP: Sta 83+75 - 23' Rt to 83+77 - 3' Lt	25	LF
202	0210	REMOVAL OF MANHOLES		
		Sta 70+18 - 24' Lt	1	EA
		Sta 72+27 - 23' Lt	1	EA
		Sta 81+17 - 45' Lt	1	EA
202	0230	REMOVAL OF INLETS		
		Sta 69+41 - 65' Lt	1	EA
		Sta 69+46 - 0' Rt	1	EA
		Sta 83+75 - 23' Rt	1	EA

LEGEND

- REMOVE — REMOVAL OF PIPE ALL TYPES & SIZES
- REMOVE & RELAY PIPE-ALL TYPES & SIZES
- REMOVAL OF INLETS
- REMOVAL OF MANHOLES
- REMOVE & RESET INLETS

Storm Sewer Removals

Phase 4A

S 42nd St / N 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.05 14:03:46 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	40	29

SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	REMOVAL OF PIPE ALL TYPES & SIZES		
		18IN RCP: Sta 29+62 - 29' Rt to Sta: 29+62 - 3' Rt	26	LF
		24IN Temp Storm Drain: Sta 30+62 - 2' RT' Rt to 30+82 - 2' Rt	20	LF
		24IN Temp Storm Drain: Sta 14+72 - 24' Rt to 15+70 - 444' Rt	453	LF
202	0230	REMOVAL OF INLETS		
		Sta 29+62 - 29' Rt	1	EA
		Sta 29+62 - 3' Rt	1	EA

Note: Temporary Storm Connection was installed during Phase 1A



LEGEND

- REMOVE — REMOVAL OF PIPE ALL TYPES & SIZES
- REMOVE & RELAY PIPE-ALL TYPES & SIZES
- REMOVAL OF INLETS
- REMOVAL OF MANHOLES
- REMOVE & RESET INLETS

Storm Sewer Removals

Phase 4A

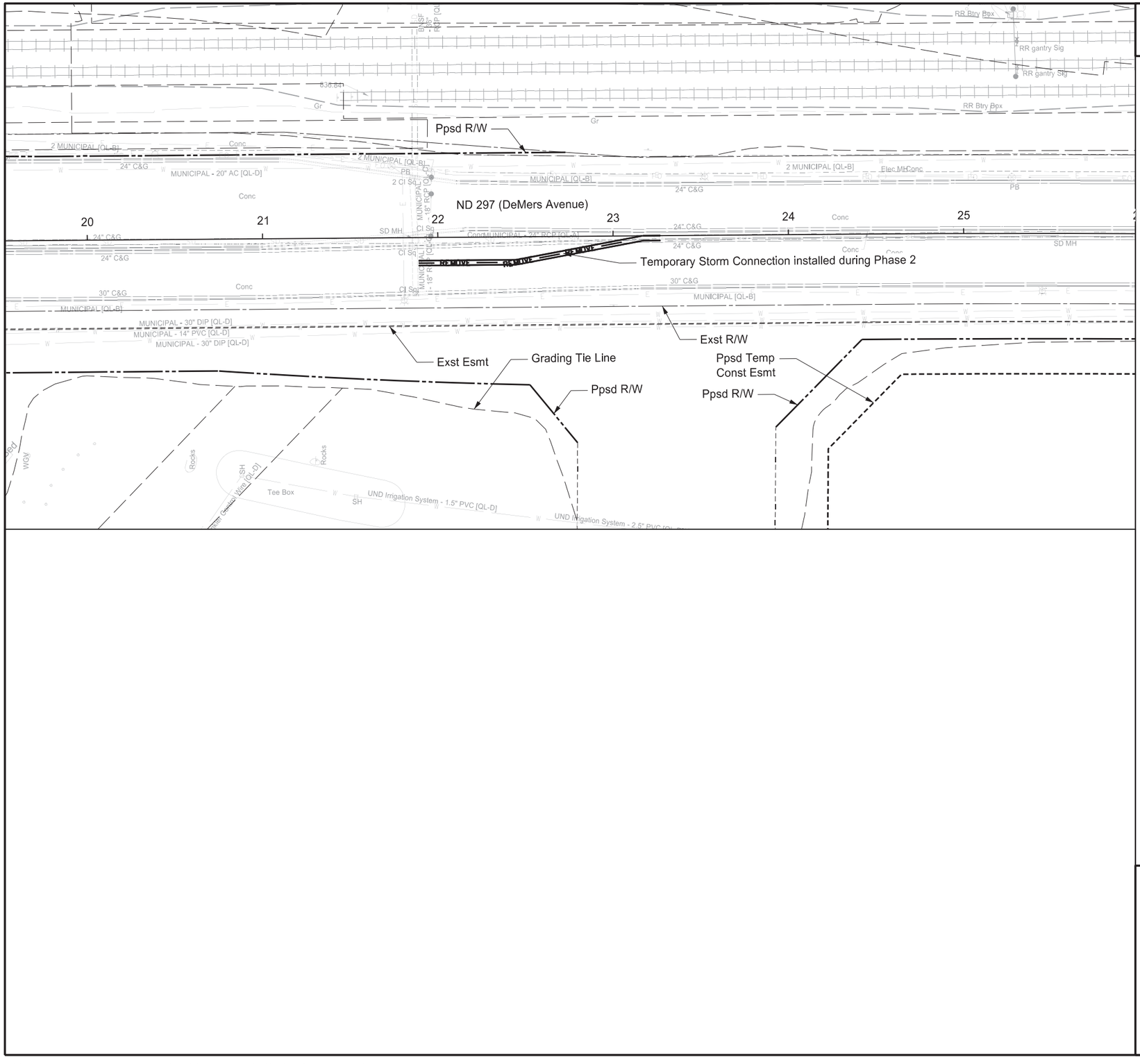
ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9076
DATE: 2025.12.05 14:04:04 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	40	30

SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	REMOVAL OF PIPE ALL TYPES & SIZES		
		24IN Temp Storm Drain: Sta 21+89 15' Rt to 23+27 - 2' Rt	140	LF

Note: Temporary Storm Connection was installed during Phase 2



LEGEND

— REMOVE —	REMOVAL OF PIPE ALL TYPES & SIZES
∿∿∿∿∿	REMOVE & RELAY PIPE-ALL TYPES & SIZES
✇	REMOVAL OF INLETS
✱	REMOVAL OF MANHOLES
○	REMOVE & RESET INLETS

Storm Sewer Removals

Phase 4A

ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8276
DATE: 2025.12.05 14:04:23 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	40	31

SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	REMOVAL OF PIPE ALL TYPES & SIZES		
		18IN RCP: Sta 82+42 - 45' Lt to 83+80 - 46' Lt	138	LF
		18IN RCP: Sta 83+77 - 3' Lt to 83+79 - 40' Lt	37	LF
		18IN RCP: Sta 83+79 - 40' Lt to 83+80 - 46' Lt	6	LF
		24IN RCP: Sta 23+27 - 2' Rt to 25+56 - 0' Rt	228	LF
		24IN RCP: Sta 25+56 - 0' Rt to 26+35 - 1' Rt	79	LF
202	0210	REMOVAL OF MANHOLES		
		Sta 25+56 - 0' Rt	1	EA
202	0230	REMOVAL OF INLETS		
		Sta 83+79 - 40' Lt	1	EA



LEGEND

- REMOVE — REMOVAL OF PIPE ALL TYPES & SIZES
- REMOVE & RELAY PIPE-ALL TYPES & SIZES
- REMOVAL OF INLETS
- REMOVAL OF MANHOLES
- REMOVE & RESET INLETS

Storm Sewer Removals

Phase 4B

N 42nd St & ND 297 (DeMers Ave)

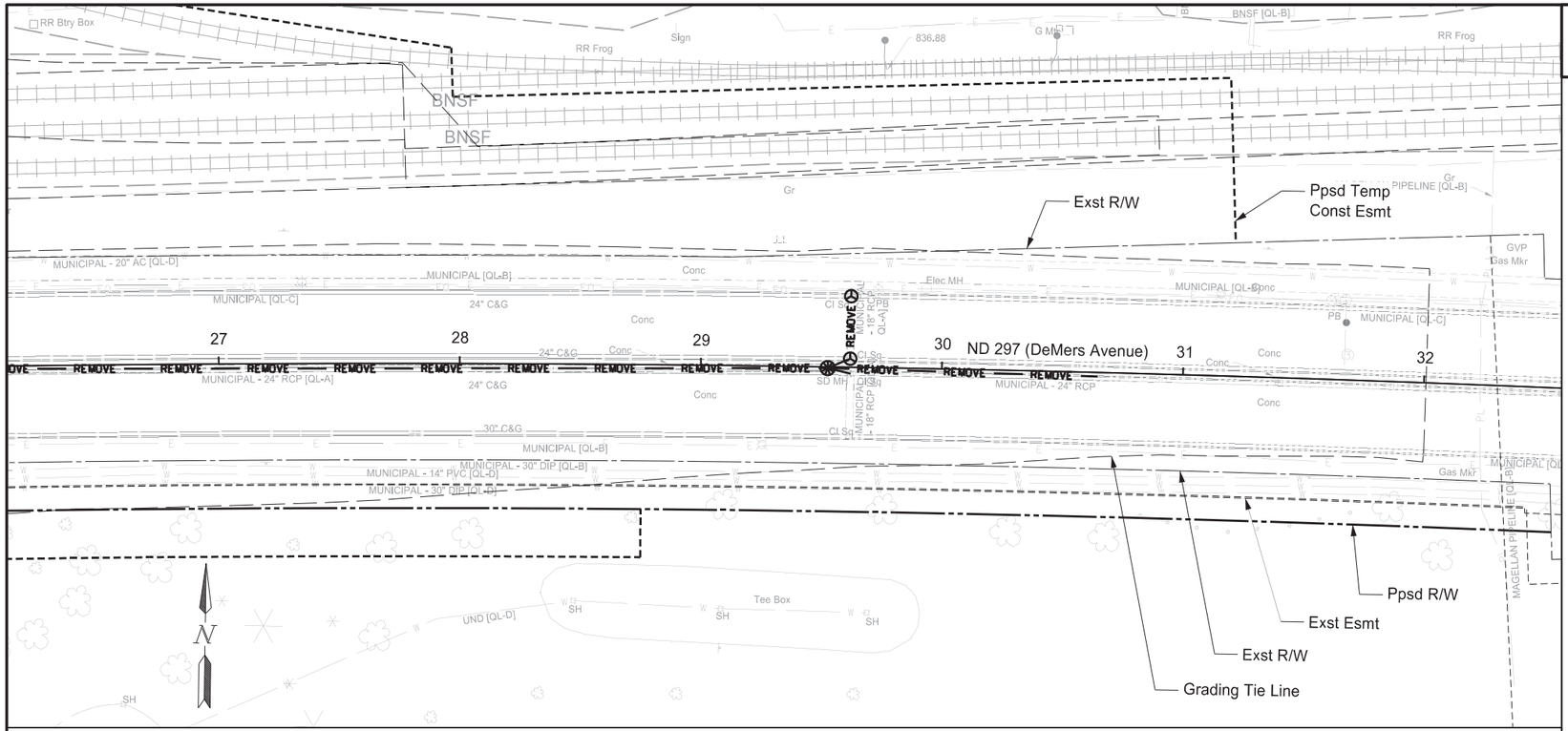
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
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NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	40	32

SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	REMOVAL OF PIPE ALL TYPES & SIZES		
		24IN RCP: Sta 26+35 - 0' Rt to 29+53 - 1' Rt	318	LF
		24IN RCP: Sta 29+53 - 1' Rt to 30+65 - 2' Rt	112	LF
		24IN RCP: Sta 29+53 - 1' Rt to 29+62 - 4' Lt	10	LF
		24IN RCP: Sta 29+62 - 4' Lt to 29+62 - 29' Lt	26	LF
		24IN RCP: Sta 29+53 - 1' Rt to 29+62 - 3' Lt	10	LF
202	0210	REMOVAL OF MANHOLES		
		Sta 29+53 - 1' Rt	1	EA
202	0230	REMOVAL OF INLETS		
		Sta 29+62 - 4' Lt	1	EA
		Sta 29+62 - 29' Lt	1	EA



LEGEND

- REMOVE — REMOVAL OF PIPE ALL TYPES & SIZES
- REMOVE & RELAY PIPE-ALL TYPES & SIZES
- REMOVAL OF INLETS
- REMOVAL OF MANHOLES
- REMOVE & RESET INLETS

Storm Sewer Removals

Phase 4B

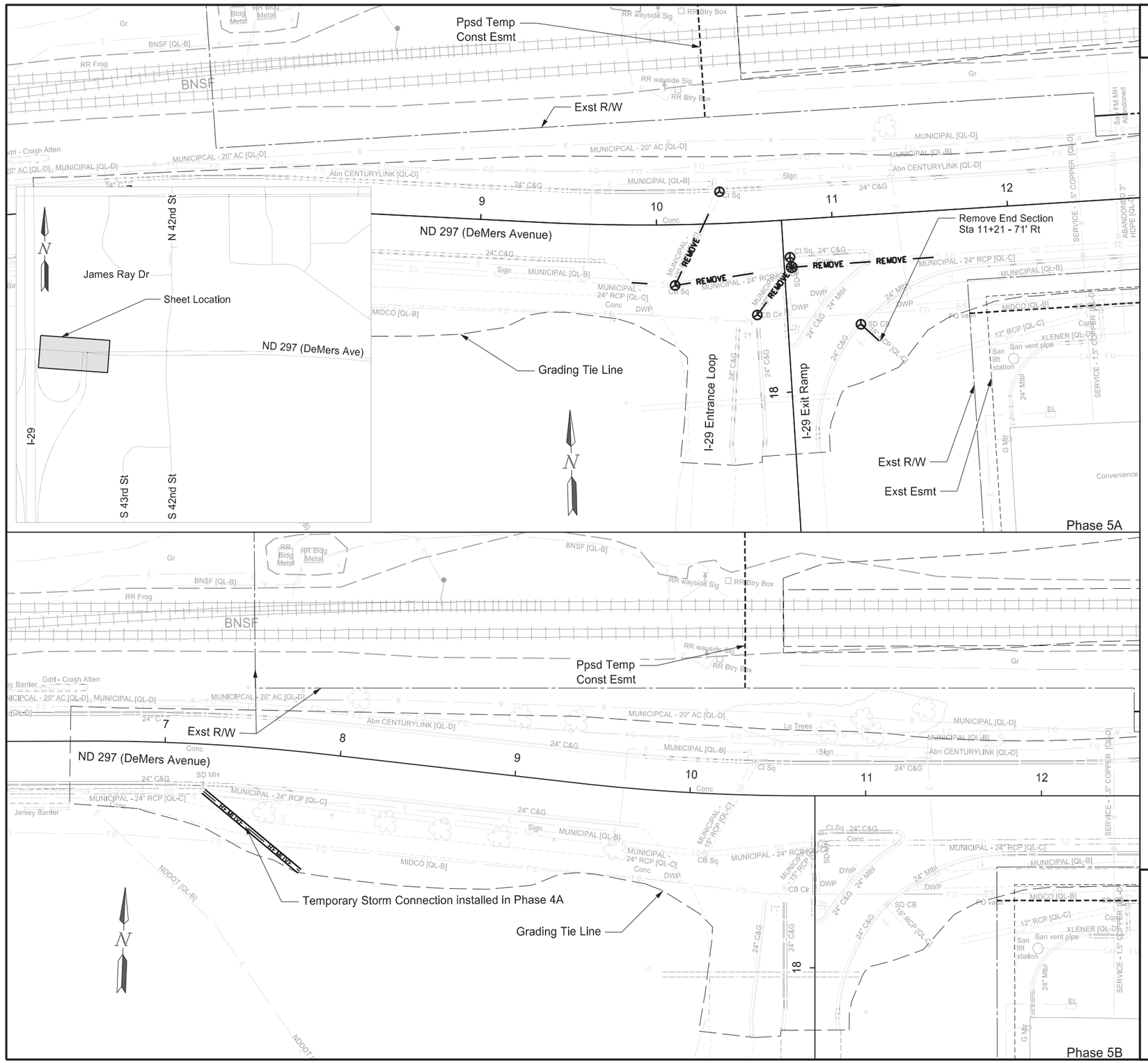
ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8276
DATE: 2025.12.05 14:05:08 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	40	33

SPEC	CODE	BID ITEM	QTY	UNIT
202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES		
		Phase 5A Sta 11+21 - 71' Rt	1	EA
202	0174	REMOVAL OF PIPE ALL TYPES & SIZES		
		24IN RCP: Phase 5A Sta 9+87 - 33' Rt to 10+10 - 34' Rt	25	LF
		15IN RCP: Phase 5A Sta 10+10 - 34' Rt to 10+37 - 18' Lt	60	LF
		24IN RCP: Phase 5A Sta 10+10 - 34' Rt to 10+75 - 27' Rt	67	LF
		24IN RCP: Phase 5A Sta 10+75 - 27' Rt to 10+75 - 21' Rt	7	LF
		15IN RCP: Phase 5A Sta 10+75 - 27' Rt to 10+55 - 53' Rt	33	LF
		24IN RCP: Phase 5A Sta 10+75 - 27' Rt to 11+69 - 26' Rt	93	LF
		15IN RCP: Phase 5A Sta 11+13 - 62' Rt to 11+21 - 71' Rt	14	LF
		24IN Temp Storm Drain: Sta 7+23 - 27' Rt to 7+84 - 68' Rt	72	LF
202	0210	REMOVAL OF MANHOLES		
		Phase 5A Sta 10+75 - 27' Rt	1	EA
202	0230	REMOVAL OF INLETS		
		Phase 5A Sta 10+10 - 34' Rt	1	EA
		Phase 5A Sta 10+37 - 18' Lt	1	EA
		Phase 5A Sta 10+75 - 21' Rt	1	EA
		Phase 5A Sta 10+55 - 53' Rt	1	EA
		Phase 5A Sta 11+13 - 62' Rt	1	EA

Note: Temporary Storm Connection was installed during Phase 4A, remove after mainline proposed storm sewer has been installed in Phase 5B

LEGEND

- REMOVE — REMOVAL OF PIPE ALL TYPES & SIZES
- REMOVE & RELAY PIPE-ALL TYPES & SIZES
- REMOVAL OF INLETS
- REMOVAL OF MANHOLES
- REMOVE & RESET INLETS

Storm Sewer Removals

Phase 5A & 5B

ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

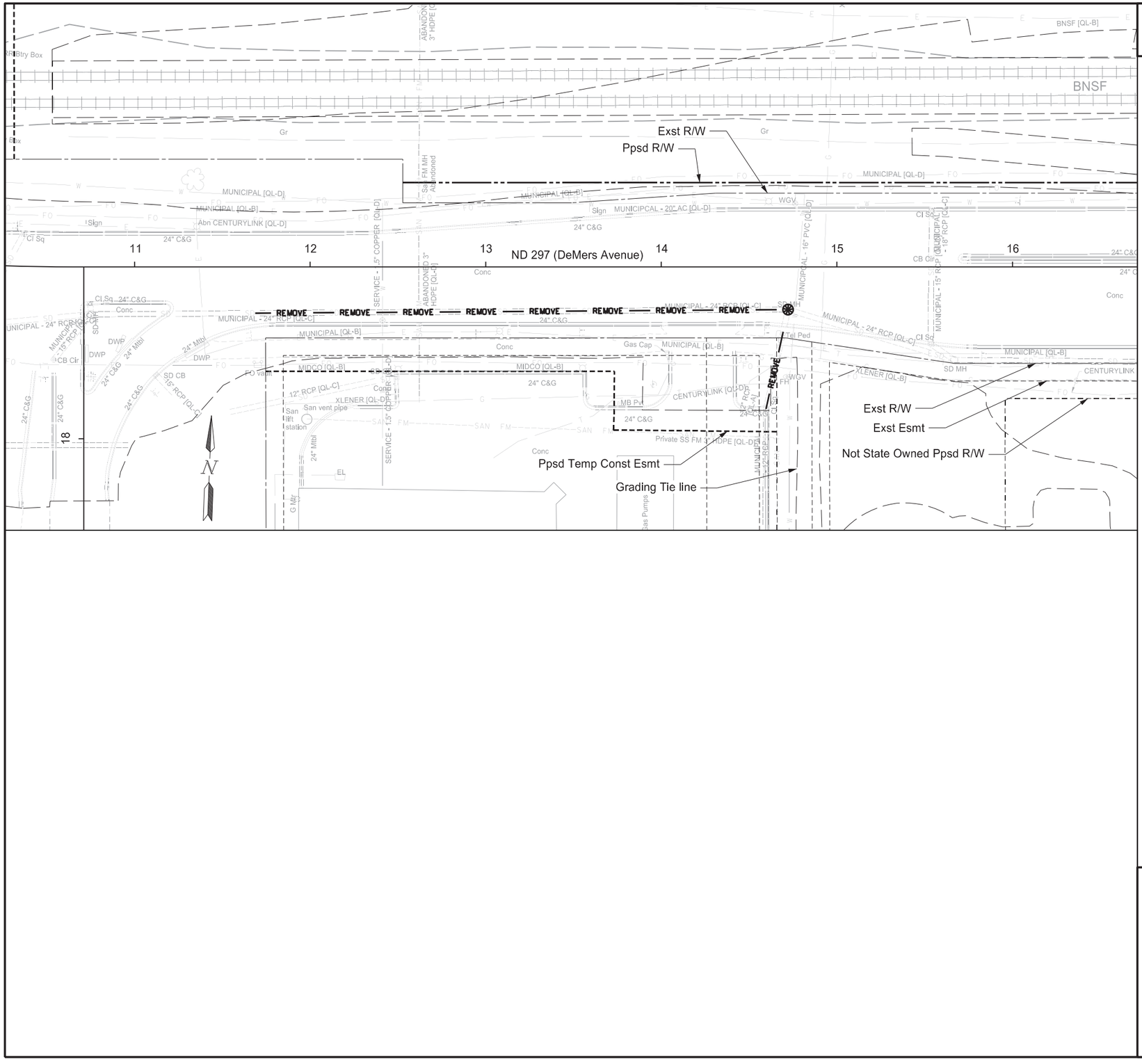
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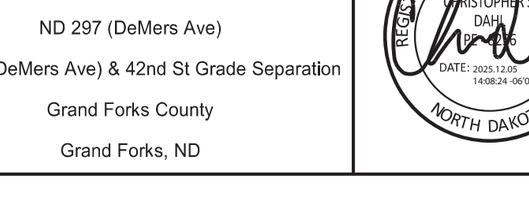
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CHRISTOPHER S. DAHL
PE-8256
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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	40	34

SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	REMOVAL OF PIPE ALL TYPES & SIZES		
		24IN RCP: Sta 11+69 - 26' Rt to 14+72 - 24' Rt	303	LF
		12IN RCP: Sta 14+72 - 24' Rt to 14+60 - 81' Rt	58	LF
202	0210	REMOVAL OF MANHOLES		
		Sta 14+72 - 24' Rt	1	EA





LEGEND

— REMOVE —	REMOVAL OF PIPE ALL TYPES & SIZES
∿∿∿∿∿	REMOVE & RELAY PIPE-ALL TYPES & SIZES
✇	REMOVAL OF INLETS
✱	REMOVAL OF MANHOLES
○	REMOVE & RESET INLETS

Storm Sewer Removals

Phase 5C

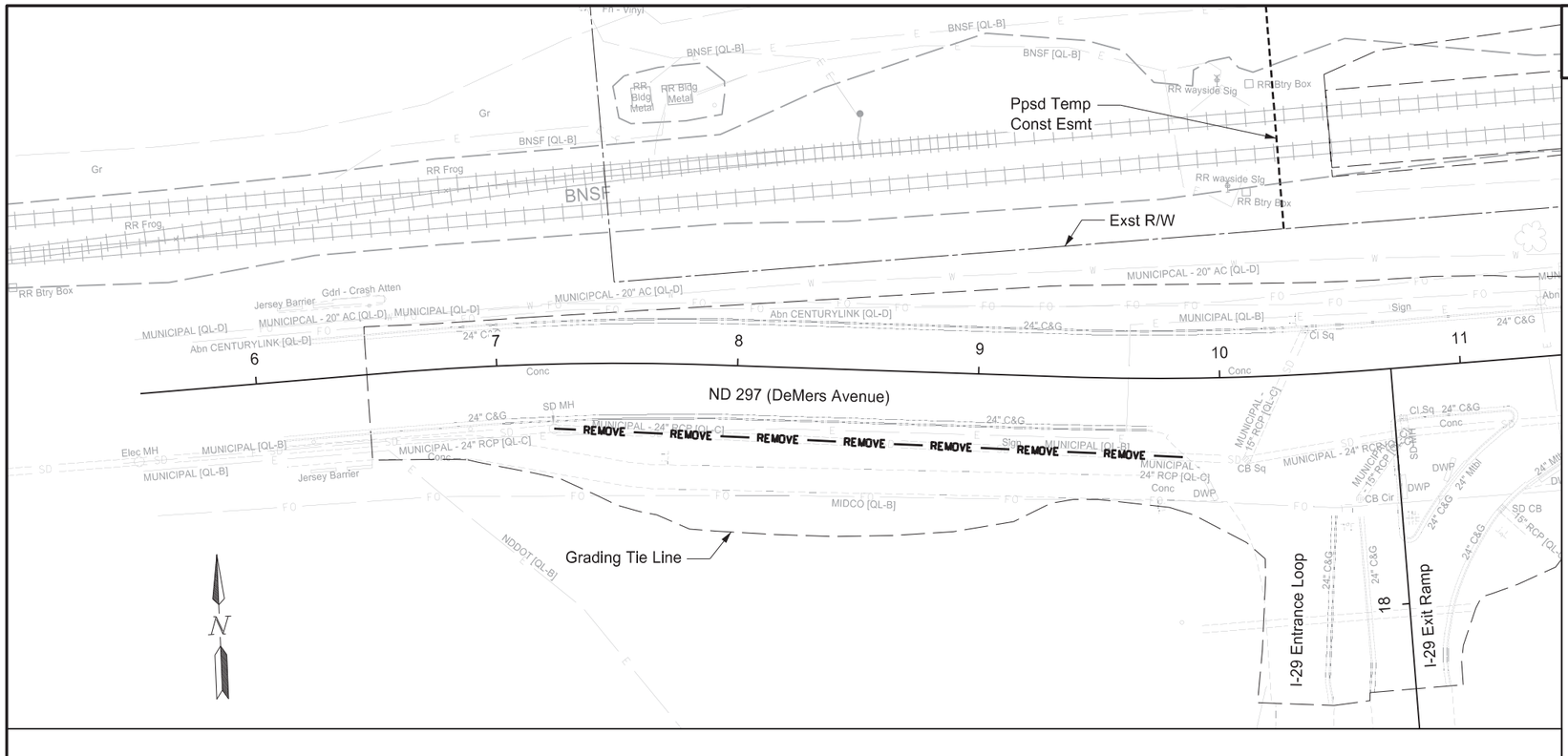
ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

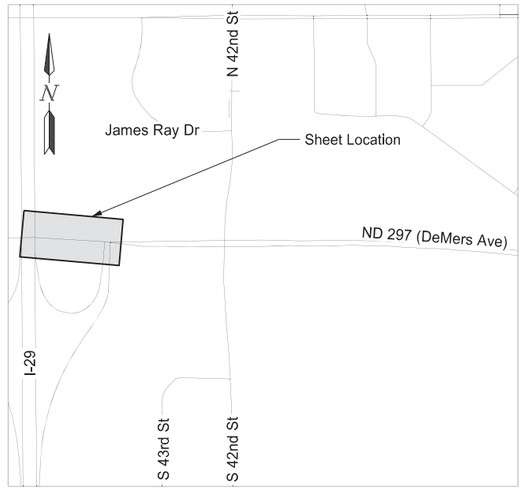
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9076
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NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	40	35

SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	REMOVAL OF PIPE ALL TYPES & SIZES		
		24IN RCP: Sta 7+24 - 27' Rt to 9+86 - 33' Rt	262	LF



LEGEND

— REMOVE —	REMOVAL OF PIPE ALL TYPES & SIZES
~~	REMOVE & RELAY PIPE-ALL TYPES & SIZES
✇	REMOVAL OF INLETS
✱	REMOVAL OF MANHOLES
○	REMOVE & RESET INLETS

Storm Sewer Removals

Phase 5D

ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

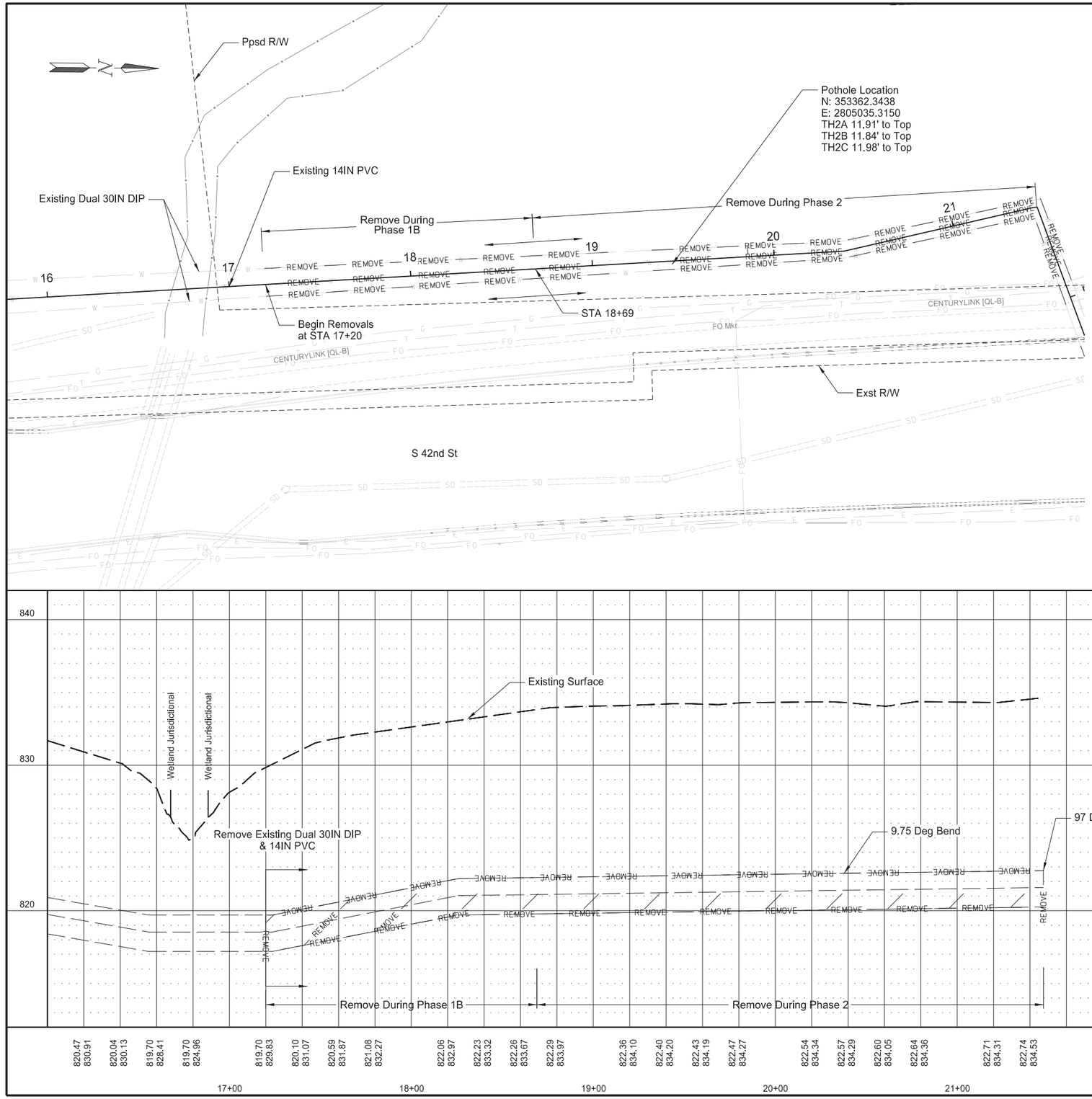
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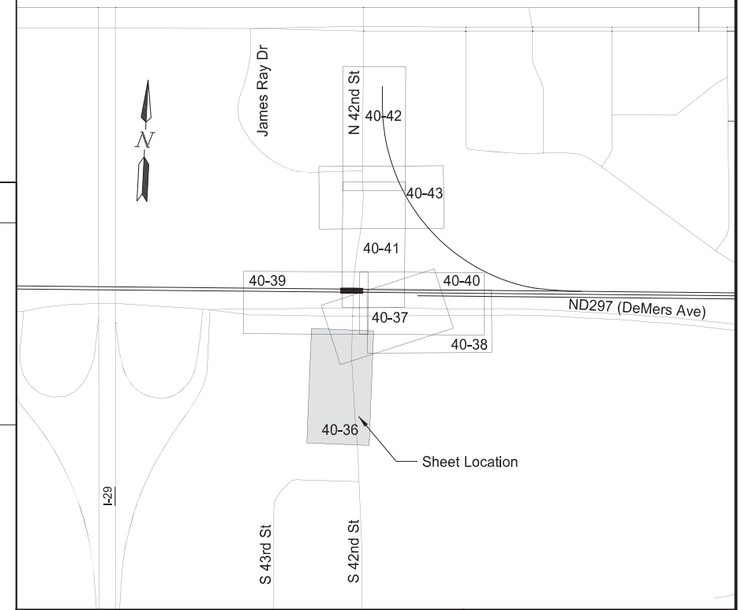
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REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4276
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NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	40	36

SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	REMOVAL OF PIPE ALL TYPES AND SIZES		
		Remove 30IN DIP - Sta 17+20 to 21+47	854	LF
		Remove 14IN PVC - Sta to 17+20 21+47	427	LF





Watermain Removals

Existing Dual 30" DIP & 14" PVC

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

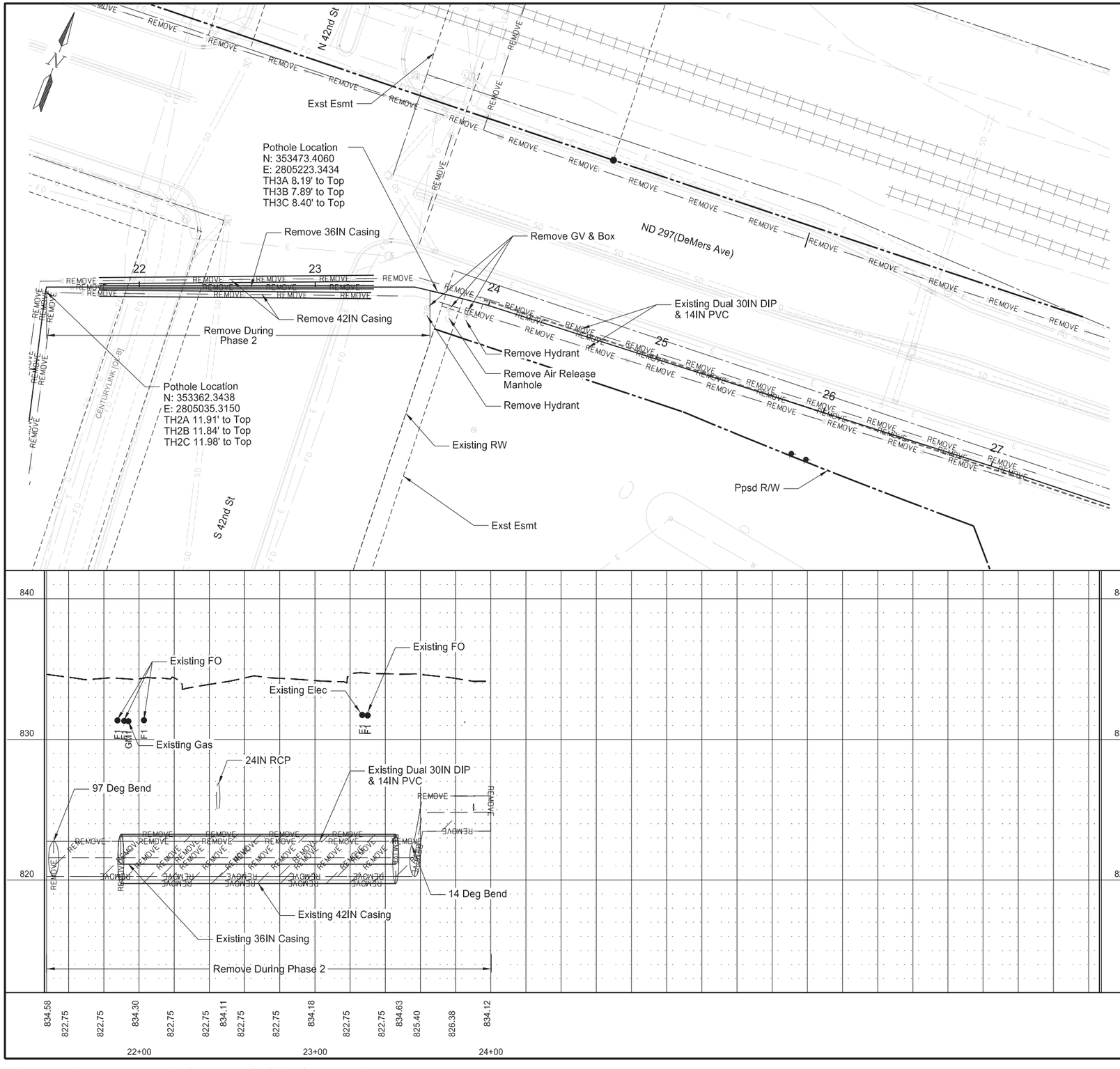
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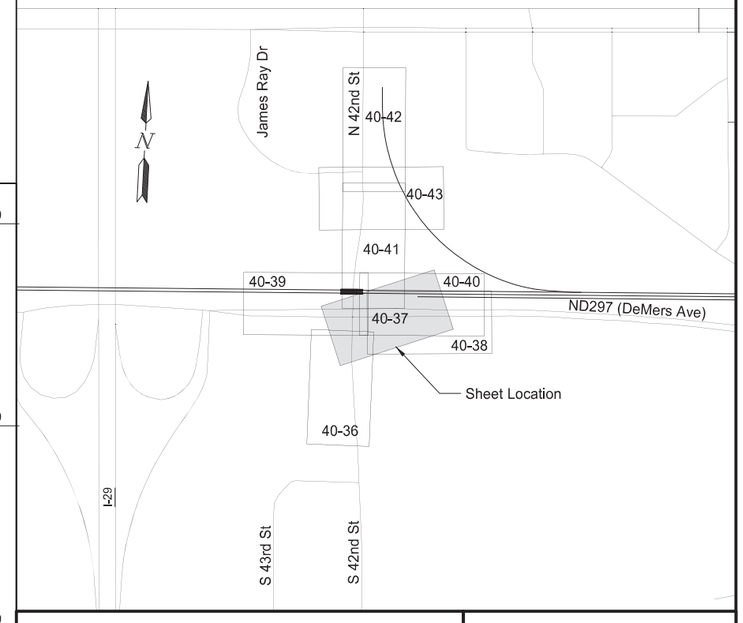
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CHRISTOPHER S. DAHL
PE-9256
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	ND	RCE-FTF-NHU-SU-6-297(014)000	40	37

SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	REMOVAL OF PIPE ALL TYPES AND SIZES		
		Remove 30IN DIP - Sta 21+47 to 24+00	506	LF
		Remove 14IN PVC - Sta 21+47 to 24+00	253	LF
		Remove 36IN STEEL - Sta 21+90 to Sta 23+50	160	LF
		Remove 42IN STEEL - Sta 21+90 to Sta 23+50	320	LF
724	0270	REMOVE GATE VALVE & BOX		
		Sta 23+66, 10' Rt	1	EA
		Sta 23+79, 7.7' Rt	1	EA
		Sta 23+90, 7.6 Rt	1	EA
724	0430	REMOVE HYDRANT		
		Sta 23+66, 13.7' Rt	1	EA
		Sta 23+90, 10.3' Rt	1	EA
202	210	REMOVAL OF MANHOLES		
		Sta 23+80, 12.7' Rt	1	EA





Watermain Removals

Existing Dual 30" DIP & 14" PVC

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

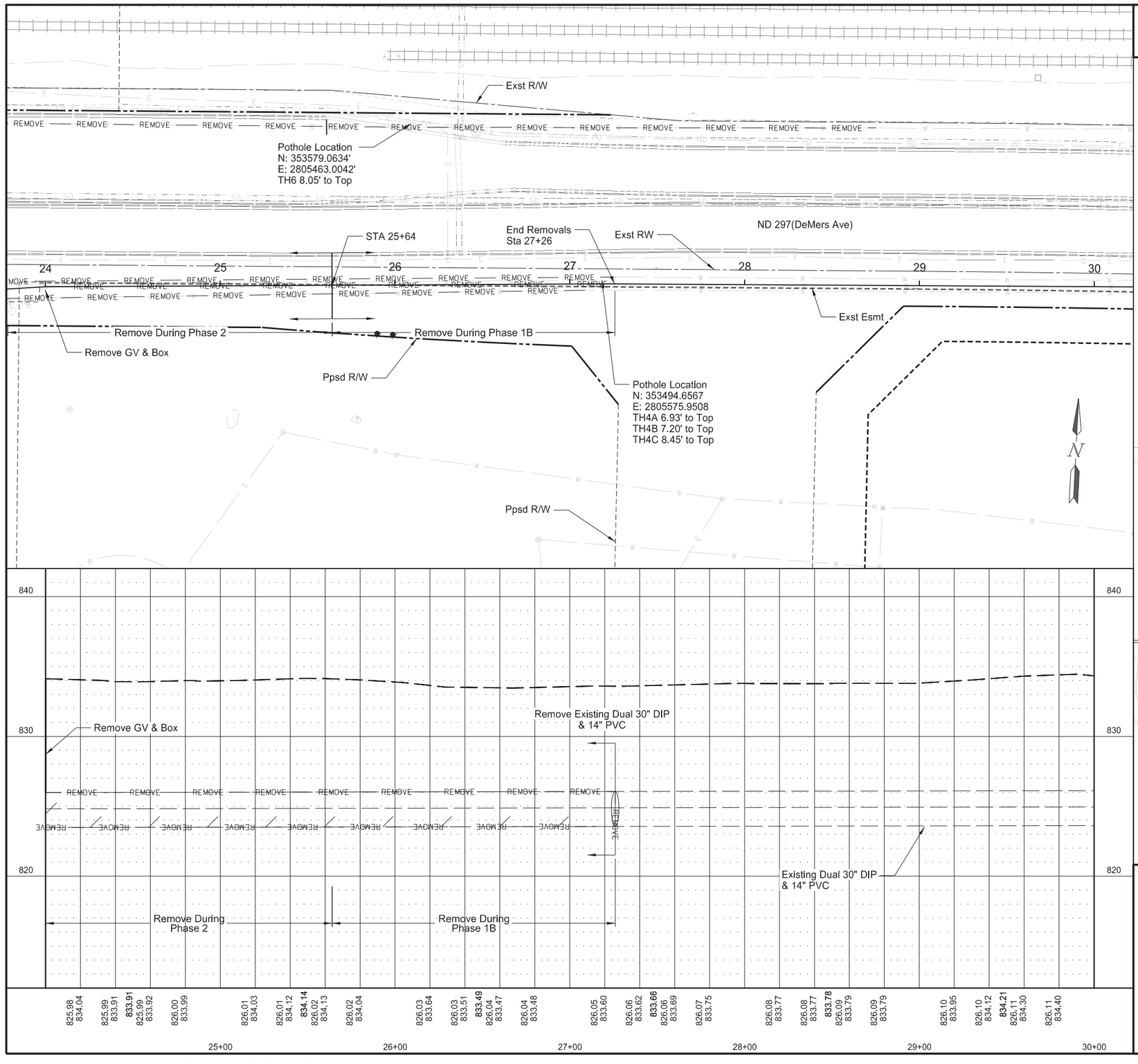
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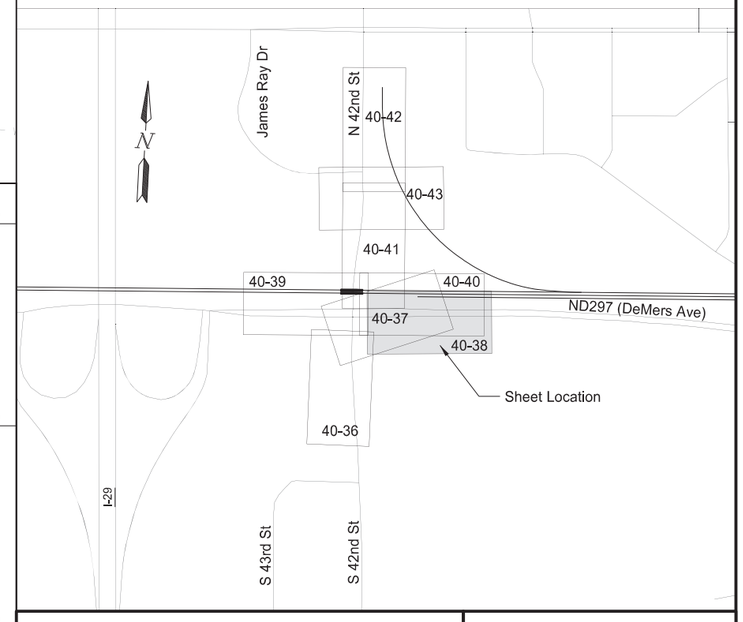
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	ND	RCE-FTF-NHU-SU-6-297(014)000	40	38

SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	REMOVAL OF PIPE ALL TYPES AND SIZES		
		Remove 30IN DIP - Sta 24+00 to 27+26	652	LF
		Remove 14IN PVC - Sta 24+00 to 27+26	326	LF
724	0270	REMOVE GATE VALVE & BOX		
		Sta 24+00	1	EA





Watermain Removals

Existing Dual 30" DIP & 14" PVC

ND 297 (DeMers Ave) & 42nd St Grade Separation

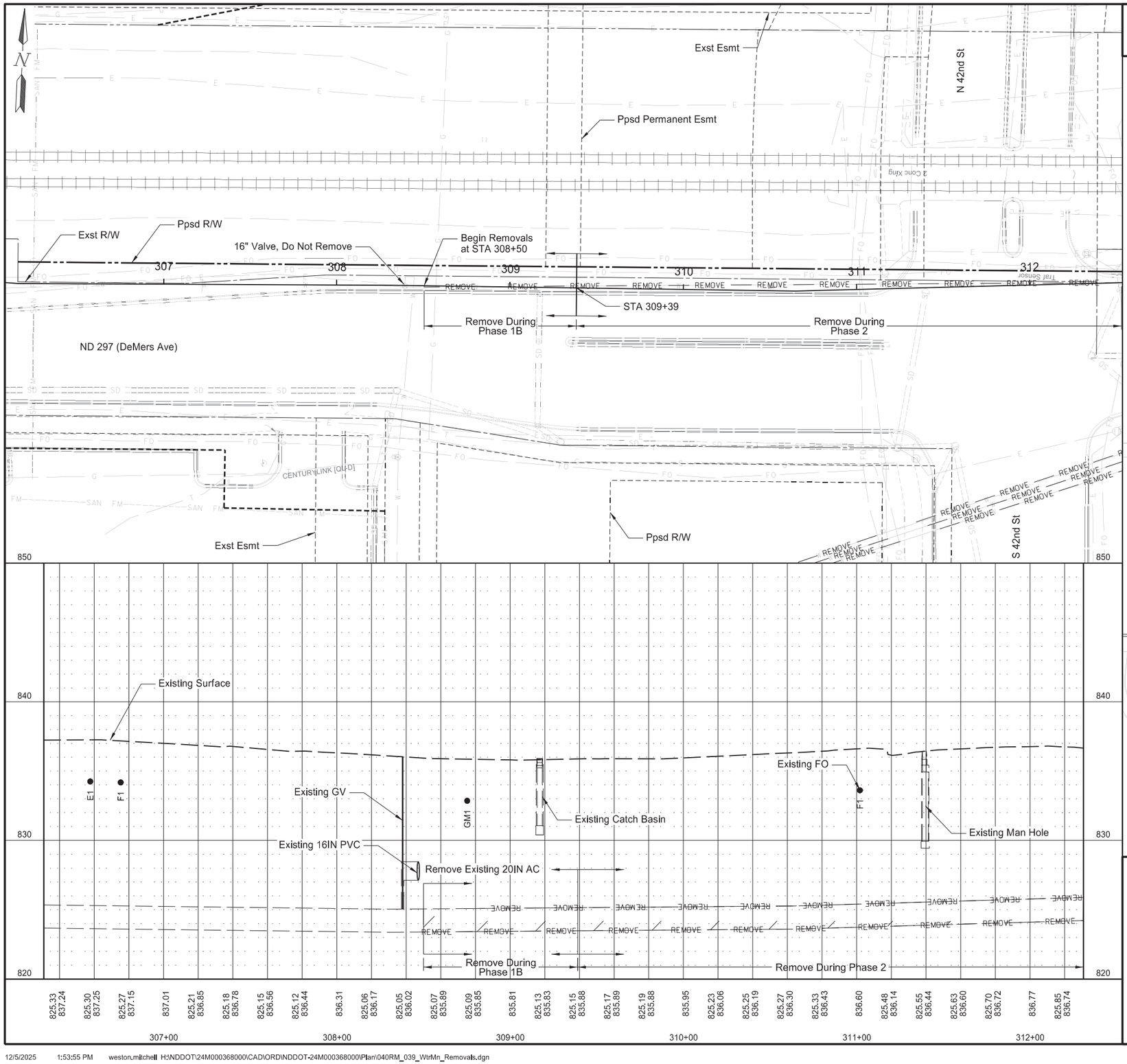
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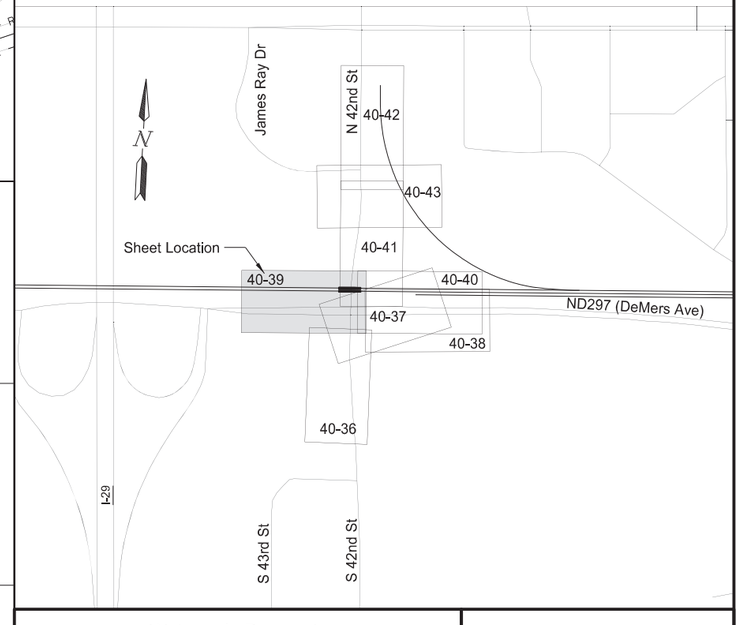
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8256
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NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	40	39

SPEC	CODE	BID ITEM	QTY	UNIT
202	0500	ACP WATERMAIN REMOVAL		
		Remove 20IN AC Pipe - Sta 308+50 to 312+30	380	LF





Watermain Removals

Existing 20" AC

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

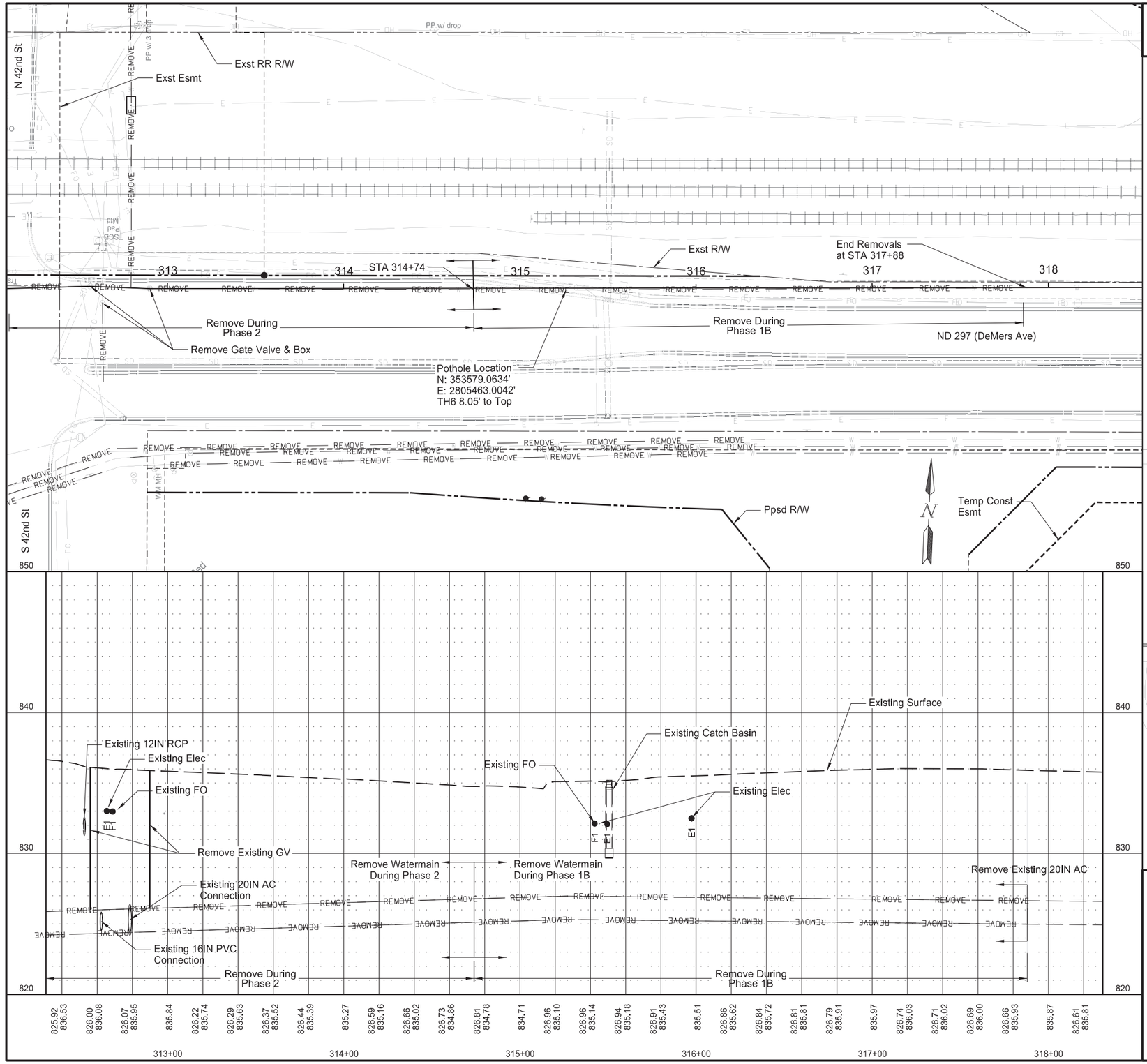
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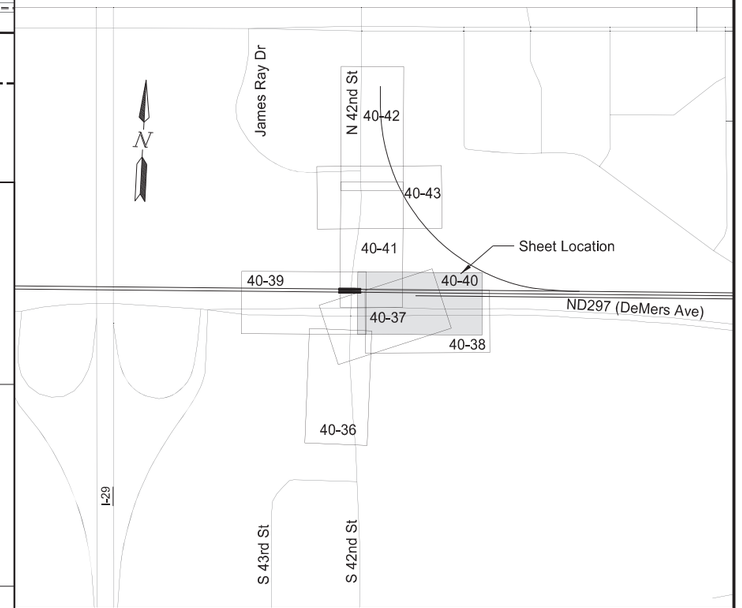
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PE-9075
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	40	40

SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	REMOVAL OF PIPE ALL TYPES AND SIZES		
		Remove 16IN PVC Pipe - Sta 312+63	53	LF
202	0500	ACP WATERMAIN REMOVAL		
		Remove 20IN AC Pipe - Sta 312+30 to 317+88	558	LF
724	0270	REMOVE GATE VALVE & BOX		
		Sta 312+56	1	EA
		Sta 312+63, 9.3' Rt	1	EA
		Sta 312+90	1	EA





Watermain Removals

Existing 20" AC

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

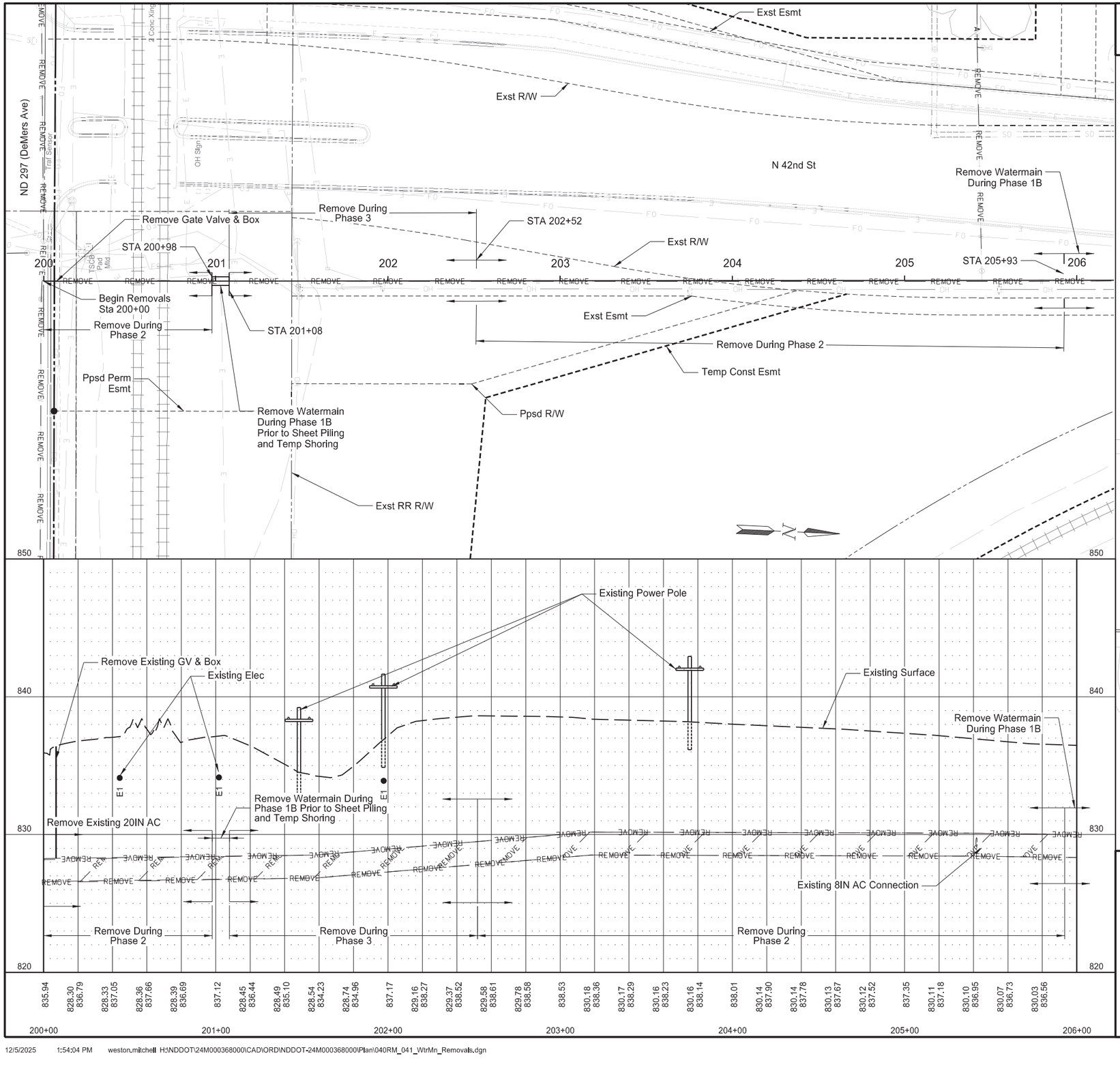
Grand Forks, ND

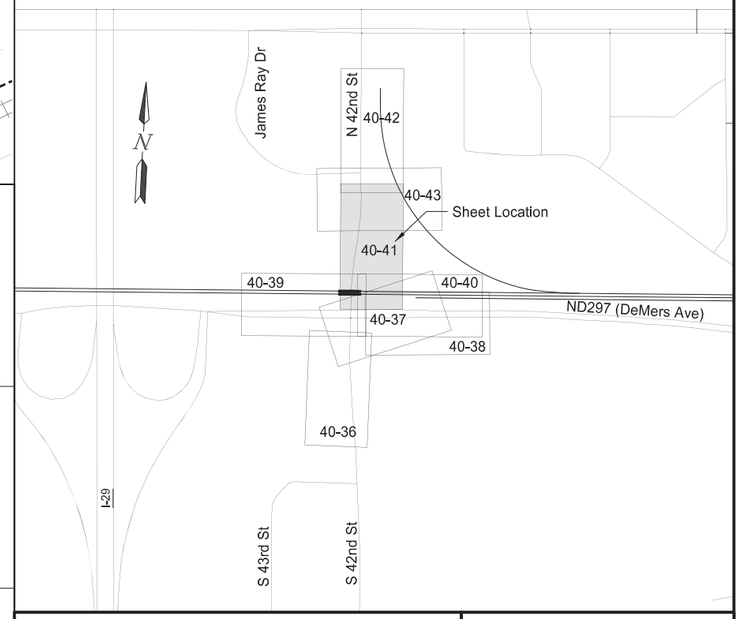
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DATE: 2025.12.05 14:24:15 -06'00'
NORTH DAKOTA

12/5/2025 1:54:00 PM weston.mitchell H:\NDDOT\24M000368000\CAD\ORD\NDDOT-24M000368000\Plan\040RM_040_WtrMn_Removals.dgn

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	40	41

SPEC	CODE	BID ITEM	QTY	UNIT
202	0500	ACP WATERMAIN REMOVAL		
		Remove 20IN AC Pipe - Sta 200+00 to 206+00	600	LF
724	0270	REMOVE GATE VALVE & BOX		
		Sta 200+07	1	EA





Watermain Removals

Existing 20" AC

ND 297 (DeMers Ave) & 42nd St Grade Separation

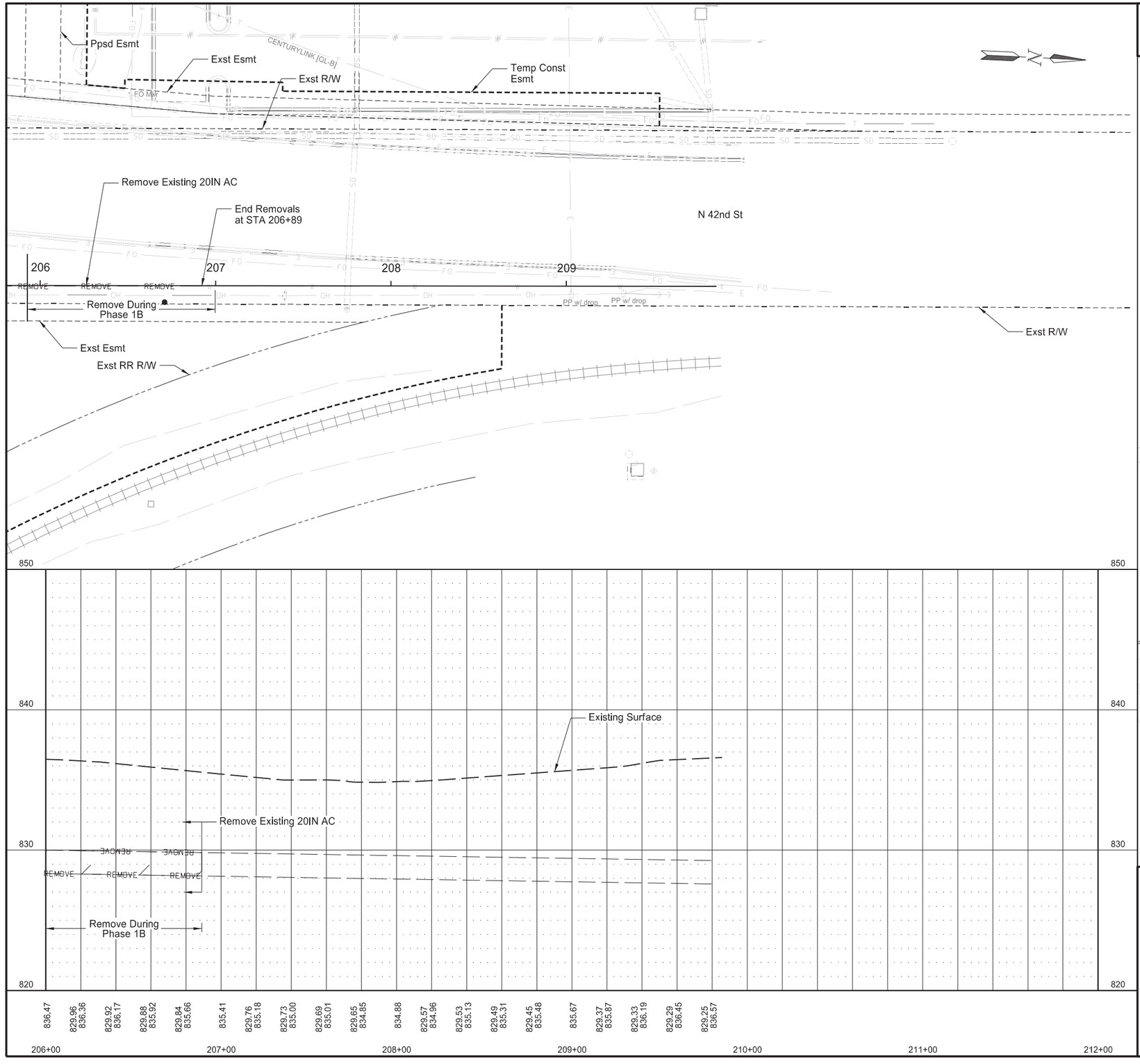
Grand Forks County

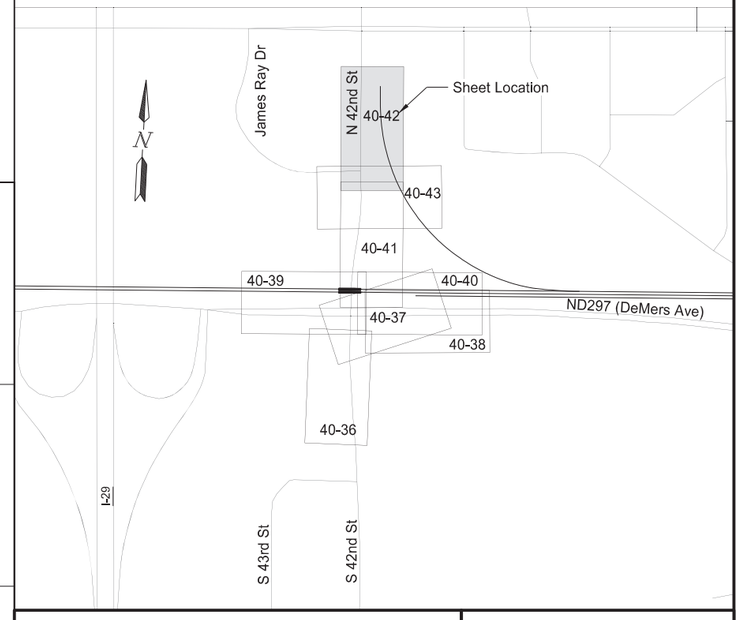
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9076
DATE: 2025.12.05 14:24:43 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	40	42

SPEC	CODE	BID ITEM	QTY	UNIT
202	0500	ACP WATERMAIN REMOVAL		
		Remove 20IN AC Pipe - Sta 206+00 to 206+89	89	LF





Watermain Removals

Existing 20" AC

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

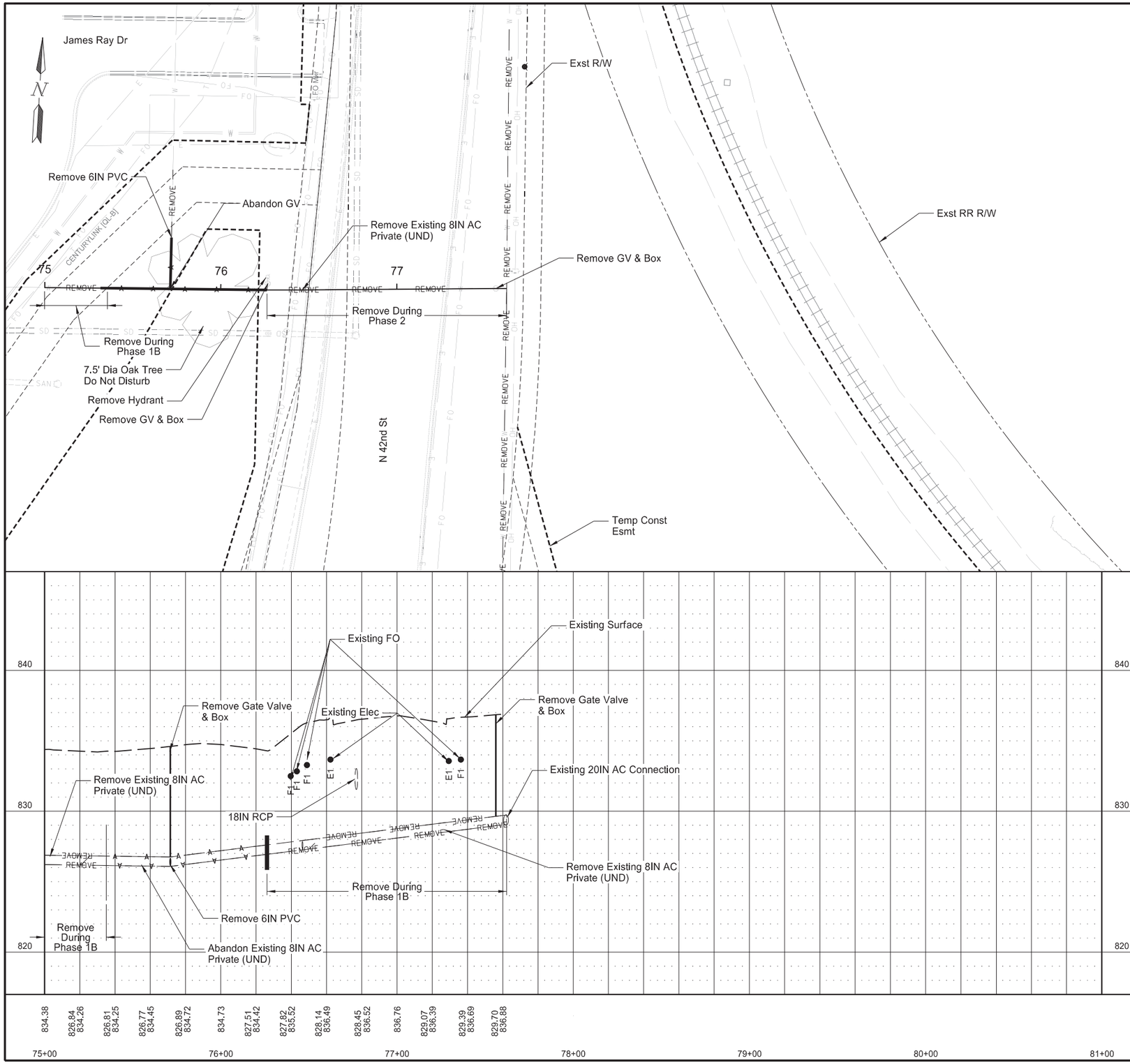
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9275
DATE: 2025.12.05 14:24:57 -06'00'
NORTH DAKOTA

12/5/2025 1:54:07 PM weston.mitchell H:\NDDOT\24M000368000\CAD\ORD\NDDOT-24M000368000\Plan\040RM_042_WtrMn_Removals.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	40	43

SPEC	CODE	BID ITEM	QTY	UNIT
202	0174	REMOVAL OF PIPE ALL TYPES AND SIZES		
		Remove 6IN PVC Pipe - Sta 75+71, 29' Lt to 69' Lt	40	LF
202	0500	ACP WATERMAIN REMOVAL		
		Remove 8IN AC Pipe - Sta 76+26 to 77+62	136	LF
		Remove 8IN AC Pipe - Sta 75+00 to 75+31	31	LF
724	0270	REMOVE GATE VALVE & BOX		
		Sta 76+27, 3.6' Lt	1	EA
		Sta 77+56	1	EA
724	0430	REMOVE HYDRANT		
		Sta 76+27, 7.2' Lt	1	EA
724	6031	ABANDON WATER MAIN/SERVICE LINE		
		Abandon 8IN AC Pipe - Sta 75+31 to 76+26	95	LF
		Abandon 6IN PVC Pipe - Sta 75+11, 0' to 29' Lt	29	LF





Watermain Removals

Existing 8" AC

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9256
DATE: 2025.12.05 14:25:08 -06'00'
NORTH DAKOTA

12/5/2025 1:54:10 PM weston.mitchell H:\NDDOT\24M000368000\CAD\ORD\NDDOT-24M000368000\Plan\040RM_043_WtrMn_Removals.dgn

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	50	1

MH-1

Manhole (Dia.) -	84	
OCL_297EB	200+92	6.2 LT
Casting Type -	Solid Cover (Floating)	
Top Elev =	837.59	
Base Elev =	827.22	
Invert Elev =	827.55	
Riser =	8.3	
36 In. Conduit E =	827.55	
36 In. Conduit S =	827.55	
15 In.Conduit N =	831.10	

CB-1A

Inlet - Type 2		
OCL_297WB	601+03	13.5 LT
Grate Type:	V	
Grate Elev =	836.71	
Base Elev =	830.96	
Invert Elev =	831.15	
H' Dist. =	5.0	
15 In. RCP CL III S =	831.15	

CB-1B

Inlet Special - Type 2 - 72IN		
OCL_297EB	200+94	14.6 RT
Grate Type:	V	
Grate Elev =	836.88	
Base Elev =	827.32	
Invert Elev =	827.65	
H' Dist. =	8.1	
36 In. Conduit N =	827.65	
30 In. Conduit SW =	827.65	

MH-2

Manhole (Dia.) -	60	
OCL_297EB	202+97	12.2 LT
Casting Type -	Solid Cover	
Top Elev =	836.50	
Base Elev =	826.97	
Invert Elev =	827.30	
Riser =	7.9	
36 In. Conduit E =	827.30	
36 In. Conduit W =	827.30	
18 In. Conduit N =	829.90	
18 In. Conduit SE =	830.07	

CB-2A

Inlet - Type 2 Double		
OCL_297WB	603+00	13.5 LT
Grate Type:	DR/DL	
Grate Elev =	835.64	
Base Elev =	829.87	
Invert Elev =	830.08	
H' Dist. =	5.0	
18 In. Conduit S =	830.08	

CB-2B

Inlet - Type 2		
OCL_297EB	203+09	13.5 RT
Grate Type:	D	
Grate Elev =	835.89	
Base Elev =	830.11	
Invert Elev =	830.32	
H' Dist. =	5.0	
18 In. Conduit N =	830.32	

MH-3

Manhole (Dia.) -	60	
OCL_297EB	204+59	5.1 LT
Casting Type -	Solid Cover (Floating)	
Top Elev =	837.28	
Base Elev =	826.73	
Invert Elev =	827.06	
Riser =	8.5	
36 In. Conduit E =	827.06	
36 In. Conduit W =	827.06	
15 In.Conduit N =	830.37	
18 In.Conduit SW =	829.89	

CB-3A

Inlet - Type 2		
OCL_297WB	604+46	13.5 LT
Grate Type:	V	
Grate Elev =	836.18	
Base Elev =	830.46	
Invert Elev =	830.65	
H' Dist. =	5.0	
15 In. Conduit S =	830.65	

CB-4A

Inlet - Type 2		
OCL_29SEL	400+59	18.6 RT
Grate Type:	D	
Grate Elev =	836.21	
Base Elev =	830.13	
Invert Elev =	830.32	
H' Dist. =	5.3	
15 In. Conduit E =	830.32	

CB-4B

Inlet - Type 2 Double		
OCL_29NBE	516+72	34.6 RT
Grate Type:	DR/DL	
Grate Elev =	835.97	
Base Elev =	830.18	
Invert Elev =	830.37	
H' Dist. =	5.0	
15 In. Conduit NW =	830.37	

CB-4C

Inlet Special - Type 2 - 60IN		
OCL_29NBE	516+85	16.5 LT
Grate Type:	D	
Grate Elev =	836.26	
Base Elev =	829.84	
Invert Elev =	830.05	
H' Dist. =	5.0	
18 In. Conduit NE =	830.05	
15 In. Conduit E =	830.05	
15 In. Conduit W =	830.05	

MH-5

Manhole (Dia.) -	60	
OCL_297EB	207+12	9.3 LT
Casting Type -	Solid Cover	
Top Elev =	836.82	
Base Elev =	826.36	
Invert Elev =	826.69	
Riser =	8.8	
15 In. Conduit N =	829.90	
15 In. Conduit S =	829.90	
36 In. Conduit W =	826.69	
36 In. Conduit E =	826.69	

CB-5A

Inlet - Type 2		
OCL_297WB	607+12	13.5 LT
Grate Type:	V	
Grate Elev =	835.82	
Base Elev =	830.03	
Invert Elev =	830.22	
H' Dist. =	5.0	
15 In. Conduit S =	830.22	

CB-5B

Inlet - Type 2		
OCL_297EB	207+11	25.5 RT
Grate Type:	V	
Grate Elev =	835.80	
Base Elev =	830.01	
Invert Elev =	830.20	
H' Dist. =	5.0	
15 In. Conduit N =	830.20	

MH-6

Manhole (Dia.) -	84	
OCL_297EB	209+00	12.8 LT
Casting Type -	Solid Cover	
Top Elev =	835.79	
Base Elev =	826.09	
Invert Elev =	826.42	
Riser =	8.0	
36 In. Conduit W =	826.42	
36 In.Conduit S =	826.42	
18 In.Conduit N =	828.76	
15 In.Conduit E =	828.25	

CB-6A

Inlet - Type 2 Double		
OCL_297WB	609+25	13.5 LT
Grate Type:	DR/DL	
Grate Elev =	834.89	
Base Elev =	828.86	
Invert Elev =	829.07	
H' Dist. =	5.3	
18 In. Conduit S =	829.07	

CB-6B

Inlet Special Mountable - Type B 72IN		
OCL_297EB	209+00	26.1 RT
Grate Type:	B	
Grate Elev =	834.90	
Base Elev =	826.04	
Invert Elev =	826.37	
H' Dist. =	7.3	
36 In. Conduit N =	826.37	
36 In. RCP CL III S =	826.37	
18 In. Conduit W =	829.00	
15 In. Conduit E =	829.00	

CB-6C

Inlet Special Mountable - Type B 48IN		
OCL_297EB	208+81	25.3 RT
Grate Type:	L	
Grate Elev =	834.96	
Base Elev =	829.01	
Invert Elev =	829.22	
H' Dist. =	4.7	
18 In. Conduit E =	829.22	
15 In. Conduit SW =	829.22	

CB-6D

Inlet Mountable Special - Type B 48IN		
OCL_297EB	209+20	25.2 RT
Grate Type:	L	
Grate Elev =	834.91	
Base Elev =	828.97	
Invert Elev =	829.16	
H' Dist. =	4.7	
15 In. Conduit W =	829.16	

MH-7

Manhole (Dia.) -	60	
OCL_297EB	209+79	14.0 LT
Casting Type -	Solid Cover	
Top Elev =	836.07	
Base Elev =	828.79	
Invert Elev =	828.98	
Riser =	5.6	
15 In. Conduit N =	828.98	
15 In. Conduit S =	828.98	
15 In. Conduit W =	828.98	

Inlet & Manhole Summary

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN PERKINS
PE-29[illegible]
DATE: 2025.12.05 16:37:06-06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	50	2

CB-7A

Inlet - Type 2		
OCL_297WB	609+78	13.5 LT
Grate Type:	V	
Grate Elev =	834.87	
Base Elev =	829.11	
Invert Elev =	829.30	
H' Dist. =	5.0	
15 In. Conduit S =	829.30	

CB-7B

Inlet - Type 2		
OCL_297EB	209+79	25.5 RT
Grate Type:	V	
Grate Elev =	835.32	
Base Elev =	829.56	
Invert Elev =	829.75	
H' Dist. =	5.0	
15 In. RCP CL III N =	829.75	

MH-8

Manhole (Dia.) -	84	
OCL_43RD	715+74	36.2 RT
Casting Type -	Solid Cover (Floating)	
Top Elev =	834.30	
Base Elev =	825.76	
Invert Elev =	826.09	
Riser =	6.5	
15 In. RCP CL III W =	828.16	
36 In. RCP CL III N =	826.09	
36 In. RCP CL III E =	826.09	

CB-8A

Inlet - Type 2		
OCL_43RD	715+75	17.5 LT
Grate Type:	V	
Grate Elev =	834.07	
Base Elev =	828.28	
Invert Elev =	828.47	
H' Dist. =	5.0	
15 In. RCP CL III E =	828.47	

CB-9A

Inlet - Type 2 Double		
OCL_43RD	713+64	17.5 LT
Grate Type:	DR/DL	
Grate Elev =	829.68	
Base Elev =	823.87	
Invert Elev =	826.90	
H' Dist. =	5.1	
22x13 In. RCP CL III E =	826.90	

CB-10A

Inlet - Type 2		
OCL_43RD	713+64	17.5 RT
Grate Type:	D	
Grate Elev =	829.68	
Base Elev =	823.87	
Invert Elev =	826.80	
H' Dist. =	5.1	
22x13 In. RCP CL III E =	826.80	
22x13 In. RCP CL III W =	826.80	

MH-11

Manhole (Dia.) -	60	
OCL_42nd_SB	714+29	133.5 LT
Casting Type -	60" Grate - See Detail	
Top Elev =	832.74	
Base Elev =	825.61	
Invert Elev =	825.90	
Riser =	5.6	
18 In. RCP CL III N =	825.90	
30 In. RCP CL III S =	825.90	

MH-12

Manhole (Dia.) -	48	
OCL_297EB	213+88	13.6 LT
Casting Type -	Solid Cover	
Top Elev =	836.49	
Base Elev =	829.95	
Invert Elev =	830.25	
Riser =	5.0	
15 In. Conduit E =	830.25	
15 In.Conduit N =	831.00	
15 In.Conduit S =	830.25	

CB-12A

Inlet - Type 2		
OCL_297WB	613+88	15.5 LT
Grate Type:	V	
Grate Elev =	835.79	
Base Elev =	830.01	
Invert Elev =	831.10	
H' Dist. =	5.0	
15 In. Conduit S =	831.10	
8 In. PVC NW =	832.58	(Rail Bridge Drain)

CB-12B

Inlet - Type 2		
OCL_297EB	213+88	36.7 RT
Grate Type:	V	
Grate Elev =	835.54	
Base Elev =	829.76	
Invert Elev =	830.38	
H' Dist. =	5.0	
15 In. Conduit N =	830.38	

MH-13

Manhole (Dia.) -	60	
OCL_297EB	215+49	7.9 LT
Casting Type -	Solid Cover	
Top Elev =	834.91	
Base Elev =	828.20	
Invert Elev =	828.58	
Riser =	5.0	
24 In. Conduit E =	828.58	
15 In. Conduit W =	829.80	
24 In.Conduit N =	829.80	
15 In.Conduit S =	829.80	

CB-13A

Inlet - Special Type 2 - 60 IN		
OCL_297WB	615+49	15.4 LT
Grate Type:	DR/DL	
Grate Elev =	833.52	
Base Elev =	827.15	
Invert Elev =	829.87	
H' Dist. =	5.0	
24 In. Conduit S =	829.87	
36 In. RCP CL V N =	829.87	

CB-13B

Inlet - Type 2		
OCL_297EB	215+50	37.5 RT
Grate Type:	D	
Grate Elev =	833.74	
Base Elev =	827.95	
Invert Elev =	829.97	
H' Dist. =	5.0	
15 In. Conduit N =	829.97	

CB-13C

Inlet - Type 2		
OCL_297WB	614+78	15.5 LT
Grate Type:	V	
Grate Elev =	834.49	
Base Elev =	828.76	
Invert Elev =	830.21	
H' Dist. =	5.0	
15 In. Conduit S =	830.21	

MH-14

Manhole (Dia.) -	48	
OCL_297EB	217+92	4.6 LT
Casting Type -	Solid Cover (Floating)	
Top Elev =	836.01	
Base Elev =	827.97	
Invert Elev =	828.22	
Riser =	6.2	
24 In. Conduit E =	828.22	
24 In. Conduit W =	828.22	

MH-15

Manhole (Dia.) -	60	
OCL_297EB	220+04	4.4 LT
Casting Type -	Solid Cover (Floating)	
Top Elev =	835.26	
Base Elev =	827.65	
Invert Elev =	827.90	
Riser =	5.6	
24 In. Conduit E =	827.90	
24 In. Conduit W =	827.90	
15 In. Conduit N =	827.90	
15 In. Conduit S =	829.20	

CB-15A

Inlet - Type 2		
OCL_297WB	620+05	13.5 LT
Grate Type:	V	
Grate Elev =	833.72	
Base Elev =	827.93	
Invert Elev =	828.12	
H' Dist. =	5.0	
15 In. Conduit S =	828.12	

CB-15B

Inlet - Type 2		
OCL_297EB	220+05	25.5 RT
Grate Type:	V	
Grate Elev =	834.29	
Base Elev =	828.50	
Invert Elev =	829.28	
H' Dist. =	5.0	
15 In. Conduit N =	829.28	

MH-16

Manhole (Dia.) -	72	
OCL_297EB	222+62	4.1 LT
Casting Type -	Solid Cover (Floating)	
Top Elev =	834.03	
Base Elev =	825.75	
Invert Elev =	826.00	
Riser =	6.2	
24 In. Conduit W =	826.00	
24 In. Conduit E =	826.00	
15 In. Conduit N =	826.69	
15 In. Conduit S =	827.21	

CB-16A

Inlet - Type 2 Double		
OCL_297WB	622+50	13.5 LT
Grate Type:	DR/DL	
Grate Elev =	832.68	
Base Elev =	826.89	
Invert Elev =	827.08	
H' Dist. =	5.0	
15 In. Conduit S =	827.08	

Inlet & Manhole Summary

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN J. PERKINS
PE-29[illegible]
DATE: 2025.12.05 16:37:39-06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	50	3

CB-16B

Inlet - Type 2 Double		
OCL_297EB	222+75	25.5 RT
Grate Type:	DR/DL	
Grate Elev =	833.07	
Base Elev =	827.28	
Invert Elev =	827.47	
H' Dist. =	5.0	
15 In. Conduit N =	827.47	

CB-16C

Inlet - Type 2		
OCL_297WB	621+47	13.5 LT
Grate Type:	V	
Grate Elev =	833.02	
Base Elev =	827.23	
Invert Elev =	827.42	
H' Dist. =	5.0	
15 In. Conduit S =	827.42	

MH-17

Manhole (Dia.) -	60	
OCL_297EB	224+45	4.8 LT
Casting Type -	Solid Cover (Floating)	
Top Elev =	834.40	
Base Elev =	825.25	
Invert Elev =	825.50	
Riser =	7.1	
24 In. Conduit W =	825.50	
24 In. Conduit E =	825.50 (Existing)	

MH-18

Manhole (Dia.) -	48	
OCL_297EB	214+74	17.2 LT
Casting Type -	Solid Cover	
Top Elev =	835.19	
Base Elev =	828.73	
Invert Elev =	830.02	
Riser =	5.0	
15 In. Conduit W =	830.02	
15 In. Conduit E =	830.02	
15. In. Conduit N =	830.02	

CB-18A

Inlet - Type 2		
OCL_7th_WB	807+04	14.6 LT
Grate Type:	V	
Grate Elev =	832.30	
Base Elev =	825.74	
Invert Elev =	825.93	
H' Dist. =	5.8	
15 In. RCP CL III SW =	825.93	
15 In. RCP CL III E =	825.93	

CB-18B

Inlet - Type 2		
OCL_7th_EB	408+00	13.5 RT
Grate Type:	V	
Grate Elev =	832.25	
Base Elev =	826.46	
Invert Elev =	826.65	
H' Dist. =	5.0	
15 In. RCP CL III W =	826.65	

MH-19

Manhole (Dia.) -	60	
OCL_297EB	221+48	4.1 LT
Casting Type -	Solid Cover (Floating)	
Top Elev =	834.52	
Base Elev =	826.00	
Invert Elev =	826.25	
Riser =	6.5	
24 In. Conduit W =	826.25	
24 In. Conduit E =	826.25	
15 In. Conduit N =	826.94	

CB-19A

Inlet - Type 2 Double		
OCL_7th_WB	804+75	13.5 LT
Grate Type:	DR/DL	
Grate Elev =	830.01	
Base Elev =	824.22	
Invert Elev =	825.21	
H' Dist. =	5.0	
15 In. RCP CL III NW =	825.21	
15 In. RCP CL III E =	825.21	

CB-19B

Inlet - Type 2 Double		
OCL_7th_EB	406+00	13.5 RT
Grate Type:	DR/DL	
Grate Elev =	829.82	
Base Elev =	824.03	
Invert Elev =	825.46	
H' Dist. =	5.0	
15 In. RCP CL III W =	825.46	

CB-20A

Inlet - Type 2		
OCL_7th_WB	803+85	19.1 LT
Grate Type:	V	
Grate Elev =	830.80	
Base Elev =	825.00	
Invert Elev =	826.21	
H' Dist. =	5.0	
15 In. RCP CL III NW =	826.21	
15 In. RCP CL III SE =	826.21	

CB-20B

Inlet - Type 2		
OCL_7th_EB	404+47	13.5 RT
Grate Type:	V	
Grate Elev =	831.47	
Base Elev =	825.68	
Invert Elev =	826.47	
H' Dist. =	5.0	
15 In. RCP CL III NW =	826.47	

CB-22A

Inlet - Type 2		
OCL_7th_WB	802+14	25.5 LT
Grate Type:	V	
Grate Elev =	829.78	
Base Elev =	823.99	
Invert Elev =	826.00	
H' Dist. =	5.0	
15 In. RCP CL III S =	826.00	
15 In. RCP CL III N =	826.12	

CB-22B

Inlet - Type 2		
OCL_7th_EB	402+47	13.5 RT
Grate Type:	V	
Grate Elev =	830.40	
Base Elev =	824.60	
Invert Elev =	826.37	
H' Dist. =	5.0	
15 In. RCP CL III N =	826.37	

CB-23A

Inlet - Type 2 Double		
OCL_7th_WB	801+09	25.5 LT
Grate Type:	DR/DL	
Grate Elev =	828.77	
Base Elev =	822.98	
Invert Elev =	825.16	
H' Dist. =	5.0	
15 In. RCP CL III NE =	825.16	
15 In. RCP CL III S =	825.16	

CB-23B

Inlet - Type 2 Double		
OCL_7th_EB	401+34	15.0 RT
Grate Type:	DR/DL	
Grate Elev =	829.22	
Base Elev =	823.33	
Invert Elev =	825.41	
H' Dist. =	5.1	
15 In. RCP CL III N =	825.41	

CB-24A

Inlet - Type 2		
OCL_7th_EB	398+45	35.5 LT
Grate Type:	D	
Grate Elev =	830.31	
Base Elev =	824.53	
Invert Elev =	825.21	
H' Dist. =	5.0	
15 In. RCP CL III N =	825.21	
15 In. RCP CL III S =	825.21	

CB-24B

Inlet - Type 2 Double		
OCL_7th_EB	398+41	13.5 RT
Grate Type:	DR/DL	
Grate Elev =	829.82	
Base Elev =	824.03	
Invert Elev =	825.35	
H' Dist. =	5.0	
15 In. RCP CL III N =	825.35	

CB-25A

Inlet - Type 2		
OCL_7th_WB	798+22	13.5 LT
Grate Type:	D	
Grate Elev =	829.23	
Base Elev =	823.44	
Invert Elev =	825.11	
H' Dist. =	5.0	
15 In. RCP CL III NW =	825.11	
15 In. RCP CL III SE =	825.16	

CB-26A

Inlet - Type 2		
OCL_43RD	711+00	17.5 RT
Grate Type:	V	
Grate Elev =	831.44	
Base Elev =	825.65	
Invert Elev =	826.95	
H' Dist. =	5.0	
15 In. RCP CL III W =	826.95	

CB-27A

Inlet Special - Type 2 - 48IN		
OCL_43RD	711+01	17.6 LT
Grate Type:	V	
Grate Elev =	831.43	
Base Elev =	825.04	
Invert Elev =	826.84	
H' Dist. =	5.1	
15 In. RCP CL III E =	826.84	
18 In. RCP CL III SW =	826.84	

Inlet & Manhole Summary

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN J. PERKINS
PE-29[illegible]
DATE: 2025.12.05 16:38:08-06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	50	4

CB-28A

Inlet - Type 2		
OCL_43RD	709+27	17.5 RT
Grate Type:	V	
Grate Elev =	832.85	
Base Elev =	827.13	
Invert Elev =	827.62	
H' Dist. =	5.0	
15 In. RCP CL III NW =	827.62	

CB-29A

Inlet Special - Type 2 - 48IN		
OCL_43RD	709+28	17.6 LT
Grate Type:	V	
Grate Elev =	832.72	
Base Elev =	826.27	
Invert Elev =	826.48	
H' Dist. =	5.2	
15 In. RCP CL III SE =	827.29	
18 In. RCP CL III NE =	826.84	
18 In. RCP CL III SW =	826.48	

MH-30

Manhole (Dia.) -	60	
OCL_42nd_SB	706+17	15.5 RT
Casting Type -	Solid Cover (Floating)	
Top Elev =	831.93	
Base Elev =	824.85	
Invert Elev =	827.00	
Riser =	5.0	
24 In. RCP CL III N =	827.00	
18 In. RCP CL III E =	827.00	
18 In. RCP CL III W =	827.00	

CB-30A

Inlet - Type 2 Double		
OCL_42nd_SB	706+04	13.5 LT
Grate Type:	DR/DL	
Grate Elev =	831.48	
Base Elev =	825.61	
Invert Elev =	827.30	
H' Dist. =	5.1	
18 In. RCP CL III E =	827.30	
18 In. RCP CL III W =	827.30	

CB-30B

Inlet - Type 2 Double		
OCL_42nd_NB	306+27	13.5 RT
Grate Type:	DR/DL	
Grate Elev =	831.32	
Base Elev =	825.54	
Invert Elev =	827.10	
H' Dist. =	5.0	
18 In. RCP CL III W =	827.10	

CB-30C

Inlet Special - Type 2 - 48IN		
OCL_42nd_SB	706+83	20.1 LT
Grate Type:	V	
Grate Elev =	832.04	
Base Elev =	825.75	
Invert Elev =	826.80	
H' Dist. =	5.0	
24 In. RCP CL III N =	826.80	
24 In. RCP CL III S =	826.80	

MH-31

Manhole (Dia.) -	48	
OCL_42nd_SB	709+02	24.1 RT
Casting Type -	Solid Cover (Floating)	
Top Elev =	833.28	
Base Elev =	825.91	
Invert Elev =	826.16	
Riser =	5.5	
15 In. RCP CL III W =	826.16	
24 In. RCP CL III N =	826.16	
24 In. RCP CL III S =	826.16	

CB-31A

Inlet - Type 2		
OCL_42nd_SB	709+02	13.5 LT
Grate Type:	V	
Grate Elev =	832.05	
Base Elev =	826.28	
Invert Elev =	826.47	
H' Dist. =	5.0	
15 In. RCP CL III E =	826.47	

CB-31B

Inlet Special - Type 2 - 84IN (Casting Only)		
OCL_42nd_NB	308+79	27.1 LT
Grate Type:	V	
Grate Elev =	831.73	
Base Elev =	Existing	
Invert Elev =	Existing	
H' Dist. =	8.7	
48 In. RCP CL III NE =	Existing	
48 In. RCP CL III S =	Existing	

MH-32

Manhole (Dia.) -	60	
OCL_42nd_SB	710+40	21.5 RT
Casting Type -	Solid Cover	
Top Elev =	832.58	
Base Elev =	825.37	
Invert Elev =	825.62	
Riser =	5.5	
15 In. RCP CL III W =	825.62	
24 In. RCP CL III S =	825.62	
24 In. RCP CL III E =	825.62	

CB-32A

Inlet - Type 2		
OCL_42nd_SB	710+41	15.0 LT
Grate Type:	V	
Grate Elev =	831.32	
Base Elev =	825.53	
Invert Elev =	825.72	
H' Dist. =	5.0	
15 In. RCP CL III E =	825.72	

CB-32B

Inlet - Type 2		
OCL_42nd_NB	310+40	25.5 RT
Grate Type:	V	
Grate Elev =	830.91	
Base Elev =	825.15	
Invert Elev =	825.40	
H' Dist. =	5.0	
24 In. RCP CL III E =	825.40	
24 In. RCP CL III W =	825.40	

MH-33

Manhole (Dia.) -	48	
OCL_42nd_SB	712+89	37.2 LT
Casting Type -	Solid Cover	
Top Elev =	831.09	
Base Elev =	824.27	
Invert Elev =	824.48	
Riser =	5.3	
18 In. RCP CL III E =	824.48	
18 In. RCP CL III N =	824.48	

CB-33A

Inlet - Type 2		
OCL_42nd_SB	712+89	13.5 LT
Grate Type:	V	
Grate Elev =	830.11	
Base Elev =	824.32	
Invert Elev =	824.53	
H' Dist. =	5.0	
18 In. RCP CL III W =	824.53	
18 In. RCP CL III E =	824.53	

CB-33B

Inlet - Type 2		
OCL_42nd_NB	312+88	13.5 RT
Grate Type:	V	
Grate Elev =	829.91	
Base Elev =	824.14	
Invert Elev =	825.17	
H' Dist. =	5.0	
18 In. RCP CL III W =	825.17	

CB-33C

Inlet - Type 2		
OCL_42nd_NB	312+89	20.5 LT
Grate Type:	V	
Grate Elev =	830.62	
Base Elev =	824.88	
Invert Elev =	825.09	
H' Dist. =	5.0	
18 In. RCP CL III E =	825.09	
18 In. RCP CL III W =	825.09	

MH-34

Manhole (Dia.) -	48	
OCL_42nd_SB	714+30	36.9 LT
Casting Type -	Solid Cover	
Top Elev =	830.45	
Base Elev =	822.72	
Invert Elev =	822.93	
Riser =	6.2	
18 In. RCP CL III S =	822.93	
18 In. RCP CL III E =	822.93	
18 In. RCP CL III N =	822.93	

CB-34A

Inlet - Type 2 Double		
OCL_42nd_SB	714+30	13.5 LT
Grate Type:	V	
Grate Elev =	828.55	
Base Elev =	822.77	
Invert Elev =	822.98	
H' Dist. =	5.0	
18 In. RCP CL III E =	822.98	
18 In. RCP CL III W =	822.98	

CB-34B

Inlet - Type 2		
OCL_42nd_NB	314+29	13.5 RT
Grate Type:	V	
Grate Elev =	828.43	
Base Elev =	822.66	
Invert Elev =	824.05	
H' Dist. =	5.0	
18 In. RCP CL III W =	824.05	

CB-34C

Inlet - Type 2		
OCL_42nd_NB	314+30	20.2 LT
Grate Type:	V	
Grate Elev =	829.07	
Base Elev =	823.15	
Invert Elev =	823.36	
H' Dist. =	5.2	
18 In. RCP CL III E =	823.36	
18 In. RCP CL III W =	823.36	

Inlet & Manhole Summary

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN J. PERKINS
PE-29[illegible]
DATE: 2025.12.05 16:38:40-06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	50	5

MH-35

Manhole (Dia.) -	60	
OCL_42nd_SB	715+74	36.4 LT
Casting Type -	Solid Cover	
Top Elev =	825.01	
Base Elev =	809.39	
Invert Elev =	809.60	
Riser =	14.0	
18 In. RCP CL III N =	809.60	
15 In. RCP CL III E =	818.45	
18 In. RCP CL III S =	819.04	

CB-35A

Inlet - Type 2 Double		
OCL_42nd_SB	715+66	13.5 LT
Grate Type:	V	
Grate Elev =	824.30	
Base Elev =	818.32	
Invert Elev =	818.51	
H' Dist. =	5.2	
15 In. RCP CL III E =	818.51	
15 In. RCP CL III W =	818.51	

CB-35B

Inlet - Type 2 Double		
OCL_42nd_NB	315+64	13.5 LT
Grate Type:	V	
Grate Elev =	824.33	
Base Elev =	818.54	
Invert Elev =	818.73	
H' Dist. =	5.0	
15 In. RCP CL III W =	818.73	

CB-35C

Inlet - Type 2		
OCL_42nd_NB	315+65	13.5 RT
Grate Type:	V	
Grate Elev =	825.88	
Base Elev =	818.45	
Invert Elev =	818.64	
H' Dist. =	6.7	
15 In. RCP CL III W =	818.64	
15 In. RCP CL III E =	818.64	

MH-36

Manhole (Dia.) -	72	
OCL_42nd_SB	716+90	40.1 LT
Casting Type -	Solid Cover	
Top Elev =	820.23	
Base Elev =	807.81	
Invert Elev =	808.10	
Riser =	10.8	
24 In. RCP CL III NE =	808.10	
30 In. RCP CL III E =	808.10	
18 In. RCP CL III S =	808.10	
30 In. RCP CL V W =	808.10	

CB-36A

Inlet Special - Type 2 - 60IN		
OCL_42nd_SB	716+90	13.6 LT
Grate Type:	DR/DL	
Grate Elev =	818.35	
Base Elev =	807.94	
Invert Elev =	808.23	
H' Dist. =	9.0	
24 In. RCP CL III E =	808.23	
30 In. RCP CL V W =	808.23	

CB-36B

Inlet Special - Type 2 - 48IN		
OCL_42nd_NB	316+85	13.6 RT
Grate Type:	V	
Grate Elev =	818.6	
Base Elev =	808.10	
Invert Elev =	808.35	
H' Dist. =	9.3	
24 In.RCP CL III W =	808.35	
24 In. RCP CL III E =	808.35	

CB-36C

Inlet - Type 2 Double		
OCL_42nd_NB	318+61	13.5 RT
Grate Type:	DR/DL	
Grate Elev =	814.13	
Base Elev =	808.38	
Invert Elev =	808.63	
H' Dist. =	5.0	
24 In. RCP CL III E =	808.63	

MH-36D

See Section 55B

CB-36E

Inlet - Type 2		
OCL_42nd_NB	317+57	13.5 RT
Grate Type:	V	
Grate Elev =	815.71	
Base Elev =	809.92	
Invert Elev =	810.11	
H' Dist. =	5.0	
15 In. RCP CL III E =	810.11	

MH-37

Manhole (Dia.) -	60	
OCL_42nd_SB	718+61	21.9 LT
Casting Type -	Solid Cover (Floating)	
Top Elev =	815.06	
Base Elev =	807.97	
Invert Elev =	808.62	
Riser =	5.0	
18 In. RCP CL III E =	809.10	
24 In. RCP CL III S =	808.62	
18 In. RCP CL III N =	808.62	
4 In. PVC W =	808.62 (Abutment Drain)	

CB-37A

Inlet - Type 2 Double		
OCL_42nd_SB	718+62	13.5 LT
Grate Type:	V	
Grate Elev =	814.16	
Base Elev =	808.39	
Invert Elev =	809.12	
H' Dist. =	5.0	
15 In. RCP CL III W =	809.12	

CB-37B

Inlet - Type 2		
OCL_42nd_NB	320+03	13.5 RT
Grate Type:	V	
Grate Elev =	816.96	
Base Elev =	811.17	
Invert Elev =	811.36	
H' Dist. =	5.0	
15 In. RCP CL III W =	811.36	

CB-37C

Inlet - Type 2		
OCL_42nd_SB	720+05	13.5 LT
Grate Type:	V	
Grate Elev =	817.13	
Base Elev =	810.98	
Invert Elev =	811.17	
H' Dist. =	5.4	
15 In. RCP CL III E =	811.17	
15 In. RCP CL III W =	811.17	

CB-37D

Inlet - Type 2		
OCL_42nd_SB	717+58	13.5 LT
Grate Type:	V	
Grate Elev =	815.68	
Base Elev =	809.89	
Invert Elev =	810.08	
H' Dist. =	5.0	
15 In. RCP CL III W =	810.08	

MH-38

Manhole (Dia.) -	48	
OCL_42nd_SB	720+59	22.0 LT
Casting Type -	Solid Cover	
Top Elev =	820.48	
Base Elev =	809.19	
Invert Elev =	809.40	
Riser =	9.8	
15 In. RCP CL III N =	816.00	
18 In. RCP CL III S =	809.40	
15 In. RCP CL III E =	809.40	

CB-38A

Inlet - Type 2 Double		
OCL_42nd_SB	720+60	13.5 LT
Grate Type:	V	
Grate Elev =	819.85	
Base Elev =	813.92	
Invert Elev =	814.49	
H' Dist. =	5.2	
15 In. RCP CL III E =	814.49	
15 In. RCP CL III W =	814.49	

CB-38B

Inlet - Type 2		
OCL_42nd_NB	320+72	13.5 RT
Grate Type:	V	
Grate Elev =	820.26	
Base Elev =	814.49	
Invert Elev =	814.68	
H' Dist. =	5.0	
15 In. RCP CL III W =	814.68	

MH-39

Manhole (Dia.) -	48	
OCL_42nd_SB	722+27	40.3 LT
Casting Type -	Solid Cover	
Top Elev =	830.48	
Base Elev =	816.81	
Invert Elev =	817.00	
Riser =	12.2	
15 In. RCP CL III E =	821.94	
15 In. RCP CL III S =	817.00	

CB-39A

Inlet - Type 2		
OCL_42nd_SB	722+26	13.5 LT
Grate Type:	V	
Grate Elev =	828.06	
Base Elev =	821.82	
Invert Elev =	822.01	
H' Dist. =	5.5	
15 In. RCP CL III E =	822.01	
15 In. RCP CL III W =	822.01	

Inlet & Manhole Summary

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN J. PERKINS
PE-29[illegible]
DATE: 2025.12.05 16:39:40-06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	50	6

CB-39B

Inlet - Type 2		
OCL_42nd_NB	322+22	13.5 RT
Grate Type:	V	
Grate Elev =	827.75	
Base Elev =	821.99	
Invert Elev =	822.18	
H' Dist. =	5.0	
15 In. RCP CL III W =	822.18	

MH-40

Manhole (Dia.) -	60	
OCL_42nd_NB	316+85	23.8 RT
Casting Type -	Solid Cover	
Top Elev =	819.91	
Base Elev =	808.11	
Invert Elev =	808.36	
Riser =	10.1	
24 In. RCP CL III W =	808.36	
24 In. RCP CL III N =	808.36	

CB-40A

Inlet Special - Type 2 - 48IN		
OCL_42nd_SB	723+78	13.9 LT
Grate Type:	D	
Grate Elev =	834.28	
Base Elev =	828.01	
Invert Elev =	828.48	
H' Dist. =	5.0	
18 In. RCP CL III N =	828.48	
18 In. RCP CL III W =	828.48 (Existing)	
18 In. RCP CL III E =	828.48	

CB-40B

Inlet - Type 2		
OCL_42nd_NB	323+77	13.5 RT
Grate Type:	D	
Grate Elev =	834.10	
Base Elev =	828.34	
Invert Elev =	828.65	
H' Dist. =	5.0	
18 In. RCP CL III W =	828.65	

MH-41

Manhole (Dia.) -	60	
OCL_42nd_NB	317+57	24.6 RT
Casting Type -	Solid Cover	
Top Elev =	817.01	
Base Elev =	808.22	
Invert Elev =	808.47	
Riser =	7.3	
24 In. RCP CL III N =	808.47	
24 In. RCP CL III S =	808.47	
15 In. RCP CL III W =	808.47	

CB-41A

Inlet - Type 2		
OCL_42nd_SB	726+40	13.5 LT
Grate Type:	D	
Grate Elev =	835.36	
Base Elev =	828.87	
Invert Elev =	829.08	
H' Dist. =	5.7	
18 In. RCP CL III E =	829.08	
18 In. RCP CL III W =	829.08	

CB-41B

Inlet - Type 2		
OCL_42nd_NB	326+36	13.5 RT
Grate Type:	D	
Grate Elev =	835.11	
Base Elev =	829.01	
Invert Elev =	829.22	
H' Dist. =	5.3	
18 In. RCP CL III E =	829.22 (Existing)	
18 In. RCP CL III W =	829.22	

MH-42

Manhole (Dia.) -	60	
OCL_42nd_NB	318+61	25.6 RT
Casting Type -	Solid Cover (Floating)	
Top Elev =	815.56	
Base Elev =	808.37	
Invert Elev =	808.62	
Riser =	5.1	
24 In. RCP CL III W =	808.62	
24 In. RCP CL III S =	808.62	
4 IN PVC E =	808.62 (Abutment Drain)	

MH-43

Manhole (Dia.) -	60	
OCL_42nd_SB	717+58	24.5 LT
Casting Type -	Solid Cover	
Top Elev =	816.55	
Base Elev =	808.15	
Invert Elev =	808.40	
Riser =	6.7	
15 In. RCP CL III E =	810.06	
24 In. RCP CL III S =	808.40	
24 In. RCP CL III N =	808.40	

MH-44

Manhole (Dia.) -	48	
OCL_42nd_SB	720+04	21.9 LT
Casting Type -	Solid Cover	
Top Elev =	818.02	
Base Elev =	809.04	
Invert Elev =	809.25	
Riser =	7.5	
18 In. RCP CL III N =	809.25	
18 In. RCP CL III S =	809.25	
15 In. RCP CL III E =	811.15	

Inlet & Manhole Summary

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN J. PERKINS
PE-29[illegible]
DATE: 2025.12.05 16:40:16-06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	50	7

TABLE 2 - CENTERLINE CULVERT HYDRAULIC DATA FOR 6-297(014)000 (A)

RP	EXISTING PIPE	PROPOSED PIPE SIZE	DRAINAGE AREA (ACRES)	25 -YEAR DATA				100-YEAR DATA	
				DESIGN DISCHARGE (CFS)	DESIGN HEADWATER (FT)	DESIGN VELOCITY (FPS)	DESIGN STAGE (NAVD 88)	100-YEAR DISCHARGE (CFS)	100-YEAR STAGE (NAVD 88)
RP 312+00 (Existing)	Dbl 48" RCP	Dbl 31x51 Arch	336.87	95	3.41	6.43	828.42	126	829.04
RP 714+25 (Proposed) (B)	None	Dbl 26x43 Arch	307.2	87	3.42	8.19	829.21	116	830.62
RP 312+00 (Proposed)	Dbl 48" RCP	Dbl 31x51 Arch	356.95	101	3.67	5.92	828.36	134	829.84
(A) Hydraulic data provided is for smooth-walled (Manning's n=0.012) type conduits.									
(B) Roadway overtopping occurs to the south of the culvert crossing, at approximately station 713+75 along 43rd Street.									

Culvert Hydraulic Data

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN P. PERKINS
PE-29[illegible]
DATE: 2025.12.05 16:40:42-06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	51	1

ALLOWABLE PIPE LIST - TEMPORARY CONNECTIONS - REFER TO SECTION 100 FOR PLAN VIEWS, QUANTITIES, AND INSTALLATION NOTES

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	(*) End Sections		Applicable Backfill
				In	Bid Item	LF		In	Type		In	Begin EA	End EA	
9+86.05	35L	10+05.81	36R	51 x 31	Pipe Conduit - Storm Drain	74	Reinforced Concrete Pipe - Class III Spiral Rib Steel Pipe	51 x 31	Z, A, P	3/4, 1	0.172			D-714-26M
12+42.90	33L	13+03.32	41L	12	Pipe Conduit - Storm Drain	56	Reinforced Concrete Pipe - Class III Spiral Rib Steel Pipe	12	Z, A, P	3/4, 1	0.172			D-714-27
15+29.45	44L	15+32.87	39R	12	Pipe Conduit - Storm Drain	83	Reinforced Concrete Pipe - Class III Spiral Rib Steel Pipe	12	Z, A, P	3/4, 1	0.172			D-714-27
200+82.96	16R	201+40.91	59R	24	Pipe Conduit - Storm Drain	72	Reinforced Concrete Pipe - Class III Spiral Rib Steel Pipe	24	Z, A, P	3/4, 1	0.172			D-714-27
208+32.28	15R	209+32.94	435R	24	Pipe Conduit - Storm Drain	453	Reinforced Concrete Pipe - Class III Spiral Rib Steel Pipe	24	Z, A, P	3/4, 1	0.172			D-714-27
215+48.87	8L	216+87.06	25L	24	Pipe Conduit - Storm Drain	140	Reinforced Concrete Pipe - Class III Spiral Rib Steel Pipe	24	Z, A, P	3/4, 1	0.172			D-714-27
224+22.99	4L	224+42.39	5L	24	Pipe Conduit - Storm Drain	20	Reinforced Concrete Pipe - Class III Spiral Rib Steel Pipe	24	Z, A, P	3/4, 1	0.172			D-714-27

Allowable Pipe List (Pipe Policy)

Temporary Storm Drain

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN L. PERKINS
PE-2983
DATE: 2025.12.05 16:41:28-06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	51	2

Begin Station / Location	Begin Offset	End Station / Location	End Offset	Pipe Installation (Pay Item)			Allowable Material	Required Diameter	Steel Pipe Coatings	Steel Pipe Corrugations or Spiral Ribs	Steel Pipe Minimum Thickness	(*) End Sections		Applicable Backfill
				In	Bid Item	LF		In	Type		In	Begin EA	End EA	
MH-1		MH-2		36	Pipe Conduit - Storm Drain	199	Reinforced Concrete Pipe - Class III	36						D-714-26
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
CB-1A		MH-1		15	Pipe Conduit - Storm Drain	18	Reinforced Concrete Pipe - Class III	15						D-714-26
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
CB-1B		MH-1		36	Pipe Conduit - Storm Drain	13	Reinforced Concrete Pipe - Class III	36						D-714-27
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
MH-2		MH-3		36	Pipe Conduit - Storm Drain	157	Reinforced Concrete Pipe - Class III	36						D-714-27
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
CB-2A		MH-2		18	Pipe Conduit - Storm Drain	18	Reinforced Concrete Pipe - Class III	18						D-714-26
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
CB-2B		MH-2		18	Pipe Conduit - Storm Drain	25	Reinforced Concrete Pipe - Class III	18						D-714-26
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
MH-3		MH-5		36	Pipe Conduit - Storm Drain	248	Reinforced Concrete Pipe - Class III	36						D-714-27
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
CB-3A		MH-3		15	Pipe Conduit - Storm Drain	31	Reinforced Concrete Pipe - Class III	15						D-714-26
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
CB-4A		CB-4C		15	Pipe Conduit - Storm Drain	38	Reinforced Concrete Pipe - Class III	15						D-714-27
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
CB-4B		CB-4C		15	Pipe Conduit - Storm Drain	47	Reinforced Concrete Pipe - Class III	15						D-714-26
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
CB-4C		MH-3		18	Pipe Conduit - Storm Drain	71	Reinforced Concrete Pipe - Class III	18						D-714-26
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
MH-5		MH-6		36	Pipe Conduit - Storm Drain	183	Reinforced Concrete Pipe - Class III	36						D-714-27
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
CB-5A		MH-5		15	Pipe Conduit - Storm Drain	32	Reinforced Concrete Pipe - Class III	15						D-714-26
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
CB-5B		MH-5		15	Pipe Conduit - Storm Drain	31	Reinforced Concrete Pipe - Class III	15						D-714-26
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
MH-6		CB-6B		36	Pipe Conduit - Storm Drain	32	Reinforced Concrete Pipe - Class III	36						D-714-27
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
CB-6A		MH-6		18	Pipe Conduit - Storm Drain	38	Reinforced Concrete Pipe - Class III	18						D-714-26
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			

See Section 170c For Additional Culverts For Railroad Work.

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

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

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

Allowable Pipe List (Pipe Policy)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN D. PERKINS
PE-2935
DATE: 2025.12.05 16:42:22-06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	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	(*) End Sections Begin	(*) End Sections End	Applicable Backfill
CB-6B		MH-8		36	Pipe Conduit - Storm Drain	234	Reinforced Concrete Pipe - Class III	36						D-714-26
CB-6C		CB-6B		18	Pipe Conduit - Storm Drain	14	Reinforced Concrete Pipe - Class III	18						D-714-27
CB-6D		CB-6B		15	Pipe Conduit - Storm Drain	15	Reinforced Concrete Pipe - Class III	15						D-714-27
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
MH-7		MH-6		15	Pipe Conduit - Storm Drain	73	Reinforced Concrete Pipe - Class III	15						D-714-27
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
CB-7A		MH-7		15	Pipe Conduit - Storm Drain	32	Reinforced Concrete Pipe - Class III	15						D-714-26
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
CB-7B		MH-7		15	Pipe Conduit - Storm Drain	36	Reinforced Concrete Pipe - Class III	15						D-714-26
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
MH-8		FES-12		36	Pipe Conduit - Storm Drain	64	Reinforced Concrete Pipe - Class III	36					FES	D-714-27
CB-8A		MH-8		15	Pipe Conduit - Storm Drain	50	Reinforced Concrete Pipe - Class III	15						D-714-26
CB-9A		CB-10A		22 x 13	Pipe Conduit - Storm Drain	31	Pipe Conc Reinf Arch 22IN X 13IN CL III	22 x 13						D-714-26
CB-10A		FES-5		22 x 13	Pipe Conduit - Storm Drain	21	Pipe Conc Reinf Arch 22IN X 13IN CL III	22 x 13					FES	D-714-26
MH-11		FES-6		30	Pipe Conduit - Storm Drain	46	Reinforced Concrete Pipe - Class III	30					FES	D-714-27
MH-12		MH-18		15	Pipe Conduit - Storm Drain	82	Reinforced Concrete Pipe - Class III	15						D-714-27
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
CB-12A		MH-12		15	Pipe Conduit - Storm Drain	35	Reinforced Concrete Pipe - Class III	15						D-714-26
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
CB-12B		MH-12		15	Pipe Conduit - Storm Drain	47	Reinforced Concrete Pipe - Class III	15						D-714-26
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
MH-13		MH-14		24	Pipe Conduit - Storm Drain	239	Reinforced Concrete Pipe - Class III	24						D-714-27
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
CB-13A		MH-13		24	Pipe Conduit - Storm Drain	45	Reinforced Concrete Pipe - Class III	24						D-714-26
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			

See Section 170c For Additional Culverts For Railroad Work.

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

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

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

Allowable Pipe List (Pipe Policy)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN L. PERKINS
PE-2983
DATE: 2025.12.05 16:42:54-06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	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	(*) End Sections		Applicable Backfill
				In	Bid Item	LF		In	Type		In	Begin EA	End EA	
CB-13B		MH-13		15	Pipe Conduit - Storm Drain	42	Reinforced Concrete Pipe - Class III	15						D-714-26
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
CB-13C		MH-18		15	Pipe Conduit - Storm Drain	36	Reinforced Concrete Pipe - Class III	15						D-714-27
							Spiral Rib Steel Pipe		P	3/4, 2	0.388			
MH-14		MH-15		24	Pipe Conduit - Storm Drain	208	Reinforced Concrete Pipe - Class III	24						D-714-27
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
MH-15		MH-19		24	Pipe Conduit - Storm Drain	139	Reinforced Concrete Pipe - Class III	24						D-714-27
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
CB-15A		MH-15		15	Pipe Conduit - Storm Drain	50	Reinforced Concrete Pipe - Class III	15						D-714-26
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
CB-15B		MH-15		15	Pipe Conduit - Storm Drain	26	Reinforced Concrete Pipe - Class III	15						D-714-26
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
MH-16		MH-17		24	Pipe Conduit - Storm Drain	178	Reinforced Concrete Pipe - Class III	24						D-714-27
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
CB-16A		MH-16		15	Pipe Conduit - Storm Drain	39	Reinforced Concrete Pipe - Class III	15						D-714-26
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
CB-16B		MH-16		15	Pipe Conduit - Storm Drain	26	Reinforced Concrete Pipe - Class III	15						D-714-26
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
CB-16C		MH-19		15	Pipe Conduit - Storm Drain	47	Reinforced Concrete Pipe - Class III	15						D-714-26
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
MH-18		MH-13		15	Pipe Conduit - Storm Drain	71	Reinforced Concrete Pipe - Class III	15						D-714-27
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
CB-18A		FES-18		15	Pipe Conduit - Storm Drain	94	Pipe Conc Reinf 15IN CL III	15					FES	D-714-26
CB-18B		CB-18A		15	Pipe Conduit - Storm Drain	72	Pipe Conc Reinf 15IN CL III	15						D-714-26
MH-19		MH-16		24	Pipe Conduit - Storm Drain	109	Reinforced Concrete Pipe - Class III	24						D-714-27
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
CB-19A		FES-19		15	Pipe Conduit - Storm Drain	69	Pipe Conc Reinf 15IN CL III	15					FES	D-714-26
CB-19B		CB-19A		15	Pipe Conduit - Storm Drain	81	Pipe Conc Reinf 15IN CL III	15						D-714-26

See Section 170c For Additional Culverts For Railroad Work.

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

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

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

Allowable Pipe List (Pipe Policy)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN L. PERKINS
PE-2953
DATE: 2025.12.05 16:43:39-06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	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	(*) End Sections		Applicable Backfill
				In	Bid Item	LF		In	Type		In	Begin EA	End EA	
CB-20A		FES-20		15	Pipe Conduit - Storm Drain	58	Pipe Conc Reinf 15IN CL III	15					FES	D-714-26
CB-20B		CB-20A		15	Pipe Conduit - Storm Drain	77	Pipe Conc Reinf 15IN CL III	15						D-714-26
CB-22A		FES-22		15	Pipe Conduit - Storm Drain	42	Pipe Conc Reinf 15IN CL III	15					FES	D-714-27
CB-22B		CB-22A		15	Pipe Conduit - Storm Drain	83	Pipe Conc Reinf 15IN CL III	15						D-714-26
CB-23A		FES-23		15	Pipe Conduit - Storm Drain	51	Pipe Conc Reinf 15IN CL III	15					FES	D-714-26
CB-23B		CB-23A		15	Pipe Conduit - Storm Drain	82	Pipe Conc Reinf 15IN CL III	15						D-714-26
CB-24A		CB-25A		15	Pipe Conduit - Storm Drain	22	Pipe Conc Reinf 15IN CL III	15						D-714-26
CB-24B		CB-24A		15	Pipe Conduit - Storm Drain	46	Pipe Conc Reinf 15IN CL III	15						D-714-26
CB-25A		FES-7		15	Pipe Conduit - Storm Drain	30	Pipe Conc Reinf 15IN CL III	15					FES	D-714-26
CB-26A		CB-27A		15	Pipe Conduit - Storm Drain	32	Pipe Conc Reinf 15IN CL III	15						D-714-26
CB-27A		CB-29A		18	Pipe Conduit - Storm Drain	156	Pipe Conc Reinf 18IN CL III	18						D-714-27
CB-28A		CB-29A		15	Pipe Conduit - Storm Drain	33	Pipe Conc Reinf 15IN CL III	15						D-714-26
CB-29A		MH-EX-2		18	Pipe Conduit - Storm Drain	5	Pipe Conc Reinf 18IN CL III	18						D-714-27
MH-30		CB-30C		24	Pipe Conduit - Storm Drain	61	Pipe Conc Reinf 24IN CL III	24						D-714-27
CB-30A		MH-30		18	Pipe Conduit - Storm Drain	27	Pipe Conc Reinf 18IN CL III	18						D-714-26
CB-30B		MH-30		18	Pipe Conduit - Storm Drain	37	Pipe Conc Reinf 18IN CL III	18						D-714-26

See Section 170c For Additional Culverts For Railroad Work.

Corrugations: 2 = 2-2/3"x1/2"
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Coatings: Z = Zinc
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P = Polymeric (over Zinc or Aluminum)

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

Allowable Pipe List (Pipe Policy)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN A. PERKINS
PE-2903
DATE: 2025.12.05 16:44:25-06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	51	6

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	(*) End Sections		Applicable Backfill
												Begin	End	
				In	Bid Item	LF		In	Type		In	EA	EA	
CB-30C		MH-31		24	Pipe Conduit - Storm Drain	214	Pipe Conc Reinf 18IN CL III	24						D-714-26
MH-31		MH-32		24	Pipe Conduit - Storm Drain	133	Pipe Conc Reinf 24IN CL III	24						D-714-26
CB-31A		MH-31		15	Pipe Conduit - Storm Drain	35	Pipe Conc Reinf 15IN CL III	15						D-714-27
MH-32		CB-32B		24	Pipe Conduit - Storm Drain	59	Pipe Conc Reinf 24IN CL III	24						D-714-26
CB-32A		MH-32		15	Pipe Conduit - Storm Drain	33	Pipe Conc Reinf 15IN CL III	15						D-714-26
CB-32B		FES-17		24	Pipe Conduit - Storm Drain	32	Pipe Conc Reinf 24IN CL III	24					FES	D-714-26
MH-33		MH-34		18	Pipe Conduit - Storm Drain	138	Pipe Conc Reinf 18IN CL III	18						D-714-27
CB-33A		MH-33		18	Pipe Conduit - Storm Drain	20	Pipe Conc Reinf 18IN CL III	18						D-714-26
CB-33B		CB-33C		18	Pipe Conduit - Storm Drain	31	Pipe Conc Reinf 18IN CL III	18						D-714-26
CB-33C		CB-33A		18	Pipe Conduit - Storm Drain	49	Pipe Conc Reinf 18IN CL III	18						D-714-27
MH-34		MH-35		18	Pipe Conduit - Storm Drain	140	Pipe Conc Reinf 18IN CL III	18						D-714-27
CB-34A		MH-34		18	Pipe Conduit - Storm Drain	18	Pipe Conc Reinf 18IN CL III	18						D-714-26
CB-34B		CB-34C		18	Pipe Conduit - Storm Drain	31	Pipe Conc Reinf 18IN CL III	18						D-714-26
CB-34C		CB-34A		18	Pipe Conduit - Storm Drain	48	Pipe Conc Reinf 18IN CL III	18						D-714-27
MH-35		MH-36		18	Pipe Conduit - Storm Drain	112	Pipe Conc Reinf 18IN CL III	18						D-714-27
CB-35A		MH-35		15	Pipe Conduit - Storm Drain	19	Pipe Conc Reinf 15IN CL III	15						D-714-26

See Section 170c For Additional Culverts For Railroad Work.

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

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

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

Allowable Pipe List (Pipe Policy)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN A. PERKINS
PE-29[illegible]
DATE: 2025.12.05 16:45:03-06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	51	7

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	(*) End Sections		Applicable Backfill
				In	Bid Item	LF		In	Type		In	Begin EA	End EA	
CB-35B		CB-35C		15	Pipe Conduit - Storm Drain	31	Pipe Conc Reinf 15IN CL III	15						D-714-26
CB-35C		CB-35A		15	Pipe Conduit - Storm Drain	44	Pipe Conc Reinf 15IN CL III	15						D-714-26
MH-36		MH-36D		30	Pipe Conduit - Storm Drain	127	Pipe Conc Reinf 30IN CL V	30						D-714-26
CB-36A		MH-36		30	Pipe Conduit - Storm Drain	21	Pipe Conc Reinf 30IN CL V	30						D-714-26
CB-36B		CB-36A		24	Pipe Conduit - Storm Drain	76	Pipe Conc Reinf 24IN CL III	24						D-714-26
CB-36C		MH-42		24	Pipe Conduit - Storm Drain	6	Pipe Conc Reinf 24IN CL III	24						D-714-27
CB-36E		MH-41		15	Pipe Conduit - Storm Drain	7	Pipe Conc Reinf 15IN CL V	15						D-714-26
MH-37		MH-43		24	Pipe Conduit - Storm Drain	99	Pipe Conc Reinf 24IN CL III	24						D-714-27
CB-37A		MH-37		18	Pipe Conduit - Storm Drain	3	Pipe Conc Reinf 18IN CL III	18						D-714-26
CB-37B		CB-37C		15	Pipe Conduit - Storm Drain	66	Pipe Conc Reinf 15IN CL III	15						D-714-26
CB-37C		MH-44		15	Pipe Conduit - Storm Drain	5	Pipe Conc Reinf 15IN CL III	15						D-714-26
CB-37D		MH-43		15	Pipe Conduit - Storm Drain	7	Pipe Conc Reinf 15IN CL III	15						D-714-26
MH-38		MH-44		18	Pipe Conduit - Storm Drain	51	Pipe Conc Reinf 18IN CL III	18						D-714-27
CB-38A		MH-38		15	Pipe Conduit - Storm Drain	3	Pipe Conc Reinf 15IN CL III	15						D-714-26
CB-38B		CB-38A		15	Pipe Conduit - Storm Drain	64	Pipe Conc Reinf 15IN CL III	15						D-714-26
MH-39		MH-38		15	Pipe Conduit - Storm Drain	165	Pipe Conc Reinf 15IN CL III	15						D-714-27

See Section 170c For Additional Culverts For Railroad Work.

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

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

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

Allowable Pipe List (Pipe Policy)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN A. PERKINS
PE-2983
DATE: 2025.12.05 16:45:41-06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	51	8

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	(*) End Sections		Applicable Backfill
				In	Bid Item	LF		In	Type		In	Begin EA	End EA	
CB-39A		MH-39		15	Pipe Conduit - Storm Drain	23	Pipe Conc Reinf 15IN CL III	15						D-714-26
CB-39B		CB-39A		15	Pipe Conduit - Storm Drain	61	Pipe Conc Reinf 15IN CL III	15						D-714-26
MH-40		CB-36B		24	Pipe Conduit - Storm Drain	6	Pipe Conc Reinf 24IN CL III	24						D-714-27
CB-40A		MH-EX-7		18	Pipe Conduit - Storm Drain	260	Pipe Conc Reinf 18IN CL III	18						D-714-26
CB-40B		CB-40A		18	Pipe Conduit - Storm Drain	61	Pipe Conc Reinf 15IN CL III	18						D-714-26
MH-41		MH-40		24	Pipe Conduit - Storm Drain	68	Pipe Conc Reinf 24IN CL III	24						D-714-26
CB-41A		MH-EX-7		18	Pipe Conduit - Storm Drain	7	Pipe Conc Reinf 18IN CL III	18						D-714-26
CB-41B		CB-41A		18	Pipe Conduit - Storm Drain	61	Pipe Conc Reinf 18IN CL III	18						D-714-26
MH-42		MH-41		24	Pipe Conduit - Storm Drain	100	Pipe Conc Reinf 24IN CL III	24						D-714-26
MH-43		MH-36		24	Pipe Conduit - Storm Drain	65	Pipe Conc Reinf 24IN CL III	24						D-714-26
MH-44		MH-37		18	Pipe Conduit - Storm Drain	139	Pipe Conc Reinf 18IN CL III	18						D-714-26
FES-1		FES-3		44 x 27	Pipe Conduit - Storm Drain	79	Pipe Conc Reinf Arch 44IN X 27IN CL III	44 x 27				FES	FES	D-714-26M
FES-2		FES-4		44 x 27	Pipe Conduit - Storm Drain	79	Pipe Conc Reinf Arch 44IN X 27IN CL III	44 x 27				FES	FES	D-714-26M
FES-8		FES-10		51 x 31	Pipe Conduit - Storm Drain	262	Pipe Conc Reinf Arch 51IN X 31IN CL III	51 x 31				FES	FES	D-714-26M
FES-9		FES-11		51 x 31	Pipe Conduit - Storm Drain	274	Pipe Conc Reinf Arch 51IN X 31IN CL III	51 x 31				FES	FES	D-714-26M
FES-13		MH-11		18	Pipe Conduit - Storm Drain	31	Pipe Conc Reinf 18IN CL III	18				FES		D-714-27

See Section 170c For Additional Culverts For Railroad Work.

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

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FES = Flared End Section
TES = Traversable End Section

Allowable Pipe List (Pipe Policy)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN A. PERKINS
PE-29[illegible]
DATE: 2025.12.05 16:46:00-06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	51	9

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	(*) End Sections		Applicable Backfill
												Begin	End	
				In	Bid Item	LF		In	Type		In	EA	EA	
FES-14		CB-13A		36	Pipe Conduit - Storm Drain	116	Pipe Conc Reinf 36IN CL V	36				FES		D-714-26
FES-15		CB-30A		18	Pipe Conduit - Storm Drain	35	Pipe Conc Reinf 18IN CL III	18				FES		D-714-26
FES-24		FES-25		24	Pipe Conduit - Storm Drain	200	Pipe Conc Reinf 24IN CL III	24				FES	FES	D-714-26
MH-EX-1		CB-1B		30	Pipe Conduit - Storm Drain	6	Reinforced Concrete Pipe - Class III	30						D-714-27
							Spiral Rib Steel Pipe		P	3/4, 1	0.172			
CB-EX-15		CB-6C		15	Pipe Conduit - Storm Drain	72	Pipe Conc Reinf 15IN CL III	15						D-714-26

See Section 170c For Additional Culverts For Railroad Work.

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

Coatings: Z = Zinc
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Spiral Ribs: 3/4 = 3/4"x3/4"@7-1/2"
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(*) End sections are measured and paid for separately for pipe extensions.
FES = Flared End Section
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Allowable Pipe List (Pipe Policy)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN J. PERKINS
PE-29[illegible]
DATE: 2025.12.05 16:46:21-06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	55a	1

SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	4117	PIPE CONDUIT 36IN - STORM DRAIN		
		MH 1 TO MH 2	199	LF
		MH 2 TO MH 3	157	LF
722	0110	MANHOLE 60IN		
		MH 2	1	EA
		MH 3	1	EA
722	0130	MANHOLE 84IN		
		MH 1	1	EA
722	1110	MANHOLE RISER 60IN		
		MH 2	7.9	LF
		MH 3	8.5	LF
722	1130	MANHOLE RISER 84IN		
		MH 1	8.3	LF

Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
- STORM MANHOLE
- FLARED END SECTION
- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

ND 297 (DeMers Avenue)

ND 297 (DeMers Ave) & 42nd St Grade Separation

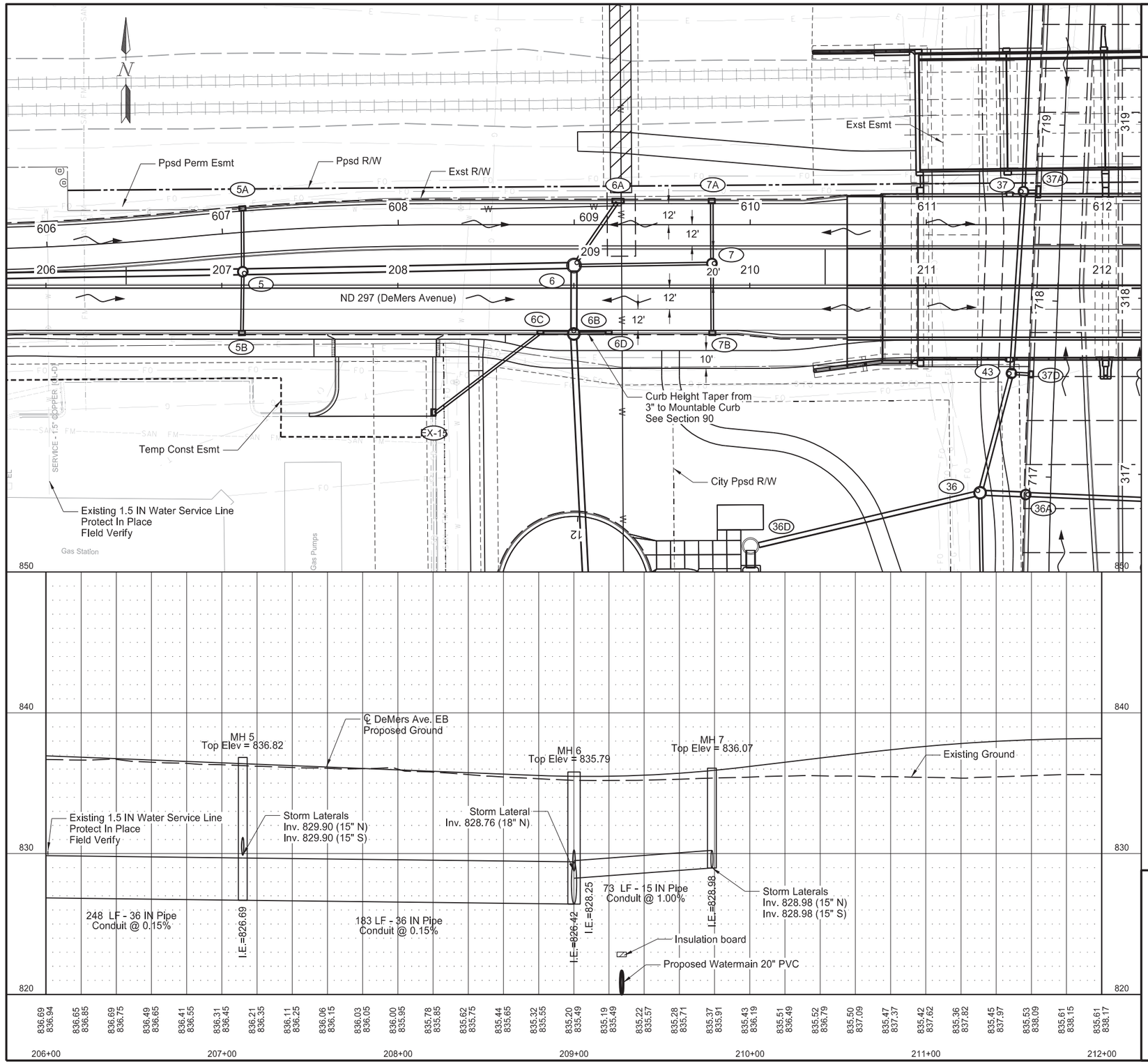
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN J. PERKINS
PE-29[illegible]
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NORTH DAKOTA

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	55a	2



SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	4097	PIPE CONDUIT 15IN - STORM DRAIN		
		MH 7 TO MH 6	73	LF
714	4117	PIPE CONDUIT 36IN - STORM DRAIN		
		MH 3 TO MH 5	248	LF
		MH 5 TO MH 6	183	LF
722	0110	MANHOLE 60IN		
		MH 5	1	EA
		MH 7	1	EA
722	0130	MANHOLE 84IN		
		MH 6	1	EA
722	1110	MANHOLE RISER 60IN		
		MH 5	8.8	LF
		MH 7	5.6	LF
722	1130	MANHOLE RISER 84IN		
		MH 6	8.0	LF

Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
- STORM MANHOLE
- FLARED END SECTION
- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

ND 297 (DeMers Avenue)

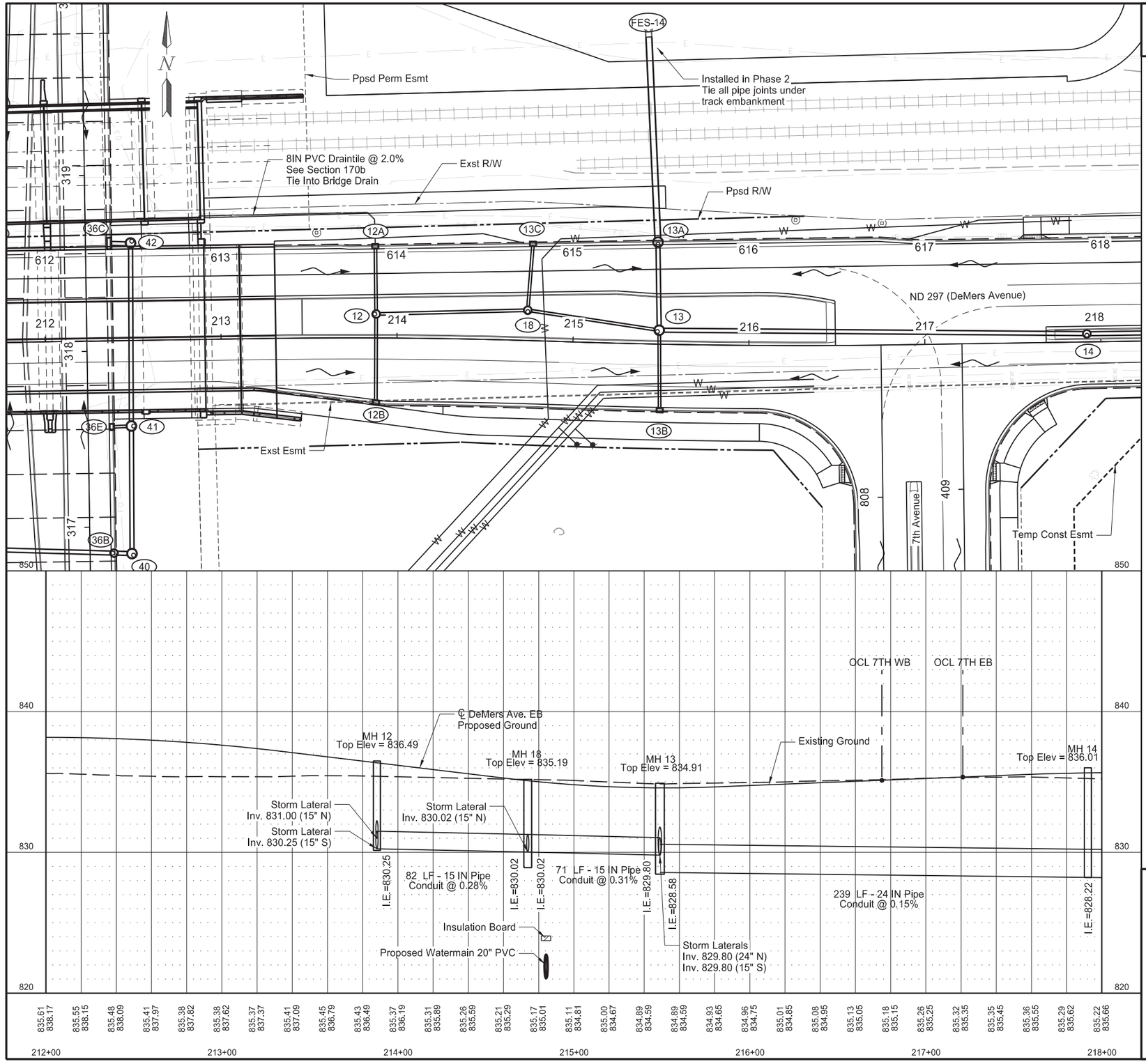
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN PERKINS
PE-2935
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NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55a	3



SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	4097	PIPE CONDUIT 15IN - STORM DRAIN		
		MH 12 TO MH 18	82	LF
		MH 18 TO MH 13	71	LF
714	4107	PIPE CONDUIT 24IN - STORM DRAIN		
		MH 13 TO MH 14	239	LF
722	0100	MANHOLE 48IN		
		MH 12	1	EA
		MH 14	1	EA
		MH 18	1	EA
722	0110	MANHOLE 60IN		
		MH 13	1	EA
722	1100	MANHOLE RISER 48IN		
		MH 12	5.0	LF
		MH 14	6.2	LF
		MH 18	5.0	LF
722	1110	MANHOLE RISER 60IN		
		MH 13	5.0	LF

Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
- STORM MANHOLE
- FLARED END SECTION
- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

ND 297 (DeMers Avenue)

ND 297 (DeMers Ave) & 42nd St Grade Separation

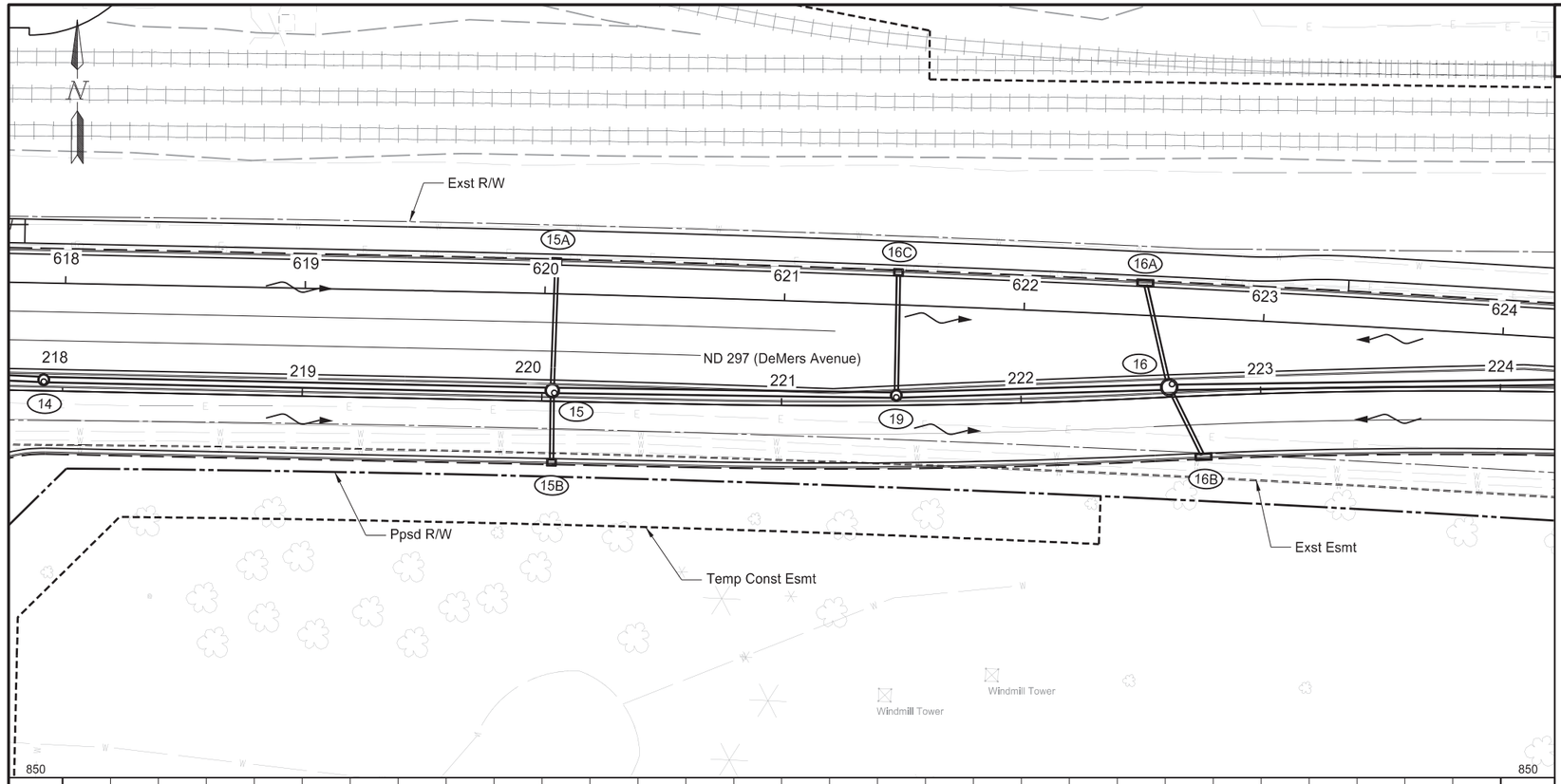
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN PERKINS
PE-29[illegible]
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NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	55a	4

SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	4107	PIPE CONDUIT 24IN - STORM DRAIN		
		MH 14 TO MH 15	208	LF
		MH 15 TO MH 19	139	LF
		MH 19 TO MH 16	109	LF
		MH 16 TO MH 17	178	LF
722	0110	MANHOLE 60IN		
		MH 15	1	EA
		MH 19	1	EA
722	0120	MANHOLE 72IN		
		MH 16	1	EA
722	1110	MANHOLE RISER 60IN		
		MH 15	5.6	LF
		MH 19	6.5	LF
722	1120	MANHOLE RISER 72IN		
		MH 16	6.2	LF



Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
- STORM MANHOLE
- FLARED END SECTION
- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

ND 297 (DeMers Avenue)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

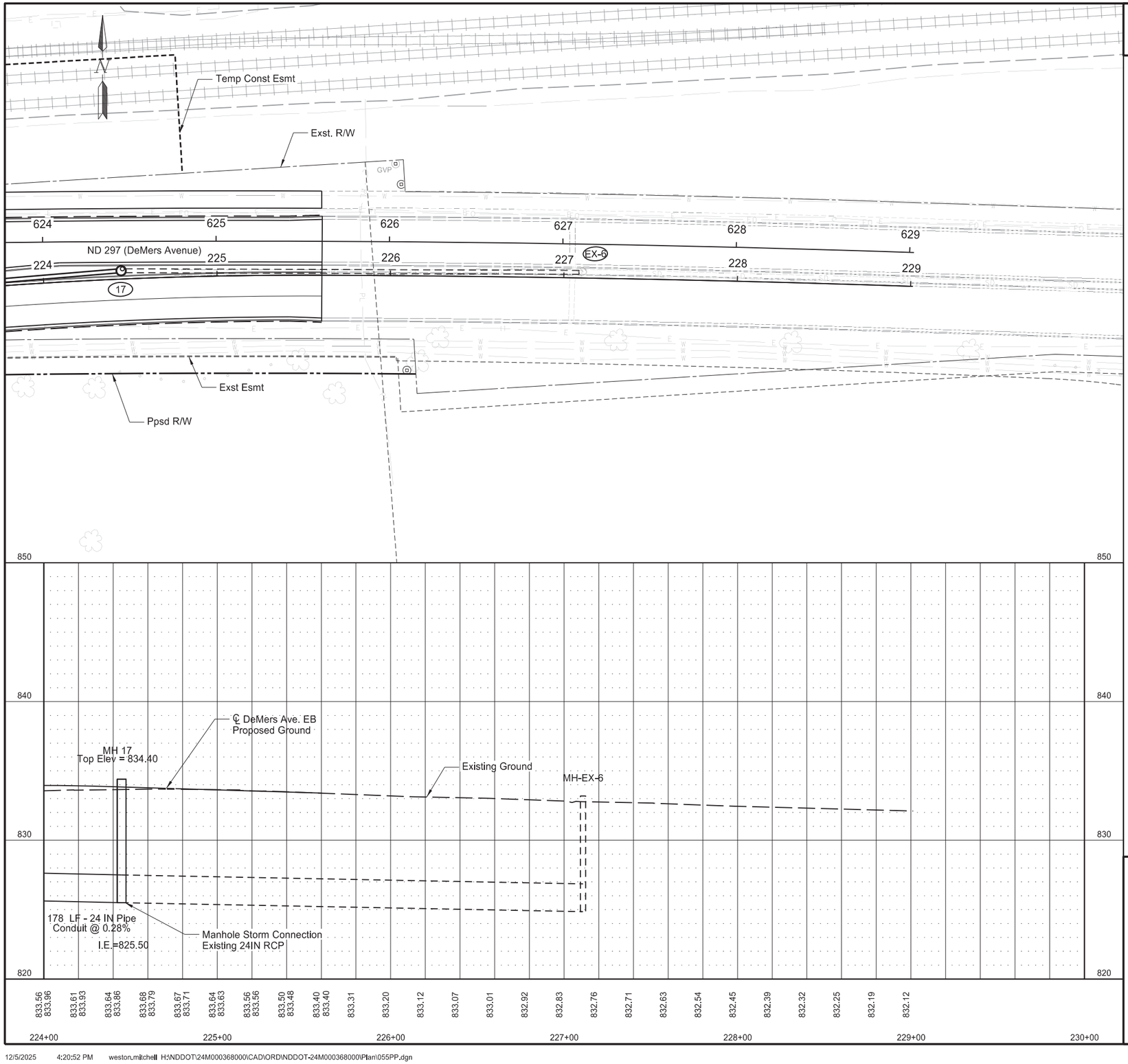
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN D. PERKINS
PE-29[illegible]
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NORTH DAKOTA

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	55a	5

SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
722	0110	MANHOLE 60IN		
		MH 17	1	EA
722	1110	MANHOLE RISER 60IN		
		MH 17	7.1	LF
722	2490	MANHOLE STORM CONNECTION		
		MH 17	1	EA



Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
- STORM MANHOLE
- FLARED END SECTION
- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

ND 297 (DeMers Avenue)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN PERKINS
PE-29[illegible]
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NORTH DAKOTA

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	55a	6

SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	0620	PIPE CONC REINF 24IN CL III - STORM DRAIN		
		MH 30 TO CB 30C	61	LF
		CB 30C TO MH 31	214	LF
722	0100	MANHOLE 48IN		
		MH 31	1	EA
722	0110	MANHOLE 60IN		
		MH 30	1	EA
722	1100	MANHOLE RISER 48IN		
		MH 31	5.5	LF
722	1110	MANHOLE RISER 60IN		
		MH 30	5.0	LF
722	3701	INLET SPECIAL - TYPE 2 48IN		
		CB 30C	1	EA

Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
- STORM MANHOLE
- FLARED END SECTION
- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

42nd Street

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

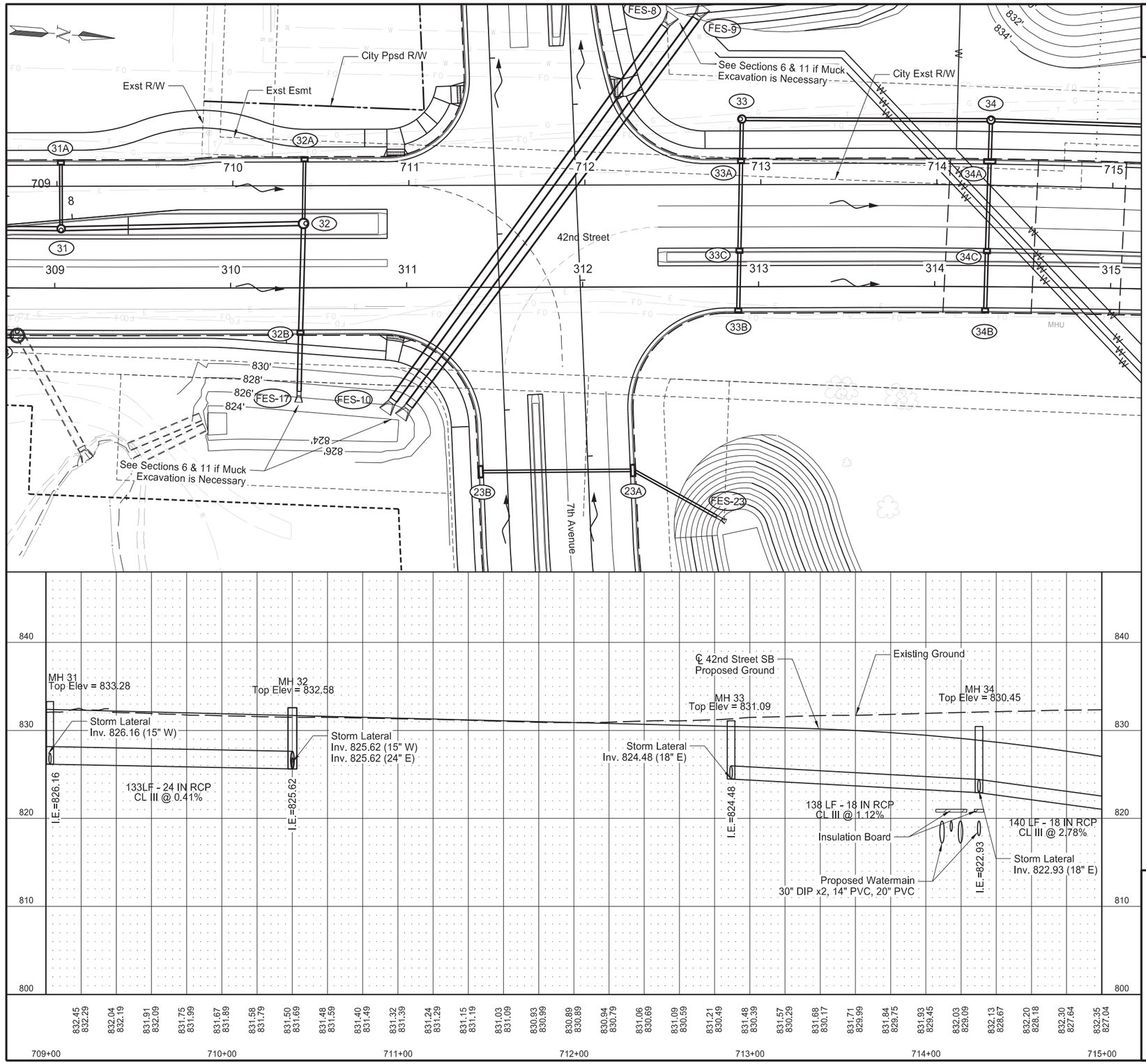
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN A. PERKINS
PE-29[illegible]
DATE: 2025.12.05 16:50:10-06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55a	7

SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	0315	PIPE CONC REINF 18IN CL III - STORM DRAIN		
		MH 33 TO MH 34	138	LF
		MH 34 TO MH 35	140	LF
714	0620	PIPE CONC REINF 24IN CL III - STORM DRAIN		
		MH 31 TO MH 32	133	LF
722	0100	MANHOLE 48IN		
		MH 33	1	EA
		MH 34	1	EA
722	0110	MANHOLE 60IN		
		MH 32	1	EA
722	1100	MANHOLE RISER 48IN		
		MH 33	5.3	LF
		MH 34	6.2	LF
722	1110	MANHOLE RISER 60IN		
		MH 32	5.5	LF



Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
- STORM MANHOLE
- FLARED END SECTION
- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

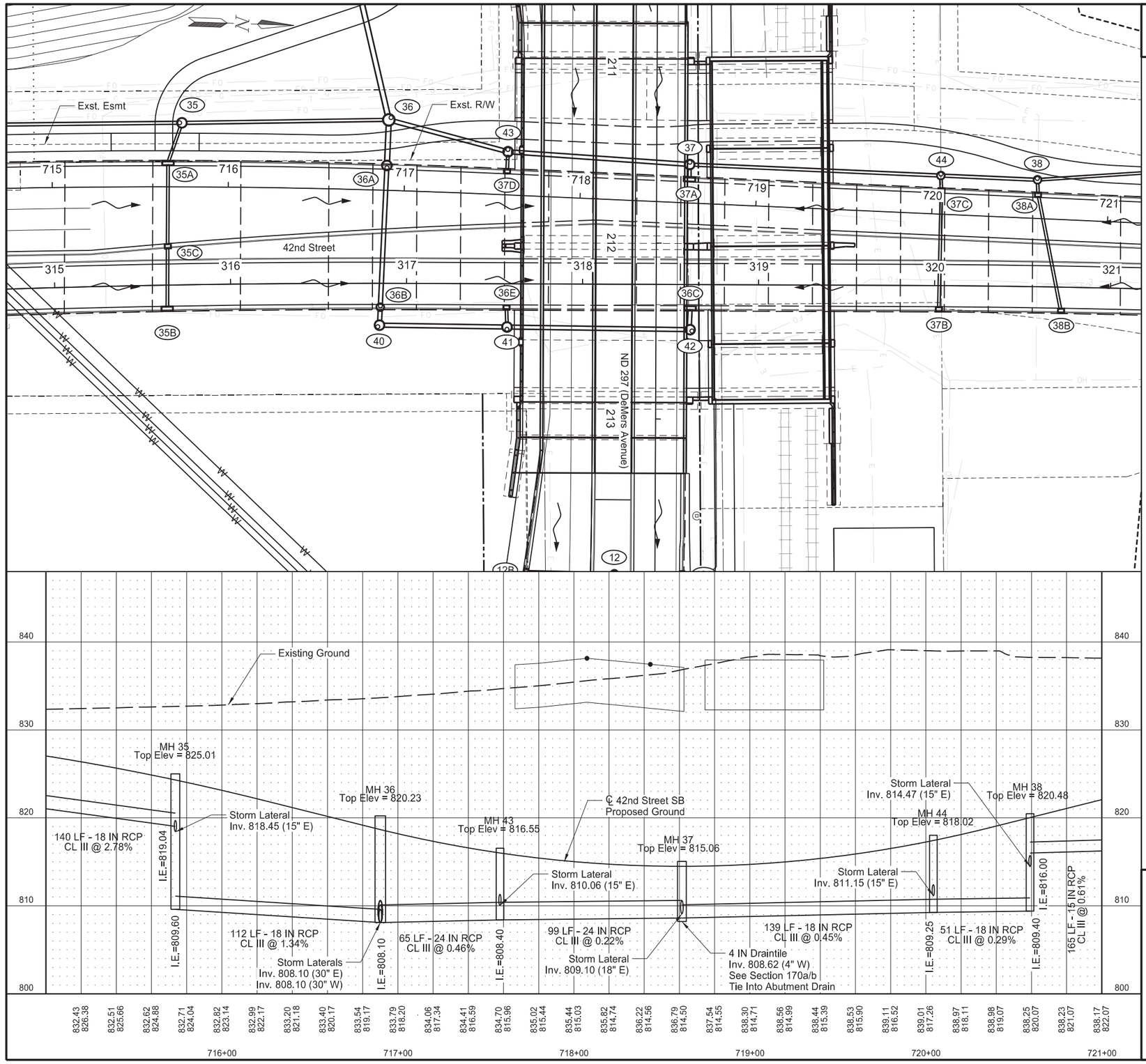
42nd Street

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN PERKINS
PE-29[illegible]
DATE: 2025.12.05 16:50:45-06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55a	8

SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	0315	PIPE CONC REINF 18IN CL III - STORM DRAIN		
		MH 35 TO MH 36	112	LF
		MH 38 TO MH 44	51	LF
		MH 44 TO MH 37	139	LF
714	0620	PIPE CONC REINF 24IN CL III - STORM DRAIN		
		MH 37 TO MH 43	99	LF
		MH 43 TO MH 36	65	LF
722	0100	MANHOLE 48IN		
		MH 38	1	EA
		MH 44	1	EA
722	0110	MANHOLE 60IN		
		MH 35	1	EA
		MH 37	1	EA
		MH 43	1	EA
722	0120	MANHOLE 72IN		
		MH 36	1	EA
722	1100	MANHOLE RISER 48IN		
		MH 38	9.8	LF
		MH 44	7.5	LF
722	1110	MANHOLE RISER 60IN		
		MH 35	14.0	LF
		MH 37	5.0	LF
		MH 43	6.7	LF
722	1120	MANHOLE RISER 72IN		
		MH 36	10.8	LF

Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
- STORM MANHOLE
- FLARED END SECTION
- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

42nd Street

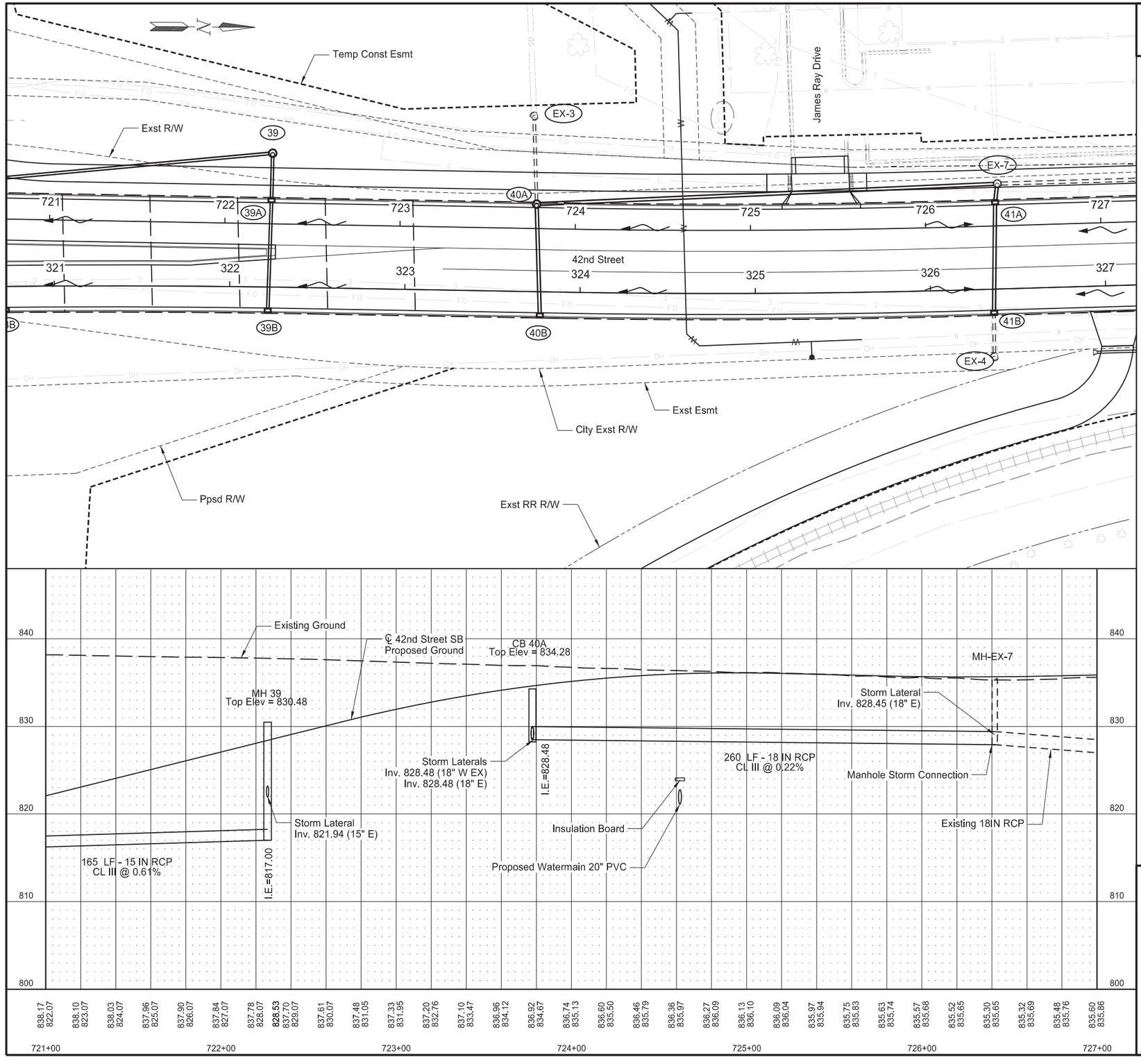
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN PERKINS
PE-29[illegible]
DATE: 2025.12.05 16:51:13-06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	55a	9



SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	0210	PIPE CONC REINF 15IN CL III - STORM DRAIN		
		MH 39 TO MH 38	165	LF
714	0315	PIPE CONC REINF 18IN CL III - STORM DRAIN		
		CB 40A TO MH EX 7	260	LF
722	0100	MANHOLE 48IN		
		MH 39	1	EA
722	1100	MANHOLE RISER 48IN		
		MH 39	12.2	LF

Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
- STORM MANHOLE
- FLARED END SECTION
- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

42nd Street

ND 297 (DeMers Ave) & 42nd St Grade Separation

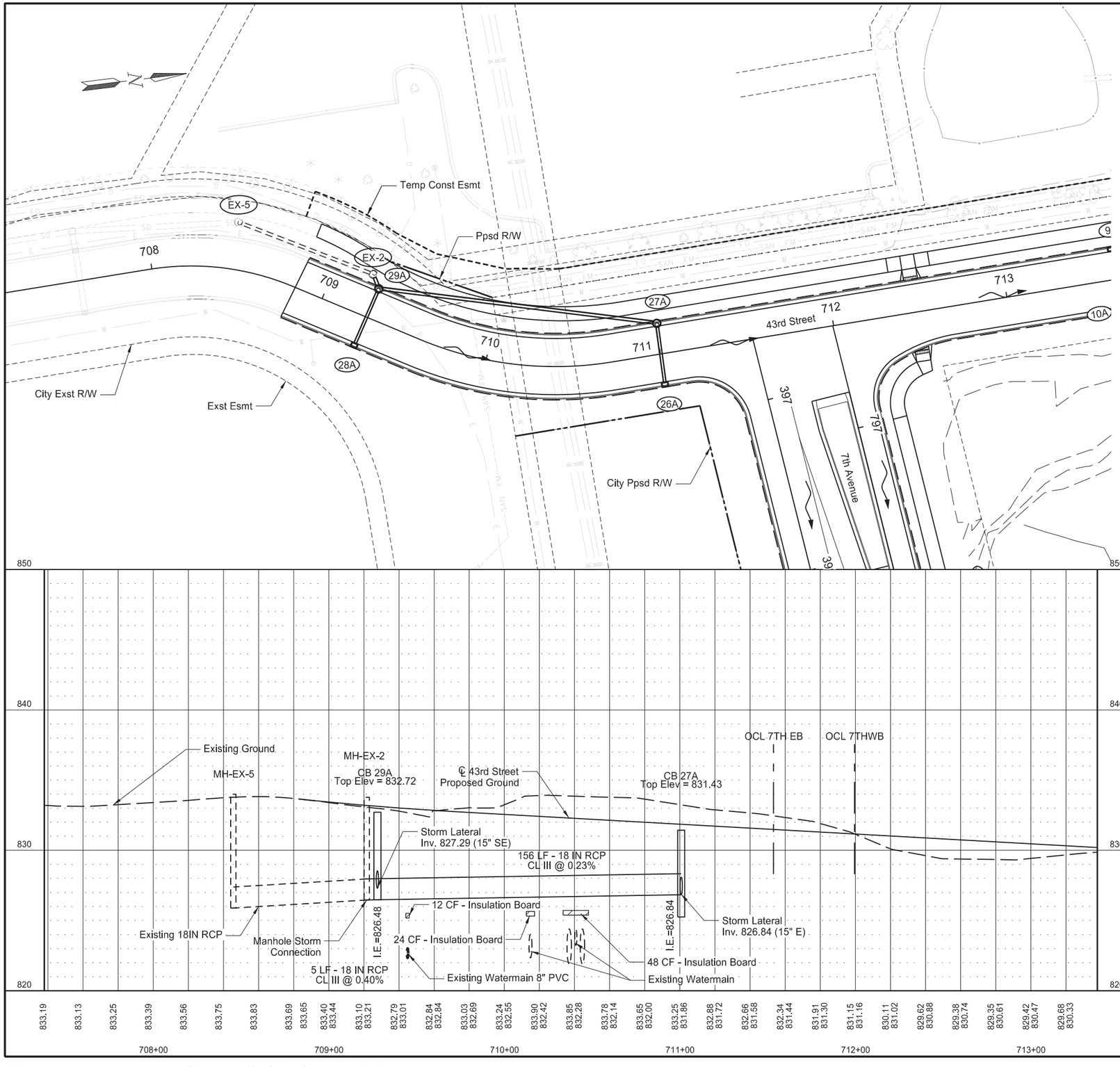
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN A. PERKINS
PE-2953
DATE: 2025.12.05 16:51:41-06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55a	10

714	0315	PIPE CONC REINF 18IN CL III - STORM DRAIN		
		CB 27A TO CB 29A	156	LF
		CB 29A TO EX-2	5	LF
722	2490	MANHOLE STORM CONNECTION		
		EX 2 TO CB 29A	1	EA
722	3701	INLET SPECIAL - TYPE 2 48IN		
		CB 27A	1	EA
		CB 29A	1	EA
744	0050	INSULATION BOARD		
		Sta 709+45	12	CF
		Sta 710+15	24	CF
		Sta 710+40	48	CF



Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
- STORM MANHOLE
- FLARED END SECTION
- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

43rd Street

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN PERKINS
PE-2935
DATE: 2025.12.05 16:52:11-06'00'
NORTH DAKOTA

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	55a	11

SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	0825	PIPE CONC REINF 30IN CL III - STORM DRAIN		
		CB 6B TO MH 8	234	LF
722	0130	MANHOLE 84IN		
		MH 8	1	EA
722	1130	MANHOLE RISER 84IN		
		MH 8	6.5	LF

Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
- STORM MANHOLE
- FLARED END SECTION
- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

43rd Street

ND 297 (DeMers Avenue) & 42nd St Grade Separation

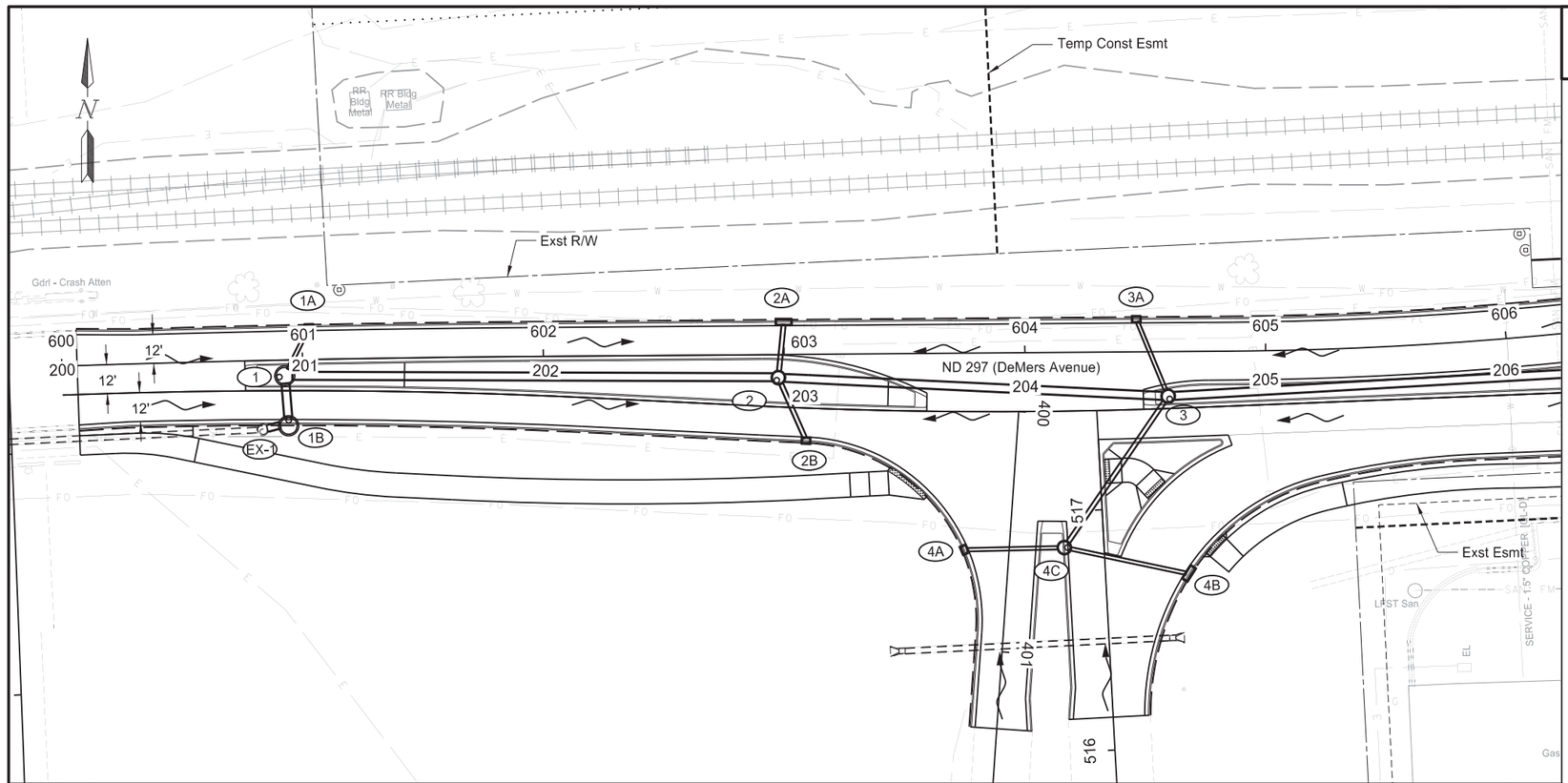
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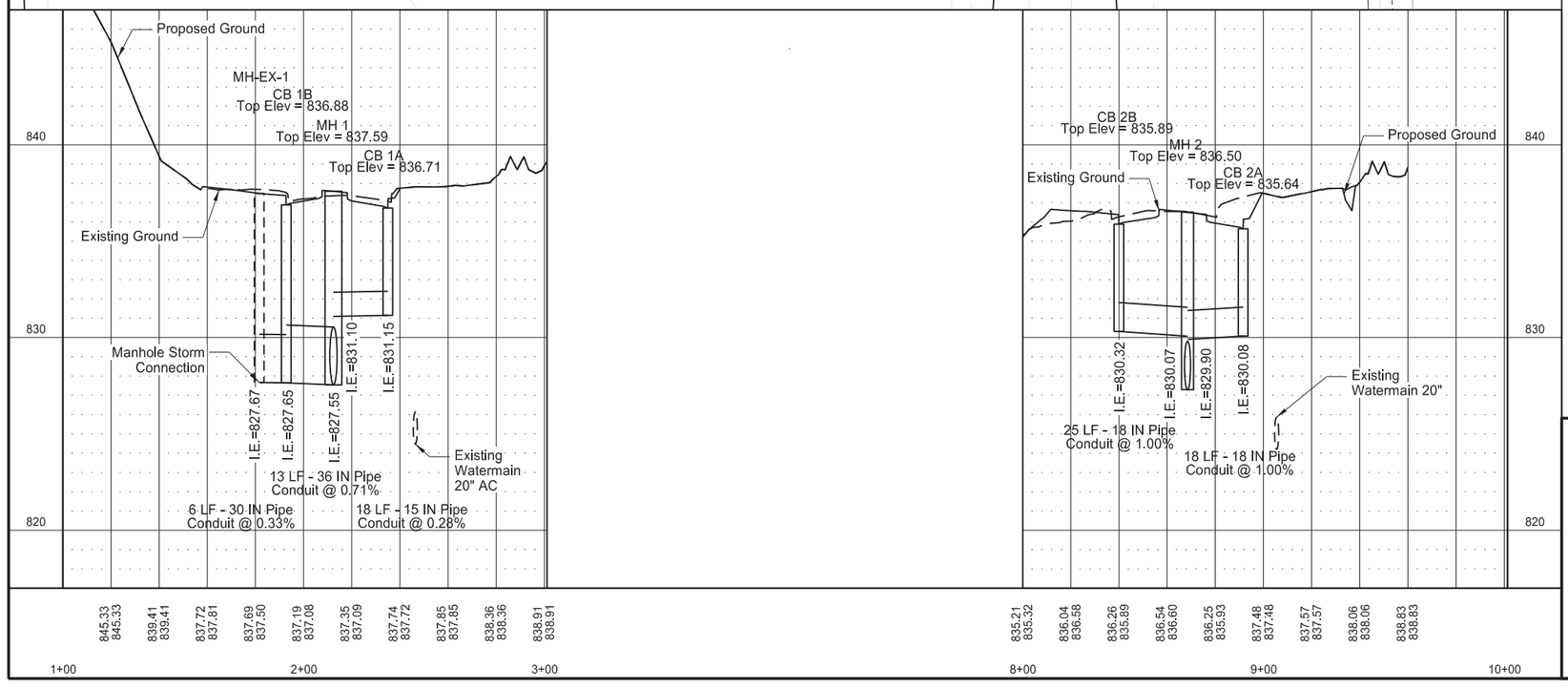
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REGISTERED PROFESSIONAL ENGINEER
JOHN PERKINS
PE-2953
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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	55a	12





SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	4097	PIPE CONDUIT 15IN-STORM DRAIN		
		CB 1A TO MH 1	18	LF
714	4101	PIPE CONDUIT 18IN - STORM DRAIN		
		CB 2A TO MH 2	18	LF
		CB 2B TO MH 2	25	LF
714	4112	PIPE CONDUIT 30IN - STORM DRAIN		
		EX-1 TO CB 1	6	LF
714	4117	PIPE CONDUIT 36IN - STORM DRAIN		
		CB 1B TO MH 1	13	LF
722	2490	MANHOLE STORM CONNECTION		
		EX 1 TO CB 1B	1	EA
722	3510	INLET - TYPE 2		
		CB 1A	1	EA
		CB 2B	1	EA
722	3520	INLET - TYPE 2 DOUBLE		
		CB 2A	1	EA
722	3766	INLET SPECIAL - TYPE 2 72IN		
		CB 1B	1	EA

Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
- STORM MANHOLE
- FLARED END SECTION
- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

ND 297 (DeMers Avenue)

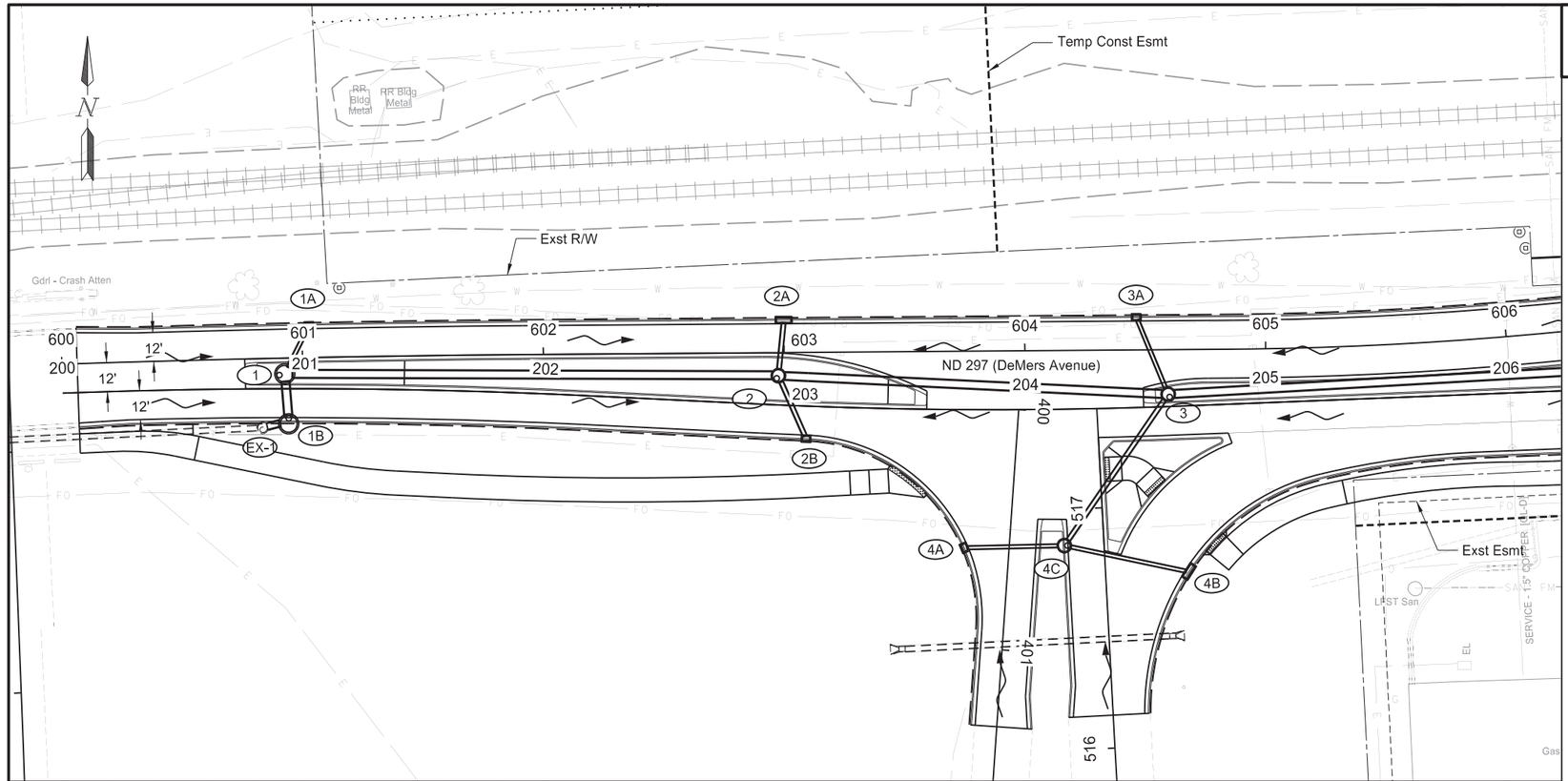
ND 297 (DeMers Ave) & 42nd St Grade Separation

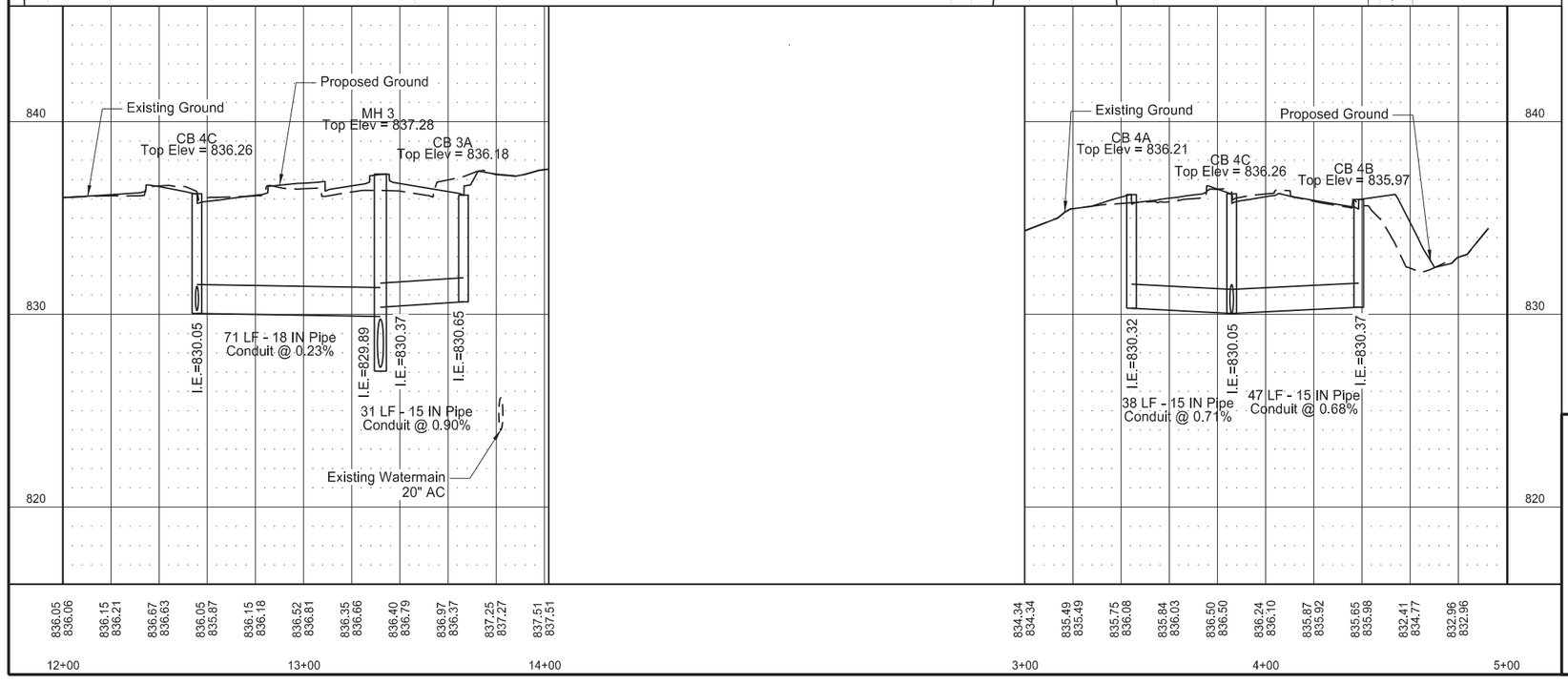
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN J. PERKINS
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NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	55a	13





SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	4097	PIPE CONDUIT 15IN - STORM DRAIN		
		CB 3A TO MH 3	31	LF
		CB 4A TO CB 4C	38	LF
		CB 4B TO CB 4C	47	LF
714	4101	PIPE CONDUIT 18IN - STORM DRAIN		
		CB 4C TO MH 3	71	LF
722	3510	INLET - TYPE 2		
		CB 3A	1	EA
		CB 4A	1	EA
722	3520	INLET - TYPE 2 DOUBLE		
		CB 4B	1	EA
722	3761	INLET SPECIAL - TYPE 2 60IN		
		CB 4C	1	EA

Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
- STORM MANHOLE
- FLARED END SECTION
- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

ND 297 (DeMers Avenue)

ND 297 (DeMers Ave) & 42nd St Grade Separation

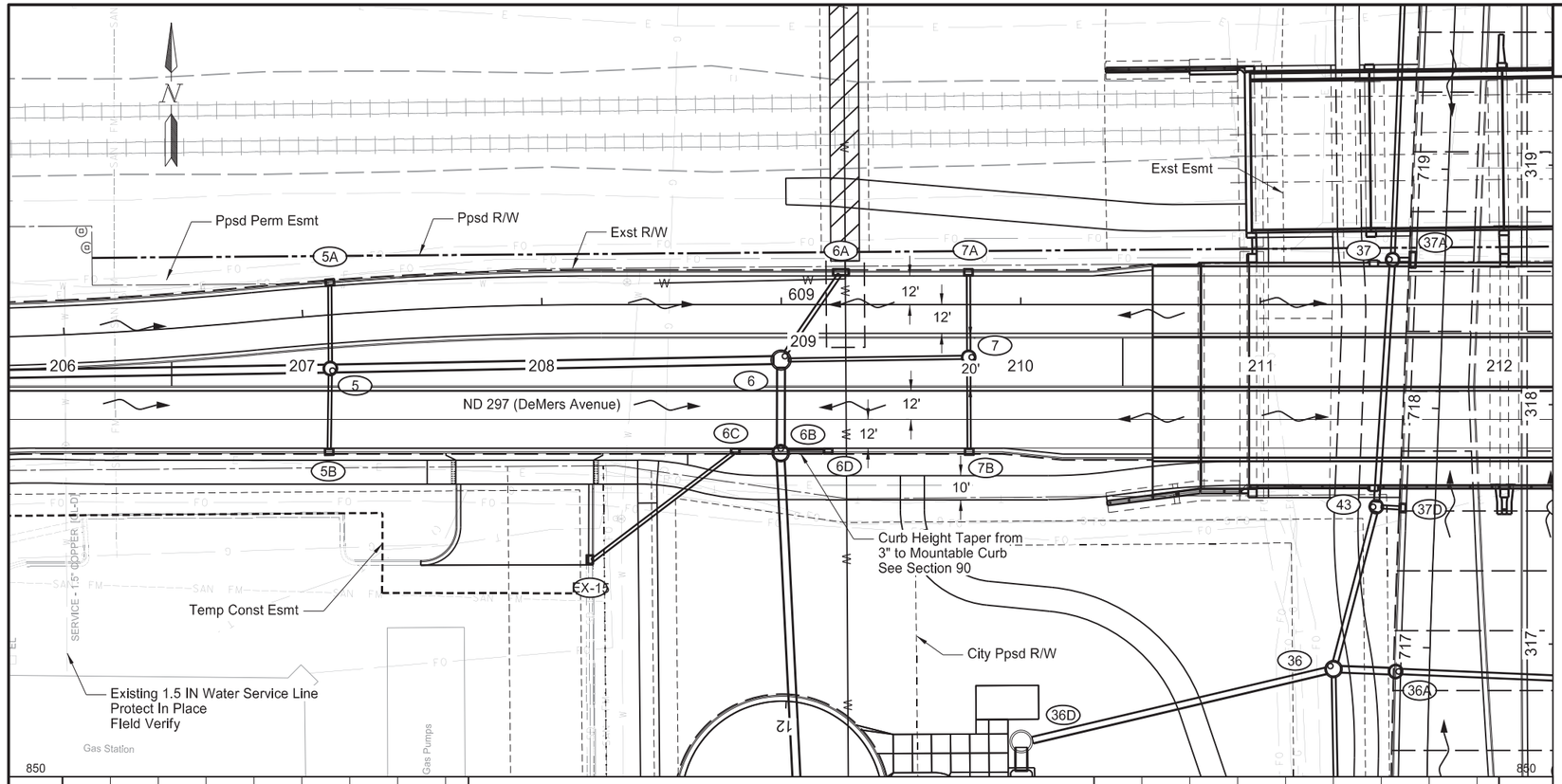
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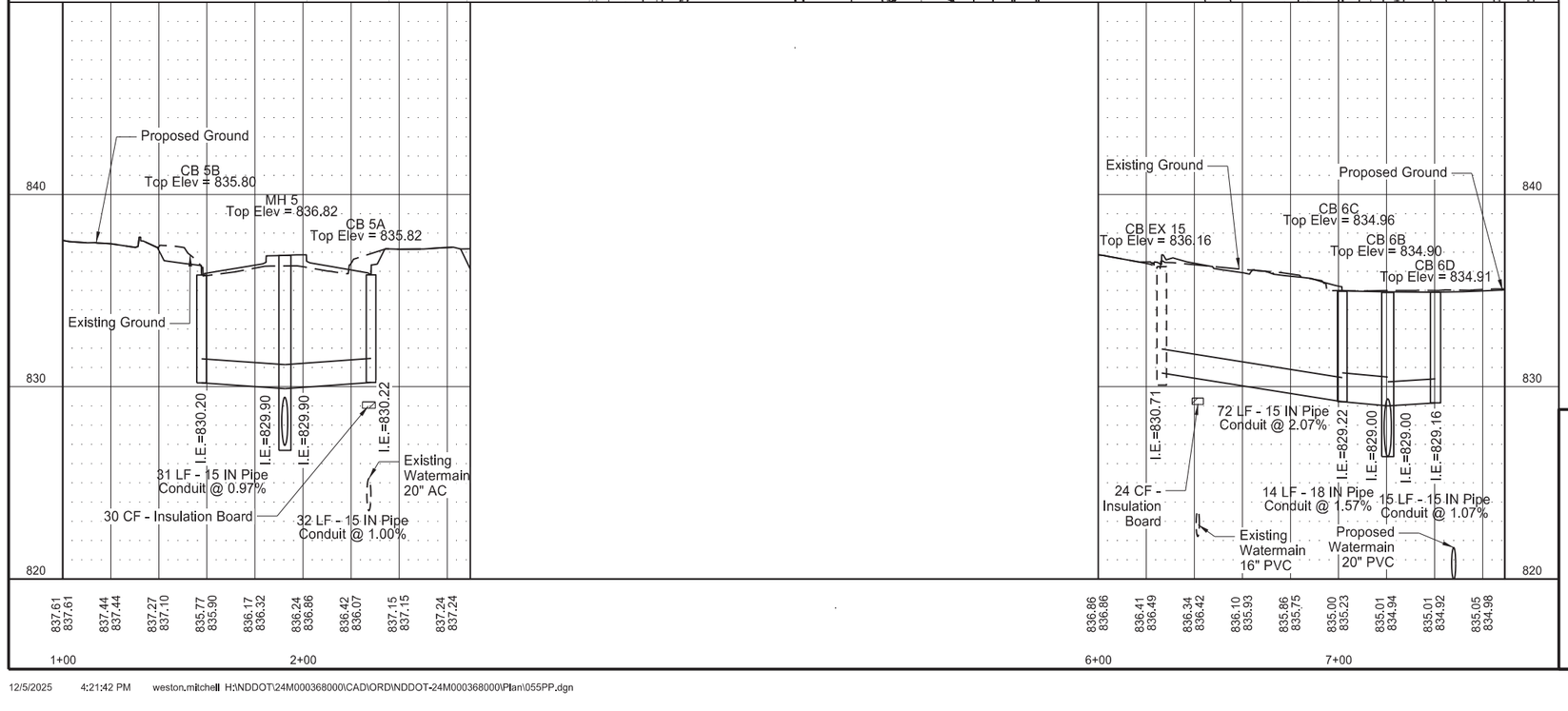
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN J. PERKINS
PE-29[illegible]
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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	55a	14





SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	4097	PIPE CONDUIT 15IN - STORM DRAIN		
		CB 5A TO MH 5	32	LF
		CB 5B TO MH 5	31	LF
		CB-EX-15 TO CB 6C	72	LF
		CB 6D TO CB 6B	15	LF
714	4101	PIPE CONDUIT 18IN - STORM DRAIN		
		CB 6C to CB 6B	14	LF
722	2490	MANHOLE STORM CONNECTION		
		CB-EX-15 TO CB 6B	1	EA
722	3510	INLET - TYPE 2		
		CB 5A	1	EA
		CB 5B	1	EA
722	3713	INLET SPECIAL MOUNTABLE - TYPE B 48IN		
		CB 6C	1	EA
		CB 6D	1	EA
722	3773	INLET SPECIAL MOUNTABLE - TYPE B 72IN		
		CB 6B	1	EA
744	0050	INSULATION BOARD		
		Sta 2+25	30	CF
		Sta 6+40	24	CF

Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
- STORM MANHOLE
- FLARED END SECTION
- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

ND 297 (DeMers Avenue)

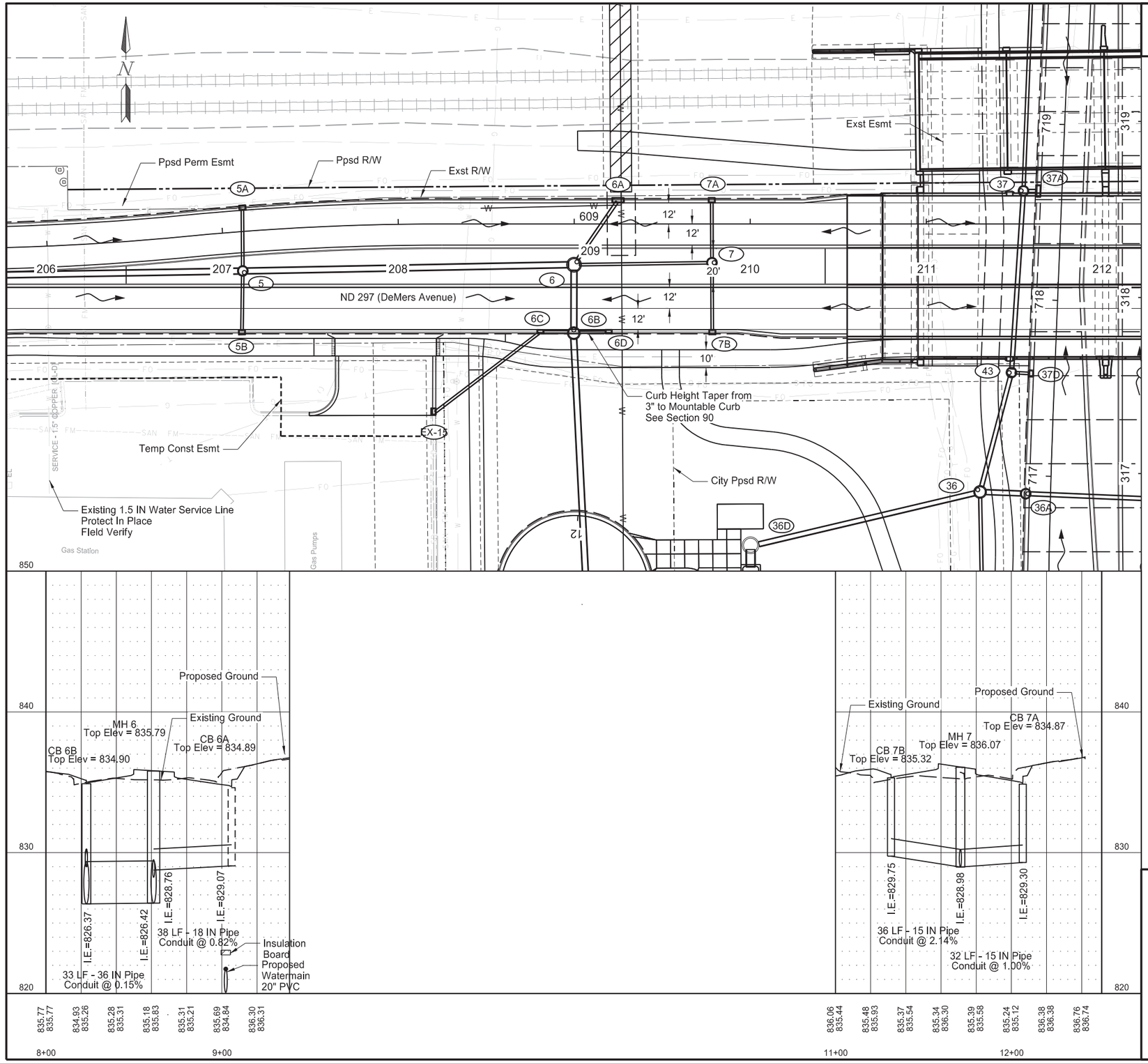
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN PERKINS
PE-29[illegible]
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NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	55a	15



SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	4097	PIPE CONDUIT 15IN - STORM DRAIN		
		CB 6A TO MH 6	38	LF
		CB 7A TO MH 7	32	LF
		CB 7B TO MH 7	36	LF
722	3510	INLET - TYPE 2		
		CB 7A	1	EA
		CB 7B	1	EA
722	3520	INLET - TYPE 2 DOUBLE		
		CB 6A	1	EA

Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
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Drainage Layouts

Stormsewer Plan and Profile

ND 297 (DeMers Avenue)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN PERKINS
PE-2993
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NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	55a	16

SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	7025	PIPE PVC 8IN		
		RAIL BRIDGE TO CB 12A	118	LF
714	4097	PIPE CONDUIT 15IN - STORM DRAIN		
		CB 12A TO MH 12	35	LF
		CB 12B TO MH 12	47	LF
		CB 13B TO MH 13	42	LF
		CB 13C TO MH 18	36	LF
714	4107	PIPE CONDUIT 24IN - STORM DRAIN		
		CB 13A TO MH 13	45	LF
714	0922	PIPE CONC REINF 36IN CL V		
		FES 14 TO CB 13A	116	LF
722	3510	INLET - TYPE 2		
		CB 12A	1	EA
		CB 12B	1	EA
		CB 13B	1	EA
		CB 13C	1	EA
722	3761	INLET SPECIAL - TYPE 2 60IN		
		CB 13A	1	EA

Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
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- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

ND 297 (DeMers Avenue)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

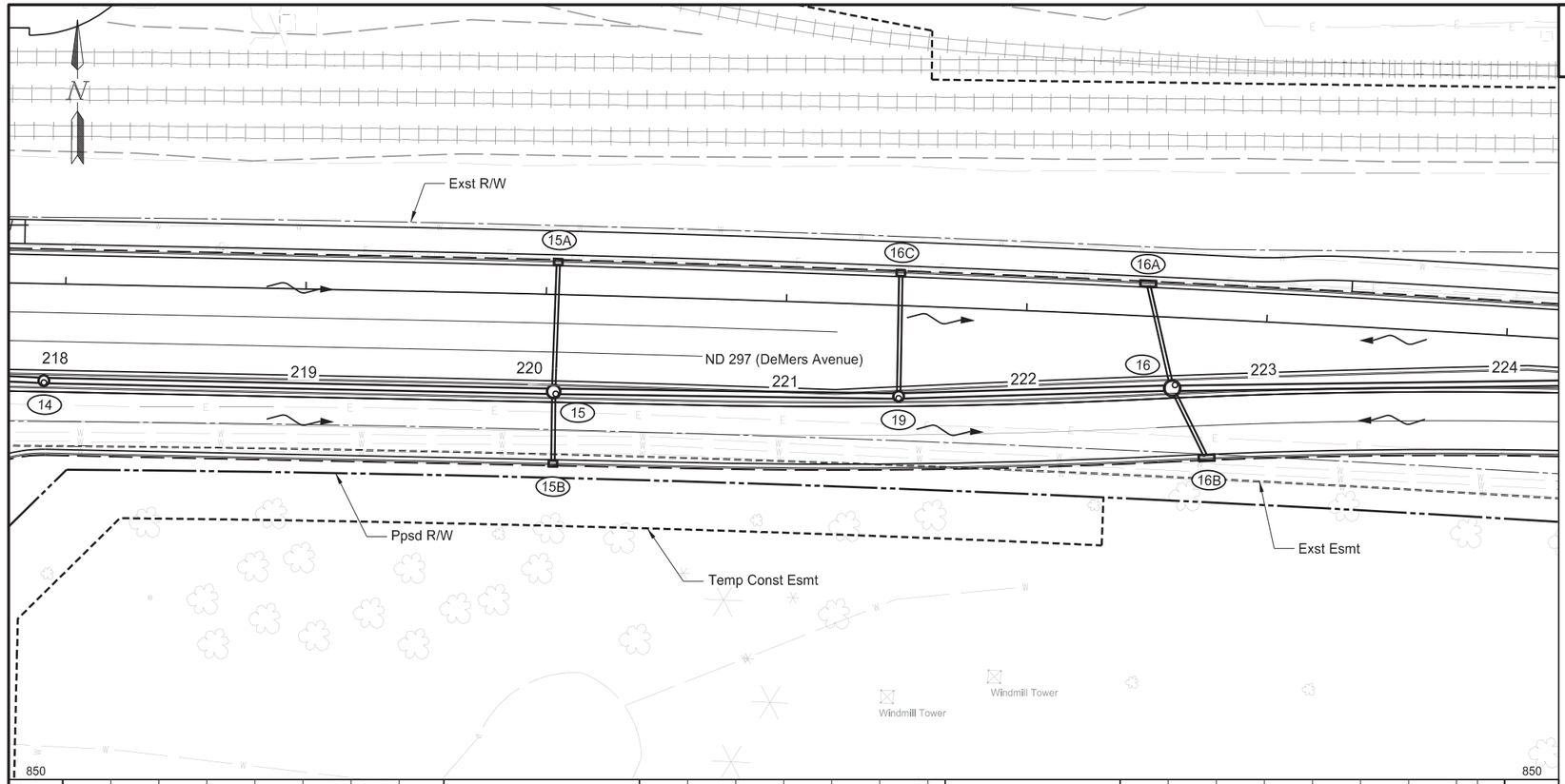
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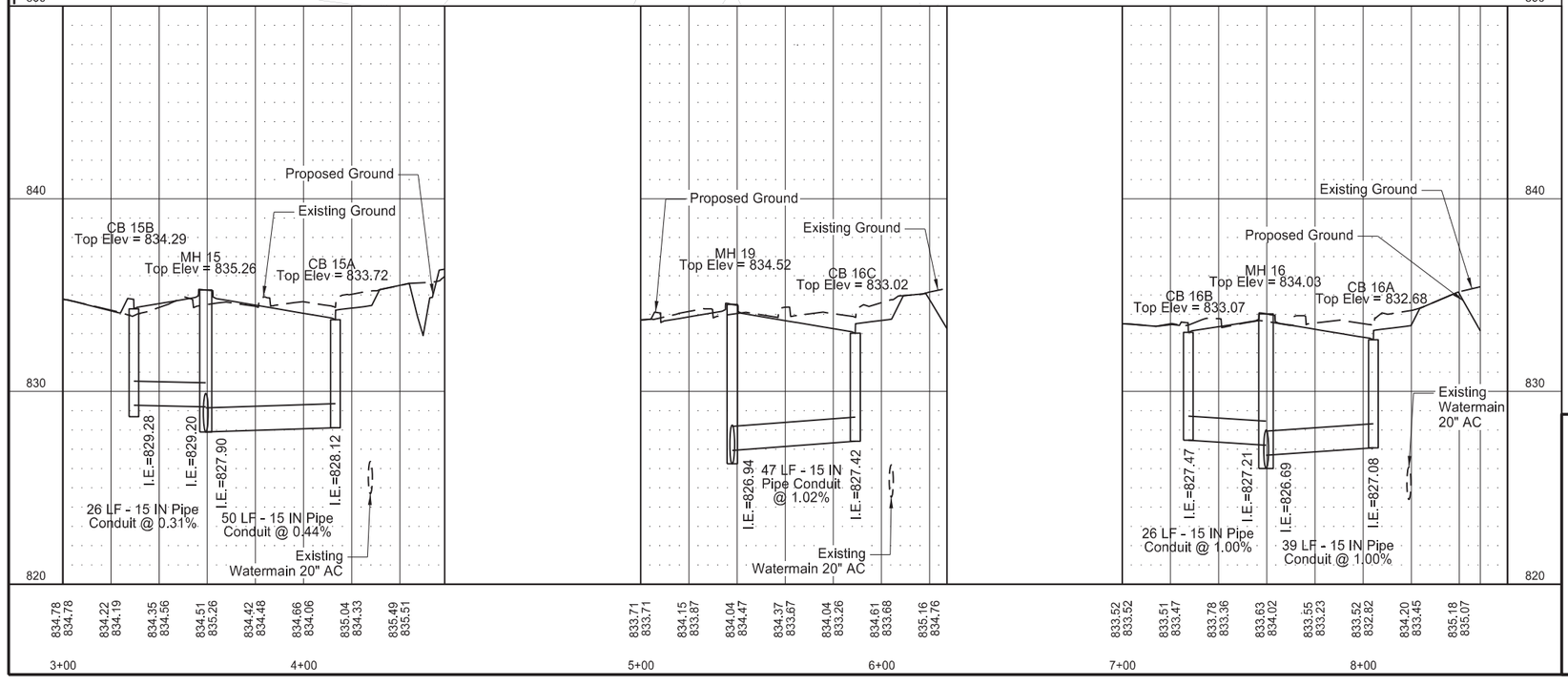
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55a	17

SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	4097	PIPE CONDUIT 15IN - STORM DRAIN		
		CB 15A TO MH 15	50	LF
		CB 15B TO MH 15	26	LF
		CB 16A TO MH 16	39	LF
		CB 16B TO MH 16	26	LF
		CB 16C TO MH 19	47	LF
722	3510	INLET - TYPE 2		
		CB 15A	1	EA
		CB 15B	1	EA
		CB 16C	1	EA
722	3520	INLET - TYPE 2 DOUBLE		
		CB 16A	1	EA
		CB 16B	1	EA





Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
- STORM MANHOLE
- FLARED END SECTION
- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

ND 297 (DeMers Avenue)

ND 297 (DeMers Ave) & 42nd St Grade Separation

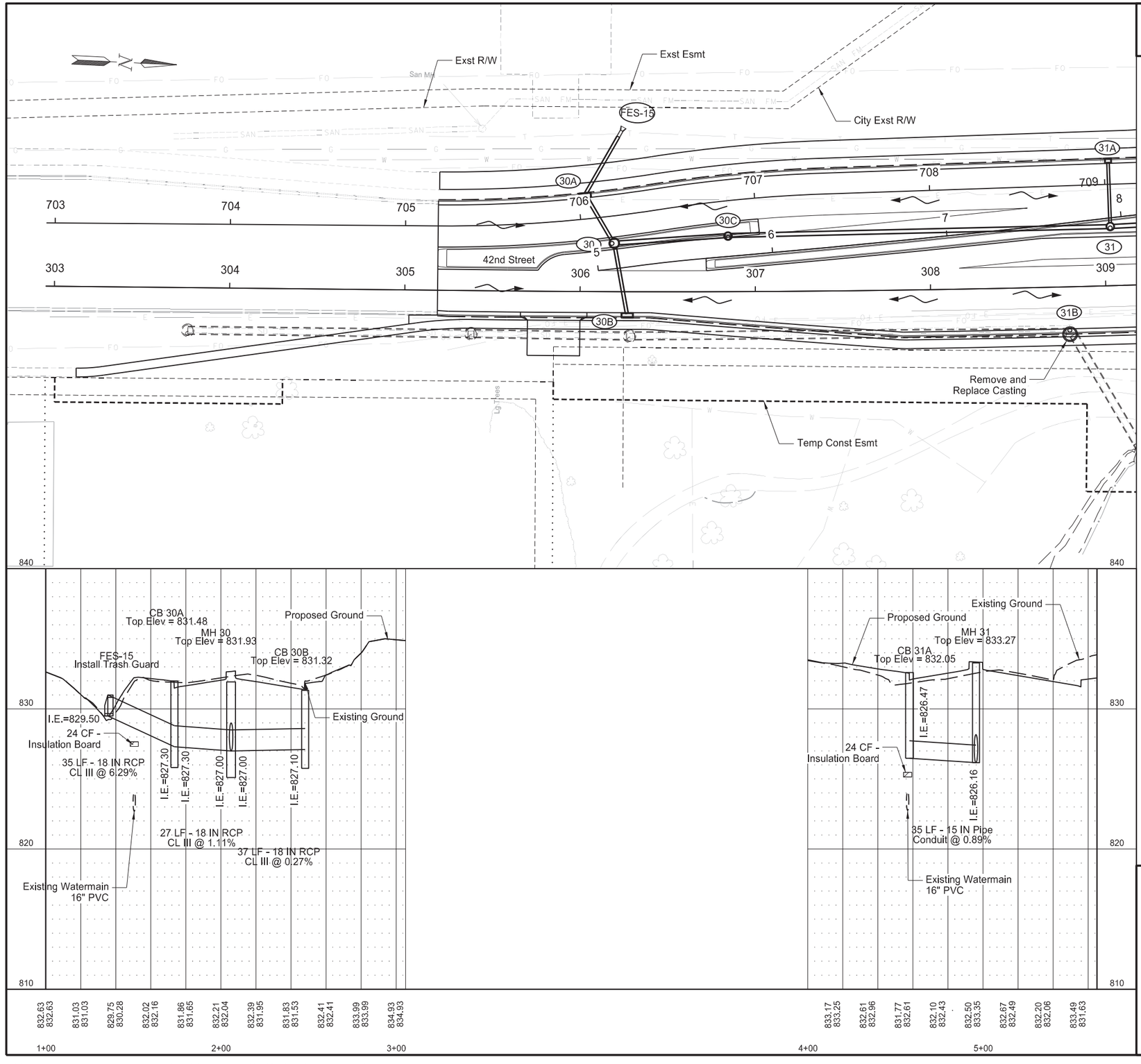
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN J. PERKINS
PE-29[illegible]
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NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55a	18



SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	0210	PIPE CONC REINF 15IN CL III - STORM DRAIN		
		CB 31A TO MH 31	35	LF
714	0315	PIPE CONC REINF 18IN CL III - STORM DRAIN		
		FES 15 TO CB 30A	35	LF
		CB 30A TO MH 30	27	LF
		CB 30B TO MH 30	37	LF
722	3510	INLET - TYPE 2		
		CB 31A	1	EA
722	3520	INLET - TYPE 2 DOUBLE		
		CB 30A	1	EA
		CB 30B	1	EA
722	6201	ADJUST MANHOLE SPECIAL		
		CB 31B	1	EA
744	0050	INSULATION BOARD		
		Sta 1+50	24	CF
		Sta 4+55	24	CF

Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
- STORM MANHOLE
- FLARED END SECTION
- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

42nd Street

ND 297 (DeMers Ave) & 42nd St Grade Separation

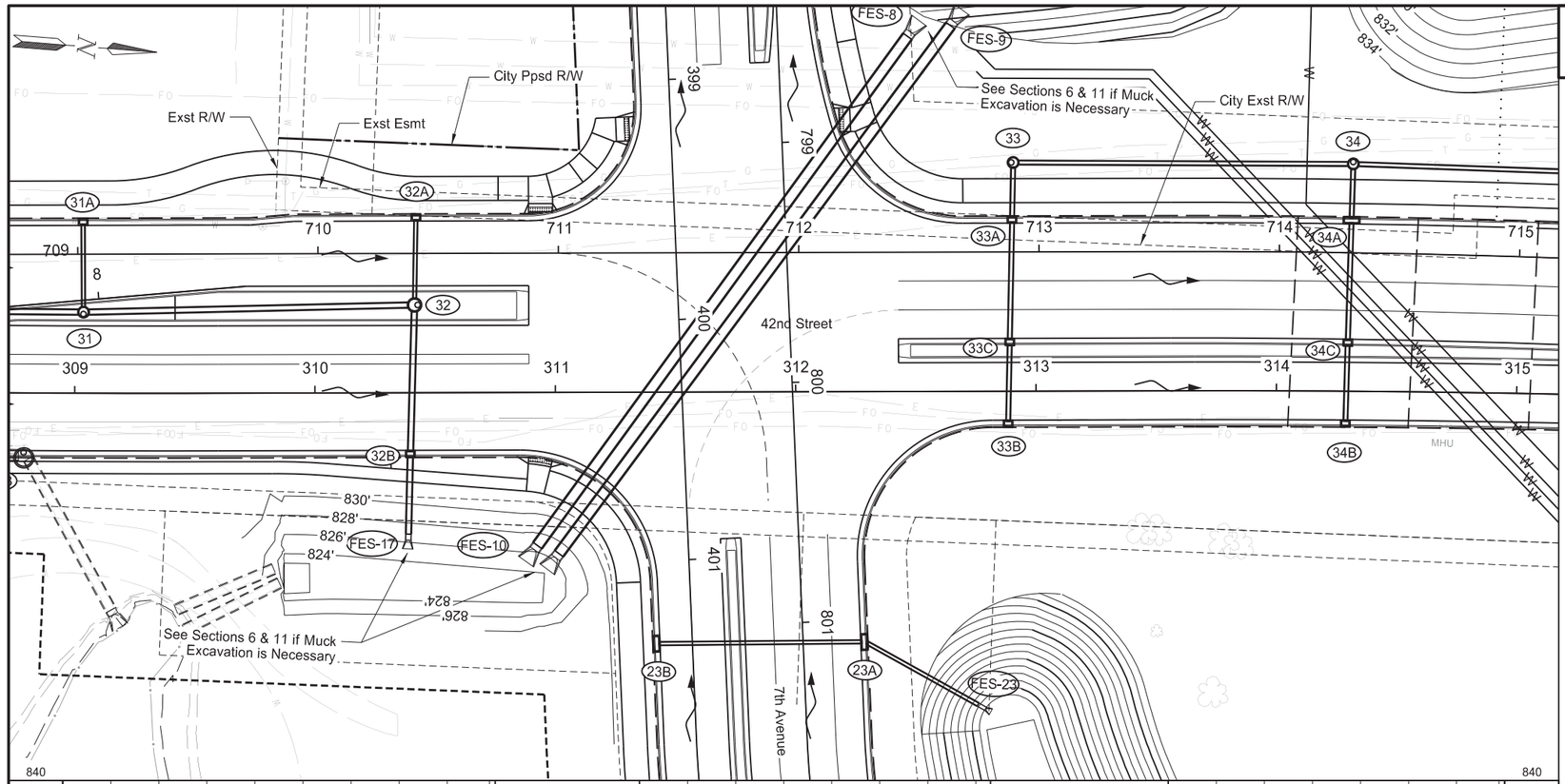
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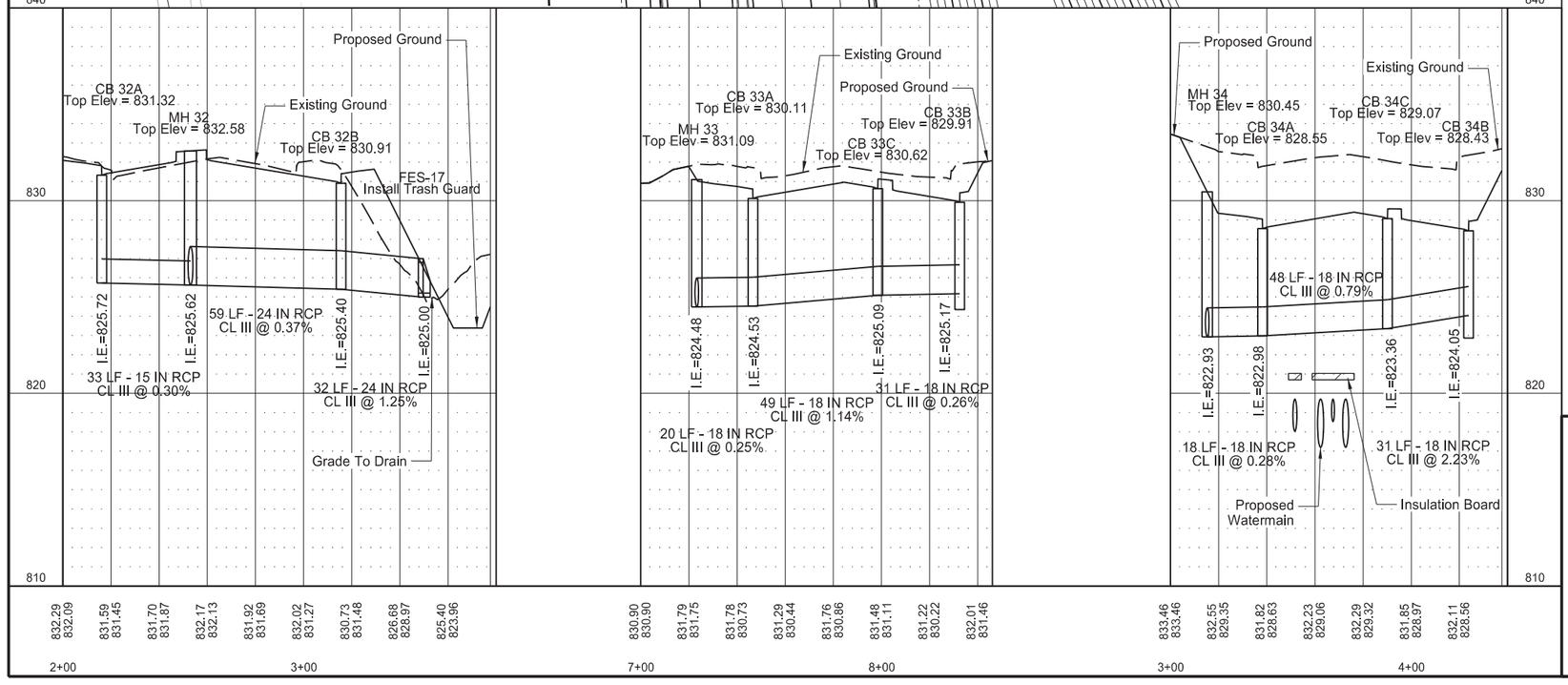
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN A. PERKINS
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	0210	PIPE CONC REINF 15IN CL III - STORM DRAIN		
		CB 32A TO MH 32	33	LF
714	0315	PIPE CONC REINF 18IN CL III - STORM DRAIN		
		CB 33A TO MH 33	20	LF
		CB 33B TO CB 33C	31	LF
		CB 33C TO CB 33A	49	LF
		CB 34A TO MH 34	18	LF
		CB 34B TO CB 34C	31	LF
		CB 34C TO CB 34A	48	LF
714	0620	PIPE CONC REINF 24IN CL III - STORM DRAIN		
		MH 32 TO CB 32B	59	LF
		CB 32B TO FES 17	32	LF
722	3510	INLET - TYPE 2		
		CB 32A	1	EA
		CB 32B	1	EA
		CB 33A	1	EA
		CB 33B	1	EA
		CB 33C	1	EA
		CB 34B	1	EA
		CB 34C	1	EA
722	3520	INLET - TYPE 2 DOUBLE		
		CB 34A	1	EA

Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
- STORM MANHOLE
- FLARED END SECTION
- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

42nd Street

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN PERKINS
PE-2975
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NORTH DAKOTA

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	0210	PIPE CONC REINF 15IN CL III - STORM DRAIN		
		CB 35A TO MH 35	19	LF
		CB 35B TO CB 35C	31	LF
		CB 35C TO CB 35A	44	LF
		CB 37B TO CB 37C	66	LF
		CB 37C TO MH 44	5	LF
		CB 38A TO MH 38	3	LF
		CB 38B TO CB 38A	64	LF
722	3510	INLET - TYPE 2		
		CB 35C	1	EA
		CB 37B	1	EA
		CB 37C	1	EA
		CB 38B	1	EA
722	3520	INLET - TYPE 2 DOUBLE		
		CB 35A	1	EA
		CB 35B	1	EA
		CB 38A	1	EA

Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
- STORM MANHOLE
- FLARED END SECTION
- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

42nd Street

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN PERKINS
PE-2993
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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	55a	21

SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	0620	PIPE CONC REINF 24IN CL III - STORM DRAIN		
		MH 41 TO MH 40	68	LF
		MH 42 TO MH 41	100	LF
722	0110	MANHOLE 60IN		
		MH 40	1	LF
		MH 41	1	EA
		MH 42	1	EA
722	1110	MANHOLE RISER 60IN		
		MH 40	10.1	EA
		MH 41	7.3	LF
		MH 42	5.1	LF

Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
- STORM MANHOLE
- FLARED END SECTION
- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

42nd Street

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN PERKINS
PE-29[illegible]
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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	55a	22

SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	0210	PIPE CONC REINF 15IN CL III - STORM DRAIN		
		CB 36E to MH 41	7	LF
		CB 37D to MH 43	7	LF
714	0315	PIPE CONC REINF 18IN CL III - STORM DRAIN		
		CB 36C to MH 42	6	LF
		CB 37A to MH 37	3	LF
722	3510	INLET - TYPE 2		
		CB 36E	1	EA
		CB 37D	1	EA
722	3520	INLET - TYPE 2 DOUBLE		
		CB 36C	1	EA
		CB 37A	1	EA

Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
- STORM MANHOLE
- FLARED END SECTION
- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

42nd Street

ND 297 (DeMers Avenue) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN PERKINS
PE-29[illegible]
DATE: 2025.12.05 16:58:53-06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	55a	23

SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	0315	PIPE CONC REINF 18IN CL III - STORM DRAIN		
		FES 13 TO MH 11	31	LF
714	0620	PIPE CONC REINF 24IN CL III - STORM DRAIN		
		CB 36B TO CB 36A	76	LF
		MH 40 TO CB 36B	6	LF
714	0825	PIPE CONC REINF 30IN CL III - STORM DRAIN		
		MH 11 TO FES-6	46	LF
714	0840	PIPE CONC REINF 30IN CL V - STORM DRAIN		
		CB 36A TO MH 36	21	LF
		MH 36 TO MH 36D	127	LF
722	0110	MANHOLE 60IN		
		MH 11	1	EA
722	0140	MANHOLE 96IN		
		MH 36D	1	EA
722	1110	MANHOLE RISER 60IN		
		MH 11	5.6	LF
722	1140	MANHOLE RISER 96IN		
		MH 36D	34.3	LF
722	3701	INLET SPECIAL - TYPE 2 48IN		
		CB 36B	1	EA
722	3761	INLET SPECIAL - TYPE 2 60IN		
		CB 36A	1	EA

Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
- STORM MANHOLE
- FLARED END SECTION
- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

42nd Street

ND 297 (DeMers Avenue) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN PERKINS
PE-2935
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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	55a	24

SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	0210	PIPE CONC REINF 15IN CL III - STORM DRAIN		
		CB 39A TO MH 39	23	LF
		CB 39B TO CB 39A	61	LF
714	0315	PIPE CONC REINF 18IN CL III - STORM DRAIN		
		CB 40B TO CB 40A	61	LF
		CB 41B TO CB 41A	61	LF
		CB 41A TO EX-7	7	LF
722	2490	MANHOLE STORM CONNECTION		
		CB 40A	1	EA
		CB 41A	1	EA
		CB 41B	1	EA
722	3510	INLET - TYPE 2		
		CB 39A	1	EA
		CB 39B	1	EA
		CB 40B	1	EA
		CB 41A	1	EA
		CB 41B	1	EA
722	3701	INLET SPECIAL - TYPE 2 48IN		
		CB 40A	1	EA

Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
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Drainage Layouts

Stormsewer Plan and Profile

42nd Street

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

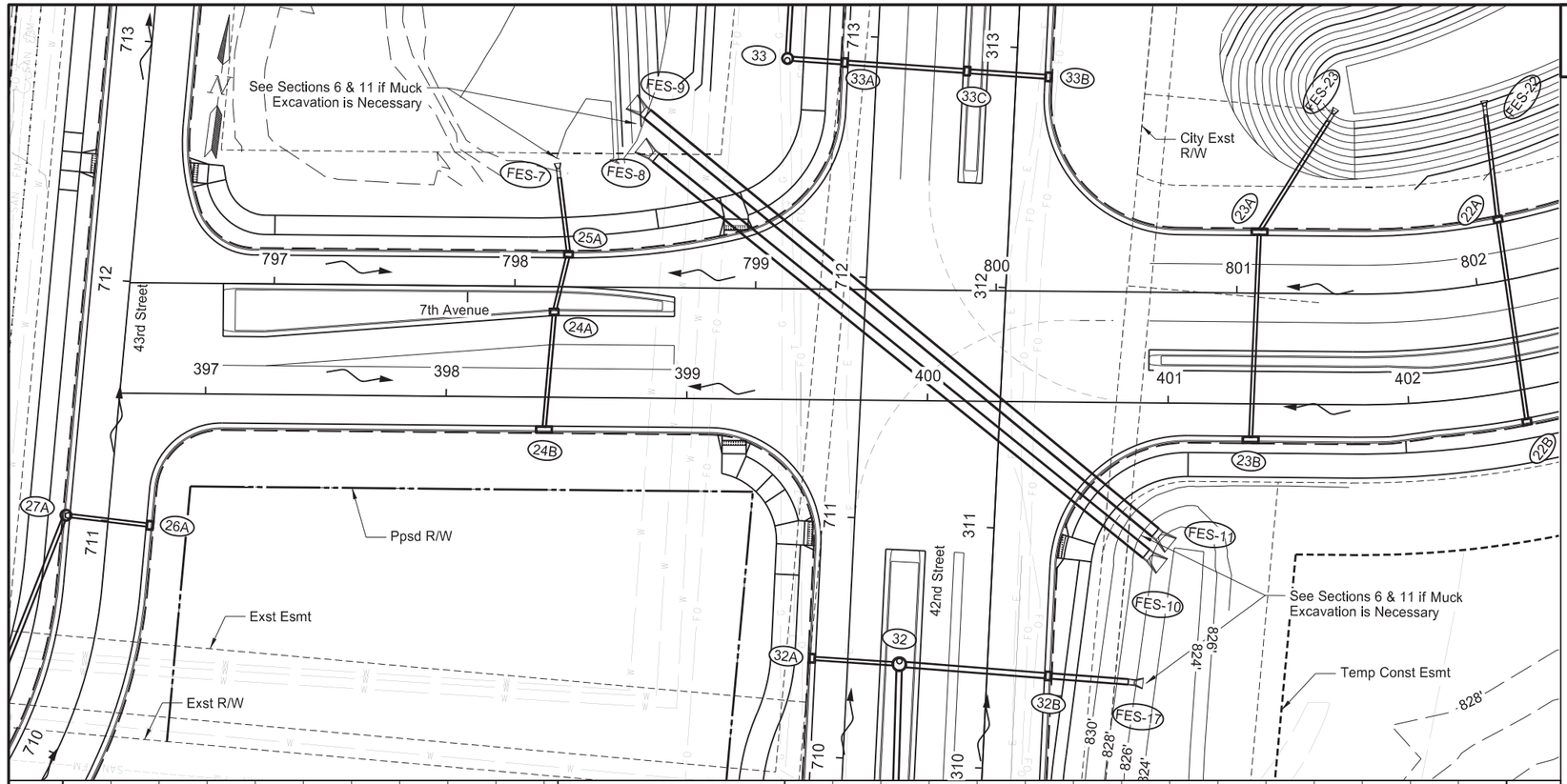
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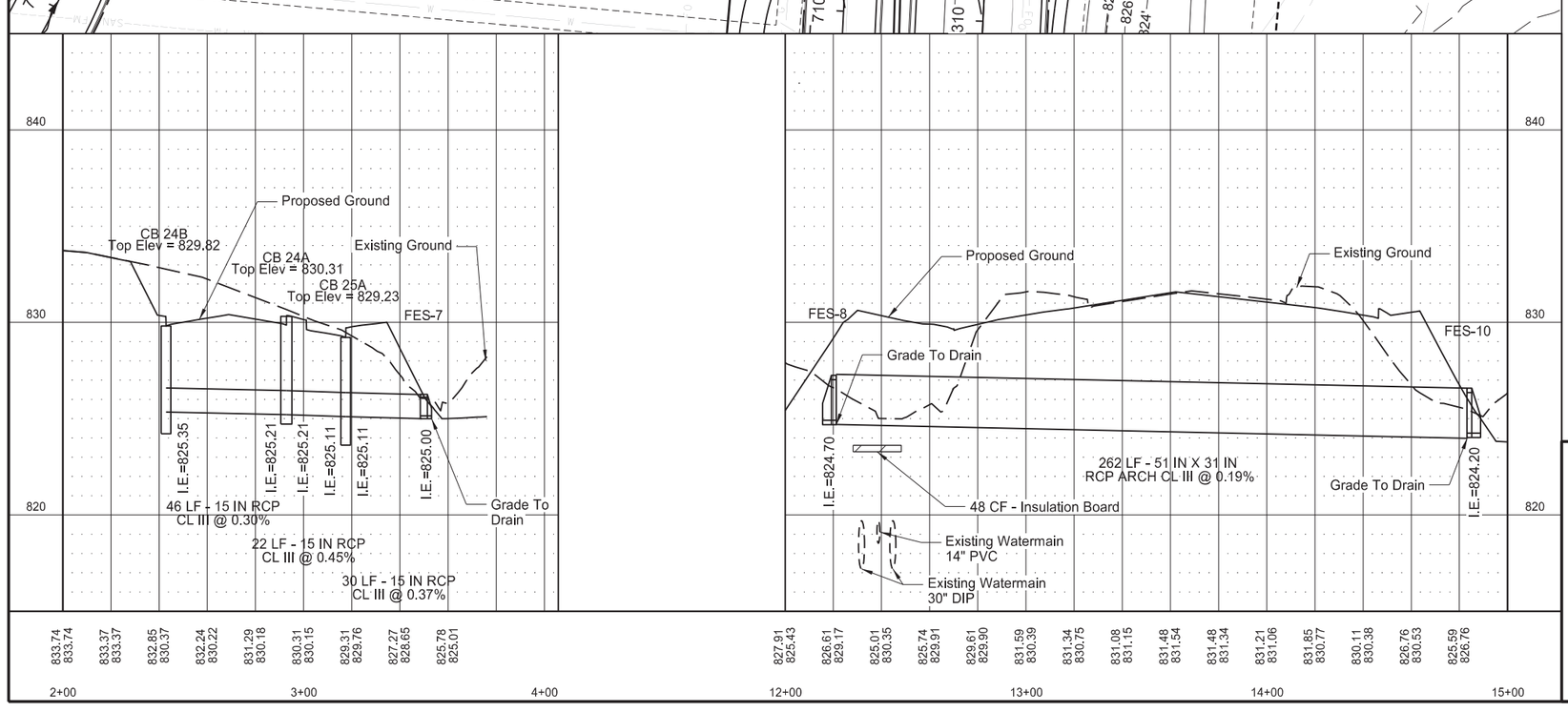
REGISTERED PROFESSIONAL ENGINEER
JOHN A. PERKINS
PE-29[illegible]
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NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55a	25

SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	0210	PIPE CONC REINF 15IN CL III - STORM DRAIN		
		CB 24A TO CB 25A	22	LF
		CB 24B TO CB 24A	46	LF
		CB 25A TO FES 7	30	LF
714	2119	PIPE CONC REINF ARCH 51IN X 31IN CL III - S DRAIN		
		FES 8 TO FES 10	262	LF
722	3510	INLET - TYPE 2		
		CB 24A	1	EA
		CB 25A	1	EA
722	3520	INLET - TYPE 2 DOUBLE		
		CB 24B	1	EA
744	0050	INSULATION BOARD		
		Sta 12+40	48	CF





Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
- STORM MANHOLE
- FLARED END SECTION
- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

7th Avenue

ND 297 (DeMers Ave) & 42nd St Grade Separation

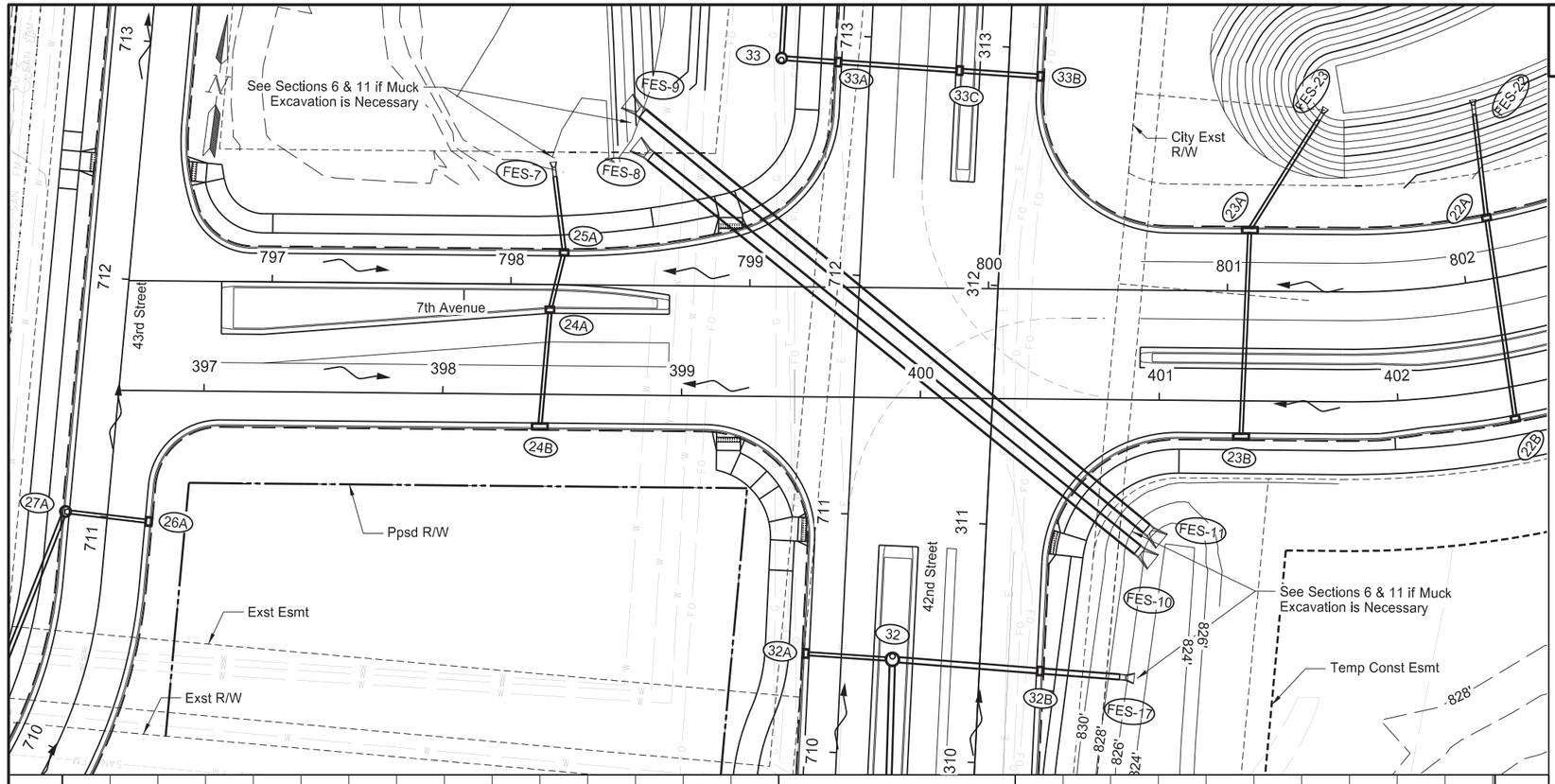
Grand Forks County

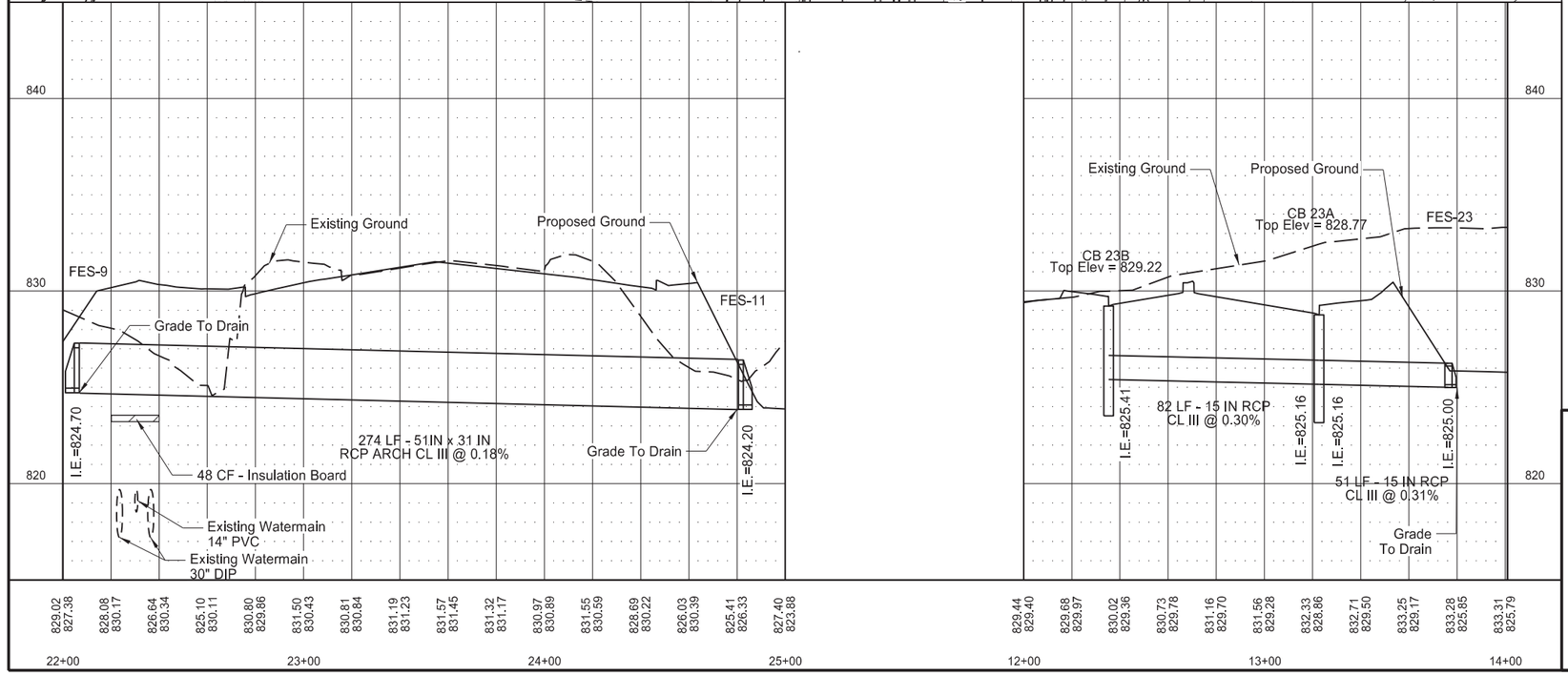
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN PERKINS PE-29[illegible]
DATE: 2025.12.05 17:00:34-06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	55a	26

SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	0210	PIPE CONC REINF 15IN CL III - STORM DRAIN		
		CB 23A TO FES 23	51	LF
		CB 23B TO CB 23A	82	LF
714	2119	PIPE CONC REINF ARCH 51IN X 31IN CL III - S DRAIN		
		FES 9 TO FES 11	274	LF
722	3520	INLET - TYPE 2 DOUBLE		
		CB 23A	1	EA
		CB 23B	1	EA
744	0050	INSULATION BOARD		
		Sta 22+30	48	CF





Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
- STORM MANHOLE
- FLARED END SECTION
- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

7th Avenue

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

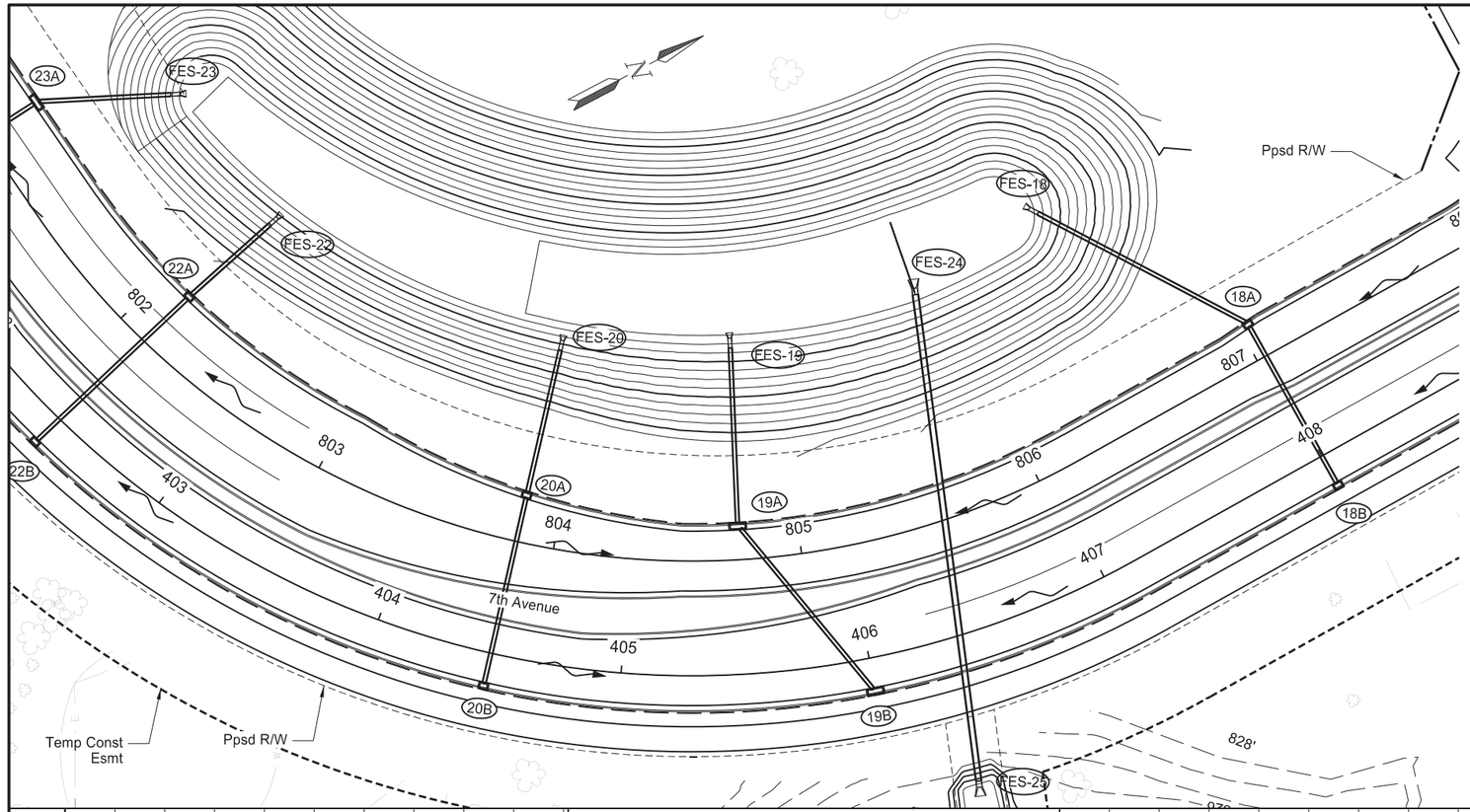
Grand Forks, ND

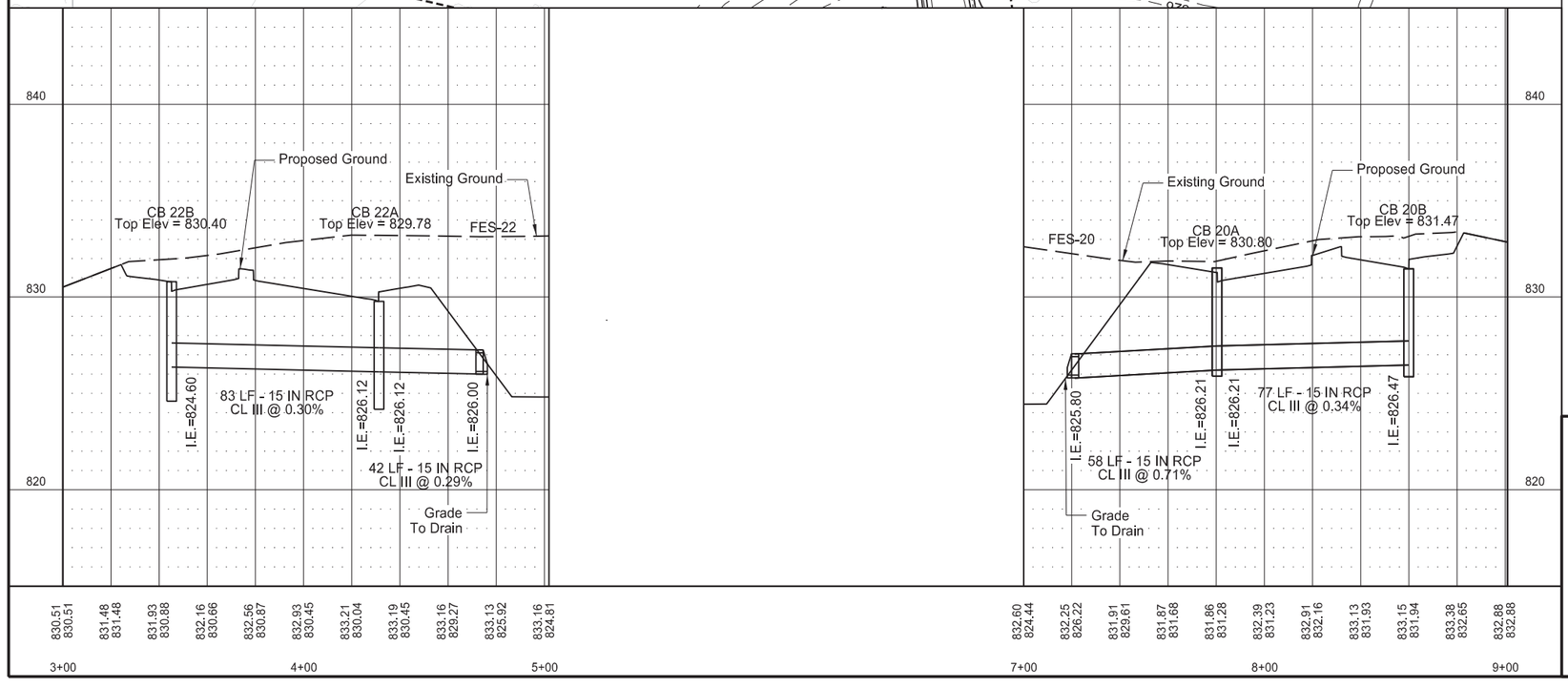
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JOHN PERKINS
PE-2975
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NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55a	27

SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	0210	PIPE CONC REINF 15IN CL III - STORM DRAIN		
		CB 20A TO FES 20	58	LF
		CB 20B TO CB 20A	77	LF
		CB 22A TO FES 22	42	LF
		CB 22B TO CB 22A	83	LF
722	3510	INLET - TYPE 2		
		CB 20A	1	EA
		CB 20B	1	EA
		CB 22A	1	EA
		CB 22B	1	EA





Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
- STORM MANHOLE
- FLARED END SECTION
- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

7th Avenue

ND 297 (DeMers Ave) & 42nd St Grade Separation

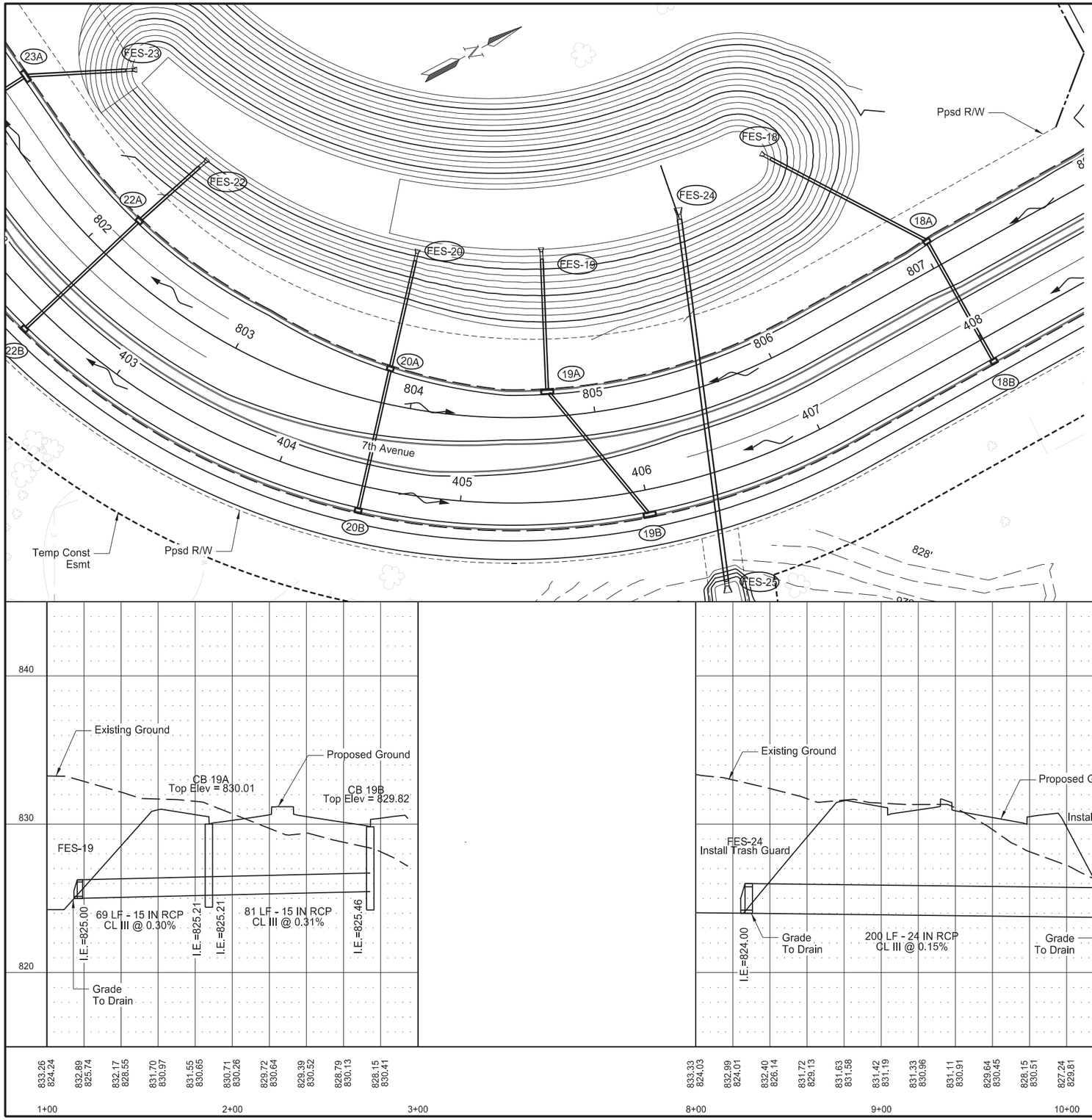
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN PERKINS
PE-29[illegible]
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NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	55a	28

SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	0210	PIPE CONC REINF 15IN CL III - STORM DRAIN		
		CB 19A TO FES 19	69	LF
		CB 19B TO CB 19A	81	LF
714	0620	PIPE CONC REINF 24IN CL III - STORM DRAIN		
		FES 24 TO FES 25	200	LF
722	3520	INLET - TYPE 2 DOUBLE		
		CB 19A	1	EA
		CB 19B	1	EA



Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
- STORM MANHOLE
- FLARED END SECTION
- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

7th Avenue

ND 297 (DeMers Ave) & 42nd St Grade Separation

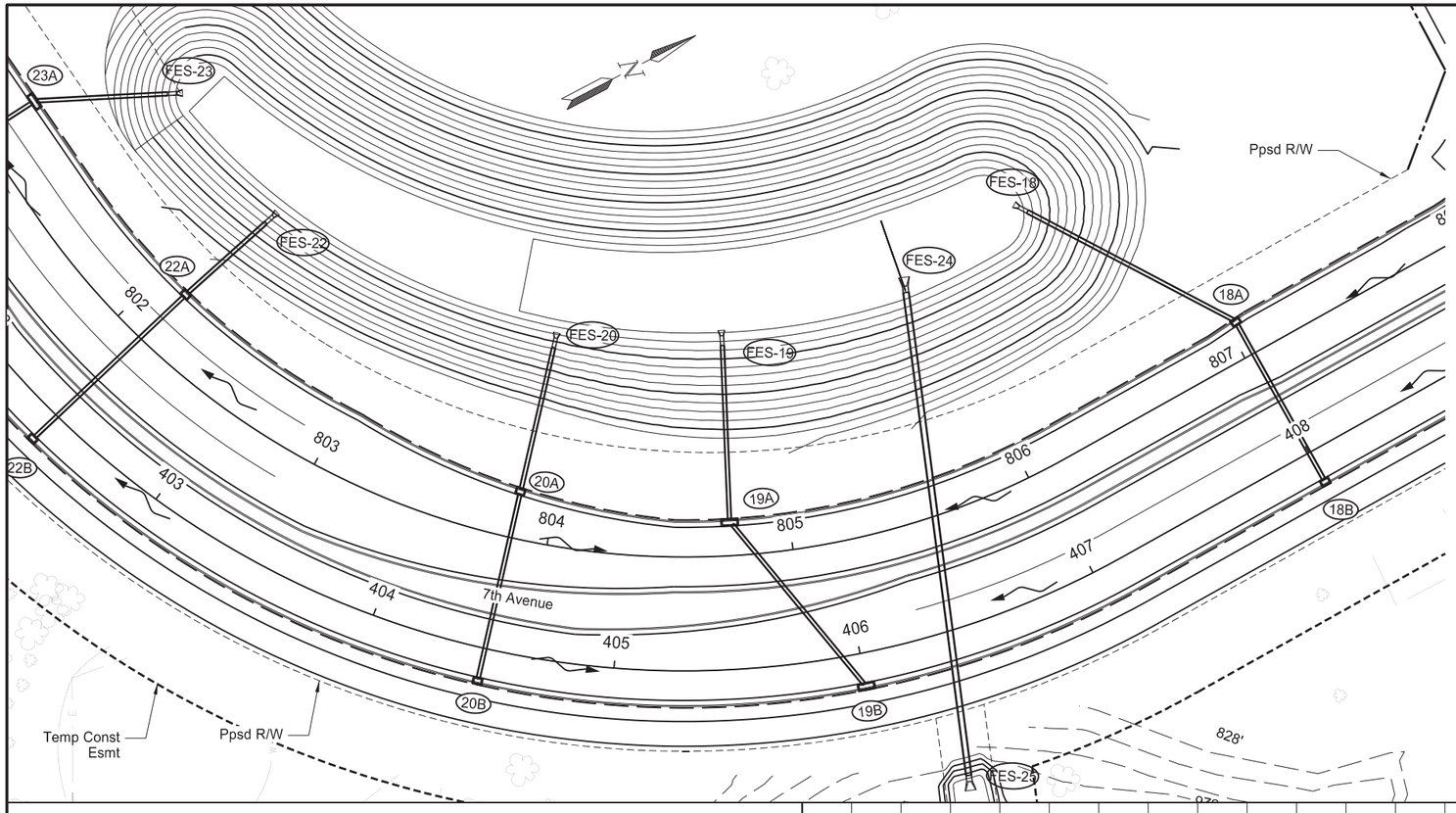
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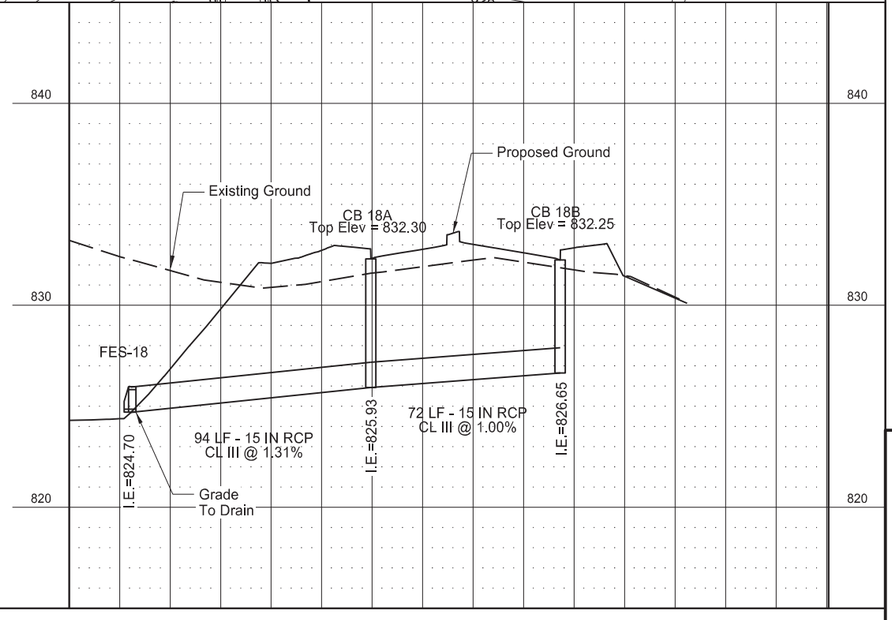
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN PERKINS
PE-29[illegible]
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NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	55a	29

SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	0210	PIPE CONC REINF 15IN CL III - STORM DRAIN		
		CB 18A TO FES 18	94	LF
		CB 18B TO CB 18A	72	LF
722	3510	INLET - TYPE 2		
		CB 18A	1	EA
		CB 18B	1	EA





Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
- STORM MANHOLE
- FLARED END SECTION
- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

7th Avenue

ND 297 (DeMers Ave) & 42nd St Grade Separation

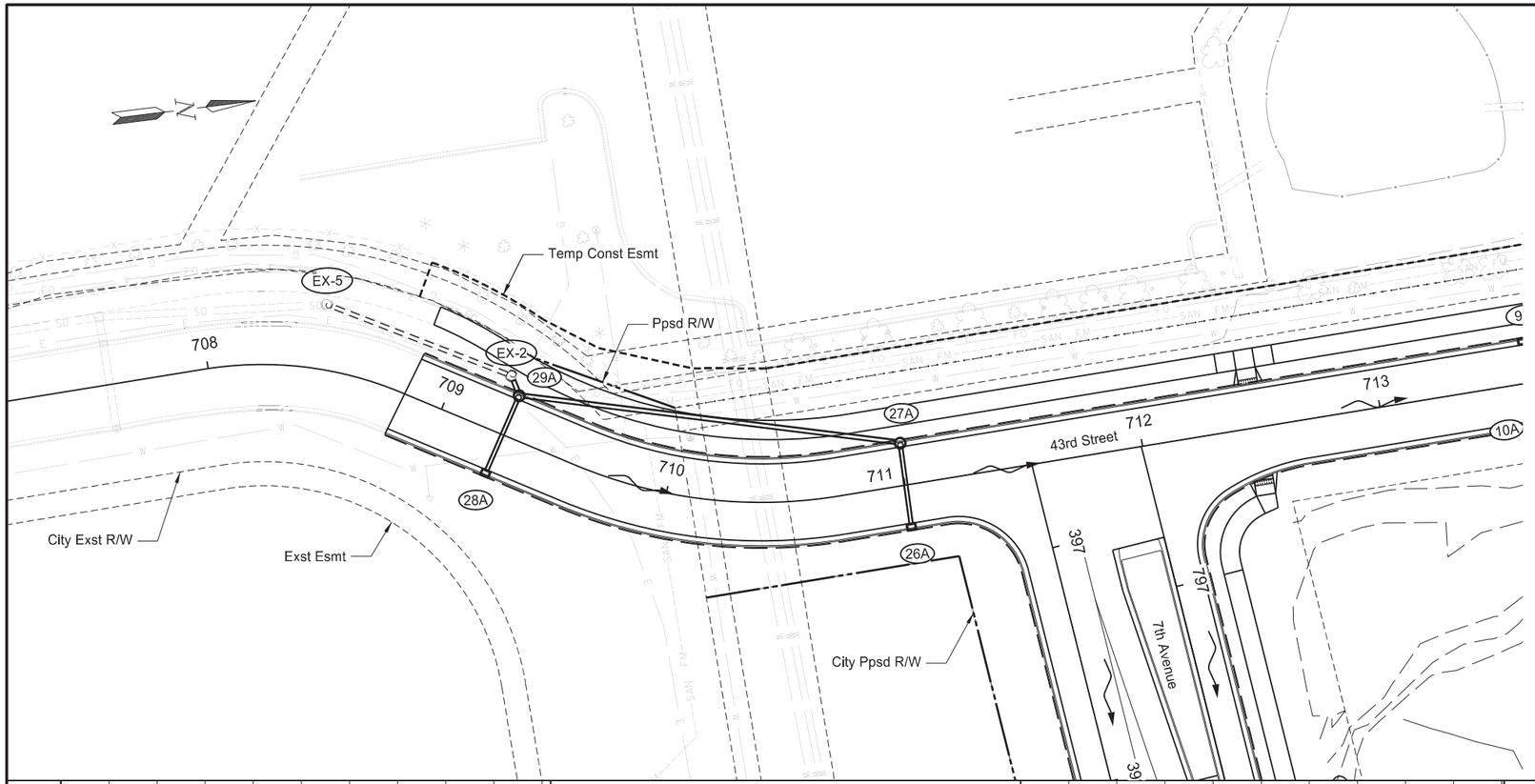
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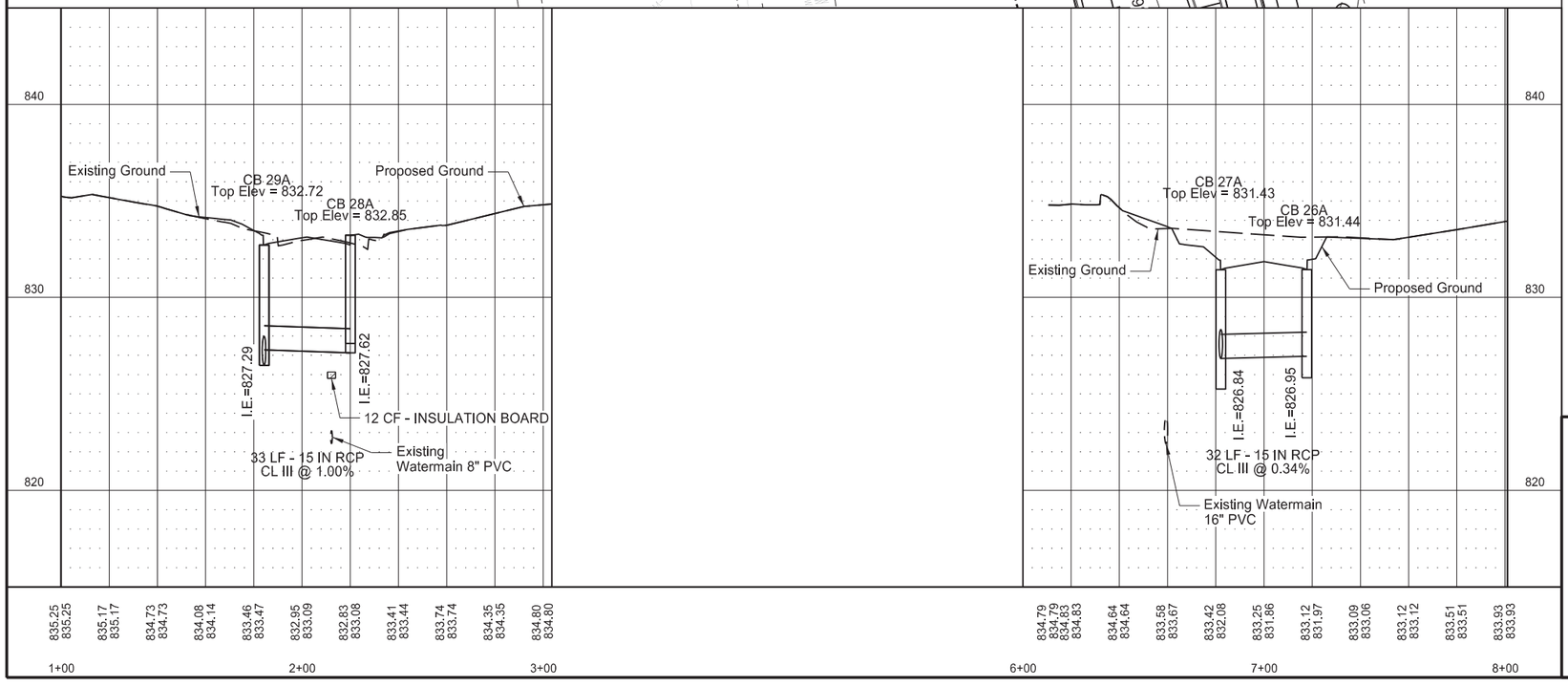
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN PERKINS
PE-29[illegible]
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NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55a	30





SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	0210	PIPE CONC REINF 15IN CL III - STORM DRAIN		
		CB 26A TO CB 27A	32	LF
		CB 28A TO CB 29A	33	LF
722	3510	INLET - TYPE 2		
		CB 26A	1	EA
		CB 28A	1	EA
744	0050	INSULATION BOARD		
		Sta 2+10	12	CF

Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
- STORM MANHOLE
- FLARED END SECTION
- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

43rd Street

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN PERKINS
PE-29[illegible]
DATE: 2025.12.05 17:03:02-06'00'
NORTH DAKOTA

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	55a	31

SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	0210	PIPE CONC REINF 15IN CL III - STORM DRAIN		
		CB 8A TO MH 8	50	LF
714	0910	PIPE CONC REINF 36IN CL III - STORM DRAIN		
		MH 8 TO FES 12	64	LF
714	2102	PIPE CONC REINF ARCH 22IN X 13IN CL III		
		CB 9A TO CB 10A	31	LF
		CB 10A TO FES 5	21	LF
722	3510	INLET - TYPE 2		
		CB 8A	1	EA
		CB 10A	1	EA
722	3520	INLET - TYPE 2 DOUBLE		
		CB 9A	1	EA

Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
- STORM MANHOLE
- FLARED END SECTION
- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

43rd Street

ND 297 (DeMers Ave) & 42nd St Grade Separation

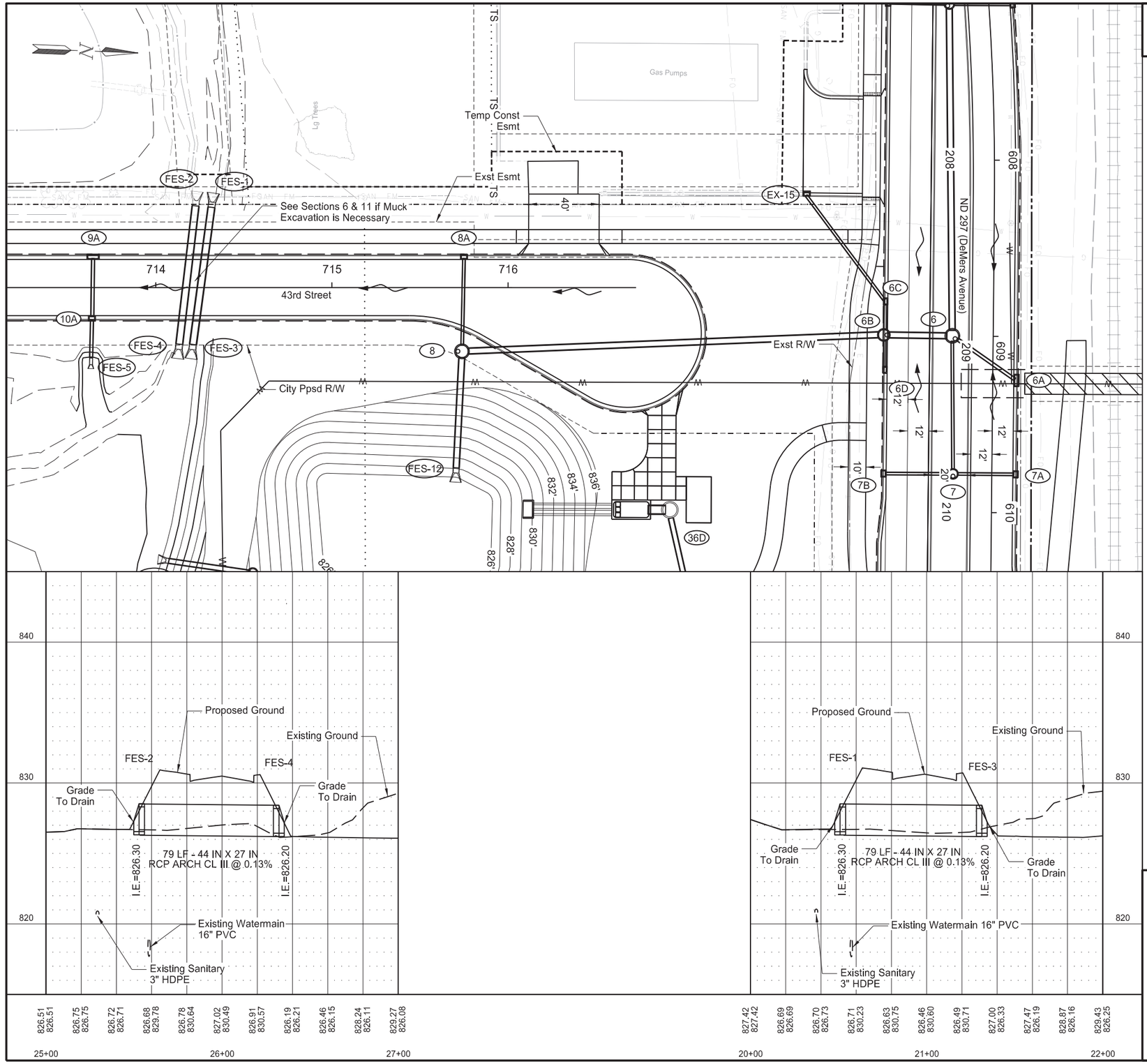
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN PERKINS
PE-29[illegible]
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NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	55a	32

SPEC	CODE	ITEM DESCRIPTION	QTY	UNIT
714	2130	PIPE CONC REINF ARCH 44IN X 27IN CL III		
		FES 1 TO FES 3	79	LF
		FES 2 TO FES 4	79	LF



Legend

- STORM SEWER LINE
- TYPE 2 INLET
- INLET SPECIAL - TYPE 2
- STORM MANHOLE
- FLARED END SECTION
- DRAINAGE FLOW ARROW

Drainage Layouts

Stormsewer Plan and Profile

43rd Street

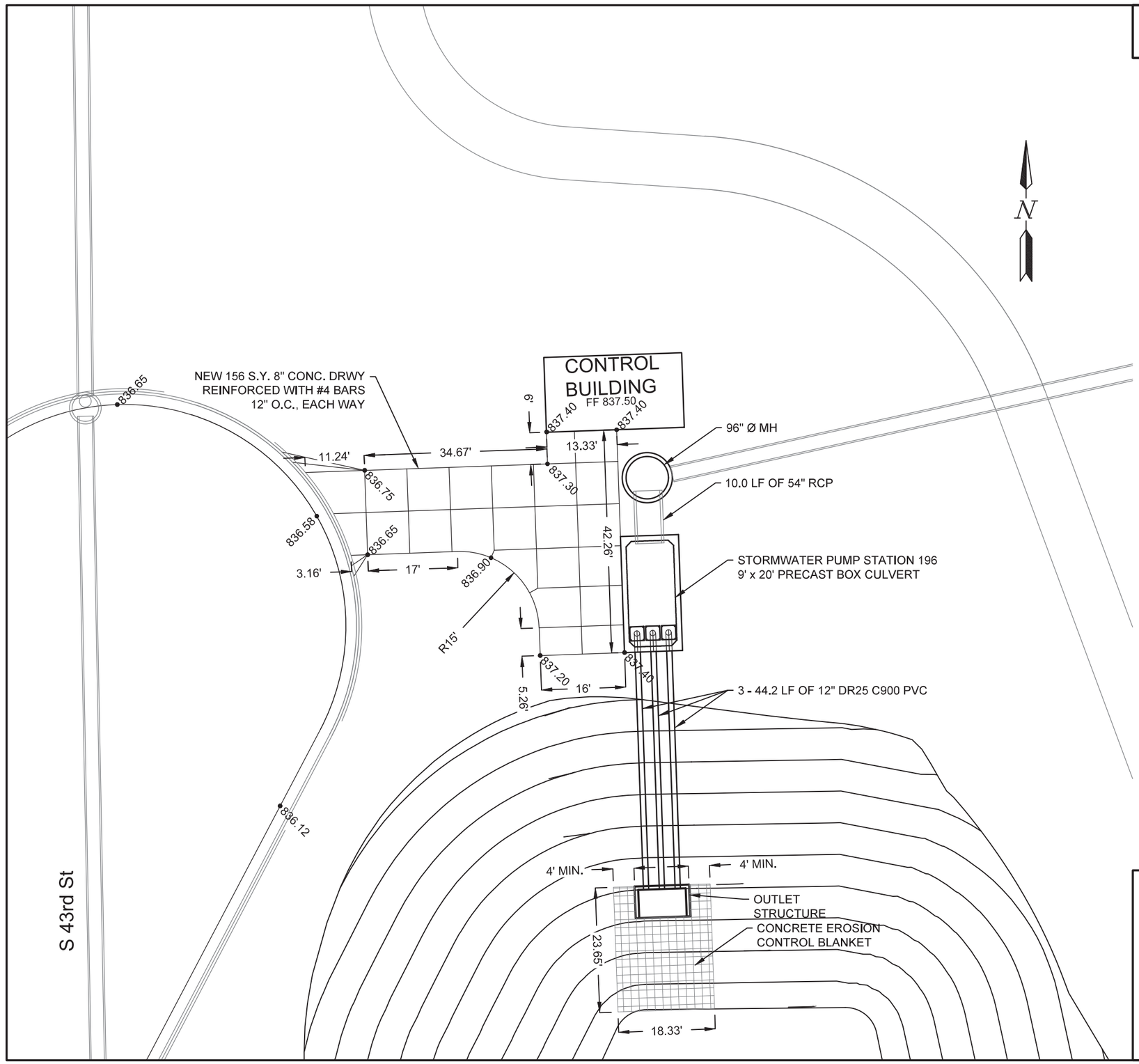
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
JOHN PERKINS
PE-2973
DATE: 2025.12.05 17:05:21-06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55b	1



255 300 CONCRETE EROSION CONTROL BLANKET
42 SY

302 100 SALVAGE BASE COURSE
98 TON

709 151 GEOSYNTHETIC MATERIAL TYPE R1
156 SY

709 155 GEOSYNTHETIC MATERIAL TYPE RR
42 SY

714 1230 PIPE CONC REINF 54IN CL V
10 LF

722 140 MANHOLE 96IN
1 EA

722 1140 MANHOLERISER 96IN
36.5 LF

724 5150 PIPE PVC 12IN SEWER
133 LF

750 1021 DRIVEWAY CONCRETE 8IN REINFORCED
156 SY

920 90 LIFT STATION
1 EA

920 100 PUMPING EQUIPMENT
1 L SUM

920 199 PUMP HOUSE
1 EA

920 265 OUTLET STRUCTURE
1 EA

NOTES:
1. PROVIDE 1/2" ISOLATION JOINT ALL AROUND STATION.

General Details

Stormwater Lift Station
Site Plan

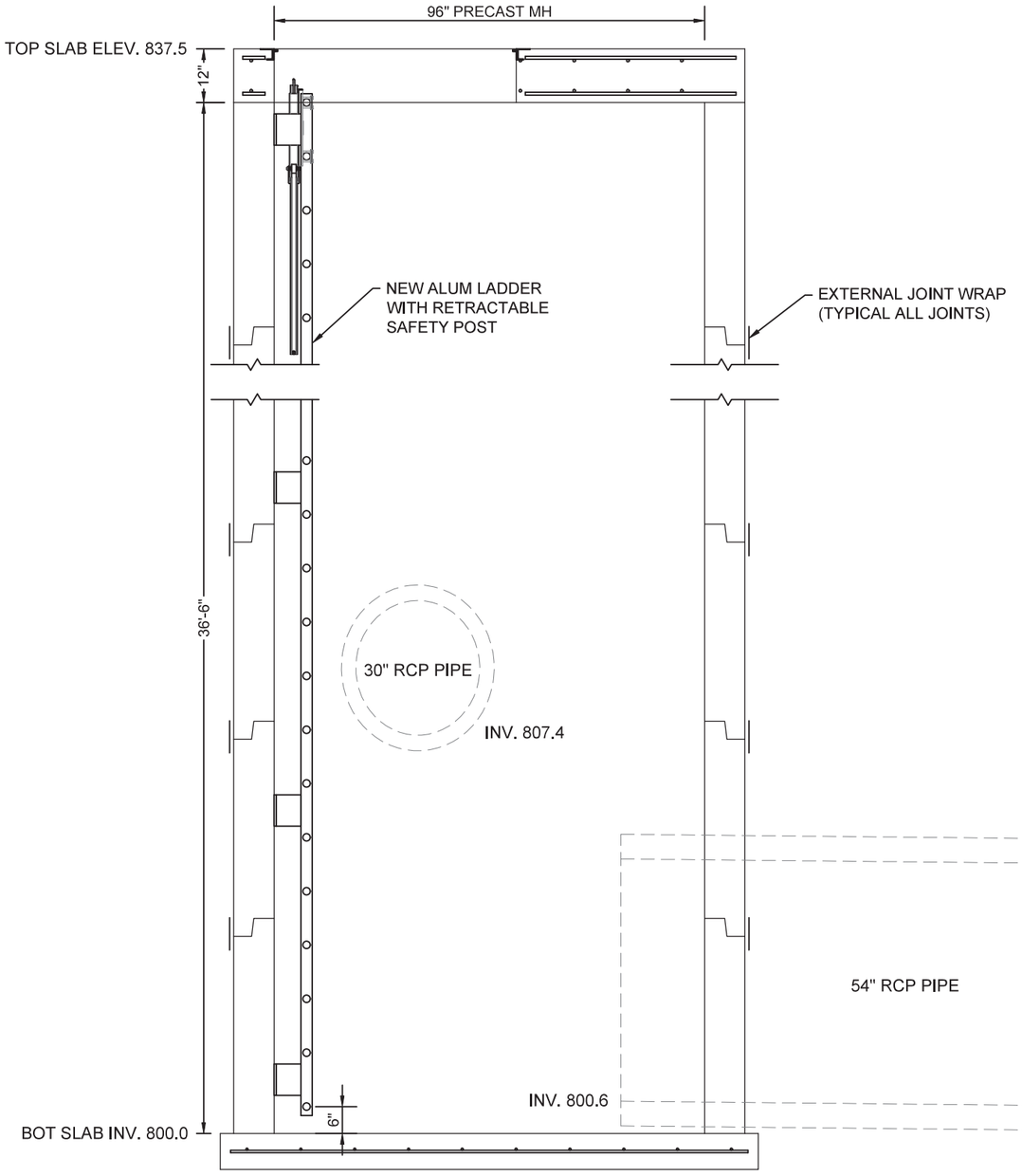
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

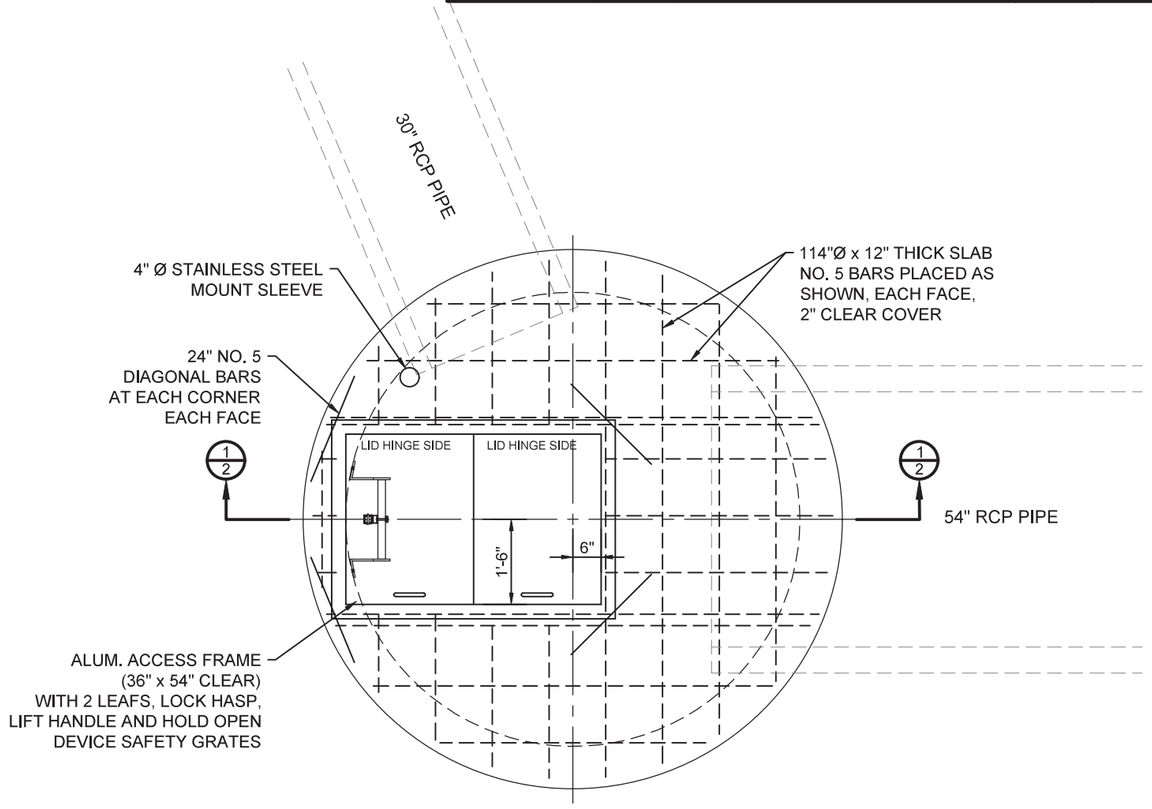
REGISTERED PROFESSIONAL ENGINEER
BENJAMIN E. WILLIAMS
PE - 6879
DATE 12/03/25
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55b	2



1/2 STORMWATER MH - 96" MANHOLE ELEVATION

SCALE: 3/8" = 1'-0"



2/2 STORMWATER MH TOP SLAB - 96" MANHOLE PLAN

SCALE: 3/8" = 1'-0"

General Details

Stormwater Lift Station
96" Manhole

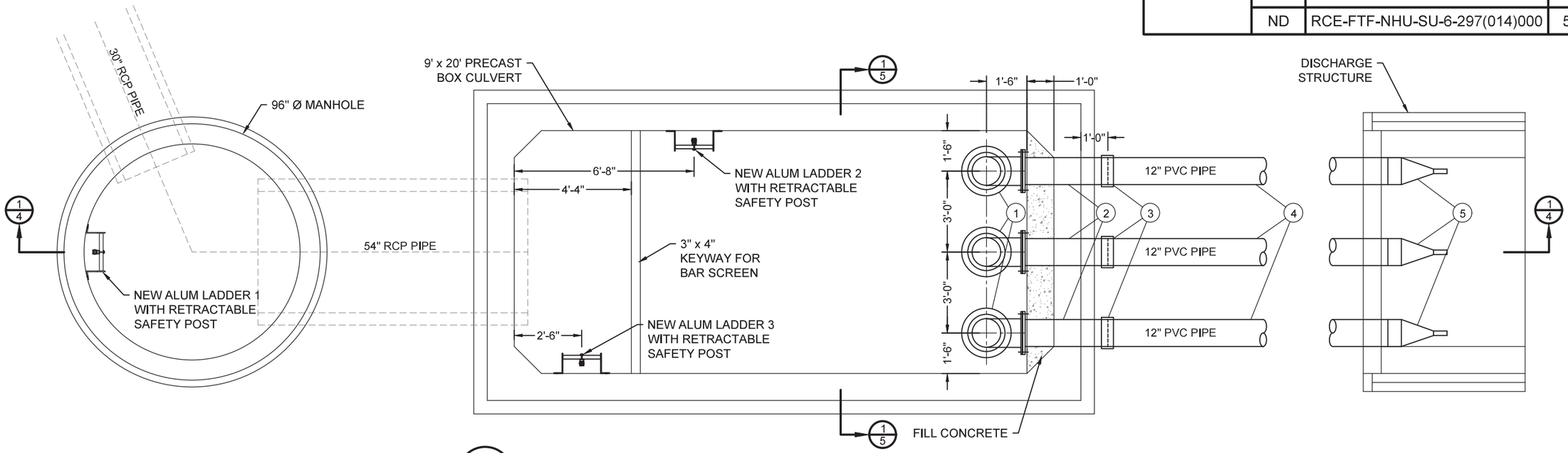
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

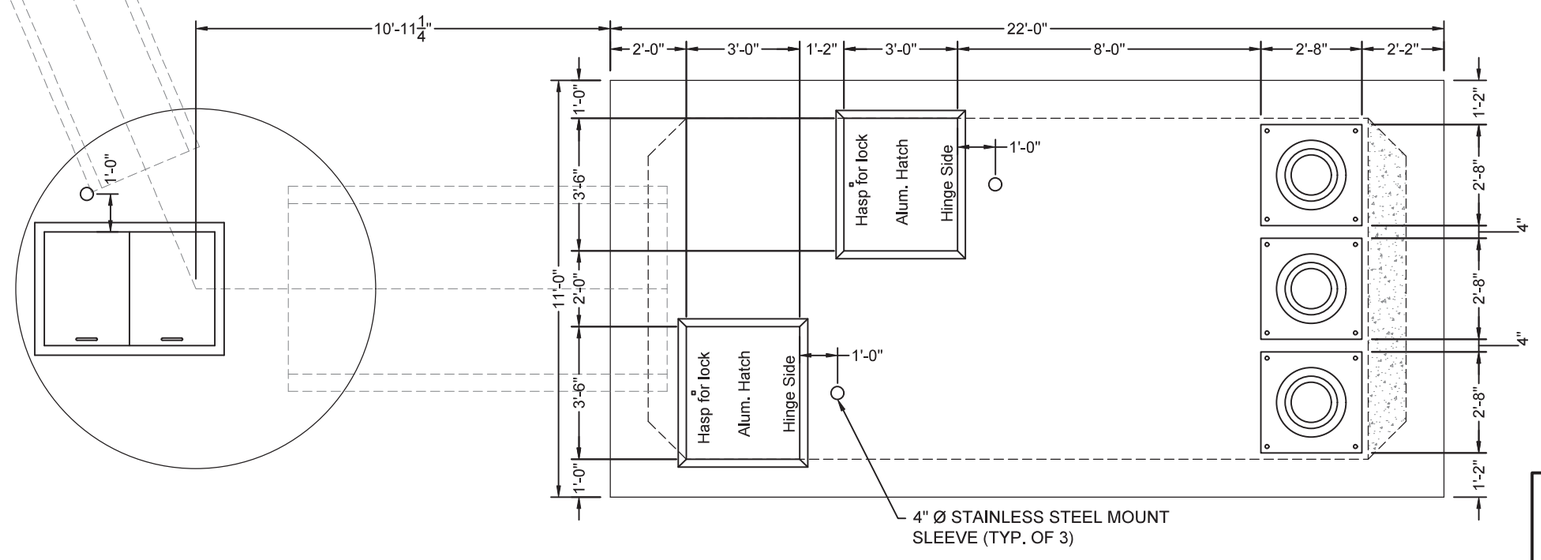
REGISTERED PROFESSIONAL ENGINEER
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PE - 6879
DATE 12/03/25
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55b	3



1/3 STORMWATER PUMP STATION 196 PLAN LAYOUT

SCALE: 1/4" = 1'-0"



2/3 STORMWATER PUMP STATION 196 TOP SLAB LAYOUT

SCALE: 1/4" = 1'-0"

PIPING KEY

1. 3 - PUMPS
2. 3 - 12" DIP, F-PE (3'-2" LONG, CONTRACTOR TO VERIFY)
3. 3 - 12" COUPLINGS
4. 3 - 12" DR 25 C900 PVC (44'-2" LONG, CONTRACTOR TO VERIFY)
5. 3 - 12" SLIP ON RUBBER CHECK VALVES

NOTES:

1. COORDINATE OPENINGS WITH PUMP AND HATCH SUPPLIERS.
2. DIMENSIONS BASED UPON 12" WALL THICKNESS. ADJUST DIMENSIONS AS REQUIRED FOR OTHER WALL THICKNESSES.
3. CAST HATCHES IN TOP SLABS.

General Details

Stormwater Lift Station
Plan View

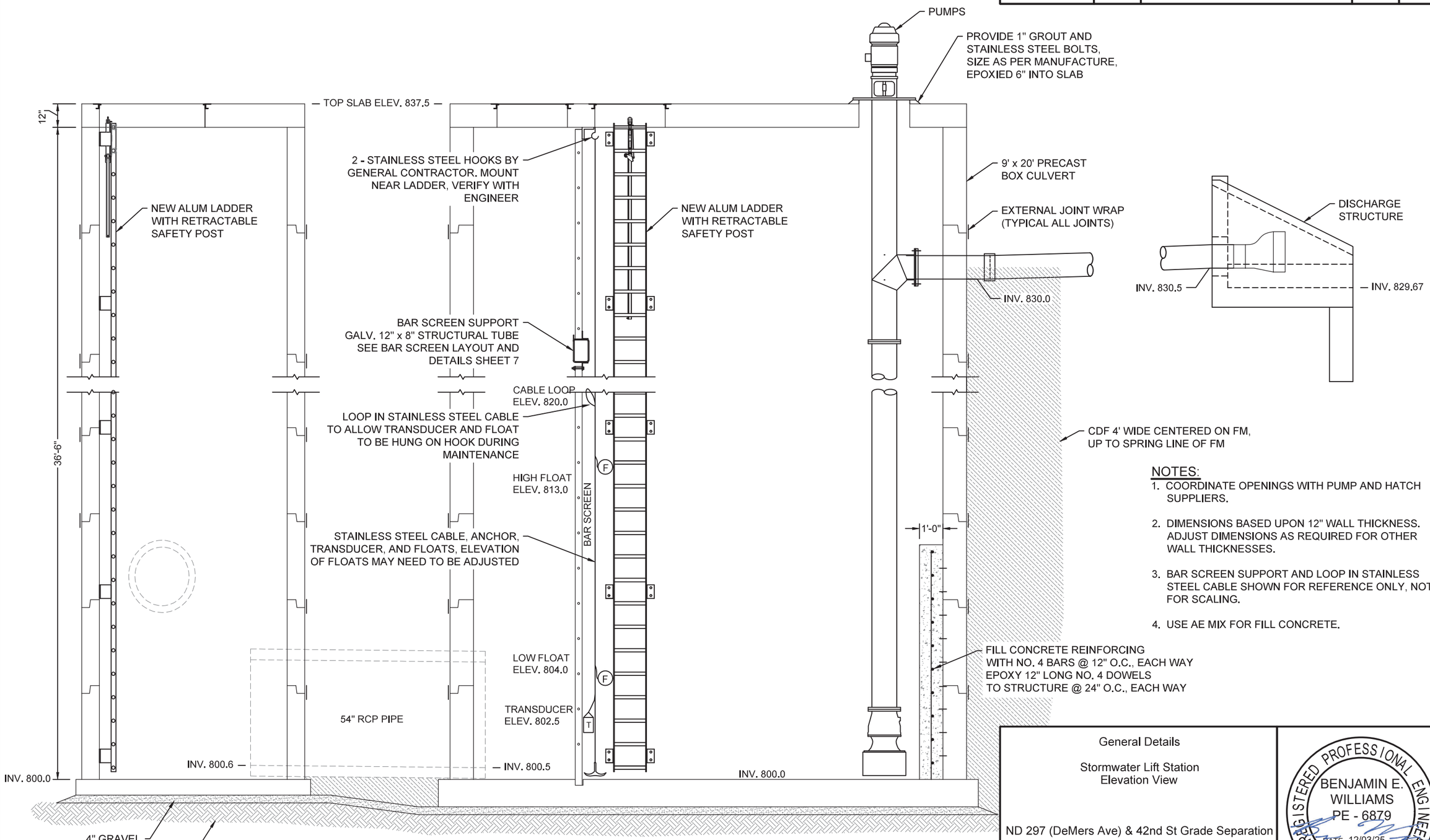
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
BENJAMIN E. WILLIAMS
PE - 6879
DATE 12/03/25
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55b	4



1/4 STORMWATER PUMP STATION 196 ELEVATION VIEW

SCALE: 1/4" = 1'-0"

NOTES:

1. COORDINATE OPENINGS WITH PUMP AND HATCH SUPPLIERS.
2. DIMENSIONS BASED UPON 12" WALL THICKNESS. ADJUST DIMENSIONS AS REQUIRED FOR OTHER WALL THICKNESSES.
3. BAR SCREEN SUPPORT AND LOOP IN STAINLESS STEEL CABLE SHOWN FOR REFERENCE ONLY, NOT FOR SCALING.
4. USE AE MIX FOR FILL CONCRETE.

General Details

Stormwater Lift Station
Elevation View

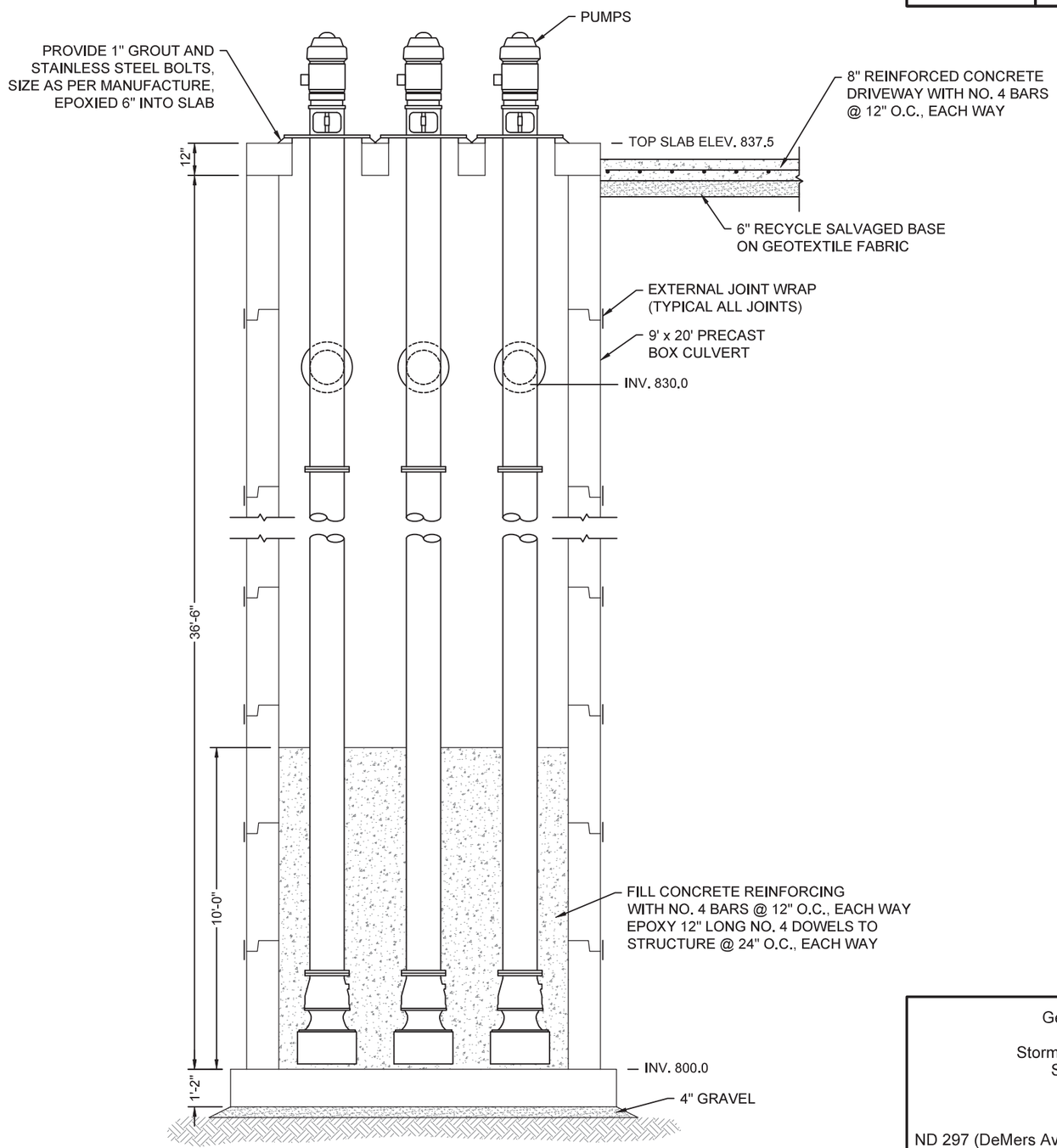
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
BENJAMIN E. WILLIAMS
PE - 6879
DATE 12/03/25
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55b	5



1/5 STORMWATER PUMP STATION 196 SECTION VIEW

SCALE: 1/4" = 1'-0"

General Details

Stormwater Lift Station
Section View

ND 297 (DeMers Ave) & 42nd St Grade Separation

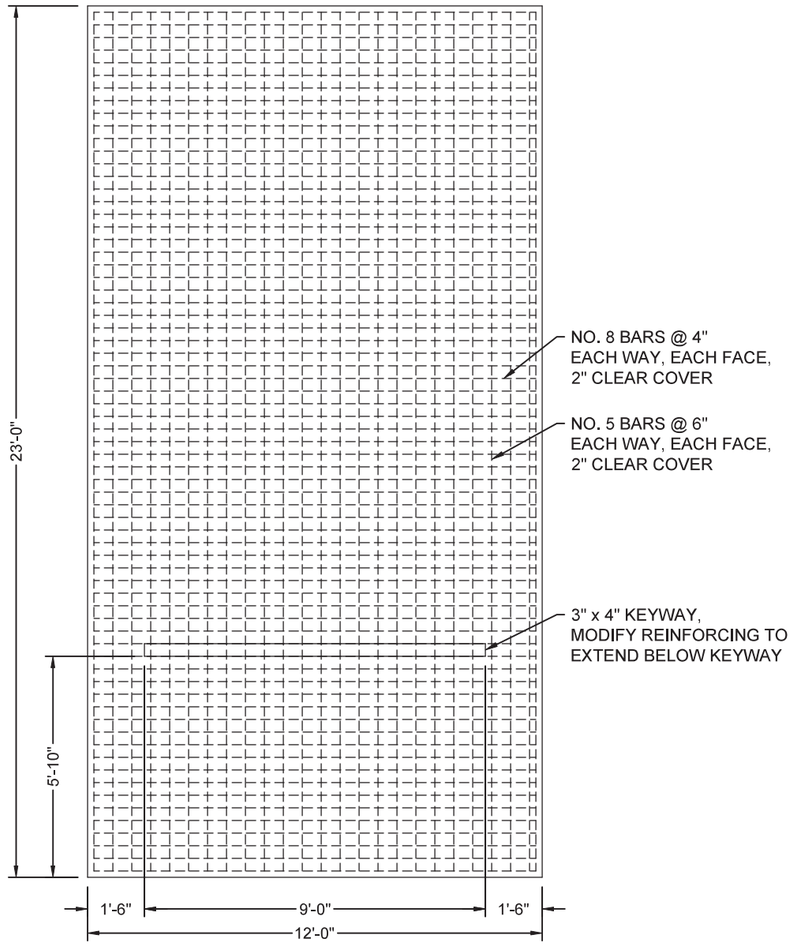
Grand Forks County

Grand Forks, ND

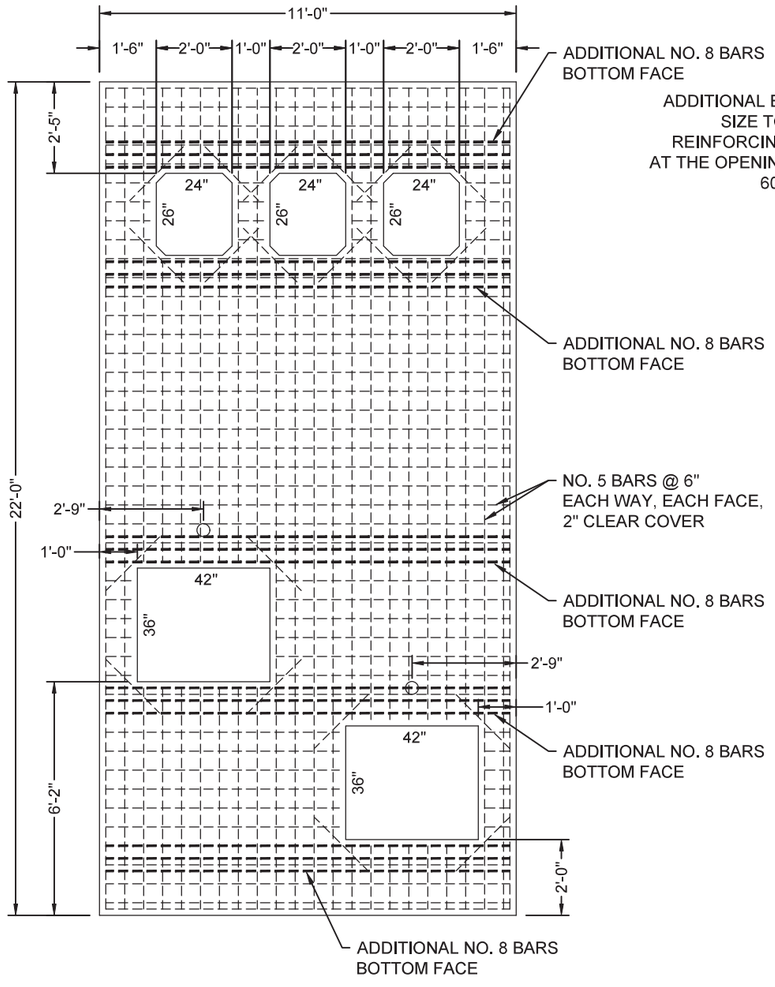
REGISTERED PROFESSIONAL ENGINEER
BENJAMIN E. WILLIAMS
PE - 6879
DATE 12/03/25
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55b	6

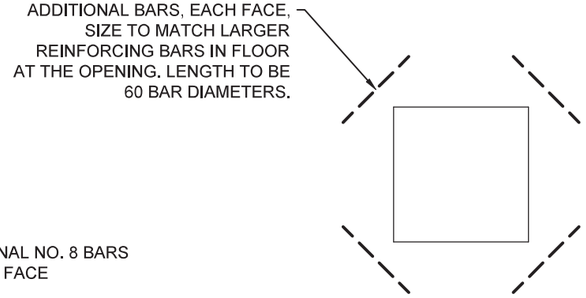
NOTES:
1. COORDINATE OPENINGS WITH PUMP AND HATCH SUPPLIERS.
2. SEE SHEET 3 FOR HATCH AND PUMP OPENINGS.



1/6 STORMWATER PUMP STATION 196 FLOOR SLAB REINFORCING
SCALE: 1/4" = 1'-0"



2/6 STORMWATER PUMP STATION 196 TOP SLAB REINFORCING
SCALE: 1/4" = 1'-0"



3/6 ADDITIONAL REINFORCING AT OPENINGS
NOT TO SCALE

General Details

Stormwater Lift Station
Reinforcing Plan

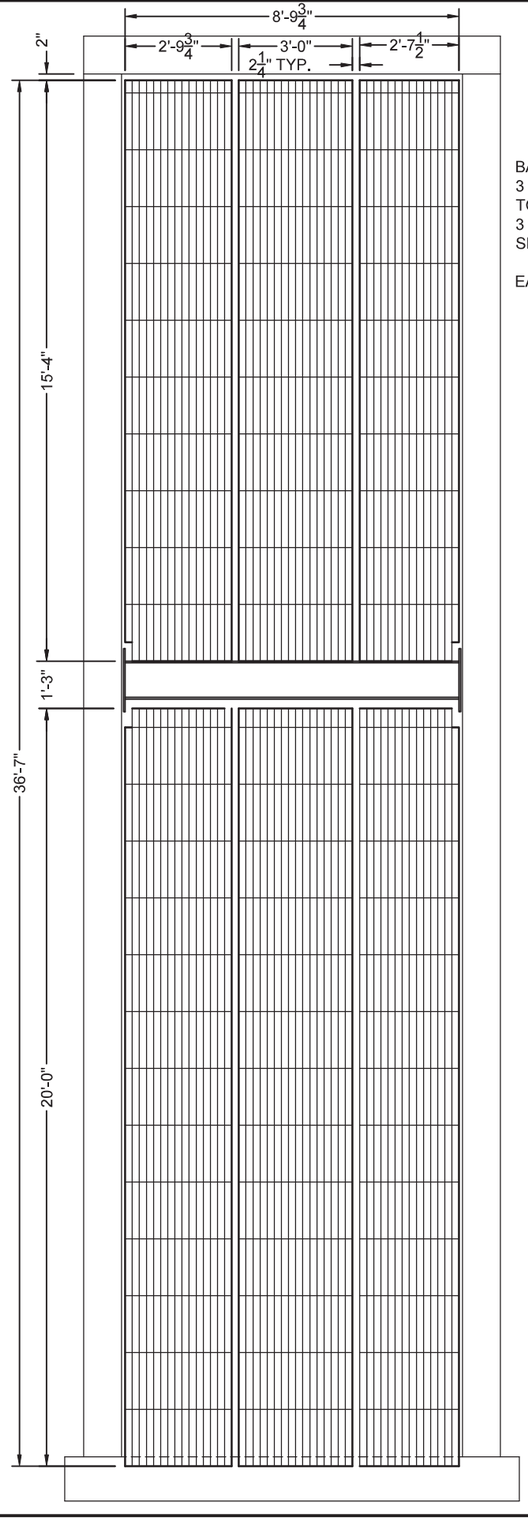
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
BENJAMIN E. WILLIAMS
PE - 6879
DATE 12/03/25
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55b	7

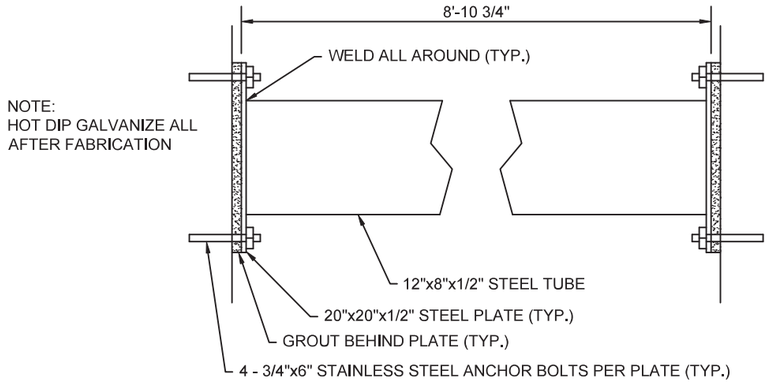


BAR SCREENS,
3 1/2" x 5/16" BARS @ 2 1/4" O.C., VERTICAL WELD TO 1" DIA. RODS @ 18" O.C. FROM BOTTOM WITH 3 1/2" x 5/16" PLATE TOP AND BOTTOM OF EACH SECTION. HOT DIP GALVANIZE ALL AFTER WELDING.

EACH SECTION SHALL BE SECURED TO SUPPORTS.

BAR SCREEN - LAYOUT

SCALE: 1/4" = 1'-0"



NOTE:
HOT DIP GALVANIZE ALL AFTER FABRICATION

INTERMEDIATE BAR SCREEN SUPPORT

SCALE: 3/4" = 1'-0"

LOWER BAR SCREEN SUPPORT

SCALE: 3/4" = 1'-0"

NOTE:
HOT DIP GALVANIZE ALL AFTER FABRICATION

UPPER BAR SCREEN SUPPORT

SCALE: 3/4" = 1'-0"

General Details

Stormwater Lift Station
Bar Screen

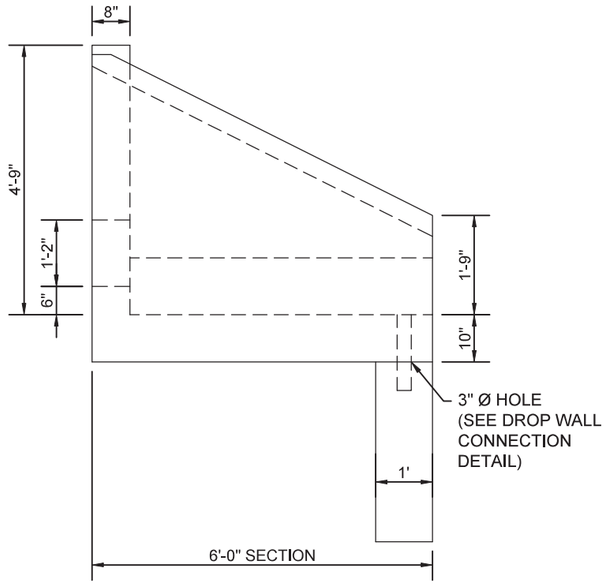
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

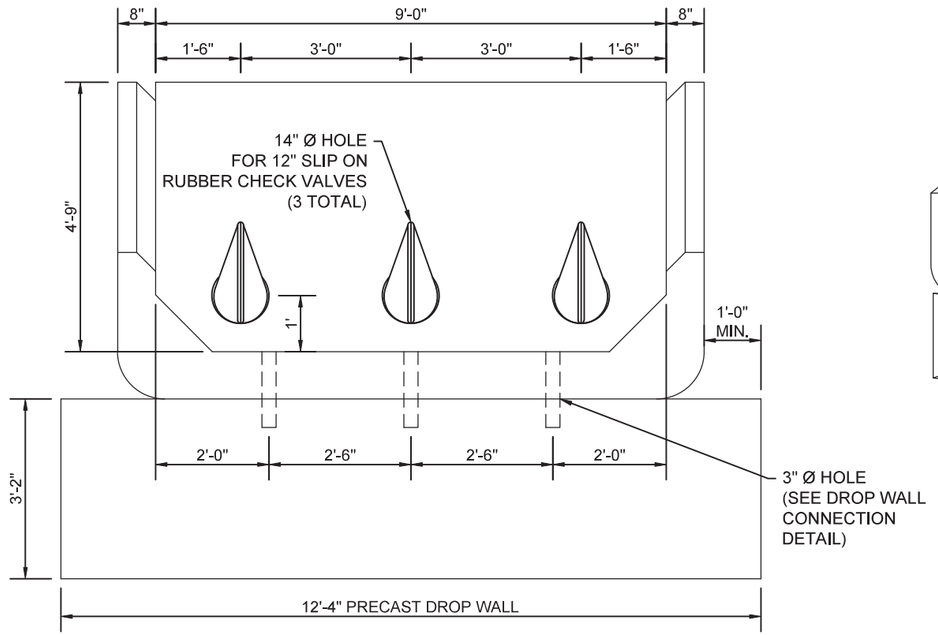
REGISTERED PROFESSIONAL ENGINEER
BENJAMIN E. WILLIAMS
PE - 6879
NORTH DAKOTA
DATE 12/03/25

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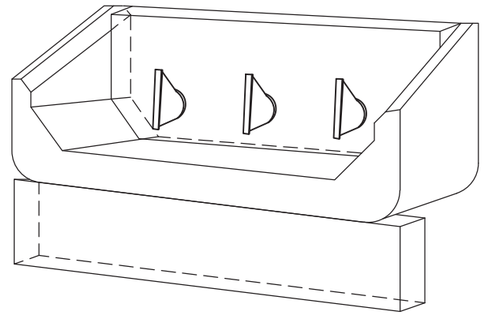
OUTLET STRUCTURE - PROFILE VIEW

SCALE: 3/8" = 1'-0"



OUTLET STRUCTURE - END VIEW

SCALE: 3/8" = 1'-0"



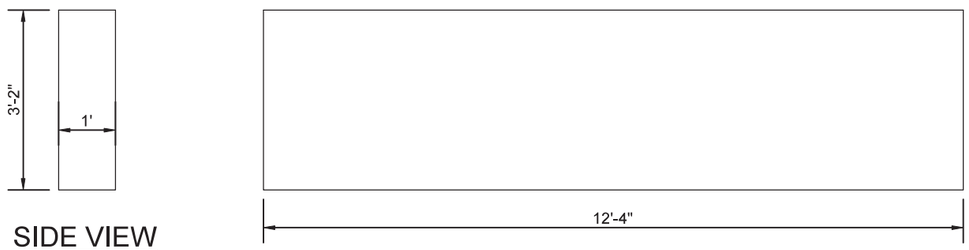
NOTES:

1. CONTRACTOR IS TO FIELD PLACE AND GROUT IN PIPE INTO END SECTION WALL.
2. END SECTION TO BE SUPPLIED WITH RECESSED ANCHORS IN THE SIDE WALL.



DROP WALL - PLAN VIEW

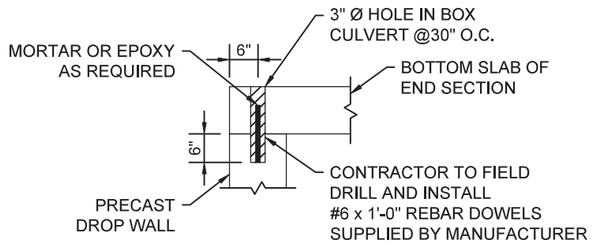
SCALE: 3/8" = 1'-0"



SIDE VIEW

DROP WALL - END VIEW

SCALE: 3/8" = 1'-0"



PRECAST DROP WALL CONNECTION DETAIL

General Details

Stormwater Lift Station
Outlet Structure

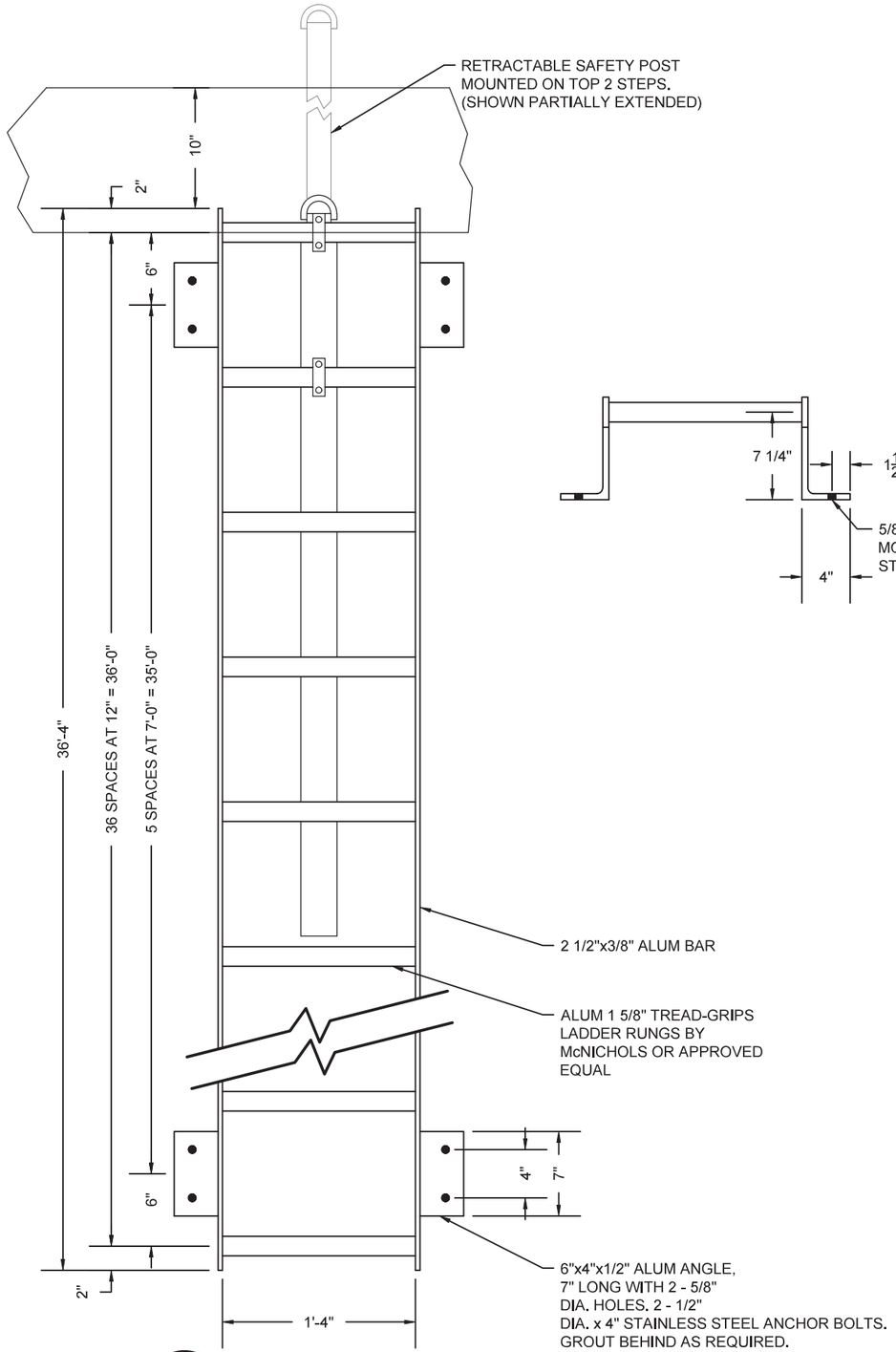
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

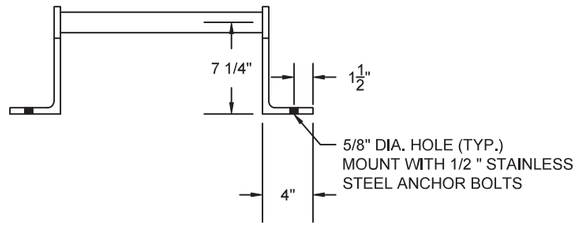
Grand Forks, ND

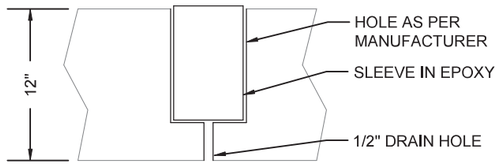
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1/9 LADDERS 1, 2, & 3
SCALE: 1" = 1'-0"





2/9 MOUNT SLEEVE DETAIL
SCALE: 1" = 1'-0"

General Details

Stormwater Lift Station
Ladder and Misc. Details

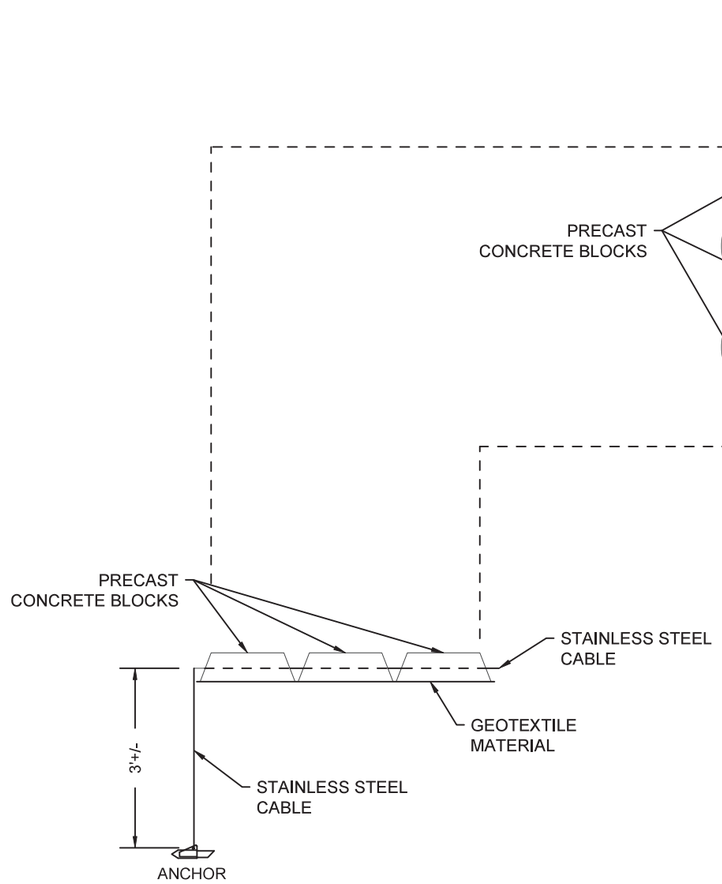
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

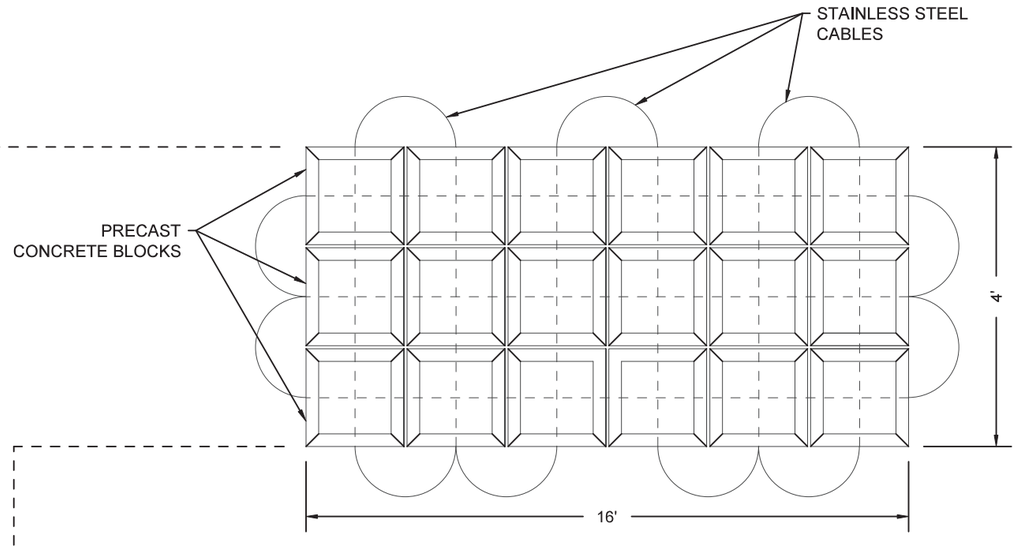
Grand Forks, ND

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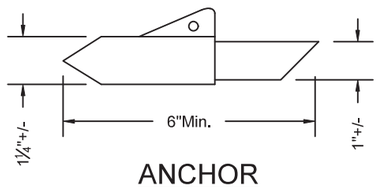
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SIDE VIEW



TOP VIEW



ANCHOR

INSTALL ACCORDING TO MANUFACTURE RECOMMENDATIONS

CONCRETE EROSION CONTROL BLANKET

NOT TO SCALE

General Details

Stormwater Lift Station
Concrete Erosion Control Blanket Detail

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

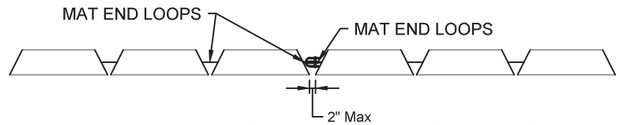
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NOTES:

1. PLACE ANCHORS AT MINIMUM 8' CENTERS OR AS RECOMMENDED BY THE MANUFACTURER.
2. SECURE INTERSECTION CABLES WITH A 3/16" CABLE CLAMP.
3. WHERE ANCHORS ON 8' CENTER ARE LOCATED, PLACE ANCHOR NOT CLAMP.



PLACE MATS WITH 2" MAXIMUM GAPS BETWEEN MATS.

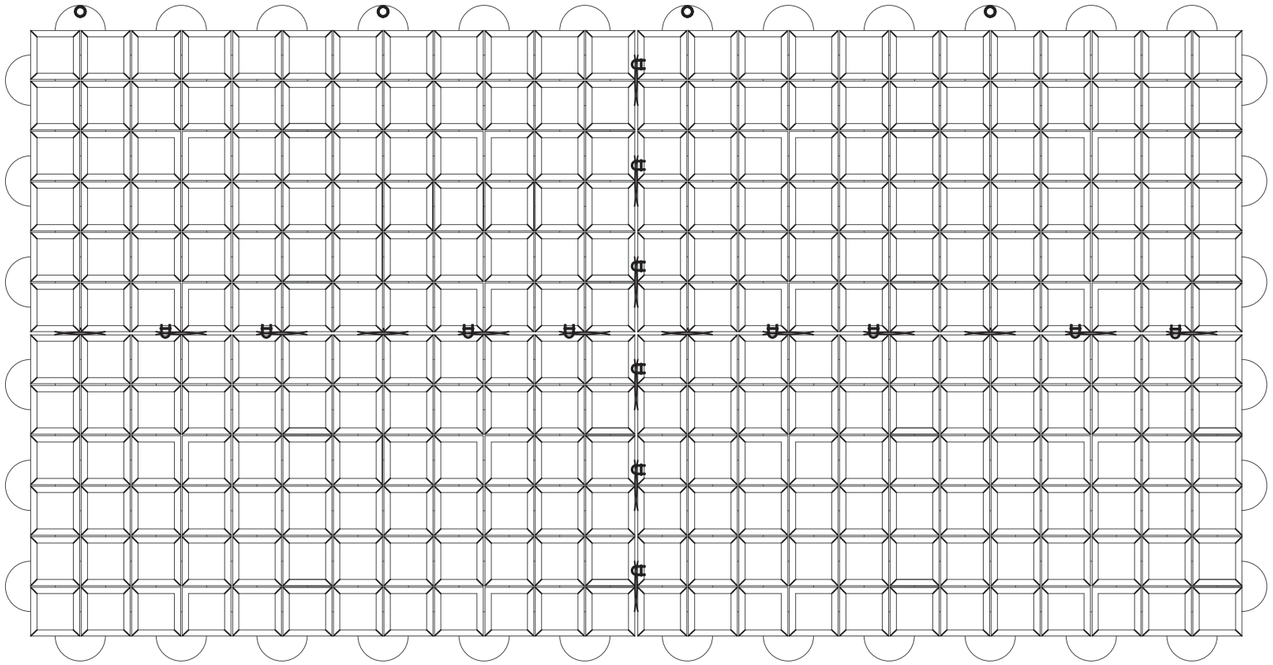
CLAMPING DETAILS FRONT VIEW

NOT TO SCALE

LEGEND

Anchor

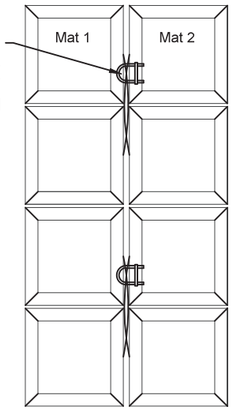
Galvanized Steel Cable clamp



ANCHOR AND CLAMPING LOCATIONS WITH MULTIPLE MATS

NOT TO SCALE

PULL THE CABLE OF OPPOSITE MAT AND CLAMP AS CLOSE AS POSSIBLE TO THE NEAREST MAT TO ELIMINATE SLACK BETWEEN THE TWO MATS



CLAMPING DETAILS PLAN VIEW

NOT TO SCALE

General Details

Stormwater Lift Station
Concrete Erosion Control Blanket Placement Detail

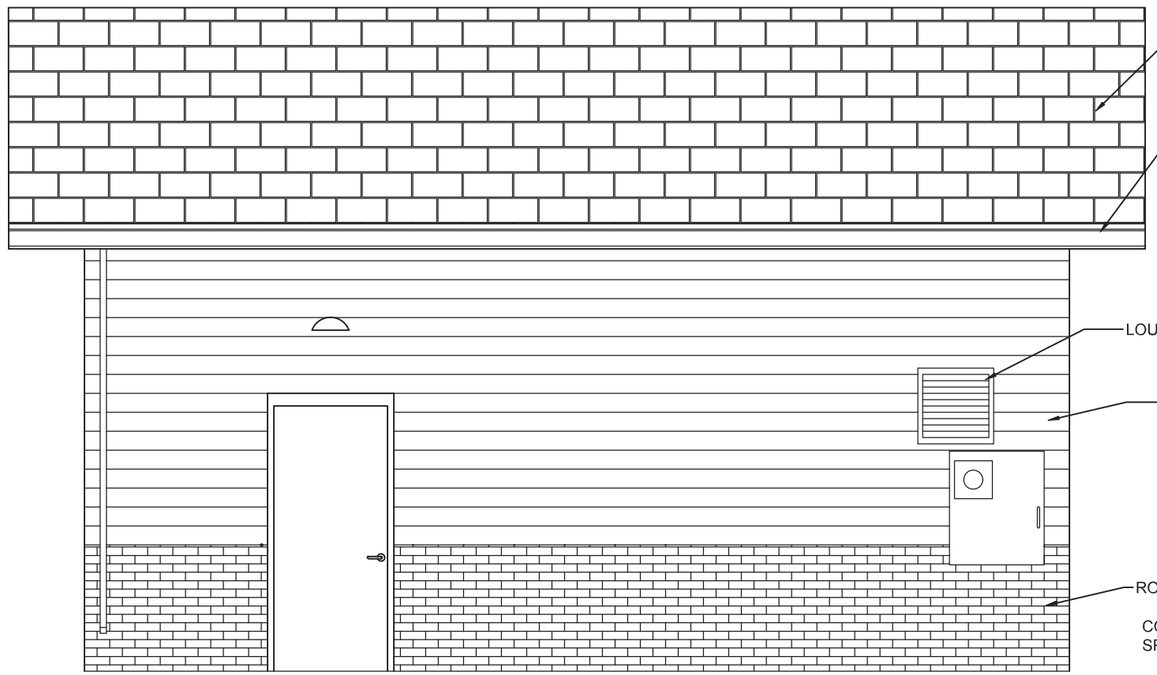
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

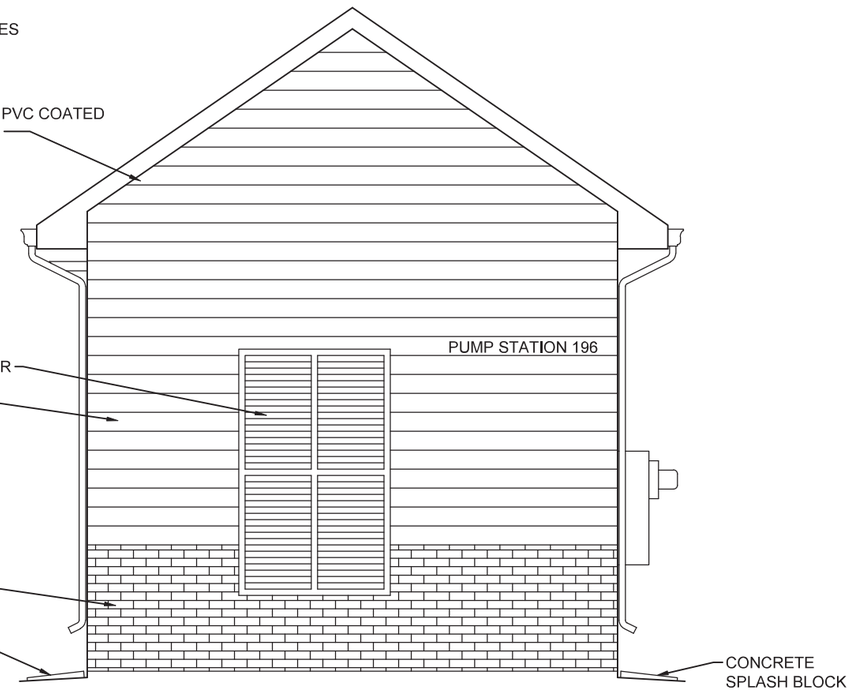
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1/12 CONTROL BLDG SOUTH ELEVATION

SCALE: 1/4" = 1'-0"



2/12 CONTROL BLDG WEST ELEVATION

SCALE: 1/4" = 1'-0"

General Details

Stormwater Lift Station
Control Building S-W Elevations

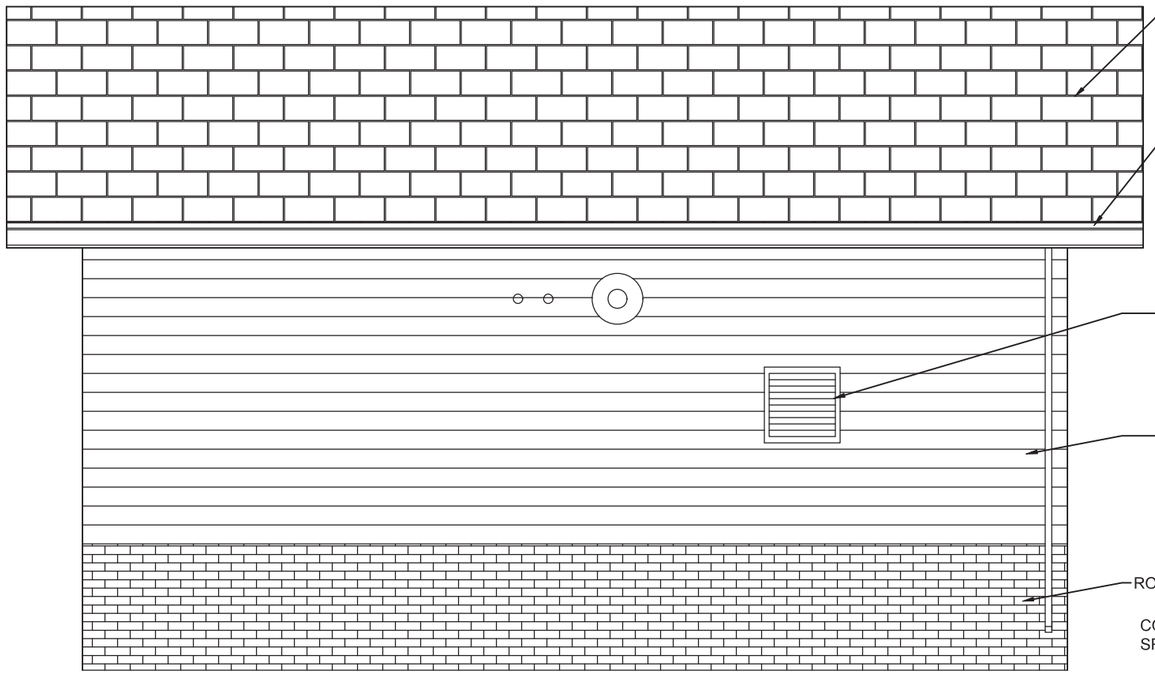
ND 297 (DeMers Ave) & 42nd St Grade Separation

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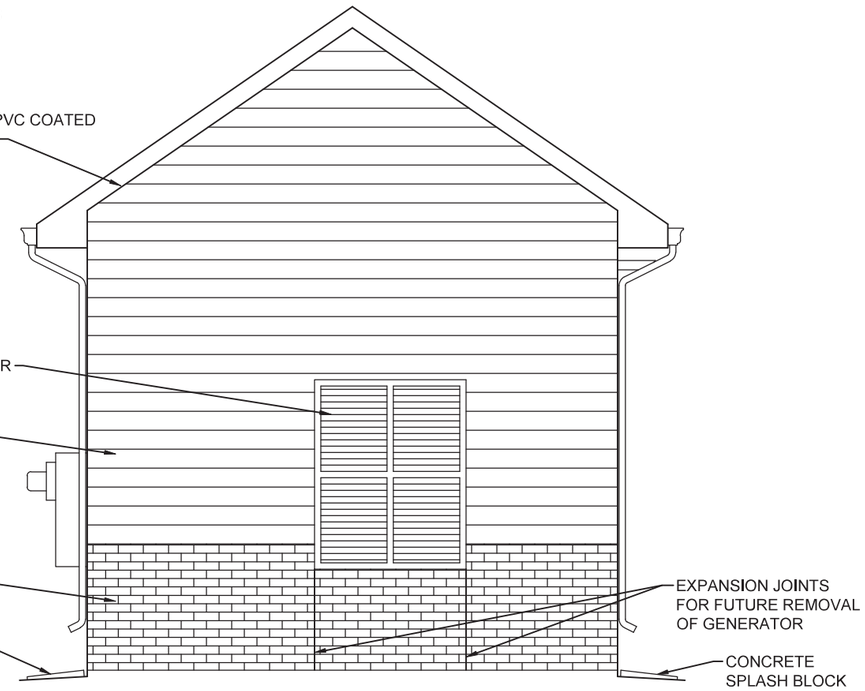
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1/13 CONTROL BLDG NORTH ELEVATION

SCALE: 1/4" = 1'-0"



2/13 CONTROL BLDG EAST ELEVATION

SCALE: 1/4" = 1'-0"

General Details

Stormwater Lift Station
Control Building N-E Elevations

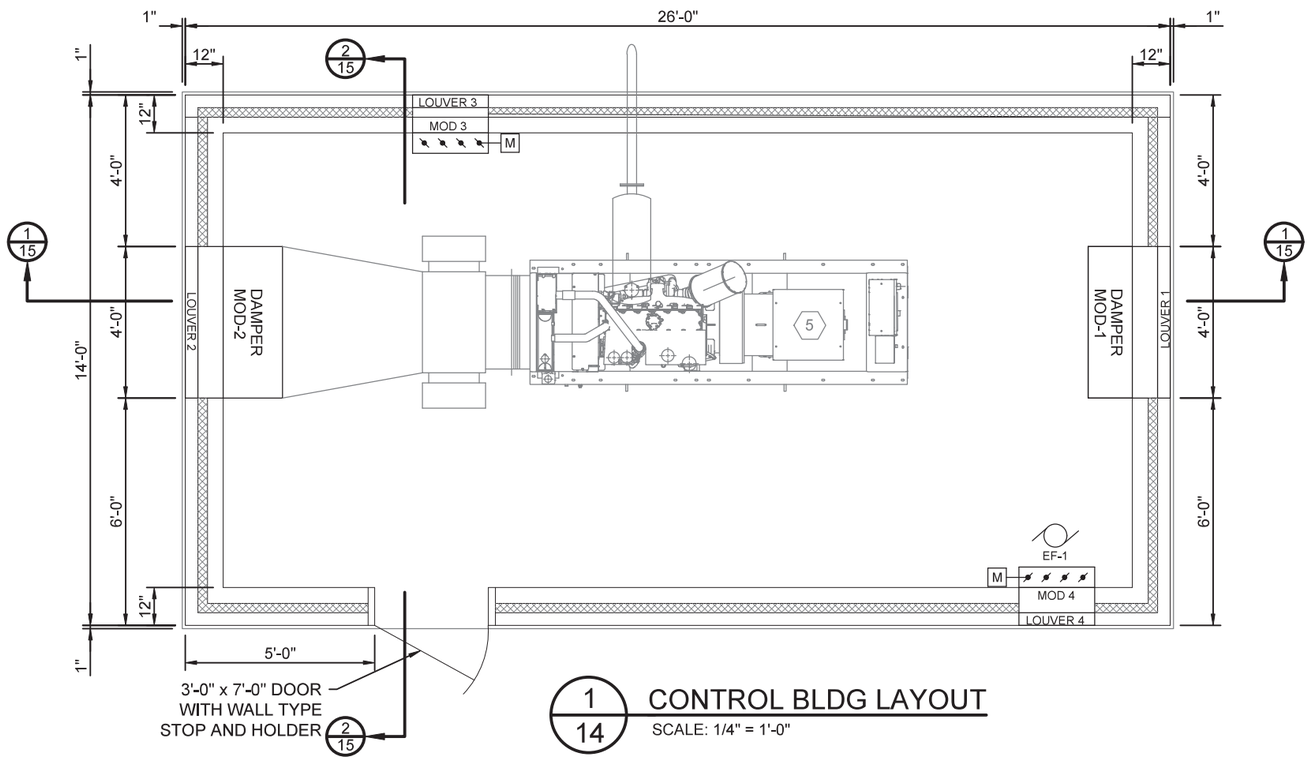
ND 297 (DeMers Ave) & 42nd St Grade Separation

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1/14 CONTROL BLDG LAYOUT
SCALE: 1/4" = 1'-0"

General Details

Stormwater Lift Station
Control Building Layout

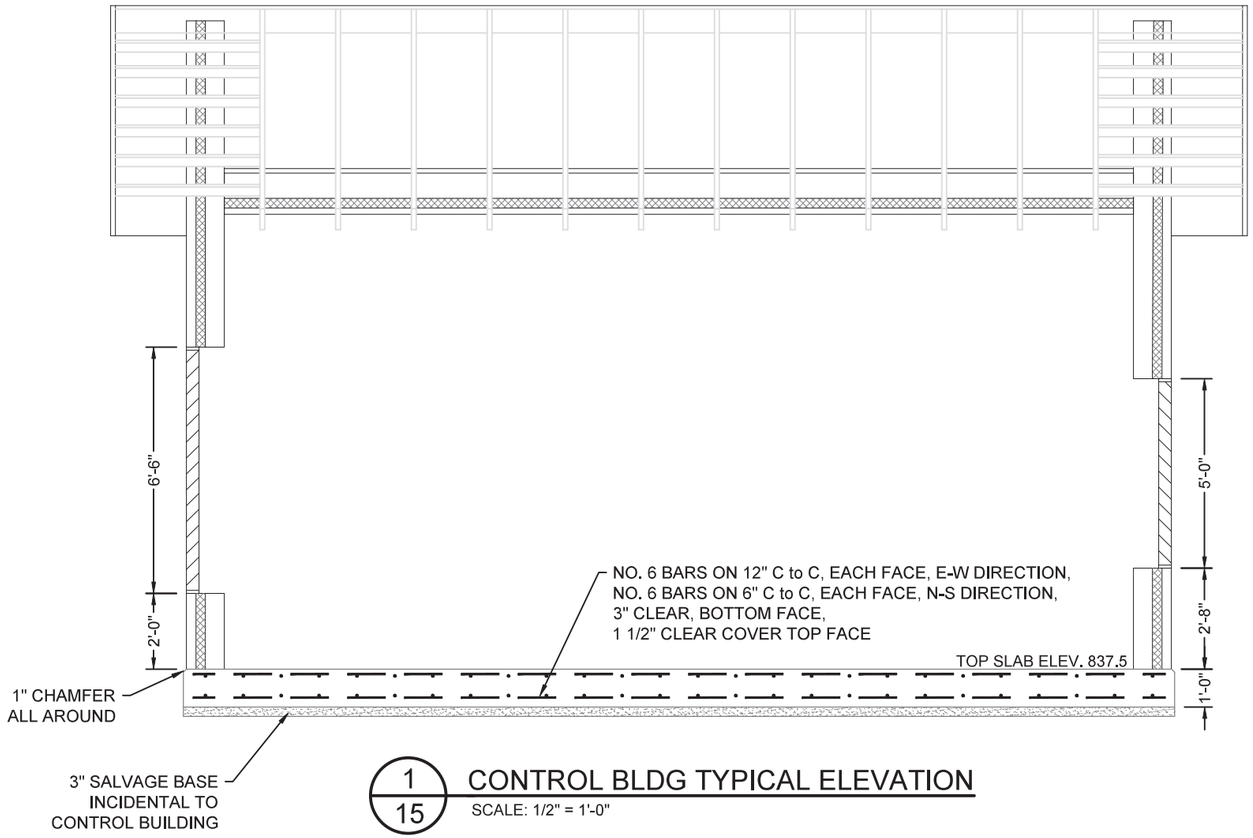
ND 297 (DeMers Ave) & 42nd St Grade Separation

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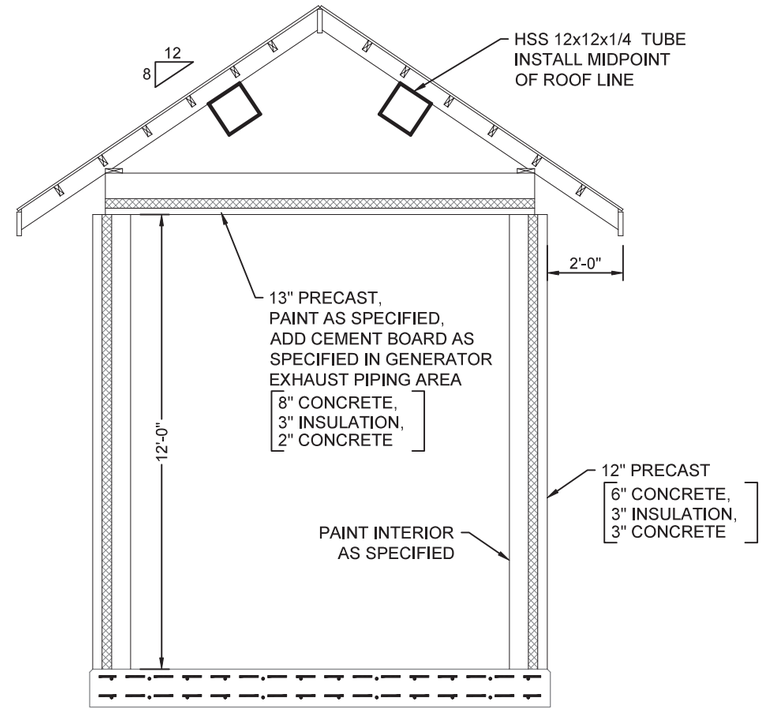
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1/15 CONTROL BLDG TYPICAL ELEVATION

SCALE: 1/2" = 1'-0"



2/15 CONTROL BLDG TYPICAL SECTION

SCALE: 1/4" = 1'-0"

General Details

Stormwater Lift Station
Control Building Structural

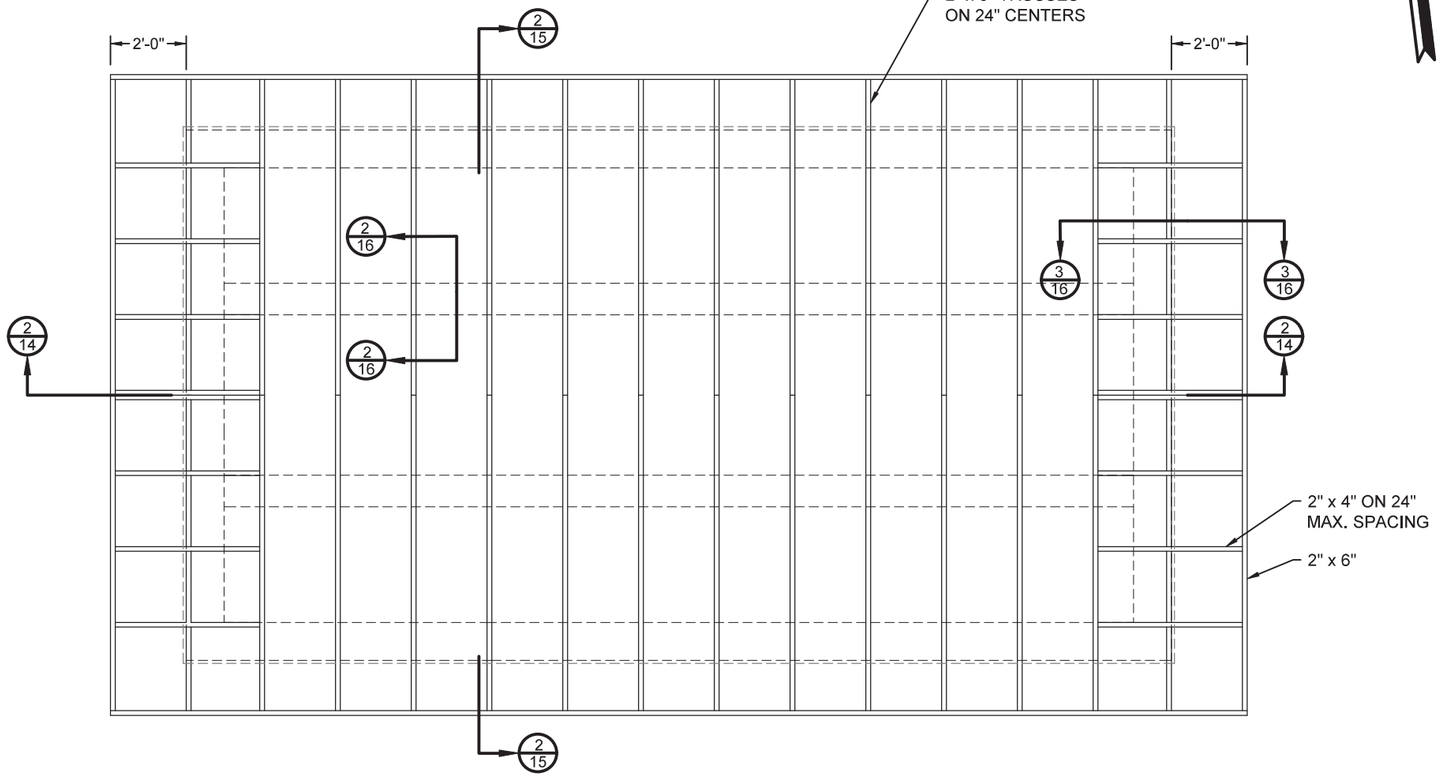
ND 297 (DeMers Ave) & 42nd St Grade Separation

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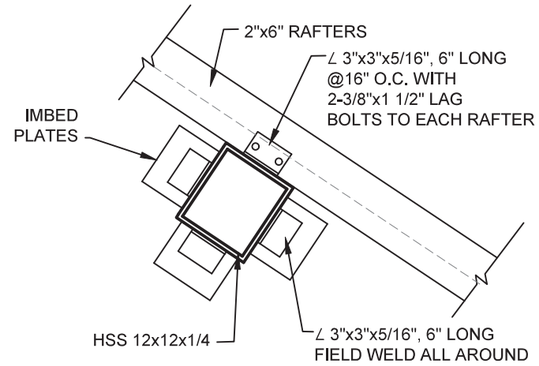
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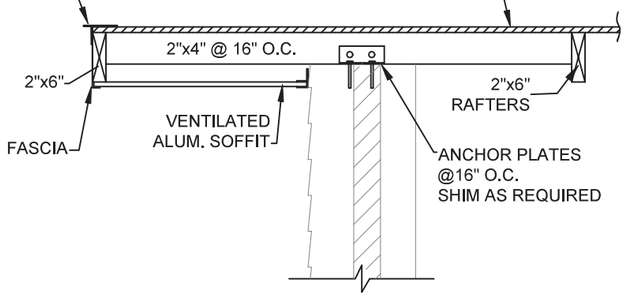
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1/16 CONTROL BLDG ROOF PLAN
SCALE: 1/4" = 1'-0"



2/16 BEAM AT GABLE WALL CONNECTION
NOT TO SCALE



3/16 GABLE OVERHANG DETAIL
NOT TO SCALE

General Details

Stormwater Lift Station
Control Building Roof Plan

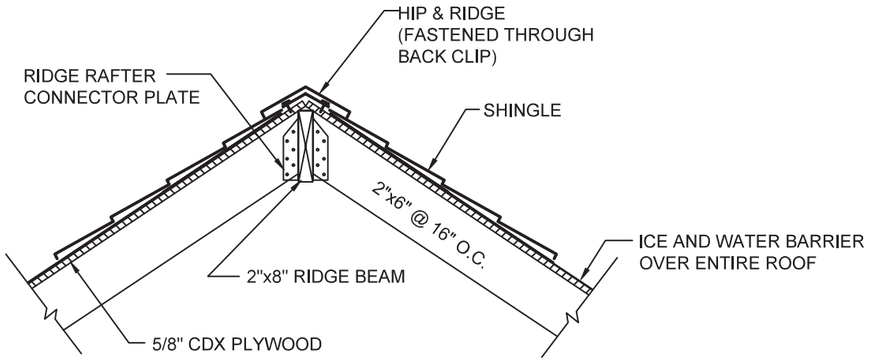
ND 297 (DeMers Ave) & 42nd St Grade Separation

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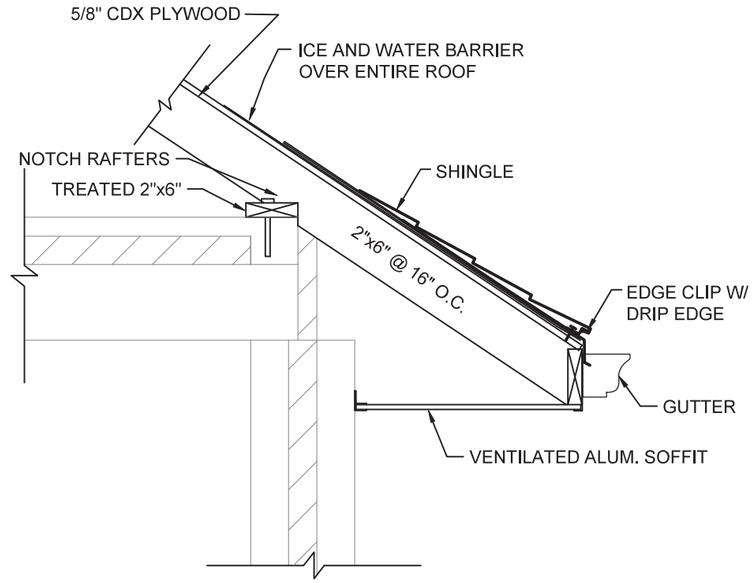
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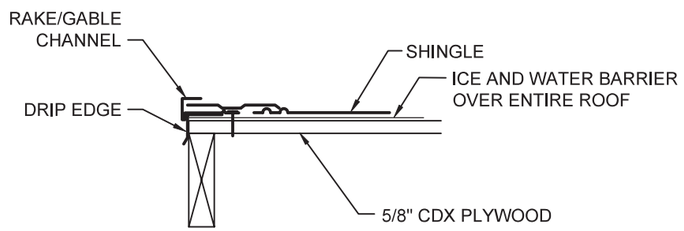
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1/17 RIDGE DETAIL
NOT TO SCALE



2/17 ROOF AT WALL DETAIL
NOT TO SCALE



3/17 GABLE END DETAIL
NOT TO SCALE

General Details

Stormwater Lift Station
Control Building Roof Details

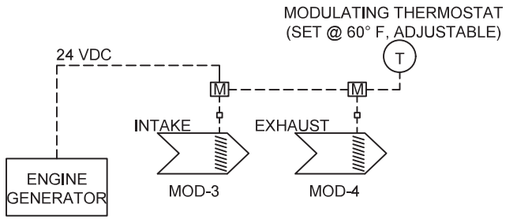
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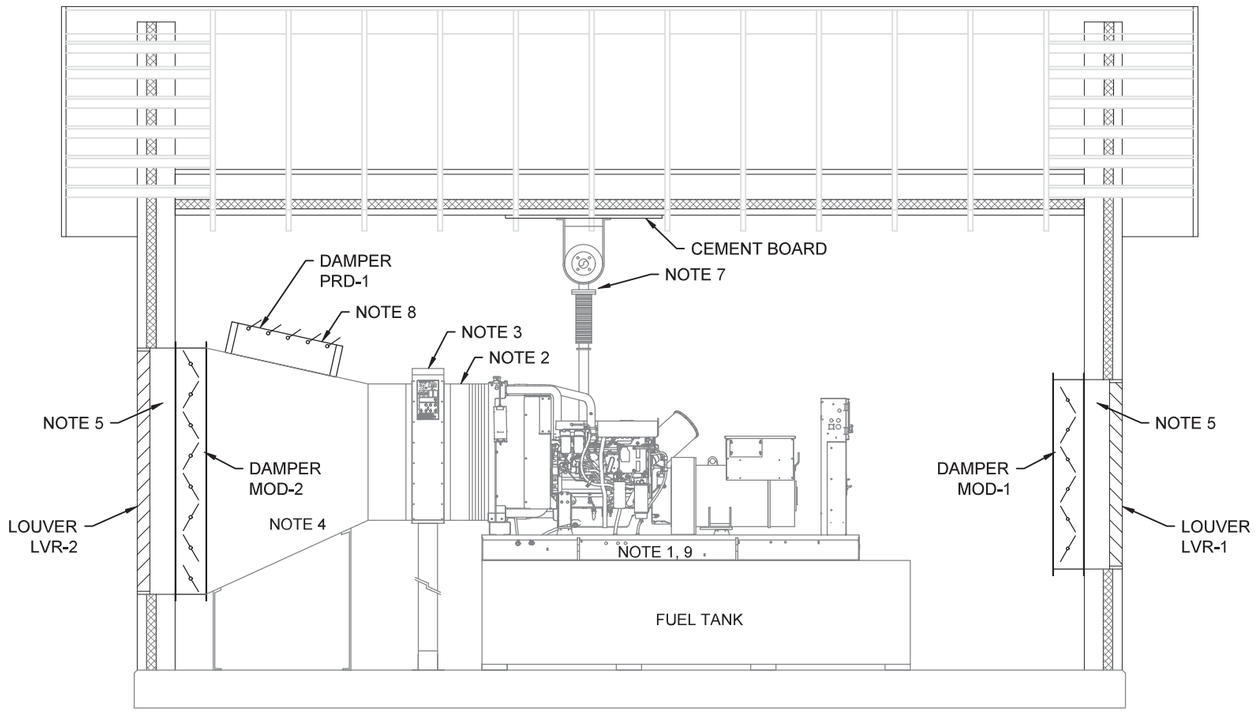
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2/18 GENERATOR DAMPER CONTROL SCHEMATIC

NO SCALE



1/18 GENERATOR ELEVATION DETAIL

SCALE: 1/4" = 1'-0"

NOTES:

1. PROVIDE AND INSTALL ENGINE GENERATOR SET PER NFPA 37, NFPA 70 LOCAL CODES AND MANUFACTURE'S RECOMMENDATIONS.
2. COORDINATE RADIATOR EXHAUST DUCT SIZING WITH ENGINE GENERATOR. PROVIDE MIN. 6" WIDE FLEXIBLE DUCT CONNECTOR AT RADIATOR AND 6" WIDE DUCT SECTION BEFORE LOAD BANK.
3. PROVIDE LOAD BANK THAT MATCHES RADIATOR DUCT ADAPTER SIZE. PROVIDE INDEPENDENT SUPPORT FEET FOR LOAD BANK. LOAD BANK SHALL BE CONNECTED TO THE GENERATOR MAIN LOAD BUS, WITH PROPER FUSING AND DISCONNECTS.
4. PROVIDE EQUIPMENT IN RADIATOR EXHAUST SYSTEM SHALL BE SUITABLE FOR TEMPERATURES UP TO 200°F.
5. PROVIDE SHEET METAL CLOSURE TO BLOCK OFF WALL AREAS NOT COVERED BY LOUVERS. SEAL OPENING WATER TIGHT.
6. MEASURE RADIATOR AIRFLOW STATIC PRESSURE RESTRICTION PRIOR TO PLACING GENERATOR IN SERVICE. ENSURE A MAXIMUM ALLOWABLE AIRFLOW RESTRICTION OF 0.50 IN. W.G. IS NOT EXCEEDED. AIRFLOW RESTRICTION SHALL BE MEASURED WITH A STATIC PRESSURE PITOT PROBE WITHIN 6 INCHES OF RADIATOR.
7. PROVIDE AND INSTALL MUFFLER AND EXHAUST PIPING WITH FLANGES TO ALLOW EASY REMOVAL. ADD FLANGES TO EXHAUST MANIFOLD, FLEX EXHAUST AND 90° ELBOW. EXHAUST MUFFLER AND PIPING SHALL BE SUPPORTED INDEPENDENTLY OF EXHAUST MANIFOLD OUTLET AND FLEX EXHAUST. ALL PIPING SHALL BE S.S, A MINIMUM OF 3", SIZE IN ACCORDANCE WITH MANUFACTURES RECOMMENDATIONS, THROUGHOUT ENTIRE EXHAUST SYSTEM. SLOPE HORIZONTAL RUNS OF EXHAUST PIPE AWAY FROM ENGINE TOWARDS OUTLET. THE ENTIRE EXHAUST SYSTEM SHALL BE INSULATED.
8. PRD-1 IS A PRESSURE RELIEF DAMPER.
9. EXTEND TWO 4" FUEL VENTS AS PER CODE FROM GENERATOR FUEL TANK TO BUILDING EXTERIOR. FURNISH AND INSTALL STAINLESS STEEL FLEX ON EACH LINE. USE SCHEDULE 40 STEEL PIPE. PAINT TO MATCH GENERATOR.

DAMPERS

MARK	DESCRIPTION	SIZE W	SIZE H	INTERLOCK WITH
MOD-1	GEN INTAKE	48"	60"	ENGINE GEN.
MOD-2	GEN. FAN EXHAUST	48"	78"	ENGINE GEN. AND MODULATING THERMOSTAT
MOD-3	GEN. BLDG COOLING	24"	24"	MOD-4
MOD-4	GEN. BLDG COOLING	24"	24"	MOD-3
PRD-1	GEN. RETURN	36"	36"	

LOUVERS

MARK	DESCRIPTION	SIZE W	SIZE H
LVR-1	GEN BLDG INTAKE	48"	60"
LVR-2	GEN. FAN EXHAUST	48"	78"
LVR-3	GEN BLDG COOLING	24"	24"
LVR-4	GEN. FAN COOLING	24"	24"

General Details

Stormwater Lift Station
Generator Building Mechanical Plan

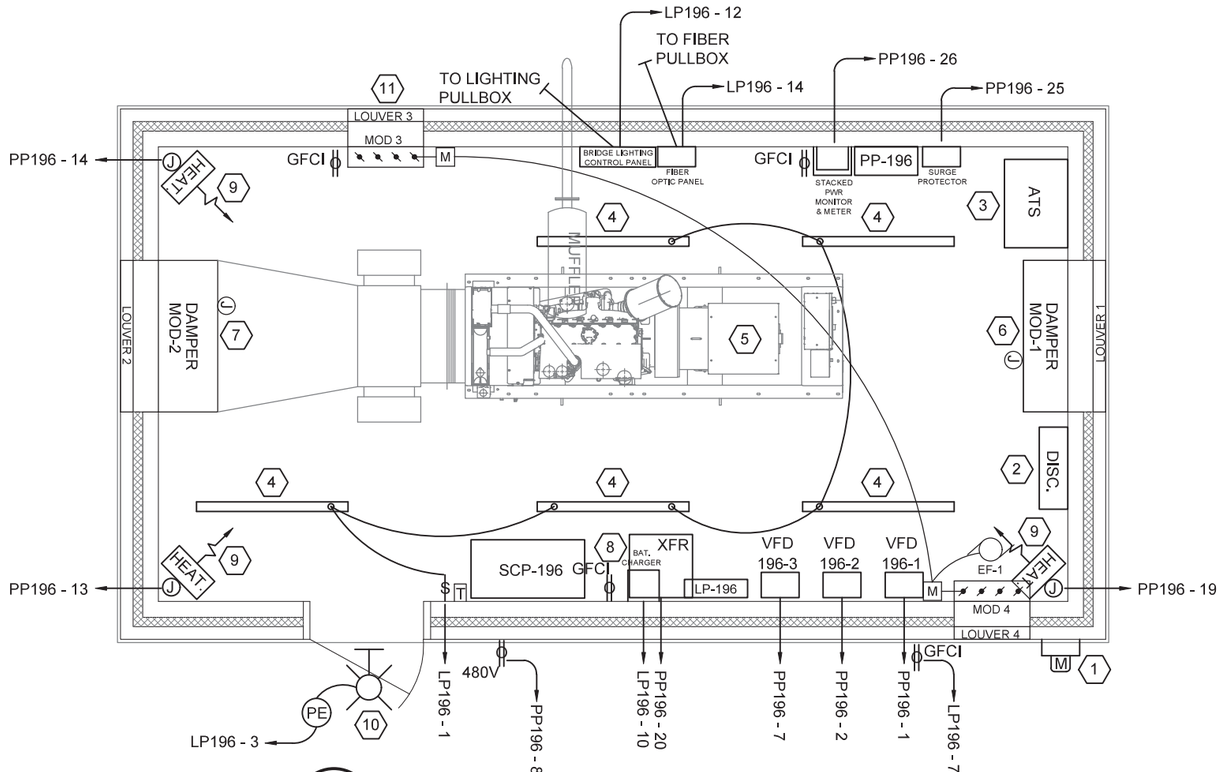
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

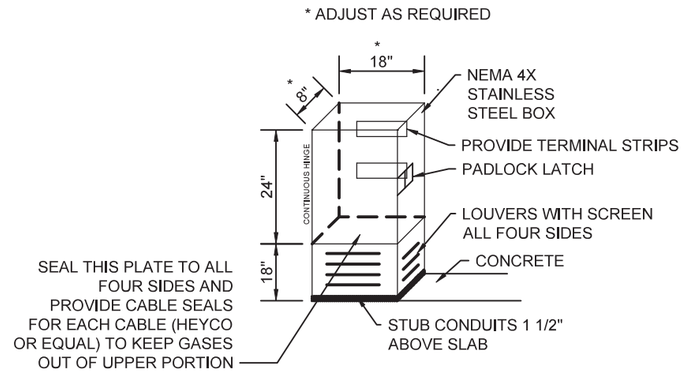
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1/19 CONTROL BLDG ELECTRICAL PLAN

SCALE: 1/4" = 1'-0"



VENTILATED JUNCTION BOX

REFERENCE NOTES

1. METER SOCKET
2. MAIN DISCONNECT
3. AUTO-TRANSFER SWITCH
4. CEILING MOUNTED LIGHT FIXTURES. COOPER 4SNLED-LD5-54HL-LW-UNV-L740-CD1-U. COORDINATE LOCATION WITH ENGINE-GENERATOR MUFFLER.
5. ENGINE-GENERATOR SET
6. INTERLOCK MOD-1 WITH GENERATOR.
7. INTERLOCK MOD-2 WITH GENERATOR AND PROPORTIONAL THERMOSTAT.
8. BATTERY CHARGER
9. 5 KW ELECTRIC UNIT HEATER WITH THERMOSTAT, 480V, 3PH.
10. WALL MOUNTED LED LIGHT FIXTURE WITH PHOTO EYE. RAB SLIM FC 57-N/BL. RUN CONDUIT INSIDE BUILDING.
11. INTERLOCK MOD 3 AND 4 WITH BUILDING THERMOSTAT.

GENERAL NOTES

1. ALL WIRING SHALL BE NON CLASSIFIED PER NEC.
2. ALL WIRING SHALL BE IN RIGID GALVANIZED STEEL CONDUIT UNLESS OTHERWISE NOTED.
3. ALL BURIED CONDUIT SHALL BE SCHEDULE 80 PVC.
4. COORDINATE ELECTRIC SERVICE WITH UTILITY COMPANY.
5. ALL ANCHORS, BOLTS, SCREWS, ETC., SHALL BE STAINLESS STEEL.

General Details

Stormwater Lift Station
Control Building Electrical Plan

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
BENJAMIN E. WILLIAMS
PE - 6879
DATE 12/03/25
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55b	20

PANEL BOARD SCHEDULE: LP 196

208 V, 3 PH, 3 W, 60 A MCB, SURFACE MTG. 20 BRANCH CKTS.

DESIGNATION	KW LOAD	CKT NO.	OVER CURRENT PROTECTION SIZE	OVER CURRENT PROTECTION POLES	PHASE	OVER CURRENT PROTECTION SIZE	OVER CURRENT PROTECTION POLES	CKT NO.	KW LOAD	DESIGNATION
INTERIOR LIGHTS	0.4	1	20	1	A	20	1	2	0.5	SCP-196
EXTERIOR LIGHTS	0.4	3	20	1	B	20	1	4	0.8	RECEPT-INTERIOR
EXHAUST FAN	1.0	5	20	1	A	20	1	6		SHARK POWER METER
RECEPT-EXTERIOR	0.8	7	20	1	B	20	1	8		GEN. HEATER
SURGE PROTECTOR		9	30	3	A	20	1	10		BAT. CHARGER
		11			B	20	1	12		BRIDGE LIGHTING CONTROL PANEL
		13			A	20	1	14		FIBER PANEL
SPACE		15	--	--	B	--	--	16		SPACE
SPACE		17	--	--	A	--	--	18		SPACE
SPACE		19	--	--	B	--	--	20		SPACE

PANELBOARD SCHEDULE: PP 196

480 V, 3 PH, 4 W, 400 AMPS MLO, SURFACE MTG. 36 BRANCH CKTS.

DESIGNATION	KW LOAD	CKT NO.	OVER CURRENT PROTECTION SIZE	OVER CURRENT PROTECTION POLES	PHASE	OVER CURRENT PROTECTION SIZE	OVER CURRENT PROTECTION POLES	CKT NO.	KW LOAD	DESIGNATION
VFD 196 - 1		1	125	3	A	125	3	2		VFD 196 - 2
		3			B			4		
		5			C			6		
VFD 196 - 3		7	125	3	A	20	3	8	1.67	480V. VENTILATION RECEPTACLES
		9			B			10	1.67	
		11			C			12	1.67	
UNIT HEATER 1	1.67	13	20	3	A	20	3	14	1.67	UNIT HEATER 2
	1.67	15			B			16	1.67	
	1.67	17			C			18	1.67	
UNIT HEATER 3	1.67	19	20	3	A	60	3	20		LP TRANSFORMER
	1.67	21			B			22		
	1.67	23			C			24		
SURGE PROTECTOR		25	40	3	A	20	3	26		POWER MONITOR AND POWER METER
		27			B			28		
		29			C			30		
SPACE		31	--	--	A	--	--	32		SPACE
SPACE		33	--	--	B	--	--	34		SPACE
SPACE		35	--	--	C	--	--	36		SPACE

General Details

Stormwater Lift Station
Electrical Panel Schedule

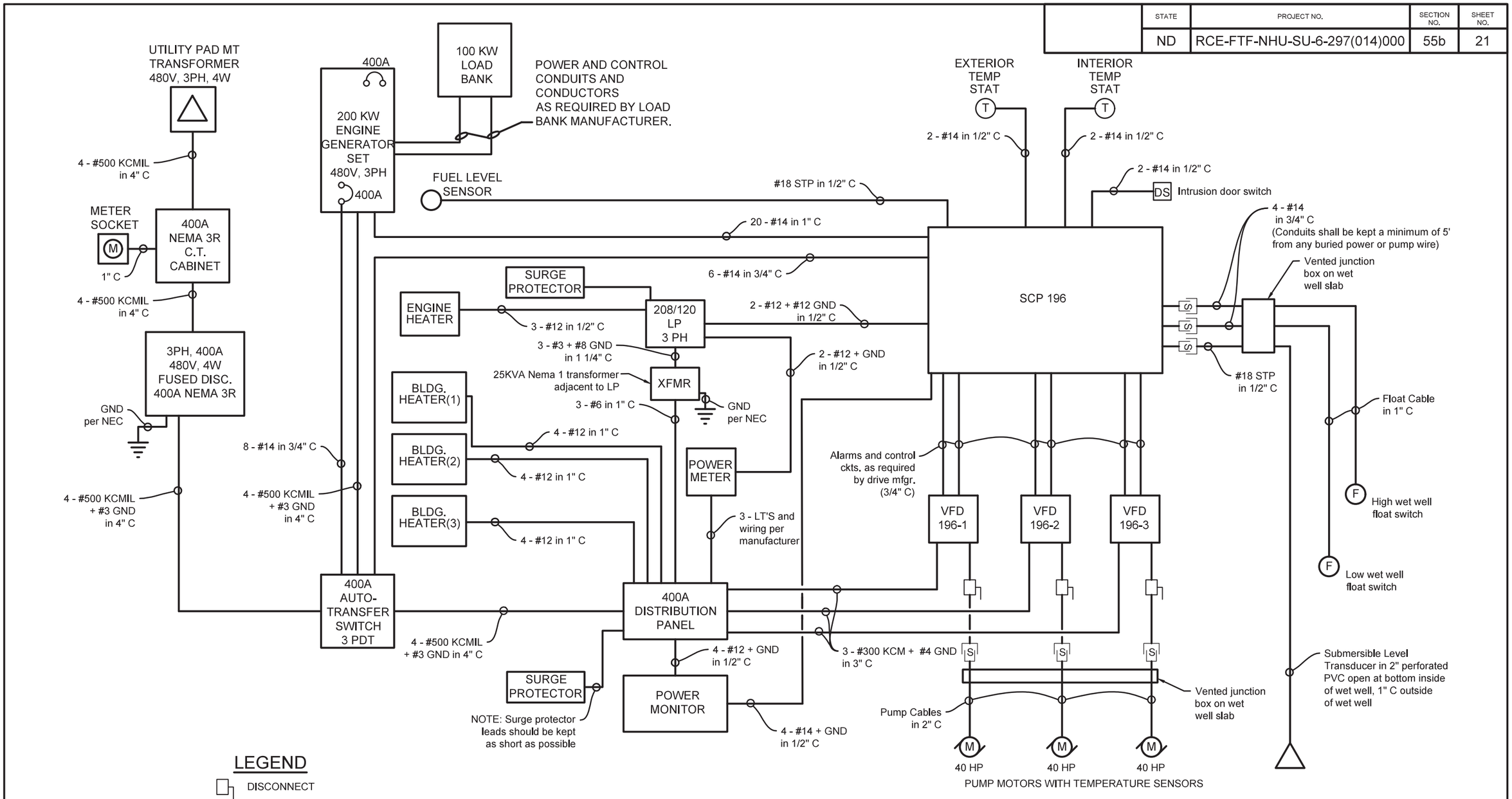
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

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LEGEND

- DISCONNECT
- DS — MAGNETIC DOOR SWITCH
- F — FLOAT SWITCH
- M — ELECTRIC MOTOR
- S — SLIP COUPLING
- T — TRANSMITTER
- NEW CONDUIT, NEW WIRING

PS 196 ONE LINE DIAGRAM

General Details

Stormwater Lift Station
Electrical One Line Diagram

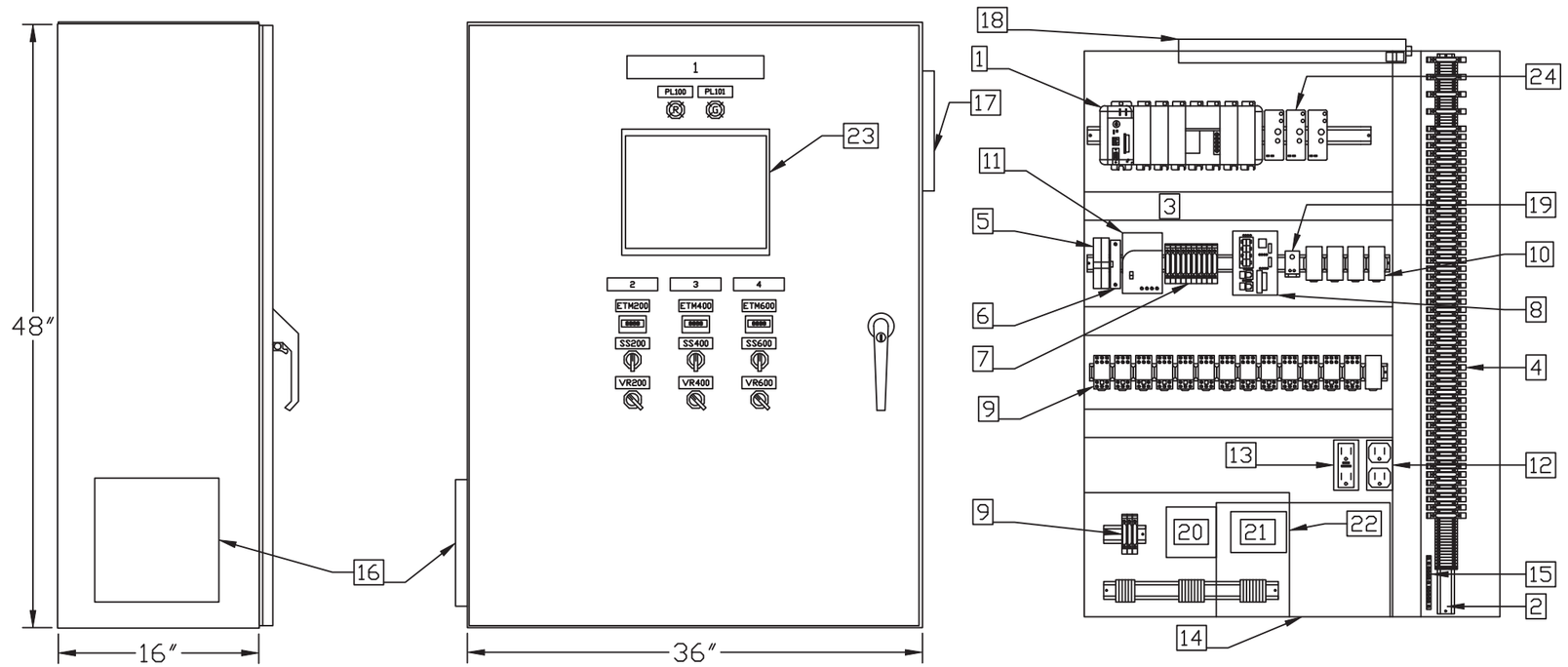
ND 297 (DeMers Ave) & 42nd St Grade Separation

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55b	22



PARTS LIST	
1	PLC RACK
2	DINRAIL
3	WIREWAY WITH COVER, SIZED TO FIT
4	TERMINAL BLOCK
5	CIRCUIT BREAKER
6	SURGE PROTECTION / LIGHTNING PROTECTION
7	FUSES
8	10 PORT MANAGED ETHERNET SWITCH
9	RELAYS
10	TIMERS
11	POWER SUPPLY 24 VDC
12	UPS 15AMP DUPLEX OUTLET
13	15AMP GFCI DUPLEX OUTLET

14	UNINTERRUPTIBLE POWER SUPPLY
15	GROUND BAR
16	VENT KIT WITH SCREEN FILTERS
17	FAN KIT WITH SCREEN FILTERS
18	LED PANEL LIGHT KIT
19	FAN THERMOSTAT
20	DIGITAL I.S. BARRIER
21	ANALOG I.S. BARRIER
22	ALUMINUM SHIELD
23	10" OPERATOR INTERFACE TRMINAL (OIT)
24	MINICAS MODULE

NAME PLATE SCHEDULE

TAG	LINE 1	LINE 2	SIZE	REMARKS
1	PUMP STATION 196	CONTROL PANEL	1.5 x 10	
2	PUMP No. 1		1 x 6	
3	PUMP No. 2		1 x 6	
4	PUMP No. 3		1 x 6	
ETM200	RUN TIME		1 x 3	
ETM400	RUN TIME		1 x 3	
ETM600	RUN TIME		1 x 3	
PL100	COMMON FAULT		1 x 3	
PL101	PROCESSOR RUNNING		1 x 3	
VR200	SPEED	0-100%	1 x 3	
VR400	SPEED	0-100%	1 x 3	
VR600	SPEED	0-100%	1 x 3	
SS200	HAND - OFF - AUTO		1 x 3	
SS400	HAND - OFF - AUTO		1 x 3	
SS600	HAND - OFF - AUTO		1 x 3	

NOTES	
1	ENCLOSURE IS A NEMA TYPE 3R/12, SAGINAW SCE-48H3616LP, AND LOCKABLE 3 POINT LATCH.
2	FINISH IS ANSI 61 GRAY.

General Details

Stormwater Lift Station
PS 196 SCP LAYOUT

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	55b	23

Rack / Slot	Point	Normal State	Type	Tagname	Description	EGU Lo	EGU Hi	EGU Tag	Signal
					CompactLogix L30ER				

Rack / Slot	Point	Normal State	Type	Tagname	Description	EGU Lo	EGU Hi	EGU Tag	Signal
Rack 0 Slot 1 1769sc-IF 4HI	0		AI	PS196_301.TI	Building Temperature	-13	167.0	DEG	4-20mA
	1		AI	PS196_051.LI	Wetwell Level	0	50.0	FT	4-20mA
	2		AI	PS196_200.LI	Generator Fuel Level	0	100.0	%	4-20mA
	3		AI	PS196_302.LI	Outside Temperature				4-20mA

Rack / Slot	Point	Normal State	Type	Tagname	Description	EGU Lo	EGU Hi	EGU Tag	Signal
Rack 0 Slot 2 1769-IA16	0	○	DI	PS196_200.MA	Generator Common Alarm	Normal	Alarm		120VAC
	1	○	DI	PS196_200.MN	Generator Running	Off	Running		120VAC
	2	○	DI	PS196_200.YN	Generator Not In Auto	Normal	Alarm		120VAC
	3	○	DI	PS196_200.TC	Generator Pre-High Engine Temp	Normal	Alarm		120VAC
	4	○	DI	PS196_200.TH	Generator High Engine Temp	Normal	Alarm		120VAC
	5	○	DI	PS196_200.XN	Generator Overspeed	Normal	Alarm		120VAC
	6	○	DI	PS196_200.XC	Generator Overcrank	Normal	Alarm		120VAC
	7	○	DI	PS196_200.TL	Generator Low Engine Temp	Normal	Alarm		120VAC
	8	○	DI	PS196_200.CL	Generator Low Coolant	Normal	Alarm		120VAC
	9	○	DI	PS196_200.PC	Generator Pre-Low Oil Pressure	Normal	Alarm		120VAC
	10	○	DI	PS196_200.PL	Generator Low Oil Pressure	Normal	Alarm		120VAC
	11	○	DI	PS196_200.LC	Generator Tank Leak	Normal	Alarm		120VAC
	12	○	DI	PS196_200.HV	Generator Battery Charger High Voltage	Normal	Alarm		120VAC
	13	○	DI	PS196_200.LV	Generator Battery Charger Low Voltage	Normal	Alarm		120VAC
	14	○	DI		Wired Spare				120VAC
	15	○	DI		Wired Spare				120VAC

Rack / Slot	Point	Normal State	Type	Tagname	Description	EGU Lo	EGU Hi	EGU Tag	Signal
Rack 0 Slot 3 1769-IA16	0	●	DI	PS196_200.XL	Generator Battery Charger Normal	Alarm	Normal		120VAC
	1	●	DI	PS196_200.MX	Generator Battery Charger Malfunction	Alarm	Normal		120VAC
	2	●	DI	PS196_201.XN	ATS Connected to Utility	Alarm	Normal		120VAC
	3	○	DI	PS196_202.ZN	ATS Connected to Generator	Open	Closed		120VAC
	4	●	DI	PS196_202.EN	Control Power Available	Alarm	Normal		120VAC
	5	●	DI	PS196_203.EN	UPS Power Available	Alarm	Normal		120VAC
	6	●	DI	PS196_204.XA	TVSS Failure	Alarm	Normal		120VAC
	7	●	DI	PS196_205.XA	Phase Failure	Alarm	Normal		120VAC
	8	●	DI	PS196_941.ZH	Intrusion	Alarm	Normal		120VAC
	9	●	DI	PS196_061.LH	High Level Float	Alarm	Normal		120VAC
	10	●	DI	PS196_062.LL	Low Level Float	Alarm	Normal		120VAC
	11	○	DI		Wired Spare				120VAC
	12	○	DI	PS196_060.YA	Backup Mode Active	Off	Active		120VAC
	13	●	DI		Wired Spare				120VAC
	14	○	DI		Wired Spare				120VAC
	15	○	DI		Wired Spare				120VAC

Rack / Slot	Point	Normal State	Type	Tagname	Description	EGU Lo	EGU Hi	EGU Tag	Signal
Rack 0 Slot 4 1769-IA16	0	●	DI	PS196_501.TA	Pump No. 1 Motor Overtemp	Off	Running		120VAC
	1	●	DI	PS196_501.MA	Pump No. 1 Seal Fail	Alarm	Normal		120VAC
	2	●	DI	PS196_502.TA	Pump No. 2 Motor Overtemp	Off	Running		120VAC
	3	●	DI	PS196_502.MA	Pump No. 2 Seal Fail	Alarm	Normal		120VAC
	4	○	DI	PS196_503.TA	Pump No. 3 Motor Overtemp	Off	Running		120VAC
	5	●	DI	PS196_503.MA	Pump No. 3 Seal Fail	Alarm	Normal		120VAC
	6	○	DI		Wired Spare				120VAC
	7	○	DI		Wired Spare				120VAC
	8	●	DI		Wired Spare				120VAC
	9	○	DI		Wired Spare				120VAC
	10	○	DI		Wired Spare				120VAC
	11	○	DI		Wired Spare				120VAC
	12	○	DI		Wired Spare				120VAC
	13	○	DI		Wired Spare				120VAC
	14	○	DI		Wired Spare				120VAC
	15	○	DI		Wired Spare				120VAC

Rack / Slot	Point	Normal State	Type	Tagname	Description	EGU Lo	EGU Hi	EGU Tag	Signal
Rack 0 Slot 5 1769-OW 16I	0	○	DO	PS196_205.YL	Common Fault Light	Off	On		Relay
	1	●	DO	PS196_900.YL	Processor Running Light	Off	On		Relay
	2	○	DO		Wired Spare				Relay
	3	○	DO	PS196_200.MC	Generator Required	Off	Required		Relay
	4	○	DO		Wired Spare				Relay
	5	○	DO	PS196_402.ZC	Flow Redirect Control Valve Open	Off	Open		Relay
	6	○	DO		Wired Spare				Relay
	7	○	DO		Wired Spare				Relay
	8	○	DO		Wired Spare				Relay
	9	○	DO		Wired Spare				Relay
	10	○	DO		Wired Spare				Relay
	11	○	DO		Wired Spare				Relay
	12	○	DO		Wired Spare				Relay
	13	○	DO		Wired Spare				Relay
	14	○	DO		Wired Spare				Relay
	15	○	DO		Wired Spare				Relay

NOTES	
●	Indicates Input/Output State is On
○	Indicates Input/Output State is Off

General Details

Stormwater Lift Station
PS 196 SCP IO SCHEDULE

ND 297 (DeMers Ave) & 42nd St Grade Separation

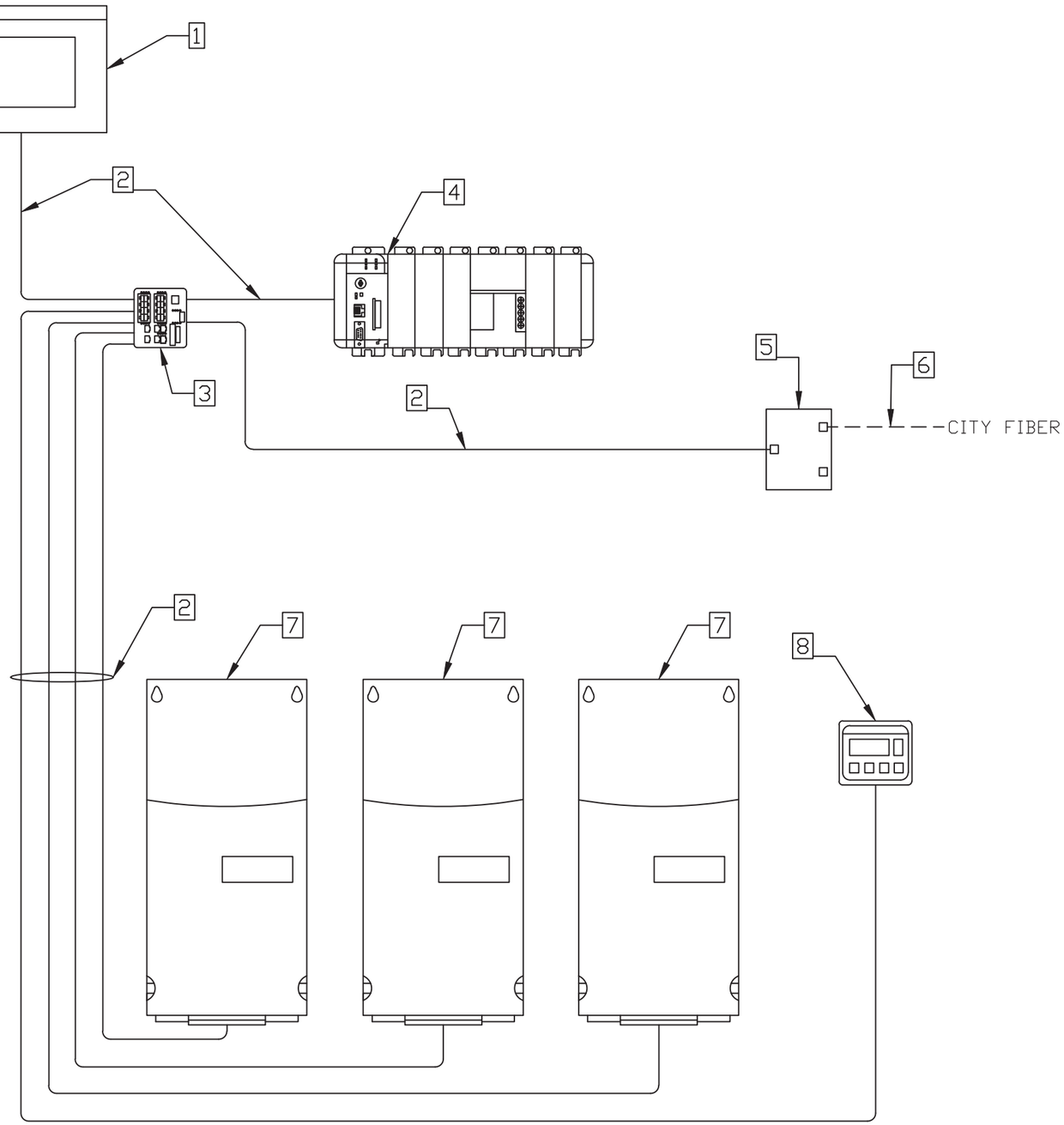
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
BENJAMIN E. WILLIAMS
PE - 6879
DATE 12/03/25
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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CONTROL PANEL



PARTS LIST	
1	OPERATOR INTERFACE TERMINAL
2	CAT 6 CABLE
3	10 PORT MANAGED ETHERNET SWITCH
4	PLC RACK
5	FIBER TERMINATION PANEL
6	FIBER OPTIC CABLE
7	VARIABLE FREQUENCY DRIVE
8	POWER MONITOR

General Details

Stormwater Lift Station
NETWORK DETAIL

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

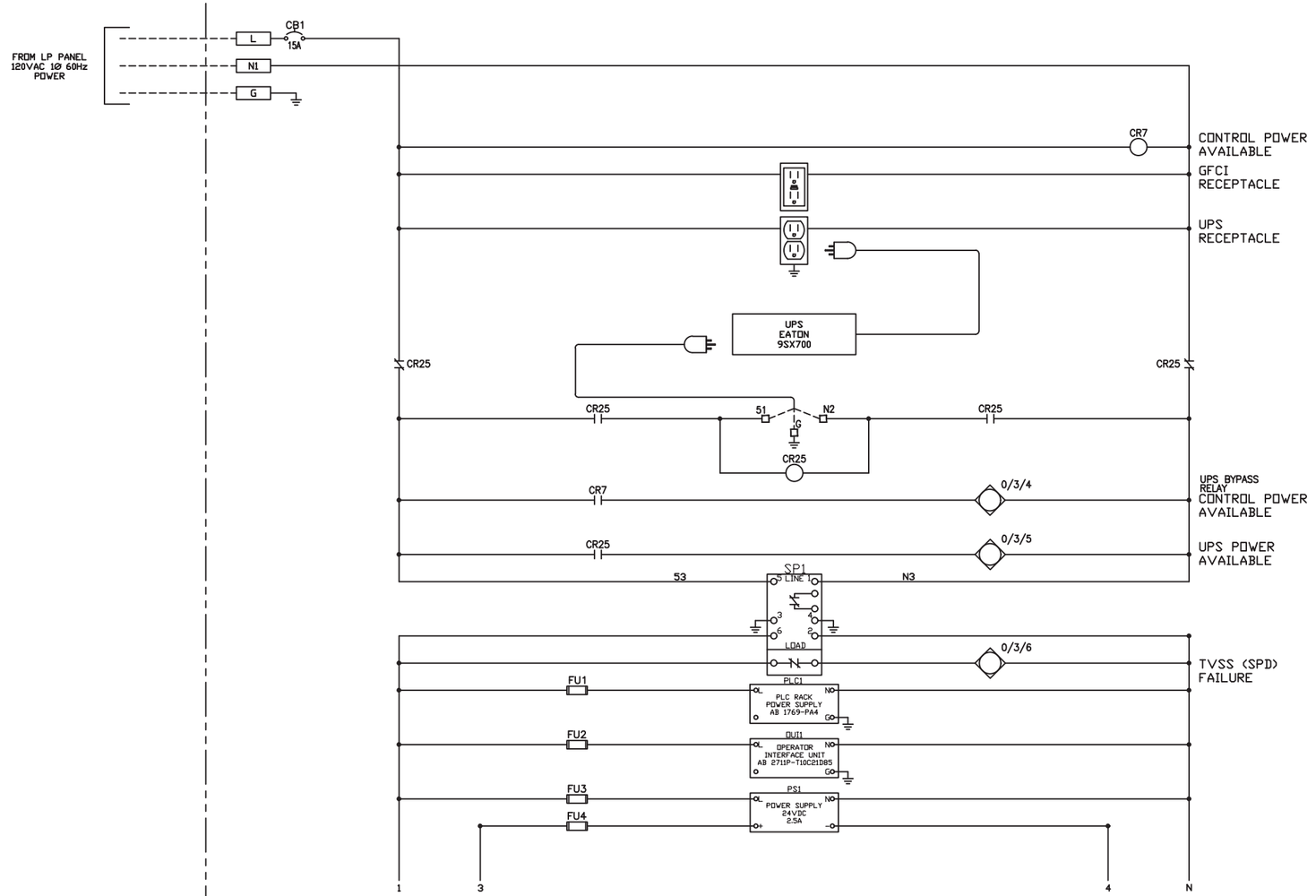
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FIELD OR AS NOTED

CONTROL PANEL



General Details

Stormwater Lift Station
PS 196 TYPICAL SCP WIRING SCHEMATIC

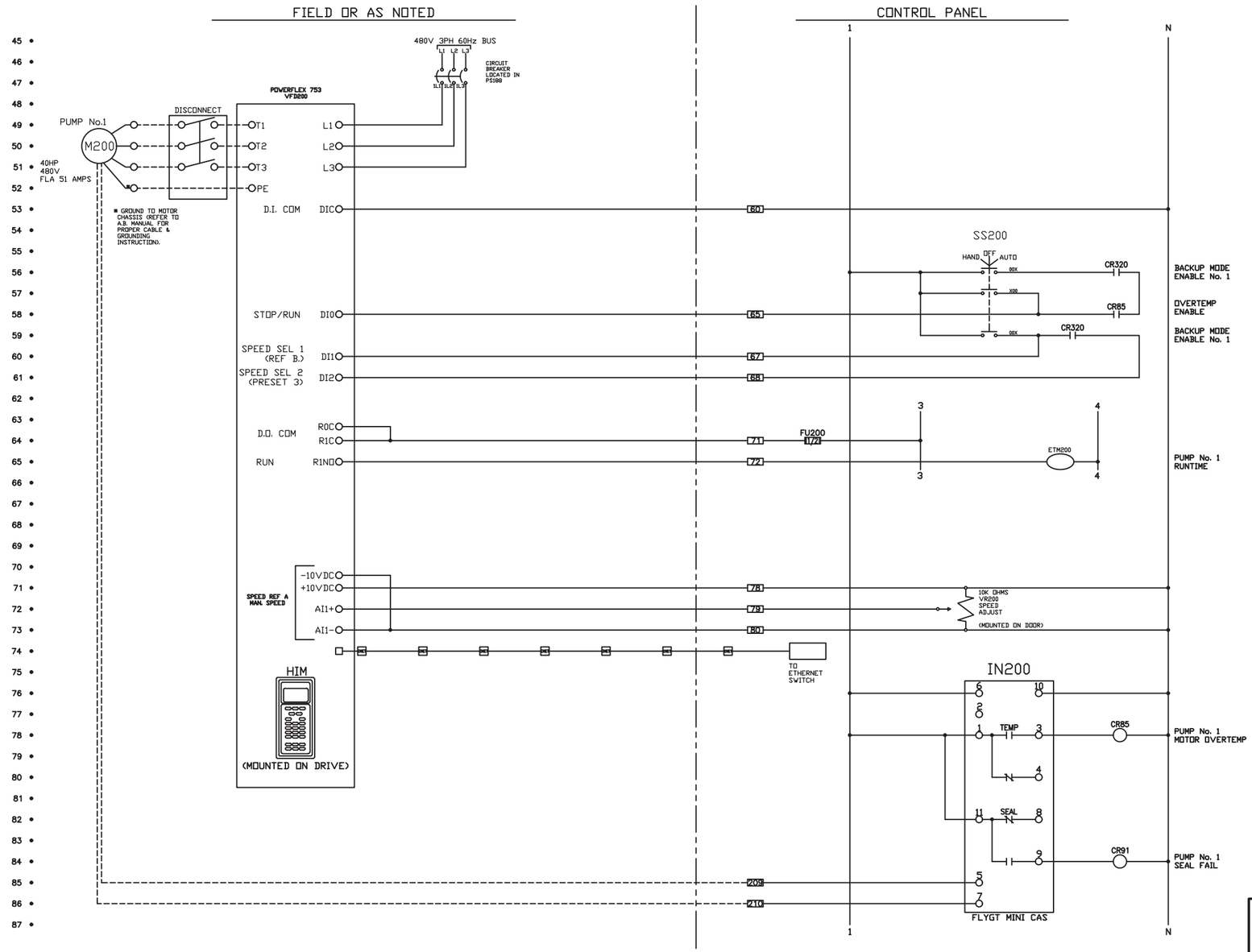
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

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General Details

Stormwater Lift Station
PS 196 PUMP NO. 1 VFD WIRING SCHEMATIC

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

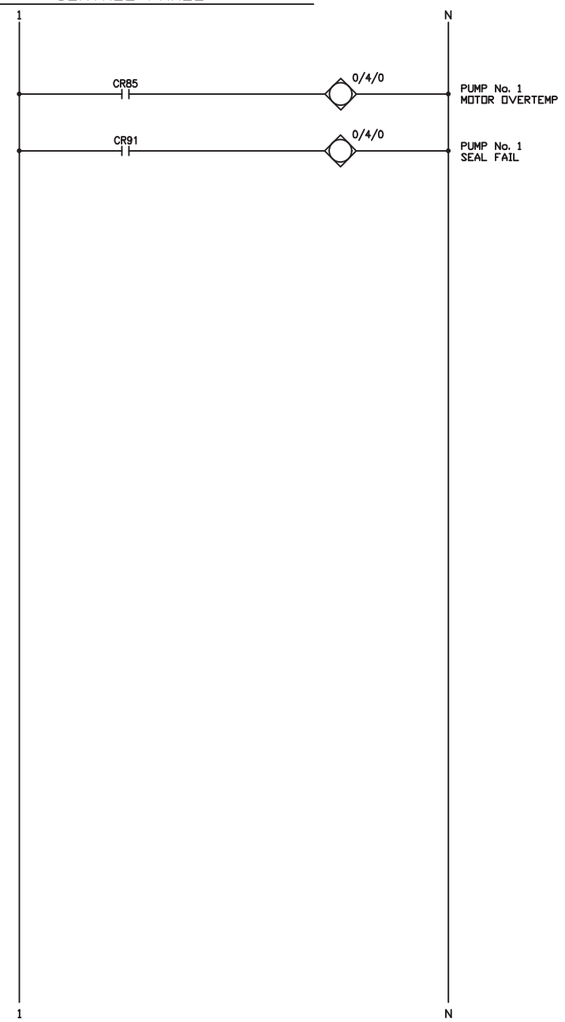
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55b	27

FIELD OR AS NOTED

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CONTROL PANEL



General Details

Stormwater Lift Station
PS 196 PUMP NO. 1 VFD WIRING SCHEMATIC

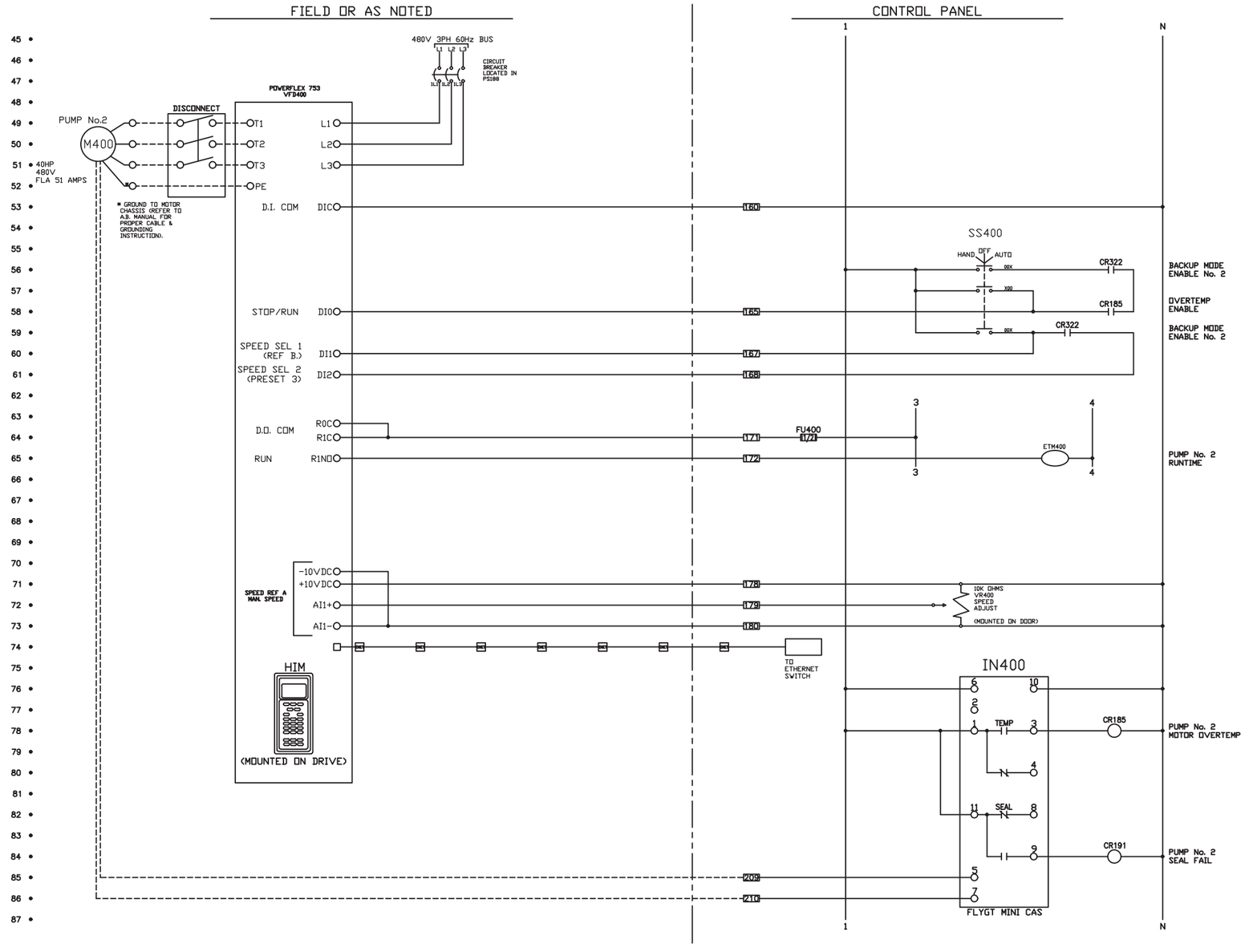
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

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General Details

Stormwater Lift Station
PS 196 PUMP NO. 2 VFD WIRING SCHEMATIC

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

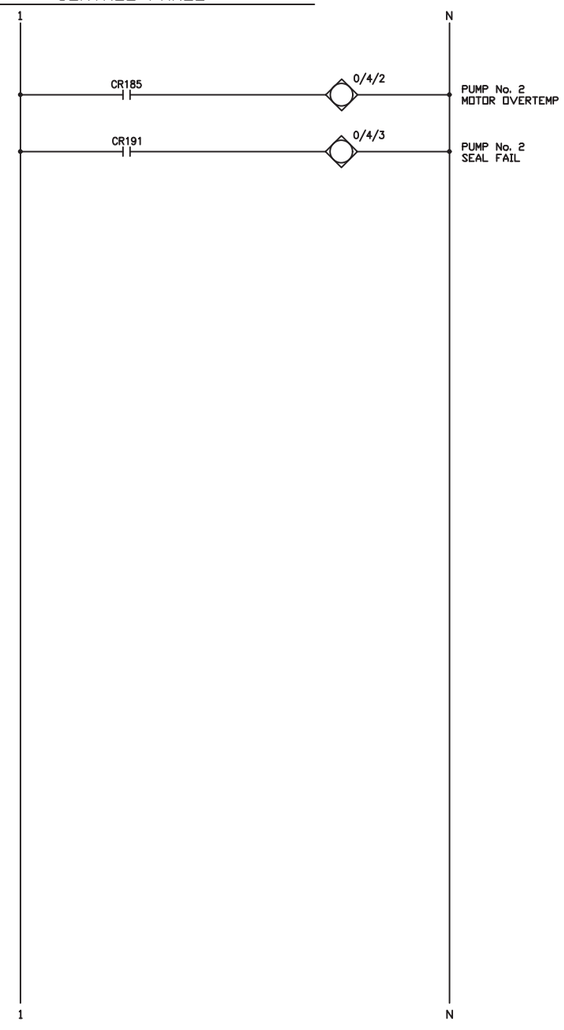
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NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55b	29

FIELD OR AS NOTED

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CONTROL PANEL



General Details

Stormwater Lift Station
PS 196 PUMP NO. 2 VFD WIRING SCHEMATIC

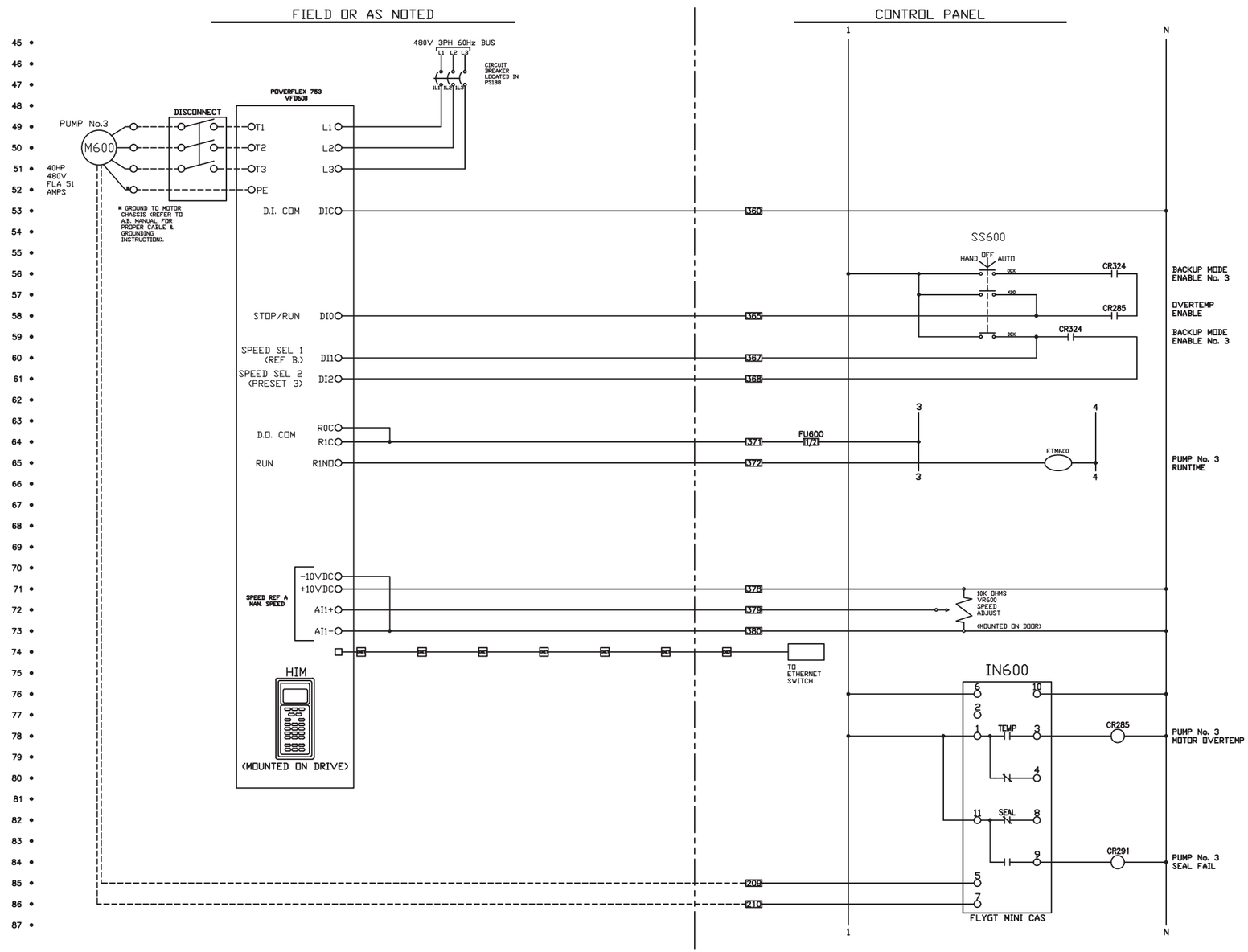
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
BENJAMIN E. WILLIAMS
PE - 6879
DATE 12/03/25
NORTH DAKOTA

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General Details

Stormwater Lift Station
PS 196 PUMP NO. 3 VFD WIRING SCHEMATIC

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

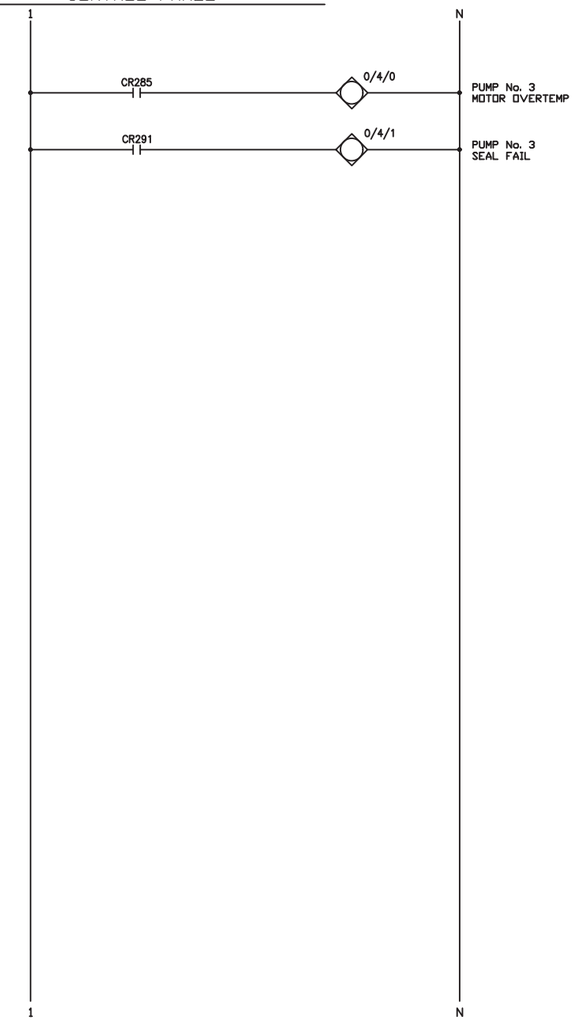
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PE - 6879
DATE 12/03/25
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55b	31

CONTROL PANEL

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CONTROL PANEL



General Details

Stormwater Lift Station
PS 196 PUMP NO. 3 VFD WIRING SCHEMATIC

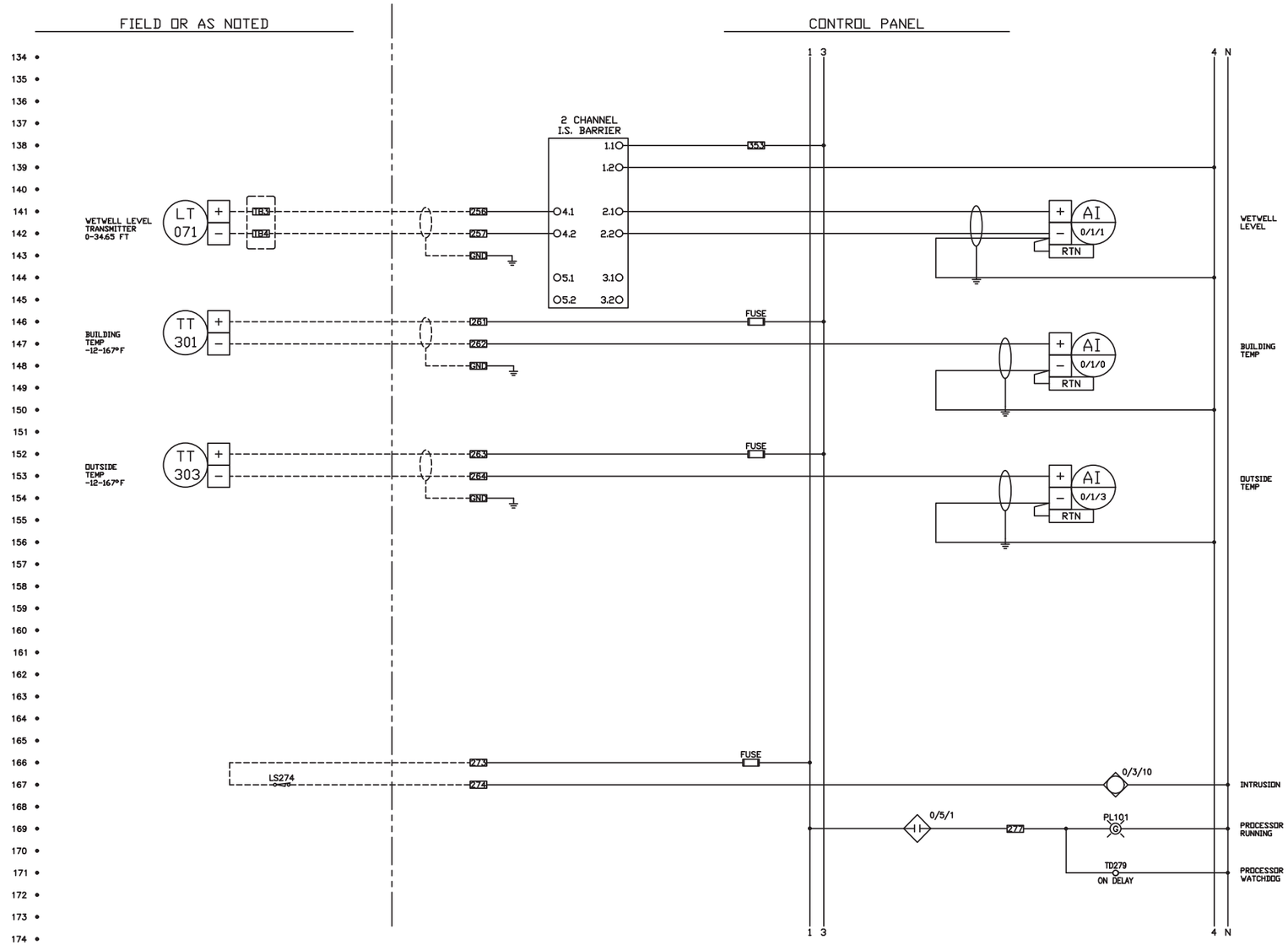
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

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NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55b	32



General Details

Stormwater Lift Station
PS 196 LEVEL - INTRUSION WIRING SCHEMATIC

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

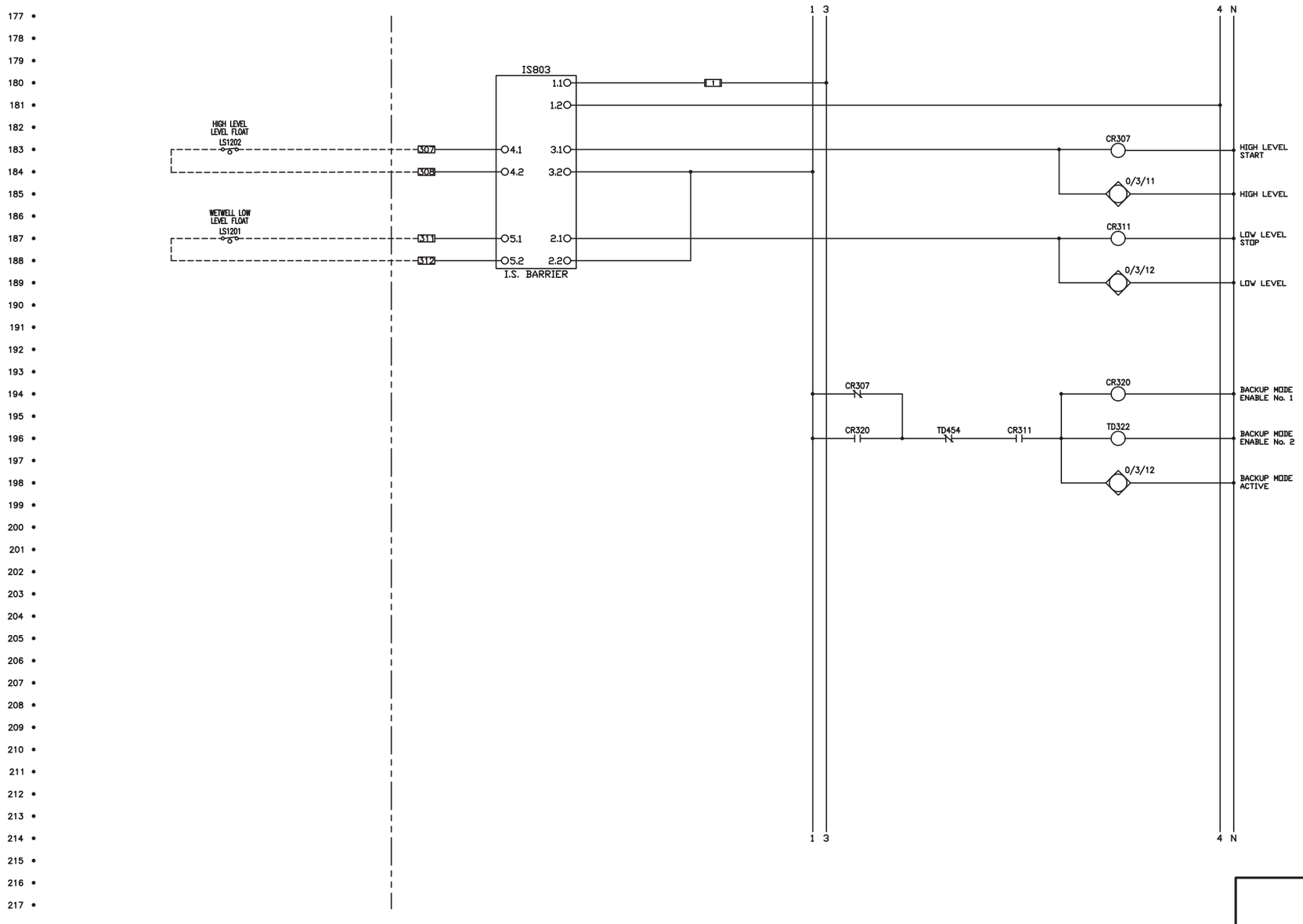
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
BENJAMIN E. WILLIAMS
PE - 6879
DATE 12/03/25
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55b	33

FIELD OR AS NOTED

CONTROL PANEL



General Details

Stormwater Lift Station
PS 196 CONTROL WIRING SCHEMATIC

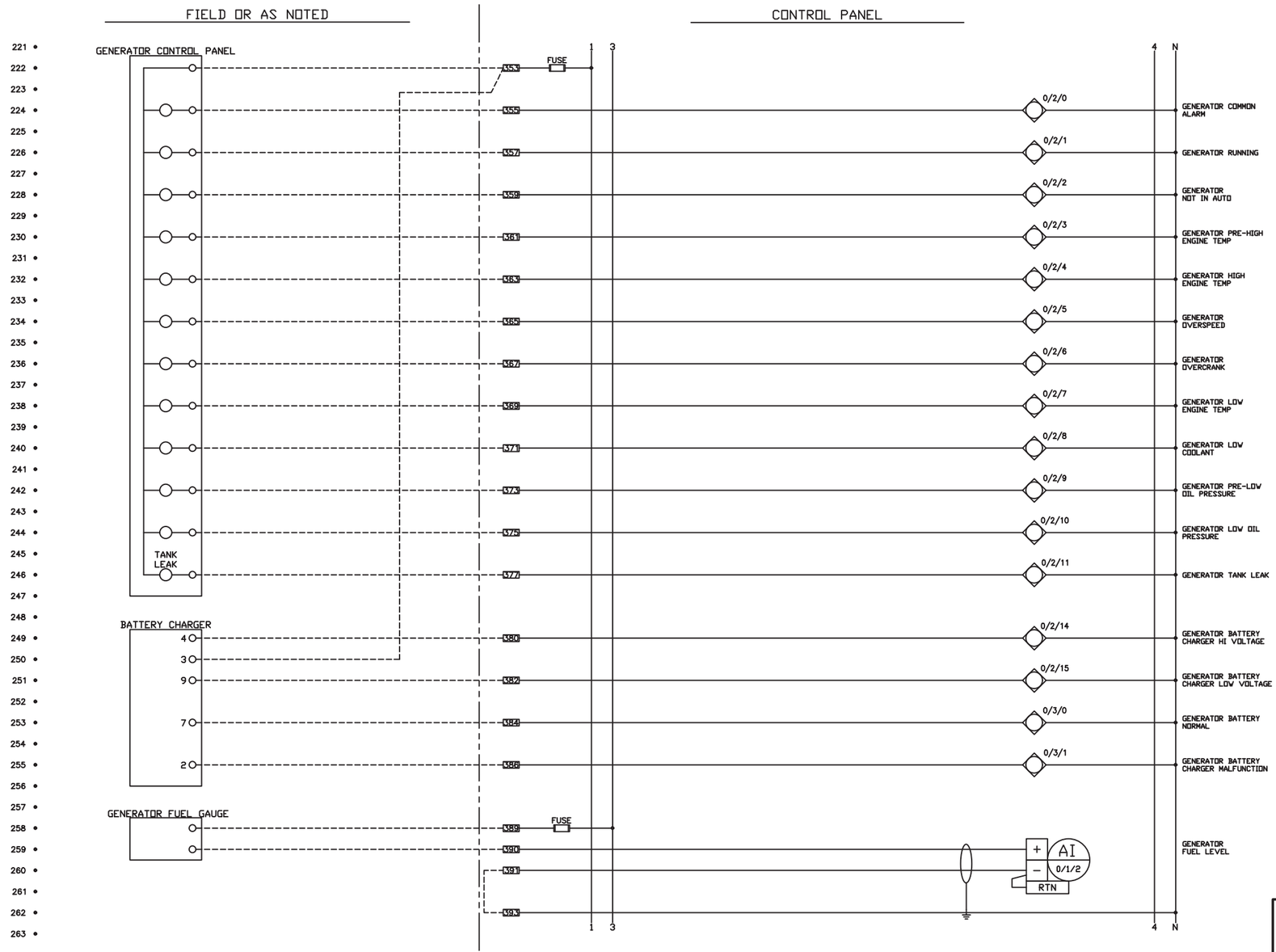
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
BENJAMIN E. WILLIAMS
PE - 6879
DATE 12/03/25
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55b	34



General Details

Stormwater Lift Station
PS 196 GEN. INTERFACE WIRING SCHEMATIC

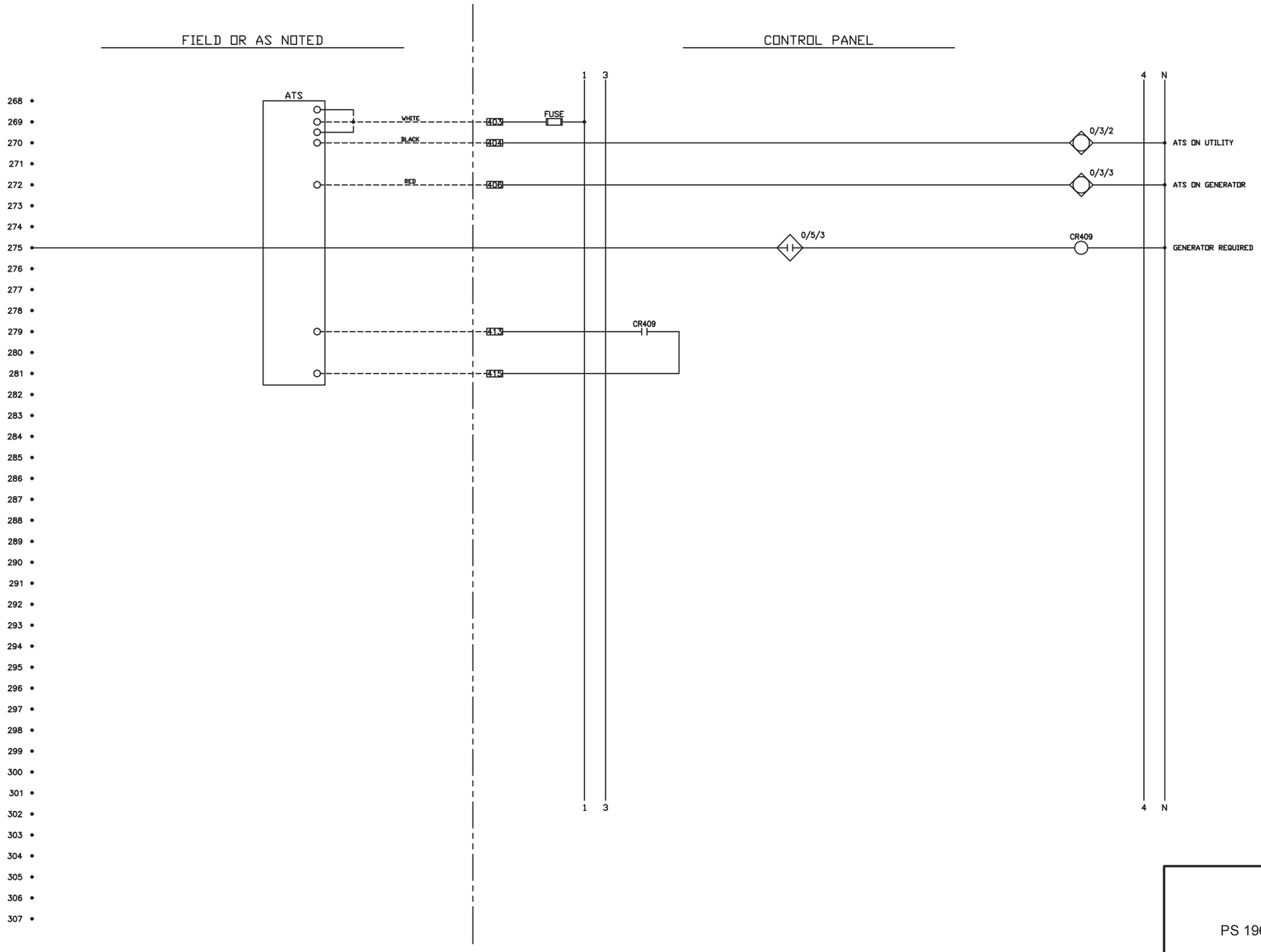
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
BENJAMIN E. WILLIAMS
PE - 6879
DATE 12/03/25
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55b	35



General Details

Stormwater Lift Station
PS 196 ATS WIRING SCHEMATIC

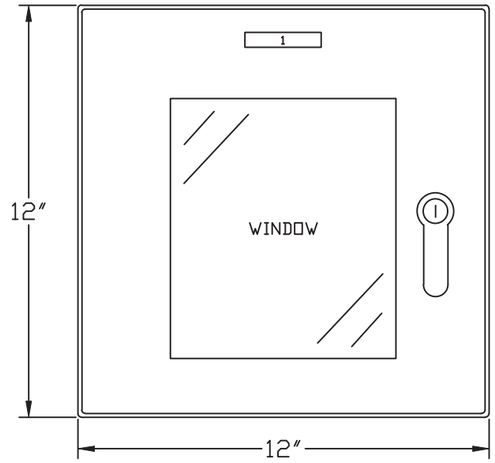
ND 297 (DeMers Ave) & 42nd St Grade Separation

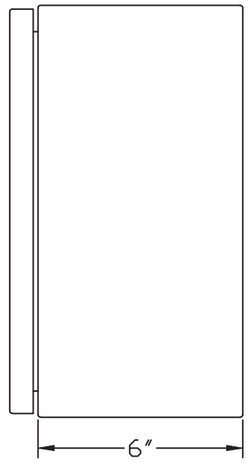
Grand Forks County

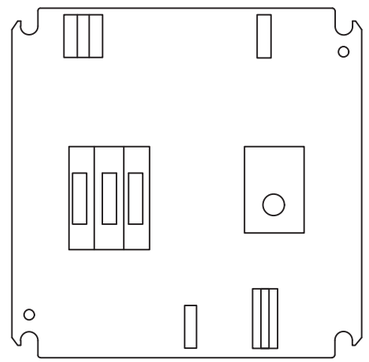
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
BENJAMIN E. WILLIAMS
PE - 6879
DATE 12/03/25
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55b	36





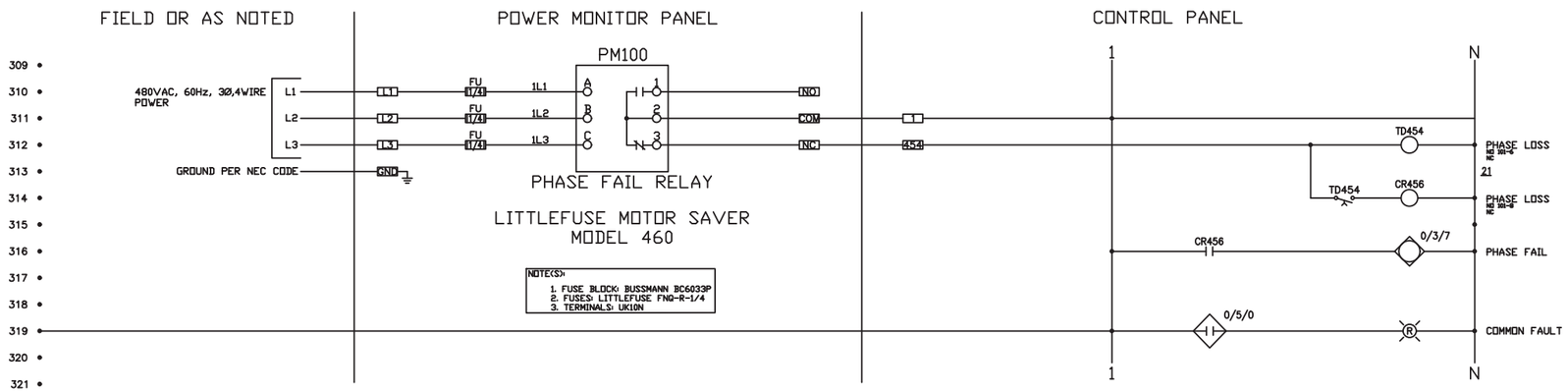


INNER PANEL LAYOUT

NAME PLATE SCHEDULE					
TAG	LINE 1	LINE 2	LINE 3	SIZE	REMARKS
1	POWER MONITOR			1.5 x 6	

NOTES	
1	ENCLOSURE IS A NEMA TYPE 4/12, HOFFMAN L-WC302515 WITH INNER PANEL L-P3025
2	FINISH IS TEXTURED LIGHT GRAY (RAL 7035).

PARTS LIST	
1	3 PHASE TERMINALS
2	GROUND LUG
3	FUSE BLOCK
4	3 PHASE FUSES
5	POWER MONITOR - SYMCOM MOTOR SAVER 460
6	CONTROL TERMINALS



General Details

Stormwater Lift Station
PS 196 POWER MONITOR ENCLOSURE LAYOUT & WIRING SCHEMATIC

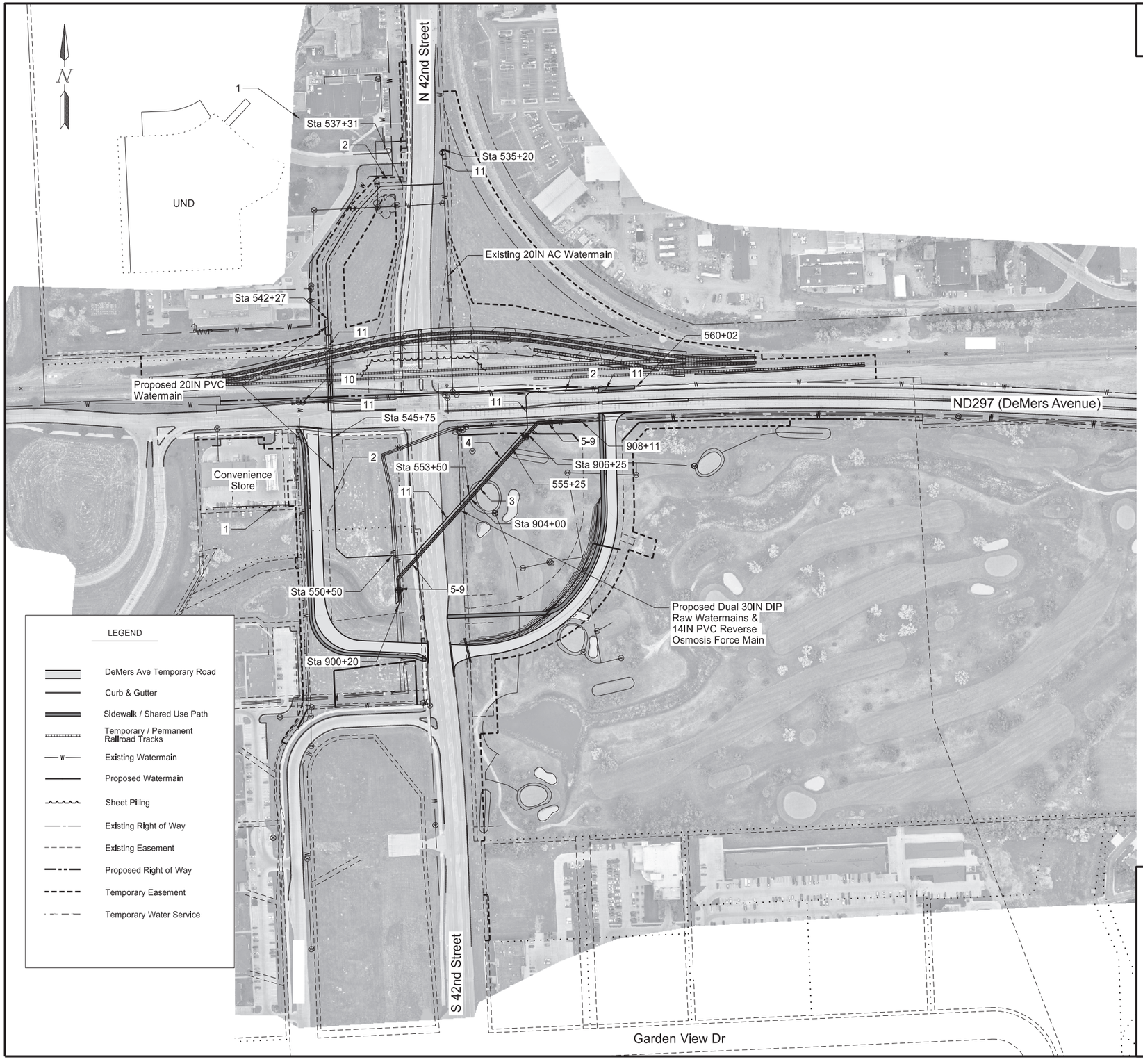
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
BENJAMIN E. WILLIAMS
PE - 6879
DATE 12/03/25
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55c	1



GENERAL WATERMAIN NOTES:

a. The contractor will coordinate construction with the City of Grand Forks to mitigate disruption to utility services.
b. The City of Grand Forks and the engineer must give permission before utilities can be taken out of service, unless otherwise noted on the drawings. The contractor must provide a minimum of 2 weeks' notice before removing any utilities from service.
c. The contractor will coordinate with the City of Grand Forks to operate existing gate valves. Only City of Grand Forks personnel may operate existing gate valves. Provide minimum 48 hours notice.
d. The proposed sequencing noted below and on the plans is for contractor reference only. The contractor may propose alternate plans and details for engineer and owner approval, provided that the design requirements and criteria specified here and in the specifications are met. See sheets 55C-2 thru 55C-9 for detailed plan and profile information.
e. The contractor may take only one 30IN raw watermain out of service at a time. The contractor must ensure that both 30IN raw watermains are never out of service simultaneously.
f. 14" PVC reverse osmosis (RO) force main may not be taken out of service for more than 24 hours. The contractor will coordinate installation of proposed 14" PVC accordingly.
g. Prior to construction, the contractor will pothole locations where existing watermain will be crossed or connected to to verify locations and elevations.
h. The contractor will make every effort to complete the 20" PVC Watermain, 30" DIP Raw Water and 14" PVC Reverse Osmosis Force Main pipes as fast as possible. Specifically, to the greatest extent possible, minimize the time the 20" watermain is out of service. The contractor will utilize 24/7 operations when installing the 20" PVC watermain at both DeMers Avenue crossings and beneath the BNSF Railway.

SEQUENCING NOTES:

Unless noted otherwise, steps 1 through 4 shall occur within Phase 1A as noted in Section No. 100 of this plan set.

1. Install Temporary Water Service for UND in NW Quadrant and for the convenience store in SW quadrant as noted on the plans.
2. Install 20IN PVC watermain and all associated fittings, valves and hydrants from; 537+31 to 542+27, 545+75 to 550+50
3. Install 30" DIP Raw Water and 14" PVC Reverse Osmosis pipes, valves, and fittings from 904+00 to 906+25.
4. Install 20" PVC watermain and all associated fittings, valves and hydrants from 553+50 to 555+25.

Unless noted otherwise, steps 5 through 13 shall occur within Phase 1B, after the DeMers Avenue temporary bypass road is in operation, as noted in Section No 100 of this plan set.

5. The City will close the existing South 30" raw watermain at DeMers Avenue and 34th Street and NW of Alerus Center. Drain existing 30" DIP Raw water line. Remove existing pipe as necessary and install South 30" Raw Water from 900+20 to 904+00 and 906+25 to 908+11. Make connections to existing South 30" raw watermain and perform pressure test. The City will open the valves to put the new South 30" raw watermain into service. Only one watermain shall be out of service at one time.
6. The City will close the existing 14" RO valves approximately 1000 feet east of the proposed 7th Avenue jug handle between S 42nd St and DeMers Ave, at SE corner of S 42nd and DeMers, and NW of Alerus Center.
7. Drain existing 14" RO pipe. Water from reverse osmosis pipe cannot be drained to the environment and shall be trucked offsite to the nearest wastewater treatment facility or sanitary system. Coordinate with the City of Grand Forks. The Reverse Osmosis line cannot be taken out of service for longer than 24 hours. Notify the City no less than 48 hours prior to removing the pipe from service.
8. Remove existing pipe as necessary and install 14" PVC Reverse Osmosis from 900+20 to 904+00 and 906+25 to 908+11. Make connections to existing 14" RO lines and perform pressure tests. The City will open the valves to put the new 14" RO line into service.
9. The City will close the existing North 30" raw watermain at DeMers and 34th Street and NW of Alerus Center. Drain existing 30" DIP Raw water line. Remove existing pipe as necessary and install North 30" DIP Raw Water from 900+20 to 904+00 and 906+25 to 908+11. Make connections to existing South 30" raw watermain and perform pressure test. The City will open the valves to put the new South 30" Raw watermain into service.
10. The City will close the existing 20" gate valves at University Avenue N and N 42nd Street, north of DeMers Avenue west of 34th Street, and the newly installed 20" butterfly valve north of the convenience store (as noted on sheet 55c-10).
11. Remove remaining existing 20" AC pipe as necessary and install 20" PVC watermain from 1+85 to 2+65, 535+20 to 537+31, 542+27 to 545+79, 550+50 to 553+50, and 555+25 to 560+02. Make connections to existing 20" AC pipe.
12. Coordinate with the City to close all new valves except at western-most connection. The City will open the valve at the SE corner of DeMers Avenue and S 47th Street to fill the new pipe. Pressure test, chlorinate, and complete Bac-T testing on new 20" PVC watermain.
13. Upon completion and approval of testing, remove temporary water service to UND. The City will open the remainder of the new and existing valves.

Watermain Adjustments

Proposed & Existing Overview & Phasing

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

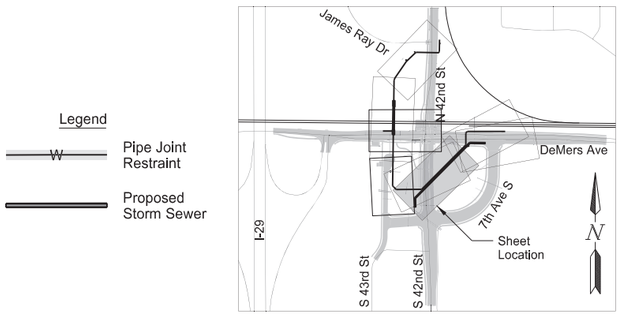
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
Marco Weidmer
PE-41185
DATE: 2025.12.04 16:04:04 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	55c	2

SPEC	CODE	BID ITEM	QTY	UNIT
724	0210	FITTINGS-DUCTILE IRON		
			6963	LBS
724	0114	BUTTERFLY VALVE & BOX 30IN		
		Sta 900+60, 3.75' Lt	1	EA
		Sta 900+60, 3.75' Rt	1	EA
724	0321	GATE VALVE & BOX 14IN		
		Sta 900+60	1	EA
724	0856	WATERMAIN 14IN		
		14IN PVC Reverse Osmosis - Sta 900+20 to 906+00	580	LF
724	0875	WATERMAIN 30IN		
		30IN DIP Raw Water, CL 52 - Sta 900+20 to 906+00	1161	LF
724	0944	CONNECTION TO EXISTING MAIN		
		Connect to Existing 14IN Reverse Osmosis - Sta 900+20	1	EA
		Connect to Existing 30IN Raw Water - Sta 900+20	2	EA
744	0050	INSULATION BOARD		
		Sta 901+30	48	CF
		Sta 902+05	48	CF

Note 1:
Restrained length shown is the minimum length required to resist thrust forces from fittings and valves based on a minimum burial depth of 7.5'. Contractor shall be responsible for restraining additional joints as required where minimum earth cover can not be maintained during other construction operations.



Legend
- W — Pipe Joint Restraint
- Proposed Storm Sewer

Watermain Adjustments

Proposed

Proposed Dual 30" DIP & 14" PVC

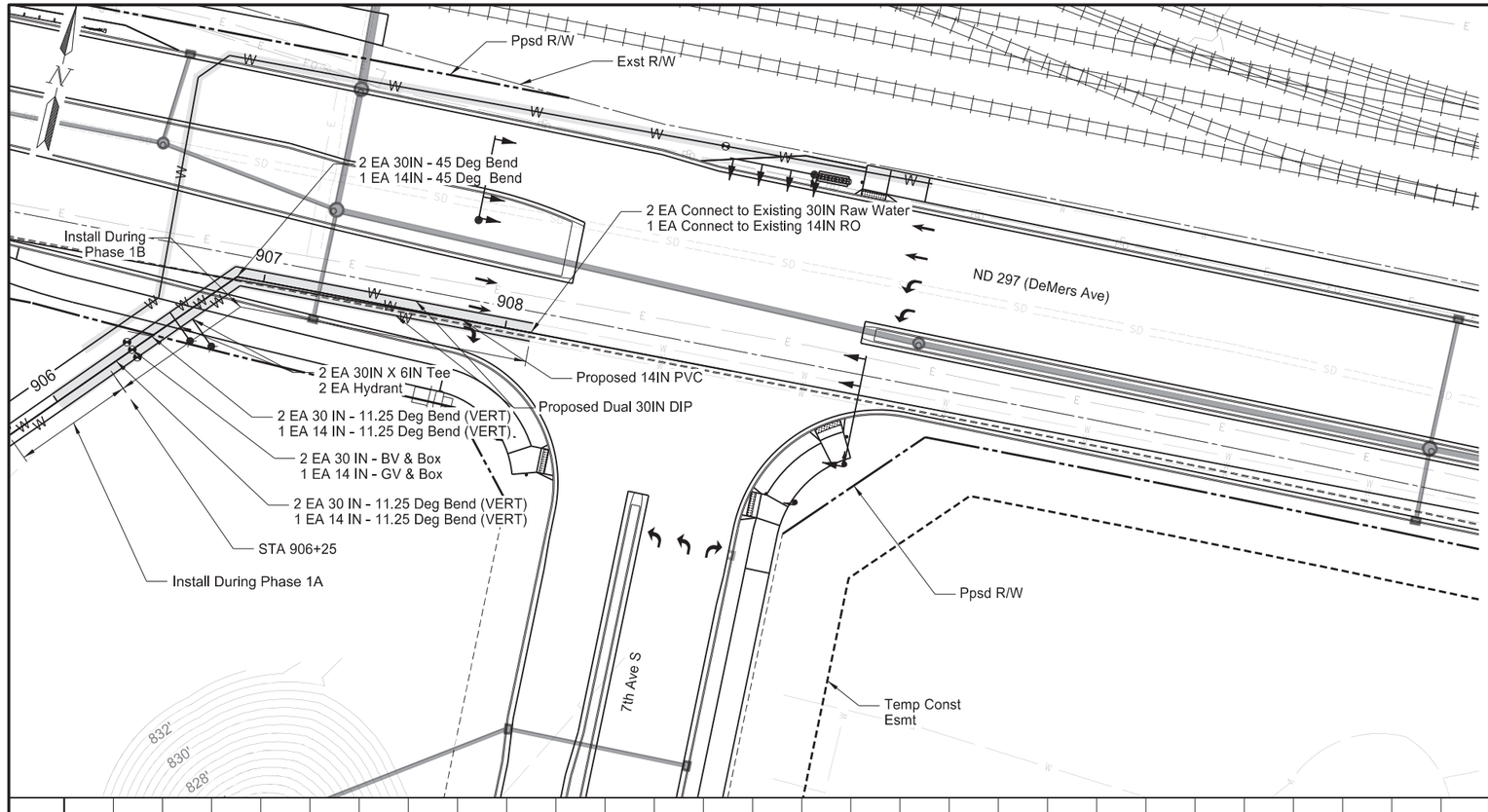
ND 297 (DeMers Ave) & 42nd St Grade Separation

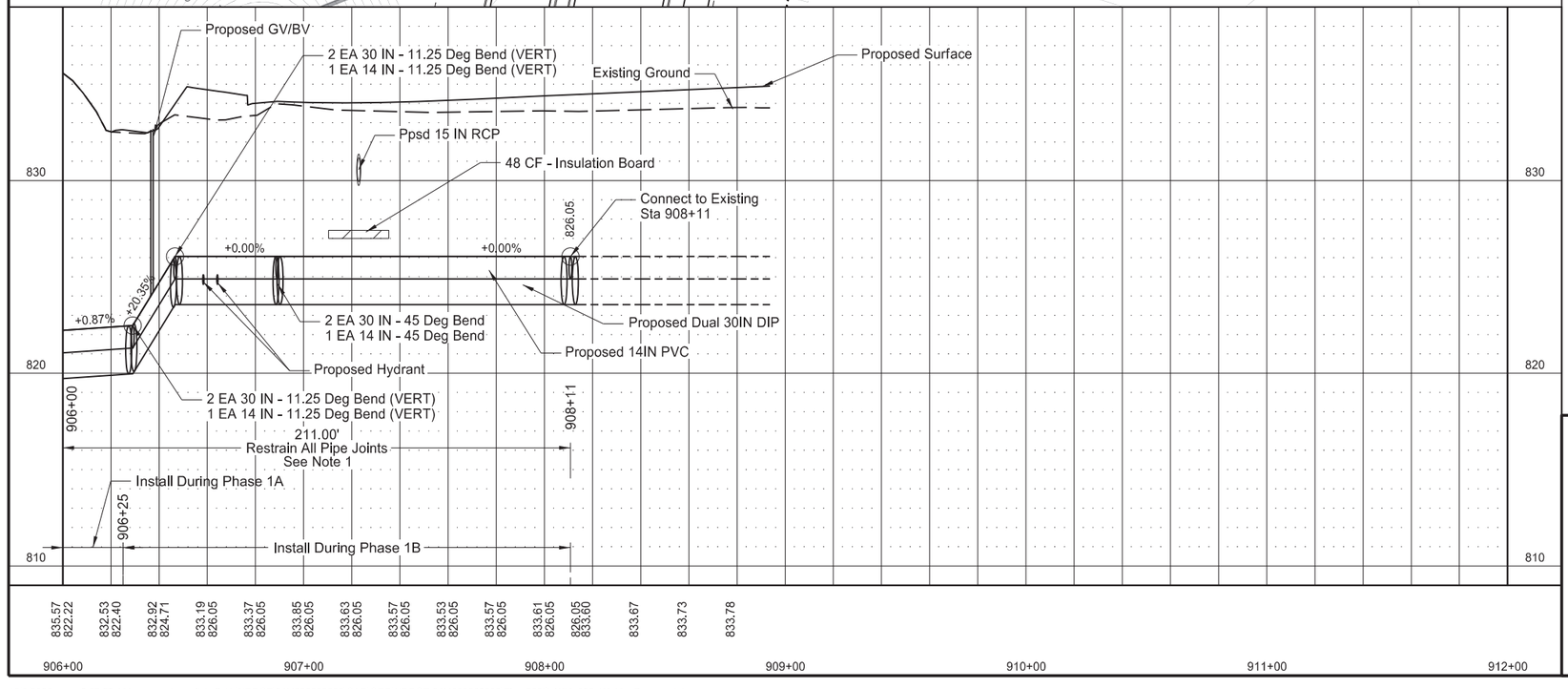
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
Marco Weidmer
PE-41185
DATE: 2025.12.04 16:05:26 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55c	3

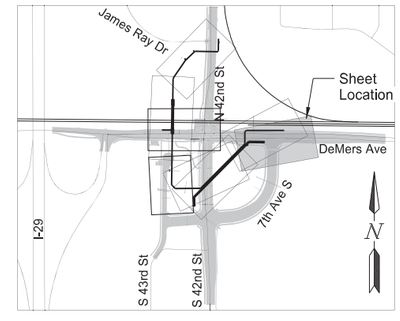
SPEC	CODE	BID ITEM	QTY	UNIT
724	0210	FITTINGS-DUCTILE IRON		
			6190	LBS
724	0114	BUTTERFLY VALVE & BOX 30IN		
		Sta 906+30, 3.75' Lt	1	EA
		Sta 906+30, 3.75' Rt	1	EA
724	0321	GATE VALVE & BOX 14IN		
		Sta 906+30	1	EA
724	400	HYDRANT-INSTALL 6 IN		
		Sta 906+58	1	EA
		Sta 906+80	1	EA
724	0856	WATERMAIN 14IN		
		14IN PVC Reverse Osmosis - Sta 906+00 to 908+11	211	LF
724	0875	WATERMAIN 30IN		
		30IN DIP Raw Water, CL 52 - Sta 906+00 to 908+11	422	LF
724	0944	CONNECTION TO EXISTING MAIN		
		Connect to Existing 14IN Reverse Osmosis - Sta 908+11	1	EA
		Connect to Existing 30IN Raw Water - Sta 908+11	2	EA
744	0050	INSULATION BOARD		
		Sta 907+10	48	CF

Note 1:
Restrained length shown is the minimum length required to resist thrust forces from fittings and valves based on a minimum burial depth of 7.5'. Contractor shall be responsible for restraining additional joints as required where minimum earth cover can not be maintained during other construction operations.

Legend

W — Pipe Joint Restraint

Proposed Storm Sewer



Watermain Adjustments

Proposed

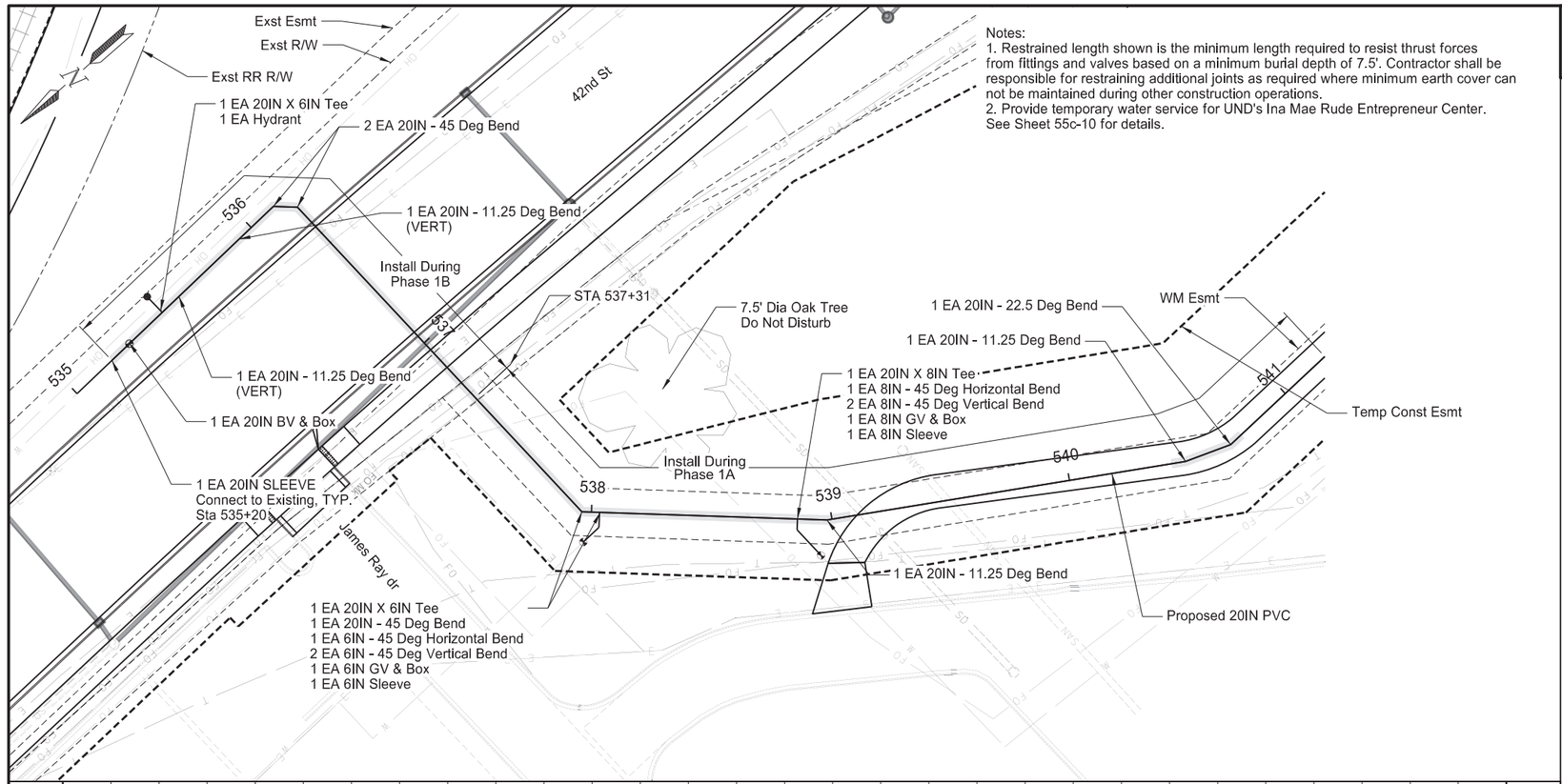
Proposed Dual 30" DIP & 14" PVC

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
Marco Weidmer
PE-41185
DATE: 2025.12.04 16:04:37 -06'00'
NORTH DAKOTA



Notes:
1. Restrained length shown is the minimum length required to resist thrust forces from fittings and valves based on a minimum burial depth of 7.5'. Contractor shall be responsible for restraining additional joints as required where minimum earth cover can not be maintained during other construction operations.
2. Provide temporary water service for UND's Ina Mae Rude Entrepreneur Center. See Sheet 55c-10 for details.

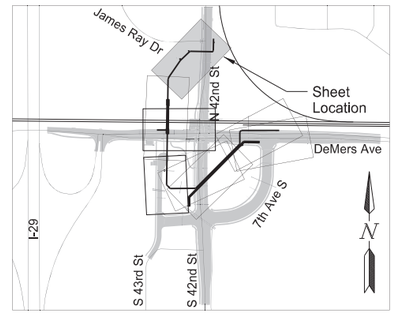
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55c	4

SPEC	CODE	BID ITEM	QTY	UNIT
724	0110	BUTTERFLY VALVE & BOX 20IN		
		Sta 535+10	1	EA
724	0210	FITTINGS-DUCTILE IRON		
			7286	LBS
724	0300	GATE VALVE & BOX 6IN		
		Sta 538+03	1	EA
724	310	GATE VALVE & BOX 8IN		
		Sta 538+85	1	EA
724	0400	HYDRANT-INSTALL 6IN		
		Sta 535+49	1	EA
724	0810	WATERMAIN 6IN PVC		
		Sta 538+03	15	LF
724	0830	WATERMAIN 8IN PVC		
		Sta 538+86	20	LF
724	0853	WATERMAIN 20IN PVC		
		20IN PVC Watermain - Sta 535+20 to 541+00	549	LF
724	0944	CONNECTION TO EXISTING MAIN		
		Connect to Existing 6IN Watermain - Sta 538+03.22	1	EA
		Connect to Existing 8IN Watermain - Sta 538+85.66	1	EA
		Connect to Existing 20IN Watermain - Sta 535+20	1	EA
744	0050	INSULATION BOARD		
		Sta 535+20	162	CF
		Sta 536+90	30	CF
		Sta 539+00	30	CF
		Sta 539+35	30	CF

Legend

Pipe Joint Restraint

Proposed Storm Sewer



Watermain Adjustments

Proposed

Proposed 20" PVC

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

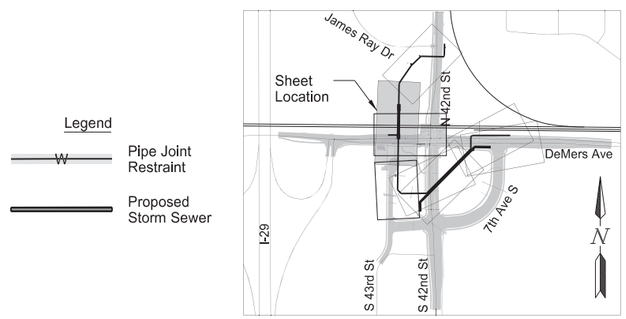
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
Marco Weidmer
PE-41185
DATE: 2025.12.04 16:09:20 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	55c	5

SPEC	CODE	BID ITEM	QTY	UNIT
714	8018	PIPE STEEL SMOOTH WALL .469IN 36IN BORED		
		36IN Steel Casing - Bored - Sta 542+71 to 544+51	180	LF
714	8025	PIPE BORING PIT BRACING		
			1	LS
724	0210	FITTINGS-DUCTILE IRON		
			1122	LBS
724	0853	WATERMAIN 20IN PVC		
		20IN PVC Watermain - Sta 541+00 to 546+69	600	LF
744	0050	INSULATION BOARD		
		Sta 544+55	30	CF
		Sta 544+90	30	CF

Notes:
1. Restrained length shown is the minimum length required to resist thrust forces from fittings and valves based on a minimum burial depth of 7.5'. Contractor shall be responsible for restraining additional joints as required where minimum earth cover can not be maintained during other construction operations.
2. Provide temporary water service convenience store. See Sheet 55c-10 for details.



Legend
- W — Pipe Joint Restraint
- Proposed Storm Sewer

Watermain Adjustments

Proposed

Proposed 20" PVC

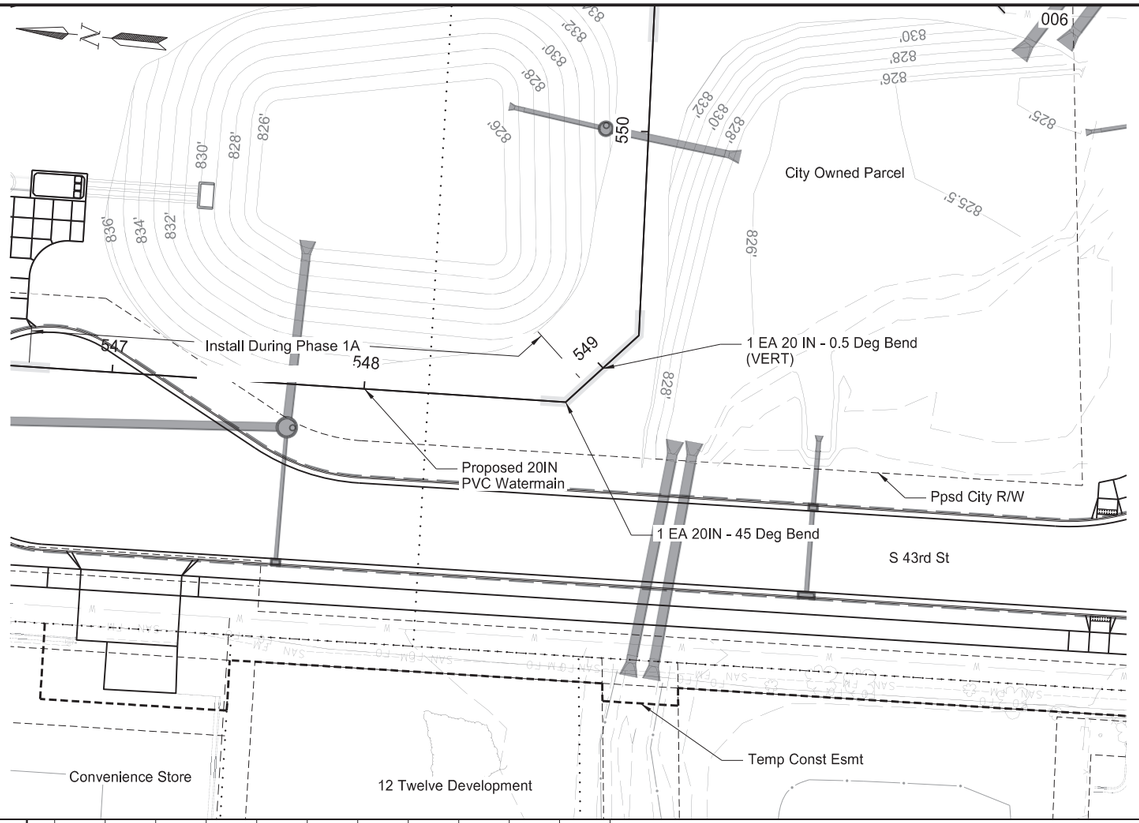
ND 297 (DeMers Ave) & 42nd St Grade Separation

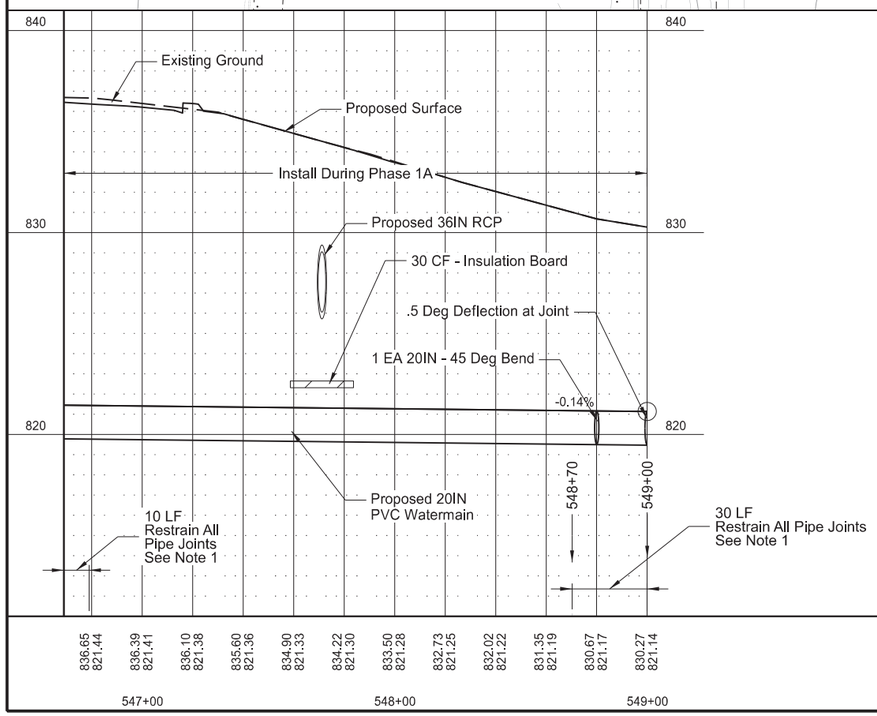
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
Marco Weidner
PE-41185
DATE: 2025.12.04 16:05:55 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55c	6

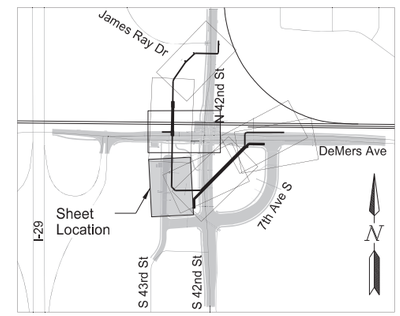
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724	0210	FITTINGS-DUCTILE IRON		
			583	LBS
724	0853	WATERMAIN 20IN PVC		
		20IN PVC Watermain - Sta 546+69 to 549+00	231	LF
744	0050	INSULATION BOARD		
		Sta 544+90	30	CF

Note 1:
Restrained length shown is the minimum length required to resist thrust forces from fittings and valves based on a minimum burial depth of 7.5'. Contractor shall be responsible for restraining additional joints as required where minimum earth cover can not be maintained during other construction operations.

Legend

W Pipe Joint Restraint

Proposed Storm Sewer



Watermain Adjustments

Proposed

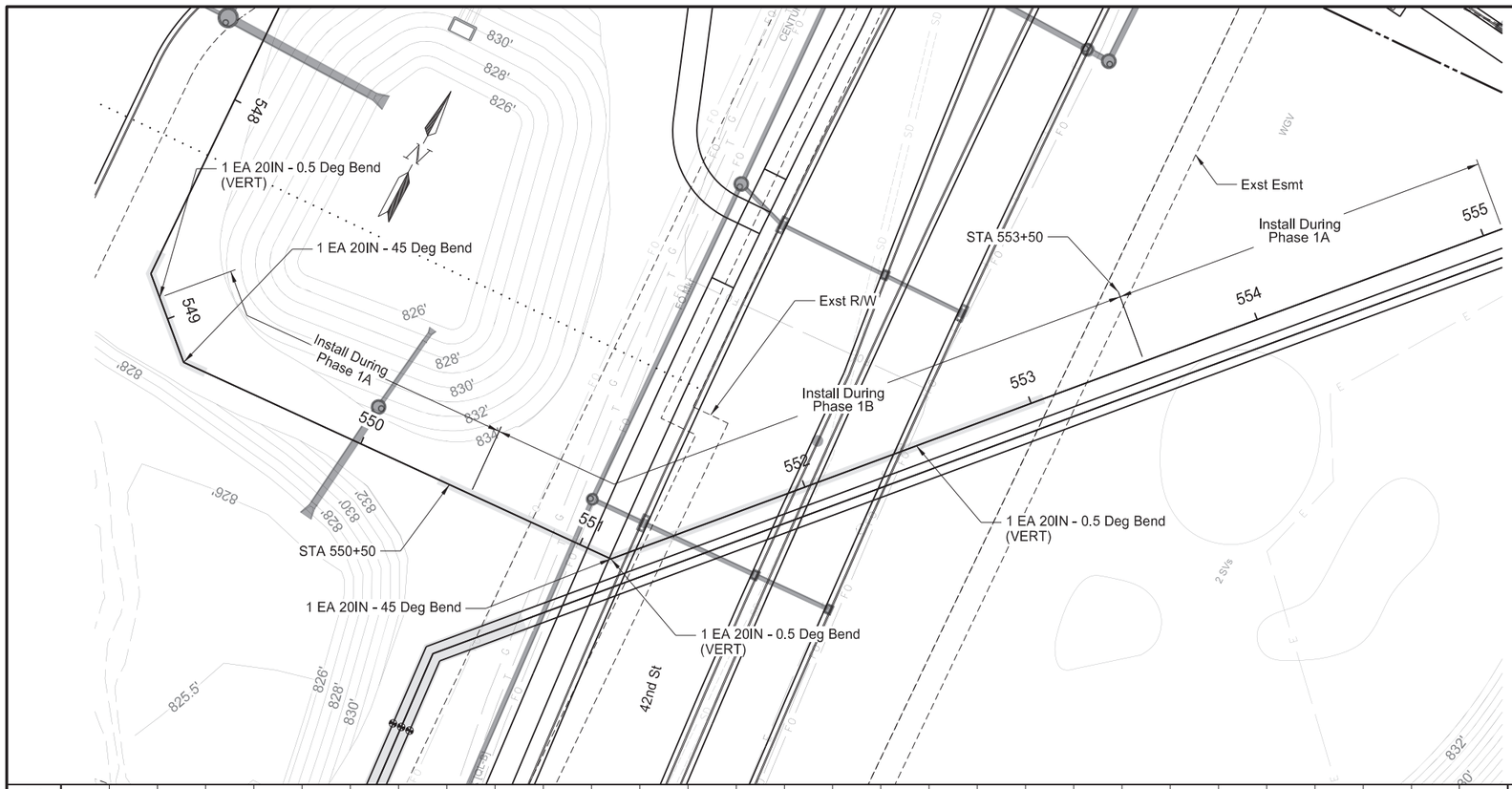
Proposed 20" PVC

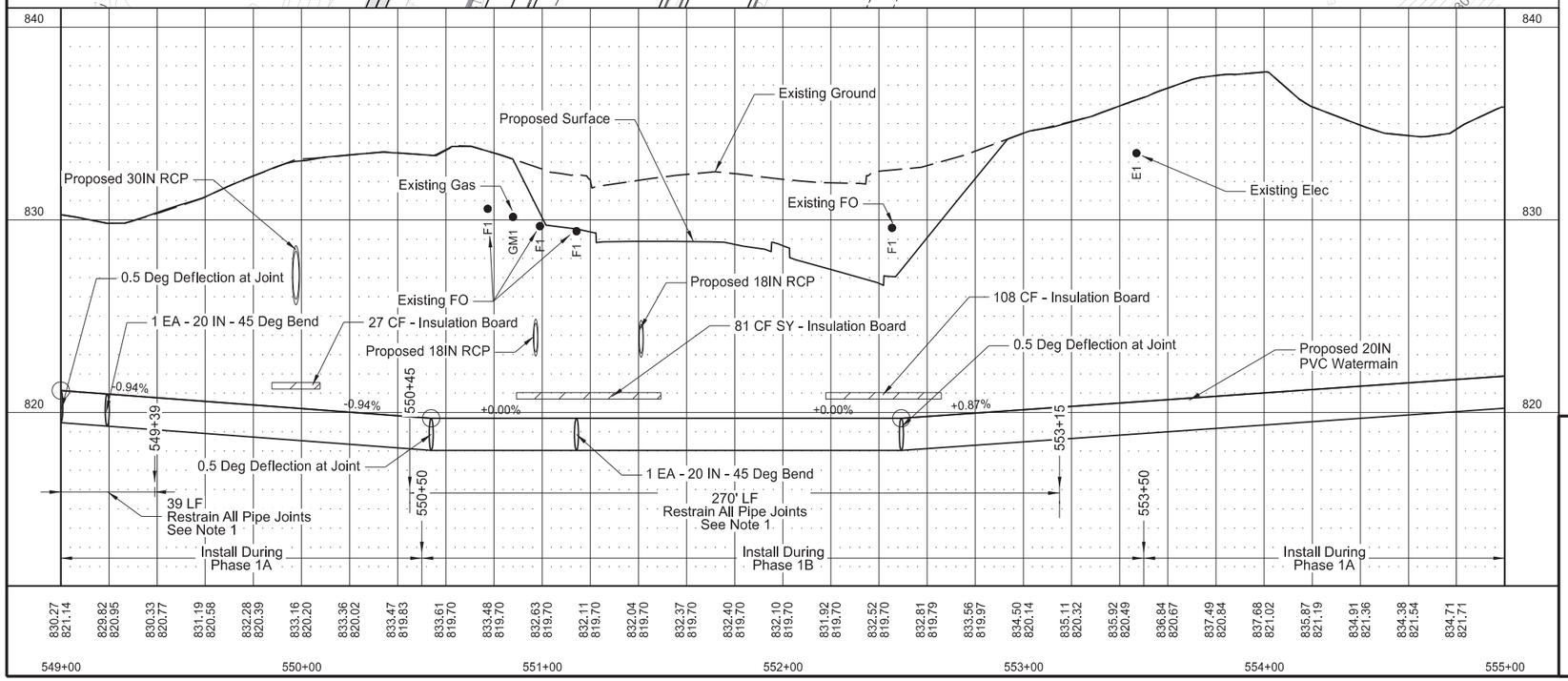
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
Marco Weidner
PE-41185
DATE: 2025.12.04 16:06:16 -06'00'
NORTH DAKOTA





	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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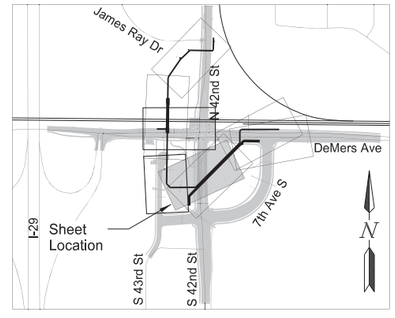
SPEC	CODE	BID ITEM	QTY	UNIT
724	0210	FITTINGS-DUCTILE IRON		
			1166	LBS
724	0853	WATERMAIN 20IN PVC		
		20IN PVC Watermain - Sta 549+00 to 555+00	600	LF
744	0050	INSULATION BOARD		
		Sta 549+90	27	CF
		Sta 550+90	81	CF
		Sta 552+20	108	CF

Note 1:
Restrained length shown is the minimum length required to resist thrust forces from fittings and valves based on a minimum burial depth of 7.5'. Contractor shall be responsible for restraining additional joints as required where minimum earth cover can not be maintained during other construction operations.

Legend

W — Pipe Joint Restraint

Proposed Storm Sewer



Watermain Adjustments

Proposed

Proposed 20" PVC

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

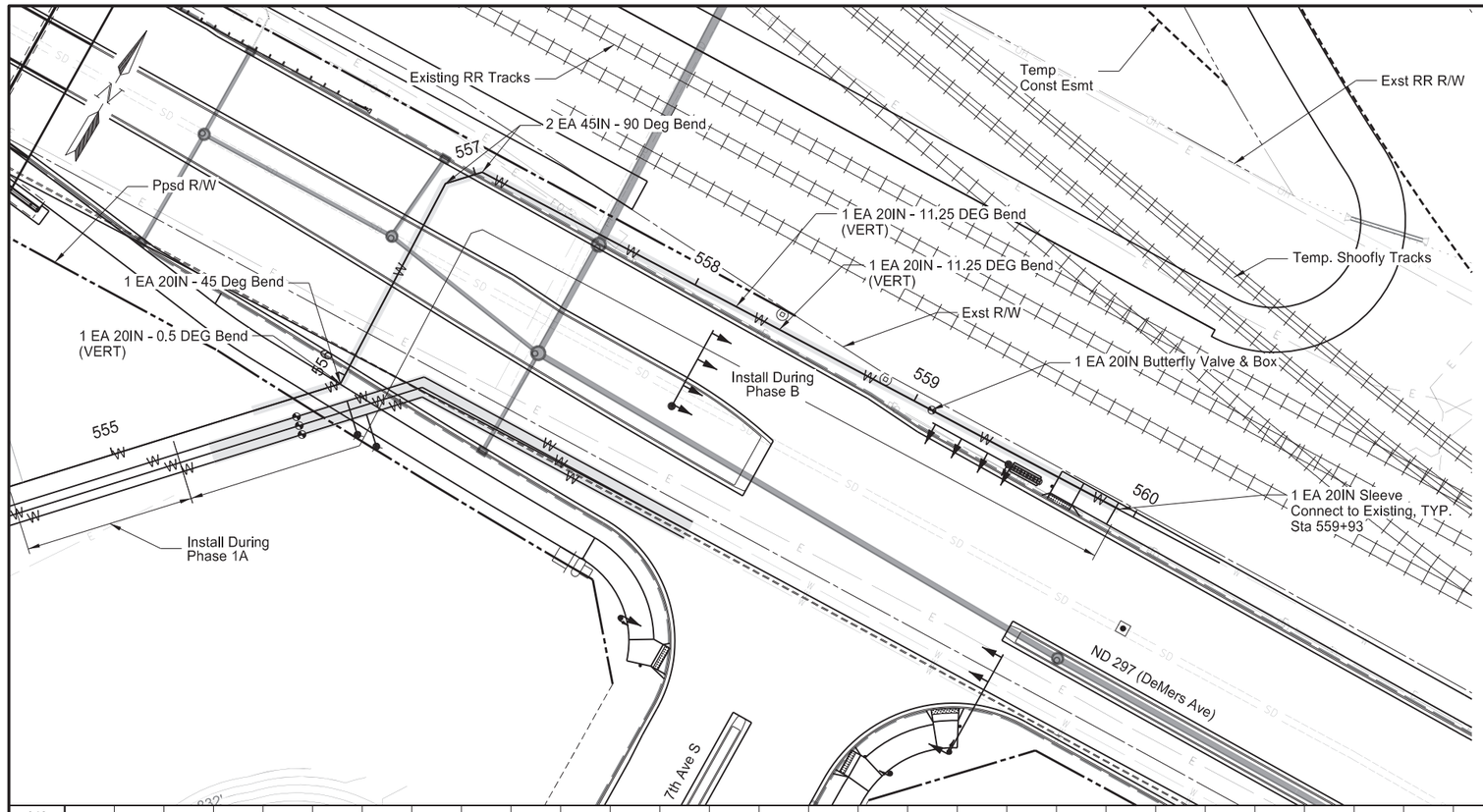
Grand Forks, ND

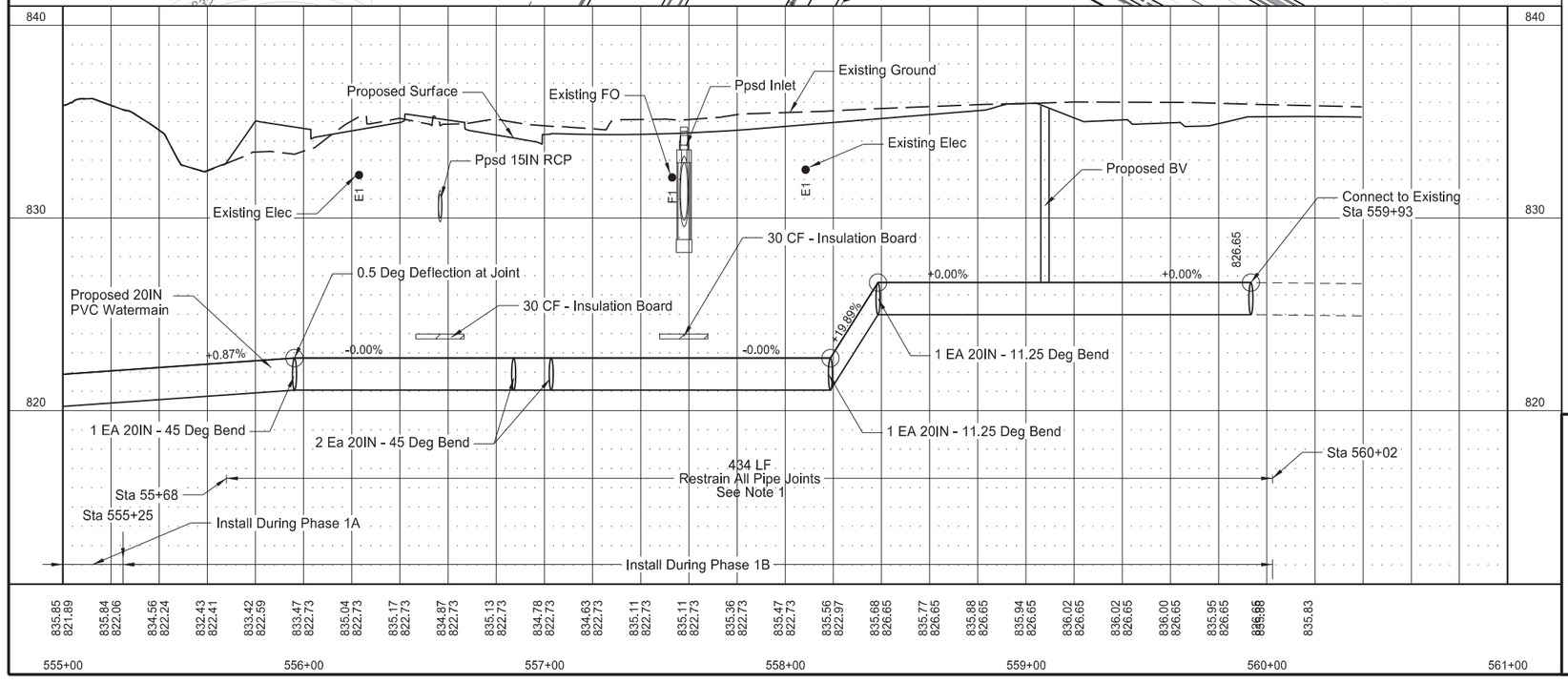
REGISTERED PROFESSIONAL ENGINEER
Marco Weidmer
PE-41185
DATE: 2025.12.04 16:06:39 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	55c	8

SPEC	CODE	BID ITEM	QTY	UNIT
724	0110	BUTTERFLY VALVE & BOX 20IN		
		Sta 559+08	1	EA
724	0210	FITTINGS-DUCTILE IRON		
			3194	LBS
724	0853	WATERMAIN 20IN PVC		
		20IN PVC Watermain - Sta 555+00 to 559+93	493	LF
724	0944	CONNECTION TO EXISTING MAIN		
		Connect to Existing 20IN Watermain - Sta 559+93	1	EA
744	0050	INSULATION BOARD		
		Sta 556+50	30	CF
		Sta 557+50	30	CF

Note 1:
Restrained length shown is the minimum length required to resist thrust forces from fittings and valves based on a minimum burial depth of 7.5'. Contractor shall be responsible for restraining additional joints as required where minimum earth cover can not be maintained during other construction operations.

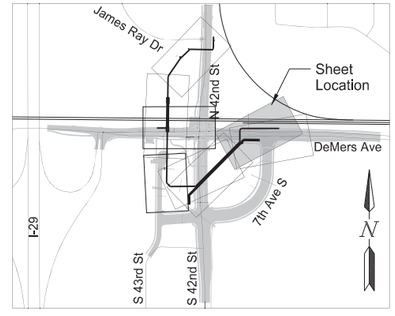




Legend

W Pipe Joint Restraint

Proposed Storm Sewer



Watermain Adjustments

Proposed

Proposed 20" PVC

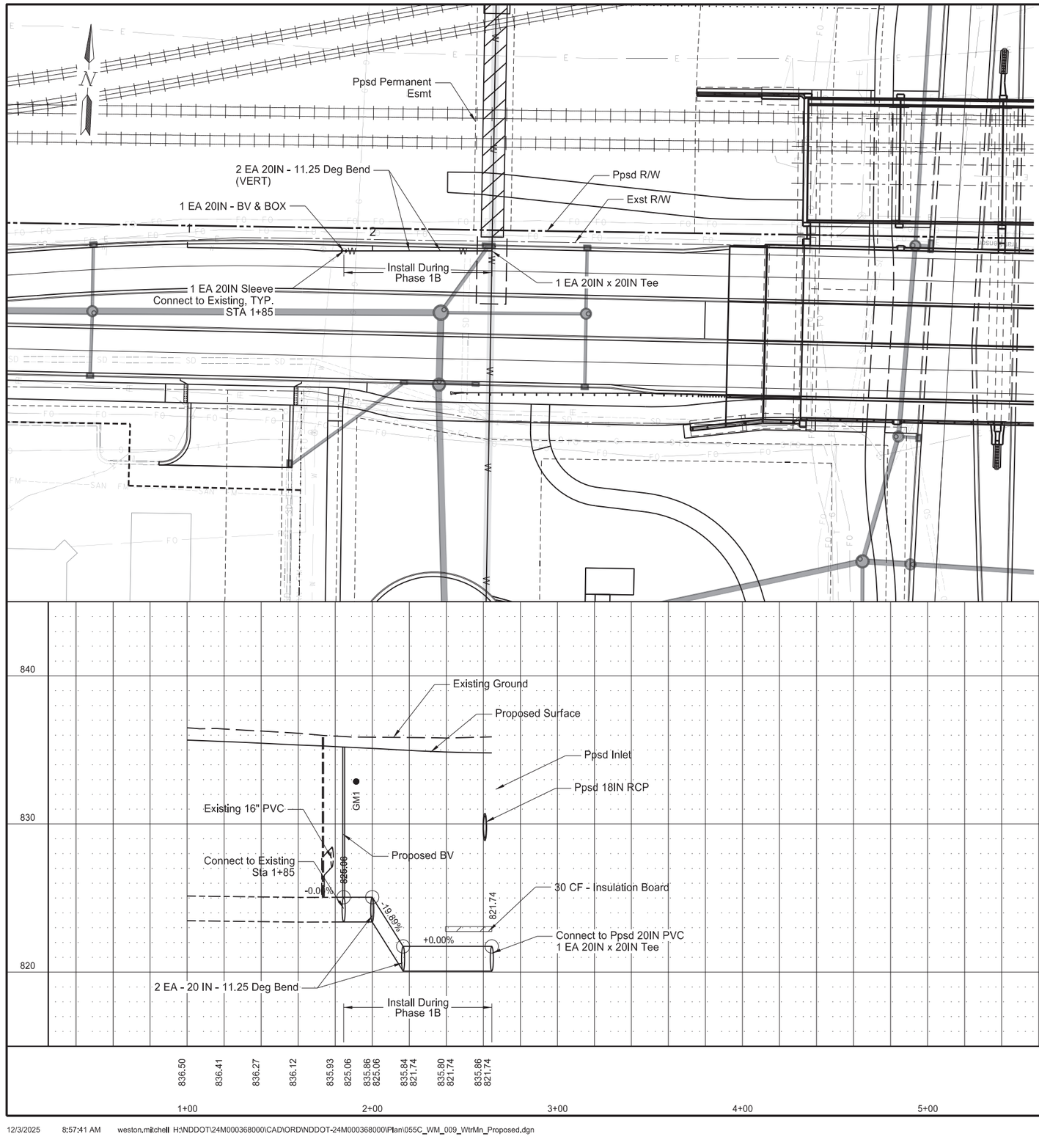
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
Marco Weidmer
PE-41185
DATE: 2025.12.04 16:07:01 -06'00'
NORTH DAKOTA

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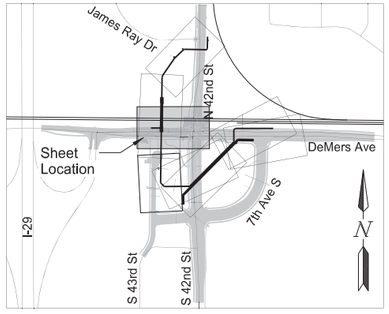
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	55c	9

SPEC	CODE	BID ITEM	QTY	UNIT
724	0110	BUTTERFLY VALVE & BOX 20IN		
		Sta 1+85	1	EA
724	0210	FITTINGS-DUCTILE IRON		
		20IN PVC Watermain - Sta 1+85 to 2+65	2567	LBS
724	0853	WATERMAIN 20IN PVC		
		20IN PVC Watermain - Sta 1+85 to 2+65	80	LF
724	0944	CONNECTION TO EXISTING MAIN		
		Connect to Existing 20IN Watermain - Sta 1+85	1	EA
744	0050	INSULATION BOARD		
		Sta 2+50	30	CF

Legend

W — Pipe Joint Restraint

Proposed Storm Sewer



Watermain Adjustments

Proposed

Proposed 20" PVC

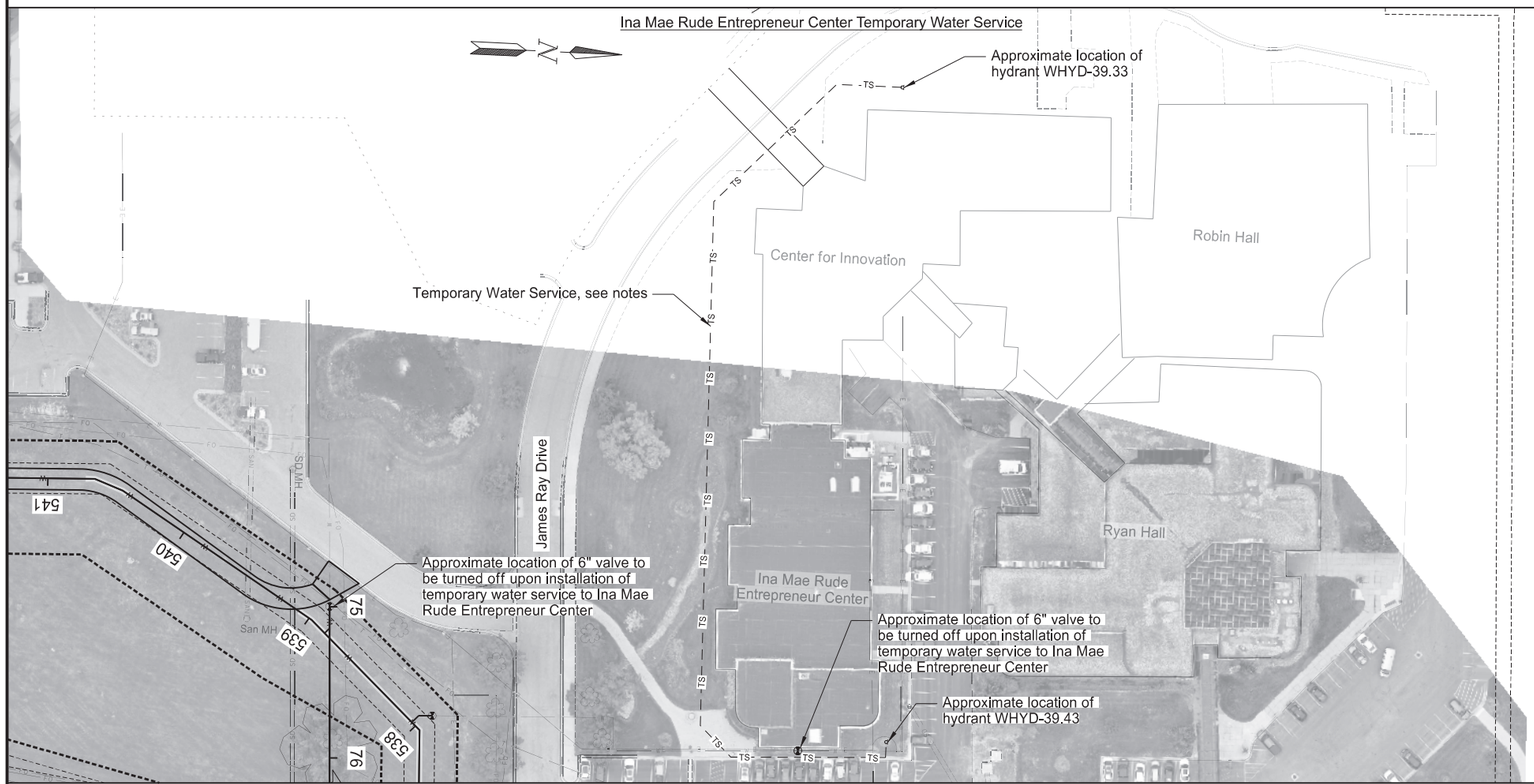
ND 297 (DeMers Ave) & 42nd St Grade Separation

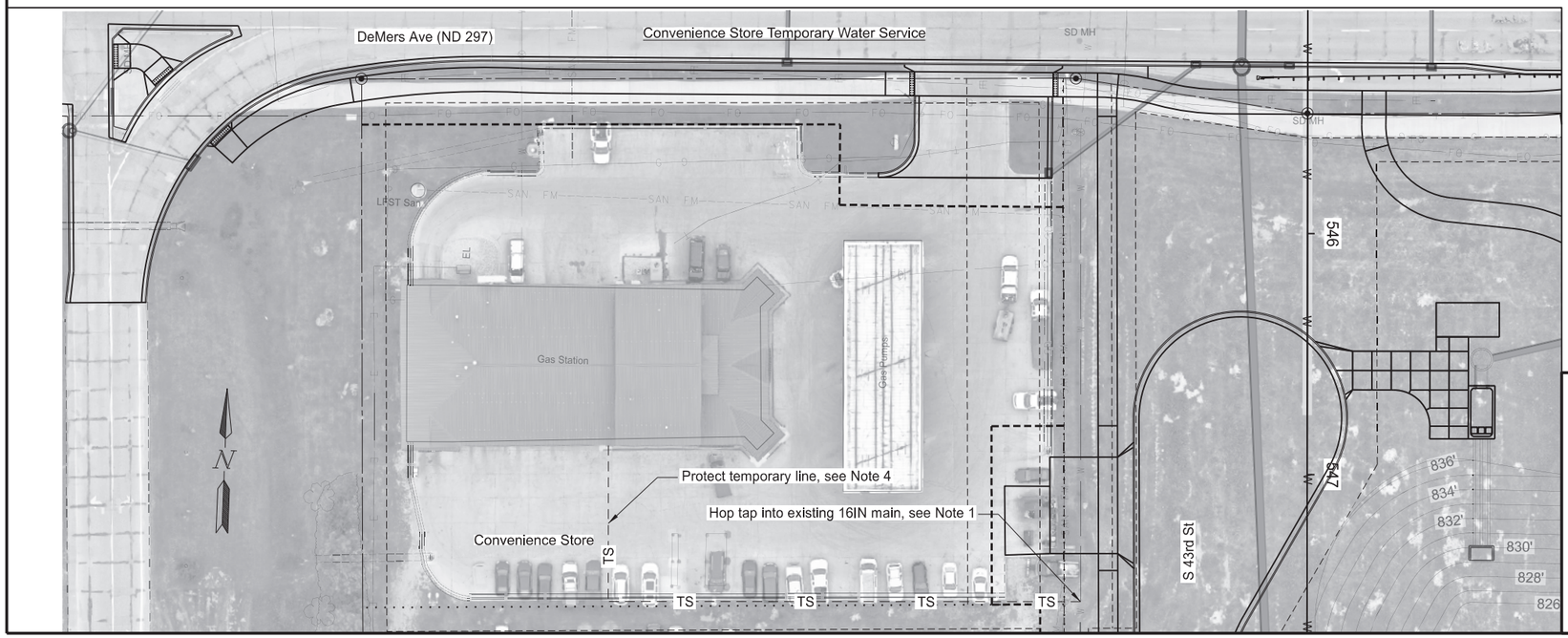
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
Marco Weidmer
PE-41185
DATE: 2025.12.04 16:07:19 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	55c	10





SPEC CODE BID ITEM — QTY — UNIT

724 0670 TEMPORARY WATER SERVICE — 1 — LS

Notes - Ina Mae Rude Entrepreneur Center:

1. Watermains in this area are owned and operated by the University of North Dakota (Owner).
2. Provide temporary water service to Ina Mae Rude Entrepreneur Center via existing hydrants 39.33 and 39.43. The contractor will notify the city and building owners no less than 48 hours prior to shutting off water and providing a temporary connection. The contractor will monitor the pressure regulator to manage the water pressure and adjust as necessary based on the building's plumbing system.
3. The contractor will follow the following steps to provide temporary water services for the Ina Mae Rude Entrepreneur Center. Contractor may provide alternative temporary water service methods for approval by the Engineer and the Owner. Temporary water service must be installed prior to turning off the valves for the installation of the 20IN PVC.
   2.1 Install above grade temporary line where noted. Ensure pipe is protected from traffic, construction, and pedestrian activity throughout the project. Provide minimum of 6" line for temporary water services.
   2.2 Request that the owner close the appropriate valves as noted. Provide a minimum 24 hours notice prior to work. At this time, the Contractor is responsible to notify the City Fire Department of the intended shutdown.
   2.3 Test flow and pressure and ensure there are no leaks. Monitor the temporary system for leaks throughout construction. Clean and disinfect as necessary to meet city standards.
4. Provide a temporary water service plan submittal for approval by the Engineer and the Owner.
5. Provide piping rated for potable water use. Provide valves on temporary piping at intervals not to exceed 500 feet.
6. Disinfect all temporary water lines. One water sample per block at the end of a service connection will be taken after the temporary water line is flushed. The sample should show the absence of bacteria before connections are allowed. No additional contract time will be allowed for failure to pass bacteria tests.

Notes - Convenience Store:

1. Hot tap with 1.5" line with saddle tap into existing 16IN PVC watermain at the proposed location. Provide 1.5" line to convenience store. Coordinate with the owner of the convenience store for tie-in location within the building.
2. Schedule the tap with the City and owner of the convenience store a minimum of 48 hours in advance of work. Submit for approval all necessary saddles, corp stops, and valves. Make all tapping appurtenances available for inspection by the City before commencing work.
3. Contractor may provide alternative temporary water service methods for approval by the Engineer and the Owner. Submit a full plan for tapping the existing 16IN PVC watermain, including but not limited to: the description of the work to be performed with existing and proposed materials, all required equipment and materials, at-grade pipe protection, installation method, and cleanup.
4. Ensure the pipe is protected from traffic loading, construction, and pedestrian activity throughout the project with pipe ramps or other approved protection methods.
5. Remove temporary saddle, tap and corp stop upon completion of the project and plug 16IN PVC watermain with brass plug or approved equal. Submit temporary service removal and repair plans for approval.

Legend

– – – TS – – – Temporary Water Service

Watermain Adjustments

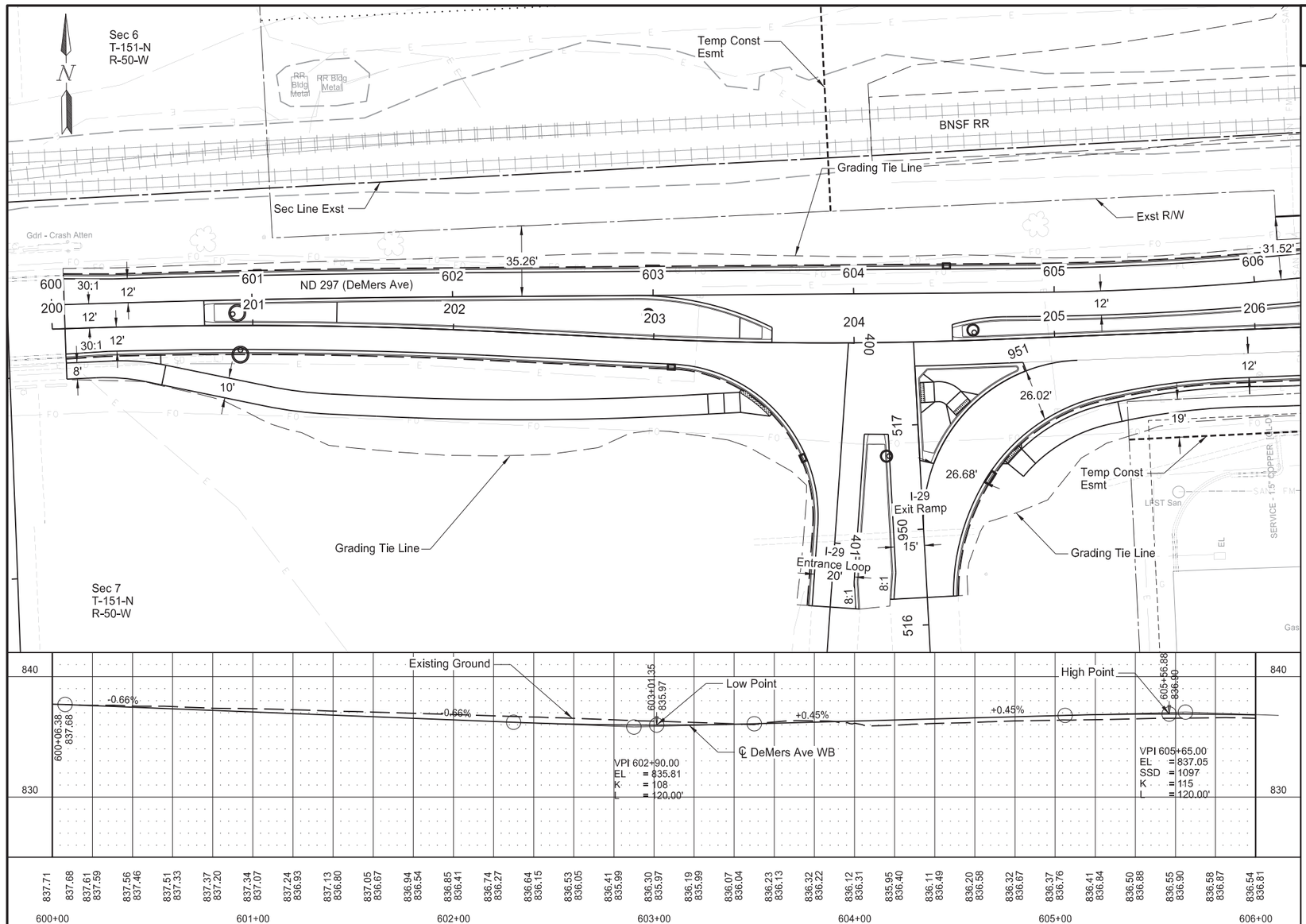
Temporary Service Overview

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
Marco Weidmer
PE-41185
DATE: 2025.12.04 16:07:41 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	60	1

SPEC	CODE	BID ITEM	QTY	UNIT
302	0100	SALVAGED BASE COURSE		
		Sta 200+06.40 to 206+00 (OCL_297EB)	2173	TON
709	0100	GEOSYNTHETIC MATERIAL TYPE G		
		Sta 200+06.40 to 206+00 (OCL_297EB)	3012	SY
714	9720	UNDERDRAIN PIPE PVC PERFORATED 4IN		
		Sta 200+06.40 to 206+00 (OCL_297EB)	920	LF

NOTE: See Section 20 for Underdrain Details

Plan & Profile

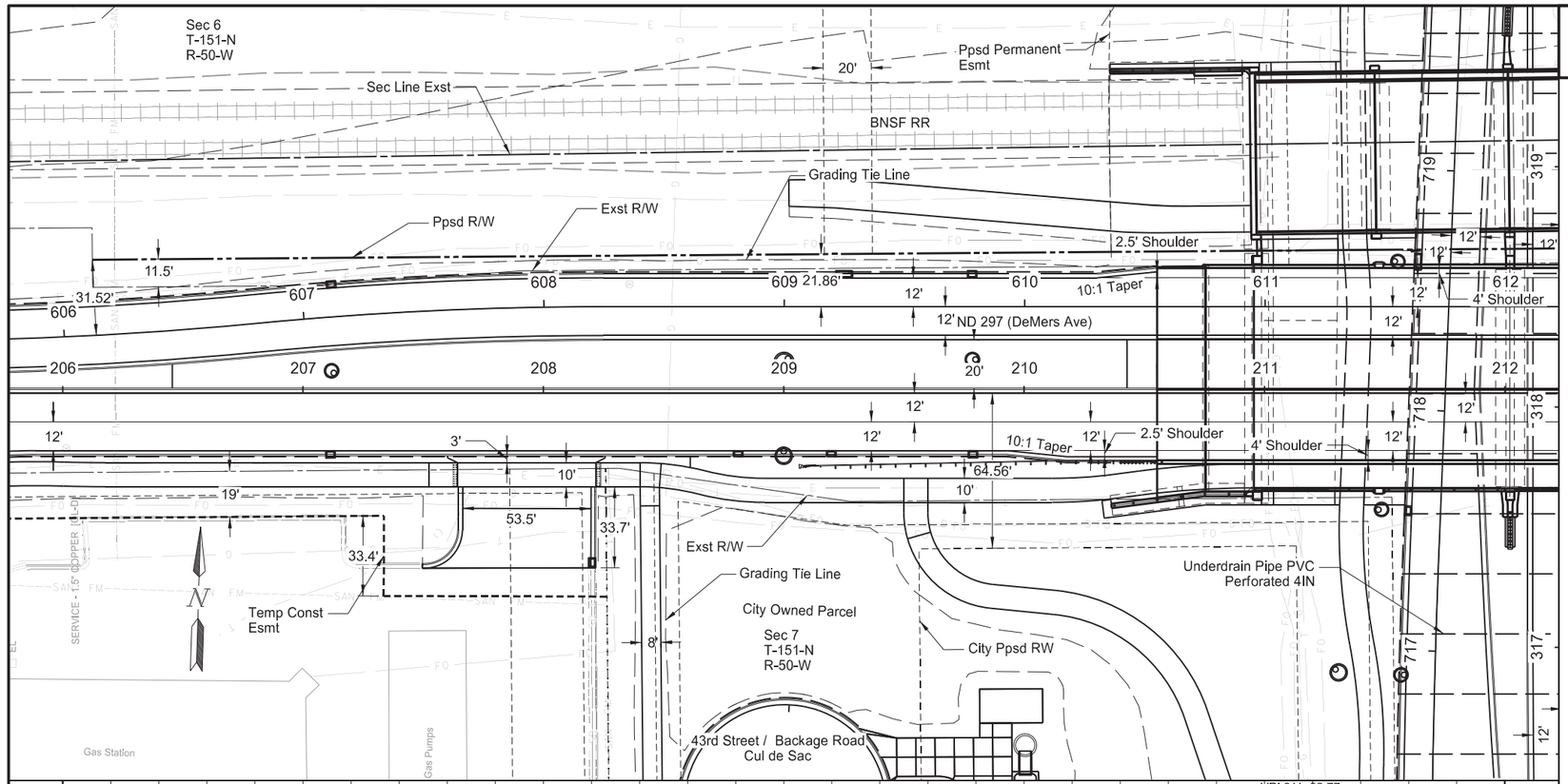
ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8276
DATE: 2025.12.01 16:23:41 -06'00'
NORTH DAKOTA



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	60	2

SPEC	CODE	BID ITEM	QTY	UNIT
302	0100	SALVAGED BASE COURSE		
		Sta 206+00 to 210+75.34 (OCL_297EB)	2311	TON
709	0100	GEOSYNTHETIC MATERIAL TYPE G		
		Sta 206+00 to 210+75.34 (OCL_297EB)	3112	SY
714	9720	UNDERDRAIN PIPE PVC PERFORATED 4IN		
		Sta 206+00 to 210+75.34 (OCL_297EB)	911	LF

NOTE: See Section 20 for Underdrain Details

Plan & Profile

ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

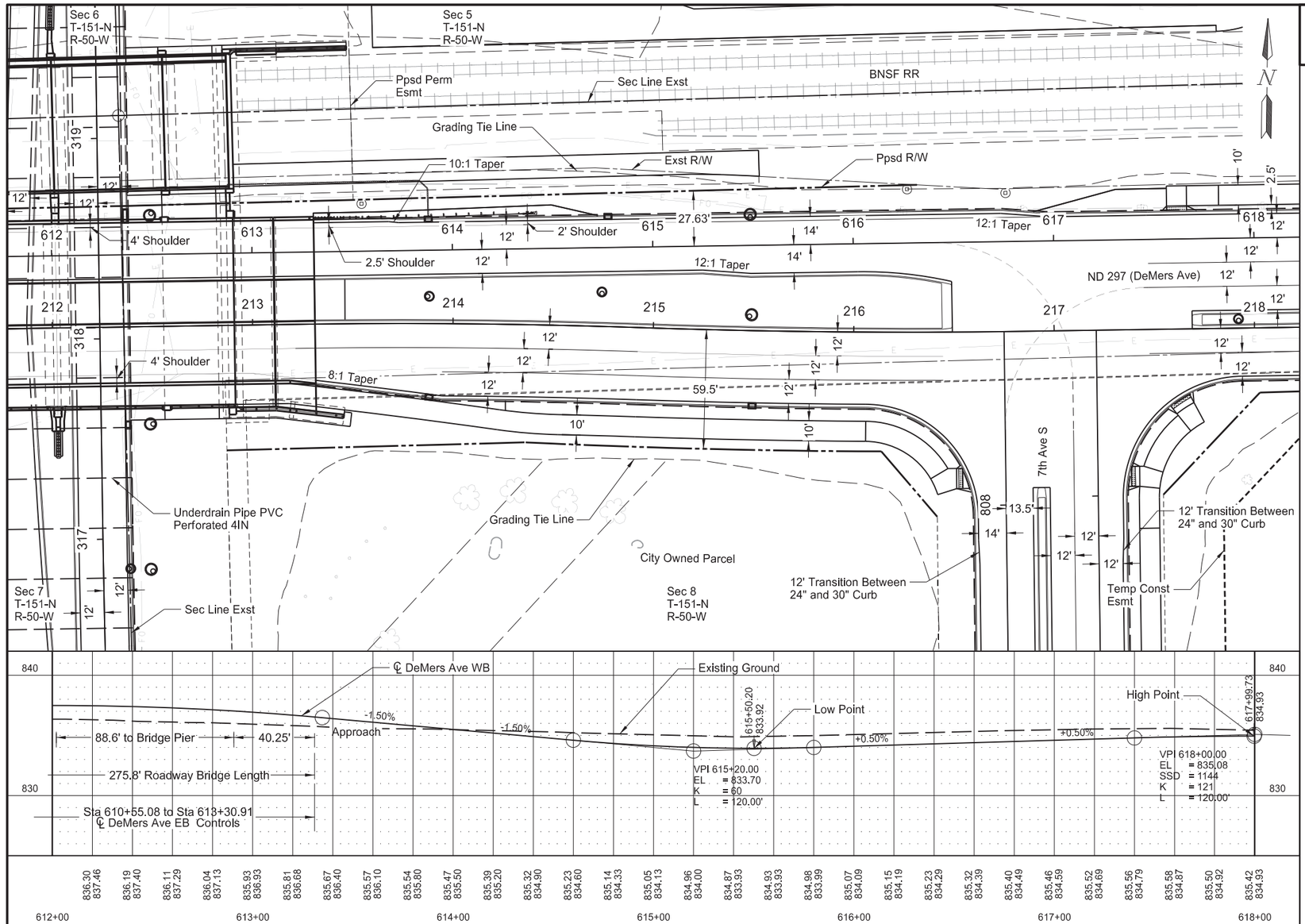
Grand Forks, ND

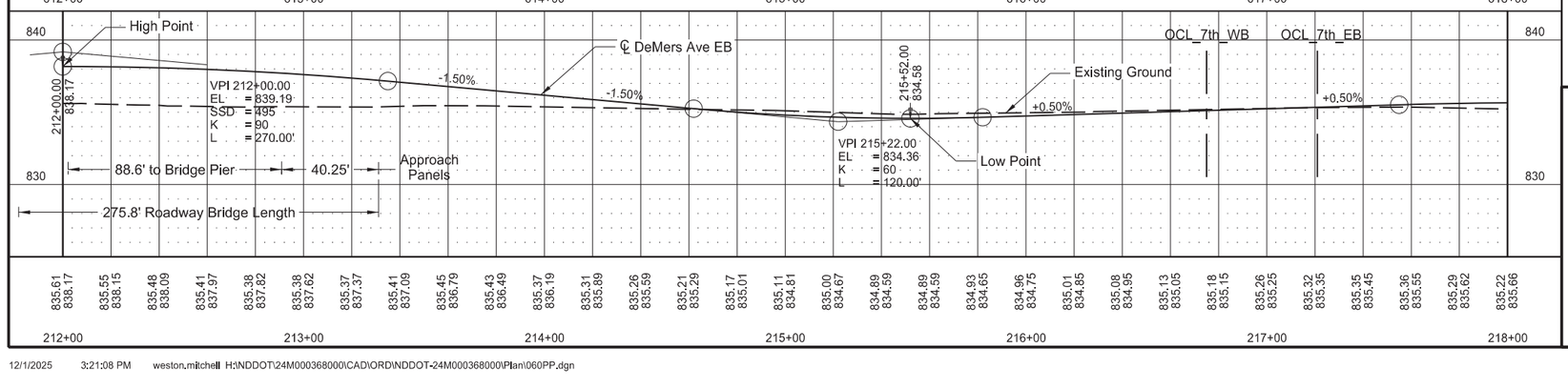
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CHRISTOPHER S. DAHL
PE-9076
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NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	60	3

SPEC	CODE	BID ITEM	QTY	UNIT
302	0100	SALVAGED BASE COURSE		
		Sta 213+18.18 to 218+00 (OCL_297EB)	2835	TON
709	0100	GEOSYNTHETIC MATERIAL TYPE G		
		Sta 213+18.18 to 218+00 (OCL_297EB)	4195	SY
714	9720	UNDERDRAIN PIPE PVC PERFORATED 4IN		
		Sta 213+18.18 to 218+00 (OCL_297EB)	769	LF

NOTE: See Section 20 for Underdrain Details





Plan & Profile

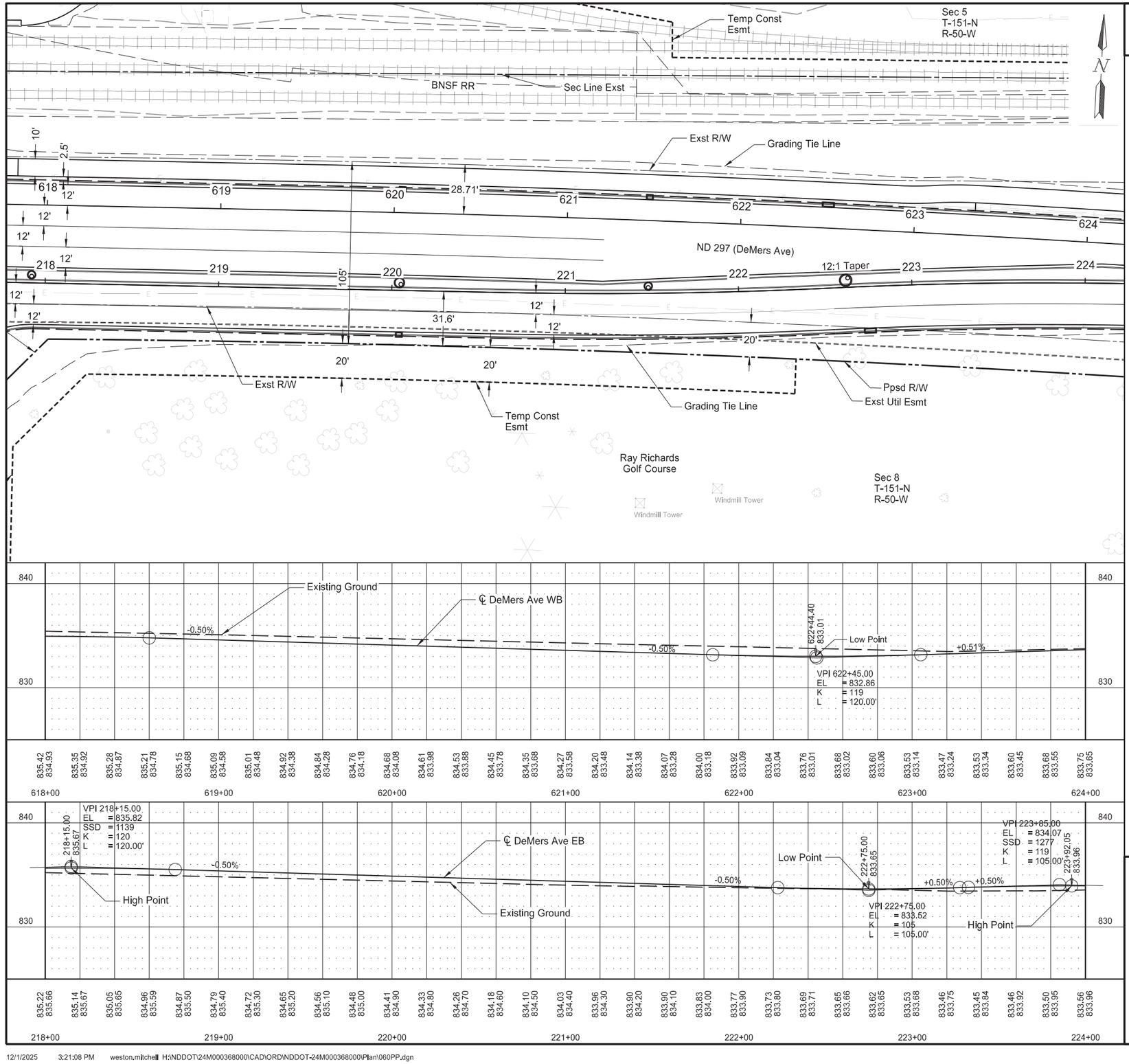
ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8276
DATE: 2025.12.01 16:24:04 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	60	4

SPEC	CODE	BID ITEM	QTY	UNIT
302	0100	SALVAGED BASE COURSE		
		Sta 218+00 to 224+00 (OCL_297EB)	3828	TON
709	0100	GEOSYNTHETIC MATERIAL TYPE G		
		Sta 218+00 to 224+00 (OCL_297EB)	5438	SY
714	9720	UNDERDRAIN PIPE PVC PERFORATED 4IN		
		Sta 218+00 to 224+00 (OCL_297EB)	1200	LF

NOTE: See Section 20 for Underdrain Details

Plan & Profile

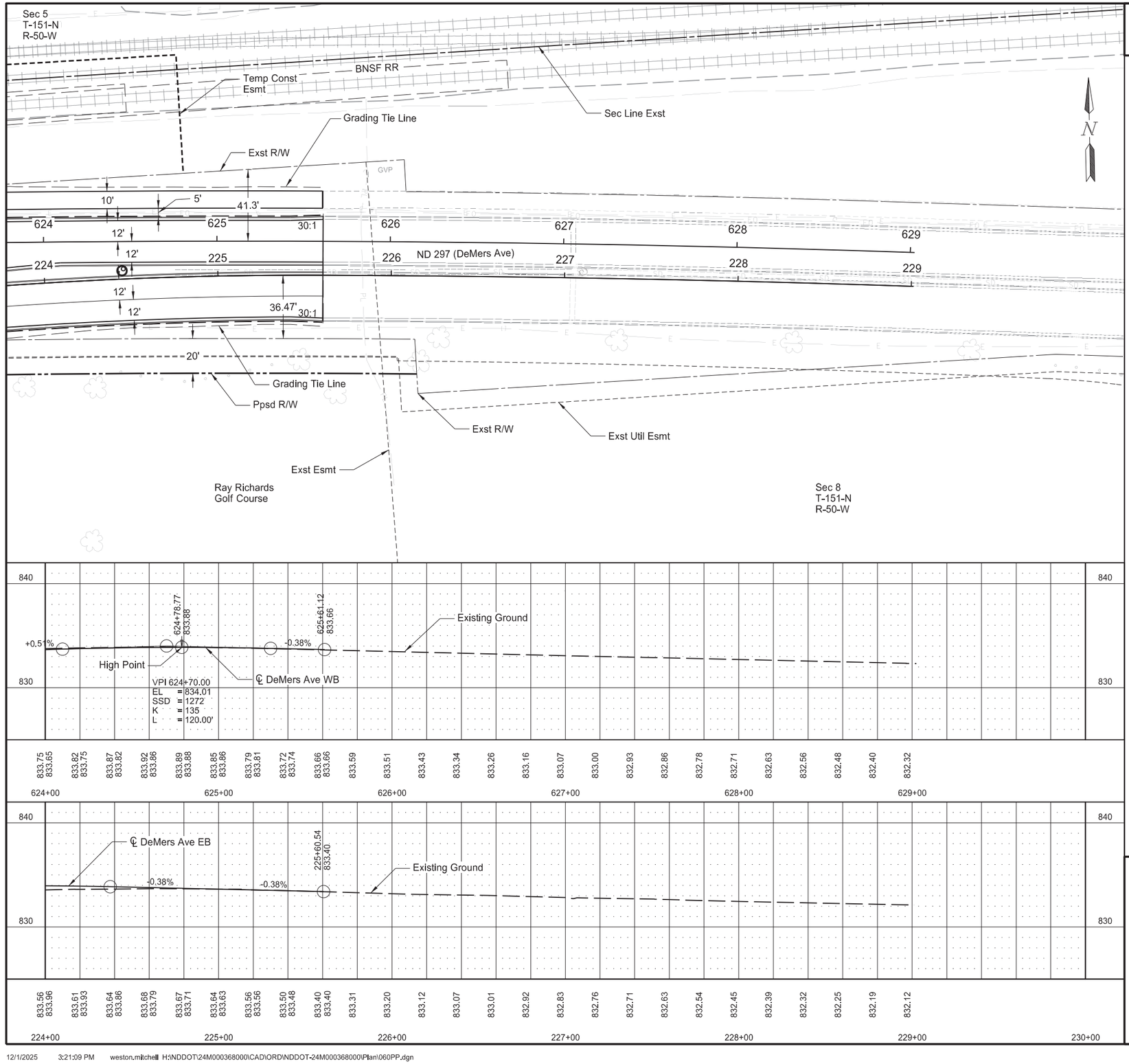
ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.01 16:24:16 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	60	5

SPEC	CODE	BID ITEM	QTY	UNIT
302	0100	SALVAGED BASE COURSE		
		Sta 224+00 to 225+61.18 (OCL_297EB)	840	TON
709	0100	GEOSYNTHETIC MATERIAL TYPE G		
		Sta 224+00 to 225+61.18 (OCL_297EB)	1125	SY
714	9720	UNDERDRAIN PIPE PVC PERFORATED 4IN		
		Sta 224+00 to 225+61.18 (OCL_297EB)	321	LF

NOTE: See Section 20 for Underdrain Details

Plan & Profile

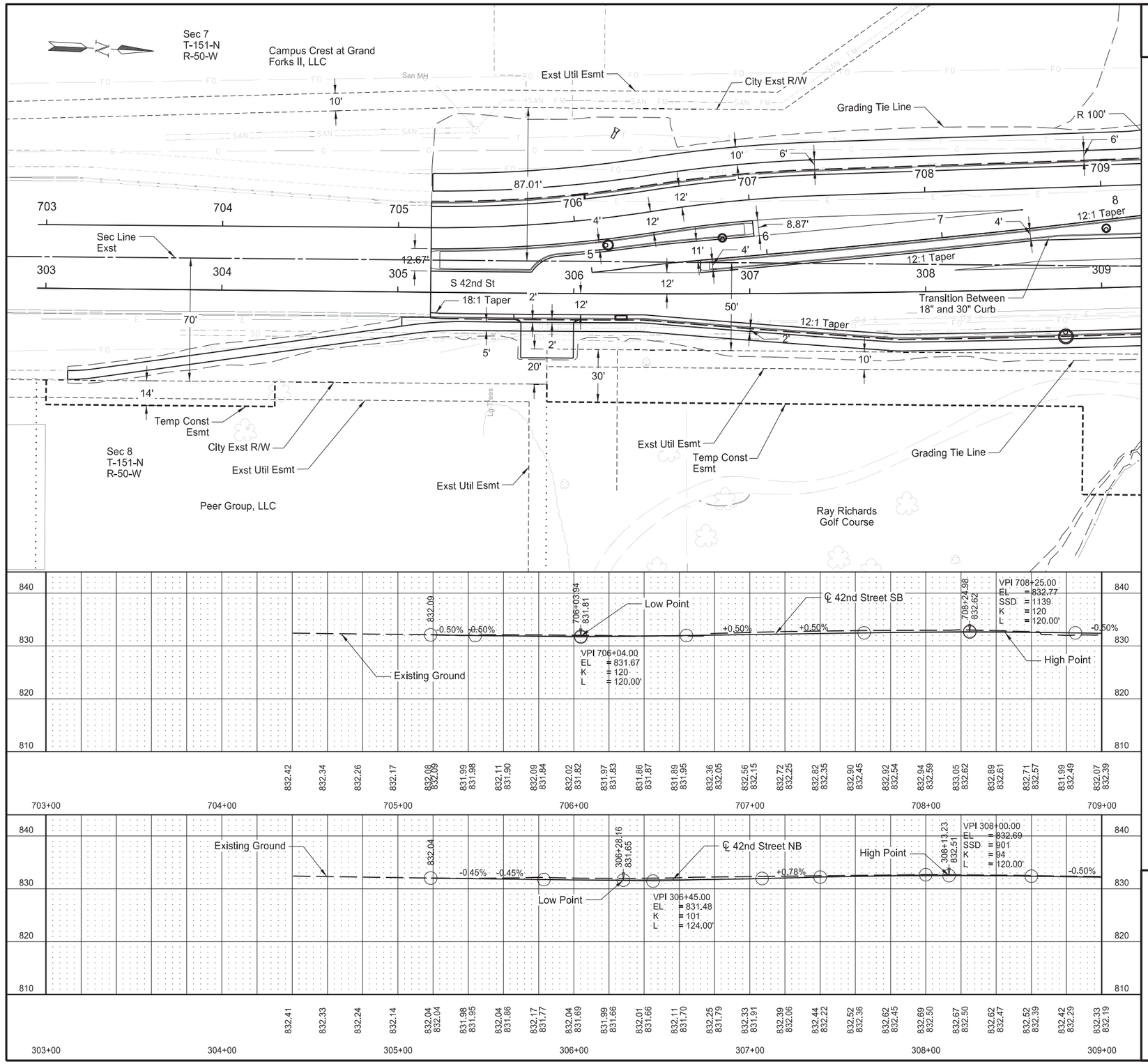
ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.01 16:24:29 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	60	6

SPEC	CODE	BID ITEM	QTY	UNIT
302	0100	SALVAGED BASE COURSE		
		Sta 305+18.66 to 309+00 (OCL_42nd_NB)	2567	TON
709	0100	GEOSYNTHETIC MATERIAL TYPE G		
		Sta 305+18.66 to 309+00 (OCL_42nd_NB)	3629	SY
714	9720	UNDERDRAIN PIPE PVC PERFORATED 4IN		
		Sta 305+18.66 to 309+00 (OCL_42nd_NB)	753	LF

NOTE: See Section 20 for Underdrain Details

Plan & Profile

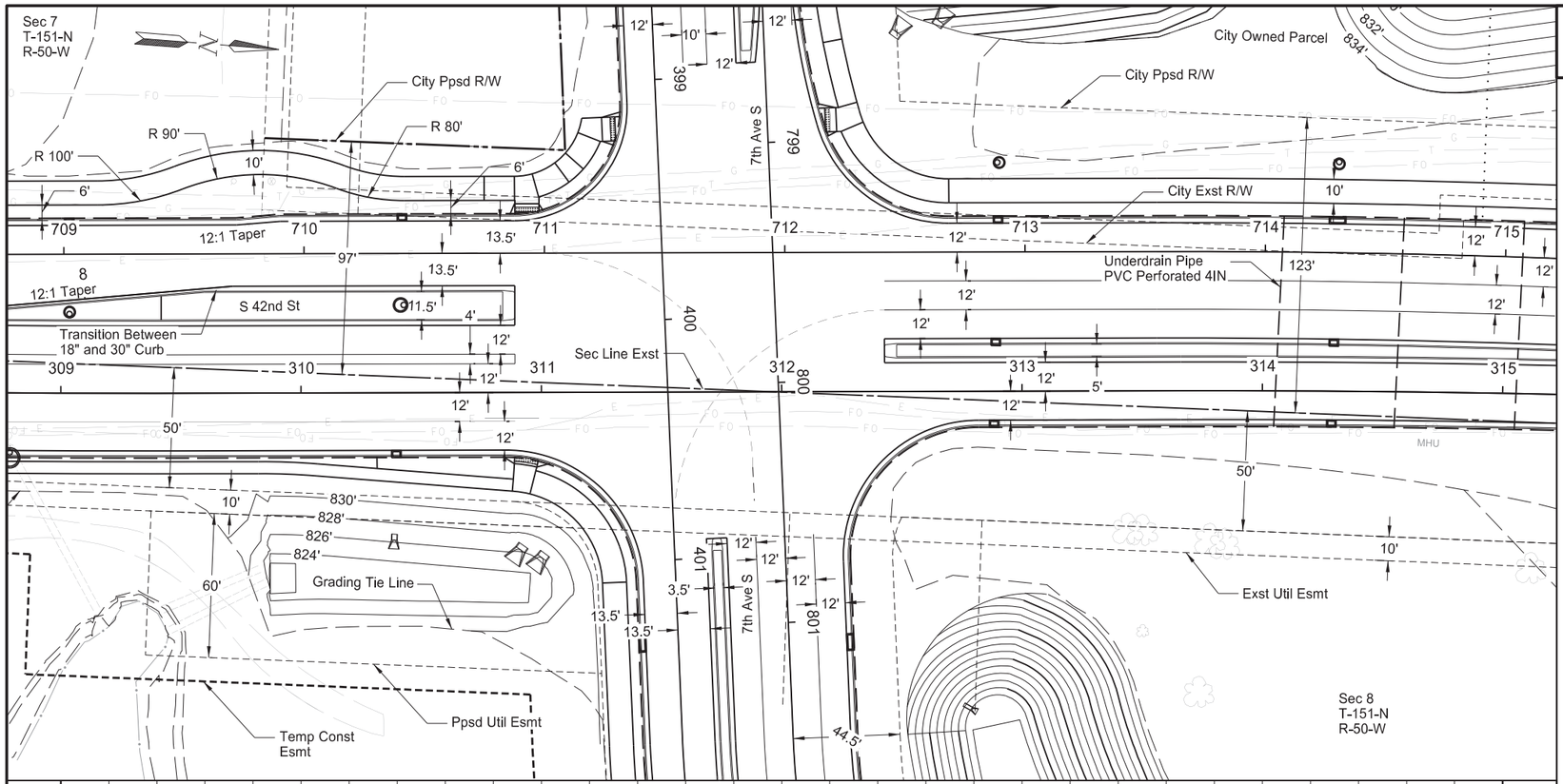
S 42nd St

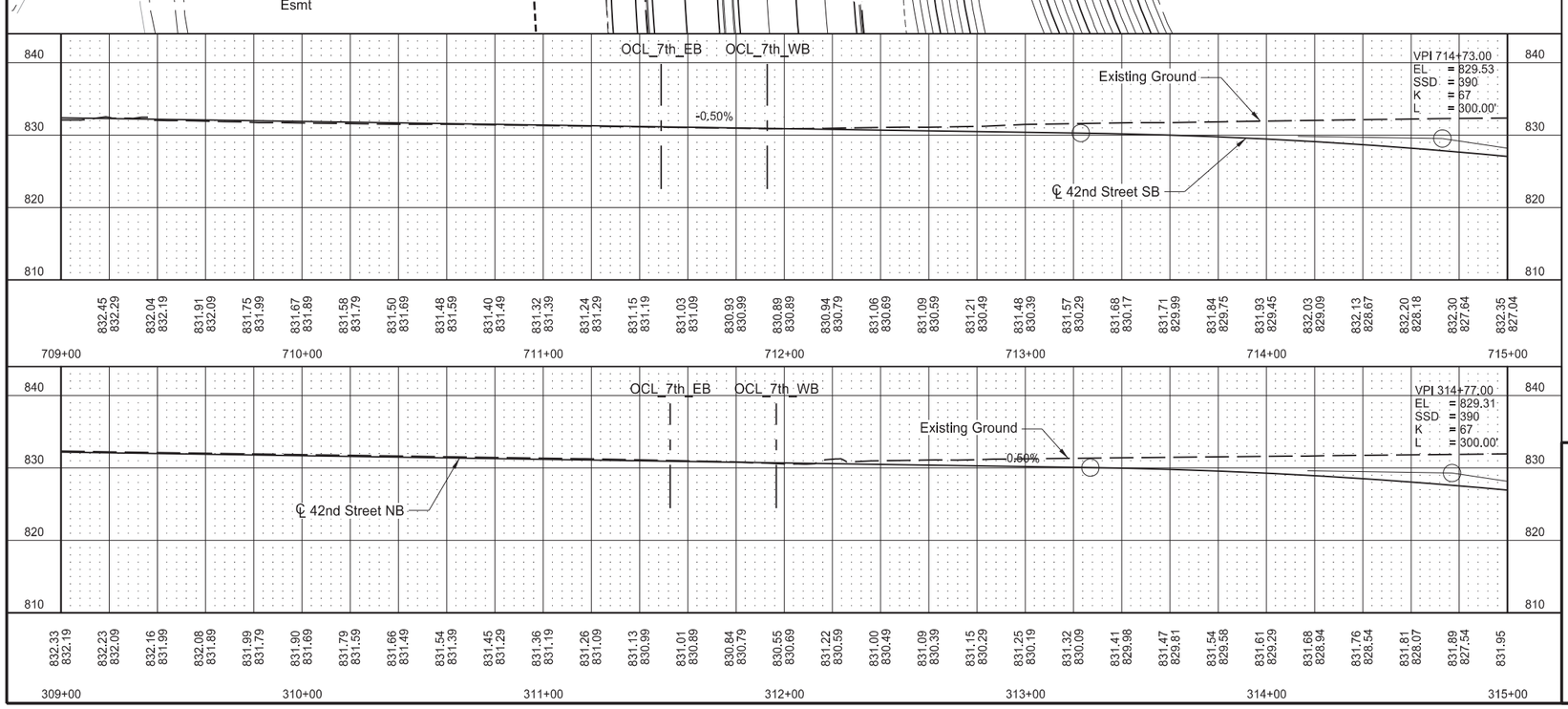
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9206
DATE: 2025.12.01 16:24:41 -06'00'
NORTH DAKOTA





	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	60	7

SPEC	CODE	BID ITEM	QTY	UNIT
302	0100	SALVAGED BASE COURSE		
		Sta 309+00 to 315+00 (OCL_42nd_NB)	4399	TON
302	0120	AGGREGATE BASE COURSE CL 5		
		Sta 309+00 to 315+00 (OCL_42nd_NB)	612	TON
709	0100	GEOSYNTHETIC MATERIAL TYPE G		
		Sta 309+00 to 315+00 (OCL_42nd_NB)	6633	SY
714	9720	UNDERDRAIN PIPE PVC PERFORATED 4IN		
		Sta 309+00 to 315+00 (OCL_42nd_NB)	1156	LF

NOTE: See Section 20 for Underdrain Details

Plan & Profile

S 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9076
DATE: 2025.12.01 16:24:55 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	60	8

SPEC	CODE	BID ITEM	QTY	UNIT
302	0100	SALVAGED BASE COURSE		
		Sta 315+00 to 321+00 (OCL_42nd_NB)	3877	TON
302	0120	AGGREGATE BASE COURSE CL 5		
		Sta 315+00 to 321+00 (OCL_42nd_NB)	3267	TON
709	0100	GEOSYNTHETIC MATERIAL TYPE G		
		Sta 315+00 to 321+00 (OCL_42nd_NB)	5227	SY
714	9720	UNDERDRAIN PIPE PVC PERFORATED 4IN		
		Sta 315+00 to 321+00 (OCL_42nd_NB)	2603	LF

NOTE: See Section 20 for Underdrain Details

Plan & Profile

S 42nd St / N 42nd St

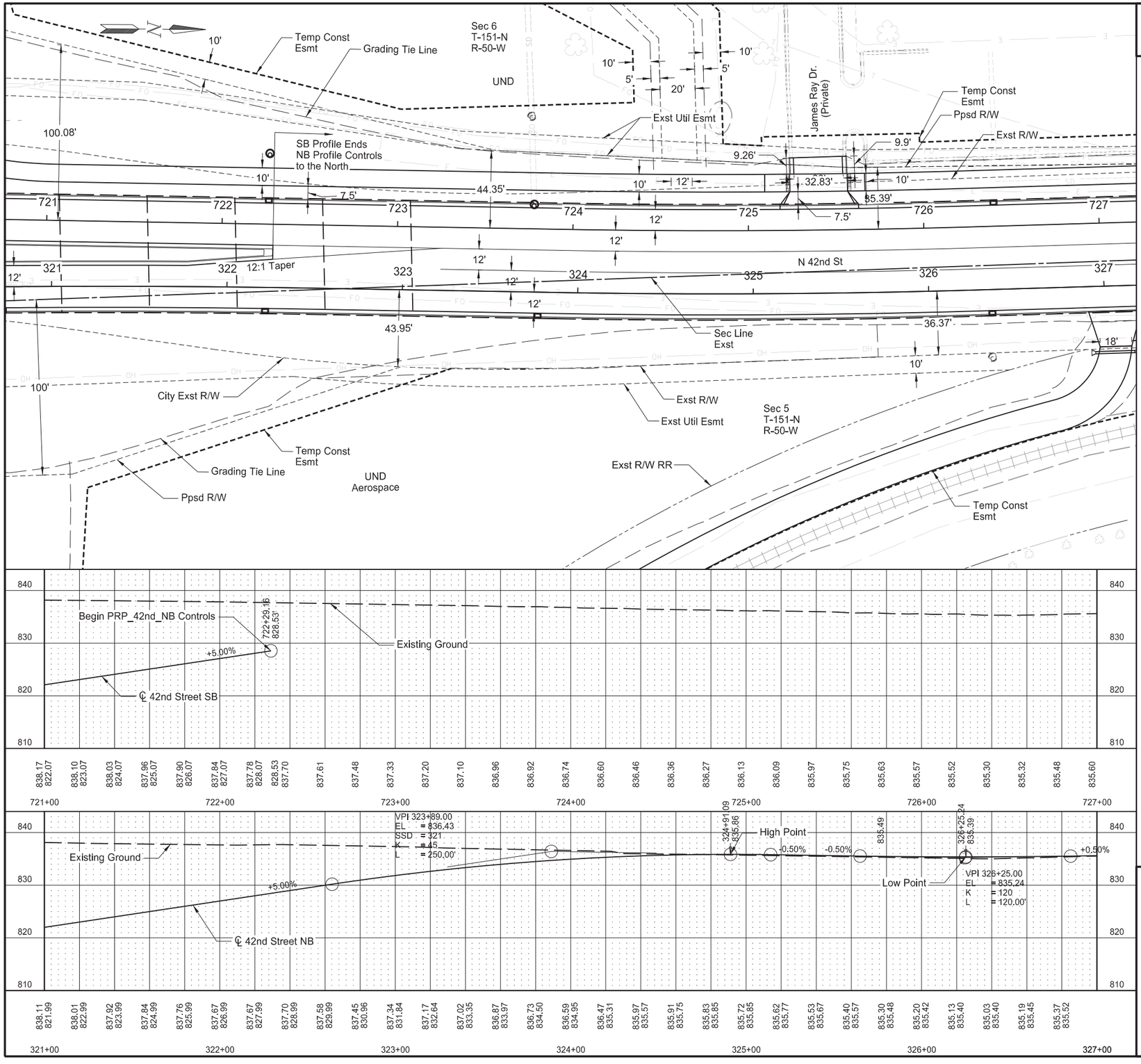
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4276
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NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	60	9

SPEC	CODE	BID ITEM	QTY	UNIT
302	0100	SALVAGED BASE COURSE		
		Sta 321+00 to 327+00 (OCL_42nd_NB)	3065	TON
302	0120	AGGREGATE BASE COURSE CL 5		
		Sta 321+00 to 327+00 (OCL_42nd_NB)	1037	TON
709	0100	GEOSYNTHETIC MATERIAL TYPE G		
		Sta 321+00 to 327+00 (OCL_42nd_NB)	4477	SY
714	9720	UNDERDRAIN PIPE PVC PERFORATED 4IN		
		Sta 321+00 to 327+00 (OCL_42nd_NB)	1533	LF

NOTE: See Section 20 for Underdrain Details

Plan & Profile

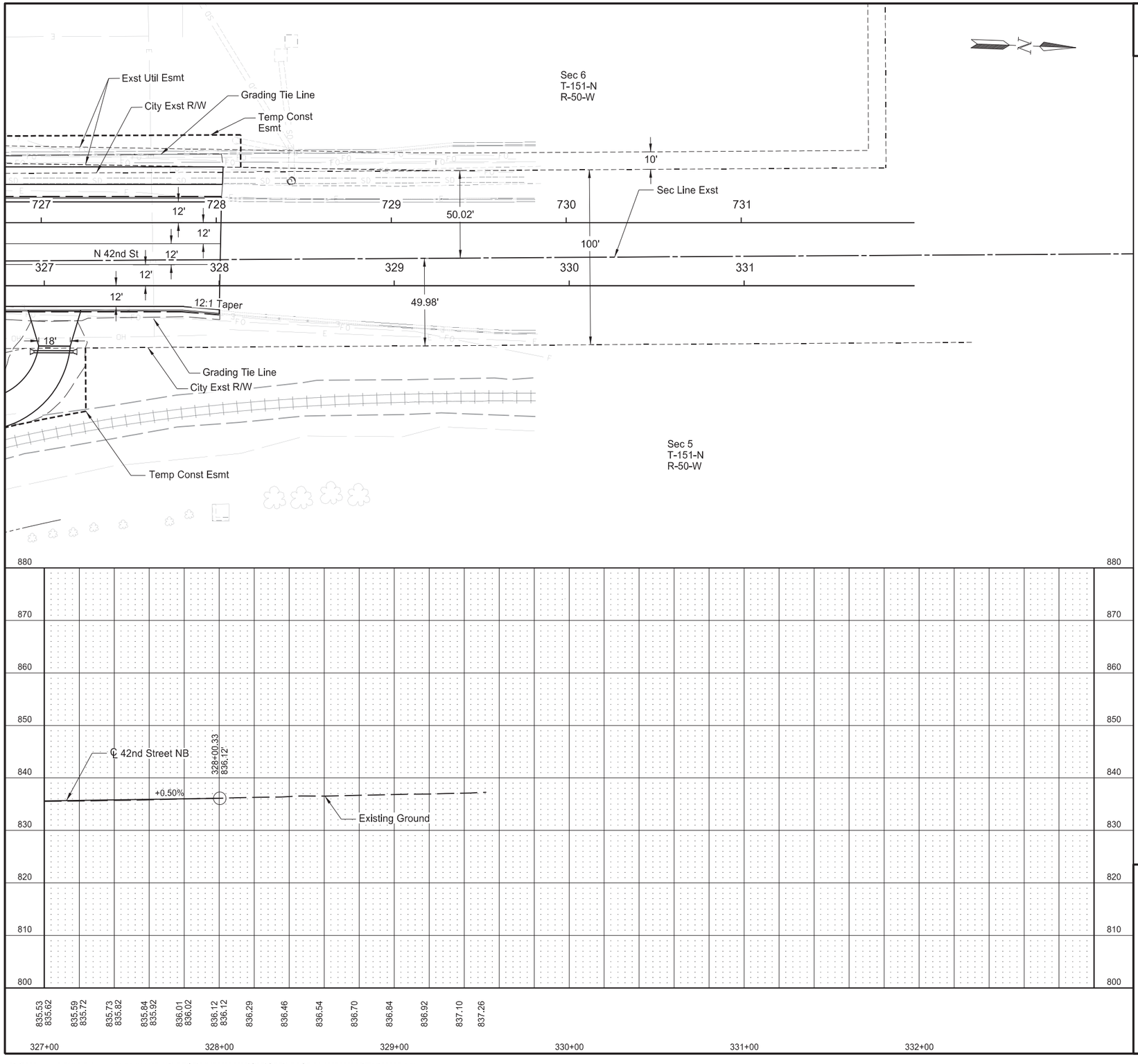
N 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.01 16:25:28 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	60	10

SPEC	CODE	BID ITEM	QTY	UNIT
302	0100	SALVAGED BASE COURSE		
		Sta 327+00 to 328+00.36 (OCL_42nd_NB)	576	TON
709	0100	GEOSYNTHETIC MATERIAL TYPE G		
		Sta 327+00 to 328+00.36 (OCL_42nd_NB)	787	SY
714	9720	UNDERDRAIN PIPE PVC PERFORATED 4IN		
		Sta 327+00 to 328+00.36 (OCL_42nd_NB)	211	LF

NOTE: See Section 20 for Underdrain Details

Plan & Profile

N 42nd St

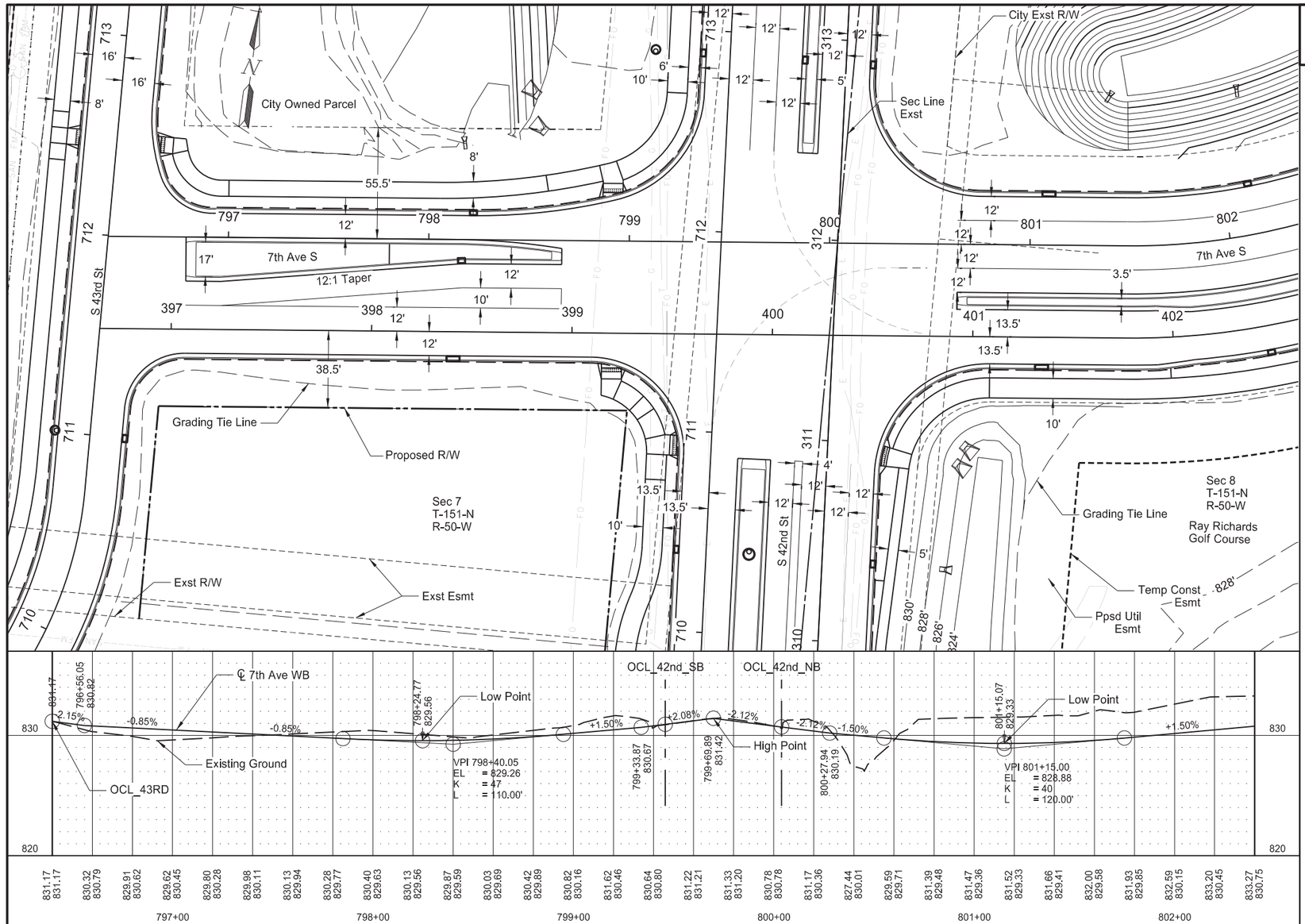
ND 297 (DeMers Ave) & 42nd St Grade Separation

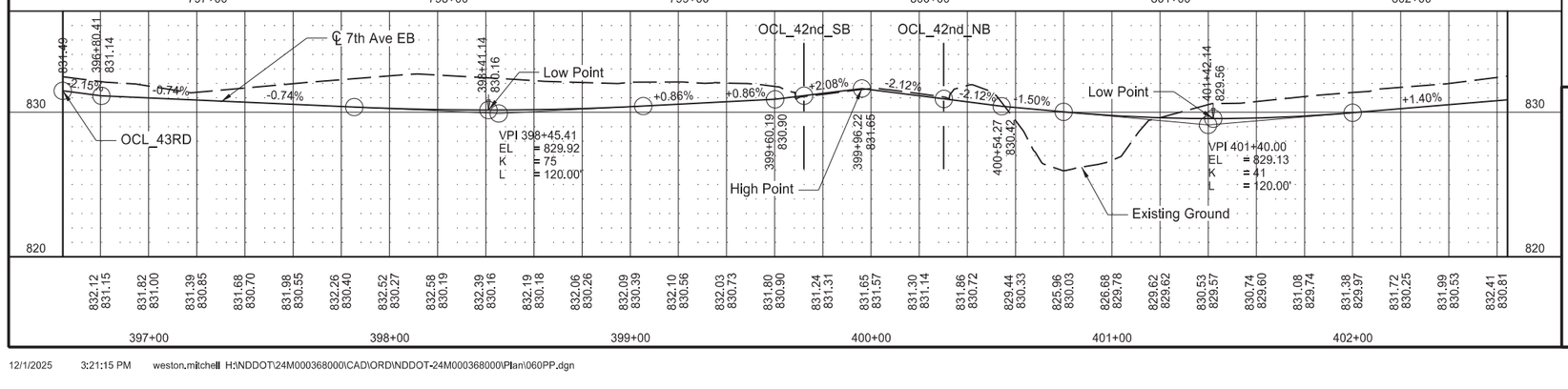
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.01 16:25:40 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	60	11

SPEC	CODE	BID ITEM	QTY	UNIT
302	0100	SALVAGED BASE COURSE		
		Sta 397+00 to 399+50 (OCL_7th_EB)	1533	TON
		Sta 400+60 to 402+50 (OCL_7th_EB)	1037	TON
709	0100	GEOSYNTHETIC MATERIAL TYPE G		
		Sta 397+00 to 399+50 (OCL_7th_EB)	2130	SY
		Sta 400+60 to 402+50 (OCL_7th_EB)	1641	SY
714	9720	UNDERDRAIN PIPE PVC PERFORATED 4IN		
		Sta 397+00 to 399+50 (OCL_7th_EB)	522	LF
		Sta 400+60 to 402+50 (OCL_7th_EB)	329	LF

NOTE: See Section 20 for Underdrain Details

Plan & Profile

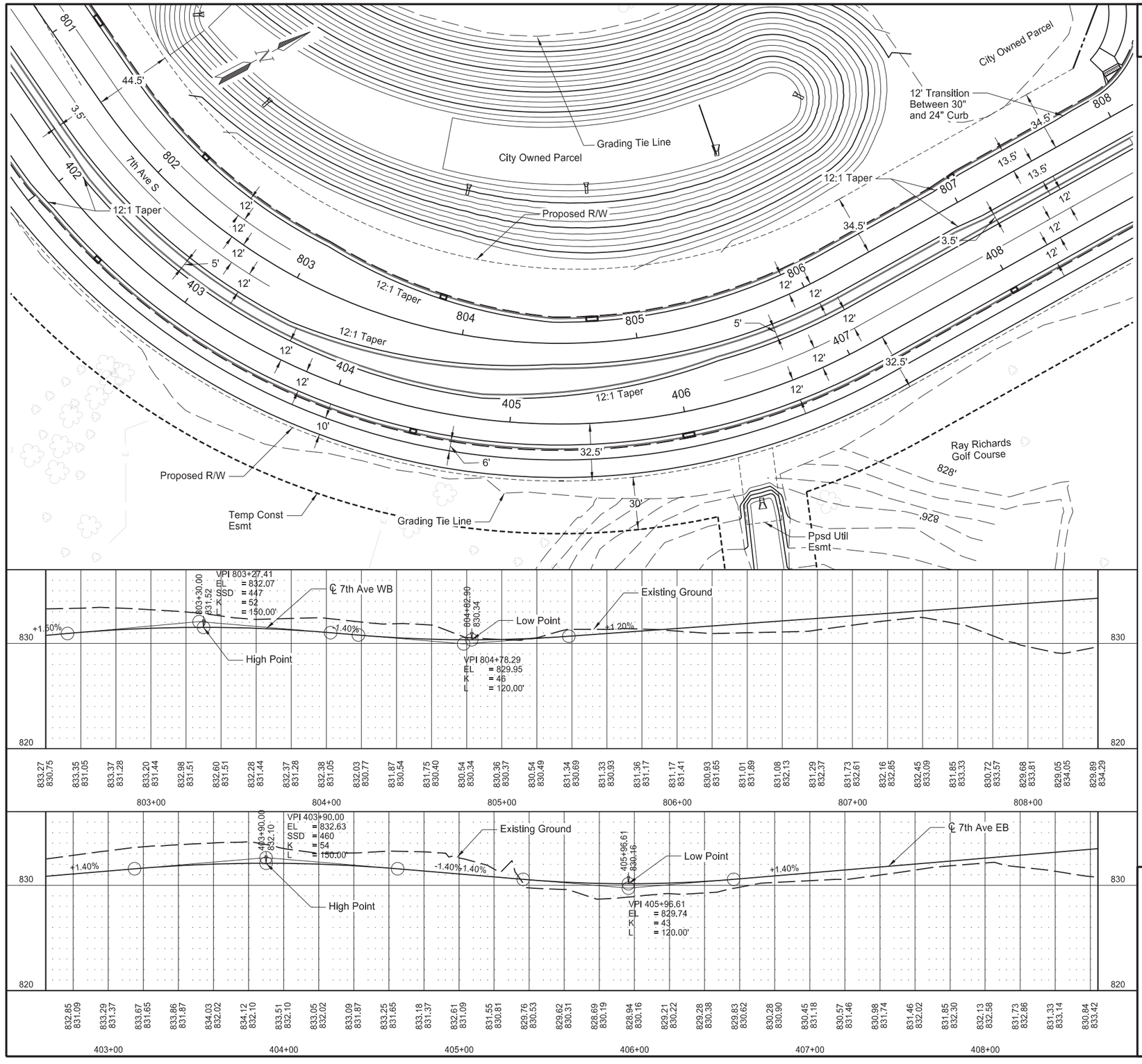
7th Ave S

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8016
DATE: 2025.12.01 16:25:52 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	60	12

SPEC	CODE	BID ITEM	QTY	UNIT
302	0100	SALVAGED BASE COURSE		
		Sta 402+50 to 408+60 (OCL_7th_EB)	3700	TON
709	0100	GEOSYNTHETIC MATERIAL TYPE G		
		Sta 402+50 to 408+60 (OCL_7th_EB)	5217	SY
714	9720	UNDERDRAIN PIPE PVC PERFORATED 4IN		
		Sta 402+50 to 408+60 (OCL_7th_EB)	1159	LF

NOTE: See Section 20 for Underdrain Details

Plan & Profile

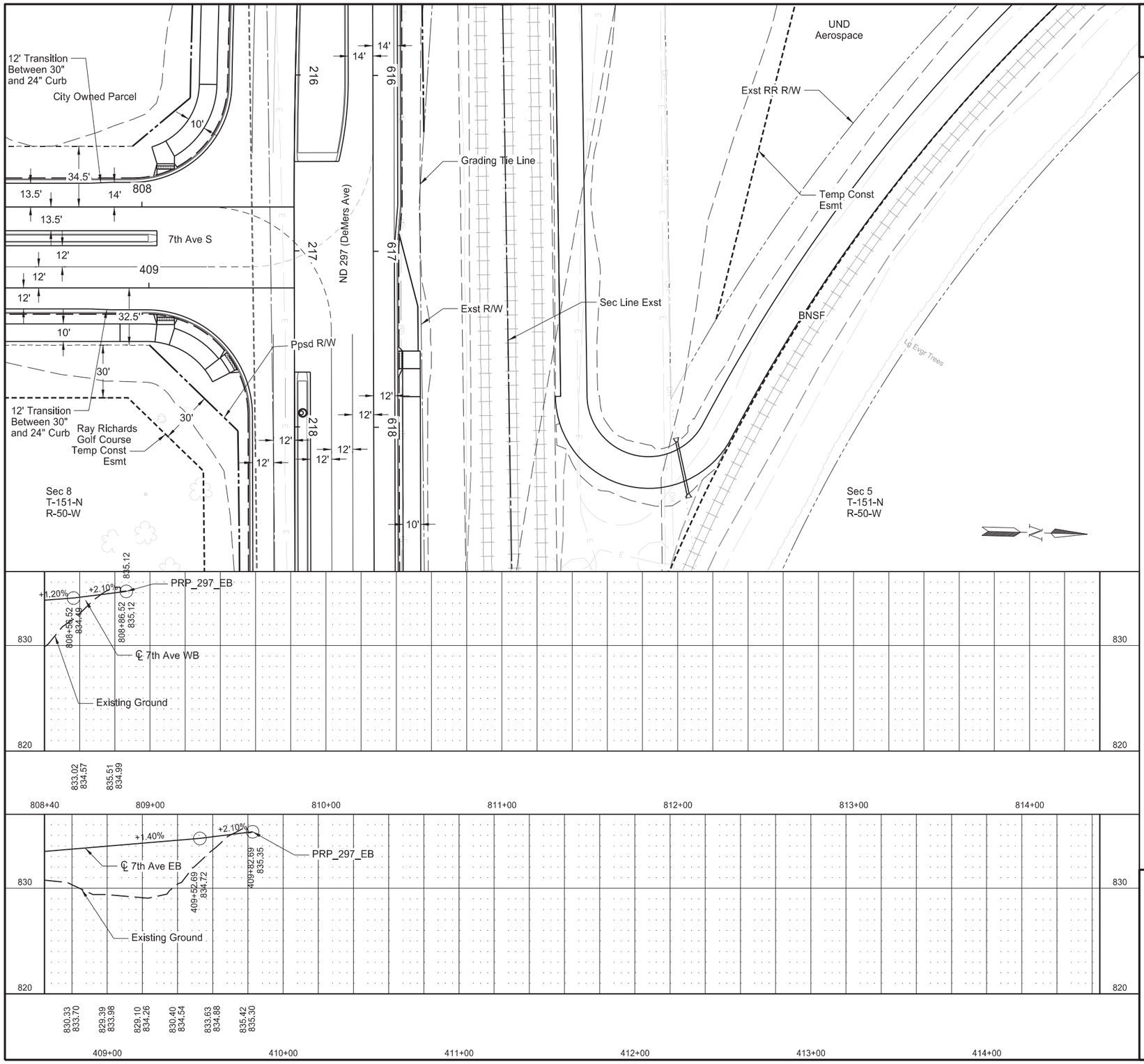
7th Ave S

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
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PE-4296
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NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	60	13

SPEC	CODE	BID ITEM	QTY	UNIT
302	0100	SALVAGED BASE COURSE		
		Sta 408+60 to 409+54 (OCL_7th_EB)	716	TON
709	0100	GEOSYNTHETIC MATERIAL TYPE G		
		Sta 408+60 to 409+54 (OCL_7th_EB)	1046	SY
714	9720	UNDERDRAIN PIPE PVC PERFORATED 4IN		
		Sta 408+60 to 409+54 (OCL_7th_EB)	253	LF

NOTE: See Section 20 for Underdrain Details

Plan & Profile

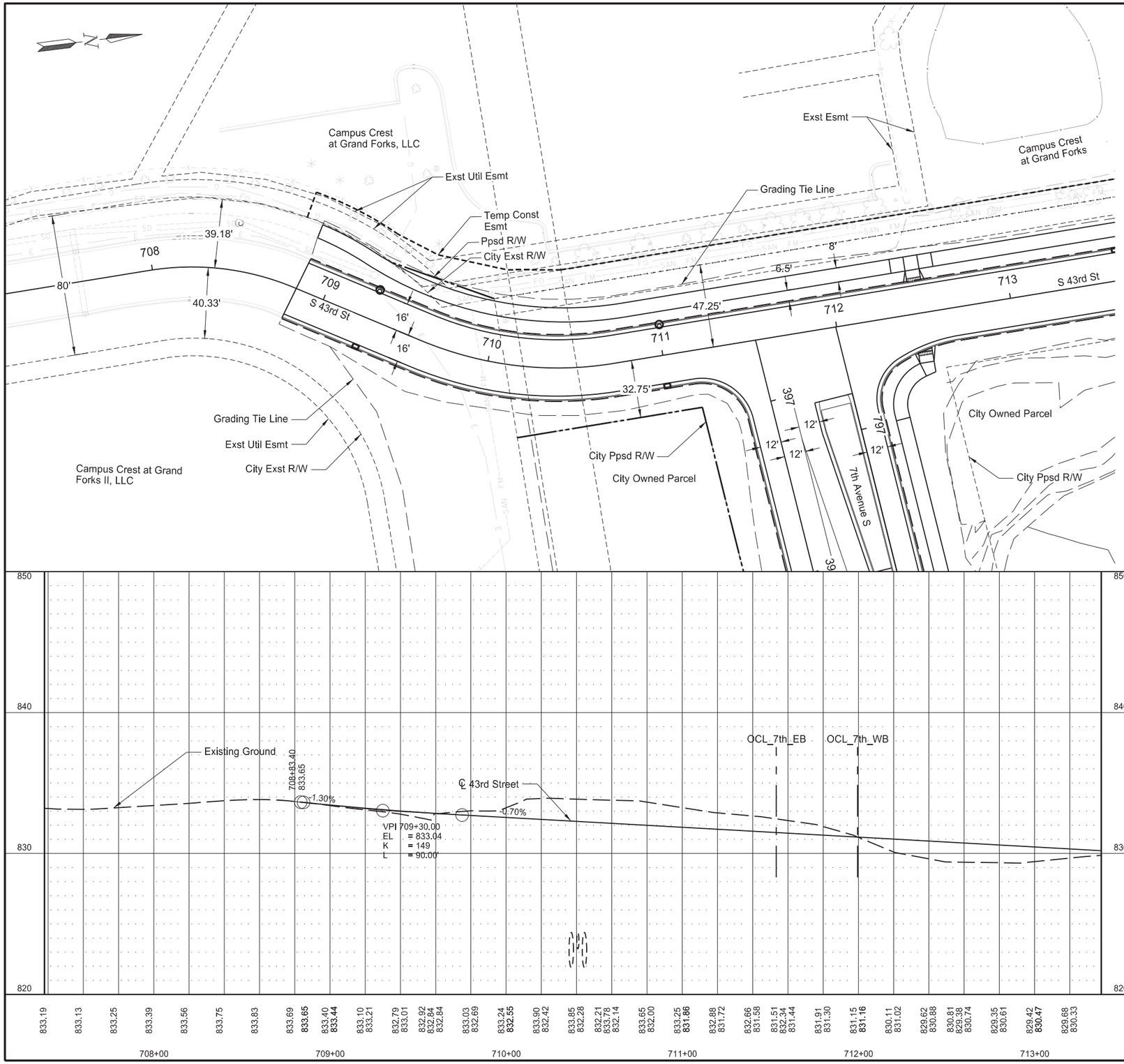
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ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8076
DATE: 2025.12.01 16:26:20 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	60	14

SPEC	CODE	BID ITEM	QTY	UNIT
302	0100	SALVAGED BASE COURSE		
		Sta 708+83.40 to 713+40 (OCL_43RD)	1421	TON
709	0100	GEOSYNTHETIC MATERIAL TYPE G		
		Sta 708+83.40 to 713+40 (OCL_43RD)	2061	SY
714	9720	UNDERDRAIN PIPE PVC PERFORATED 4IN		
		Sta 708+83.40 to 713+40 (OCL_43RD)	813	LF

NOTE: See Section 20 for Underdrain Details

Plan & Profile

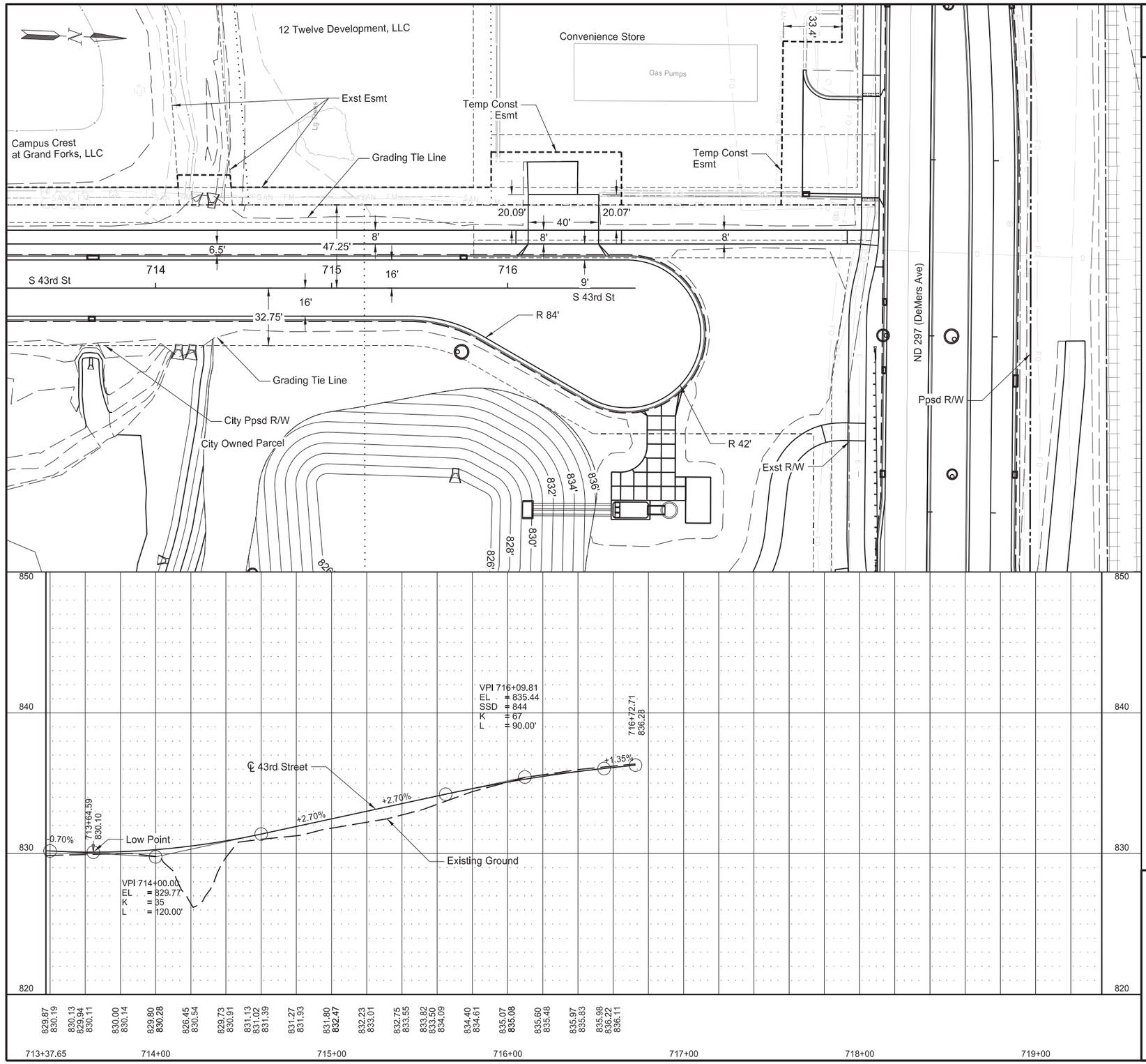
S 43rd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9076
DATE: 2025.12.01 16:26:37 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	60	15

SPEC	CODE	BID ITEM	QTY	UNIT
302	0100	SALVAGED BASE COURSE		
		Sta 713+40 to 717+00 (OCL_43RD)	1490	TON
709	0100	GEOSYNTHETIC MATERIAL TYPE G		
		Sta 713+40 to 717+00 (OCL_43RD)	2125	SY
714	9720	UNDERDRAIN PIPE PVC PERFORATED 4IN		
		Sta 713+40 to 717+00 (OCL_43RD)	814	LF

NOTE: See Section 20 for Underdrain Details

Plan & Profile

S 43rd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

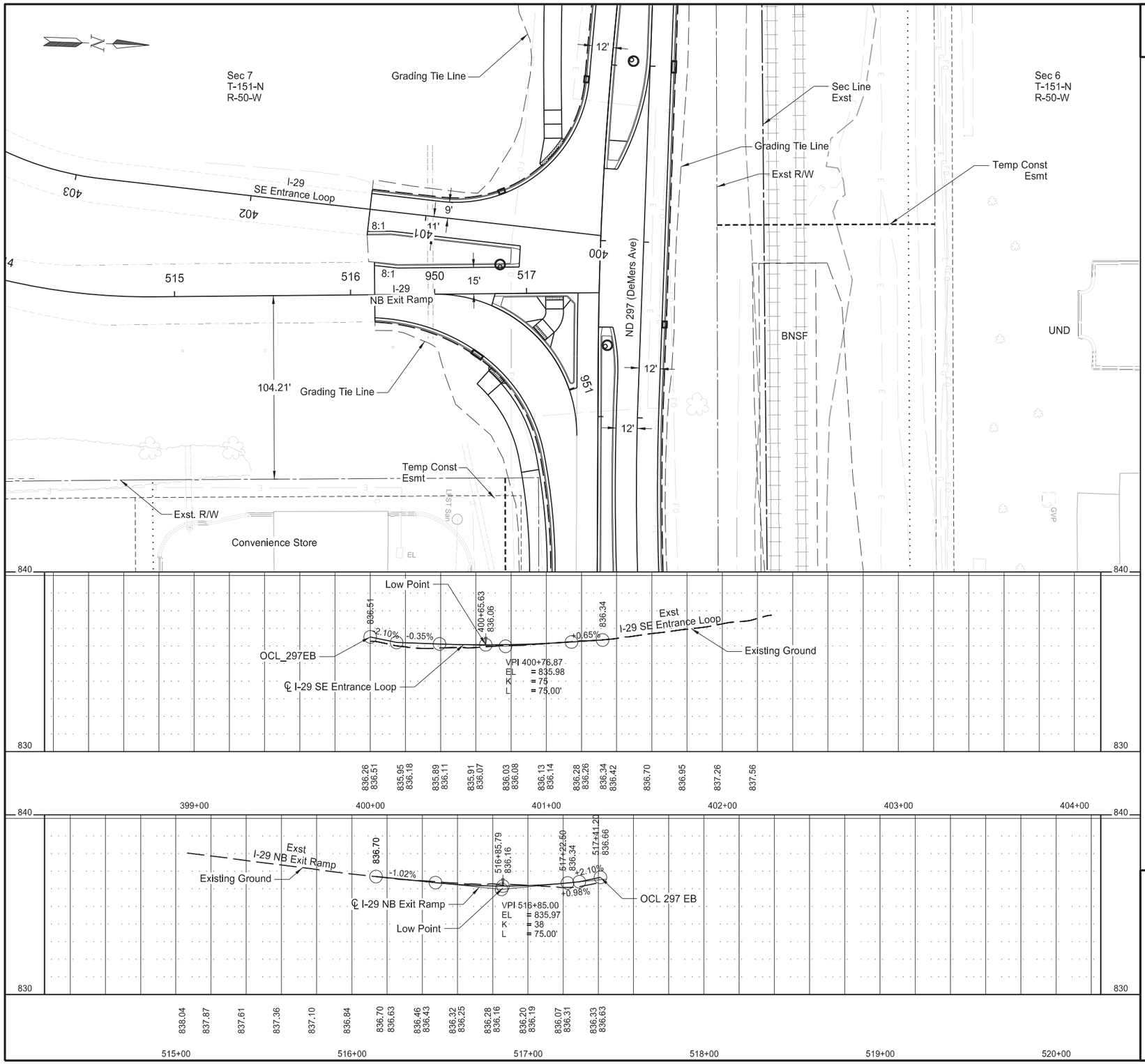
Grand Forks, ND

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	60	16

SPEC	CODE	BID ITEM	QTY	UNIT
302	0100	SALVAGED BASE COURSE		
		Sta 516+13.70 to 517+27.05 (OCL_29NBE)	907	TON
709	0100	GEOSYNTHETIC MATERIAL TYPE G		
		Sta 516+13.70 to 517+27.05 (OCL_29NBE)	1379	SY
714	9720	UNDERDRAIN PIPE PVC PERFORATED 4IN		
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NOTE: See Section 20 for Underdrain Details



Plan & Profile

I-29 Ramps

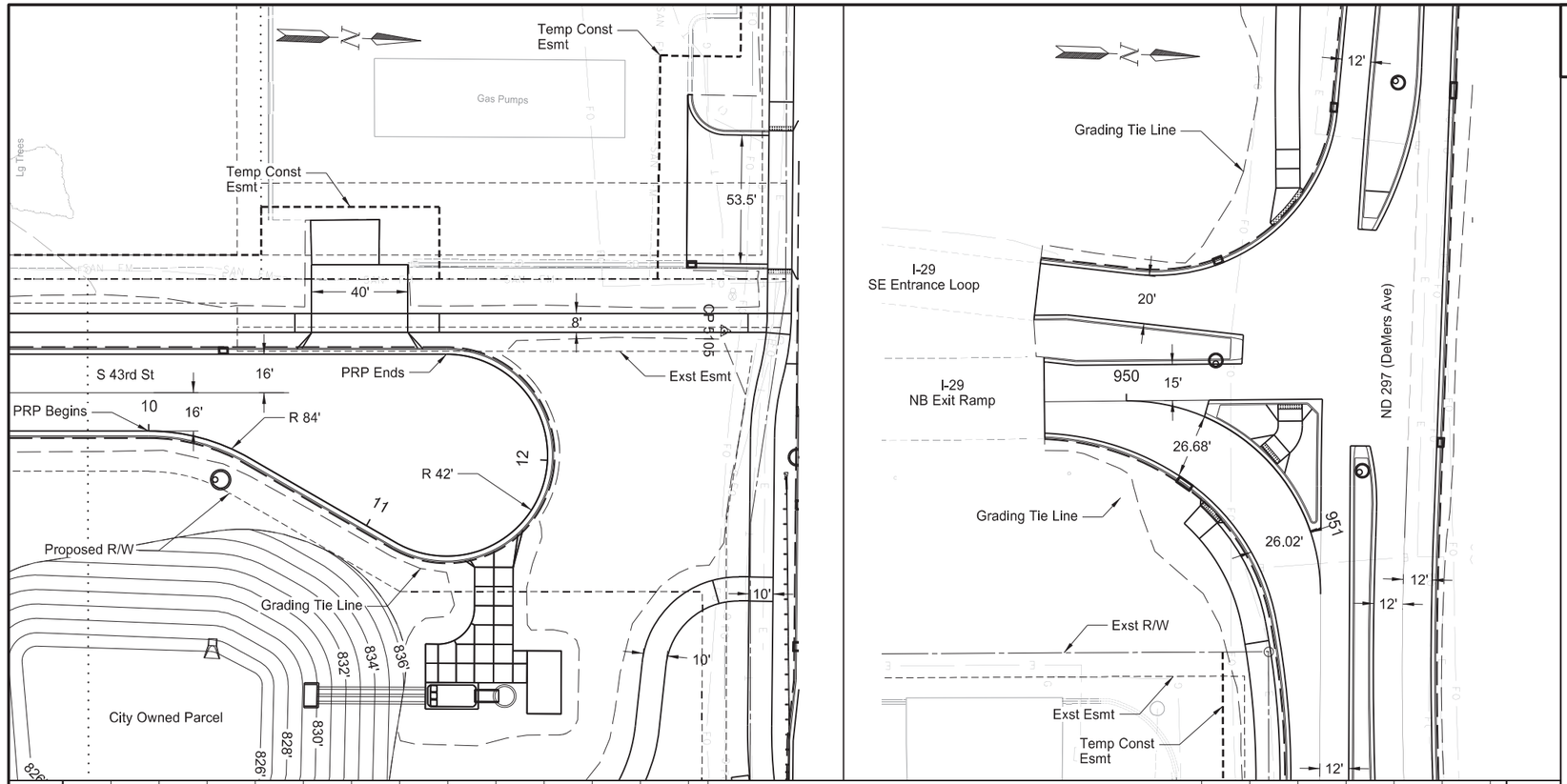
ND 297 (DeMers Ave) & 42nd St Grade Separation

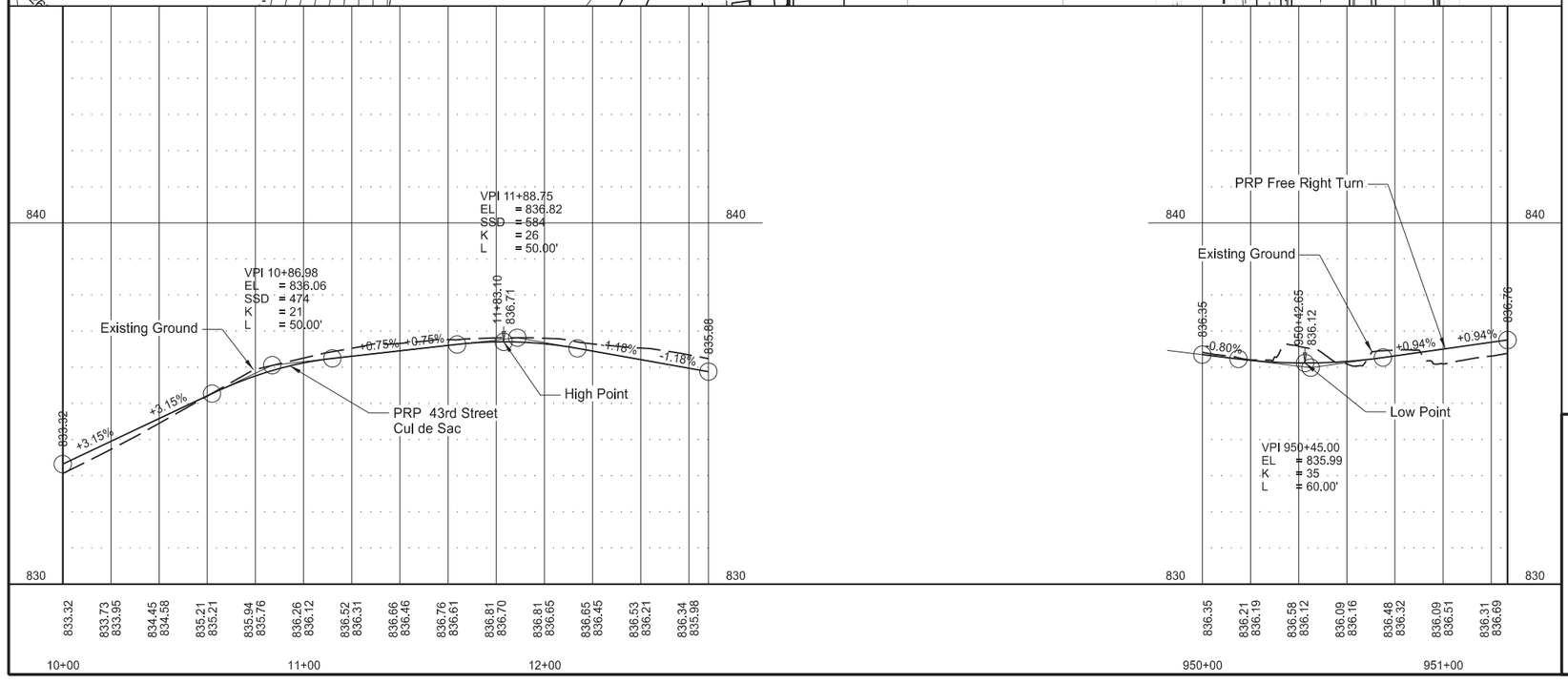
Grand Forks County

Grand Forks, ND

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CHRISTOPHER S. DAHL
PE-4256
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NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	60	17





Plan & Profile

43rd Street Cul de Sac &
I-29 to DeMers Ave Free Right Turn

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

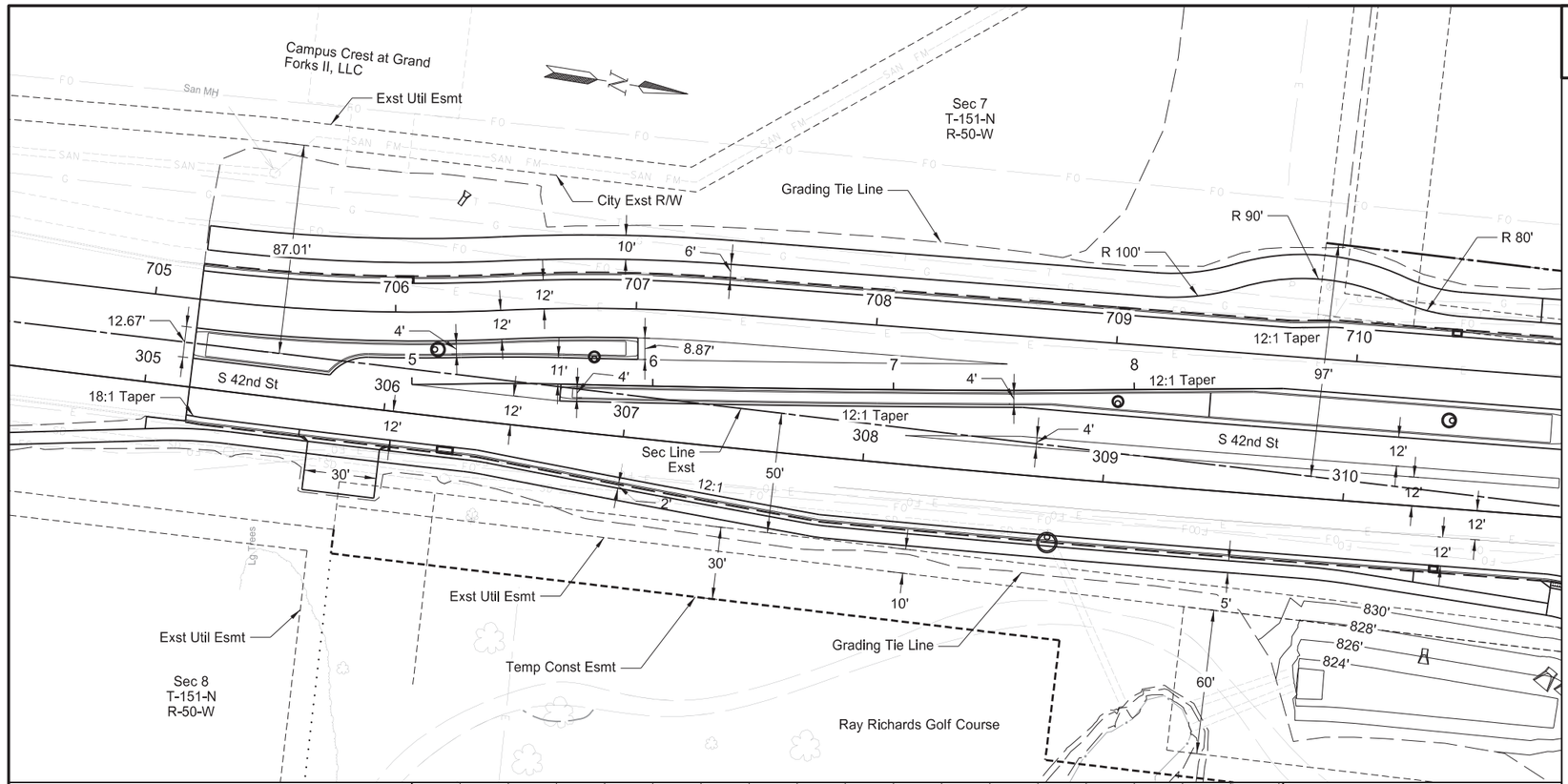
Grand Forks, ND

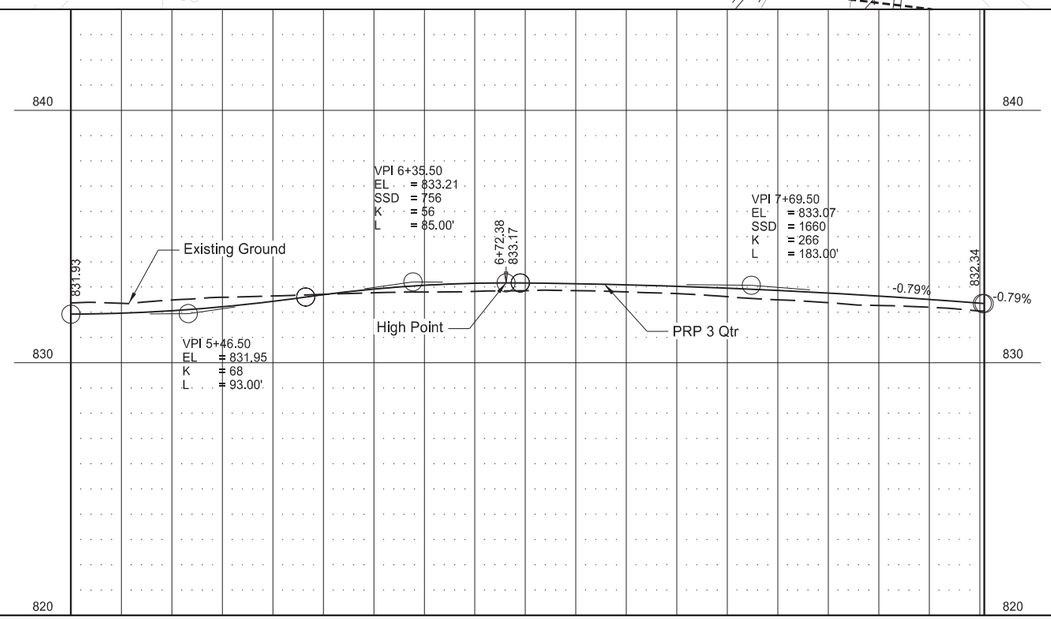
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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	60	18

NOTE:
1. See Sheets 60-6 and 60-7 for Quantities





Plan & Profile

S 42nd St

Three-Quarter Access

ND 297 (DeMers Ave) & 42nd St Grade Separation

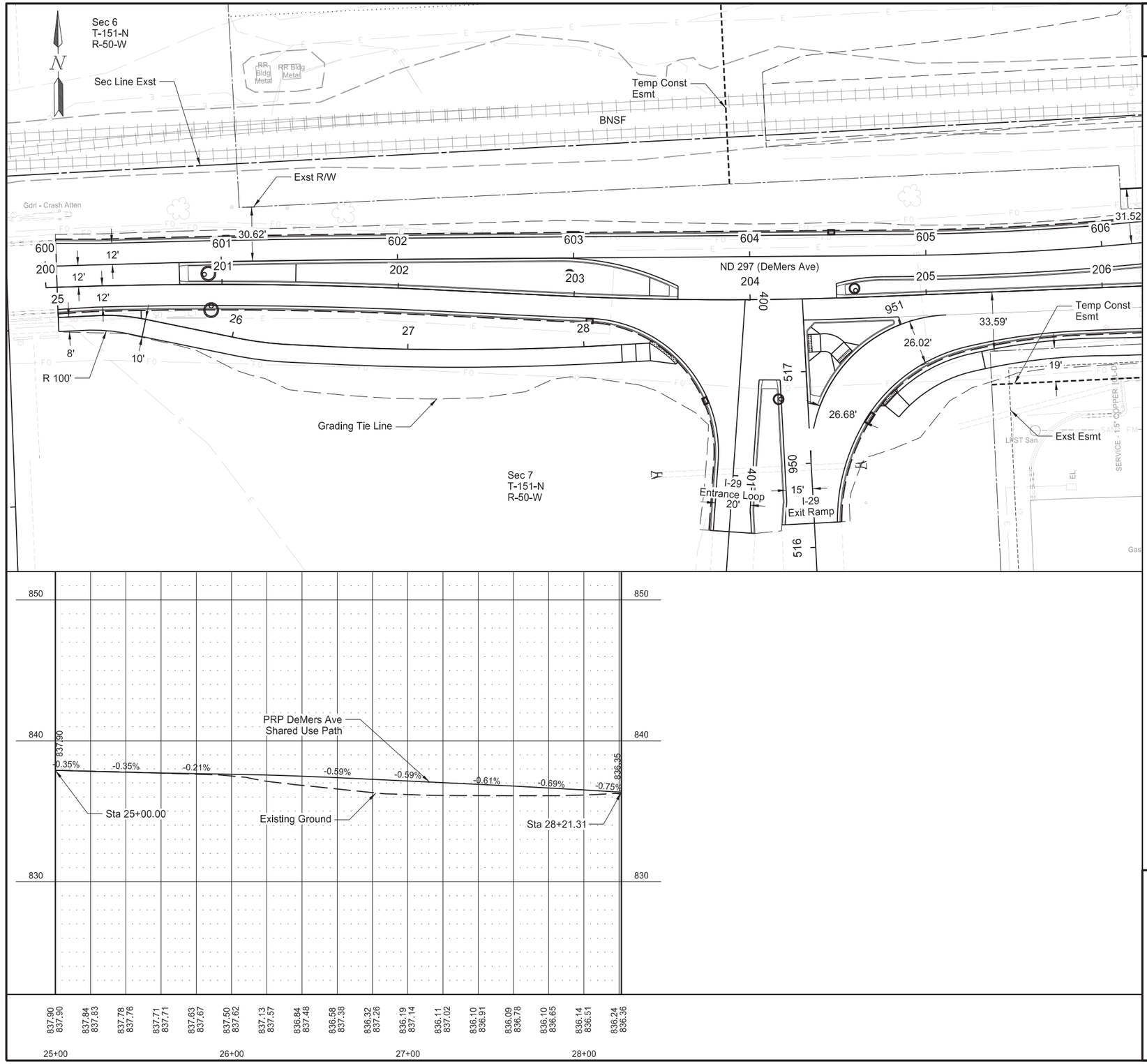
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Grand Forks, ND

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PE-8276
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NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	60	19

NOTE:
1. See Sheet 60-1 for Quantities
2. See Section 80 for ADA Ramp Details



Plan & Profile

Shared Use Path

ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

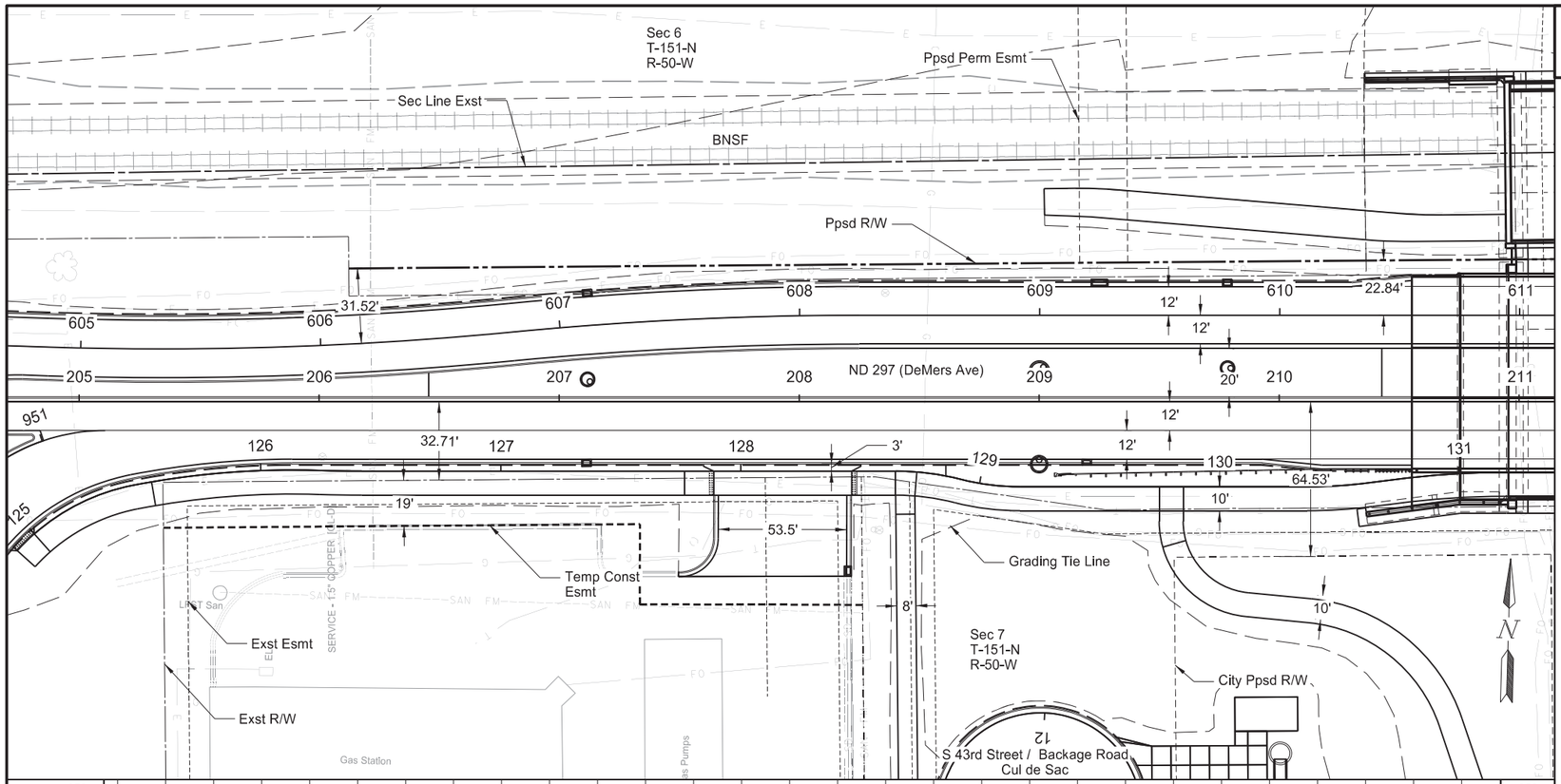
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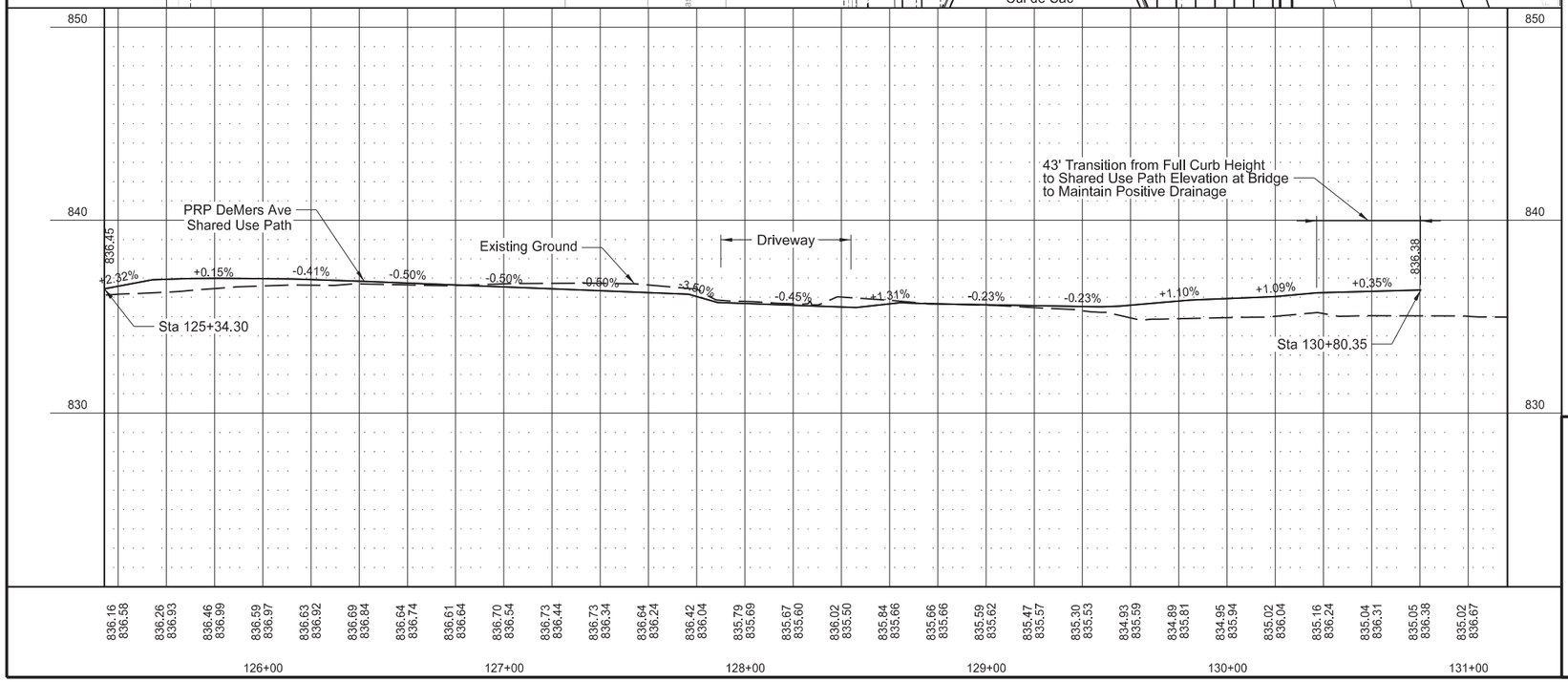
Grand Forks, ND

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CHRISTOPHER S. DAHL
PE-8256
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NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	60	20

NOTE:
1. See Sheet 60-2 for Quantities
2. See Section 80 for ADA Ramp Details





Plan & Profile

Shared Use Path

ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

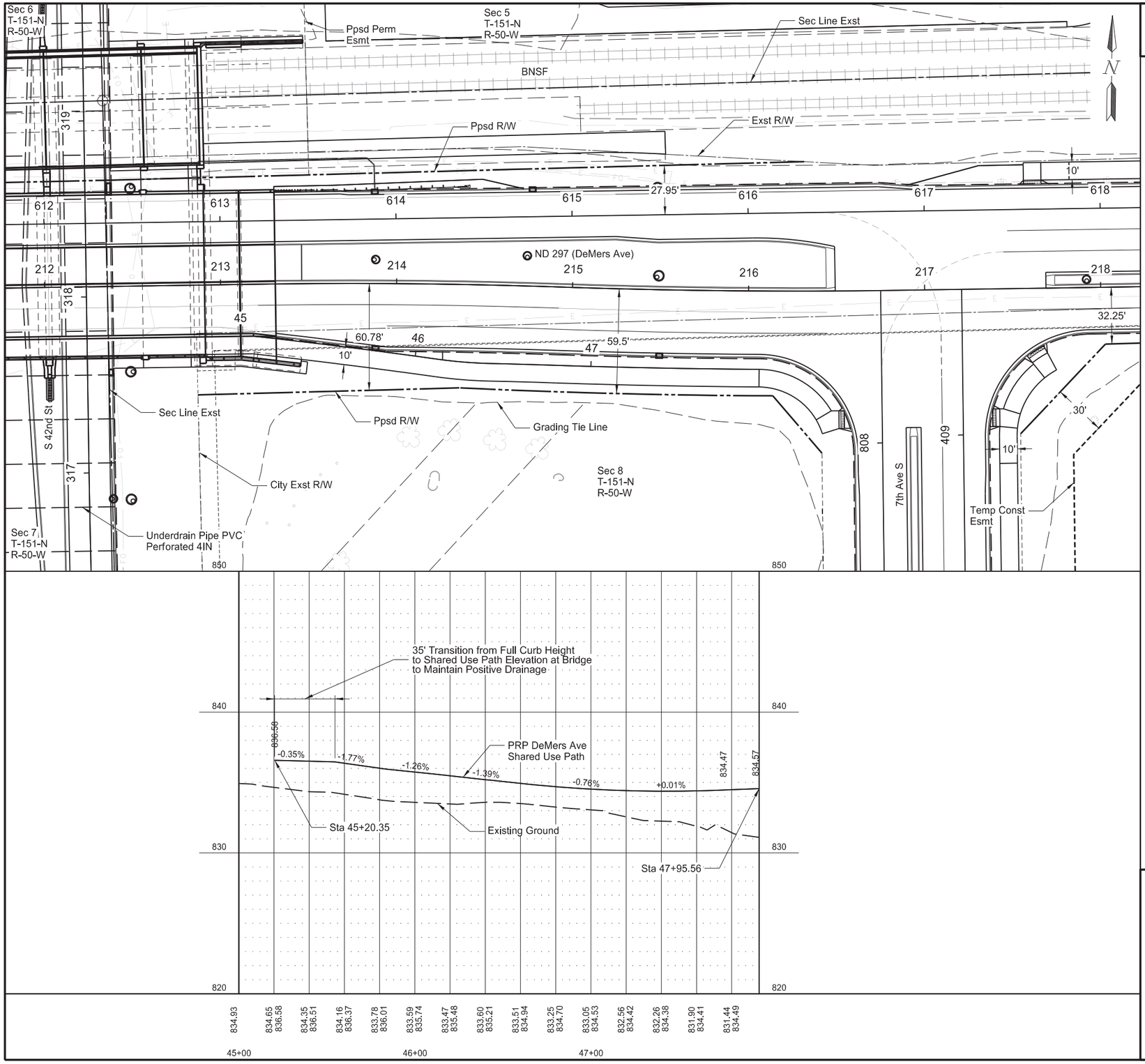
Grand Forks, ND

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	60	21

NOTE:
1. See Sheet 60-3 for Quantities
2. See Section 80 for ADA Ramp Details



Plan & Profile

Shared Use Path

ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

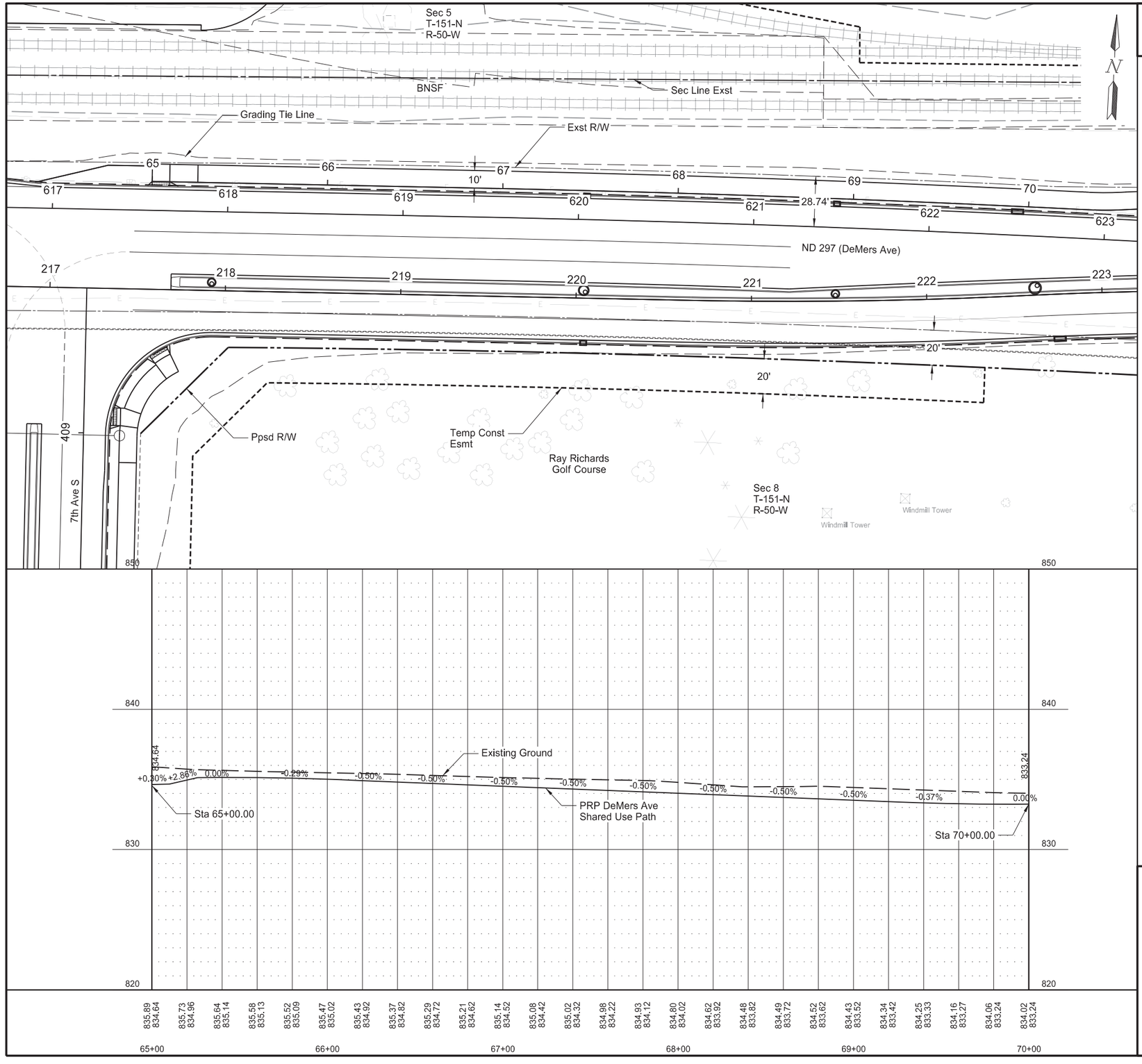
Grand Forks County

Grand Forks, ND

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CHRISTOPHER S. DAHL
PE-8016
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NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	60	22

NOTE:
1. See Sheet 60-4 for Quantities
2. See Section 80 for ADA Ramp Details



Plan & Profile

Shared Use Path

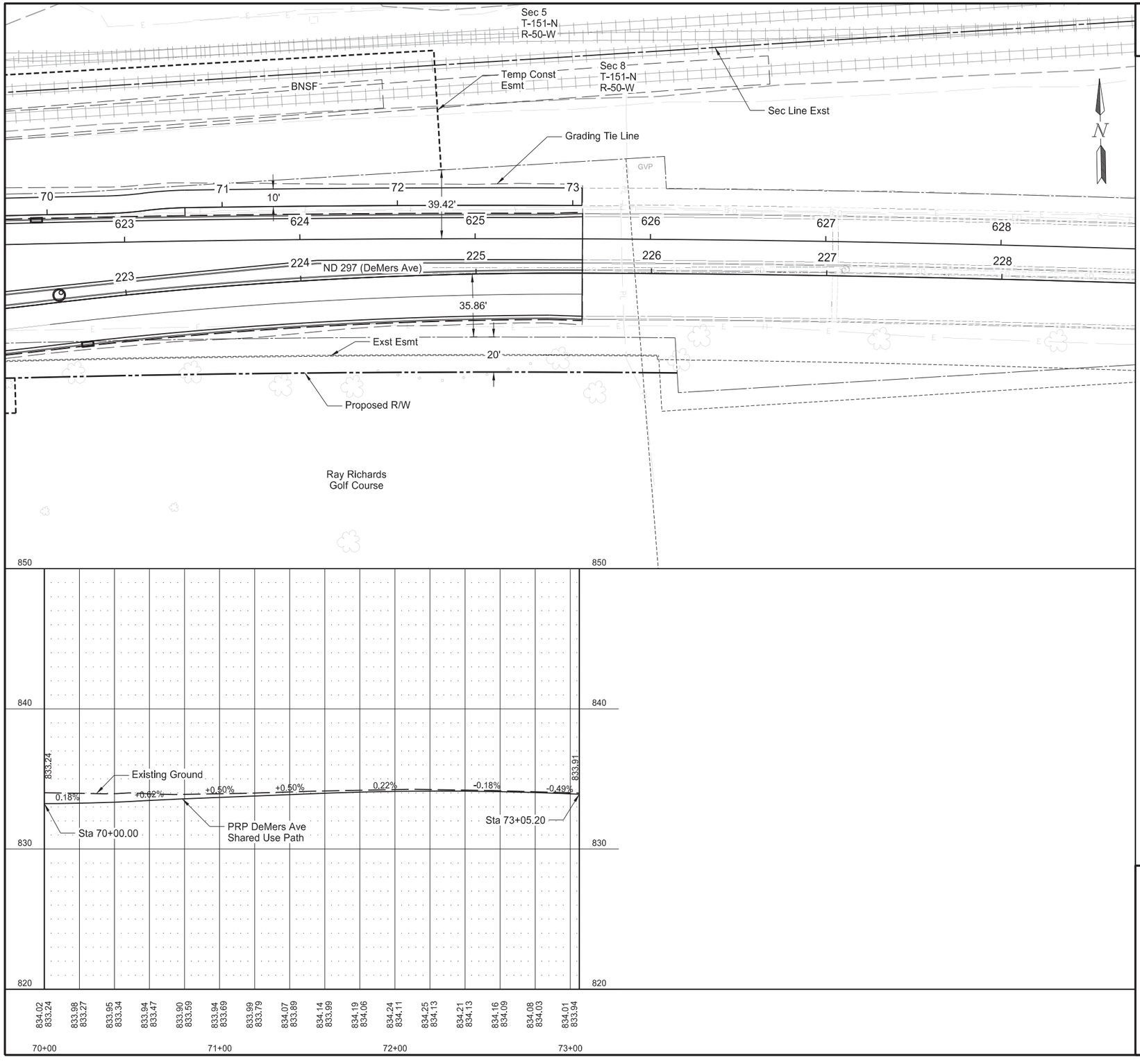
ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9076
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NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	60	23

NOTE:
1. See Sheet 60-5 for Quantities

Plan & Profile

Shared Use Path

ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

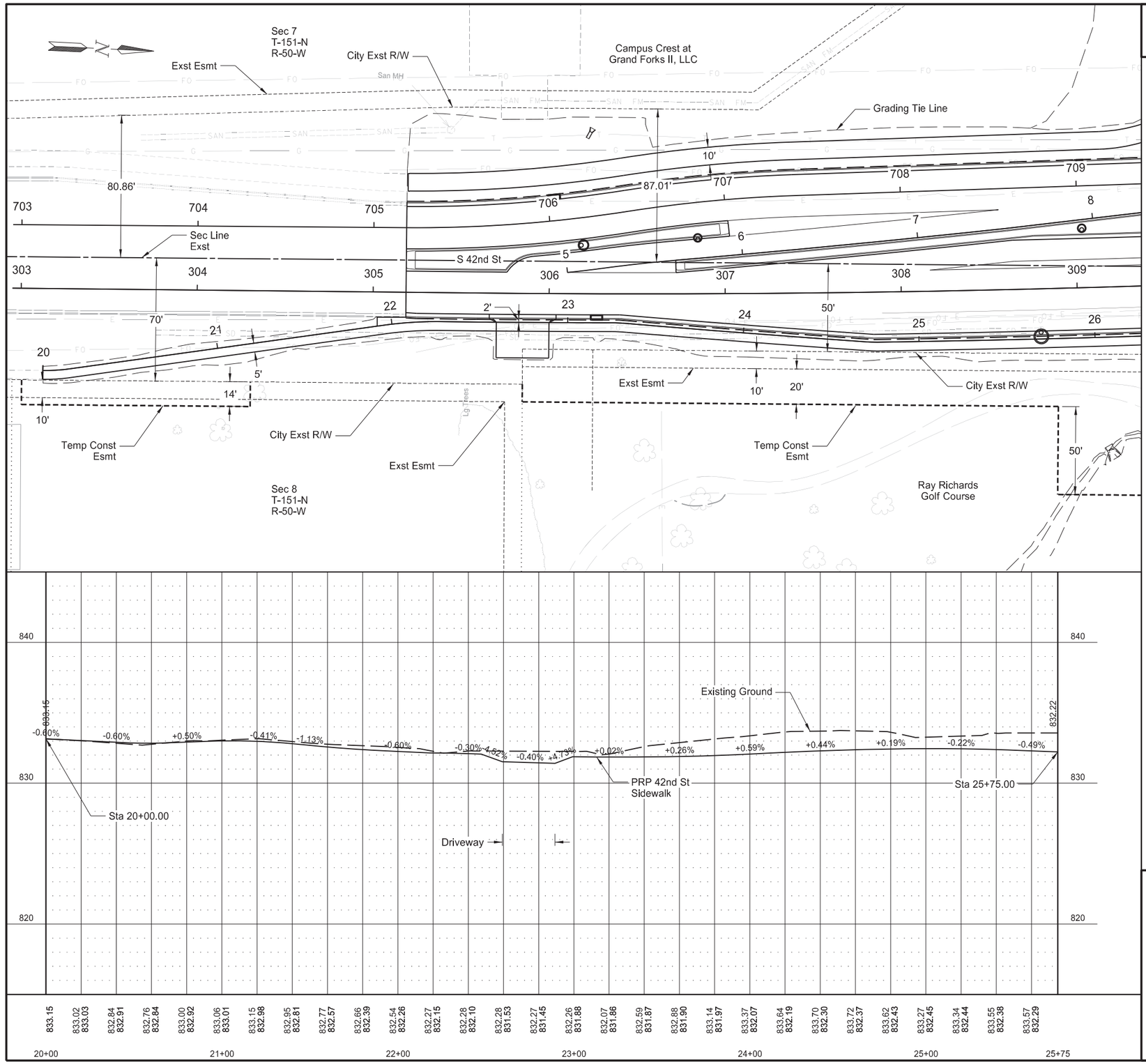
Grand Forks, ND

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PE-8276
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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	60	24

NOTE:
1. See Sheet 60-6 for Quantities



Plan & Profile

Sidewalk

S 42nd St
East Side

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

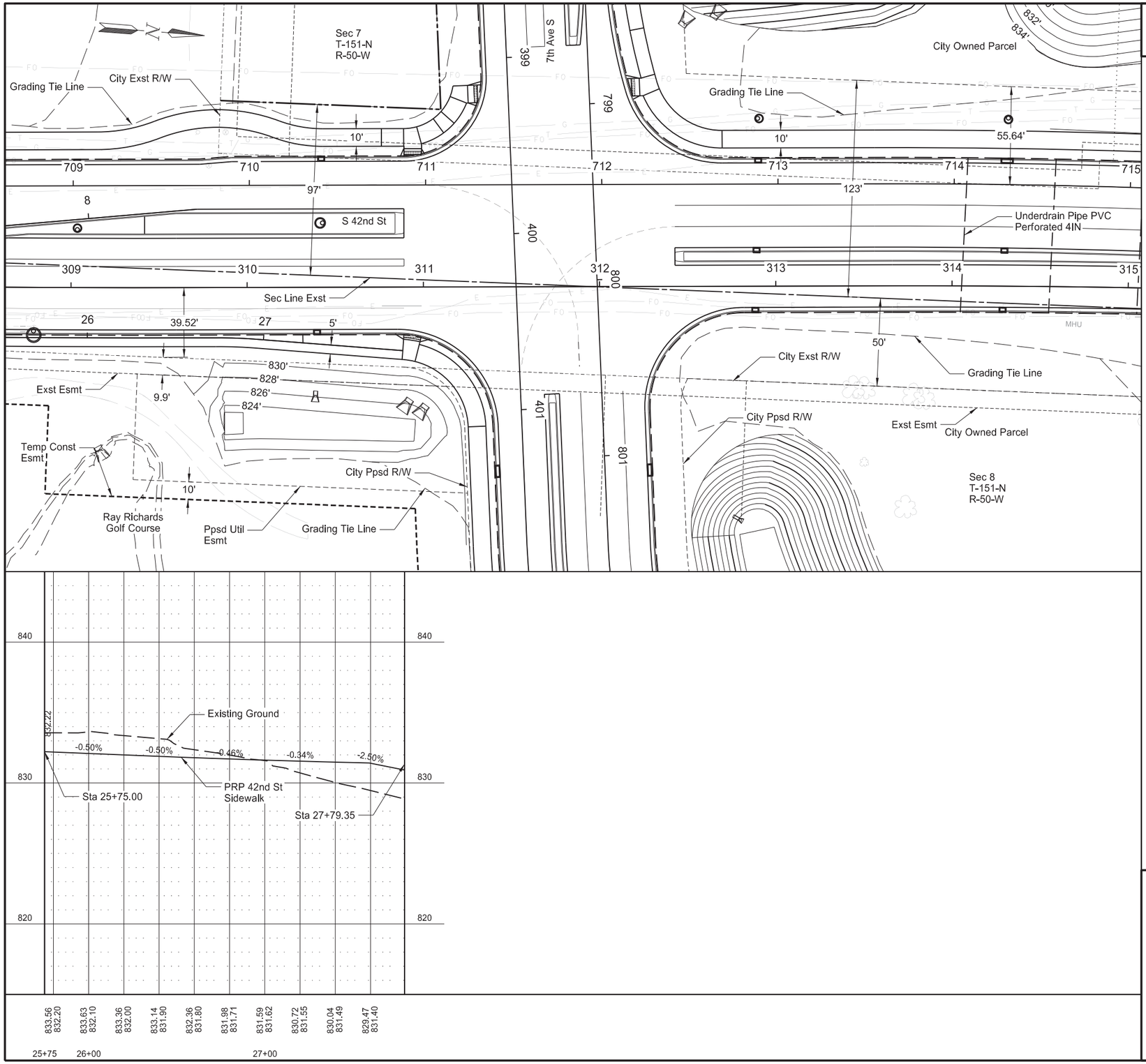
Grand Forks, ND

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	ND	RCE-FTF-NHU-SU-6-297(014)000	60	25

NOTE:
1. See Sheet 60-7 for Quantities
2. See Section 80 for ADA Ramp Details



Plan & Profile

Sidewalk

S 42nd St
East Side

ND 297 (DeMers Ave) & 42nd St Grade Separation

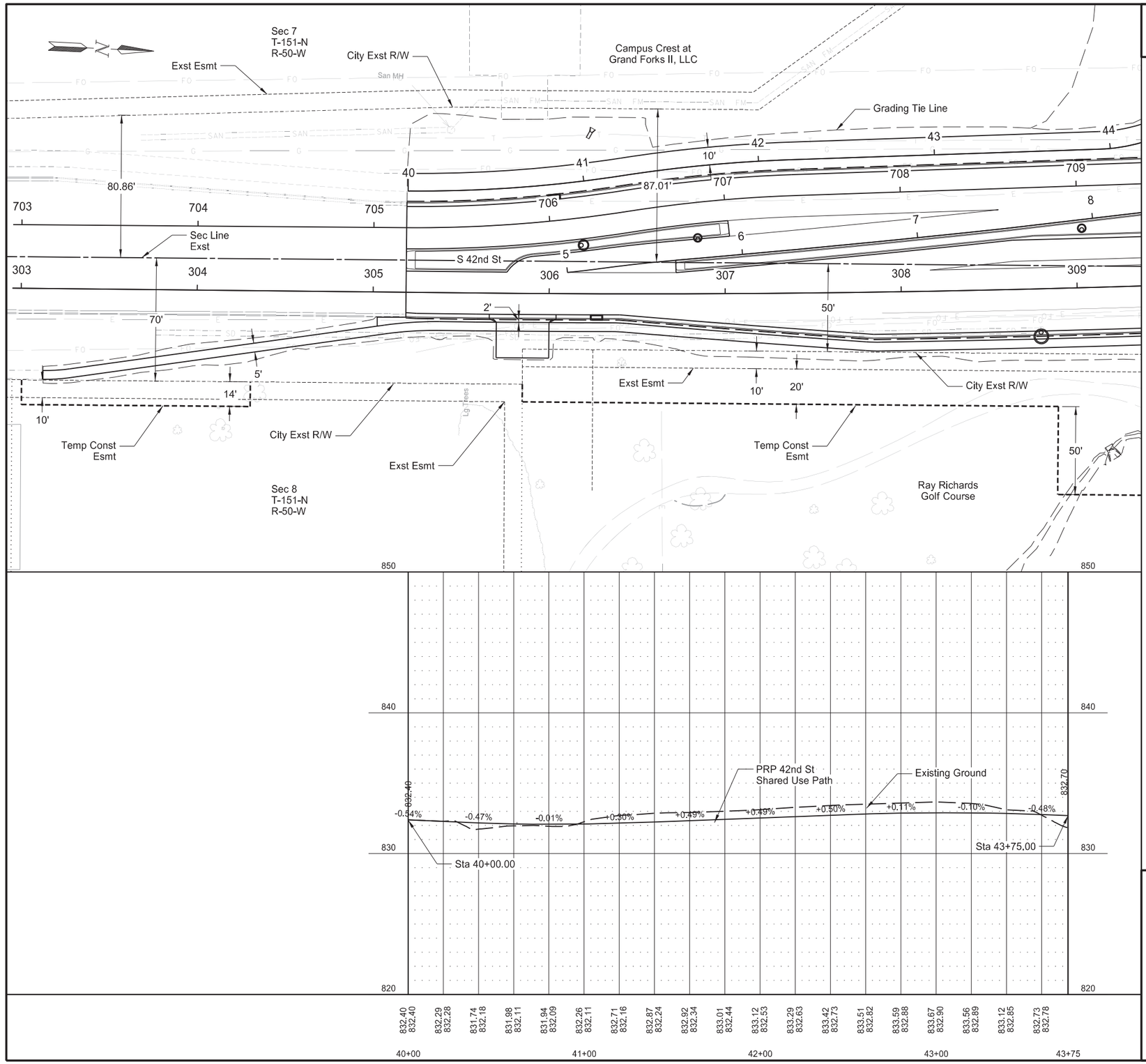
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
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NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	60	26

NOTE:
1. See Sheet 60-6 for Quantities



Plan & Profile

Shared Use Path

S 42nd St
West Side

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

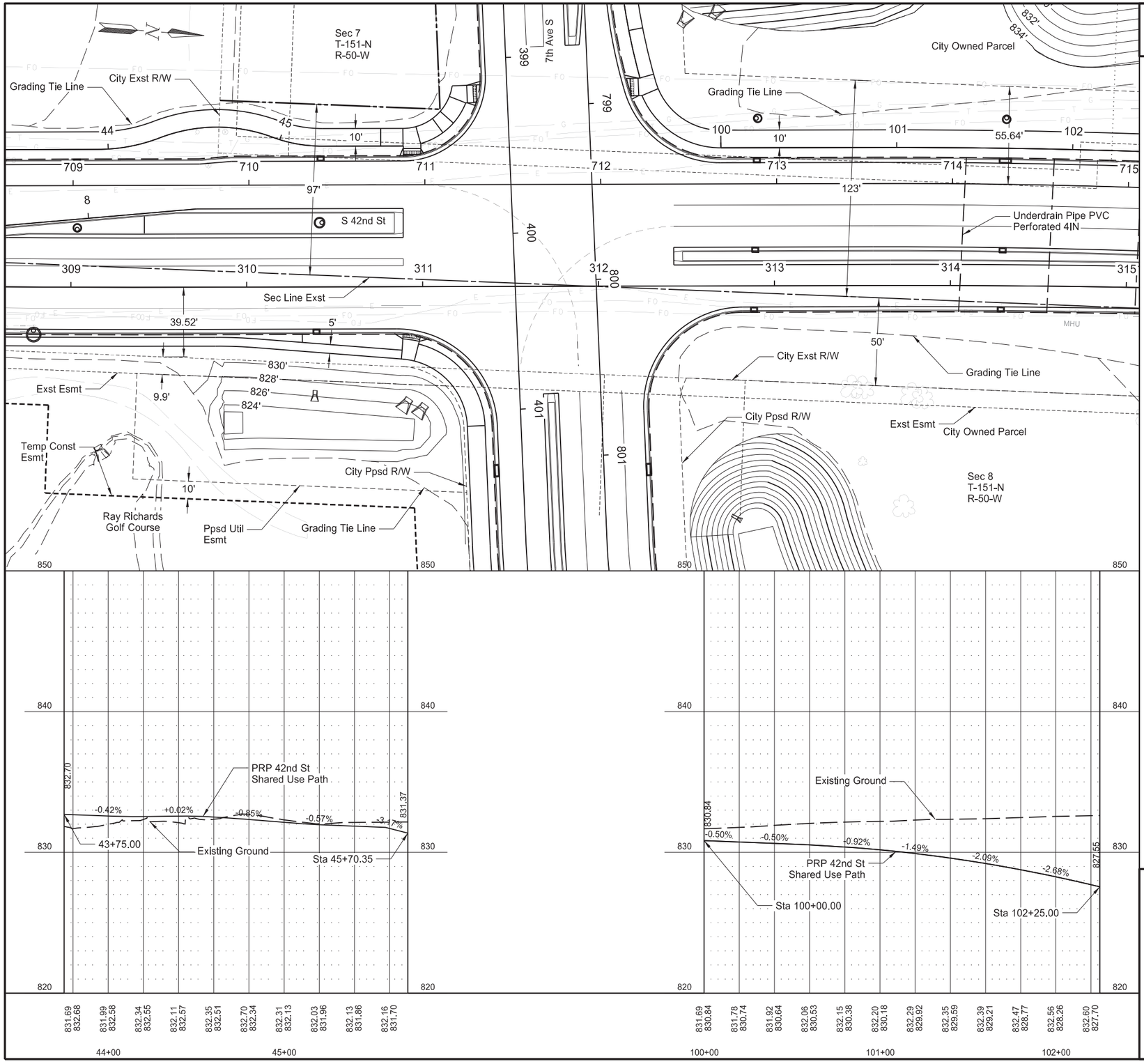
Grand Forks, ND

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	60	27

NOTE:
1. See Sheet 60-7 for Quantities
2. See Section 80 for ADA Ramp Details



Plan & Profile

Shared Use Path

S 42nd St
West Side

ND 297 (DeMers Ave) & 42nd St Grade Separation

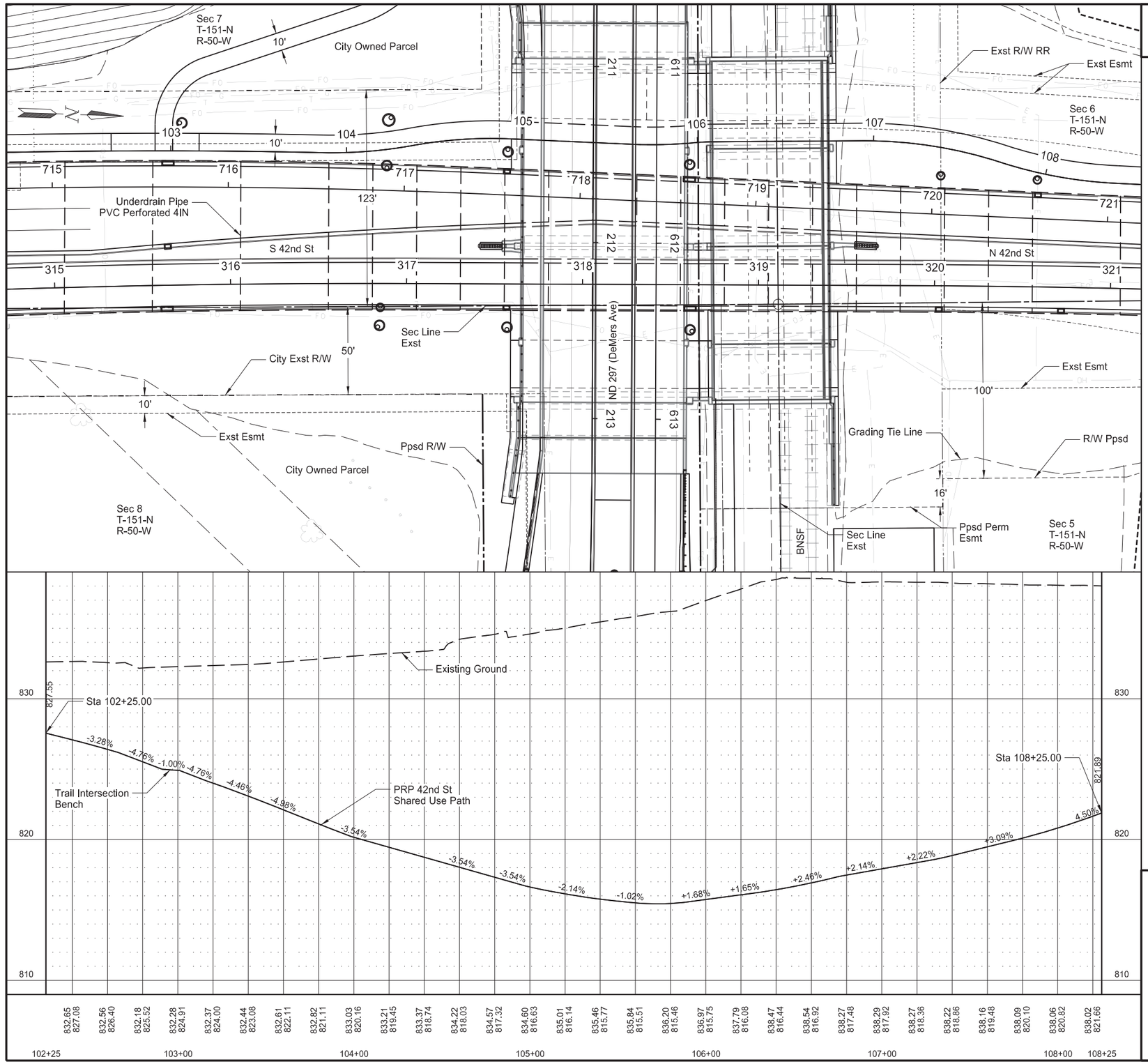
Grand Forks County

Grand Forks, ND

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NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	60	28

NOTE:
1. See Sheet 60-8 for Quantities
2. See Section 80 for ADA Ramp Details



Plan & Profile

Shared Use Path

S 42nd St / N 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

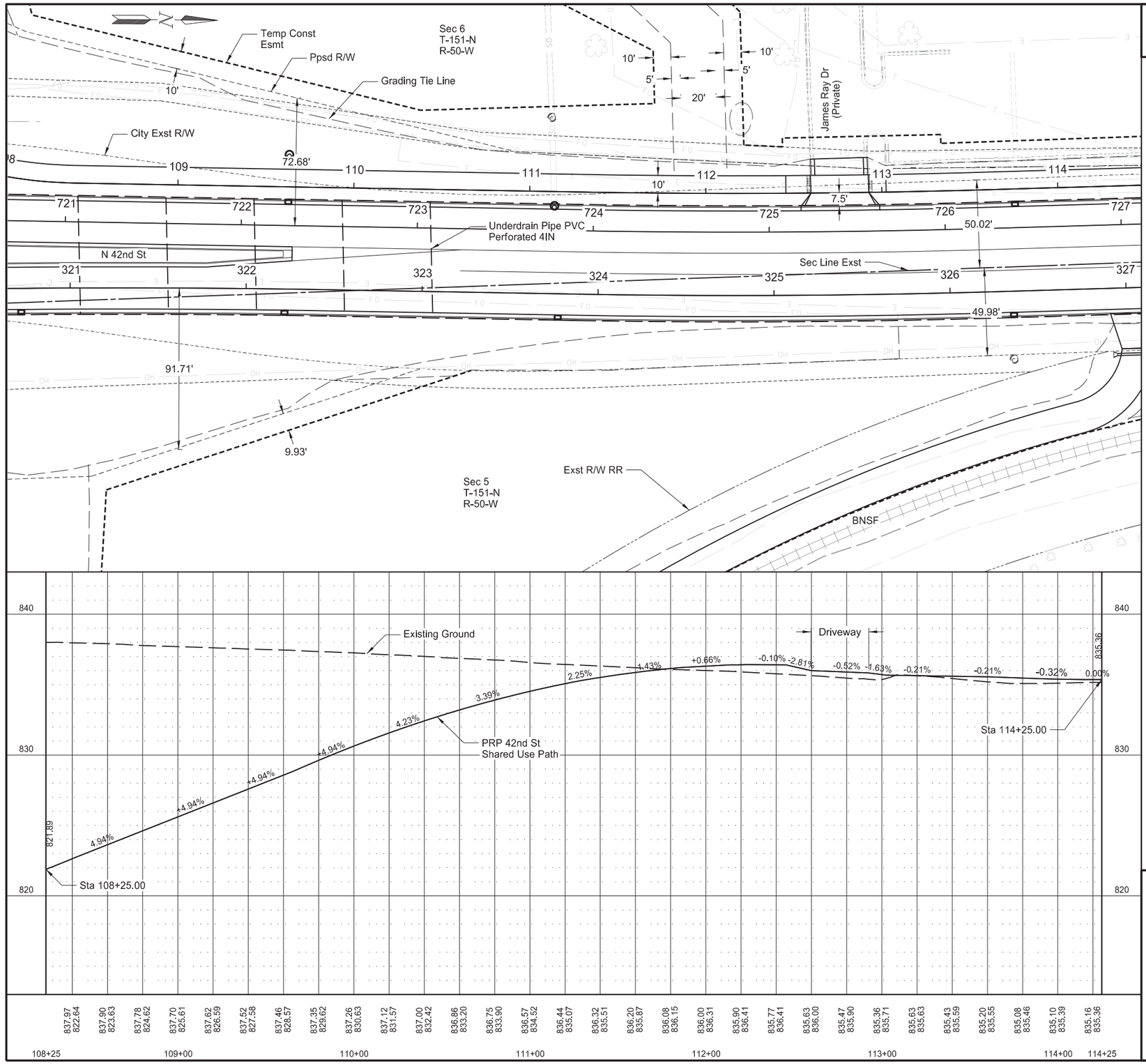
Grand Forks County

Grand Forks, ND

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NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	60	29

NOTE:
1. See Sheet 60-9 for Quantities
2. See Section 80 for ADA Ramp Details



Plan & Profile

Shared Use Path

N 42nd St

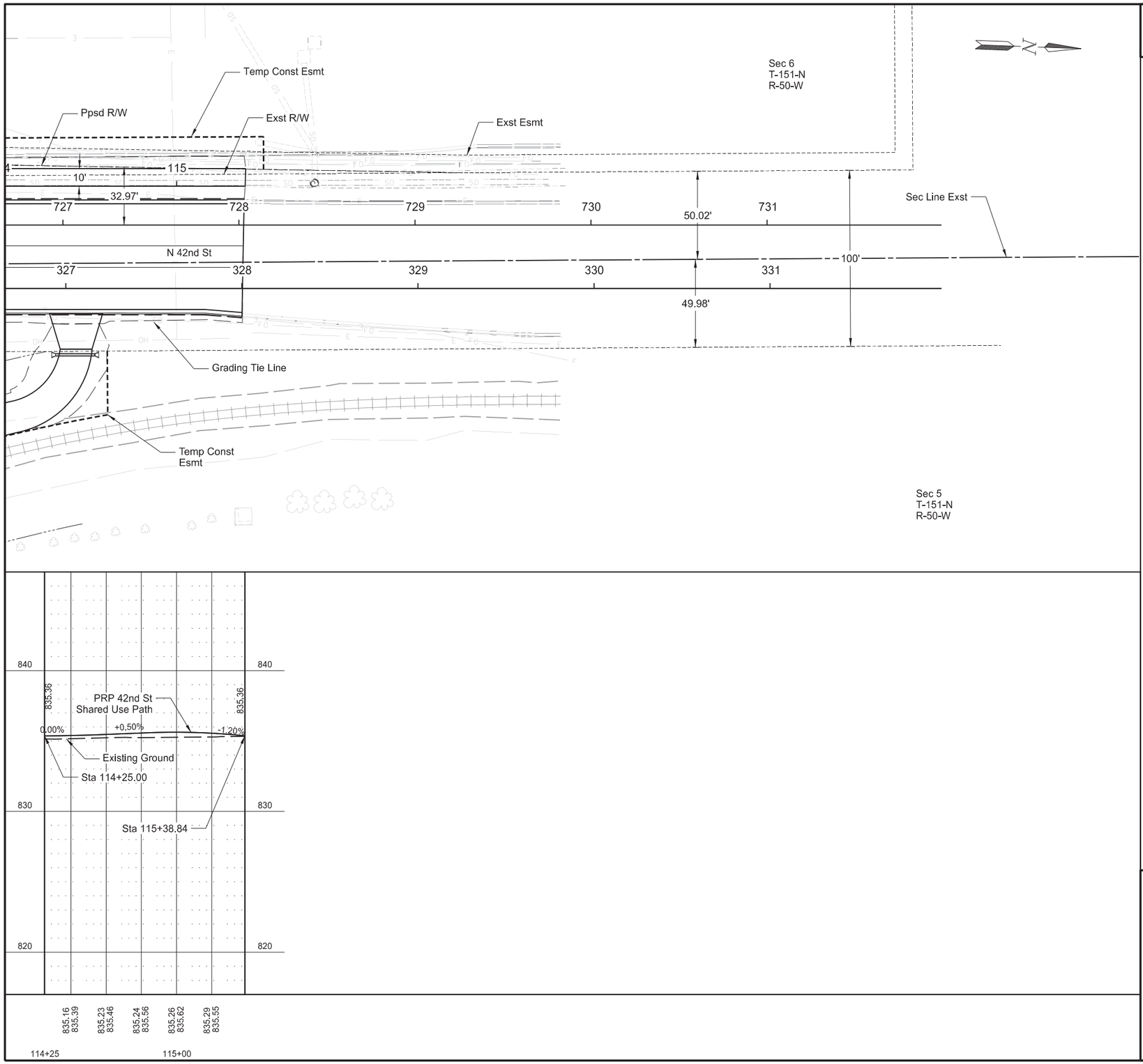
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
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	ND	RCE-FTF-NHU-SU-6-297(014)000	60	30

NOTE:
1. See Sheet 60-10 for Quantities

Plan & Profile

Shared Use Path

N 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

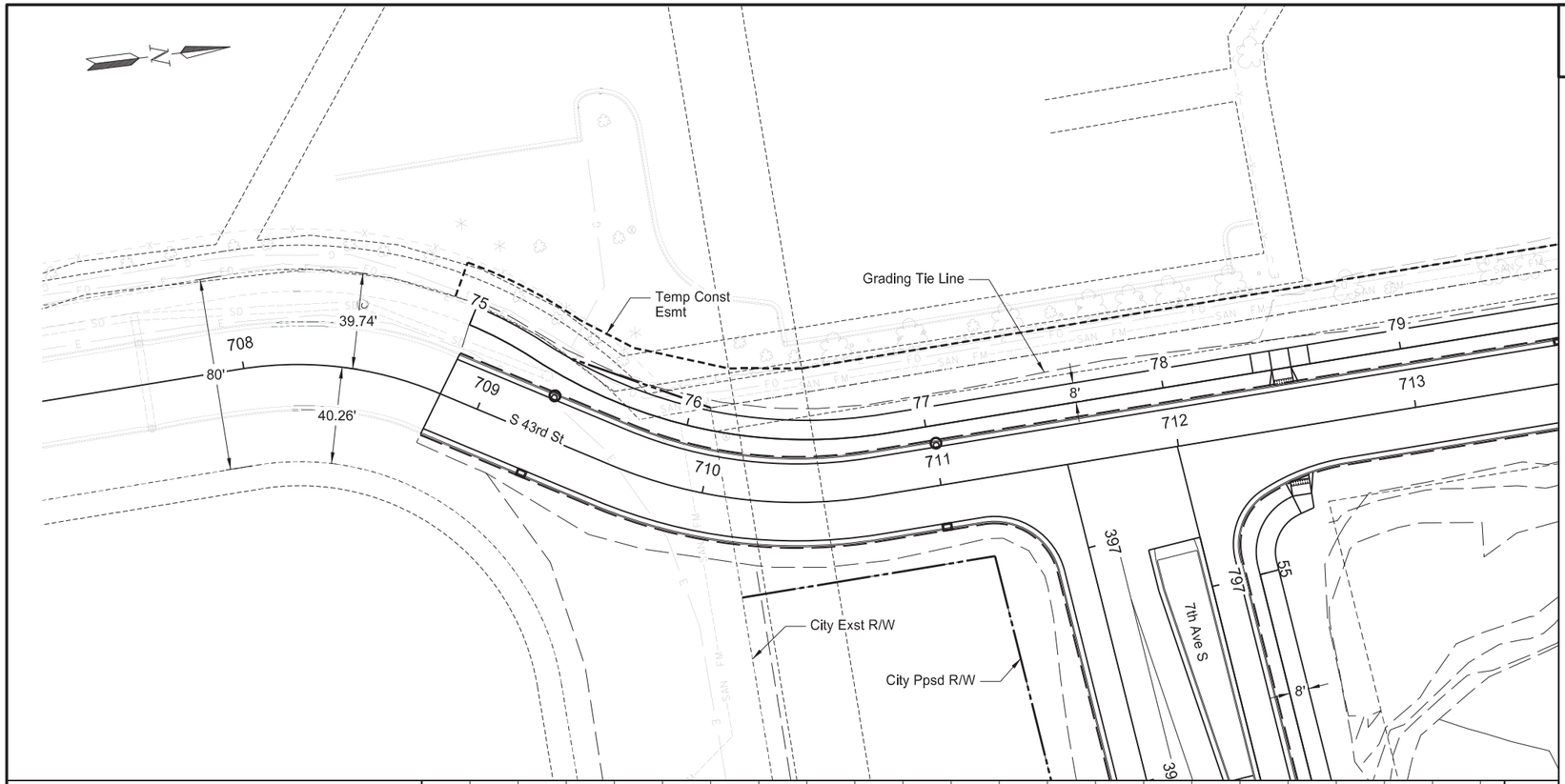
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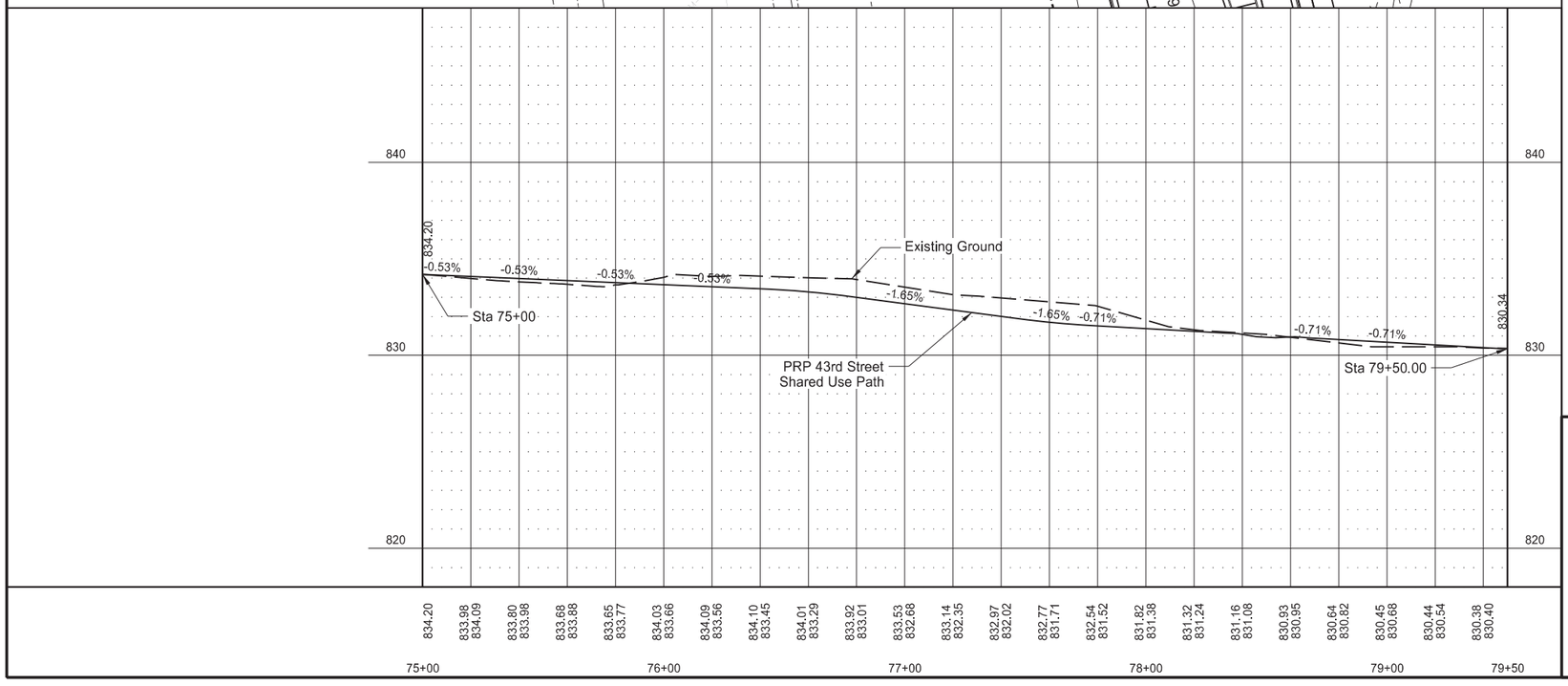
Grand Forks, ND

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NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	60	31

NOTE:
1. See Sheet 60-14 for Quantities
2. See Section 80 for ADA Ramp Details





Plan & Profile

Shared Use Path

S 43rd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

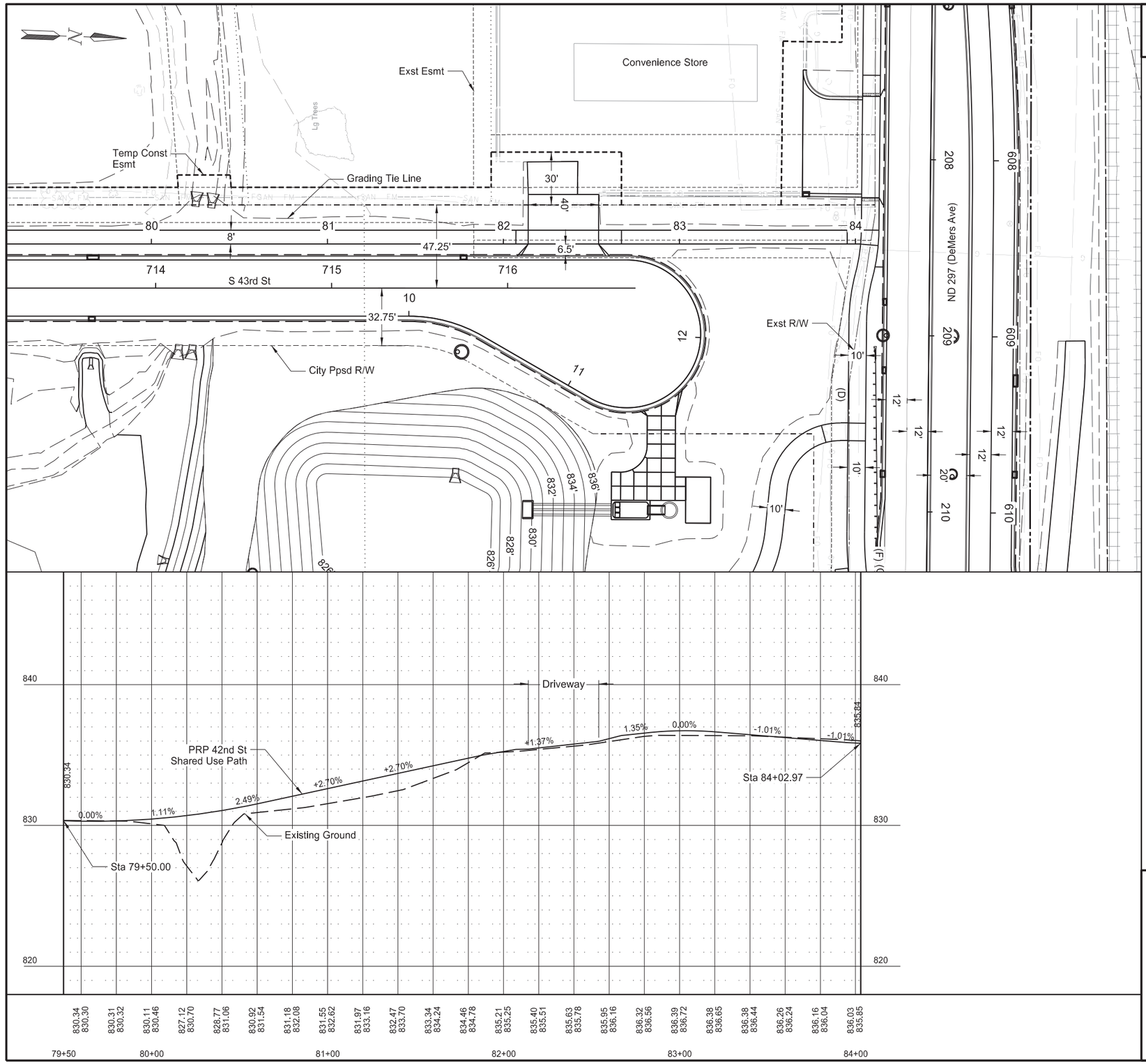
Grand Forks County

Grand Forks, ND

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NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	60	32

NOTE:
1. See Sheet 60-15 for Quantities
2. See Section 80 for ADA Ramp Details



Plan & Profile

Shared Use Path

S 43rd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

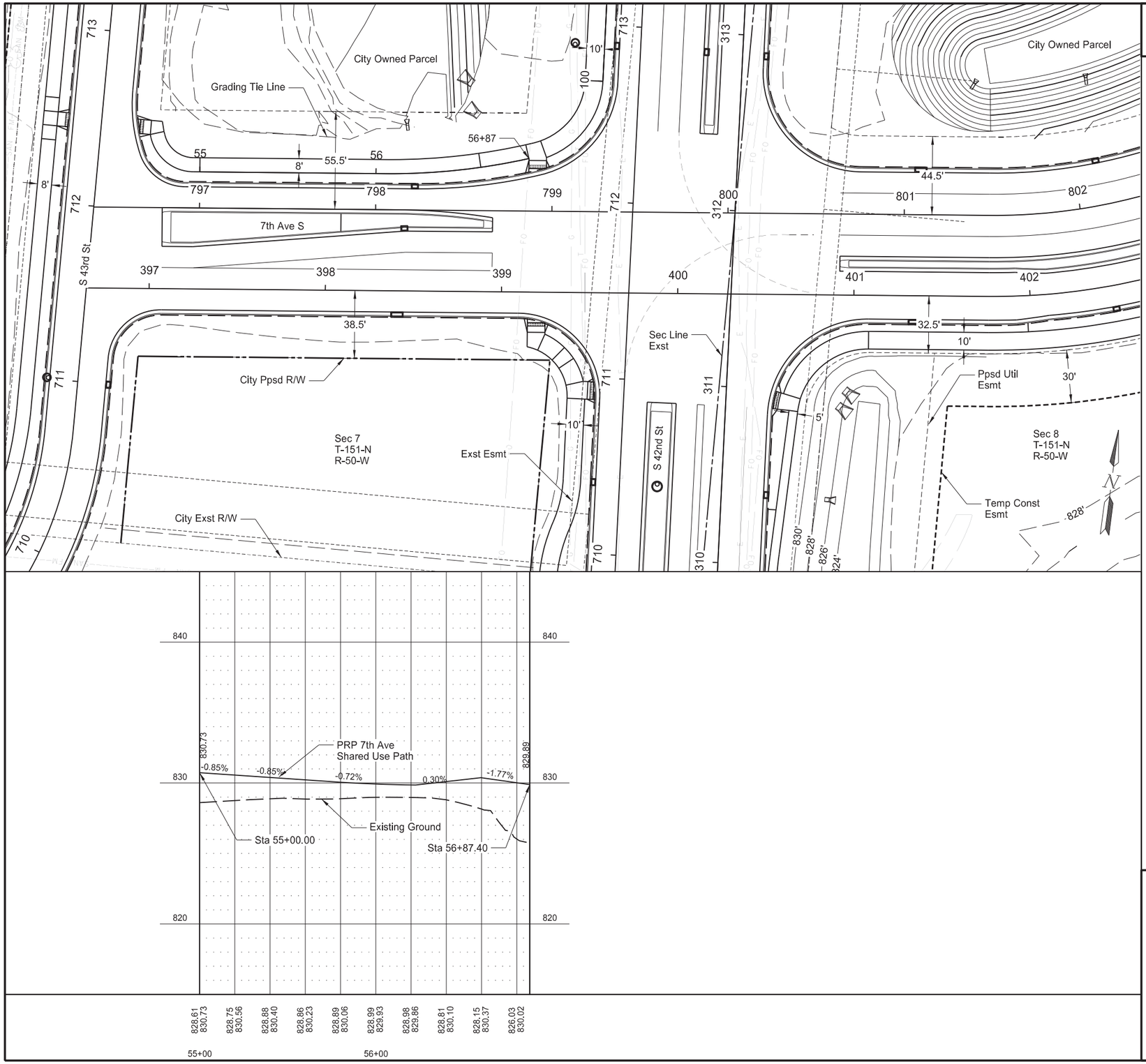
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9076
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NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	60	33

NOTE:
1. See Sheet 60-11 for Quantities
2. See Section 80 for ADA Ramp Details



Plan & Profile

Shared Use Path

7th Ave S

ND 297 (DeMers Ave) & 42nd St Grade Separation

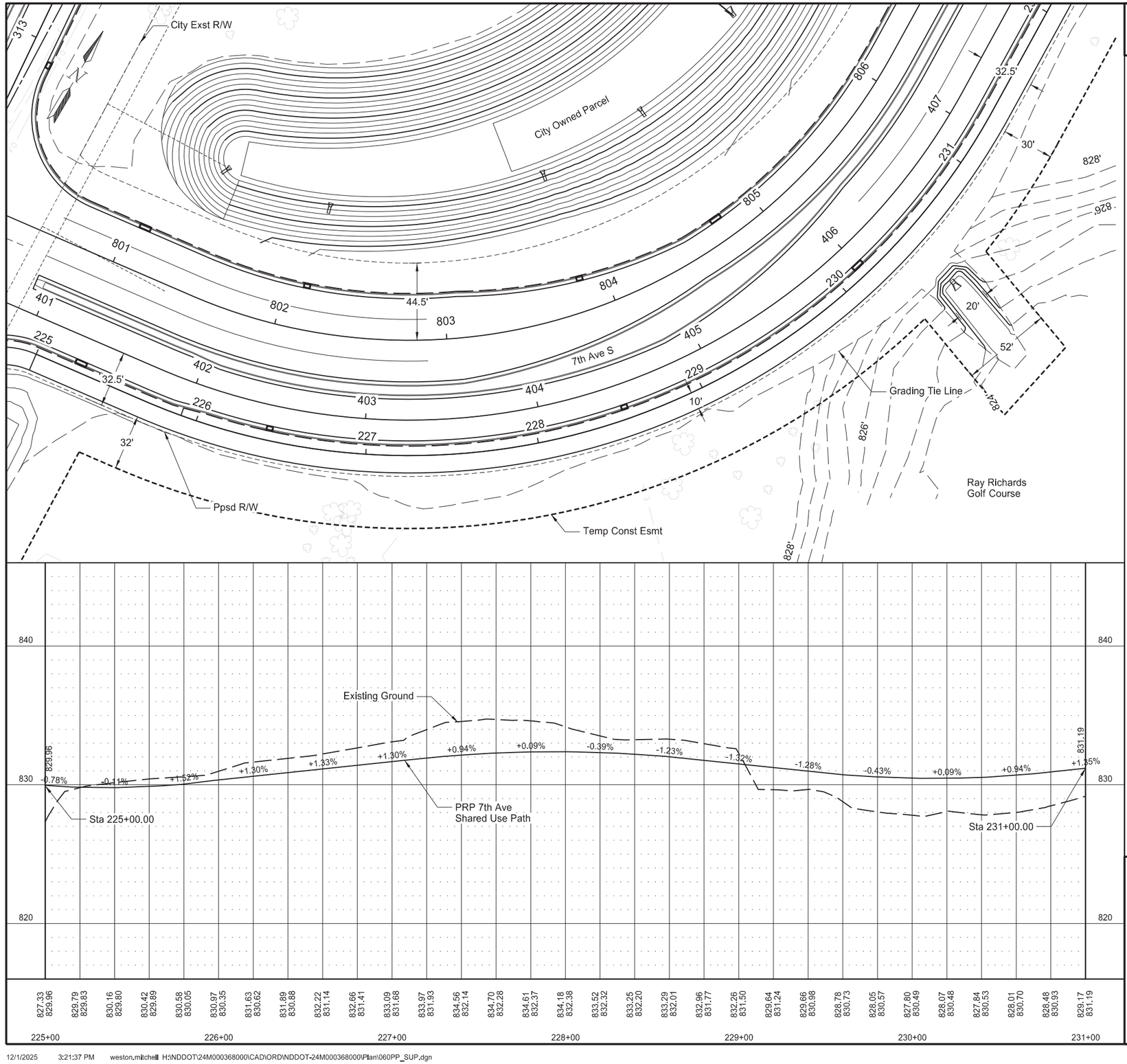
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8016
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NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	60	34

NOTE:
1. See Sheet 60-12 for Quantities
2. See Section 80 for ADA Ramp Details



Plan & Profile

Shared Use Path

7th Ave S

ND 297 (DeMers Ave) & 42nd St Grade Separation

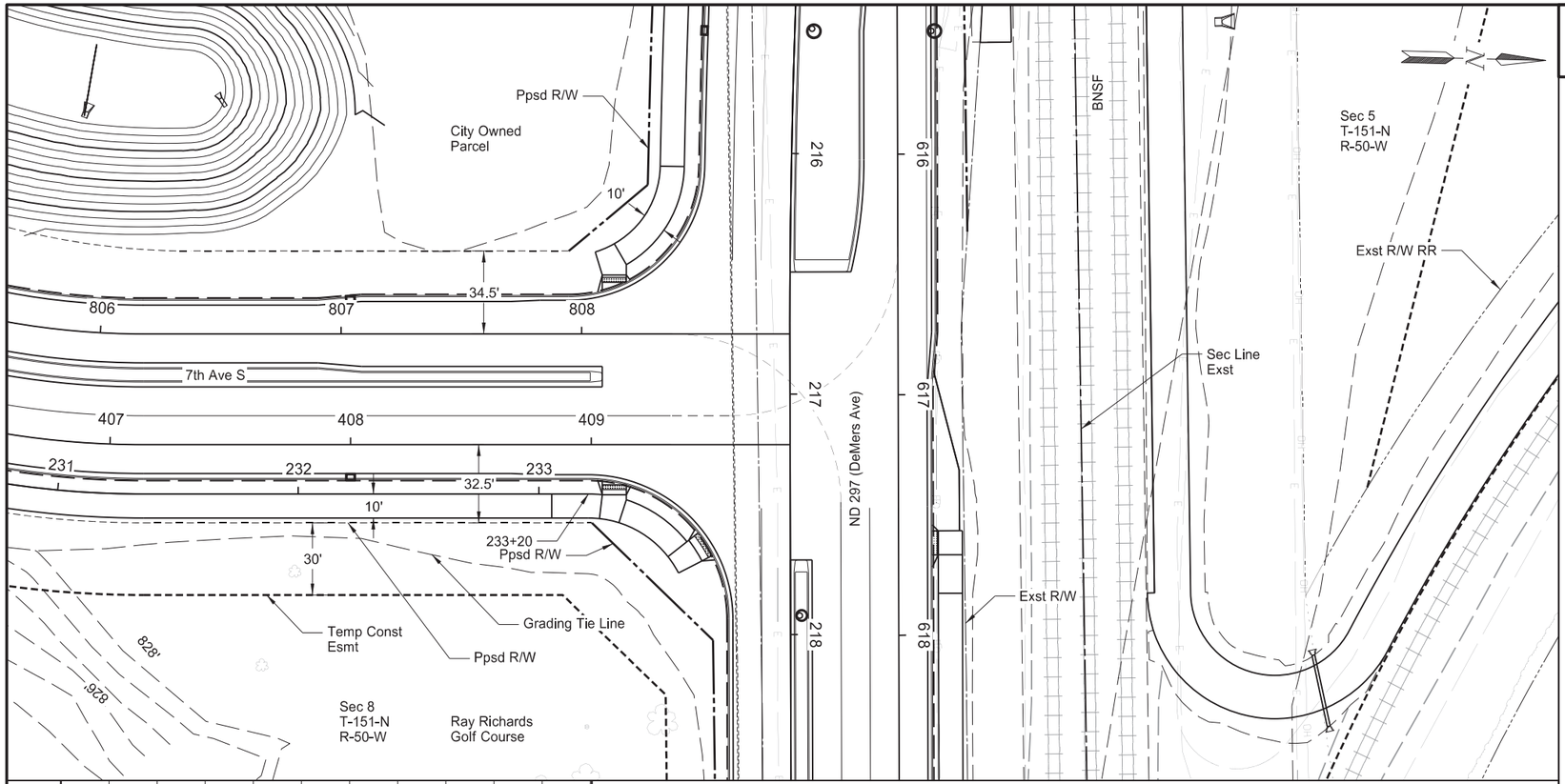
Grand Forks County

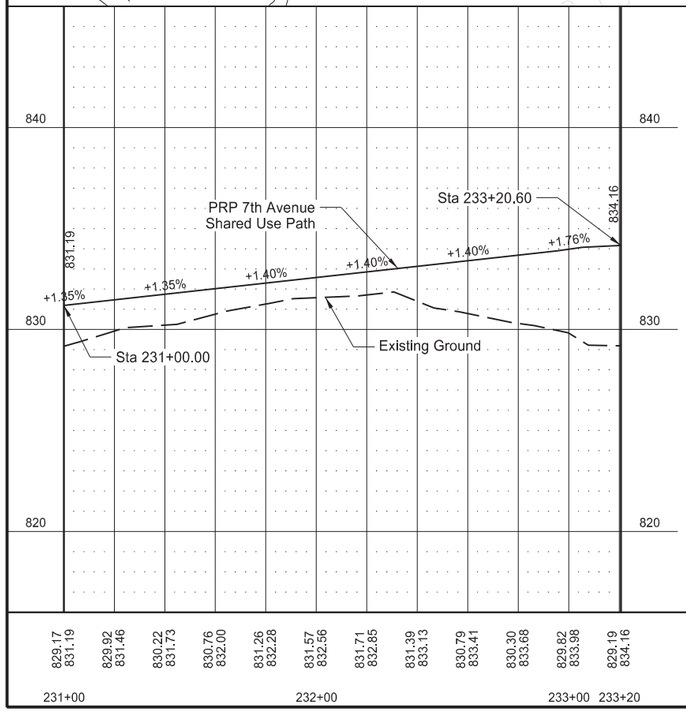
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CHRISTOPHER S. DAHL
PE-8276
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NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	60	35

NOTE:
1. See Sheet 60-13 for Quantities
2. See Section 80 for ADA Ramp Details





Plan & Profile

Shared Use Path

7th Ave S

ND 297 (DeMers Ave) & 42nd St Grade Separation

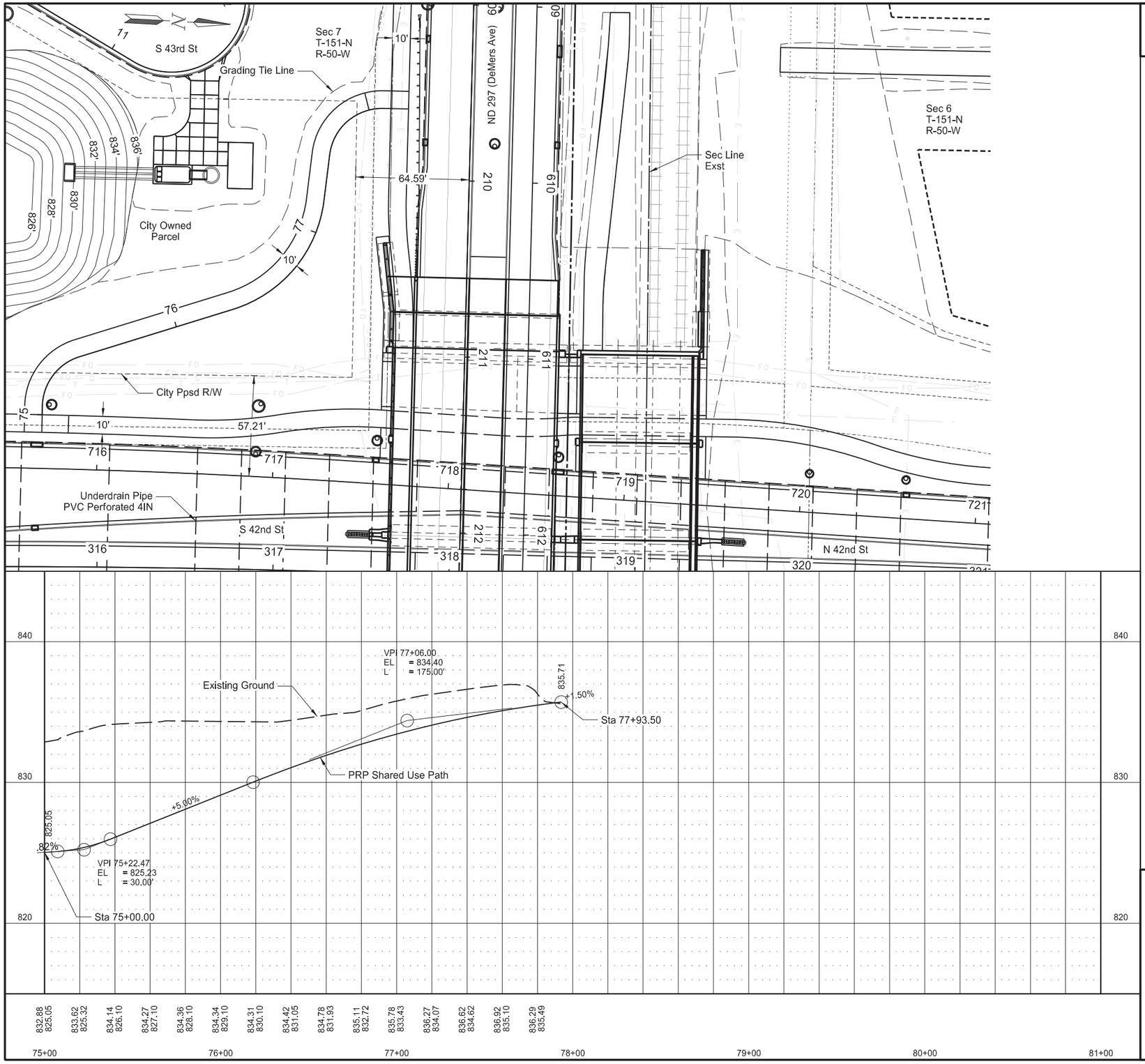
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Grand Forks, ND

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PE-8016
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NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	60	36

NOTE:
1. See Sheets 60-2 and 60-8 for Quantities
2. See Section 80 for ADA Ramp Details



Plan & Profile

Shared Use Path

S 42nd St to DeMers Ave

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8076
DATE: 2025.12.01 16:47:31 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	70	1

S 43rd St

S 42nd St

ND 297 (DeMers Ave)

Grading Limits

Ppsd R/W

Exst ROW

Legend

- Existing Major Contours (2')
- Existing Minor Contours (0.5')
- Proposed Major Contours (2')
- Proposed Minor Contours (0.5')

Contours

Layouts

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

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CHRISTOPHER S. DAHL
PE-9026
DATE: 2025.12.01 16:48:29 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	70	2

ND 297 (DeMers Ave)

N 42nd St

Grading Limits

Ppsd R/W

Ppsd Temp Esmt

Legend

- Existing Major Contours (2')
- Existing Minor Contours (0.5')
- Proposed Major Contours (2')
- Proposed Minor Contours (0.5')

Contours

Layouts

ND 297 (DeMers Ave) & 42nd St Grade Separation

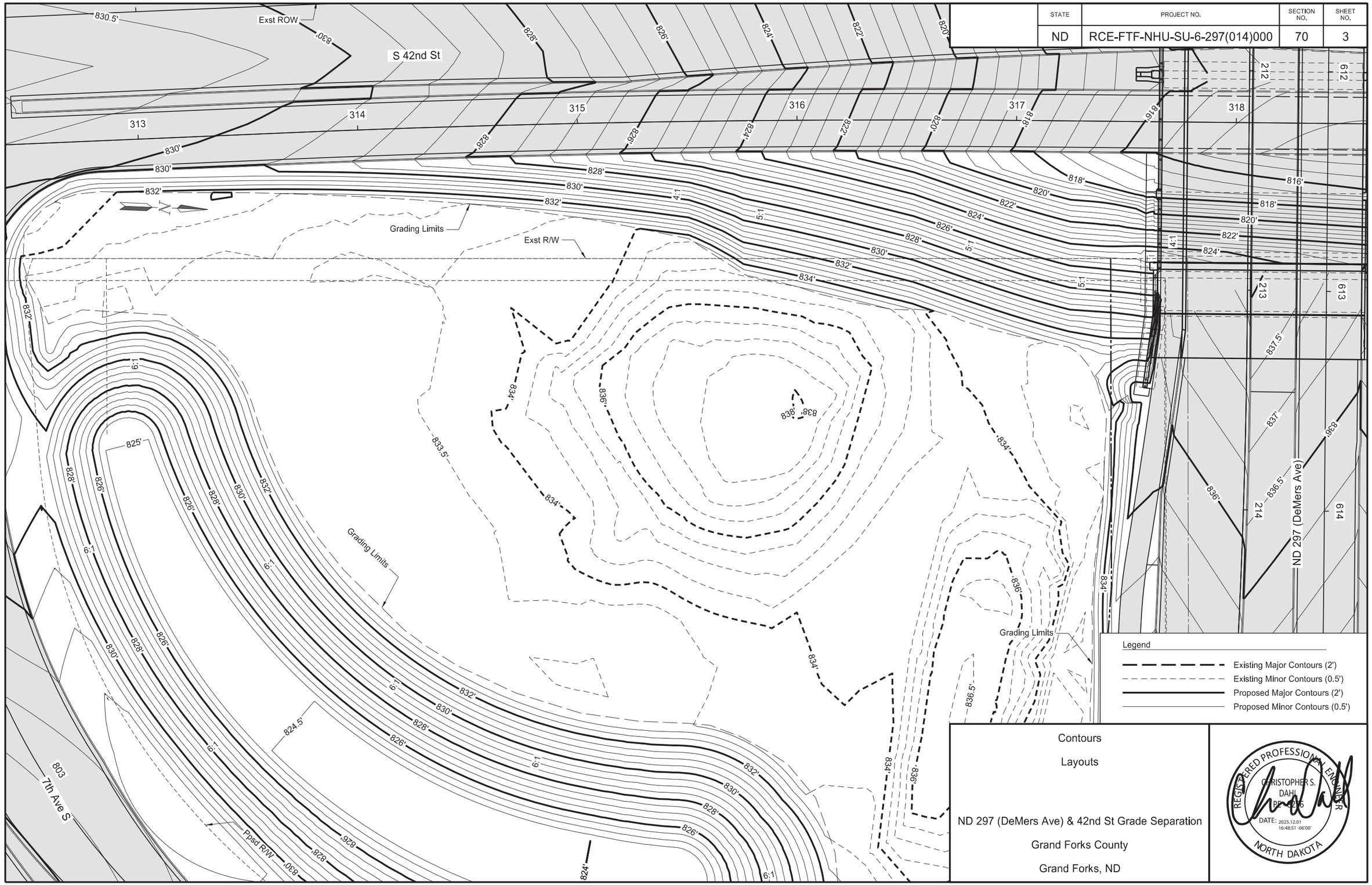
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9256
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NORTH DAKOTA

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	70	3



Contours

Layouts

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-10275
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NORTH DAKOTA

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	70	4

N 42nd St

ND 297 (DeMers Ave)

Exst R/W

Ppsd R/W

Grading Limits

Ppsd Temp Esmt

Legend

- Existing Major Contours (2')
- Existing Minor Contours (0.5')
- Proposed Major Contours (2')
- Proposed Minor Contours (0.5')

Contours

Layouts

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8216
DATE: 2025.12.01 16:49:03 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	70	5

Grading Limits

Ppsd R/W

Ppsd Temp Esmt

7th Ave S

Legend

- Existing Major Contours (2')
- Existing Minor Contours (0.5')
- Proposed Major Contours (2')
- Proposed Minor Contours (0.5')

Contours

Layouts

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9216
DATE: 2025.12.01 16:49:16 -06'00'
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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	70	6

Grading Limits
Ppsd R/W
Exst R/W
Ppsd Temp Esmt
S 42nd St
7th Ave S
Exs
4:1
6:1
7
8
308
309
310
311
312
313
707
708
709
710
711
712
713
400
401
402
800
801
802
823'
824'
825'
826'
828'
830'
831'
832'
830.5'
831.5'

Legend

- Existing Major Contours (2')
- Existing Minor Contours (0.5')
- Proposed Major Contours (2')
- Proposed Minor Contours (0.5')

Contours

Layouts

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

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CHRISTOPHER S. DAHL
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	75	1

Wetland Impact Table

Wetland Number	Location	Wetland Type	Wetland Feature	USACE Jurisdictional Wetlands[1]	Wetland Impact: Wetland Impacts Acre(s) Temp.	Wetland Impact: Wetland Impacts Acre(s) Perm. (Fill/Drain)	Wetland Mitigation: Mitigation Proposed EO 11990	Wetland Mitigation: Mitigation Proposed USACE	Wetland Mitigation: Mitigation Proposed USFWS
1	Sec. 7, T151N, R50W	Basin	Created	N	0.014	0.001	N	N	N
2	Sec. 6, T151N, R50W	Ditch	Created	N	0.046	0.052	N	N	N
3a	Sec. 7, T151N, R50W	Drainage	Natural	Y	0.255	0.091	N	N	N
3b	Sec. 8, T151N, R50W	Drainage	Natural	Y	0.034	0.079	N	N	N
3c	Sec. 8, T151N, R50W	Drainage	Created	Y			N	N	N
3e	Sec. 8, T151N, R50W	Drainage	Natural	Y			N	N	N
3f	Sec. 8, T151N, R50W	Drainage	Natural	Y	0.076	0.004	N	N	N
3g	Sec. 8, T151N, R50W	Drainage	Natural	Y			N	N	N
3h	Sec. 8, T151N, R50W	Drainage	Created	Y			N	N	N
3k	Sec. 8, T151N, R50W	Drainage	Natural	Y			N	N	N
4	Sec. 7, T151N, R50W	Basin	Created	Y			N	N	N
5	Sec. 5, T151N, R50W	Ditch	Created	N	0.000	0.029	N	N	N
				Totals	0.425	0.256			

0.174 Acres Permanent Wetland Losses to Wetland 3 Offset by Design.

Other Waters and Streams Impact Table

Number	Location	Type	Feature	USACE Jurisdictional	Impacts to Other Waters Acres Temp.	Perm. (total Loss + no Loss)	Perm. (Loss)	Perm. (No Loss)	Mitigation Proposed EO 11990	Mitigation Proposed USACE	USACE Mitigation Bank Location	USACE Mitigation Bank Acre(s)
OW3d	Sec. 8, T151N, R50W	Pond	Created	Y					N	N		
OW3i	Sec. 8, T151N, R50W	Pond	Created	Y					N	N		
OW3j	Sec. 8, T151N, R50W	Intermittant Stream	Natural	Y					N	N		
OW3l	Sec. 7, T151N, R50W	Intermittant Stream	Natural	Y	0.042	0.032	0.032		N	Y	Kirkeby/ Schuster, 2:1	0.064
OW3m	Sec. 8, T151N, R50W	Intermittant Stream	Natural	Y	0.003	0.037	0.037		N	Y	Kirkeby/ Schuster, 2:1	0.074
OW3o	Sec. 8, T151N, R50W	Intermittant Stream	Natural	Y	0.006				N	N		
				Totals	0.051	0.069	0.069	0.000				0.138

[1] A wetland Jurisdictional Determination was issued by the USACE on 9/06/2023; NWO-2014-01256-BIS.

Impact Summary Table

Red River Regional Service Area

Permanent Impact Summary: Wetland Type	Permanent Impact Summary: Total Acre(s)	Temporary Impacts and additional information: WaterType	Temporary Impacts and additional information: Total Acre(s)
Natural/JD (Fill/Drain)	0.174	Temporary Wetland JD	0.365
Natural/Non-JD (Fill/Drain)	0.000	Non-JD Wetland Temporary	0.060
Artificial/JD (Fill/Drain)	0.000		
Artificial /Non-JD (Fill/Drain))	0.082	Permanent OW	0.069
Total	0.256	Temporary OW	0.051

Mitigation Summary Table

Red River Regional Service Area

	Location	Ditch Shift Acre(s)	Onsite Acre(s)	11990 Bank Acre(s)	USACE/11990 Bank Acre(s)	USFWS Bank Acre(s)
USACE Only						
EO 11990 Only						
USACE/11990	Kirkeby/Schuster Bank				0.138	
USFWS						
	Total	0	0	0	0.138	0

Wetland Impacts

Impact Summaries

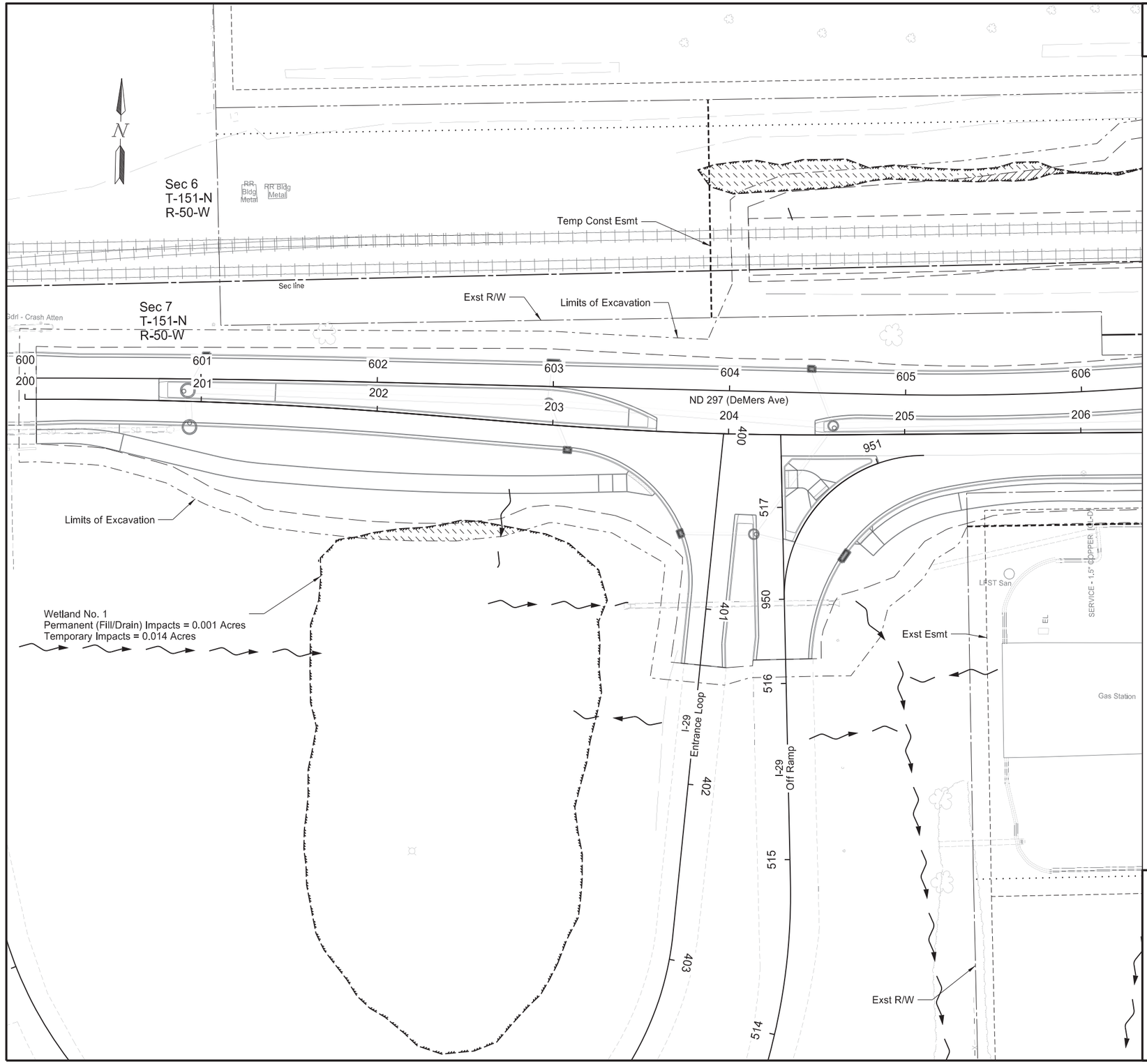
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4256
DATE: 2025.12.01 16:50:47 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	75	2



Legend

- Other Water Permanent Impact
- Other Water Temporary Impact
- Wetland Impact Permanent Fill
- Wetland Impact Temporary
- Existing Wetland Jurisdictional
- Existing Wetland Non-Jurisdictional
- Flow Direction
- Grading Limits
- Grading Tie Line (Transition)
- Other Water
- Limits of Excavation

Wetland Impacts

Layouts

ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

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CHRISTOPHER S. DAHL
PE - 9216
DATE: 2025.12.01 16:50:56 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	75	3

Ppsd Temp Const Esmt
Limits of Excavation
Exst RR R/W
Exst Esmt
Ppsd Esmt
Sec 6
T-151-N
R-50-W
Wetland No. 2
Permanent (Fill/Drain) Impacts = 0.052 Acres
Temporary Impacts = 0.046 Acres
Sec line
Sec 7
T-151-N
R-50-W
Exst R/W
Ppsd R/W
606
607
608
609
610
611
612
206
207
208
209
210
211
212
ND 297 (DeMers Ave)
720
719
718
717
716
715
320
319
318
317
316
315
Exst Esmt
Ppsd Temp
Const Esmt
Limits of Excavation
Exst R/W
Exst Esmt
Temp Bypass
Grading Limits
Temp Bypass
Grading Limits
Ppsd R/W
Ppsd R/W
S 42nd St
S 43rd St
SERVICE - 1.5" COPPER IOU
EL
Gas Station
Gas Pumps
Ugrnd Tank
Ugrnd Tank
Lg Trees
12
11
10
836'
834'
832'
830'
828'
826'
826'
826'

Legend

- Other Water Permanent Impact
- Other Water Temporary Impact
- Wetland Impact Permanent Fill
- Wetland Impact Temporary
- Existing Wetland Jurisdictional
- Existing Wetland Non-Jurisdictional
- Flow Direction
- Grading Limits
- Grading Tie Line (Transition)
- Other Water
- Limits of Excavation

Wetland Impacts

Layouts

ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

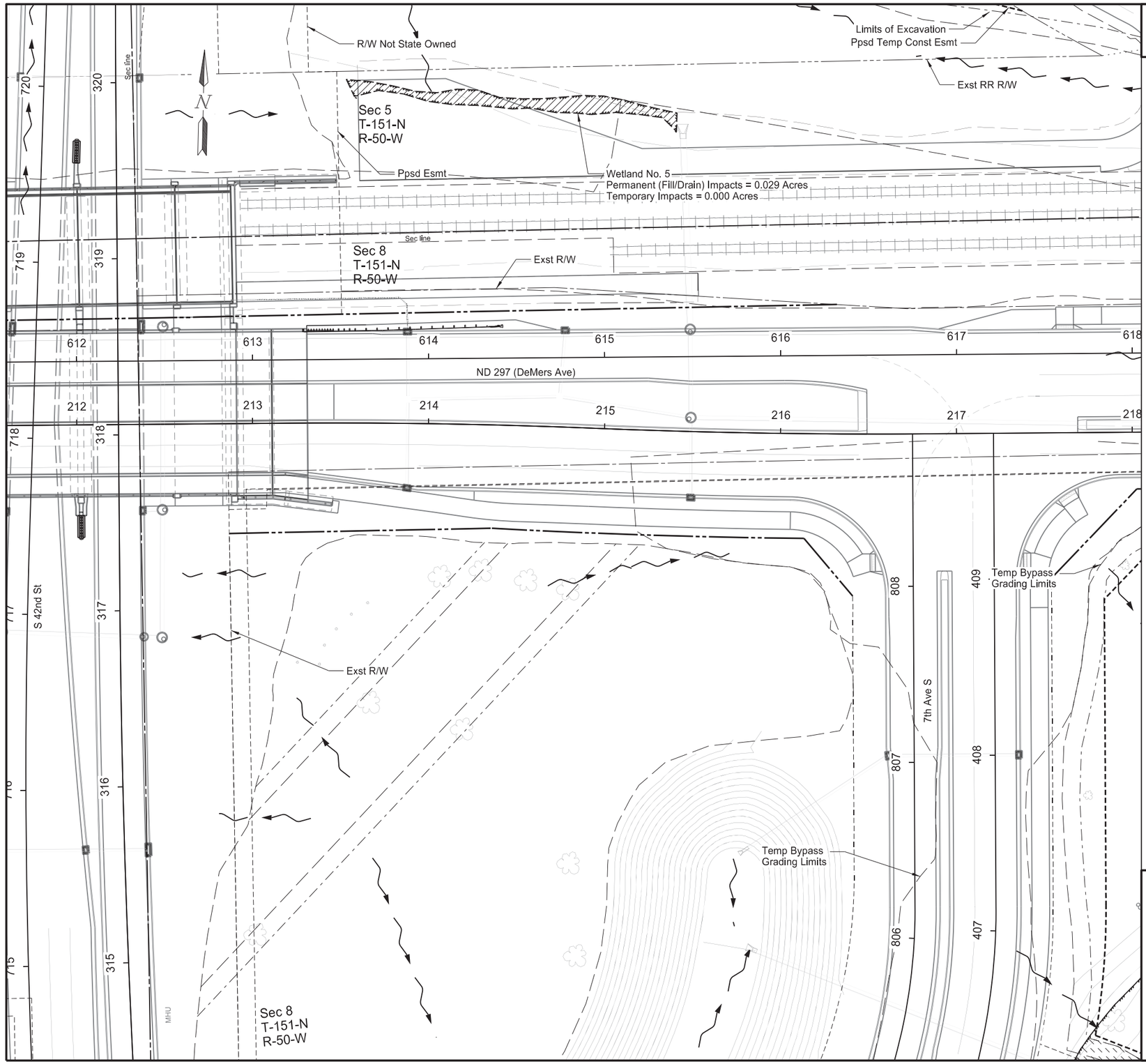
Grand Forks County

Grand Forks, ND

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PE-8256
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NORTH DAKOTA

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	75	4



Legend

- Other Water Permanent Impact
- Other Water Temporary Impact
- Wetland Impact Permanent Fill
- Wetland Impact Temporary
- Existing Wetland Jurisdictional
- Existing Wetland Non-Jurisdictional
- Flow Direction
- Grading Limits
- Grading Tie Line (Transition)
- Other Water
- Limits of Excavation

Wetland Impacts

Layouts

ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

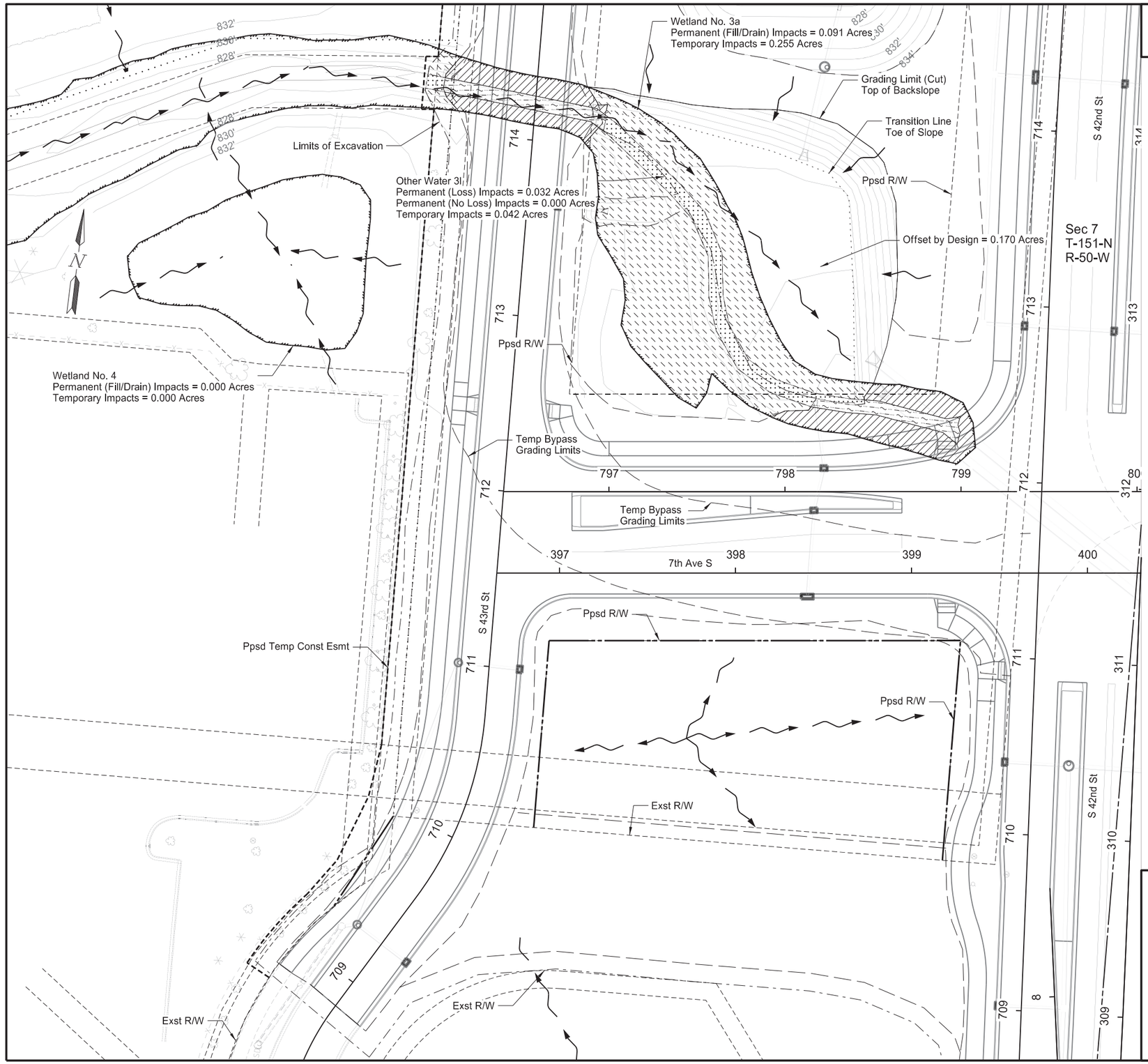
Grand Forks County

Grand Forks, ND

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PE-8256
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NORTH DAKOTA

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	75	5



Legend

- Other Water Permanent Impact
- Other Water Temporary Impact
- Wetland Impact Permanent Fill
- Wetland Impact Temporary
- Existing Wetland Jurisdictional
- Existing Wetland Non-Jurisdictional
- Flow Direction
- Grading Limits
- Grading Tie Line (Transition)
- Other Water
- Limits of Excavation

Wetland Impacts

Layouts

7th Ave S

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

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PE-4206
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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	75	6

Sec 8
T-151-N
R-50-W

Exst R/W

N

Sec line

MHU

Wetland No. 3f
Permanent (Fill/Drain) Impacts = 0.004 Acres
Temporary Impacts = 0.076 Acres

Other Water 3o
Permanent (Loss) Impacts = 0.000 Acres
Permanent (No Loss) Impacts = 0.000 Acres
Temporary Impacts = 0.006 Acres

7th Ave S

Temp Bypass
Grading Limits

Limits of Excavation

Ppsd R/W

Ppsd Temp
Const Esmt

Wetland No. 3b
Permanent (Fill/Drain) Impacts = 0.079 Acres
Temporary Impacts = 0.034 Acres

Limits of Excavation

Ditch/Drainage Bottom Line

Transition
from Fill
to Cut

Ppsd Temp Const Esmt

Offset by Design = 0.006 Acres

S 42nd St

Other Water 3m
Permanent (Loss) Impacts = 0.037 Acres
Permanent (No Loss) Impacts = 0.000 Acres
Temporary Impacts = 0.003 Acres

Exst
R/W

Wetland No. 3c
Permanent (Fill/Drain) Impacts = 0.000 Acres
Temporary Impacts = 0.000 Acres

Exst Esmt
&
Ppsd R/W

Other Water 3d
Permanent (loss) Impacts = 0.000 Acres
Permanent (No Loss) Impacts = 0.000 Acres
Temporary Impacts = 0.000 Acres

Other Water 3n
Permanent (loss) Impacts = 0.000 Acres
Permanent (No Loss) Impacts = 0.000 Acres
Temporary Impacts = 0.000 Acres

Legend

- Other Water Permanent Impact
- Other Water Temporary Impact
- Wetland Impact Permanent Fill
- Wetland Impact Temporary
- Existing Wetland Jurisdictional
- Existing Wetland Non-Jurisdictional
- Flow Direction
- Grading Limits
- Grading Tie Line (Transition)
- Other Water
- Limits of Excavation

Wetland Impacts

Layouts

7th Ave S

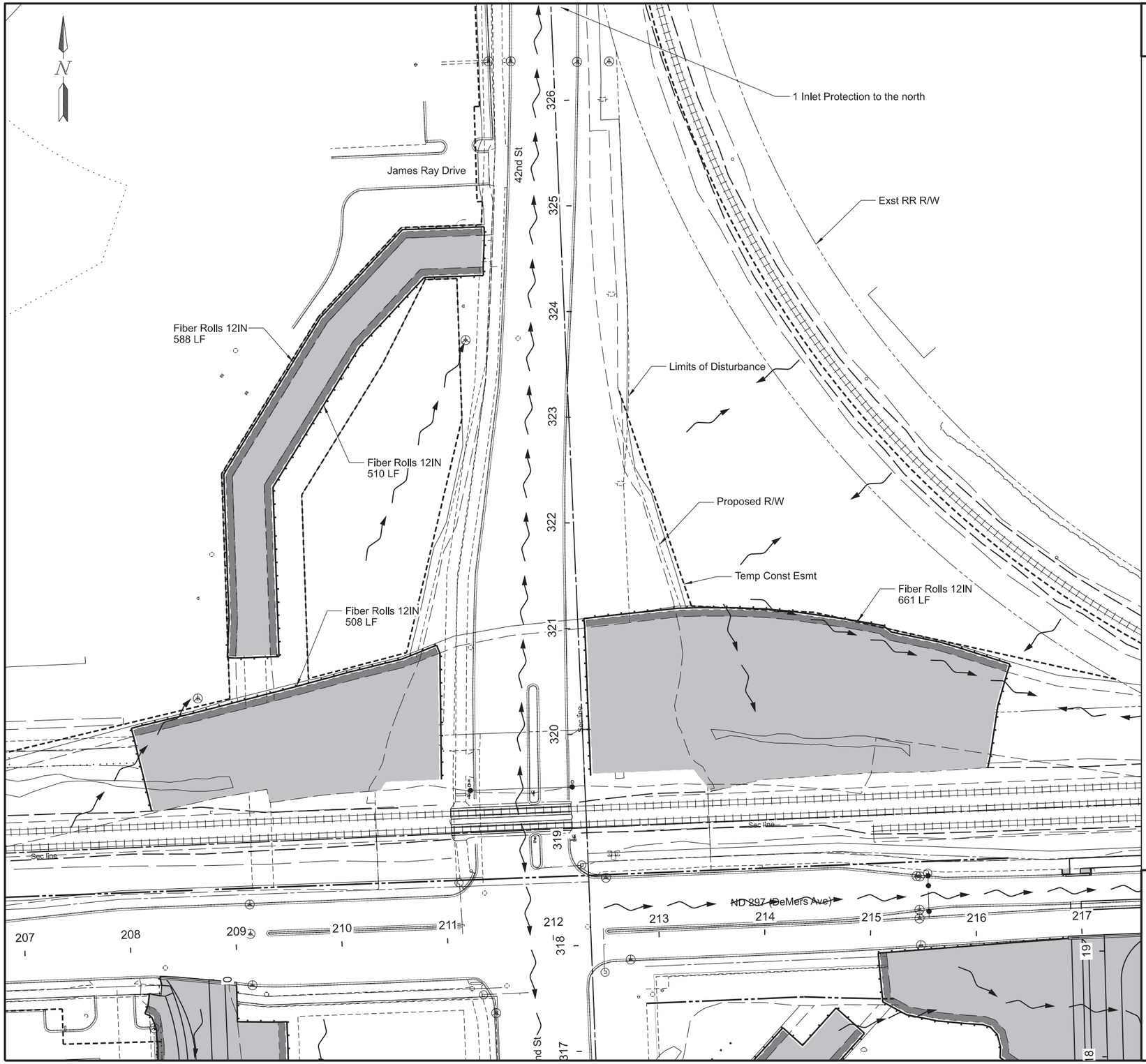
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8256
DATE: 2025.12.01 16:51:40 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	76	1

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		Sta 320+77 to 325+00 (OCL_42nd_NB)	0.480	ACRE
		Sta 208+10 to 211+00 (OCL_297EB)	0.638	ACRE
		Sta 212+40 to 216+36 (OCL_297EB)	1.259	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 320+77 to 325+00 (OCL_42nd_NB)	0.480	ACRE
		Sta 208+10 to 211+00 (OCL_297EB)	0.638	ACRE
		Sta 212+40 to 216+36 (OCL_297EB)	1.259	ACRE
261	0112	FIBER ROLLS 12IN		
		Sta 320+77 to 325+00 (OCL_42nd_NB)	1089	LF
		Sta 208+10 to 211+00 (OCL_297EB)	509	LF
		Sta 212+40 to 216+36 (OCL_297EB)	662	LF
261	0113	REMOVE FIBER ROLLS 12IN		
		Sta 320+77 to 325+00 (OCL_42nd_NB)	1089	LF
		Sta 208+10 to 211+00 (OCL_297EB)	509	LF
		Sta 212+40 to 216+36 (OCL_297EB)	662	LF

Note: See Sec 10 Basis of Estimate for Inlet Protection-Special & Remove Inlet Protection-Special Quantities.

Legend

- Temporary Cover Crop Hydraulic Mulch
- Railroad Ballast
- Fiber Roll 12IN
- Inlet Protection - Special
- Grading Limits
- Existing Wetland
- Topsoil Stockpile Berm with Temp Cover Crop & Hydromulch
- Flow Direction

Temporary Sediment & Erosion Control

Phase 1A

ND 297 (DeMers Ave) / N 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8276
DATE: 2025.12.05 16:23:52 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	76	2

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		Sta 0+00 to 8+85 (OCL_Bypass_Jug)	1.980	ACRE
		Sta 9+47 to 19+15 (OCL_Bypass_Jug)	2.449	ACRE
		Sta 315+63 to 317+20 (OCL_42nd_NB)	0.266	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 0+00 to 8+85 (OCL_Bypass_Jug)	1.980	ACRE
		Sta 9+47 to 19+15 (OCL_Bypass_Jug)	2.449	ACRE
		Sta 315+63 to 317+20 (OCL_42nd_NB)	0.266	ACRE
261	0112	FIBER ROLLS 12IN		
		Sta 0+00 to 8+85 (OCL_Bypass_Jug)	2130	LF
		Sta 9+47 to 19+15 (OCL_Bypass_Jug)	2839	LF
		Sta 315+63 to 317+20 (OCL_42nd_NB)	578	LF
261	0113	REMOVE FIBER ROLLS 12IN		
		Sta 0+00 to 8+85 (OCL_Bypass_Jug)	2130	LF
		Sta 9+47 to 19+15 (OCL_Bypass_Jug)	2839	LF
		Sta 315+63 to 317+20 (OCL_42nd_NB)	578	LF

Note: See Sec 10 Basis of Estimate for Inlet Protection-Special & Remove Inlet Protection-Special Quantities.

Legend

- Temporary Cover Crop Hydraulic Mulch
- Railroad Ballast
- Fiber Roll 12IN
- Inlet Protection - Special
- Grading Limits
- Existing Wetland
- Topsoil Stockpile Berm with Temp Cover Crop & Hydromulch
- Flow Direction

Temporary Sediment & Erosion Control

Phase 1A

ND 297 (DeMers Ave) / Temporary Bypass

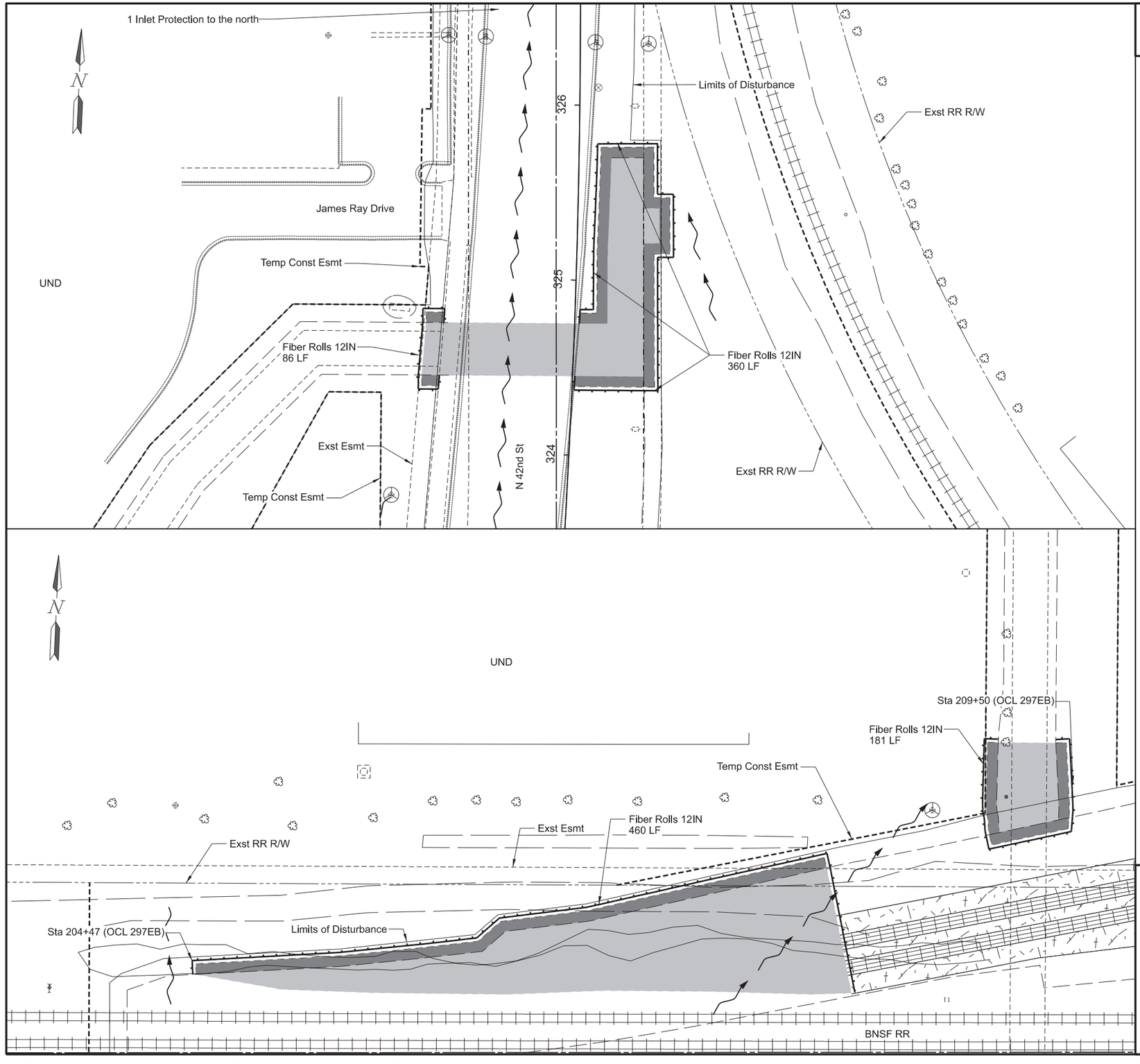
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8226
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	76	3

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		Sta 324+00 to 326+00 (OCL_42nd_NB)	0.181	ACRE
		Sta 204+47 to 209+50 (OCL_297EB)	0.396	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 324+00 to 326+00 (OCL_42nd_NB)	0.181	ACRE
		Sta 204+47 to 209+50 (OCL_297EB)	0.396	ACRE
261	0112	FIBER ROLLS 12IN		
		Sta 324+00 to 326+00 (OCL_42nd_NB)	446	LF
		Sta 204+47 to 209+50 (OCL_297EB)	640	LF
261	0113	REMOVE FIBER ROLLS 12IN		
		Sta 324+00 to 326+00 (OCL_42nd_NB)	446	LF
		Sta 204+47 to 209+50 (OCL_297EB)	640	LF

Note: See Sec 10 Basis of Estimate for Inlet Protection-Special & Remove Inlet Protection-Special Quantities.

Legend

- Temporary Cover Crop Hydraulic Mulch
- Railroad Ballast
- Fiber Roll 12IN
- Inlet Protection - Special
- Grading Limits
- Existing Wetland
- Topsoil Stockpile Berm with Temp Cover Crop & Hydromulch
- Flow Direction

Temporary Sediment & Erosion Control

Phase 1B

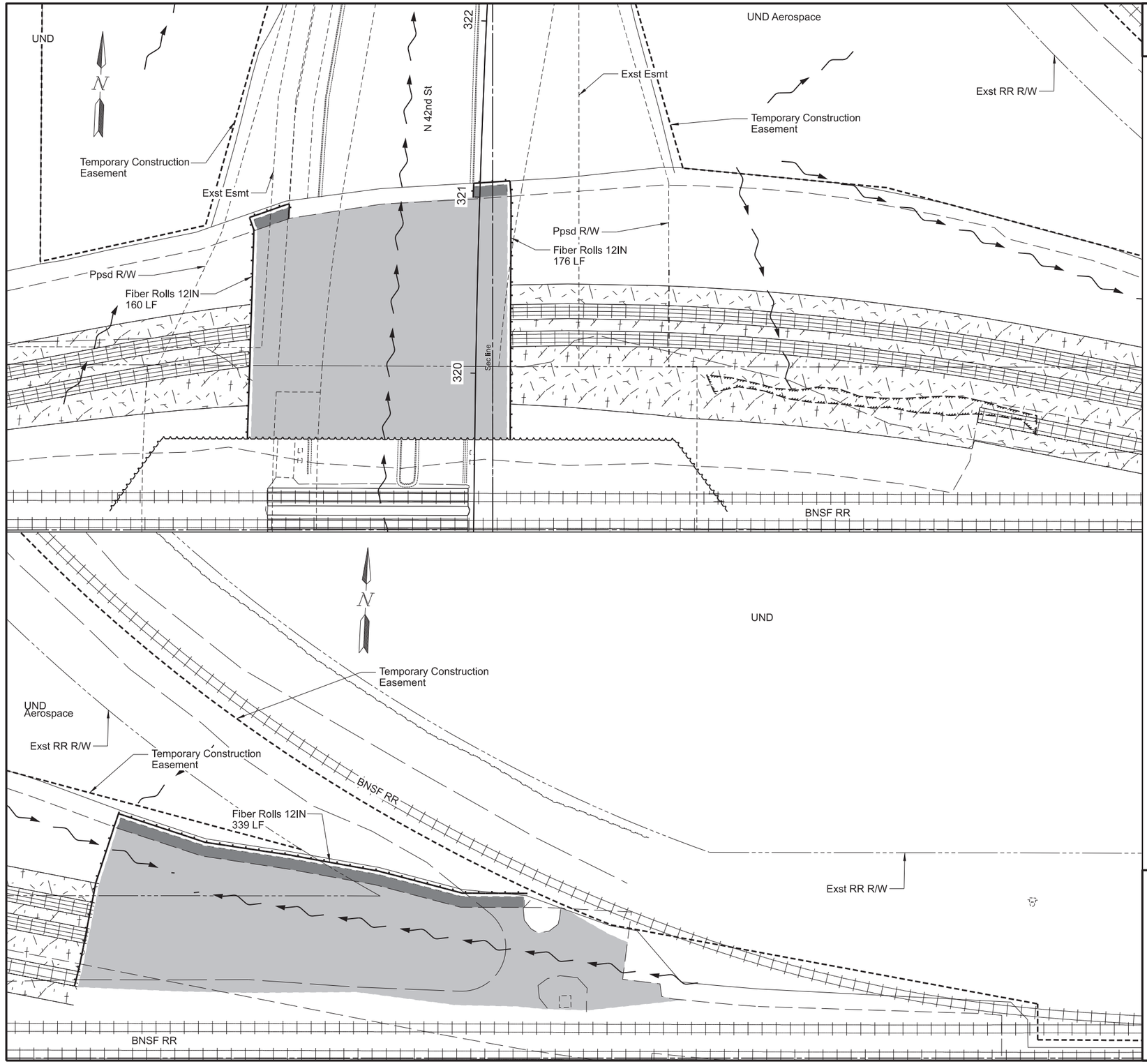
ND 297 (DeMers Ave) / 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8216
DATE: 2025.12.05 16:24:15 -06'00'
NORTH DAKOTA



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	76	4

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		Sta 319+50+00 to 321+25 (OCL_42nd_NB)	0.439	ACRE
		Sta 216+00 to 219+75 (OCL_297EB)	0.488	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 319+50+00 to 321+25 (OCL_42nd_NB)	0.439	ACRE
		Sta 216+00 to 219+75 (OCL_297EB)	0.488	ACRE
261	0112	FIBER ROLLS 12IN		
		Sta 319+50+00 to 321+25 (OCL_42nd_NB)	336	LF
		Sta 216+00 to 219+75 (OCL_297EB)	339	LF
261	0113	REMOVE FIBER ROLLS 12IN		
		Sta 319+50+00 to 321+25 (OCL_42nd_NB)	336	LF
		Sta 216+00 to 219+75 (OCL_297EB)	339	LF

Note: See Sec 10 Basis of Estimate for Inlet Protection-Special & Remove Inlet Protection-Special Quantities.

Legend

Temporary Cover Crop Hydraulic Mulch		Grading Limits	
Railroad Ballast		Existing Wetland	
Fiber Roll 12IN		Topsoil Stockpile Berm with Temp Cover Crop & Hydromulch	
Inlet Protection - Special		Flow Direction	

Temporary Sediment & Erosion Control

Phase 1B

ND 297 (DeMers Ave) / 42nd St

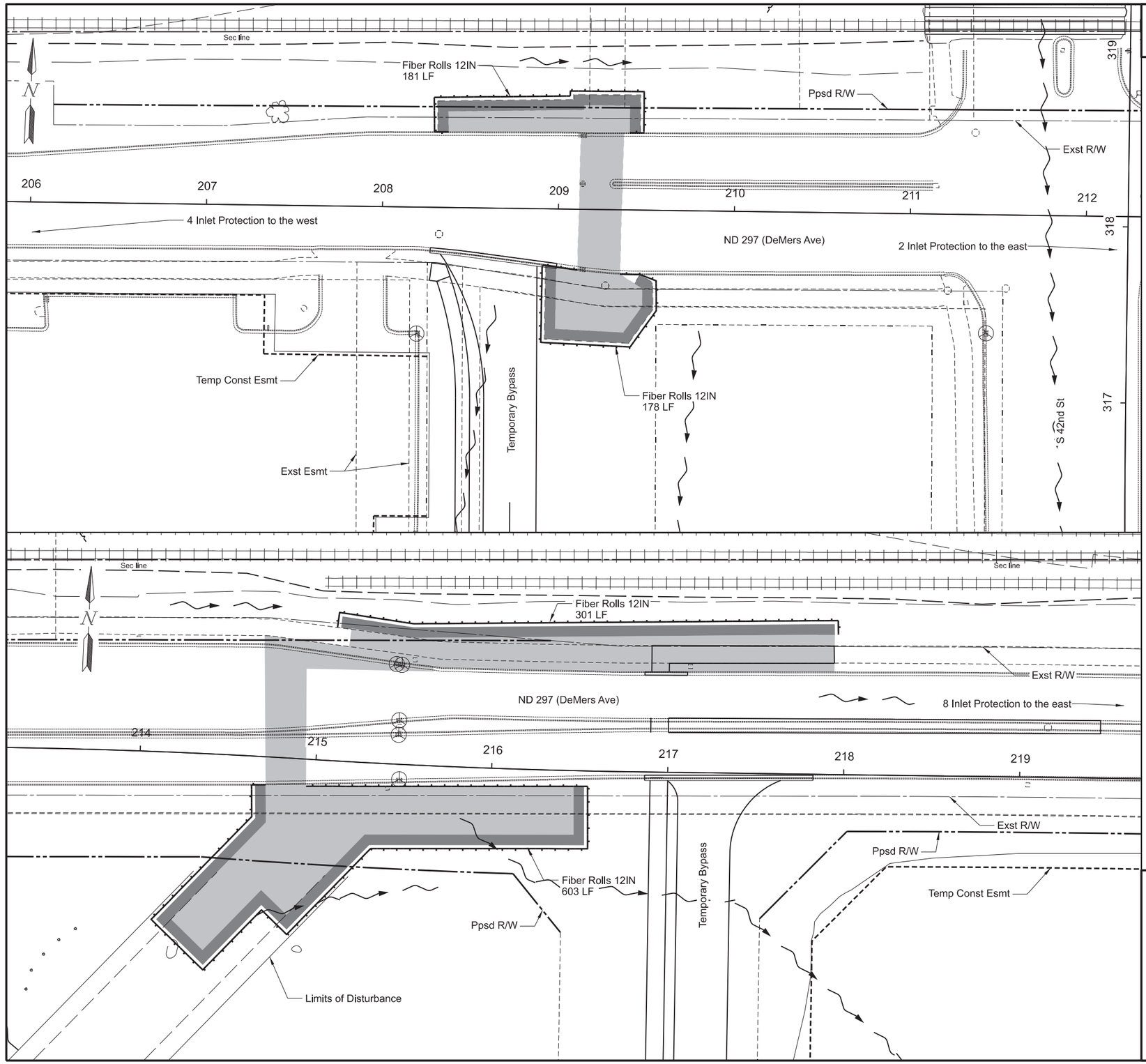
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8276
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NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	76	5

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		Sta 208+00 to 210+00 (OCL_297EB)	0.147	ACRE
		Sta 214+00 to 218+00 (OCL_297EB)	0.455	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 208+00 to 210+00 (OCL_297EB)	0.147	ACRE
		Sta 214+00 to 218+00 (OCL_297EB)	0.455	ACRE
261	0112	FIBER ROLLS 12IN		
		Sta 208+00 to 210+00 (OCL_297EB)	359	LF
		Sta 214+00 to 218+00 (OCL_297EB)	904	LF
261	0113	REMOVE FIBER ROLLS 12IN		
		Sta 208+00 to 210+00 (OCL_297EB)	359	LF
		Sta 214+00 to 218+00 (OCL_297EB)	904	LF

Note: See Sec 10 Basis of Estimate for Inlet Protection-Special & Remove Inlet Protection-Special Quantities.

Legend

- Temporary Cover Crop Hydraulic Mulch
- Railroad Ballast
- Fiber Roll 12IN
- Inlet Protection - Special
- Grading Limits
- Existing Wetland
- Topsoil Stockpile Berm with Temp Cover Crop & Hydromulch
- Flow Direction

Temporary Sediment & Erosion Control

Phase 1B

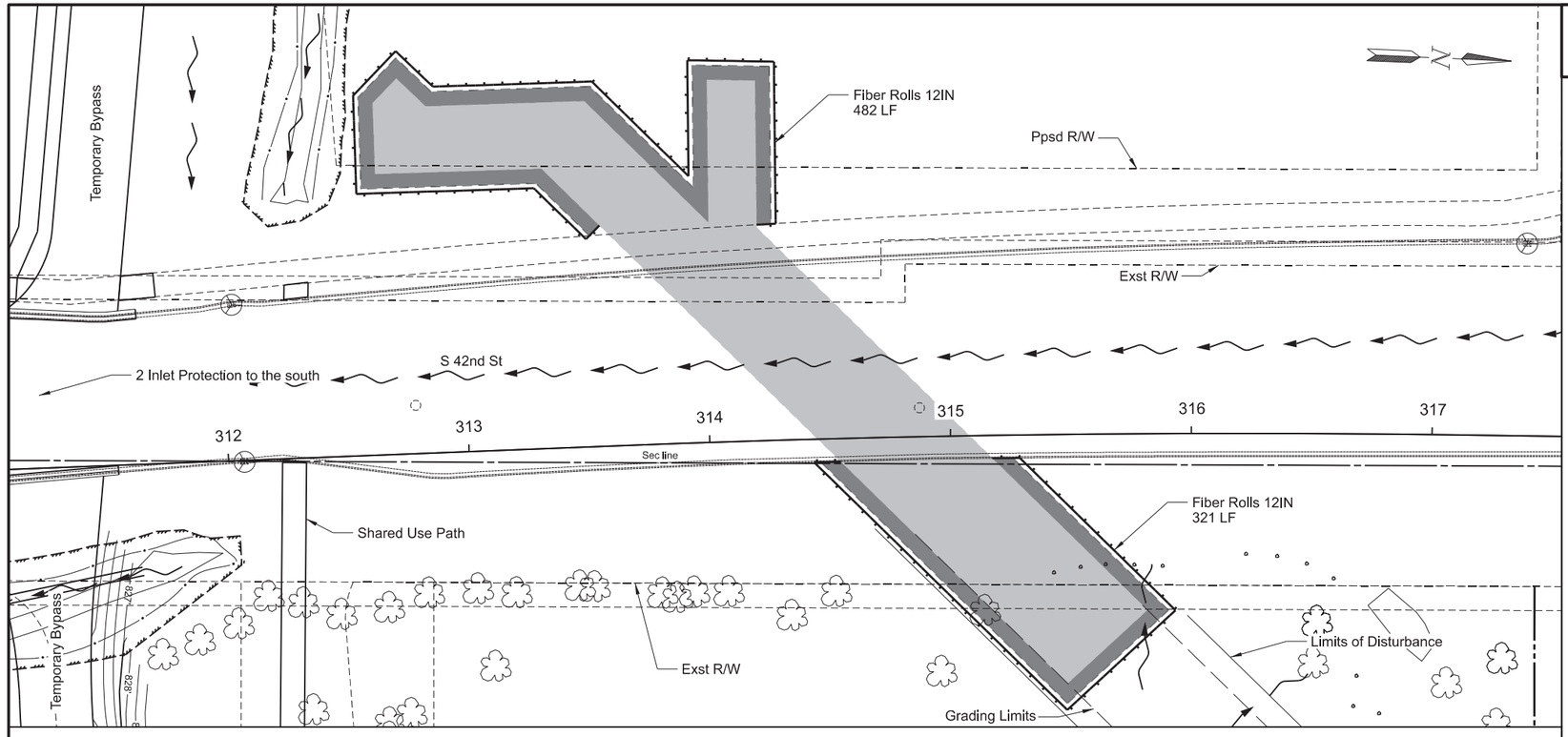
ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-12276
DATE: 2025.12.05 16:24:36 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	76	6

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		Sta 312+00 to 318+00 (OCL_42nd_NB)	0.480	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 312+00 to 318+00 (OCL_42nd_NB)	0.480	ACRE
261	0112	FIBER ROLLS 12IN		
		Sta 312+00 to 318+00 (OCL_42nd_NB)	803	LF
261	0113	REMOVE FIBER ROLLS 12IN		
		Sta 312+00 to 318+00 (OCL_42nd_NB)	803	LF

Note: See Sec 10 Basis of Estimate for Inlet Protection-Special & Remove Inlet Protection-Special Quantities.

Legend

Temporary Cover Crop Hydraulic Mulch		Grading Limits	
Railroad Ballast		Existing Wetland	
Fiber Roll 12IN		Topsoil Stockpile Berm with Temp Cover Crop & Hydromulch	
Inlet Protection - Special		Flow Direction	

Temporary Sediment & Erosion Control

Phase 1B

S 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-10276
DATE: 2025.12.03 16:24:45 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	76	7

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		Sta 208+50 to 216+50 (OCL_297EB)	3.581	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 208+50 to 216+50 (OCL_297EB)	3.581	ACRE
261	0112	FIBER ROLLS 12IN		
		Sta 208+50 to 216+50 (OCL_297EB)	2080	LF
261	0113	REMOVE FIBER ROLLS 12IN		
		Sta 208+50 to 216+50 (OCL_297EB)	2080	LF

Note: See Sec 10 Basis of Estimate for Inlet Protection-Special & Remove Inlet Protection-Special Quantities.

Legend

- Temporary Cover Crop Hydraulic Mulch
- Railroad Ballast
- Fiber Roll 12IN
- Inlet Protection - Special
- Grading Limits
- Existing Wetland
- Topsoil Stockpile Berm with Temp Cover Crop & Hydromulch
- Flow Direction

Temporary Sediment & Erosion Control

Phase 2

ND 297 (DeMers Ave) / N 42nd St

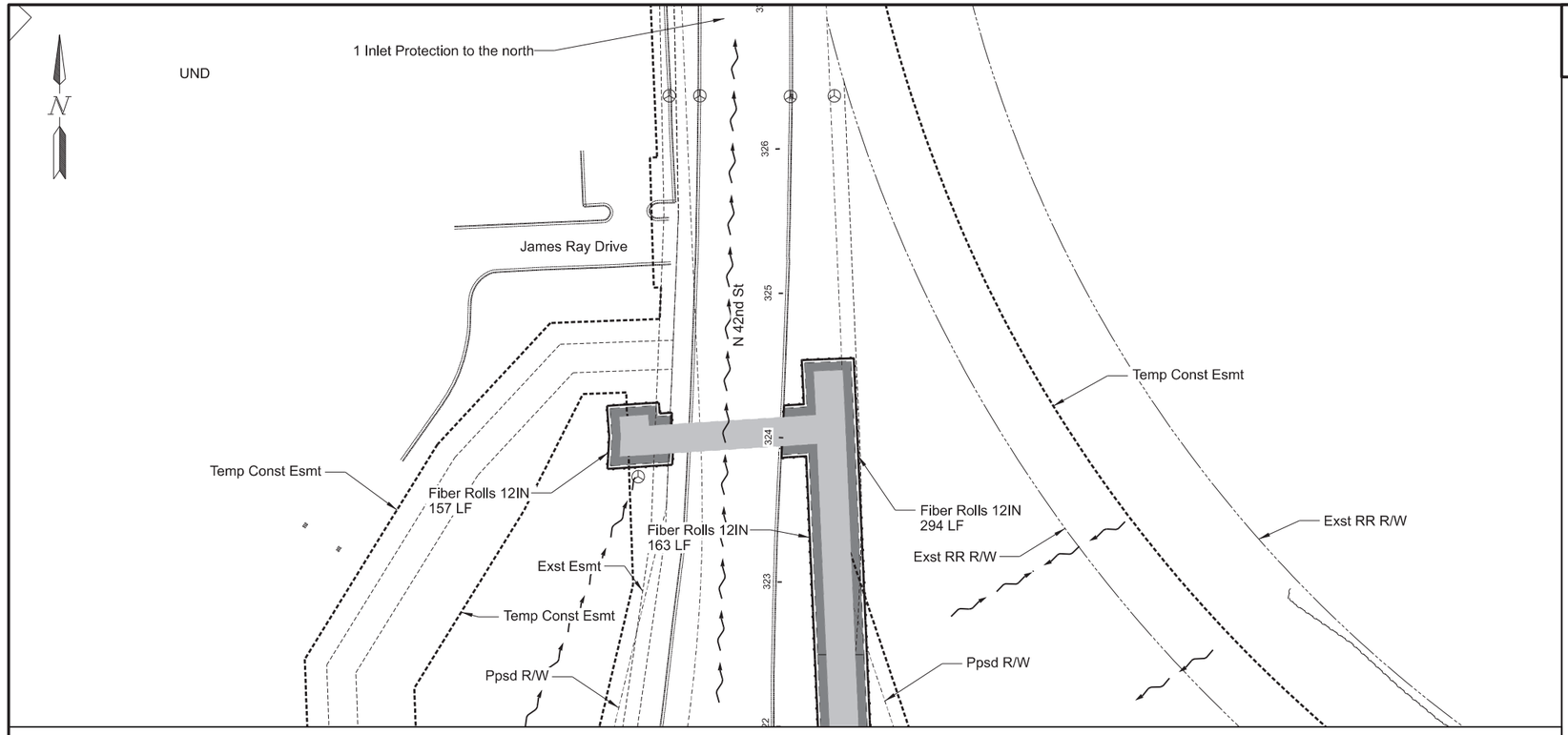
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9076
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NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	76	8

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		Sta 322+50 to 325+00 (OCL_42nd_NB)	0.233	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 322+50 to 325+00 (OCL_42nd_NB)	0.233	ACRE
261	0112	FIBER ROLLS 12IN		
		Sta 322+50 to 325+00 (OCL_42nd_NB)	614	LF
261	0113	REMOVE FIBER ROLLS 12IN		
		Sta 322+50 to 325+00 (OCL_42nd_NB)	614	LF

Note: See Sec 10 Basis of Estimate for Inlet Protection-Special & Remove Inlet Protection-Special Quantities.

Legend

Temporary Cover Crop Hydraulic Mulch		Grading Limits	
Fiber Roll 12IN		Existing Wetland	
Inlet Protection - Special		Topsoil Stockpile Berm with Temp Cover Crop & Hydromulch	
		Flow Direction	

Temporary Sediment & Erosion Control

Phase 2

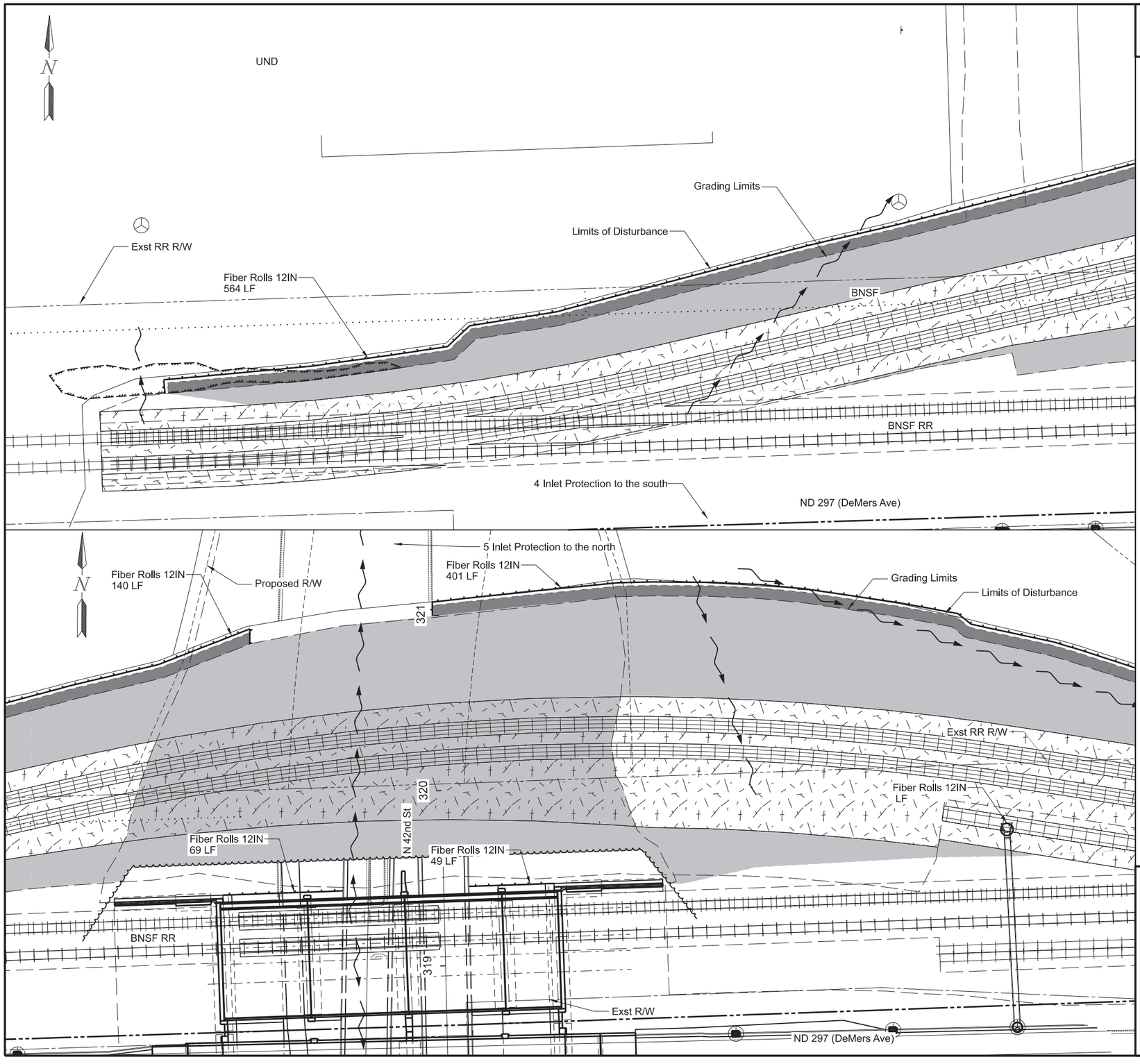
ND 297 (DeMers Ave) / S 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8076
DATE: 2025.12.05 16:25:07 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	76	9

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		Sta 204+00 to 210+00 (OCL_297EB)	0.378	ACRE
		Sta 210+00 to 216+00 (OCL_297EB)	1.395	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 204+00 to 210+00 (OCL_297EB)	0.378	ACRE
		Sta 210+00 to 216+00 (OCL_297EB)	1.395	ACRE
261	0112	FIBER ROLLS 12IN		
		Sta 204+00 to 210+00 (OCL_297EB)	564	LF
		Sta 210+00 to 216+00 (OCL_297EB)	695	LF
261	0113	REMOVE FIBER ROLLS 12IN		
		Sta 204+00 to 210+00 (OCL_297EB)	564	LF
		Sta 210+00 to 216+00 (OCL_297EB)	695	LF

Note: See Sec 10 Basis of Estimate for Inlet Protection-Special & Remove Inlet Protection-Special Quantities.

Legend

- Temporary Cover Crop Hydraulic Mulch
- Fiber Roll 12IN
- Inlet Protection - Special
- Grading Limits
- Existing Wetland
- Topsoil Stockpile Berm with Temp Cover Crop & Hydromulch
- Flow Direction

Temporary Sediment & Erosion Control

Phase 3

ND 297 (DeMers Ave) / N 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

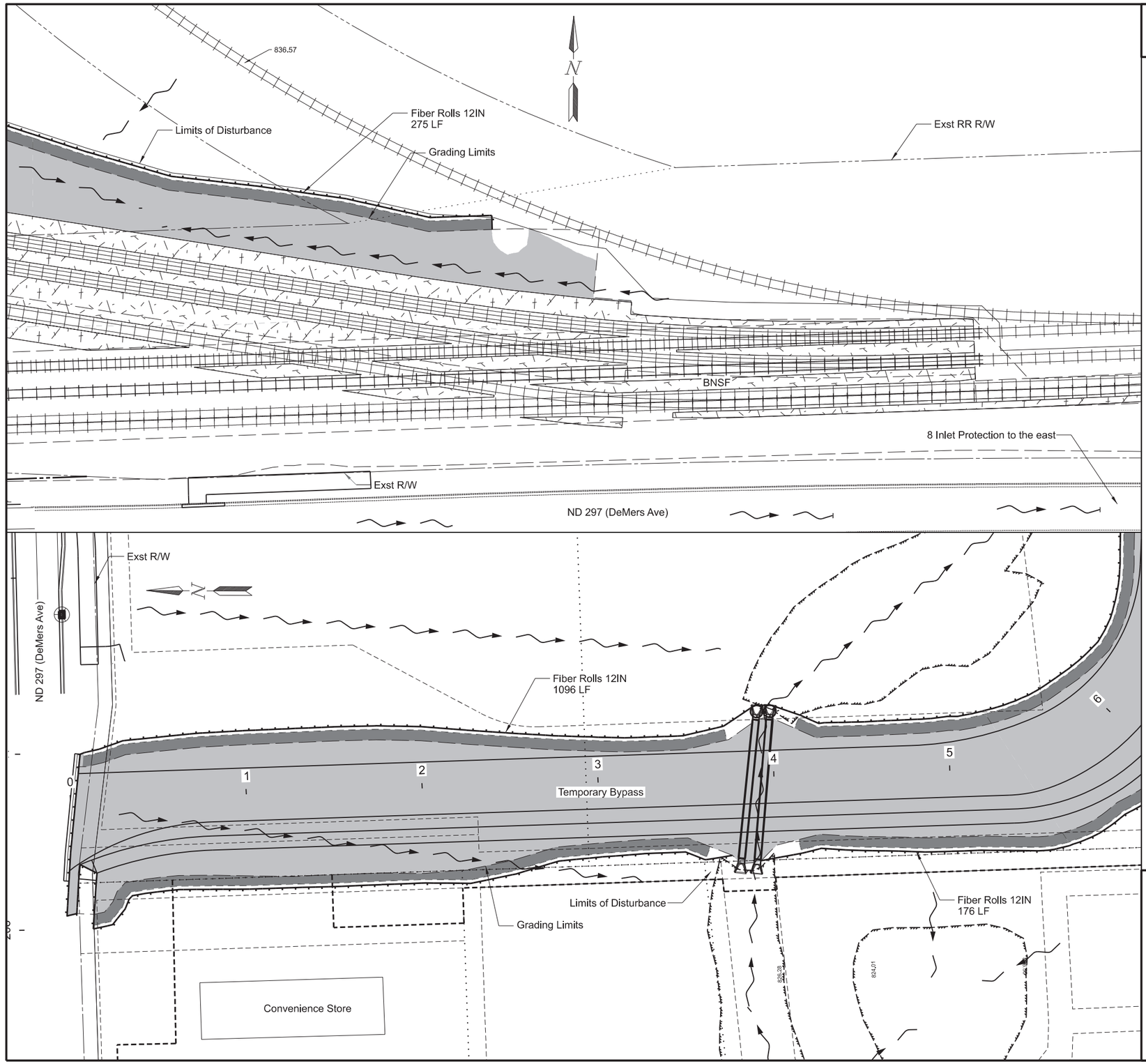
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8216
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NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	76	10



SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		Sta 216+00 to 221+00 (OCL_297EB)	0.252	ACRE
		Sta 0+00 to 5+25 (OCL_Bypass_Jug)	0.953	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 216+00 to 221+00 (OCL_297EB)	0.252	ACRE
		Sta 0+00 to 5+25 (OCL_Bypass_Jug)	0.953	ACRE
261	0112	FIBER ROLLS 12IN		
		Sta 216+00 to 221+00 (OCL_297EB)	275	LF
		Sta 0+00 to 5+25 (OCL_Bypass_Jug)	1272	LF
261	0113	REMOVE FIBER ROLLS 12IN		
		Sta 216+00 to 221+00 (OCL_297EB)	275	LF
		Sta 0+00 to 5+25 (OCL_Bypass_Jug)	1272	LF

Note: See Sec 10 Basis of Estimate for Inlet Protection-Special & Remove Inlet Protection-Special Quantities.

Legend

- Temporary Cover Crop Hydraulic Mulch
- Fiber Roll 12IN
- Inlet Protection - Special
- Grading Limits
- Existing Wetland
- Topsoil Stockpile Berm with Temp Cover Crop & Hydromulch
- Flow Direction

Temporary Sediment & Erosion Control

Phase 3

ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

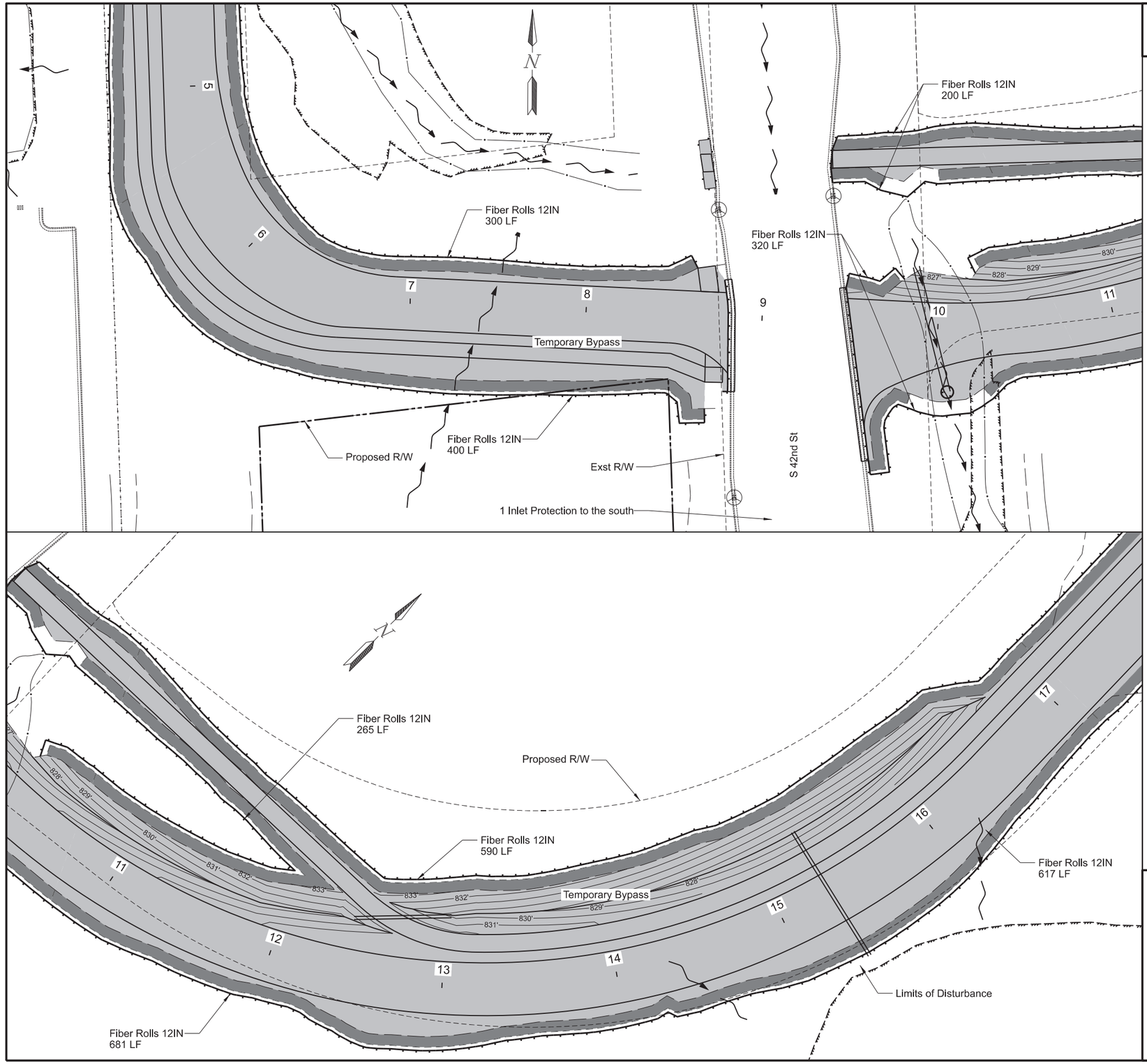
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9206
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	76	11

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		Sta 5+25 to 10+50 (OCL_Bypass_Jug)	0.850	ACRE
		Sta 10+50 to 17+10 (OCL_Bypass_Jug)	1.316	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 5+25 to 10+50 (OCL_Bypass_Jug)	0.850	ACRE
		Sta 10+50 to 17+10 (OCL_Bypass_Jug)	1.316	ACRE
261	0112	FIBER ROLLS 12IN		
		Sta 5+25 to 10+50 (OCL_Bypass_Jug)	1220	LF
		Sta 10+50 to 17+10 (OCL_Bypass_Jug)	1536	LF
261	0113	REMOVE FIBER ROLLS 12IN		
		Sta 5+25 to 10+50 (OCL_Bypass_Jug)	1220	LF
		Sta 10+50 to 17+10 (OCL_Bypass_Jug)	1536	LF



Note: See Sec 10 Basis of Estimate for Inlet Protection-Special & Remove Inlet Protection-Special Quantities.

Legend

Temporary Cover Crop Hydraulic Mulch		Grading Limits
Fiber Roll 12IN		Existing Wetland
Inlet Protection - Special		Topsoil Stockpile Berm with Temp Cover Crop & Hydromulch
		Flow Direction

Temporary Sediment & Erosion Control

Phase 3

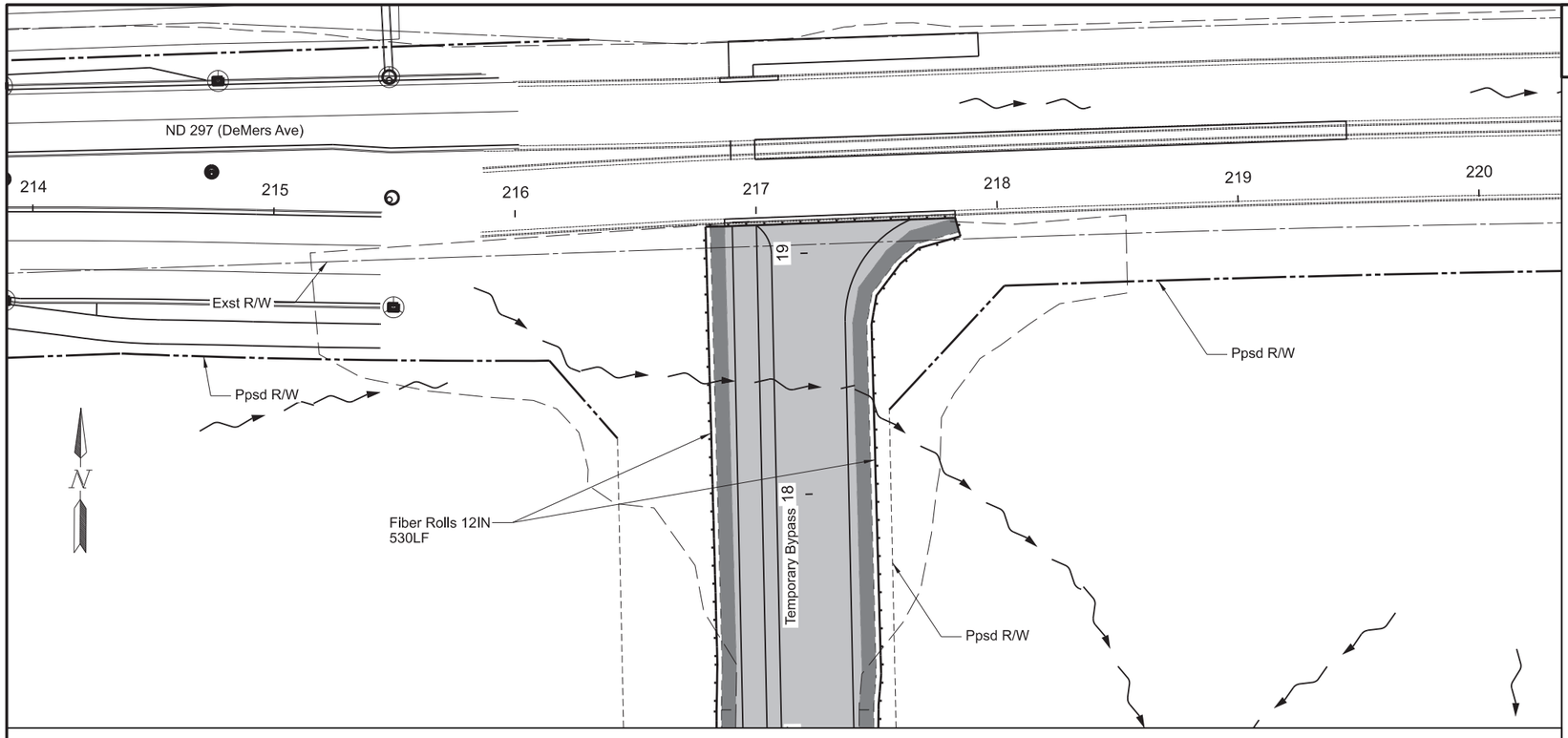
S 42nd St / DeMers Ave Temporary Bypass

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9026
DATE: 2025.12.05 16:25:57 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	76	12

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		Sta 17+10 to 19+15 (OCL_Bypass_Jug)	0.309	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 17+10 to 19+15 (OCL_Bypass_Jug)	0.309	ACRE
261	0112	FIBER ROLLS 12IN		
		Sta 17+10 to 19+15 (OCL_Bypass_Jug)	530	LF
261	0113	REMOVE FIBER ROLLS 12IN		
		Sta 17+10 to 19+15 (OCL_Bypass_Jug)	530	LF

Note: See Sec 10 Basis of Estimate for Inlet Protection-Special & Remove Inlet Protection-Special Quantities.

Legend

	Temporary Cover Crop Hydraulic Mulch		Grading Limits
	Fiber Roll 12IN		Existing Wetland
	Inlet Protection - Special		Topsoil Stockpile Berm with Temp Cover Crop & Hydromulch
			Flow Direction

Temporary Sediment & Erosion Control

Phase 3

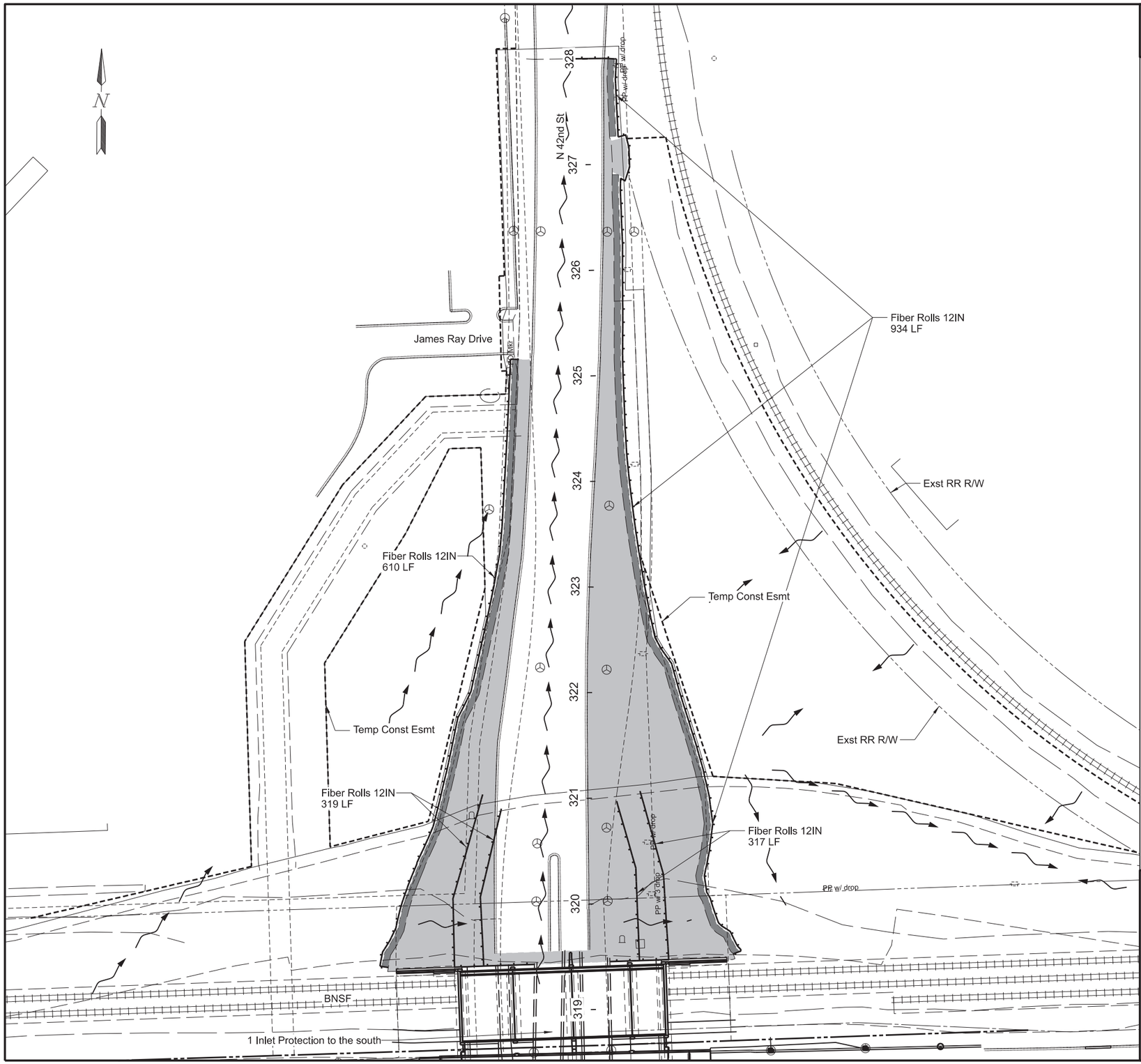
ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8076
DATE: 2025.12.05 16:26:26 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	76	13

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		Sta 319+50 to 328+00 (Sta_42nd_NB)	1.597	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 319+50 to 328+00 (Sta_42nd_NB)	1.597	ACRE
261	0112	FIBER ROLLS 12IN		
		Sta 319+50 to 328+00 (Sta_42nd_NB)	2180	LF
261	0113	REMOVE FIBER ROLLS 12IN		
		Sta 319+50 to 328+00 (Sta_42nd_NB)	2180	LF

Note: See Sec 10 Basis of Estimate for Inlet Protection-Special & Remove Inlet Protection-Special Quantities.

Legend

Temporary Cover Crop Hydraulic Mulch		Grading Limits	
Railroad Ballast		Existing Wetland	
Fiber Roll 12IN		Topsoil Stockpile Berm with Temp Cover Crop & Hydromulch	
Inlet Protection - Special		Flow Direction	

Temporary Sediment & Erosion Control

Phase 4A

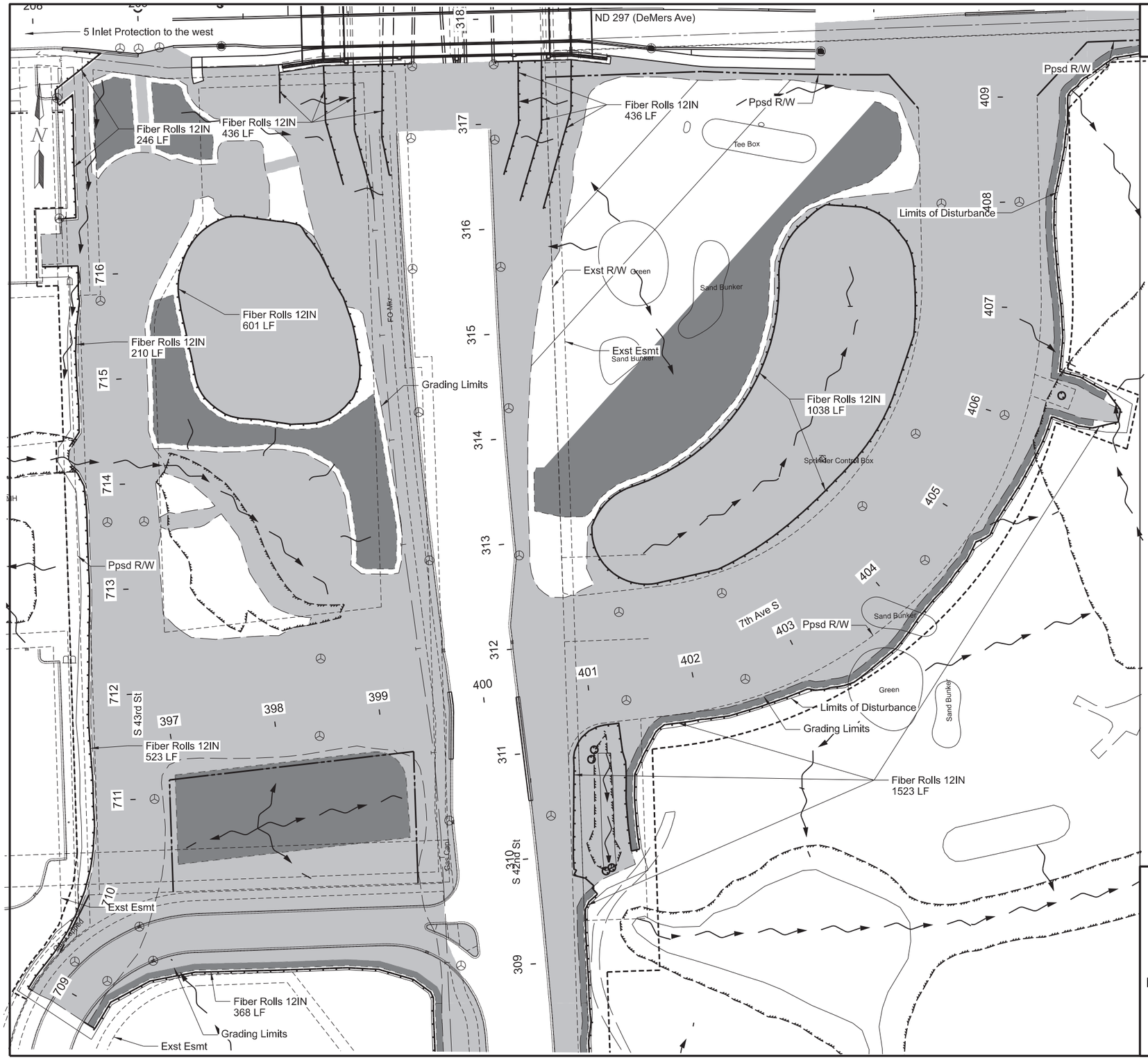
N 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9076
DATE: 2025.12.05 16:26:39 -06'00'
NORTH DAKOTA



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	76	14

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		Sta 308+75 to 318+50 (OCL_42nd_NB)	12.268	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 308+75 to 318+50 (OCL_42nd_NB)	12.268	ACRE
261	0112	FIBER ROLLS 12IN		
		Sta 308+75 to 318+50 (OCL_42nd_NB)	5381	LF
261	0113	REMOVE FIBER ROLLS 12IN		
		Sta 308+75 to 318+50 (OCL_42nd_NB)	5381	LF

Note: See Sec 10 Basis of Estimate for Inlet Protection-Special & Remove Inlet Protection-Special Quantities.

Legend

- Temporary Cover Crop Hydraulic Mulch
- Railroad Ballast
- Fiber Roll 12IN
- Inlet Protection - Special
- Grading Limits
- Existing Wetland
- Topsoil Stockpile Berm with Temp Cover Crop & Hydromulch
- Flow Direction

Temporary Sediment & Erosion Control

Phase 4A

S 43rd St / 7th Ave S / S 42nd St

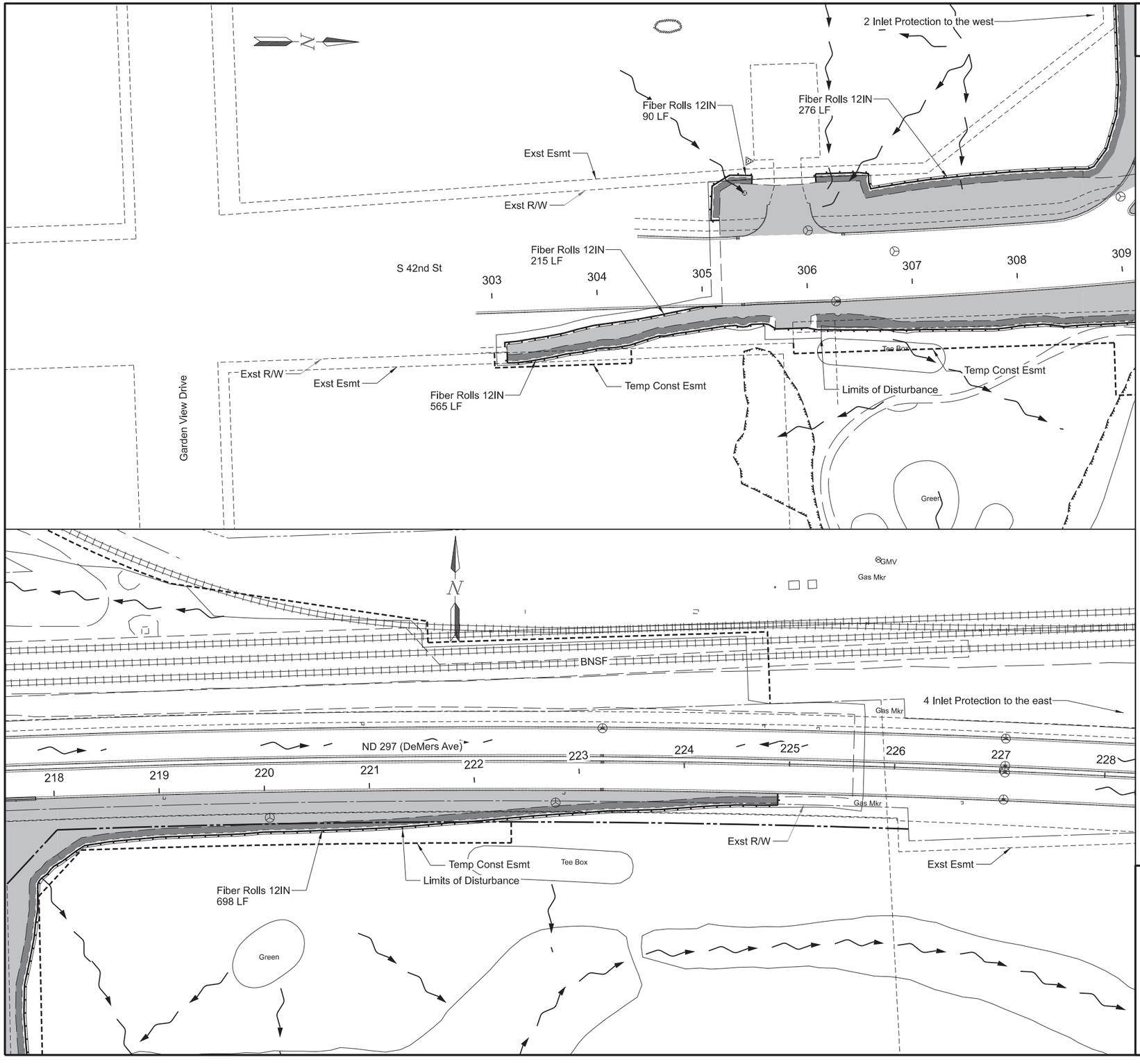
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9076
DATE: 2025.12.05 16:27:06 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	76	15

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		Sta 303+00 to 308+60 (OCL_42nd_NB)	0.674	ACRE
		Sta 218+00 to 227+00 (OCL_297EB)	0.442	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 303+00 to 308+60 (OCL_42nd_NB)	0.674	ACRE
		Sta 218+00 to 227+00 (OCL_297EB)	0.442	ACRE
261	0112	FIBER ROLLS 12IN		
		Sta 303+00 to 308+60 (OCL_42nd_NB)	1146	LF
		Sta 218+00 to 227+00 (OCL_297EB)	698	LF
261	0113	REMOVE FIBER ROLLS 12IN		
		Sta 303+00 to 308+60 (OCL_42nd_NB)	1146	LF
		Sta 218+00 to 227+00 (OCL_297EB)	698	LF

Note: See Sec 10 Basis of Estimate for Inlet Protection-Special & Remove Inlet Protection-Special Quantities.

Legend

- Temporary Cover Crop Hydraulic Mulch
- Railroad Ballast
- Fiber Roll 12IN
- Inlet Protection - Special
- Grading Limits
- Existing Wetland
- Topsoil Stockpile Berm with Temp Cover Crop & Hydromulch
- Flow Direction

Temporary Sediment & Erosion Control

Phase 4A

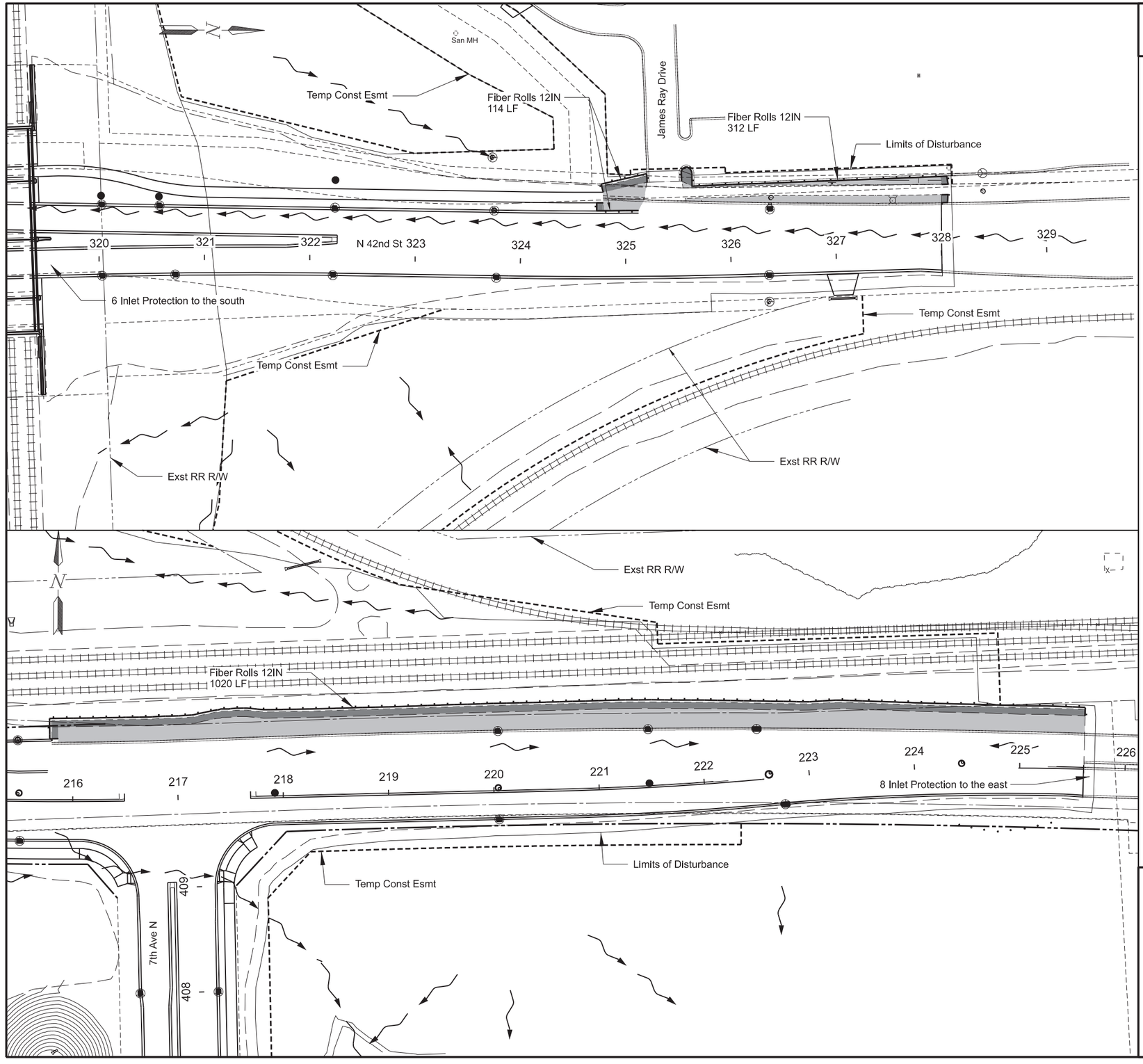
S 42nd St / ND 297(DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4276
DATE: 2025.12.05 16:27:22 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	76	16

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		Sta 320+00 to 328+25 (OCL_42nd_NB)	0.089	ACRE
		Sta 215+75 to 226+00 (OCL_297EB)	0.522	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 320+00 to 328+25 (OCL_42nd_NB)	0.089	ACRE
		Sta 215+75 to 226+00 (OCL_297EB)	0.522	ACRE
261	0112	FIBER ROLLS 12IN		
		Sta 320+00 to 328+25 (OCL_42nd_NB)	426	LF
		Sta 215+75 to 226+00 (OCL_297EB)	1020	LF
261	0113	REMOVE FIBER ROLLS 12IN		
		Sta 320+00 to 328+25 (OCL_42nd_NB)	426	LF
		Sta 215+75 to 226+00 (OCL_297EB)	1020	LF

Note: See Sec 10 Basis of Estimate for Inlet Protection-Special & Remove Inlet Protection-Special Quantities.

Legend

- Temporary Cover Crop Hydraulic Mulch
- Railroad Ballast
- Fiber Roll 12IN
- Inlet Protection - Special
- Grading Limits
- Existing Wetland
- Topsoil Stockpile Berm with Temp Cover Crop & Hydromulch
- Flow Direction

Temporary Sediment & Erosion Control

Phase 4B

N 42nd St / ND 297(DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4276
DATE:2025.12.05 16:27:35 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	76	17

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		Sta 200+75 to 205+33 (OCL_297EB)	0.257	ACRE
		Sta 205+00 to 209+00 (OCL_297EB)	0.165	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 200+75 to 205+33 (OCL_297EB)	0.257	ACRE
		Sta 205+00 to 209+00 (OCL_297EB)	0.165	ACRE
261	0112	FIBER ROLLS 12IN		
		Sta 200+75 to 205+33 (OCL_297EB)	777	LF
		Sta 205+00 to 209+00 (OCL_297EB)	424	LF
261	0113	REMOVE FIBER ROLLS 12IN		
		Sta 200+75 to 205+33 (OCL_297EB)	777	LF
		Sta 205+00 to 209+00 (OCL_297EB)	424	LF

Note: See Sec 10 Basis of Estimate for Inlet Protection-Special & Remove Inlet Protection-Special Quantities.

Legend

- Temporary Cover Crop Hydraulic Mulch
- Fiber Roll 12IN
- Inlet Protection - Special
- Grading Limits
- Existing Wetland
- Topsoil Stockpile Berm with Temp Cover Crop & Hydromulch
- Flow Direction

Temporary Sediment & Erosion Control

Phase 5A & 5B

ND 297 (DeMers Ave)

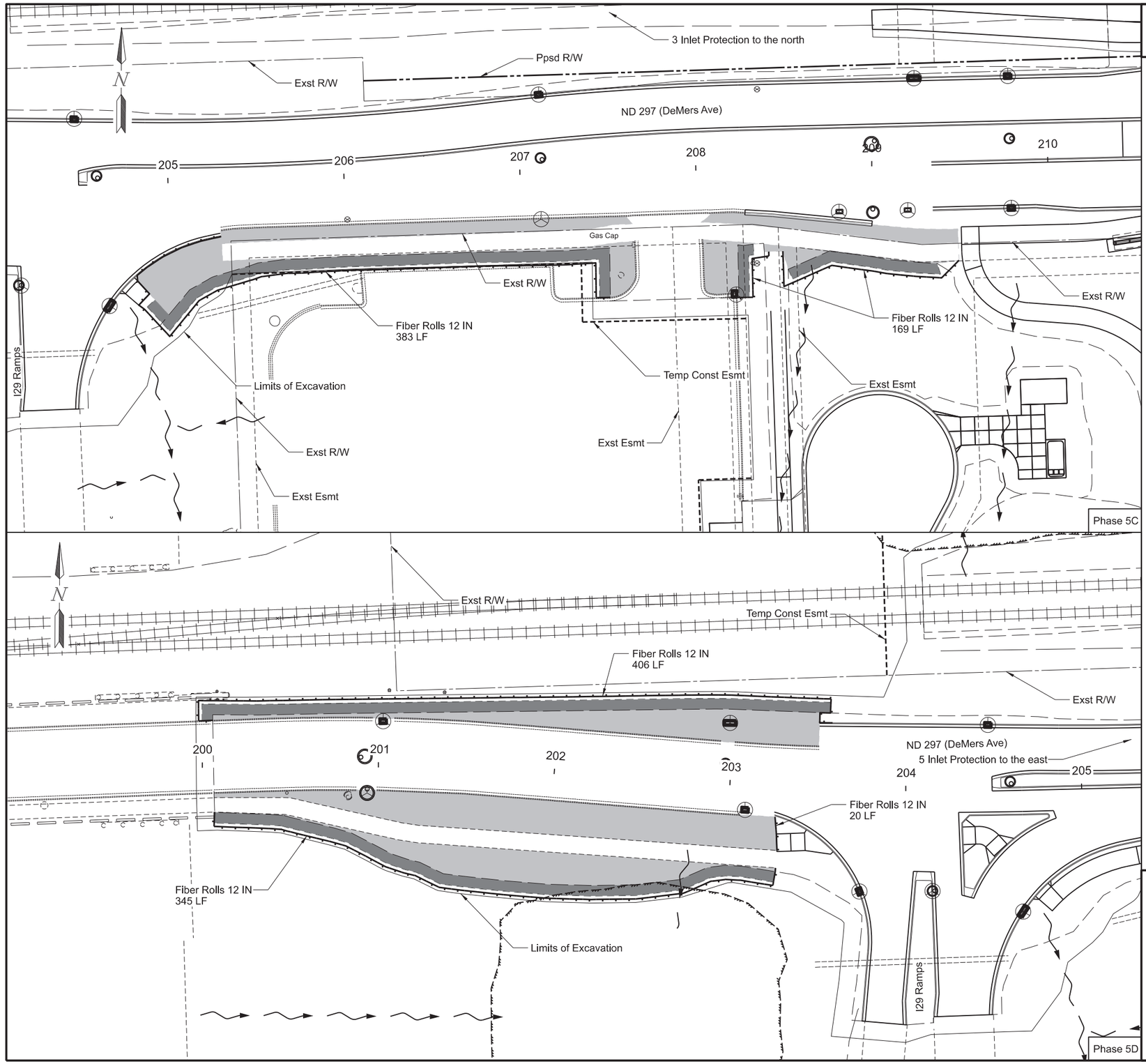
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.05 16:27:46 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	76	18

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		Sta 204+50 to 209+50 (OCL_297EB)	0.181	ACRE
		Sta 200+00 to 203+65 (OCL_297EB)	0.351	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 204+50 to 209+50 (OCL_297EB)	0.181	ACRE
		Sta 200+00 to 203+65 (OCL_297EB)	0.351	ACRE
261	0112	FIBER ROLLS 12IN		
		Sta 204+50 to 209+50 (OCL_297EB)	552	LF
		Sta 200+00 to 203+65 (OCL_297EB)	771	LF
261	0113	REMOVE FIBER ROLLS 12IN		
		Sta 204+50 to 209+50 (OCL_297EB)	552	LF
		Sta 200+00 to 203+65 (OCL_297EB)	771	LF

Note: See Sec 10 Basis of Estimate for Inlet Protection-Special & Remove Inlet Protection-Special Quantities.

Legend

- Temporary Cover Crop Hydraulic Mulch
- Fiber Roll 12IN
- Inlet Protection - Special
- Grading Limits
- Existing Wetland
- Topsoil Stockpile Berm with Temp Cover Crop & Hydromulch
- Flow Direction

Temporary Sediment & Erosion Control

Phase 5C & 5D

ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9226
DATE: 2025.12.05 16:27:59 -06'00'
NORTH DAKOTA

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	76	19

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		Sta 222+50 to 226+00 (OCL_297EB)	0.070	ACRE
		Sta 318+00 to 324+25 (OCL_42nd_NB)	0.393	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 222+50 to 226+00 (OCL_297EB)	0.070	ACRE
		Sta 318+00 to 324+25 (OCL_42nd_NB)	0.393	ACRE
261	0112	FIBER ROLLS 12IN		
		Sta 222+50 to 226+00 (OCL_297EB)	580	LF
		Sta 318+00 to 324+25 (OCL_42nd_NB)	1090	LF
261	0113	REMOVE FIBER ROLLS 12IN		
		Sta 222+50 to 226+00 (OCL_297EB)	580	LF
		Sta 318+00 to 324+25 (OCL_42nd_NB)	1090	LF

Note; See Sec 10 Basis of Estimate for Inlet Protection-Special & Remove Inlet Protection-Special Quantities.

Legend

- Temporary Cover Crop Hydraulic Mulch
- Fiber Roll 12IN
- Inlet Protection - Special
- Grading Limits
- Existing Wetland
- Topsoil Stockpile Berm with Temp Cover Crop & Hydromulch
- Flow Direction

Temporary Sediment & Erosion Control

Phase 5E

ND 297 (DeMers Ave) & NE BNSF Access Road

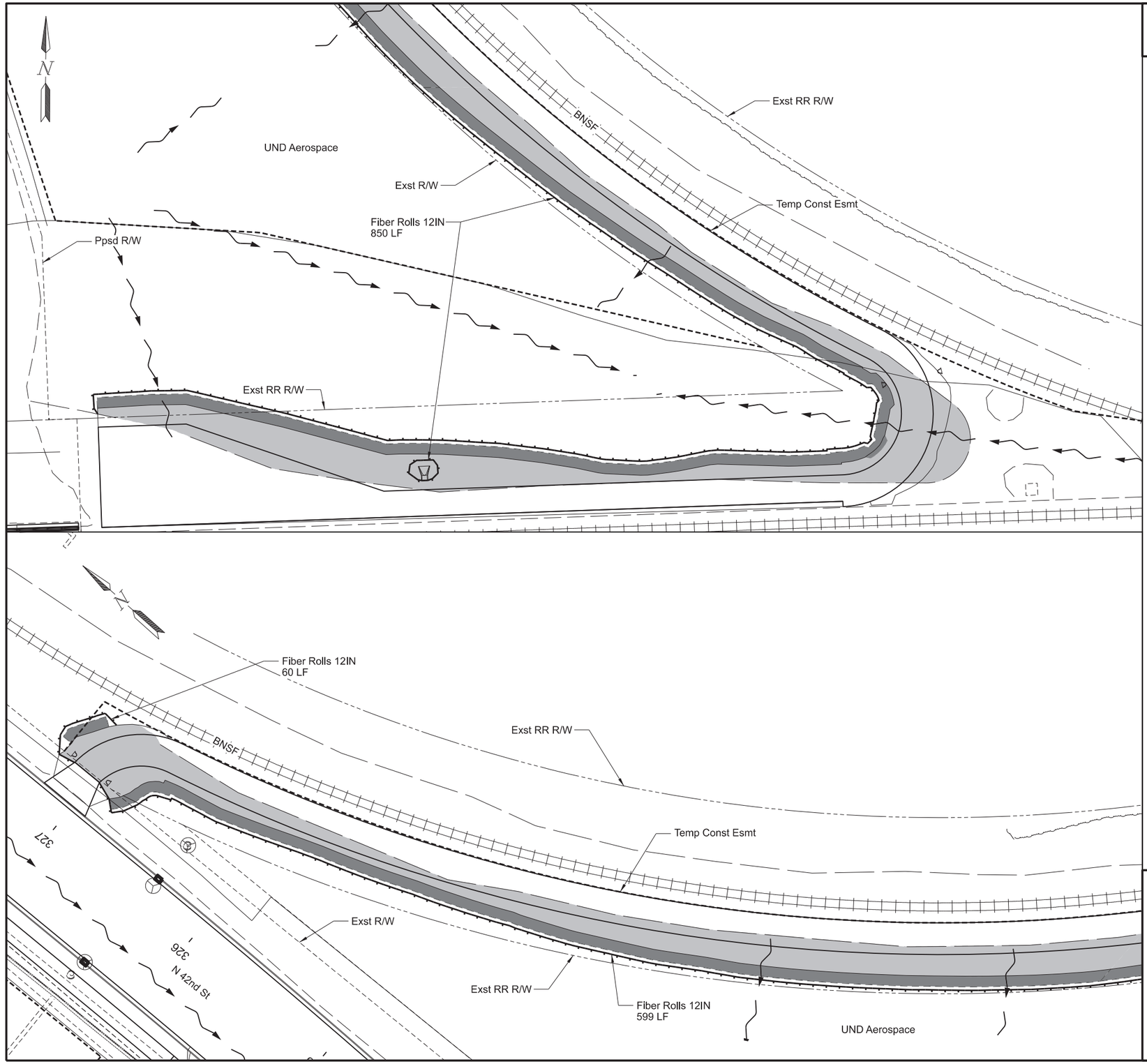
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4276
DATE: 2025.12.05 16:28:11 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	76	20

SPEC	CODE	BID ITEM	QTY	UNIT
251	2000	TEMPORARY COVER CROP		
		Sta 319+50 to 322+00 (OCL_42nd_NB)	0.394	ACRE
		Sta 322+00 to 327+50 (OCL_42nd_NB)	0.305	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 319+50 to 322+00 (OCL_42nd_NB)	0.394	ACRE
		Sta 322+00 to 327+50 (OCL_42nd_NB)	0.305	ACRE
261	0112	FIBER ROLLS 12IN		
		Sta 319+50 to 322+00 (OCL_42nd_NB)	850	LF
		Sta 322+00 to 327+50 (OCL_42nd_NB)	659	LF
261	0113	REMOVE FIBER ROLLS 12IN		
		Sta 319+50 to 322+00 (OCL_42nd_NB)	850	LF
		Sta 322+00 to 327+50 (OCL_42nd_NB)	659	LF

Note: See Sec 10 Basis of Estimate for Inlet Protection-Special & Remove Inlet Protection-Special Quantities.

Legend

- Temporary Cover Crop Hydraulic Mulch
- Fiber Roll 12IN
- Inlet Protection - Special
- Grading Limits
- Existing Wetland
- Topsoil Stockpile Berm with Temp Cover Crop & Hydromulch
- Flow Direction

Temporary Sediment & Erosion Control

Phase 5E

BNSF Access Roads

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9296
DATE: 2025.12.05 16:28:22 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	77	1

SPEC	CODE	BID ITEM	QTY	UNIT
251	0300	SEEDING CLASS III		
		Sta 201+00 to 210+00 (OCL_297EB)	1.796	ACRE
251	2000	TEMPORARY COVER CROP		
		Sta 201+00 to 210+00 (OCL_297EB)	1.796	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 201+00 to 210+00 (OCL_297EB)	1.796	ACRE
261	0112	FIBER ROLLS 12IN		
		Sta 201+00 to 210+00 (OCL_297EB)	2246	LF

*If seeding is required before April 20 or between July 16 and August 9, plant Temporary Cover Crop. Re-seed the area with Seeding Class III and Hydromulch between April 20 and July 15 or after August 10 and before the ground freezes.

Legend

- Seeding Class III and Hydraulic Mulch
- Wetland Seed
- ECB Type 2 (See Section 20 Detail)
- Fiber Roll 12IN
- Flow Direction
- Grading Limits
- Proposed Wetland

Permanent Sediment & Erosion Control

Phase 1

ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

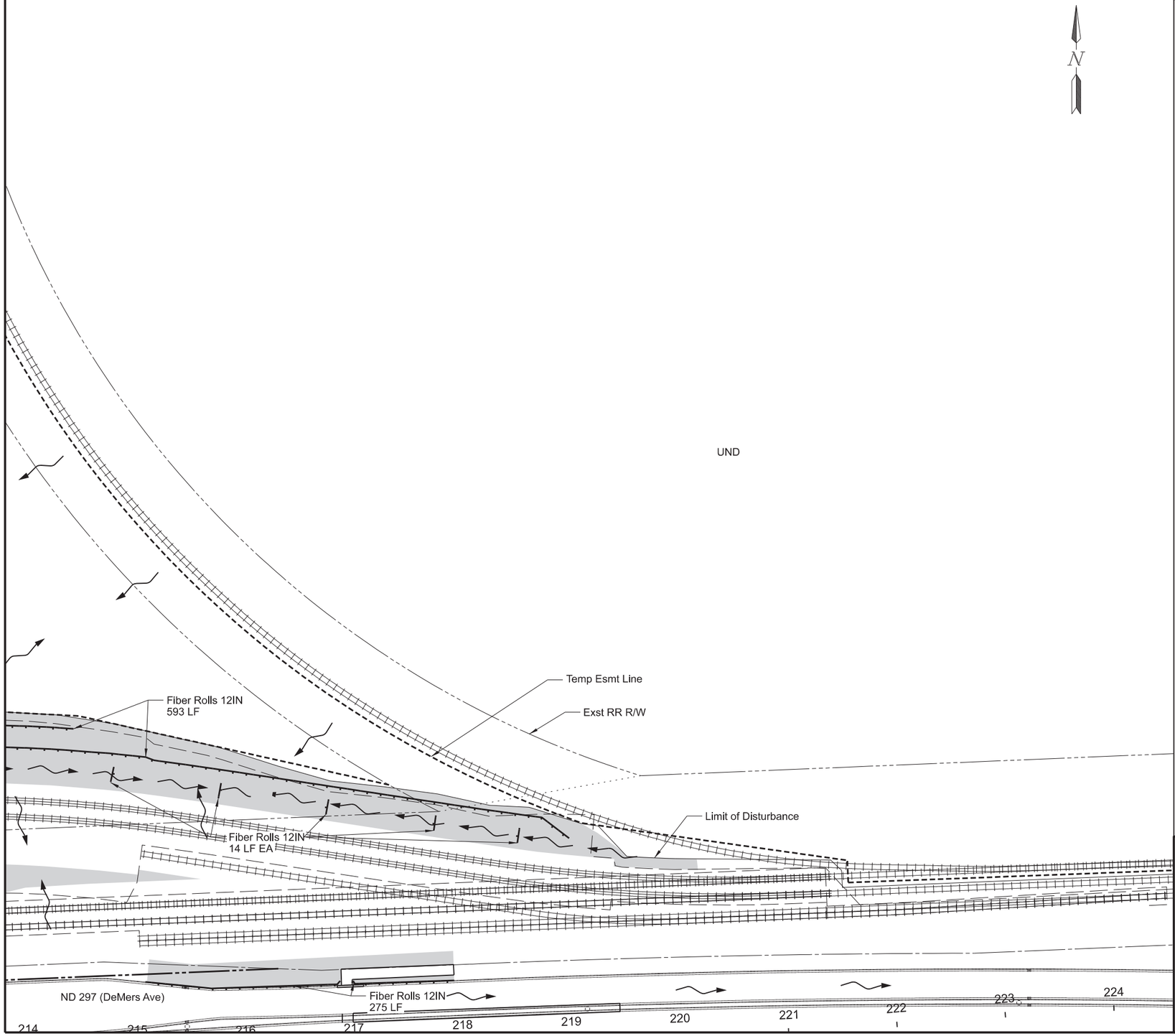
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4256
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NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	77	2



SPEC	CODE	BID ITEM	QTY	UNIT
251	0300	SEEDING CLASS III		
		Sta 204+28 to 210+00 (OCL_297EB)	0.786	ACRE
251	2000	TEMPORARY COVER CROP		
		Sta 204+28 to 210+00 (OCL_297EB)	0.786	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 204+28 to 210+00 (OCL_297EB)	0.786	ACRE
261	0112	FIBER ROLLS 12IN		
		Sta 204+28 to 210+00 (OCL_297EB)	958	LF

*If seeding is required before April 20 or between July 16 and August 9, plant Temporary Cover Crop. Re-seed the area with Seeding Class III and Hydromulch between April 20 and July 15 or after August 10 and before the ground freezes.

Legend

- Seeding Class III and Hydraulic Mulch
- Wetland Seed
- ECB Type 2 (See Section 20 Detail)
- Fiber Roll 12IN
- Flow Direction
- Grading Limits
- Proposed Wetland

Permanent Sediment & Erosion Control

Phase 1

ND 297 (DeMers Ave)

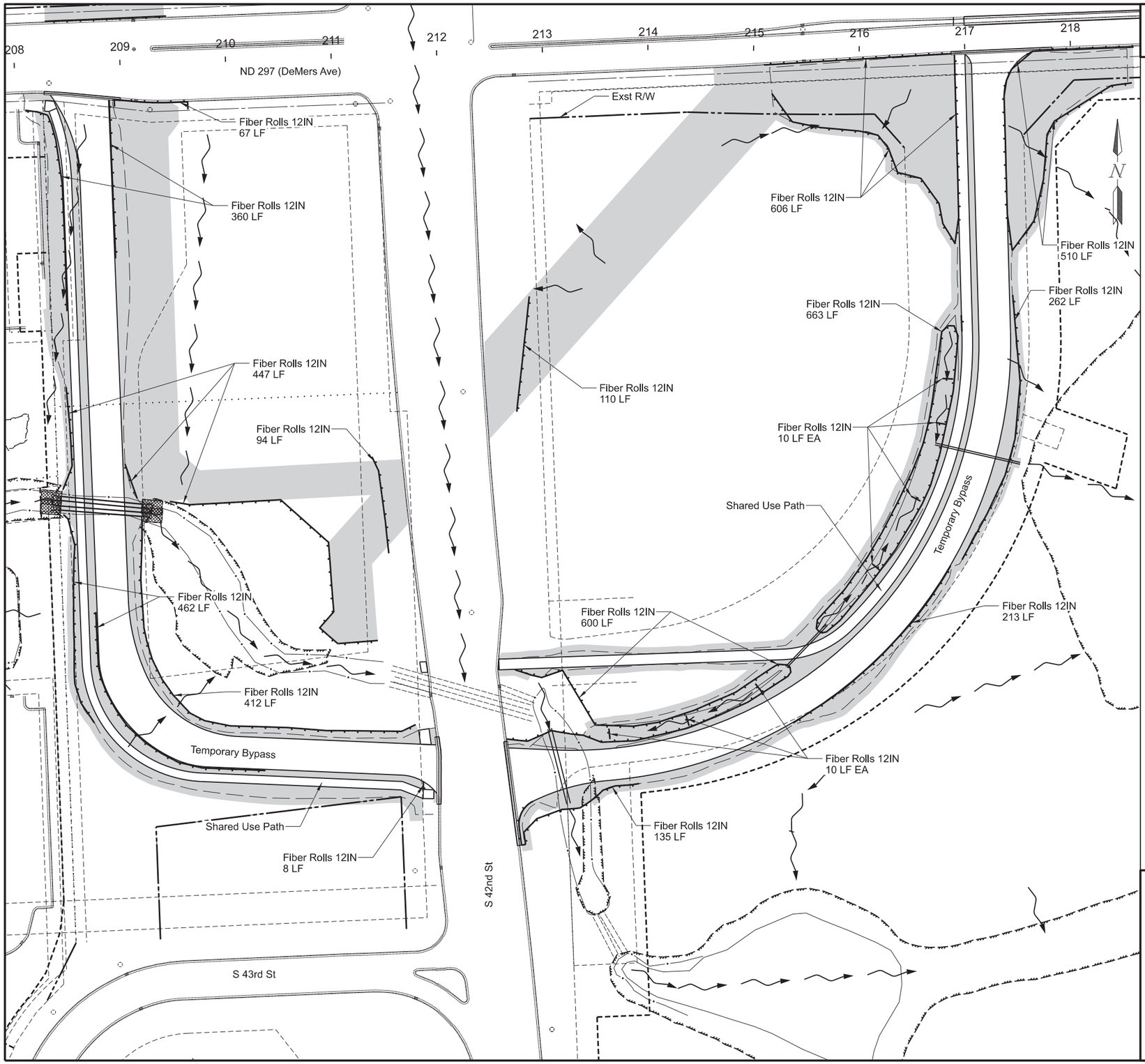
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4296
DATE: 2025.12.05 16:20:40 -06'00'
NORTH DAKOTA

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	77	3

SPEC	CODE	BID ITEM	QTY	UNIT
251	0300	SEEDING CLASS III		
		Sta 208+23 to 218+54 (OCL_297EB)	3.522	ACRE
251	2000	TEMPORARY COVER CROP		
		Sta 208+23 to 218+54 (OCL_297EB)	3.522	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 208+23 to 218+54 (OCL_297EB)	3.522	ACRE
255	0102	ECB TYPE 2		
		Sta 208+23 to 218+54 (OCL_297EB)	100	SY
261	0112	FIBER ROLLS 12IN		
		Sta 208+23 to 218+54 (OCL_297EB)	5024	LF

*If seeding is required before April 20 or between July 16 and August 9, plant Temporary Cover Crop. Re-seed the area with Seeding Class III and Hydromulch between April 20 and July 15 or after August 10 and before the ground freezes.

Legend

- Seeding Class III and Hydraulic Mulch
- Wetland Seed
- ECB Type 2 (See Section 20 Detail)
- Fiber Roll 12IN
- Flow Direction
- Grading Limits
- Proposed Wetland

Permanent Sediment & Erosion Control

Phase 1

ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

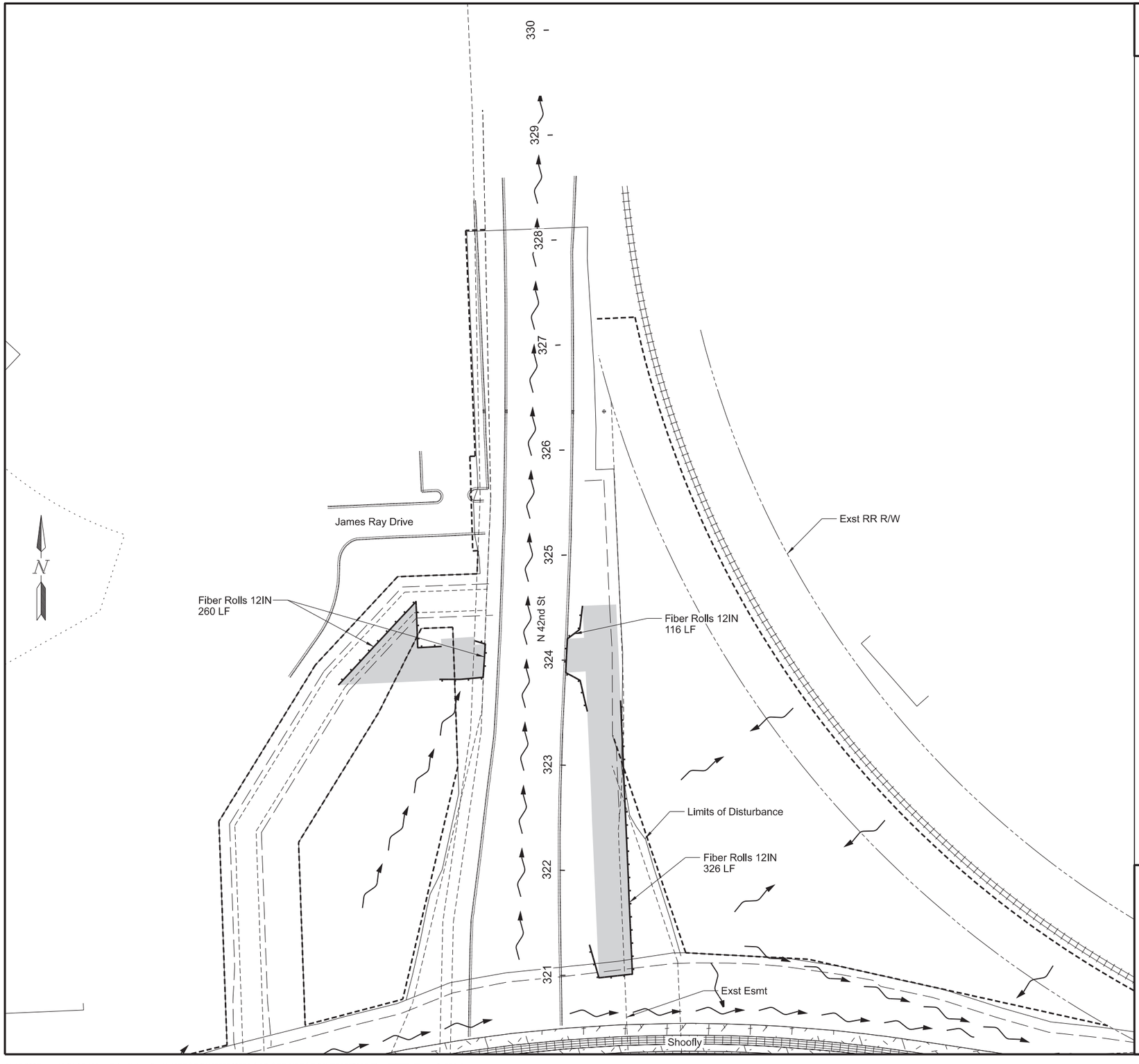
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.05 16:20:51 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	77	4

SPEC	CODE	BID ITEM	QTY	UNIT
251	0300	SEEDING CLASS III		
		Sta 316+00 to 325+00 (OCL_42nd_NB)	0.391	ACRE
251	2000	TEMPORARY COVER CROP		
		Sta 316+00 to 325+00 (OCL_42nd_NB)	0.391	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 316+00 to 325+00 (OCL_42nd_NB)	0.391	ACRE
261	0112	FIBER ROLLS 12IN		
		Sta 316+00 to 325+00 (OCL_42nd_NB)	702	LF

*If seeding is required before April 20 or between July 16 and August 9, plant Temporary Cover Crop. Re-seed the area with Seeding Class III and Hydromulch between April 20 and July 15 or after August 10 and before the ground freezes.



Legend

- Seeding Class III and Hydraulic Mulch
- Wetland Seed
- ECB Type 2 (See Section 20 Detail)
- Fiber Roll 12IN
- Flow Direction
- Grading Limits
- Proposed Wetland

Permanent Sediment & Erosion Control

Phase 2

ND 297 (DeMers Ave)

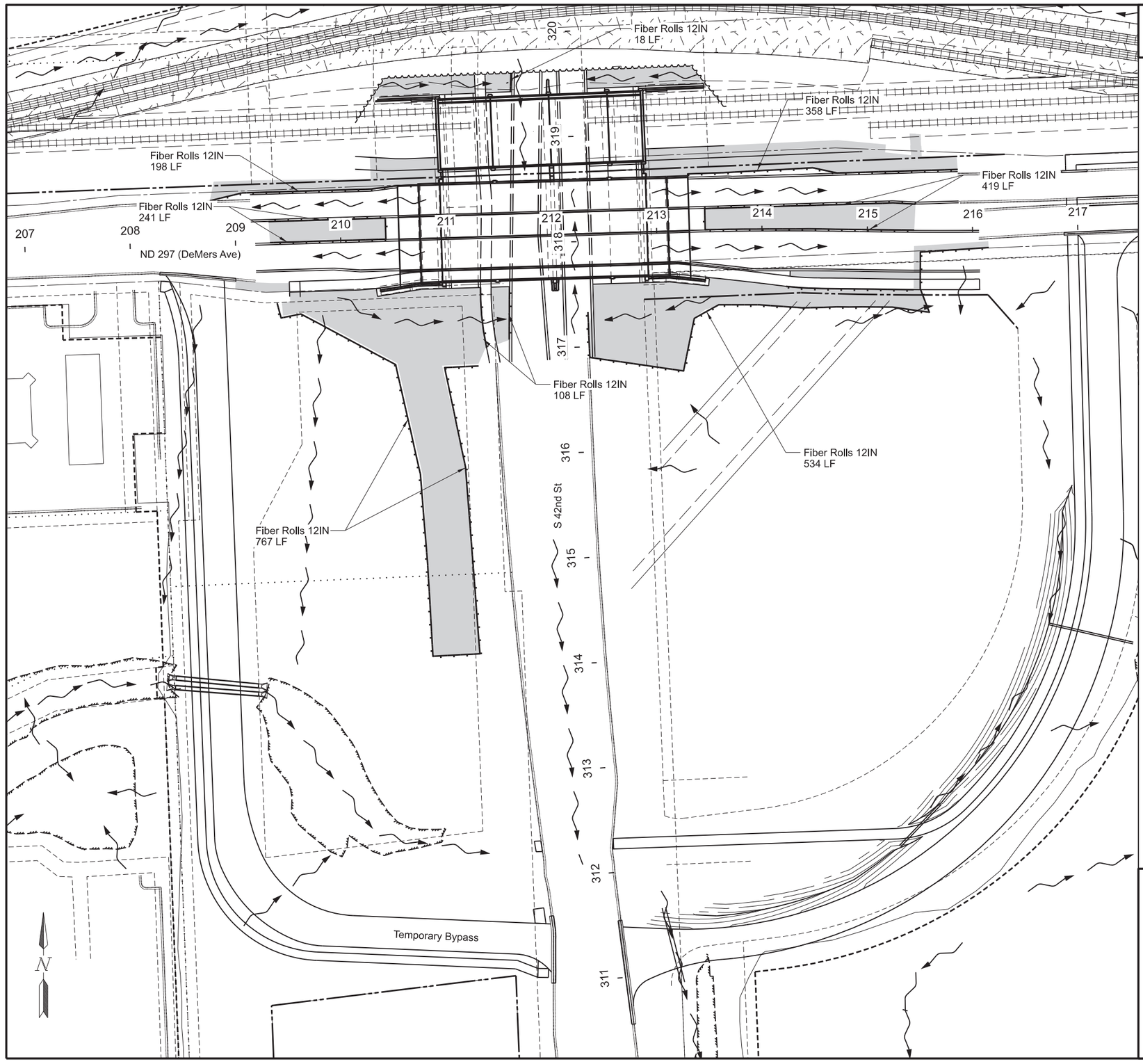
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9076
DATE: 2025.12.05 16:21:13 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	77	5

SPEC	CODE	BID ITEM	QTY	UNIT
251	0300	SEEDING CLASS III		
		Sta 313+00 to 320+00 (OCL_42nd_NB)	1.322	ACRE
251	2000	TEMPORARY COVER CROP		
		Sta 313+00 to 320+00 (OCL_42nd_NB)	1.322	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 313+00 to 320+00 (OCL_42nd_NB)	1.322	ACRE
261	0112	FIBER ROLLS 12IN		
		Sta 313+00 to 320+00 (OCL_42nd_NB)	2643	LF

*If seeding is required before April 20 or between July 16 and August 9, plant Temporary Cover Crop. Re-seed the area with Seeding Class III and Hydromulch between April 20 and July 15 or after August 10 and before the ground freezes.

Legend

- Seeding Class III and Hydraulic Mulch
- Wetland Seed
- ECB Type 2 (See Section 20 Detail)
- Fiber Roll 12IN
- Flow Direction
- Grading Limits
- Proposed Wetland

Permanent Sediment & Erosion Control

Phase 2

ND 297 (DeMers Ave)

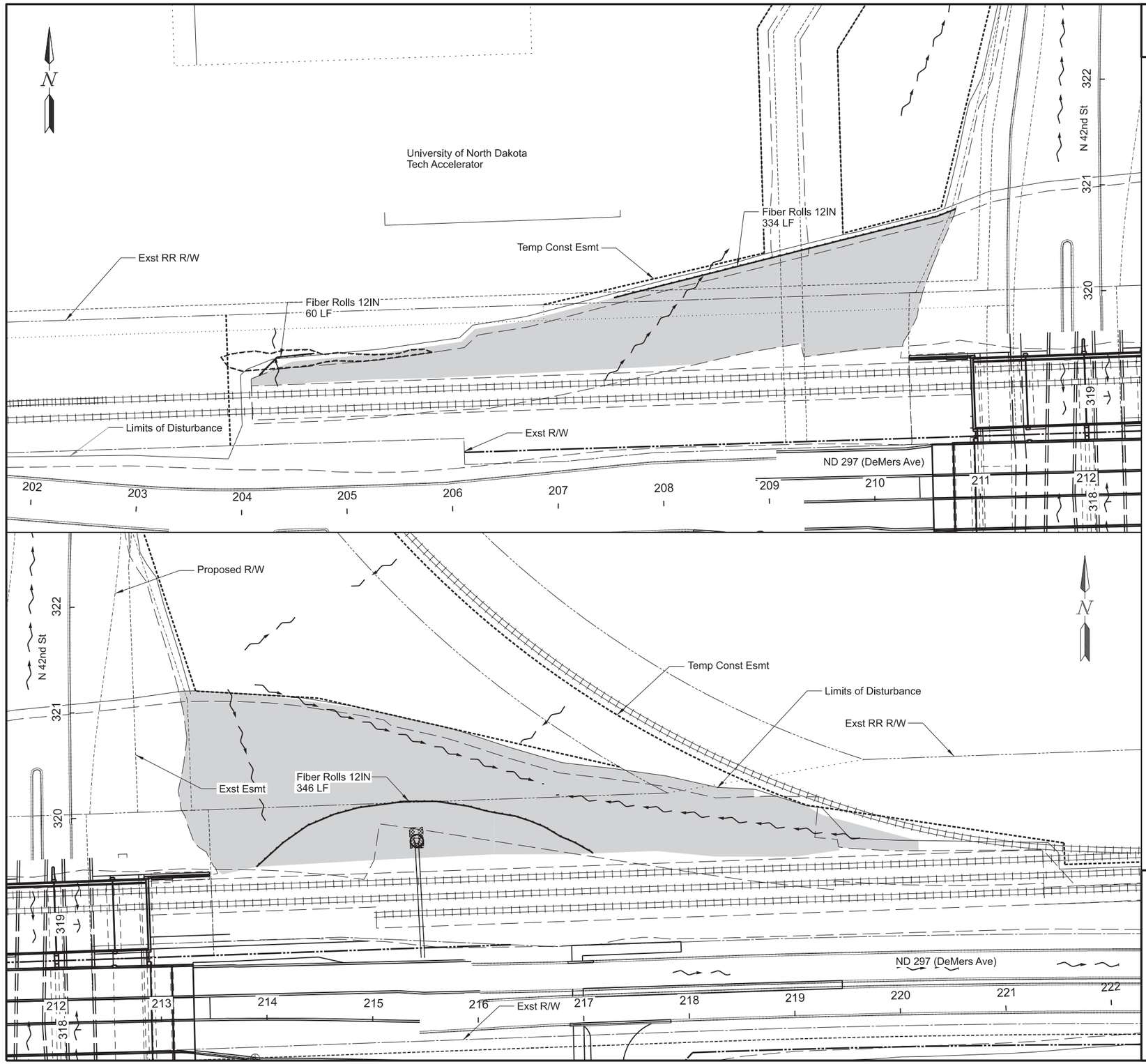
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-10276
DATE: 2025.12.05 16:22:09 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	77	6



SPEC	CODE	BID ITEM	QTY	UNIT
251	0300	SEEDING CLASS III		
		Sta 203+00 to 212+00 (OCL_297EB)	0.913	ACRE
		Sta 212+00 to 220+00 (OCL_297EB)	1.538	ACRE
251	2000	TEMPORARY COVER CROP		
		Sta 203+00 to 212+00 (OCL_297EB)	0.913	ACRE
		Sta 212+00 to 220+00 (OCL_297EB)	1.538	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 203+00 to 212+00 (OCL_297EB)	0.913	ACRE
		Sta 212+00 to 220+00 (OCL_297EB)	1.538	ACRE
255	0102	ECB TYPE 2		
		Sta 212+00 to 220+00 (OCL_297EB)	24	SY
261	0112	FIBER ROLLS 12IN		
		Sta 203+00 to 212+00 (OCL_297EB)	394	LF
		Sta 212+00 to 220+00 (OCL_297EB)	346	LF

*If seeding is required before April 20 or between July 16 and August 9, plant Temporary Cover Crop. Re-seed the area with Seeding Class III and Hydromulch between April 20 and July 15 or after August 10 and before the ground freezes.

Legend

- Seeding Class III and Hydraulic Mulch
- Wetland Seed
- ECB Type 2 (See Section 20 Detail)
- Fiber Roll 12IN
- Flow Direction
- Grading Limits
- Proposed Wetland

Permanent Sediment & Erosion Control

Phase 3

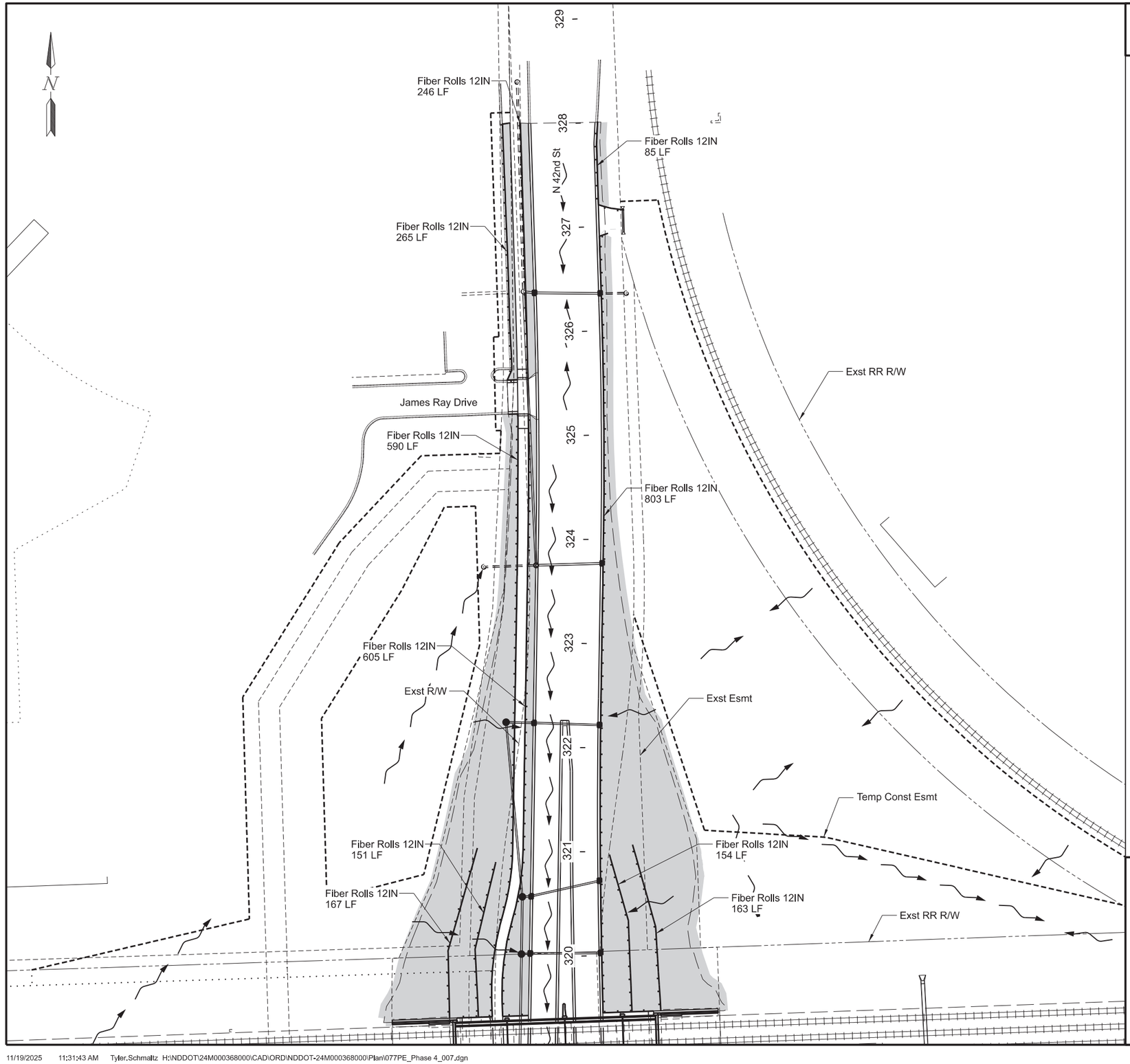
ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8276
DATE: 2025.12.05 16:22:19 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	77	7

SPEC	CODE	BID ITEM	QTY	UNIT
251	0300	SEEDING CLASS III		
		Sta 319+00 to 328+00 (OCL_42nd_NB)	1.635	ACRE
251	2000	TEMPORARY COVER CROP		
		Sta 319+00 to 328+00 (OCL_42nd_NB)	1.635	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 319+00 to 328+00 (OCL_42nd_NB)	1.635	ACRE
261	0112	FIBER ROLLS 12IN		
		Sta 319+00 to 328+00 (OCL_42nd_NB)	3229	LF

*If seeding is required before April 20 or between July 16 and August 9, plant Temporary Cover Crop. Re-seed the area with Seeding Class III and Hydromulch between April 20 and July 15 or after August 10 and before the ground freezes.

Legend

- Seeding Class III and Hydraulic Mulch
- Wetland Seed
- ECB Type 2 (See Section 20 Detail)
- Fiber Roll 12IN
- Flow Direction
- Grading Limits
- Proposed Wetland

Permanent Sediment & Erosion Control

Phase 4

N 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE:2025.12.05 16:22:29 -06'00'
NORTH DAKOTA

11/19/2025 11:31:43 AM Tyler.Schmaltz H:\NDDOT\24M000368000\CAD\ORD\NDDOT-24M000368000\Plan\077PE_Phase 4_007.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	77	8

SPEC	CODE	BID ITEM	QTY	UNIT
251	0300	SEEDING CLASS III		
		Sta 311+50 to 318+00 (OCL_42nd_NB)	8.380	ACRE
251	1000	WETLAND SEED		
		Sta 311+50 to 318+00 (OCL_42nd_NB)	0.590	ACRE
251	2000	TEMPORARY COVER CROP		
		Sta 311+50 to 318+00 (OCL_42nd_NB)	8.380	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 311+50 to 318+00 (OCL_42nd_NB)	8.380	ACRE
255	0102	ECB TYPE 2		
		Sta 311+50 to 318+00 (OCL_42nd_NB)	401	SY
261	0112	FIBER ROLLS 12IN		
		Sta 311+50 to 318+00 (OCL_42nd_NB)	14616	LF

*If seeding is required before April 20 or between July 16 and August 9, plant Temporary Cover Crop. Re-seed the area with Seeding Class III and Hydromulch between April 20 and July 15 or after August 10 and before the ground freezes.

Legend

- Seeding Class III and Hydraulic Mulch
- Wetland Seed
- ECB Type 2 (See Section 20 Detail)
- Fiber Roll 12IN
- Flow Direction
- Grading Limits
- Proposed Wetland

Permanent Sediment & Erosion Control

Phase 4

S 43rd St & 7th Ave S

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9256
DATE:2025.12.05 16:22:39 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	77	9

SPEC	CODE	BID ITEM	QTY	UNIT
251	0300	SEEDING CLASS III		
		Sta 303+00 to 311+50 (OCL_42nd_NB)	0.253	ACRE
251	2000	TEMPORARY COVER CROP		
		Sta 303+00 to 311+50 (OCL_42nd_NB)	0.253	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 303+00 to 311+50 (OCL_42nd_NB)	0.253	ACRE
255	0102	ECB TYPE 2		
		Sta 311+50 to 318+00 (OCL_42nd_NB)	20	SY
261	0112	FIBER ROLLS 12IN		
		Sta 303+00 to 311+50 (OCL_42nd_NB)	2087	LF

*If seeding is required before April 20 or between July 16 and August 9, plant Temporary Cover Crop. Re-seed the area with Seeding Class III and Hydromulch between April 20 and July 15 or after August 10 and before the ground freezes.

Legend

- Seeding Class III and Hydraulic Mulch
- Wetland Seed
- ECB Type 2 (See Section 20 Detail)
- Fiber Roll 12IN
- Flow Direction
- Grading Limits
- Proposed Wetland

Permanent Sediment & Erosion Control

Phase 4

S 42nd St & 7th Ave S

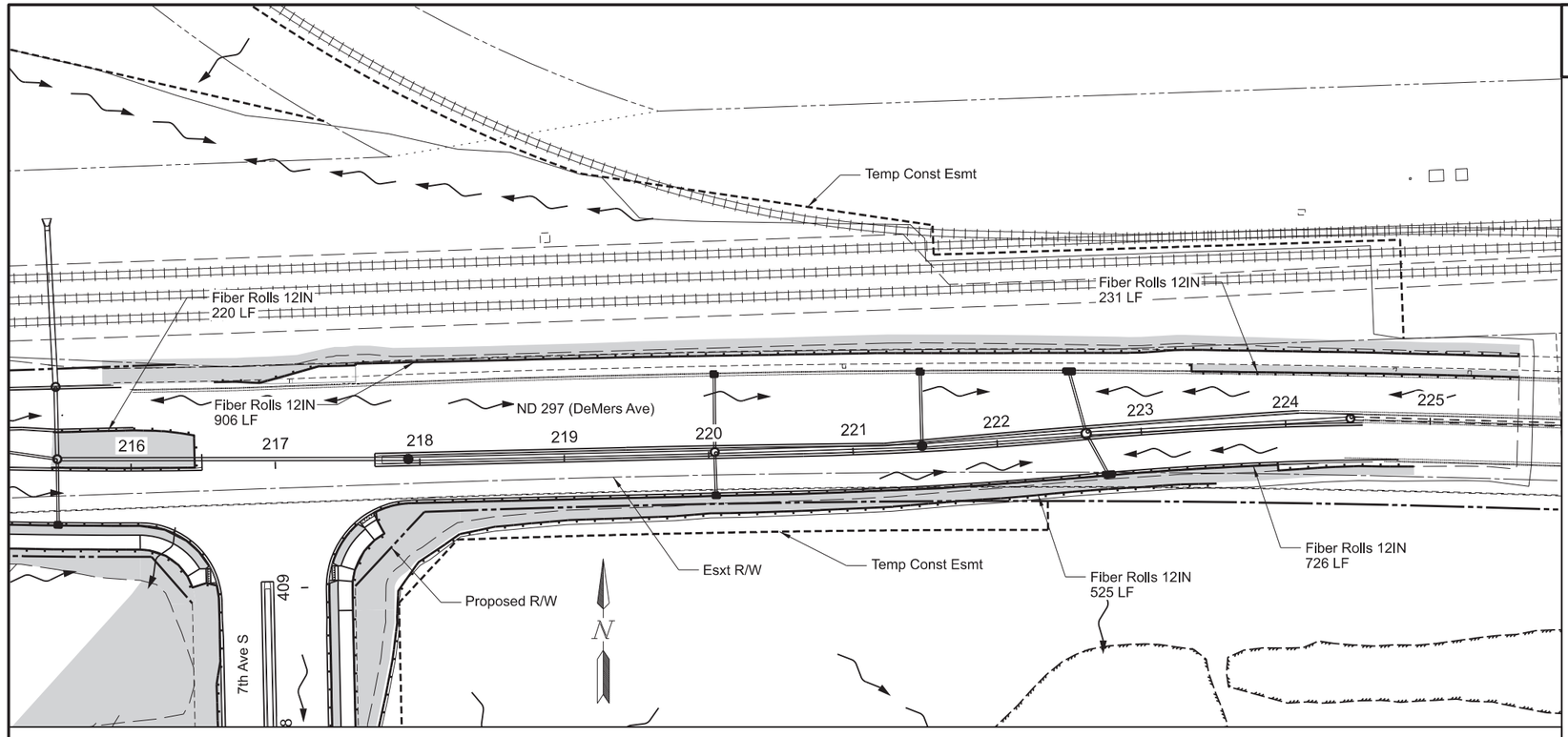
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9256
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NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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SPEC	CODE	BID ITEM	QTY	UNIT
251	0300	SEEDING CLASS III		
		Sta 217+00 to 226+00 (OCL_297EB)	0.497	ACRE
251	2000	TEMPORARY COVER CROP		
		Sta 217+00 to 226+00 (OCL_297EB)	0.497	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 217+00 to 226+00 (OCL_297EB)	0.497	ACRE
261	0112	FIBER ROLLS 12IN		
		Sta 217+00 to 226+00 (OCL_297EB)	2608	LF

*If seeding is required before April 20 or between July 16 and August 9, plant Temporary Cover Crop. Re-seed the area with Seeding Class III and Hydromulch between April 20 and July 15 or after August 10 and before the ground freezes.

Legend

- Seeding Class III and Hydraulic Mulch
- Wetland Seed
- ECB Type 2 (See Section 20 Detail)
- Fiber Roll 12IN
- Flow Direction
- Grading Limits
- Proposed Wetland

Permanent Sediment & Erosion Control

Phase 4

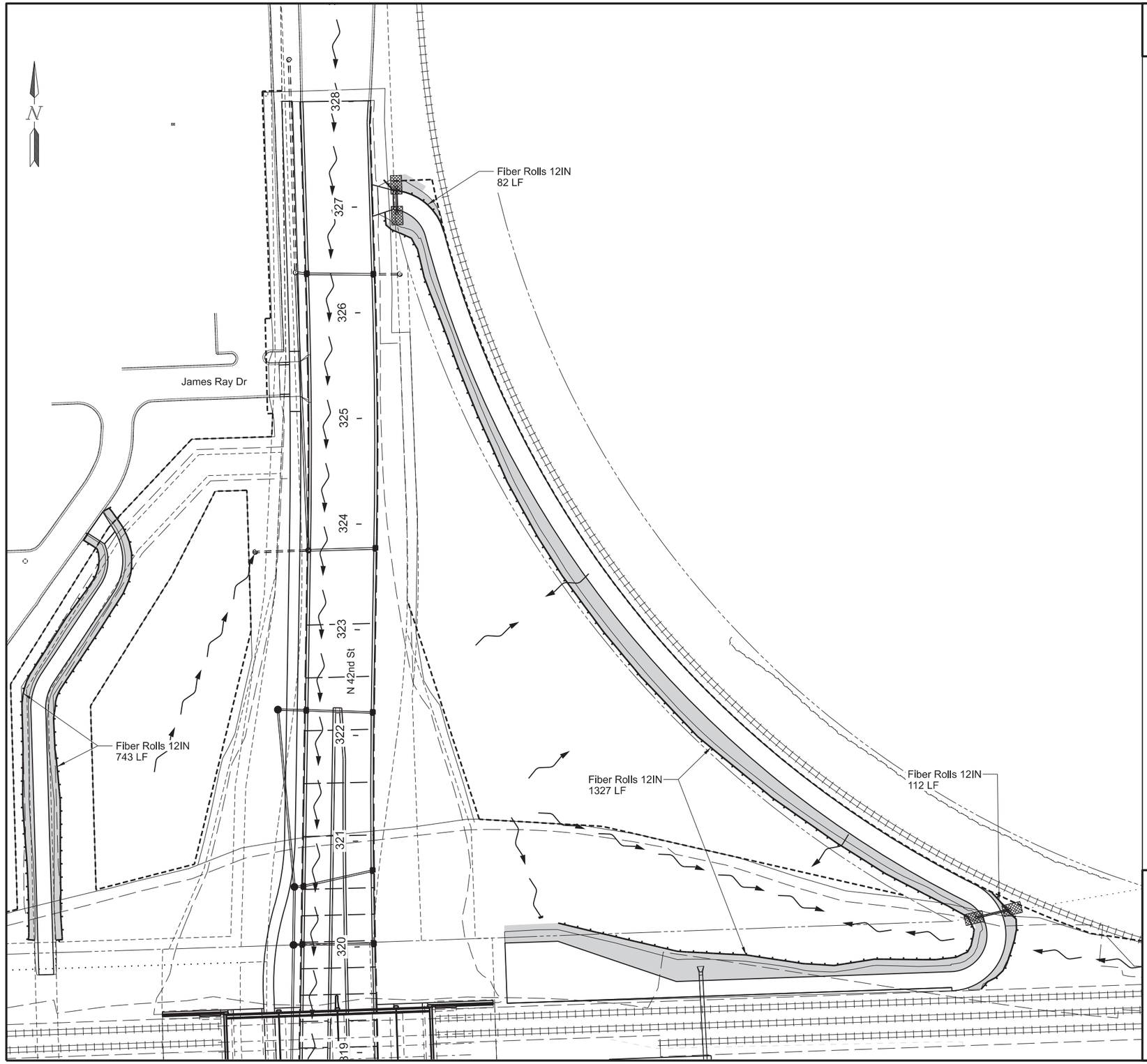
ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9076
DATE: 2025.12.05 16:23:02 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	77	11

SPEC	CODE	BID ITEM	QTY	UNIT
251	0300	SEEDING CLASS III		
		Sta 319+00 to 328+00 (OCL_42nd_NB)	0.703	ACRE
251	2000	TEMPORARY COVER CROP		
		Sta 319+00 to 328+00 (OCL_42nd_NB)	0.703	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 319+00 to 328+00 (OCL_42nd_NB)	0.703	ACRE
255	0102	ECB TYPE 2		
		Sta 319+00 to 328+00 (OCL_42nd_NB)	80	SY
261	0112	FIBER ROLLS 12IN		
		Sta 319+00 to 328+00 (OCL_42nd_NB)	2264	LF

*If seeding is required before April 20 or between July 16 and August 9, plant Temporary Cover Crop. Re-seed the area with Seeding Class III and Hydromulch between April 20 and July 15 or after August 10 and before the ground freezes.

Legend

- Seeding Class III and Hydraulic Mulch
- Wetland Seed
- ECB Type 2 (See Section 20 Detail)
- Fiber Roll 12IN
- Flow Direction
- Grading Limits
- Proposed Wetland

Permanent Sediment & Erosion Control

Phase 5

N 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4256
DATE: 2025.12.05 16:23:12 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	77	12

SPEC	CODE	BID ITEM	QTY	UNIT
251	0300	SEEDING CLASS III		
		Sta 200+00 to 206+00 (OCL_297EB)	0.568	ACRE
		Sta 206+00 to 210+00 (OCL_297EB)	0.385	ACRE
251	2000	TEMPORARY COVER CROP		
		Sta 200+00 to 206+00 (OCL_297EB)	0.568	ACRE
		Sta 206+00 to 210+00 (OCL_297EB)	0.385	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 200+00 to 206+00 (OCL_297EB)	0.568	ACRE
		Sta 206+00 to 210+00 (OCL_297EB)	0.385	ACRE
255	0102	ECB TYPE 2		
		Sta 200+00 to 206+00 (OCL_297EB)	20	SY
261	0112	FIBER ROLLS 12IN		
		Sta 200+00 to 206+00 (OCL_297EB)	2189	LF
		Sta 206+00 to 210+00 (OCL_297EB)	1696	LF

*If seeding is required before April 20 or between July 16 and August 9, plant Temporary Cover Crop. Re-seed the area with Seeding Class III and Hydromulch between April 20 and July 15 or after August 10 and before the ground freezes.

Legend

- Seeding Class III and Hydraulic Mulch
- Wetland Seed
- ECB Type 2 (See Section 20 Detail)
- Fiber Roll 12IN
- Flow Direction
- Grading Limits
- Proposed Wetland

Permanent Sediment & Erosion Control

Phase 5

ND 297 (DeMers Ave)

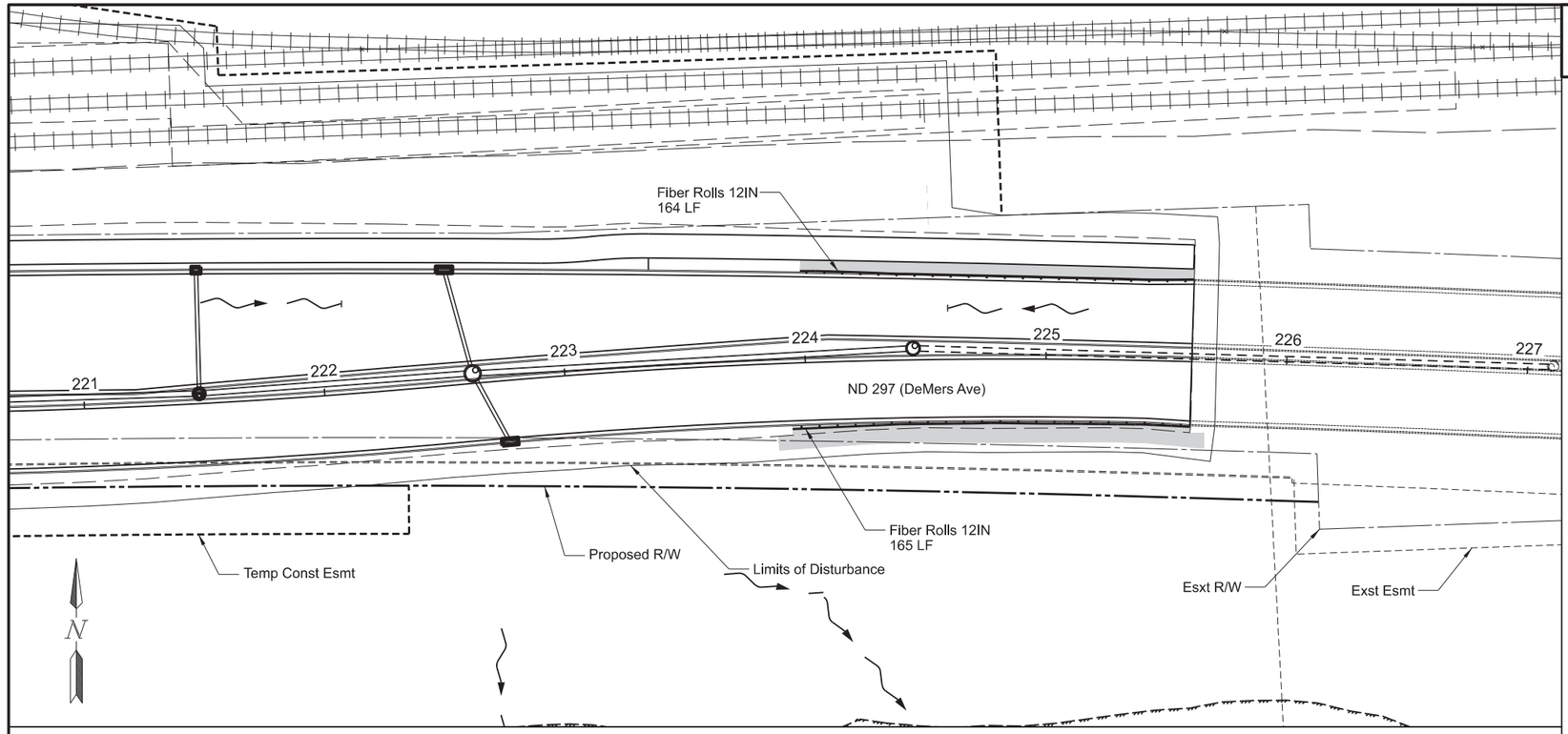
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4276
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NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	77	13

SPEC	CODE	BID ITEM	QTY	UNIT
251	0300	SEEDING CLASS III		
		Sta 222+00 to 226+00 (OCL_297EB)	0.027	ACRE
251	2000	TEMPORARY COVER CROP		
		Sta 222+00 to 226+00 (OCL_297EB)	0.027	ACRE
253	0201	HYDRAULIC MULCH		
		Sta 222+00 to 226+00 (OCL_297EB)	0.027	ACRE
261	0112	FIBER ROLLS 12IN		
		Sta 222+00 to 226+00 (OCL_297EB)	329	LF

*If seeding is required before April 20 or between July 16 and August 9, plant Temporary Cover Crop. Re-seed the area with Seeding Class III and Hydromulch between April 20 and July 15 or after August 10 and before the ground freezes.

Legend

- Seeding Class III and Hydraulic Mulch
- Wetland Seed
- ECB Type 2 (See Section 20 Detail)
- Fiber Roll 12IN
- Flow Direction
- Grading Limits
- Proposed Wetland

Permanent Sediment & Erosion Control

Phase 5

ND 297 (DeMers Ave)

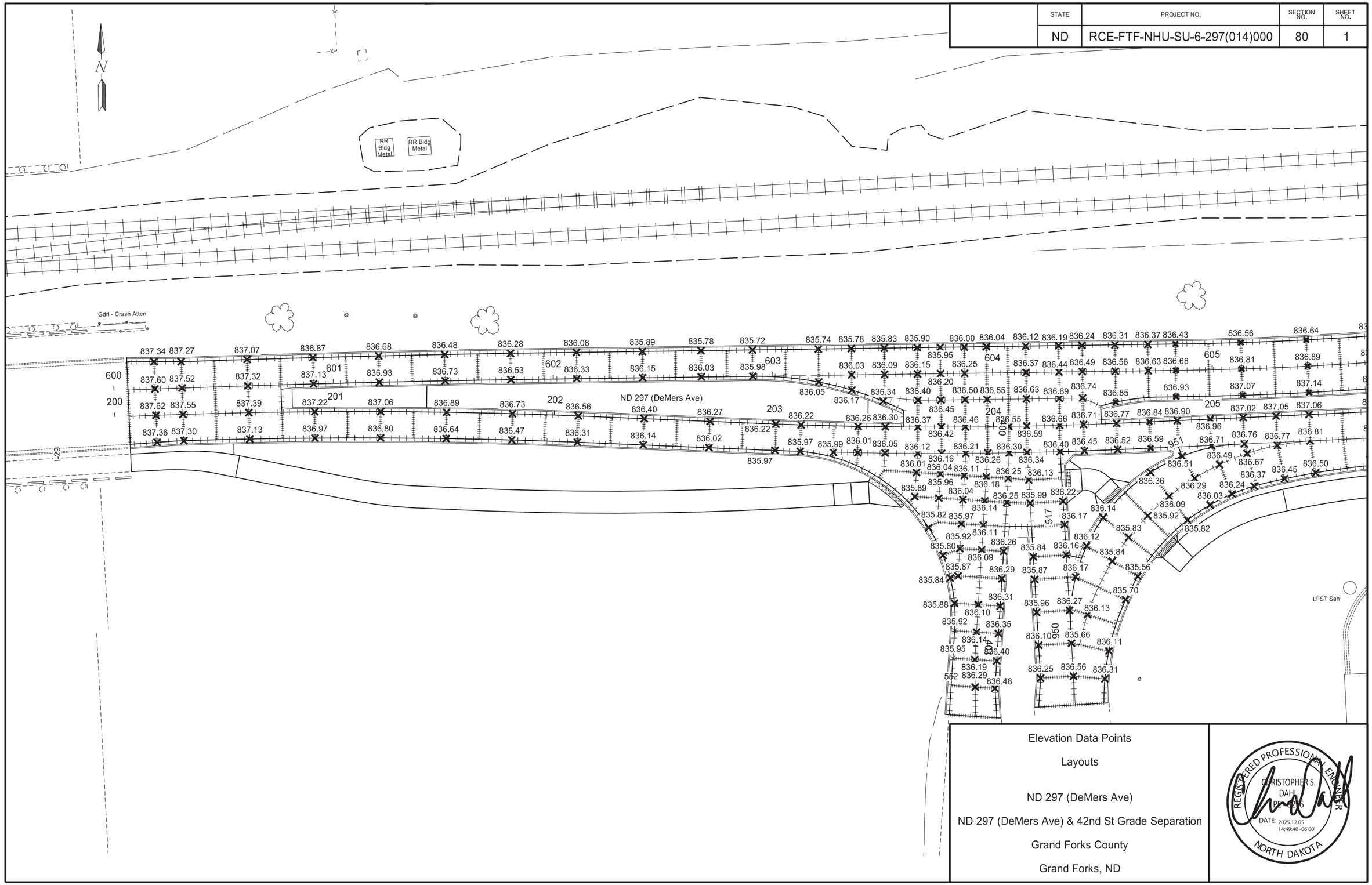
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8076
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NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	80	1



Elevation Data Points

Layouts

ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.05 14:49:40 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	80	2

N

605 606 607 608 609 610

205 206 207 208 209 210

951

ND 297 (DeMers Ave)

LFST San

SERVICE - 1.5" COPPER (QL-D)

EL

Gas Station

Gas Pumps

Elevation Data Points

Layouts

ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4276
DATE: 2025.12.05 14:50:19 -06'00'
NORTH DAKOTA

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	80	3

N

N 42nd St

S 42nd St

ND 297 (DeMers Ave)

720 719 718 717 320 319 318 317

610 611 612 613 614 615 616

210 211 212 213 214 215 216

835.51 835.86 835.77 836.14 836.02 836.39 836.08 836.45 836.83 835.83 836.20 836.58 835.58 835.90 836.27

836.00 835.56 835.11 834.66 834.22 833.87 833.68 833.63 833.67 833.81 836.31 835.86 835.41 834.96 834.51 834.17 833.97 833.92 833.96 834.10 836.56 836.11 835.66 835.21 834.76 834.42 834.23 834.21 834.26 834.40

836.99 836.81 836.45 836.04 835.59 835.15 834.81 834.62 834.59 834.66 834.7 836.74 836.56 836.20 835.79 835.34 834.90 834.56 834.37 834.34 834.41 834.5 836.49 836.31 835.94 835.54 835.09 834.65 834.30 834.12 834.09 834.16 834.2 836.36 836.15 835.72 835.29 834.84 834.39 834.05 833.87 833.84 833.91 834.0

Elevation Data Points

Layouts

ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

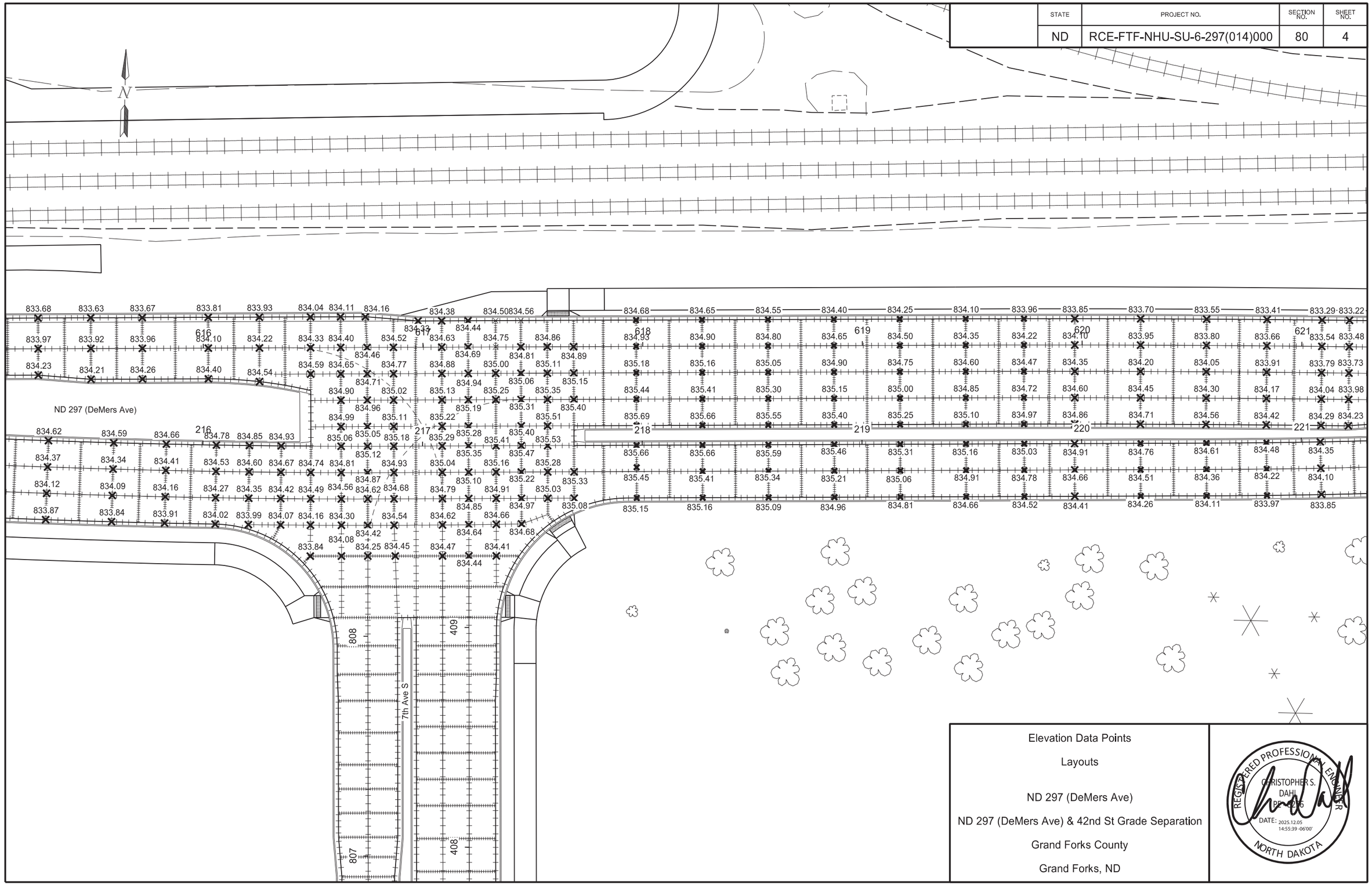
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4256
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NORTH DAKOTA

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	80	4



Elevation Data Points

Layouts

ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4276
DATE: 2025.12.05 14:55:39 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	80	5

Lg Trees

Bldg Metal

Bldg Metal

N

GVP

621 622 623 624 625 626

221 222 223 224 225 226

833.55 833.41 833.29 833.22 833.04 832.92 832.79 832.76 832.78 832.84 832.96 833.08 833.20 833.26 833.45 833.50 833.59 833.62 833.59 833.53 833.44

833.80 833.66 833.54 833.48 833.30 833.18 833.04 833.01 833.03 833.10 833.21 833.33 833.51 833.70 833.76 833.84 833.88 833.85 833.78 833.70

834.05 833.91 833.79 833.73 833.55 833.43 833.29 833.26 833.28 833.35 833.46 833.58 833.71 833.77 833.95 834.01 834.10 834.13 833.93 833.71 833.50

834.30 834.17 834.04 833.98 833.80 833.68 833.63 833.56 833.53 833.56 833.63 833.71

834.56 834.42 834.29 834.23 833.99 833.83

834.20 834.05 833.90 833.76 833.67 833.66 833.75 833.88 833.95 833.95 833.87 833.75 833.64 833.52 833.44

834.61 834.48 834.35 833.95 833.80 833.65 833.51 833.42 833.41 833.50 833.63 833.70 833.69 833.62 833.50 833.39 833.47 833.53

834.36 834.22 834.10 833.70 833.55 833.25 833.16 833.16 833.24 833.37 833.45 833.44 833.36 833.25 833.13 833.22 833.32

834.11 833.97 833.85 833.40

ND 297 (DeMers Ave)

Windmill Tower

Windmill Tower

Elevation Data Points

Layouts

ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

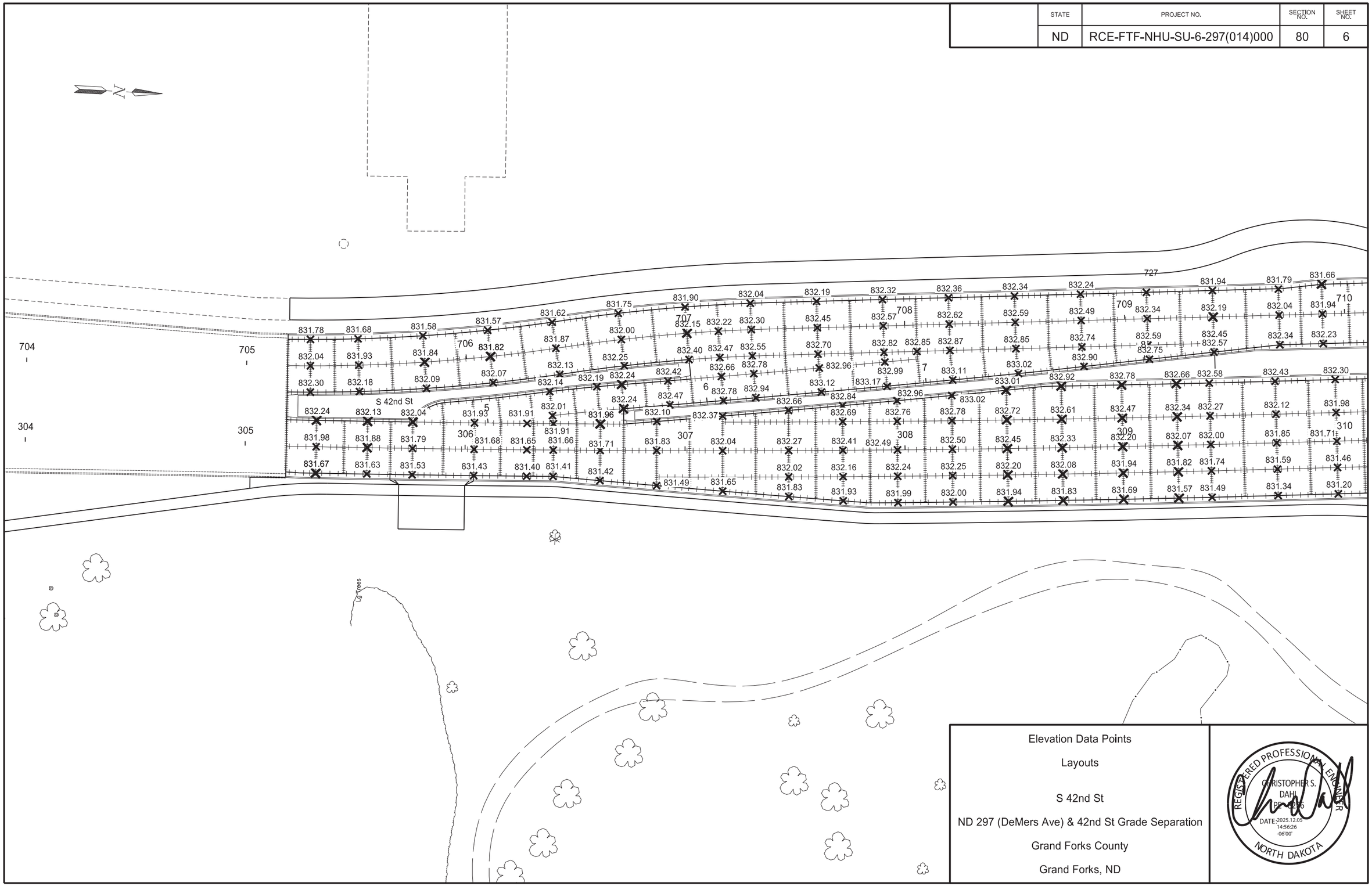
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9216
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NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	80	6



Elevation Data Points

Layouts

S 42nd St

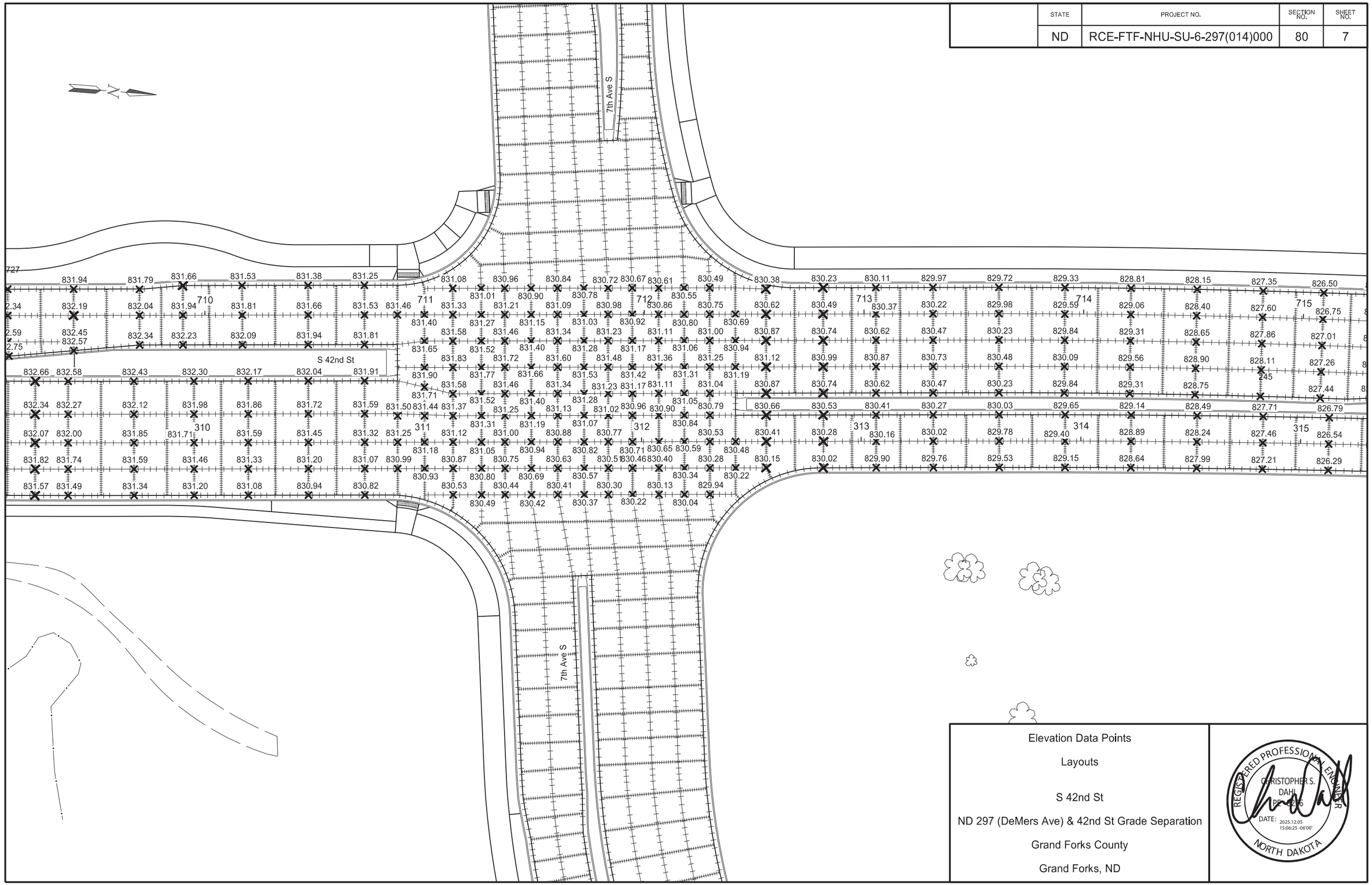
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8256
DATE: 2025.12.05 14:56:26 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	80	7



Elevation Data Points

Layouts

S 42nd St

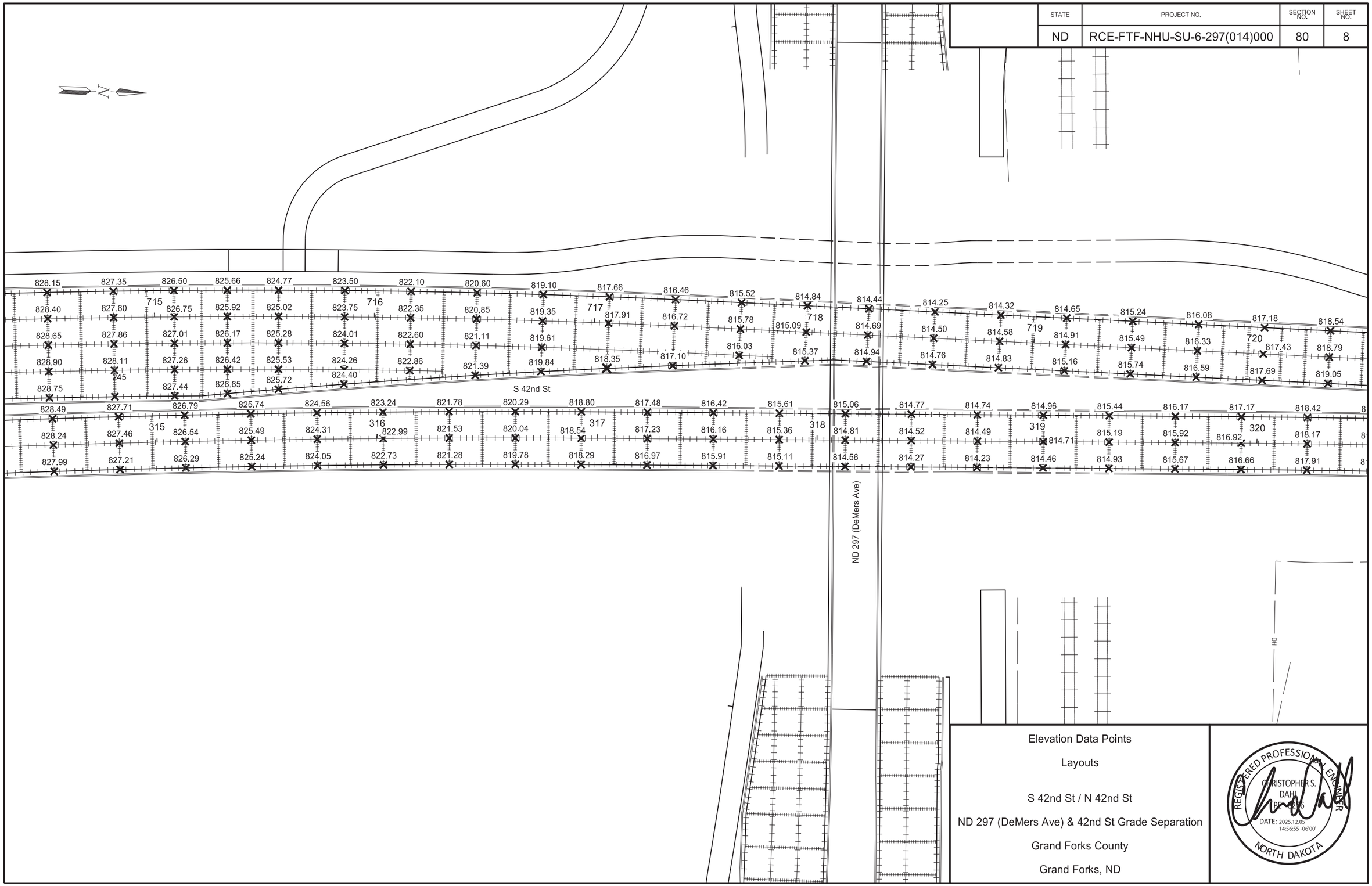
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9256
DATE: 2025.12.05 15:06:25 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	80	8



Elevation Data Points

Layouts

S 42nd St / N 42nd St

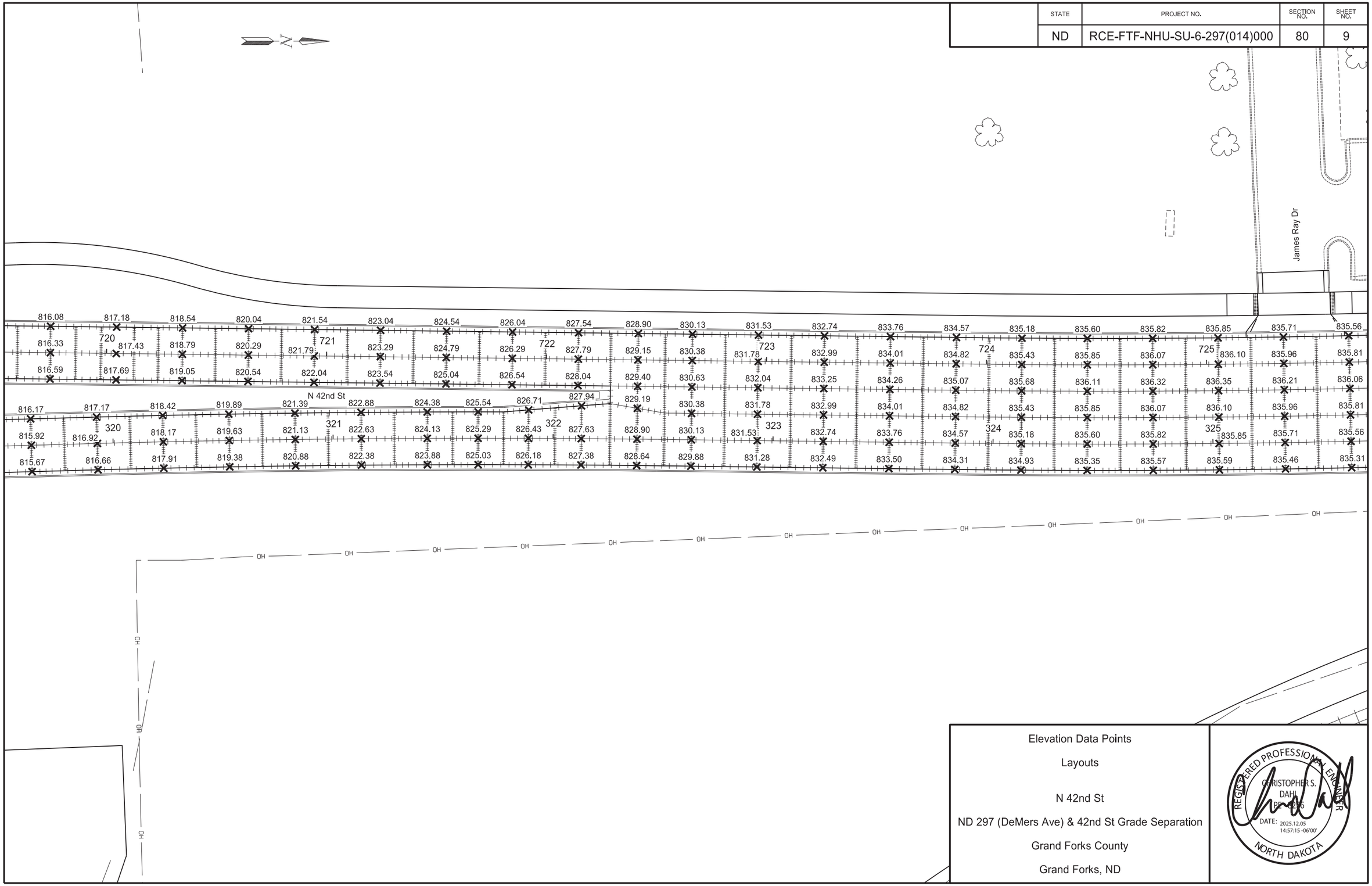
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4296
DATE: 2025.12.05 14:56:55 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	80	9



Elevation Data Points

Layouts

N 42nd St

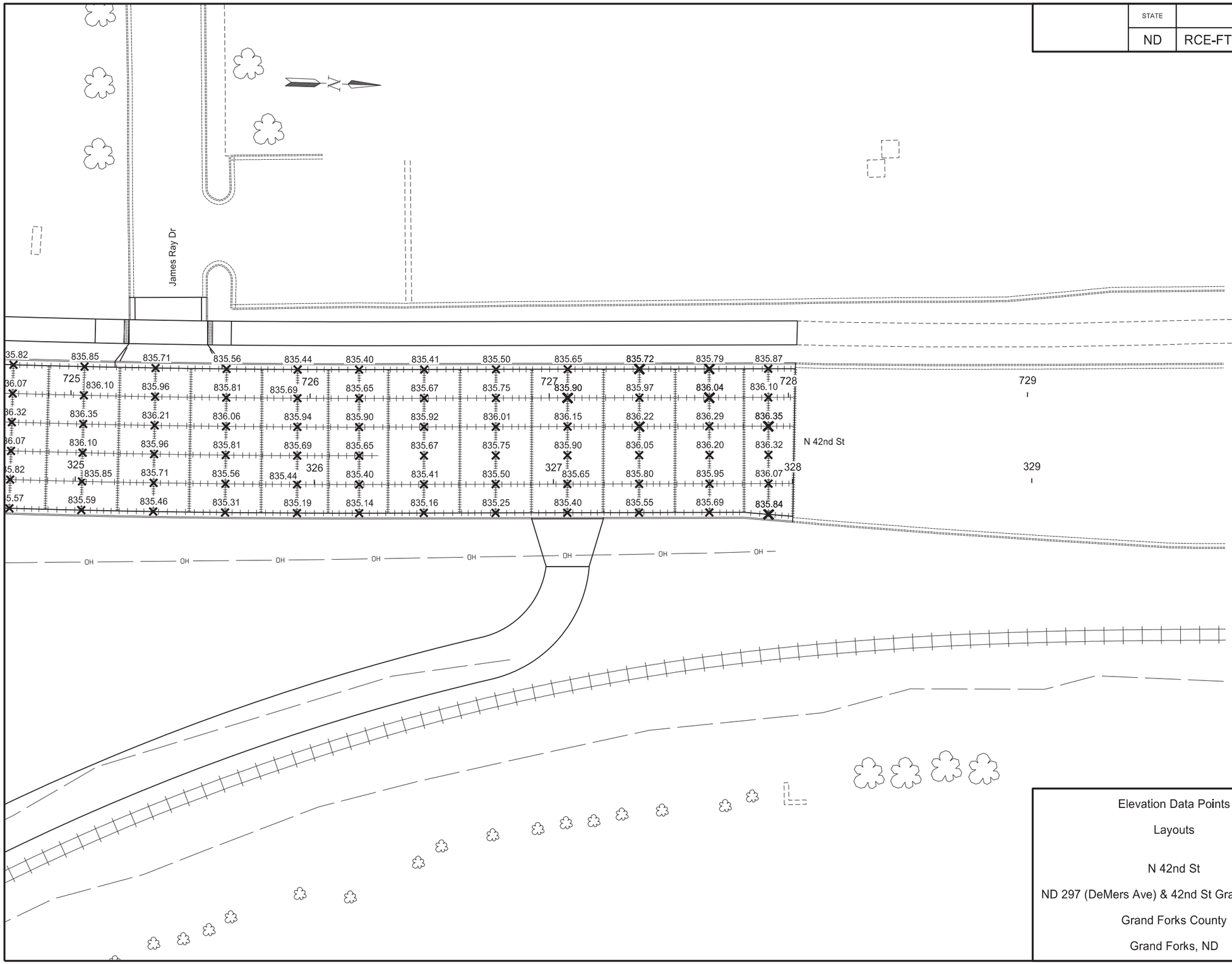
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4256
DATE: 2025.12.05 14:57:15 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	80	10



Elevation Data Points

Layouts

N 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

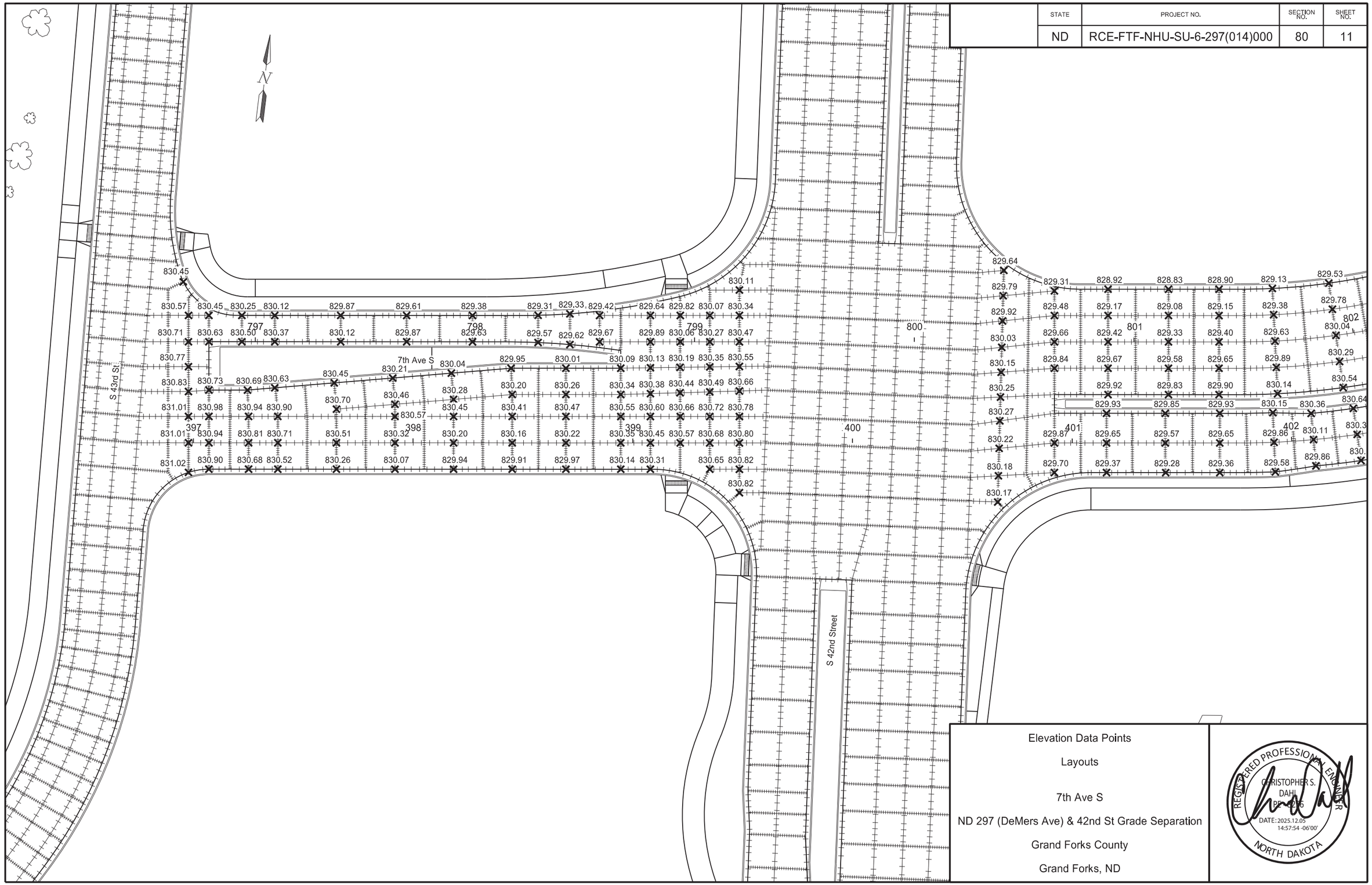
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.05 14:57:40 -06'00'
NORTH DAKOTA

12/5/2025 2:44:28 PM ryan.genz H:\NDDOT\24M000368000\CAD\ORD\NDDOT-24M000368000\Plan\080LO_010.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	80	11



Elevation Data Points

Layouts

7th Ave S

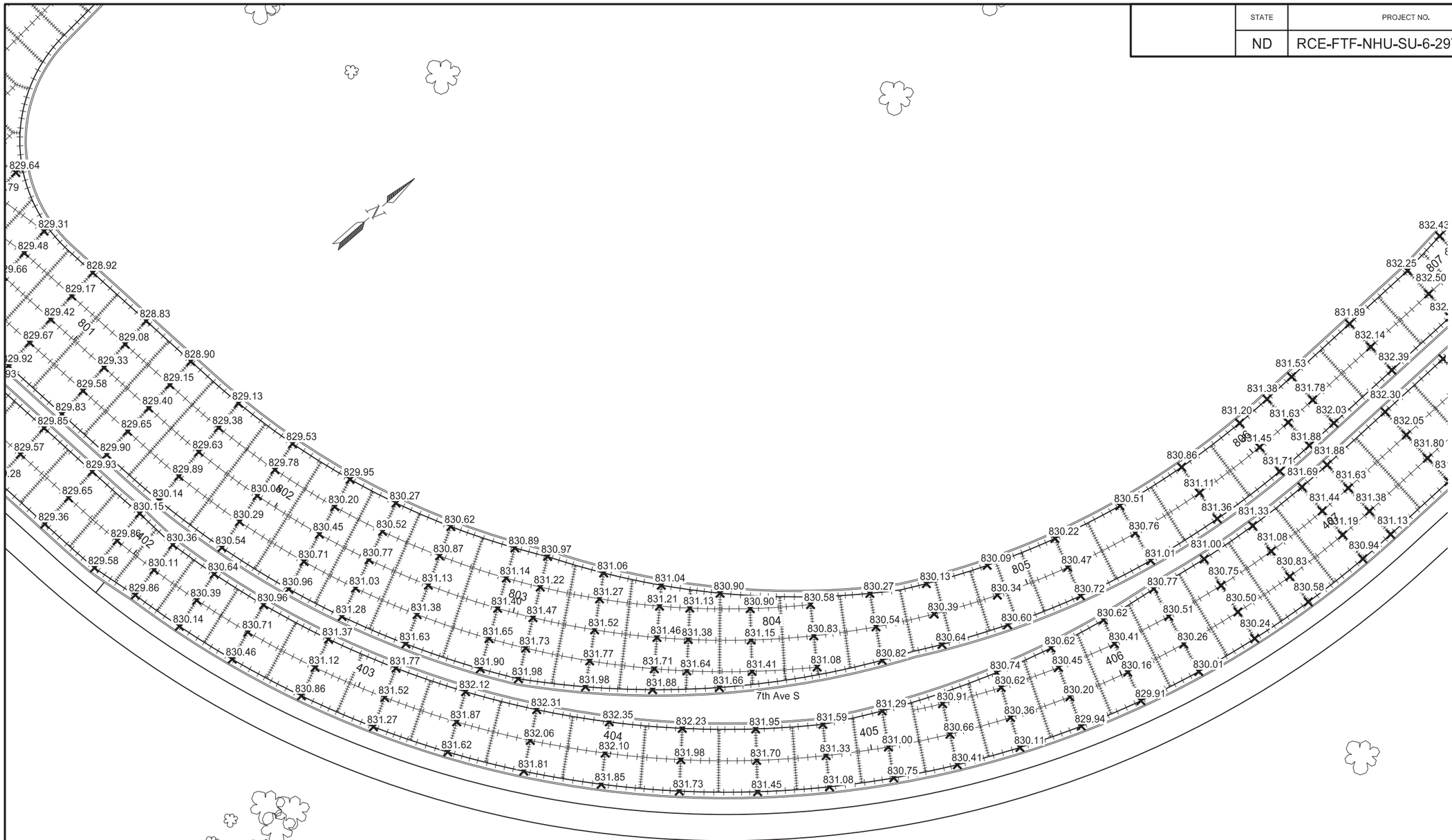
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4206
DATE: 2025.12.05 14:57:54 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	80	12



Elevation Data Points

Layouts

7th Ave S

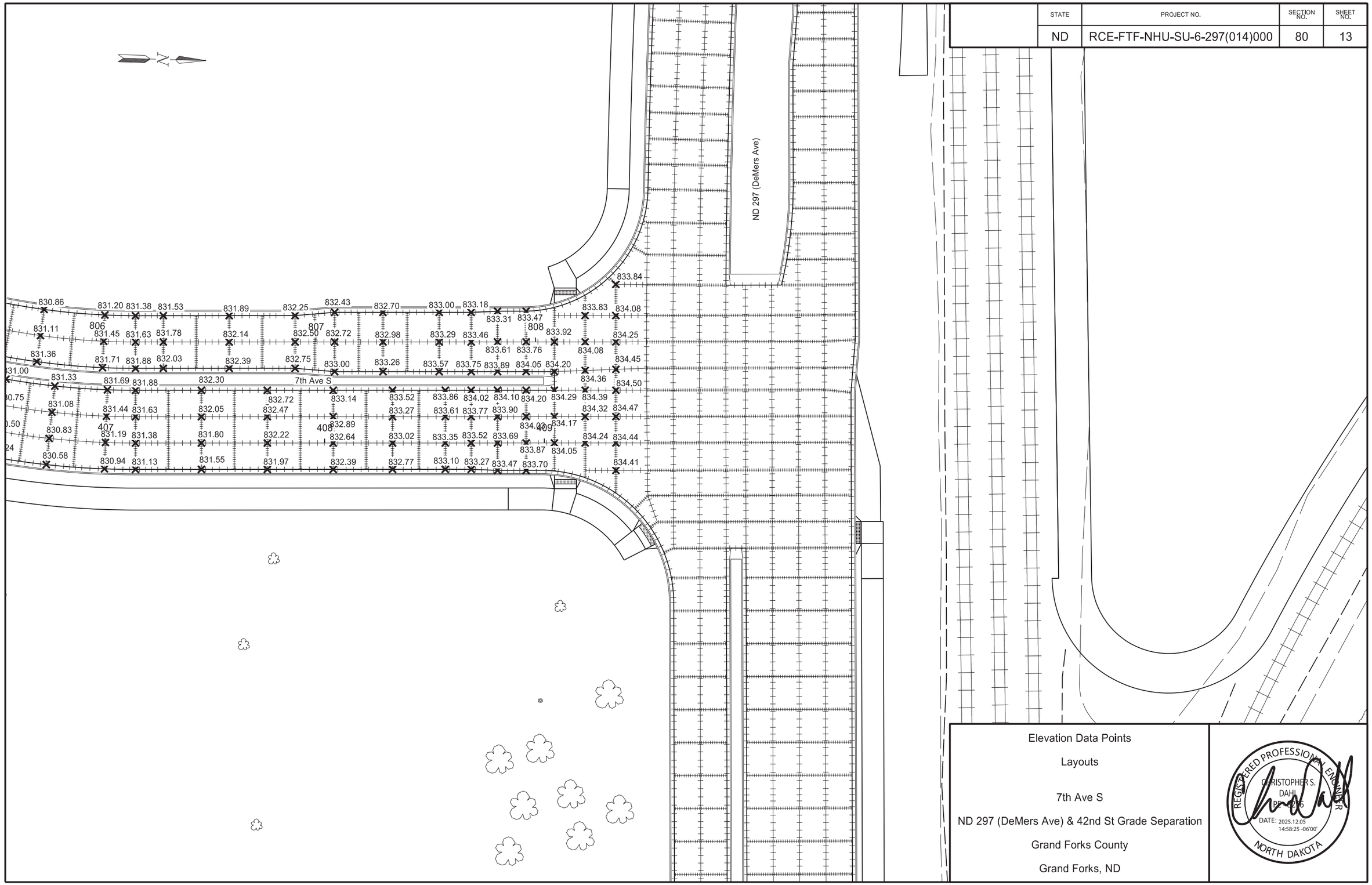
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8296
DATE: 2025.12.05 14:58:11 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	80	13



Elevation Data Points

Layouts

7th Ave S

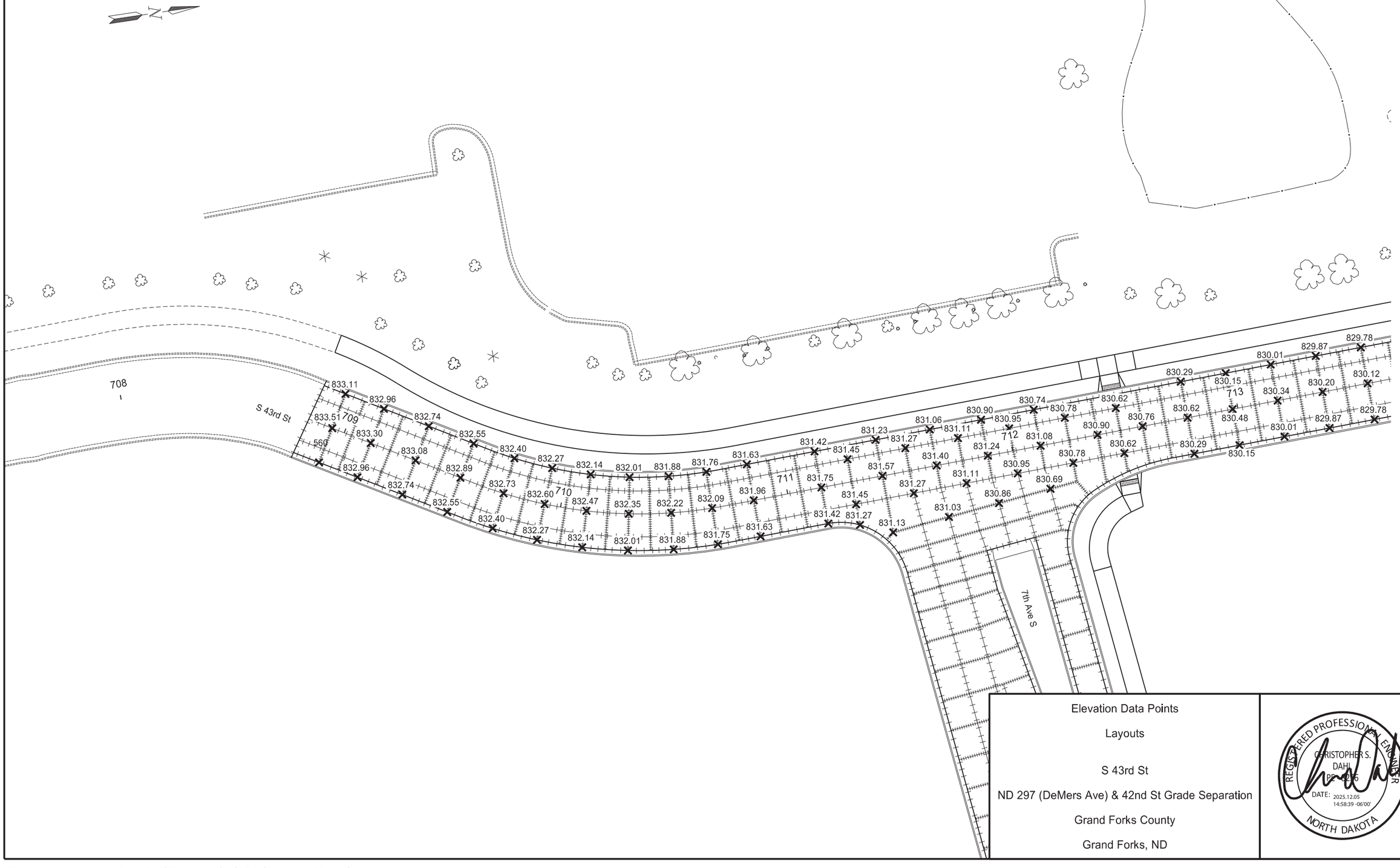
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.05 14:58:25 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	80	14



Elevation Data Points

Layouts

S 43rd St

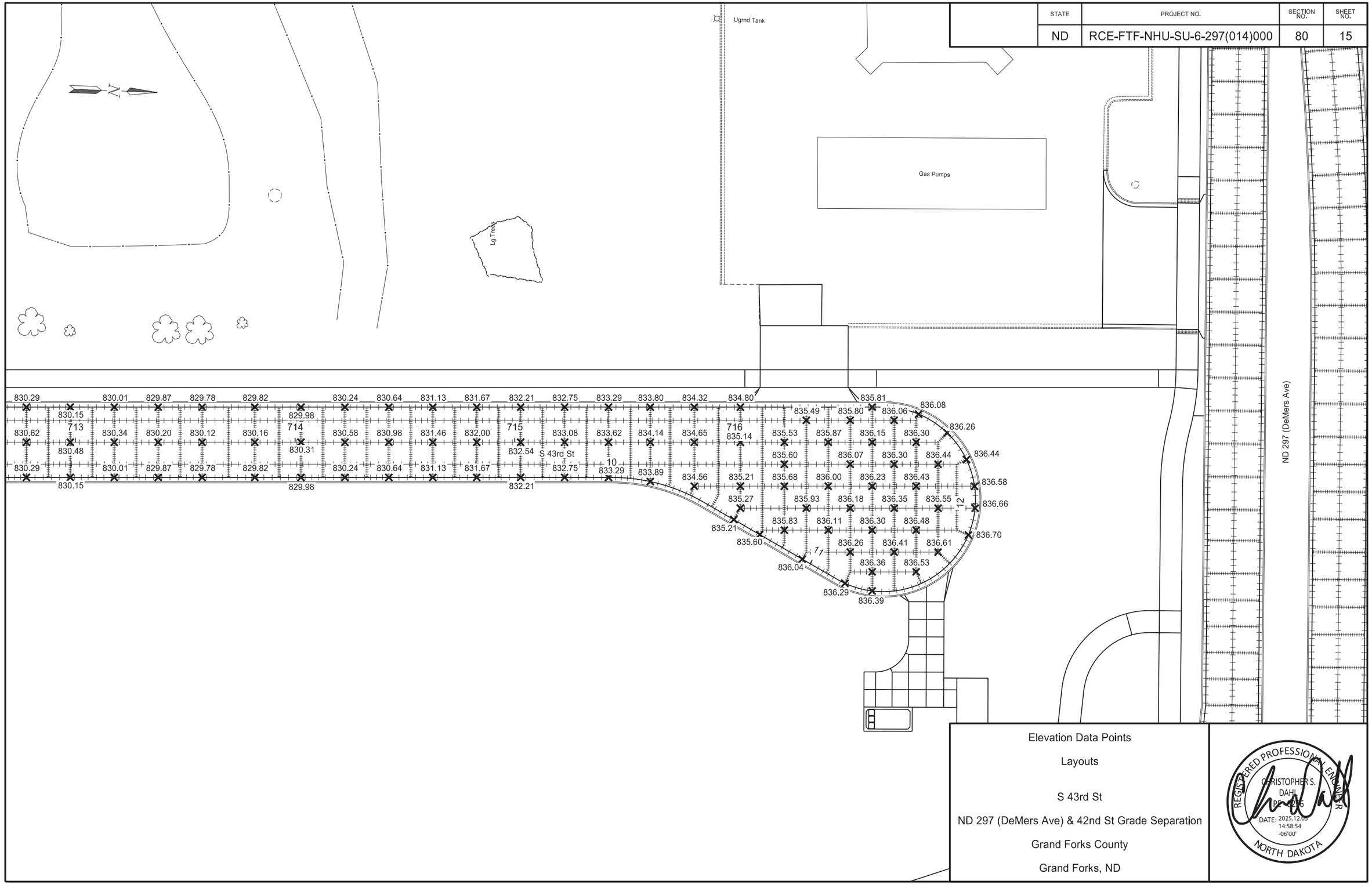
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9256
DATE: 2025.12.05 14:58:39 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	80	15



Elevation Data Points

Layouts

S 43rd St

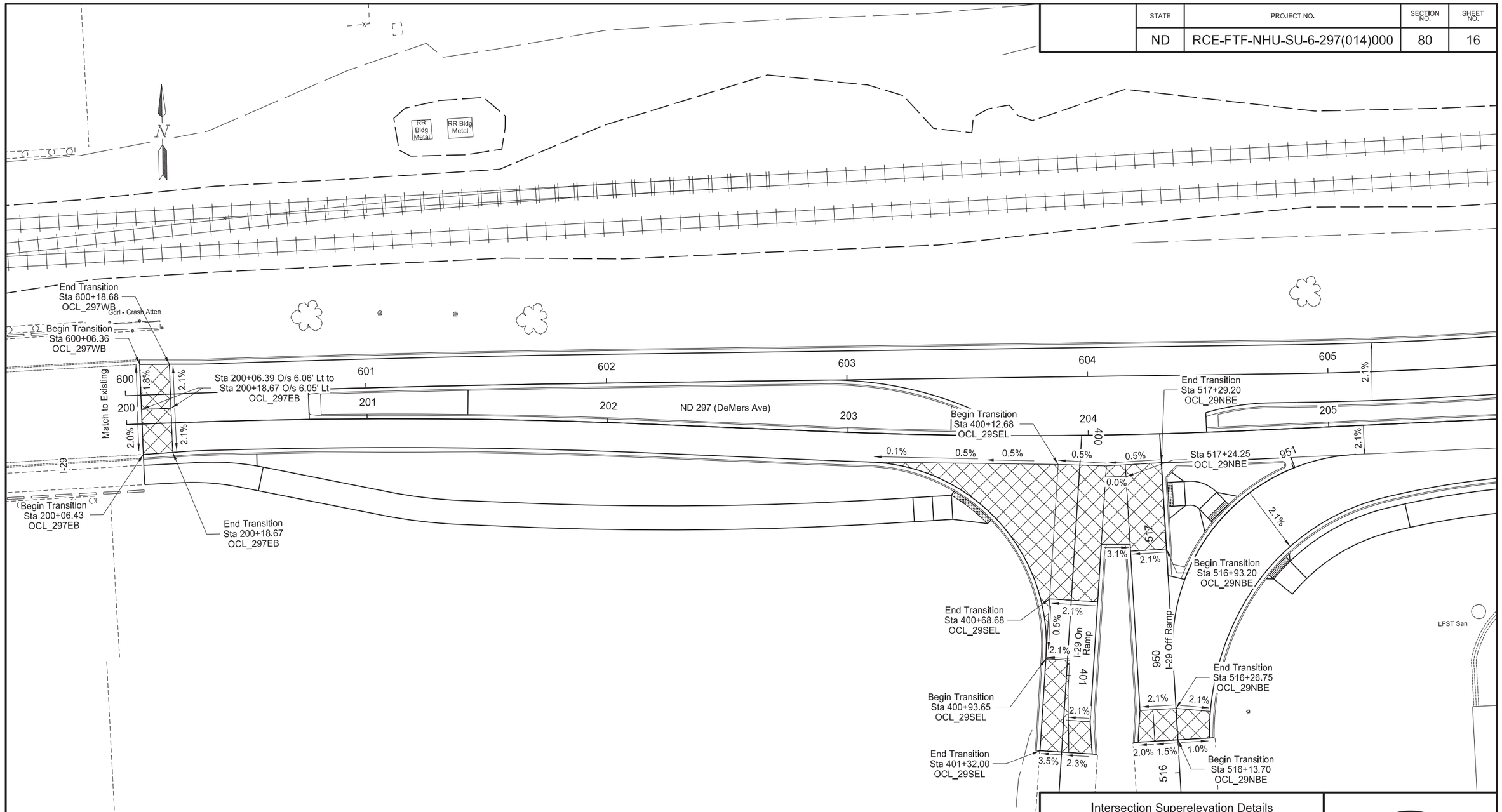
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8076
DATE: 2025.12.05 14:58:54 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	80	16



Legend

Pavement Slope Transition

Note:

Roadway transitions near curb ramps not shown, see section 80 curb ramp details for elevations to construct curb ramps per ADA compliance.

Intersection Superelevation Details

Layouts

ND 297 (DeMers Ave)

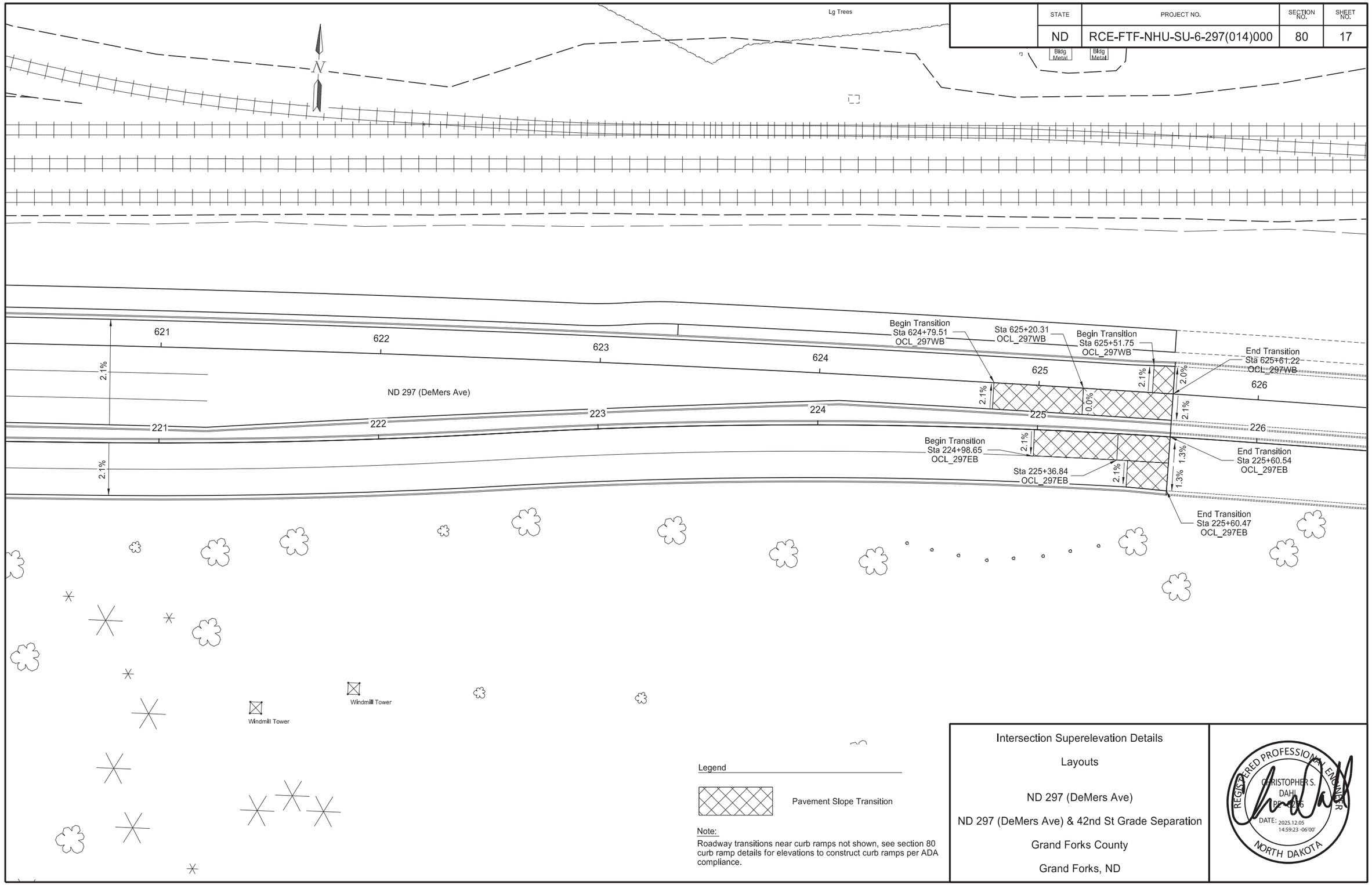
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8276
DATE: 2025.12.05 14:59:09 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	80	17



Legend

Pavement Slope Transition

Note:

Roadway transitions near curb ramps not shown, see section 80 curb ramp details for elevations to construct curb ramps per ADA compliance.

Intersection Superelevation Details

Layouts

ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

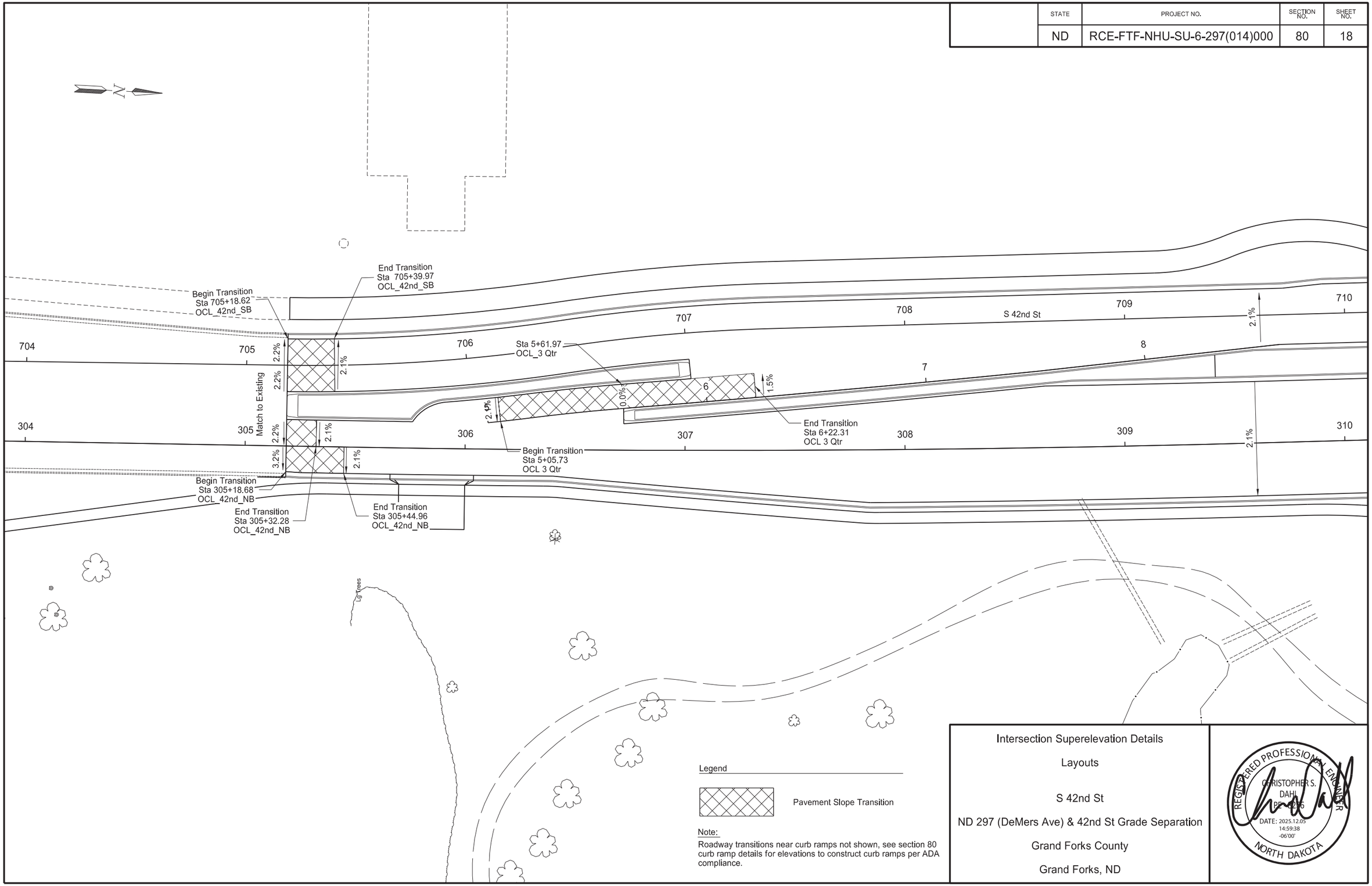
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8076
DATE: 2025.12.05 14:59:23 -06'00'
NORTH DAKOTA

12/5/2025 2:44:35 PM ryan.genz H:\NDDOT\24M000368000\CAD\ORD\NDDOT-24M000368000\Plan\080LO_017.dgn

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	80	18



Legend

Pavement Slope Transition

Note:

Roadway transitions near curb ramps not shown, see section 80 curb ramp details for elevations to construct curb ramps per ADA compliance.

Intersection Superelevation Details

Layouts

S 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

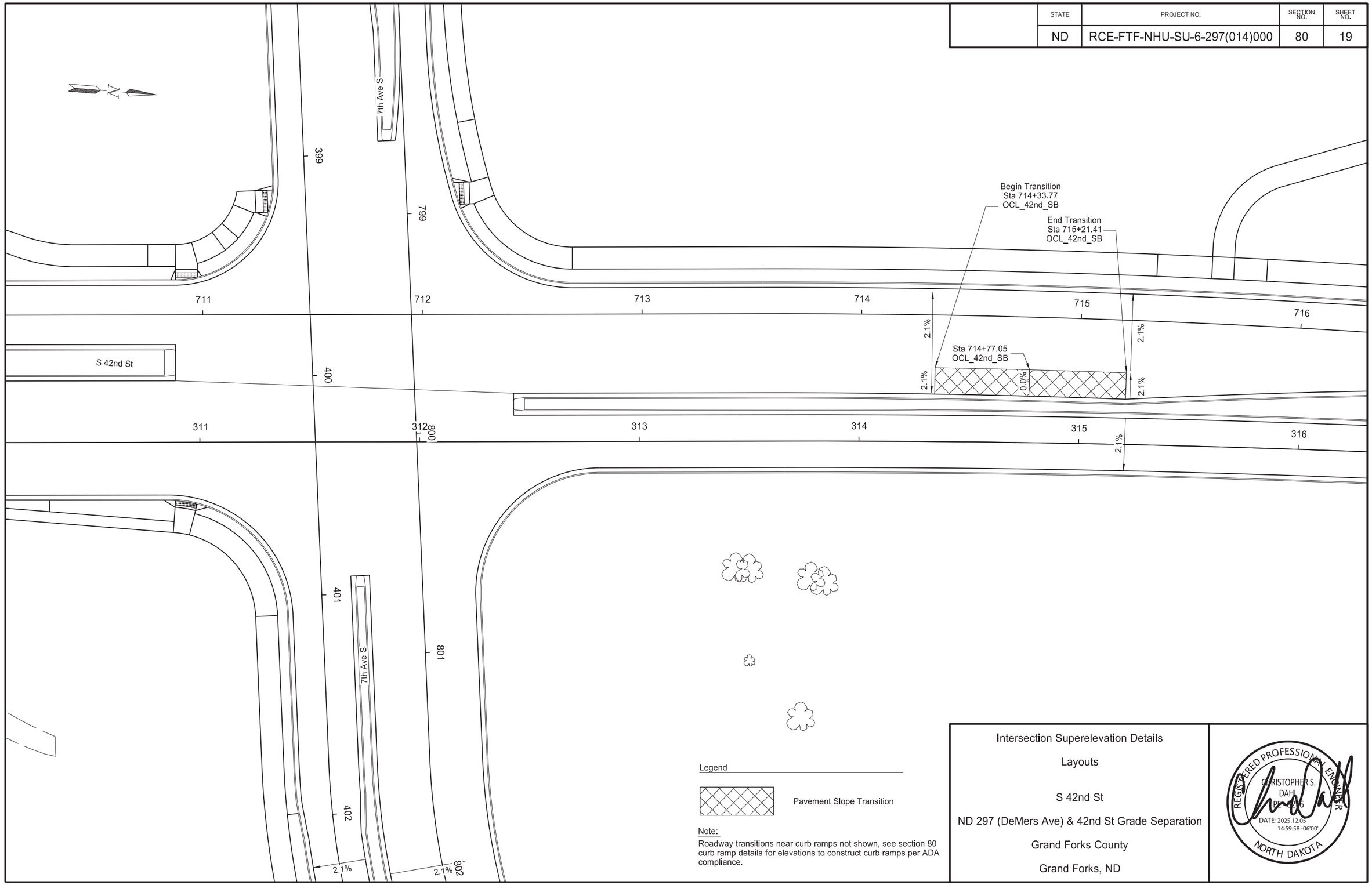
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8226
DATE: 2025.12.05 14:59:38 -06'00'
NORTH DAKOTA

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	80	19



Legend

Pavement Slope Transition

Note:

Roadway transitions near curb ramps not shown, see section 80 curb ramp details for elevations to construct curb ramps per ADA compliance.

Intersection Superelevation Details

Layouts

S 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

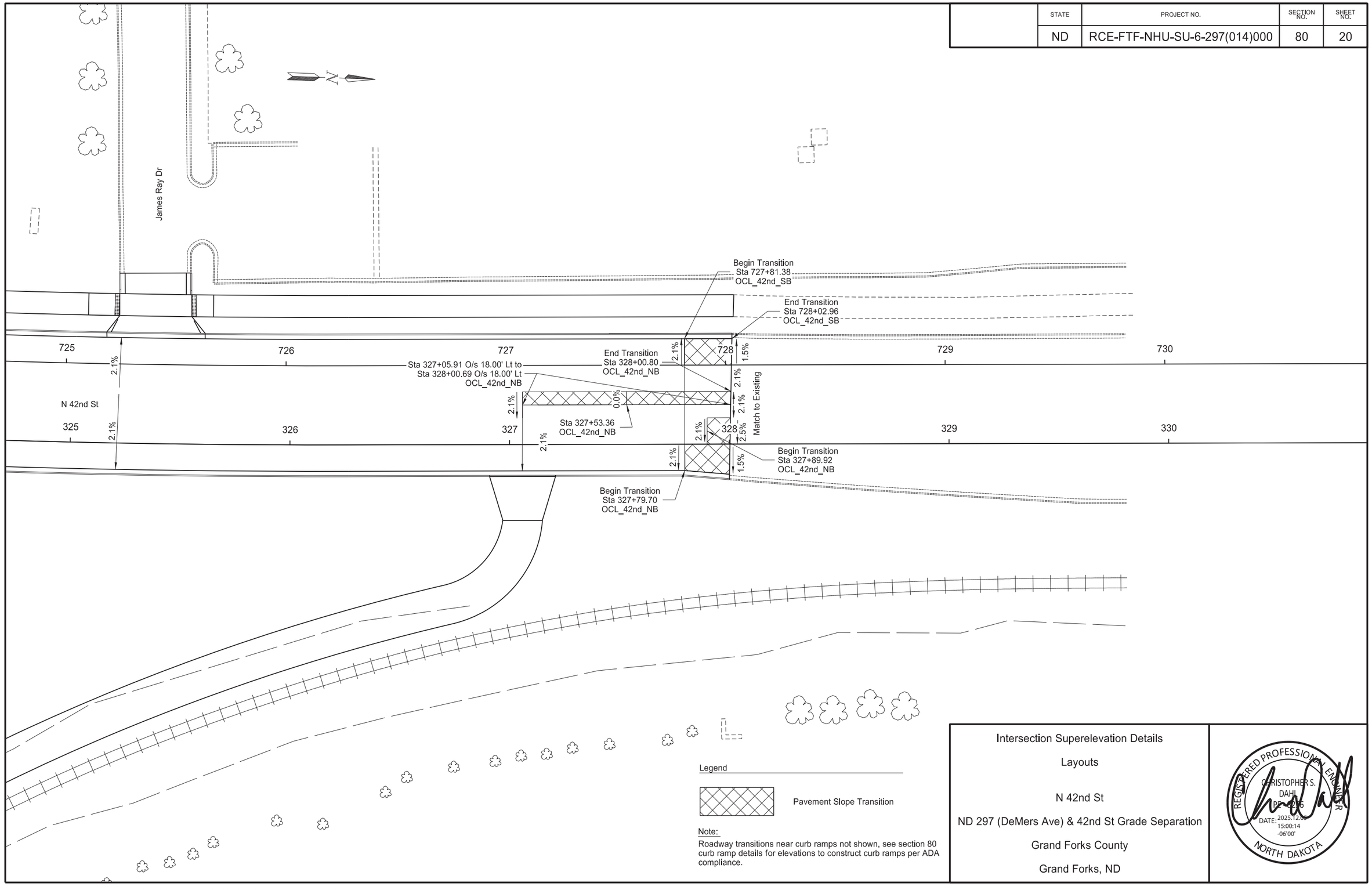
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8256
DATE: 2025.12.05 14:59:58 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	80	20



Legend

Pavement Slope Transition

Note:
Roadway transitions near curb ramps not shown, see section 80 curb ramp details for elevations to construct curb ramps per ADA compliance.

Intersection Superelevation Details

Layouts

N 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

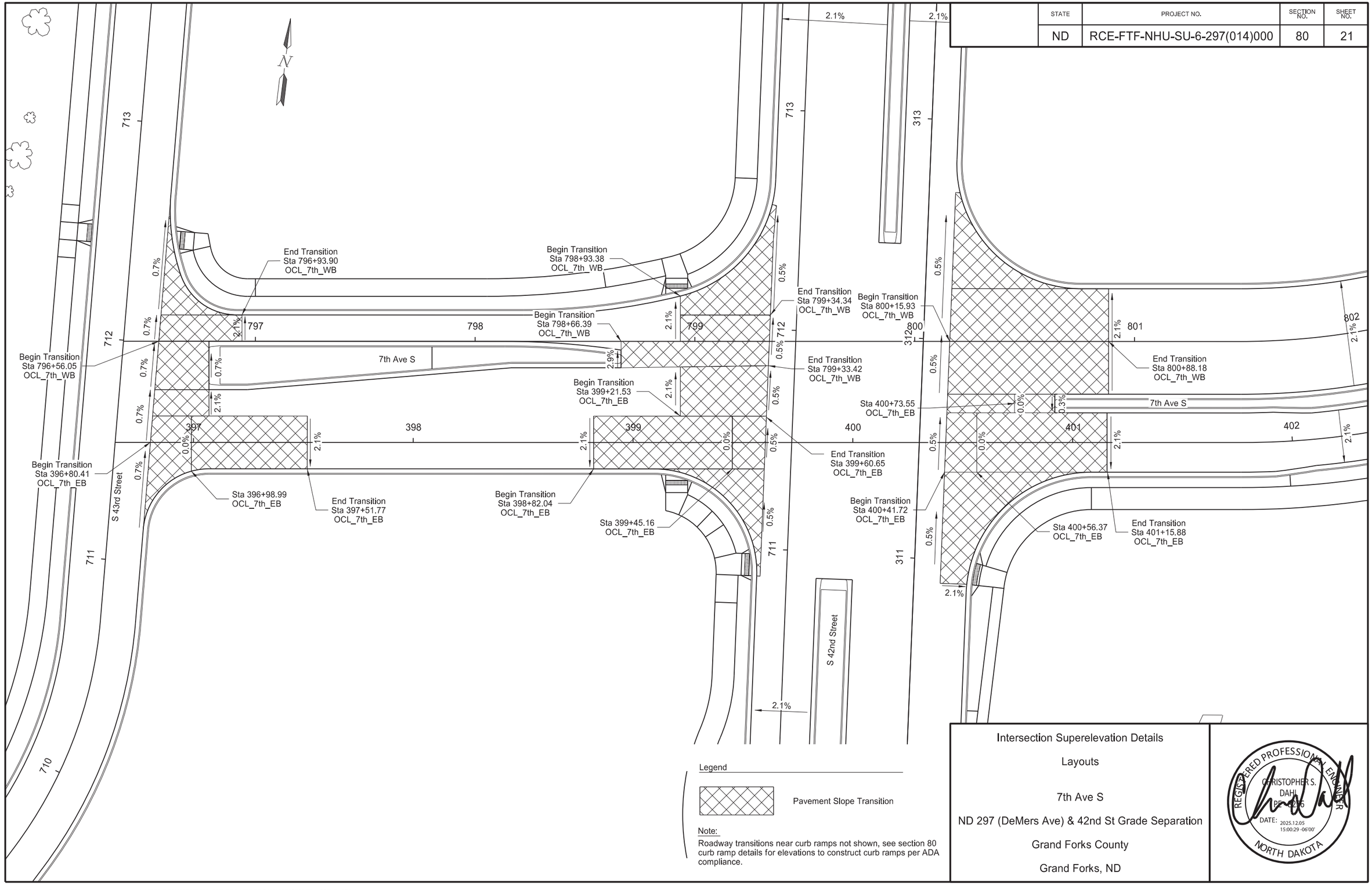
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4216
DATE: 2025.12.05 15:00:14 -06'00'
NORTH DAKOTA

12/5/2025 2:44:37 PM ryan.genz H:\NDDOT\24M000368000\CAD\ORD\NDDOT-24M000368000\Plan\080LO_020.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	80	21



Legend

Pavement Slope Transition

Note:

Roadway transitions near curb ramps not shown, see section 80 curb ramp details for elevations to construct curb ramps per ADA compliance.

Intersection Superelevation Details

Layouts

7th Ave S

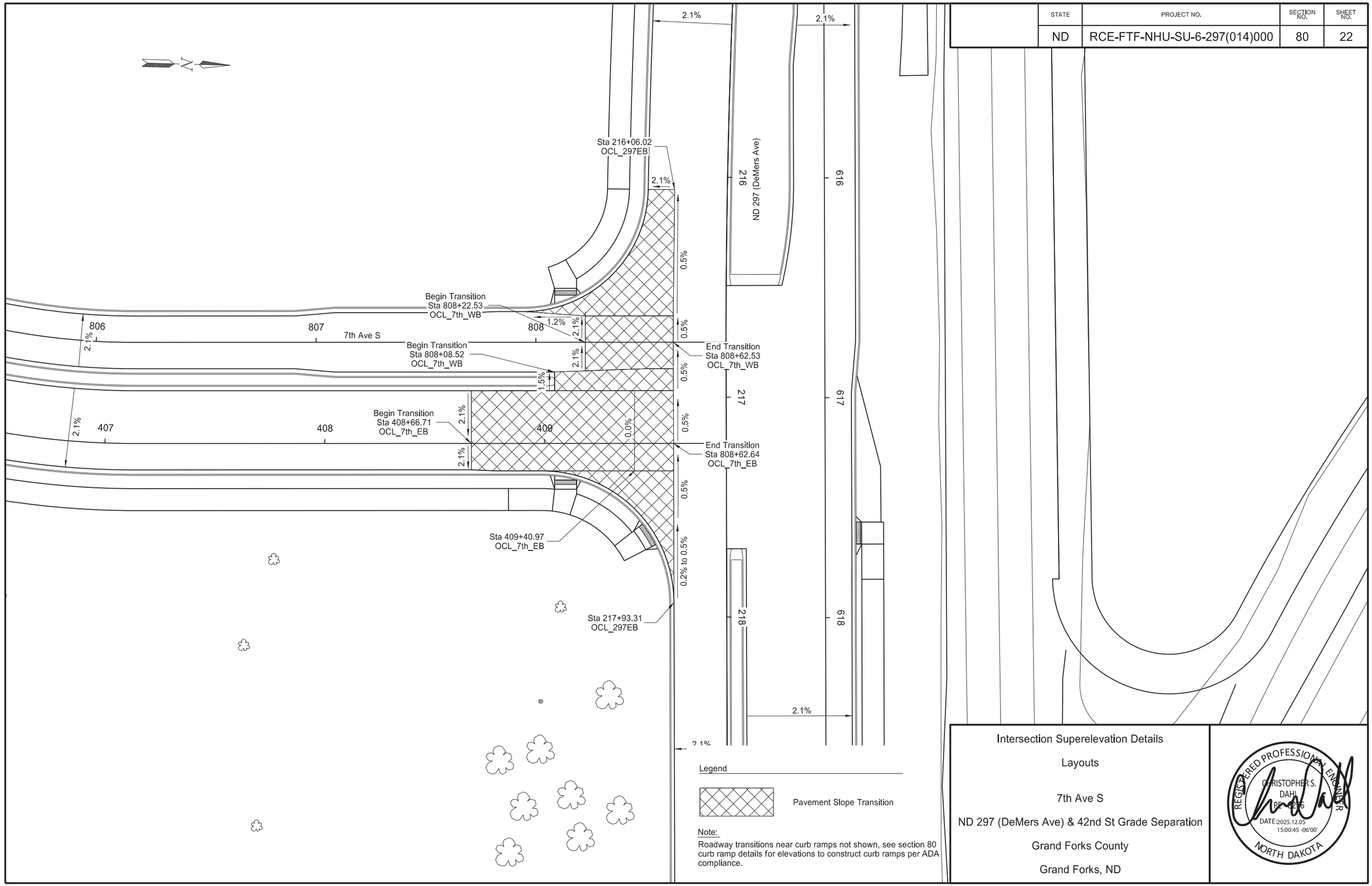
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8226
DATE: 2025.12.05 15:00:29 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	80	22



Legend

Pavement Slope Transition

Note:

Roadway transitions near curb ramps not shown, see section 80 curb ramp details for elevations to construct curb ramps per ADA compliance.

Intersection Superelevation Details

Layouts

7th Ave S

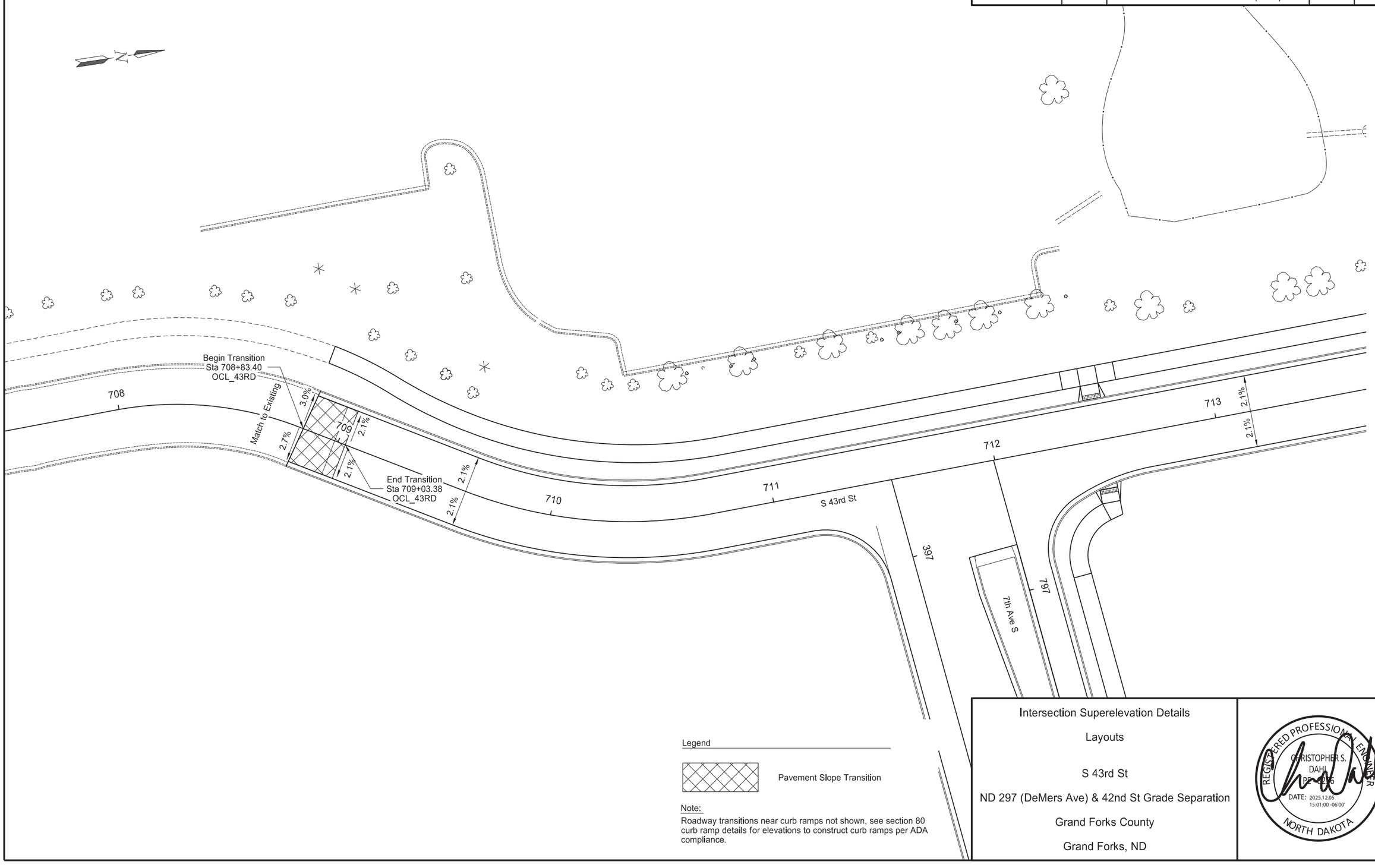
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4276
DATE:2025.12.05 15:00:45 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	80	23



Legend

Pavement Slope Transition

Note:
Roadway transitions near curb ramps not shown, see section 80 curb ramp details for elevations to construct curb ramps per ADA compliance.

Intersection Superelevation Details

Layouts

S 43rd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

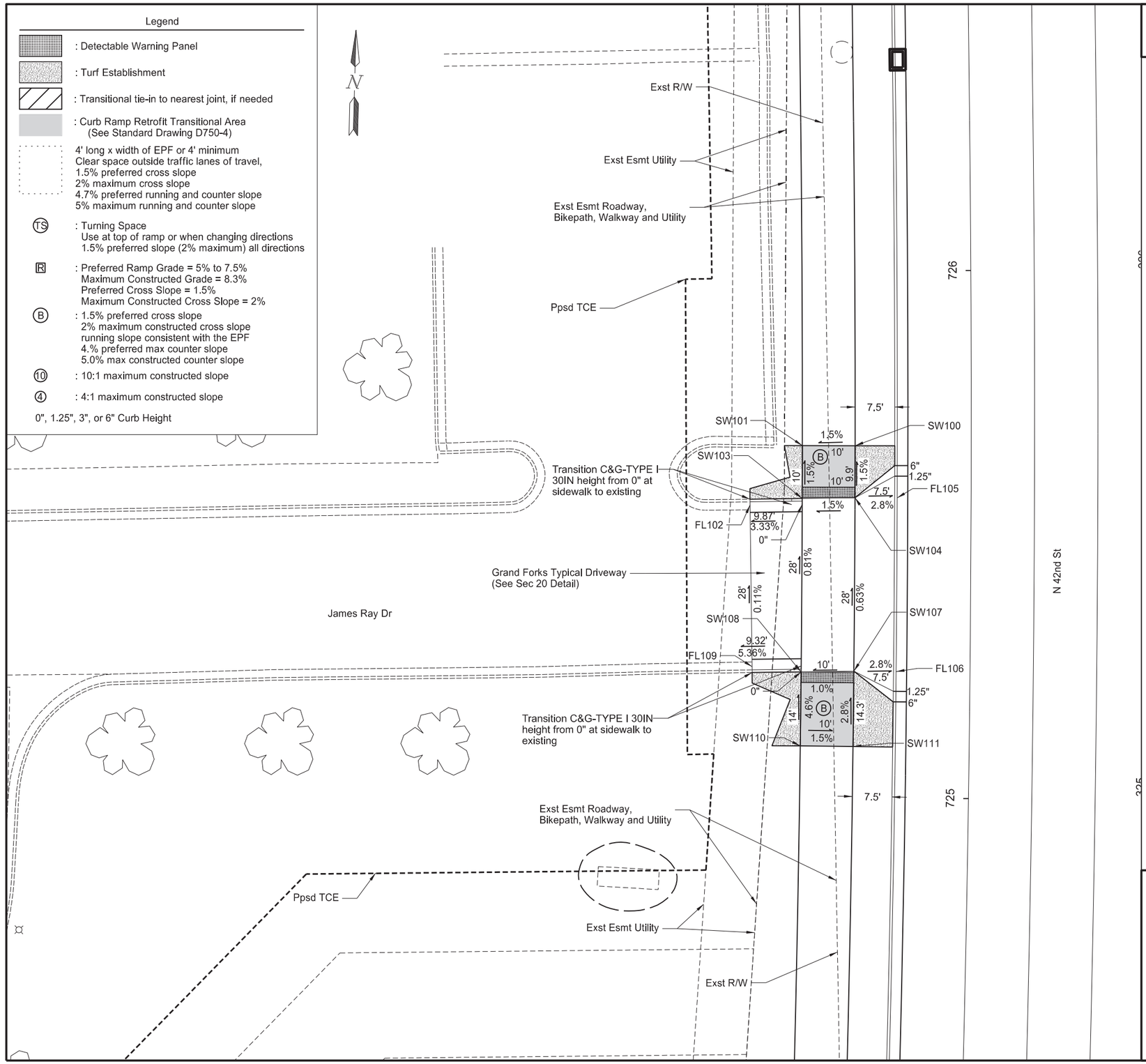
REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8296
DATE: 2025.12.05 15:01:00 -06'00'
NORTH DAKOTA

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	80	24

Legend

- : Detectable Warning Panel
- : Turf Establishment
- : Transitional tie-in to nearest joint, if needed
- : Curb Ramp Retrofit Transitional Area (See Standard Drawing D750-4)
- 4' long x width of EPF or 4' minimum Clear space outside traffic lanes of travel, 1.5% preferred cross slope, 2% maximum cross slope, 4.7% preferred running and counter slope, 5% maximum running and counter slope
- (TS) : Turning Space. Use at top of ramp or when changing directions. 1.5% preferred slope (2% maximum) all directions
- (R) : Preferred Ramp Grade = 5% to 7.5%, Maximum Constructed Grade = 8.3%, Preferred Cross Slope = 1.5%, Maximum Constructed Cross Slope = 2%
- (B) : 1.5% preferred cross slope, 2% maximum constructed cross slope, running slope consistent with the EPF, 4.% preferred max counter slope, 5.0% max constructed counter slope
- (10) : 10:1 maximum constructed slope
- (4) : 4:1 maximum constructed slope
- 0", 1.25", 3", or 6" Curb Height



N 42nd St at James Ray Dr N			
Name	Easting (X)	Northing (Y)	Elevation
SW100	2805089.03	354270.50	835.52
SW101	2805099.02	354270.75	835.67
FL102	2805079.41	354258.97	835.39
SW103	2805089.26	354260.50	835.68
SW104	2805099.26	354260.89	835.83
FL105	2805107.26	354261.07	835.51

N 42nd St at James Ray Dr S			
FL106	2805107.90	354228.19	835.68
SW107	2805099.90	354228.06	836.00
SW108	2805089.90	354227.67	835.90
FL109	2805080.60	354228.41	835.40
SW110	2805090.11	354213.67	836.55
SW111	2805100.11	354213.81	836.40

Notes:

1. All flares are B (4:1 Maximum Slope).
2. All Truncated Domes are to be Cast Iron.
3. Curb radii are measured to front faceof curb. Radius dimension call outs point to where the radius was measured from.
4. Any ramp found to be in noncompliance will be removed and replaced by the contractor at their own expense.
5. See Standards Drawings D-750-2 & D-750-3 for additional details.

ADA Layouts

Shared Use Path / Driveway Crossing

N 42nd St & James Ray

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.05 15:01:16 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	80	25

Legend

: Detectable Warning Panel

: Turf Establishment

: Transitional tie-in to nearest joint, if needed

: Curb Ramp Retrofit Transitional Area (See Standard Drawing D750-4)

4' long x width of EPF or 4' minimum
Clear space outside traffic lanes of travel,
1.5% preferred cross slope
2% maximum cross slope
4.7% preferred running and counter slope
5% maximum running and counter slope

(TS) : Turning Space
Use at top of ramp or when changing directions
1.5% preferred slope (2% maximum) all directions

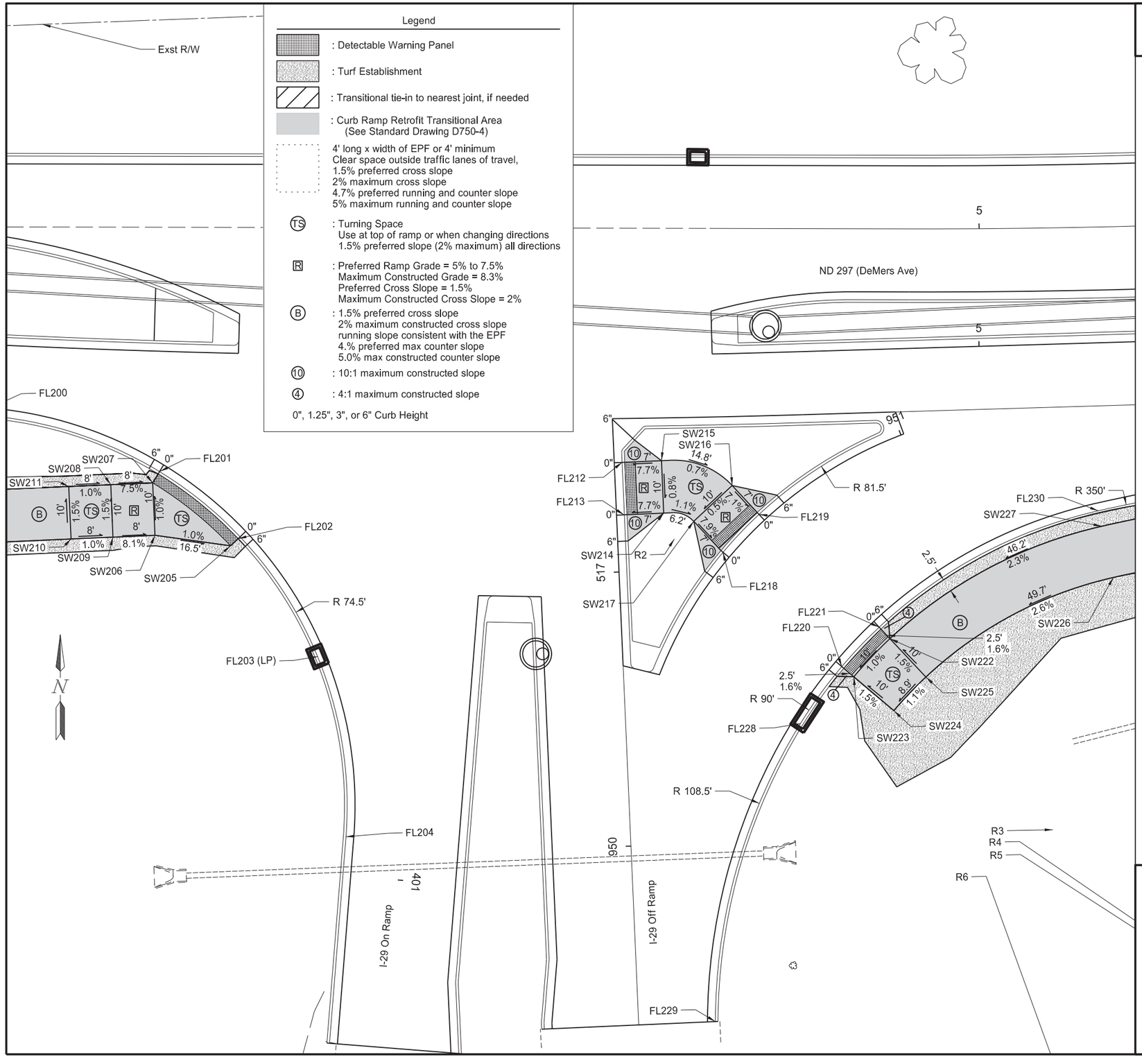
(R) : Preferred Ramp Grade = 5% to 7.5%
Maximum Constructed Grade = 8.3%
Preferred Cross Slope = 1.5%
Maximum Constructed Cross Slope = 2%

(B) : 1.5% preferred cross slope
2% maximum constructed cross slope
running slope consistent with the EPF
4.% preferred max counter slope
5.0% max constructed counter slope

(10) : 10:1 maximum constructed slope

(4) : 4:1 maximum constructed slope

0", 1.25", 3", or 6" Curb Height



ND 297 (DeMers Ave) at I-29 On Ramp W			
Name	Easting (X)	Northing (Y)	Elevation
FL200	2804250.18	353478.78	835.89
FL201	2804285.09	353467.56	835.85
FL202	2804300.32	353455.24	835.81
FL203 LP	2804307.71	353446.95	835.71
FL204	2804320.84	353398.48	835.84
SW205	2804298.87	353453.86	835.83
SW206	2804284.48	353455.86	835.97
SW207	2804284.05	353465.85	835.87
SW208	2804276.05	353465.50	836.47
SW209	2804276.49	353455.51	836.62
SW210	2804268.50	353455.16	836.70
SW211	2804268.06	353465.15	836.55

ND 297 at I-29 Off Ramp Median			
Name	Easting (X)	Northing (Y)	Elevation
FL212	2804373.42	353469.74	836.28
FL213	2804373.78	353459.75	836.20
SW214	2804381.35	353460.08	836.74
SW215	2804380.92	353470.07	836.82
SW216	2804394.39	353465.33	836.72
SW217	2804387.07	353458.52	836.67
FL218	2804392.64	353452.63	836.12
FL219	2804399.50	353459.84	836.22

ND 297 (DeMers Ave) at I-29 Off Ramp East			
Name	Easting (X)	Northing (Y)	Elevation
FL220	2804415.25	353430.88	835.51
FL221	2804422.39	353438.36	835.61
SW222	2804424.43	353436.19	835.65
SW223	2804417.54	353428.94	835.55
SW224	2804425.17	353422.48	835.70
SW225	2804431.27	353428.89	835.80
SW226	2804466.97	353447.84	838.22
SW227	2804464.76	353457.60	836.72

ND 297 (DeMers Ave) at Off Ramp Radius			
Name	Easting (X)	Northing (Y)	Radius (FT)
R1	2804246.57	353404.37	74.5
R2	2804383.36	353455.16	5
R3	2804455.03	353400.19	81.5
R4	2804499.69	353363.02	109
R5	2804483.95	353372.74	90
R6	2804541.31	353119.14	350

Notes:

1. All flares are B (4:1 Maximum Slope).

2. All Truncated Domes are to be Cast Iron.

3. Curb radii are measured to front face of curb. Radius dimension call outs point to where the radius was measured from.

4. Any ramp found to be in noncompliance will be removed and replaced by the contractor at their own expense.

5. See Standards Drawings D-750-2 & D-750-3 for additional details.

ADA Layouts

Ramps

ND 297 (DeMers Ave) & I-29 Ramps

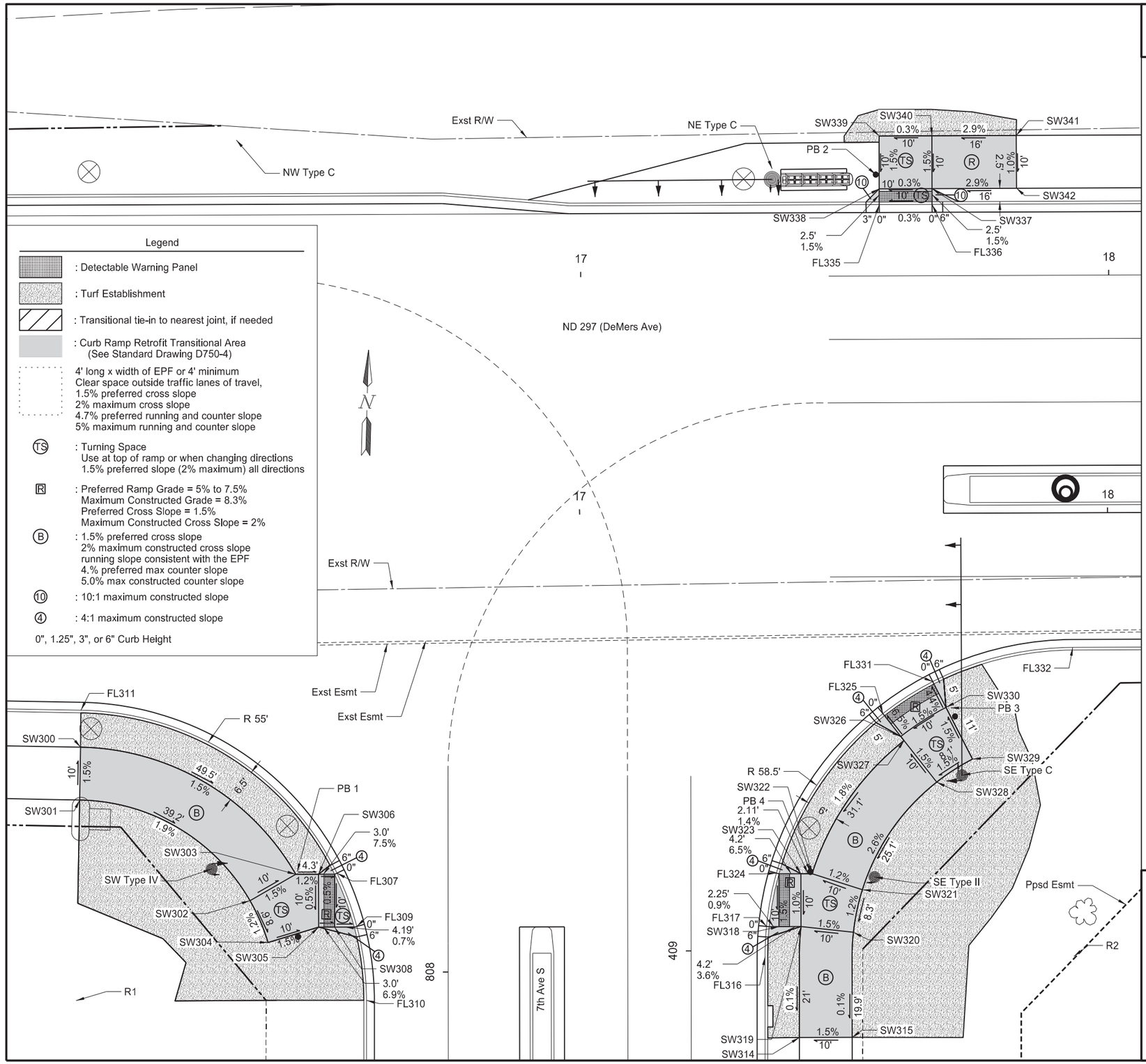
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9026
DATE: 2025.12.05 15:01:32 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	80	26



Legend

- : Detectable Warning Panel
- : Turf Establishment
- : Transitional tie-in to nearest joint, if needed
- : Curb Ramp Retrofit Transitional Area (See Standard Drawing D750-4)
  - 4' long x width of EPF or 4' minimum
  - Clear space outside traffic lanes of travel,
  - 1.5% preferred cross slope
  - 2% maximum cross slope
  - 4.7% preferred running and counter slope
  - 5% maximum running and counter slope
- (TS) : Turning Space
  - Use at top of ramp or when changing directions
  - 1.5% preferred slope (2% maximum) all directions
- (R) : Preferred Ramp Grade = 5% to 7.5%
  - Maximum Constructed Grade = 8.3%
  - Preferred Cross Slope = 1.5%
  - Maximum Constructed Cross Slope = 2%
- (B) : 1.5% preferred cross slope
  - 2% maximum constructed cross slope
  - running slope consistent with the EPF
  - 4.% preferred max counter slope
  - 5.0% max constructed counter slope
- (10) : 10:1 maximum constructed slope
- (4) : 4:1 maximum constructed slope

0", 1.25", 3", or 6" Curb Height

ND 297 (DeMers Ave) at 7th Ave S SW			
Name	Easting (X)	Northing (Y)	Elevation
SW300	2805547.62	353472.22	834.56
SW301	2805547.72	353462.22	834.71
SW302	2805580.48	353444.00	833.97
SW303	2805589.02	353449.21	833.82
SW304	2805584.10	353436.18	833.87
SW305	2805593.59	353439.33	833.72
SW306	2805593.32	353449.33	833.77
FL307	2805596.81	353449.64	833.54
SW308	2805596.64	353439.41	833.50
FL309	2805600.82	353439.65	833.47
FL310	2805603.01	353425.72	833.46
FL311	2805547.52	353479.22	834.02

ND 297 (DeMers Ave) at 7th Ave S SE			
Name	Easting (X)	Northing (Y)	Elevation
SW314	2805685.18	353420.83	834.07
SW315	2805695.17	353421.10	834.22
FL316	2805678.26	353435.93	833.84
FL317	2805678.39	353441.69	833.88
SW318	2805680.77	353441.71	833.90
SW319	2805684.92	353441.82	834.05
SW320	2805694.89	353440.99	834.20
SW321	2805696.37	353449.11	834.30
SW322	2805686.76	353451.87	834.18
SW323	2805684.65	353451.81	834.15
FL324	2805680.02	353451.82	834.05
FL325	2805699.37	353482.53	834.63
SW326	2805702.88	353478.29	834.95
SW327	2805703.52	353477.53	834.96
SW328	2805709.91	353469.83	835.11
SW329	2805716.58	353474.37	835.21
SW330	2805711.30	353484.01	834.99
FL331	2805708.66	353488.84	834.77
FL332	2805735.00	353496.00	835.07

ND 297 (DeMers Ave) at 7th Ave S NE			
Name	Easting (X)	Northing (Y)	Elevation
FL335	2805696.19	353578.85	834.52
FL336	2805706.19	353579.14	834.55
SW337	2805706.10	353582.14	834.59
SW338	2805696.10	353581.84	834.56
SW339	2805695.80	353591.84	834.71
SW340	2805705.80	353592.14	834.74
SW341	2805721.79	353592.62	835.28
SW342	2805722.09	353582.62	835.13

S 42nd St at 7th Ave S Radius			
Name	Easting (X)	Northing (Y)	Radius (FT)
R1	2805548.03	353424.22	55
R2	2805736.74	353437.52	58.5

Notes:

1. All flares are B (4:1 Maximum Slope).
2. All Truncated Domes are to be Cast Iron.
3. Curb radii are measured to front face of curb. Radius dimension call outs point to where the radius was measured from.
4. Any ramp found to be in noncompliance will be removed and replaced by the contractor at their own expense.
5. See Standards Drawings D-750-2 & D-750-3 for additional details.

ADA Layouts

Ramps

ND 297 (DeMers Ave) & 7th Ave S

ND 297 (DeMers Ave) & 42nd St Grade Separation

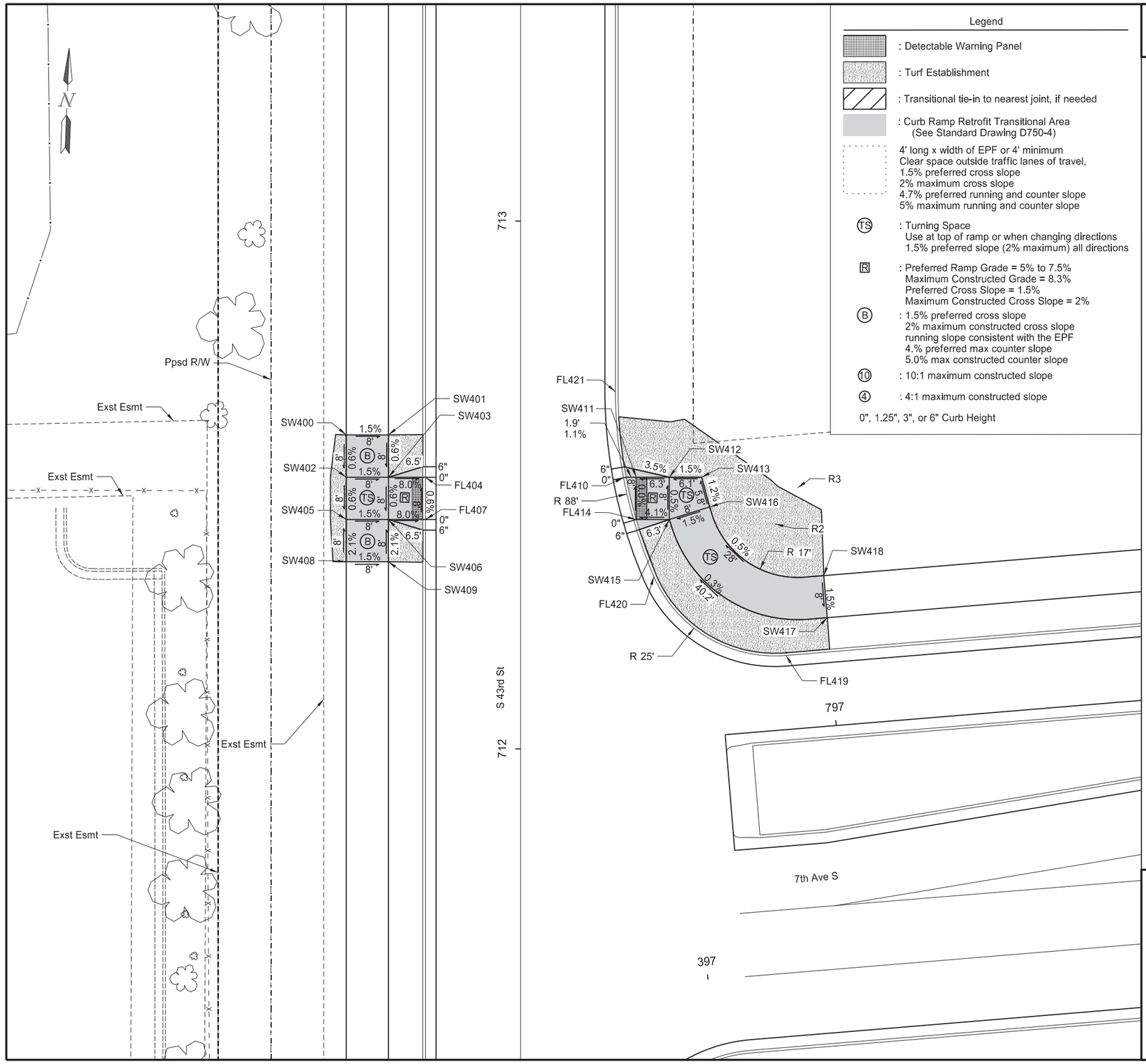
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4226
DATE: 2025.12.05 15:01:49 -06'00'
NORTH DAKOTA

12/5/2025 2:44:48 PM ryan.genz H:\NDDOT\24M000368000\CAD\ORD\NDDOT-24M000368000\Plan\080LO_026_ADA.dgn

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	80	27



Legend

: Detectable Warning Panel

: Turf Establishment

: Transitional tie-in to nearest joint, if needed

: Curb Ramp Retrofit Transitional Area (See Standard Drawing D750-4)

4' long x width of EPF or 4' minimum
Clear space outside traffic lanes of travel,
1.5% preferred cross slope
2% maximum cross slope
4.7% preferred running and counter slope
5% maximum running and counter slope

(TS) : Turning Space
Use at top of ramp or when changing directions
1.5% preferred slope (2% maximum) all directions

(R) : Preferred Ramp Grade = 5% to 7.5%
Maximum Constructed Grade = 8.3%
Preferred Cross Slope = 1.5%
Maximum Constructed Cross Slope = 2%

(B) : 1.5% preferred cross slope
2% maximum constructed cross slope
running slope consistent with the EPF
4.% preferred max counter slope
5.0% max constructed counter slope

(10) : 10:1 maximum constructed slope

(4) : 4:1 maximum constructed slope

0", 1.25", 3", or 6" Curb Height

7th Ave S at S 43rd St			
Name	Easting (X)	Northing (Y)	Elevation
SW400	2804804.08	352921.94	831.08
SW401	2804812.08	352922.25	830.96
SW402	2804804.40	352913.90	831.03
SW403	2804812.39	352914.22	830.91
FL404	2804818.89	352914.48	830.39
SW405	2804804.72	352905.91	831.08
SW406	2804812.71	352906.23	830.96
FL407	2804819.21	352906.48	830.44
SW408	2804805.03	352897.92	831.25
SW409	2804813.03	352898.23	831.13

7th Ave S at S 43rd St			
Name	Easting (X)	Northing (Y)	Elevation
FL410	2804856.89	352915.89	830.34
SW411	2804859.28	352916.08	830.36
SW412	2804865.54	352916.33	830.58
SW413	2804871.66	352916.57	830.67
FL414	2804859.60	352908.08	830.36
SW415	2804865.85	352908.33	830.62
SW416	2804873.39	352911.01	830.74
SW417	2804896.49	352890.93	830.76
SW418	2804895.52	352898.87	830.88
FL419	2804888.93	352883.45	830.20
FL420	2804863.37	352897.42	830.38
FL421	2804854.72	352932.14	830.27

7th Ave S at S 43rd St Radius			
Name	Easting (X)	Northing (Y)	Radius (FT)
R1	2804942.65	352935.62	88
R2	2804885.89	352908.27	25
R3	2804889.92	352915.316	17

Notes:

1. All flares are B (4:1 Maximum Slope).

2. All Truncated Domes are to be Cast Iron.

3. Curb radii are measured to front face of curb. Radius dimension call outs point to where the radius was measured from.

4. Any ramp found to be in noncompliance will be removed and replaced by the contractor at their own expense.

5. See Standards Drawings D-750-2 & D-750-3 for additional details.

ADA Layouts

Ramps

S 43rd St & 7th Ave S

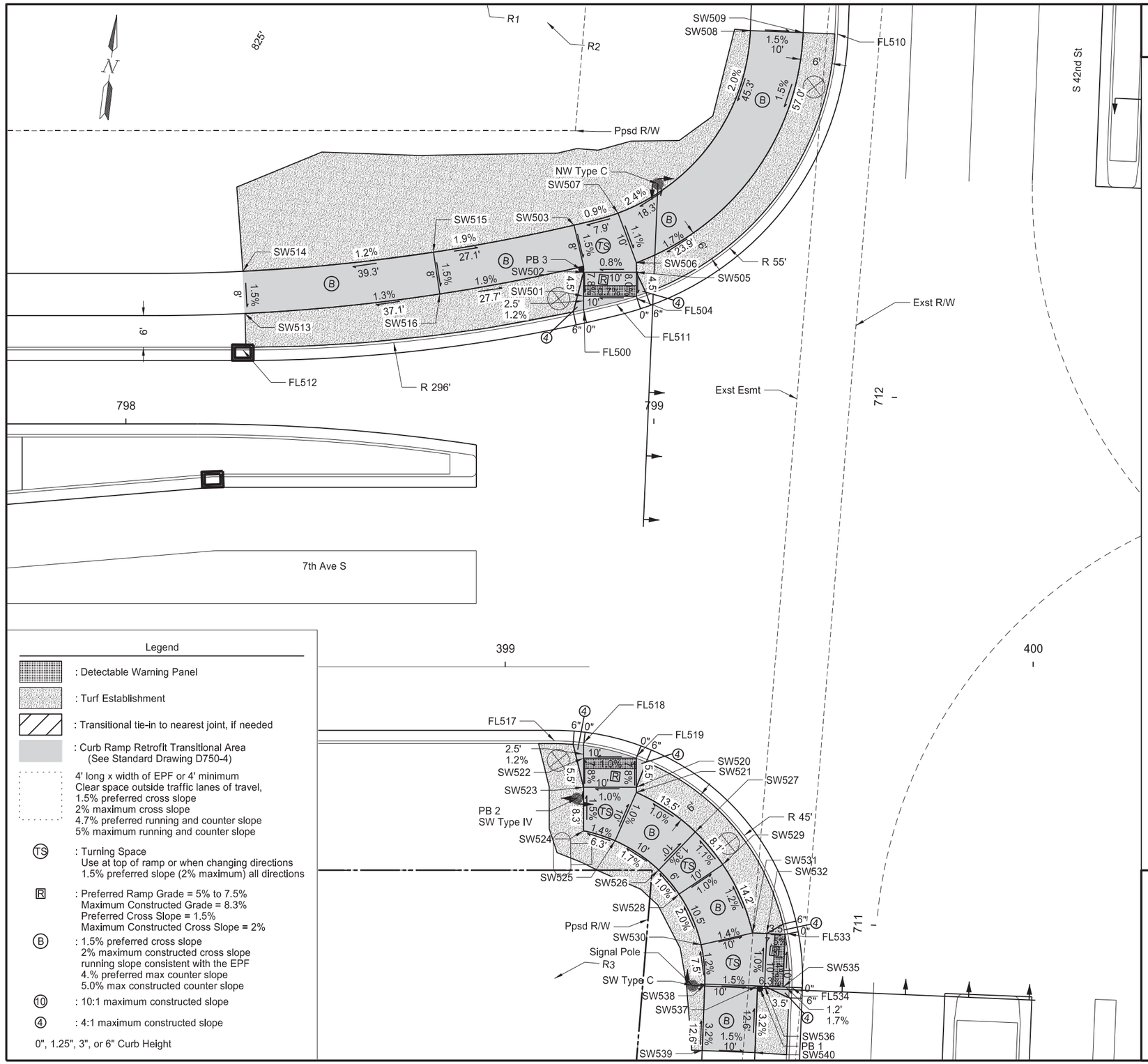
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4276
DATE: 2025.12.05 15:02:06 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	80	28



7th Ave S at S 42nd St NW			
Name	Easting (X)	Northing (Y)	Elevation
FL500	2805081.66	352914.75	829.49
SW501	2805081.35	352917.27	829.52
SW502	2805080.80	352921.79	829.87
SW503	2805077.91	352930.41	830.01
FL504	2805091.28	32918.48	829.59
SW505	2805090.72	352923.01	829.95
SW506	2805090.51	352924.79	829.97
SW507	2805085.91	352933.68	830.08
SW508	2805106.61	352971.05	830.99
SW509	2805116.57	352971.87	830.84
FL510	2805123.05	352972.41	830.22
FL511	2805087.79	352916.47	829.55
FL512	2805018.54	352899.33	829.23
SW513	2805018.08	352906.24	829.92
SW514	2805016.73	352914.12	830.04
SW515	2805052.12	352922.09	830.52
SW516	2805054.28	352914.39	830.40

7th Ave S at S 42nd St SW			
Name	Easting (X)	Northing (Y)	Elevation
FL517	2805086.11	352833.06	830.24
FL518	2805091.69	352833.39	830.30
FL519	2805102.03	352832.16	830.43
SW520	2805102.58	352826.22	830.86
SW521	2805102.70	352825.25	830.87
SW522	2805091.98	352830.46	830.33
SW523	2805092.65	352825.00	830.76
SW524	2805093.66	352816.81	830.88
SW525	2805099.81	352815.68	830.97
SW526	2085108.69	352811.19	831.14
SW527	2805114.69	352819.19	831.01
SW528	2805113.08	352807.11	831.20
SW529	2805120.62	352813.68	831.10
SW530	2805118.38	352798.10	831.41
SW531	2805127.78	352801.50	831.27
SW532	2805130.46	352801.72	831.23
FL533	2805134.42	352802.17	830.97
FL534	2805136.42	352792.18	831.09
SW535	2805134.77	352792.05	831.11
SW536	2805131.28	352791.76	831.33
SW537	2805129.95	352791.65	831.35
SW538	2805119.98	352790.80	831.50
SW539	2805121.02	352778.26	831.92
SW540	2805130.98	352779.08	831.77

7th Ave S at S 42nd St PB		
Name	Easting (X)	Northing (Y)
PB1	2805130.49	352791.17
PB2	2805091.66	352822.73
PB3	2805080.33	352922.29
SW Type C	2805117.71	352790.25
SW Type IV	2805091.66	352822.73
NW Type C	2805092.75	352940.11

7th Ave S at S 42nd St Radius			
Name	Easting (X)	Northing (Y)	Radius (FT)
R1	2804982.56	353193.14	296
R2	2805068.24	352967.88	55
R3	2805091.58	352788.39	45

Legend

- : Detectable Warning Panel
- : Turf Establishment
- : Transitional tie-in to nearest joint, if needed
- : Curb Ramp Retrofit Transitional Area (See Standard Drawing D750-4)
- 4' long x width of EPF or 4' minimum Clear space outside traffic lanes of travel, 1.5% preferred cross slope, 2% maximum cross slope, 4.7% preferred running and counter slope, 5% maximum running and counter slope
- (TS) : Turning Space. Use at top of ramp or when changing directions. 1.5% preferred slope (2% maximum) all directions
- (R) : Preferred Ramp Grade = 5% to 7.5%, Maximum Constructed Grade = 8.3%, Preferred Cross Slope = 1.5%, Maximum Constructed Cross Slope = 2%
- (B) : 1.5% preferred cross slope, 2% maximum constructed cross slope running slope consistent with the EPF, 4.% preferred max counter slope, 5.0% max constructed counter slope
- (10) : 10:1 maximum constructed slope
- (4) : 4:1 maximum constructed slope

0", 1.25", 3", or 6" Curb Height

Notes:

1. All flares are B (4:1 Maximum Slope).
2. All Truncated Domes are to be Cast Iron.
3. Curb radii are measured to front face of curb. Radius dimension call outs point to where the radius was measured from.
4. Any ramp found to be in noncompliance will be removed and replaced by the contractor at their own expense.
5. See Standards Drawings D-750-2 & D-750-3 for additional details.

ADA Layouts

Ramps

S 42nd St & 7th Ave S

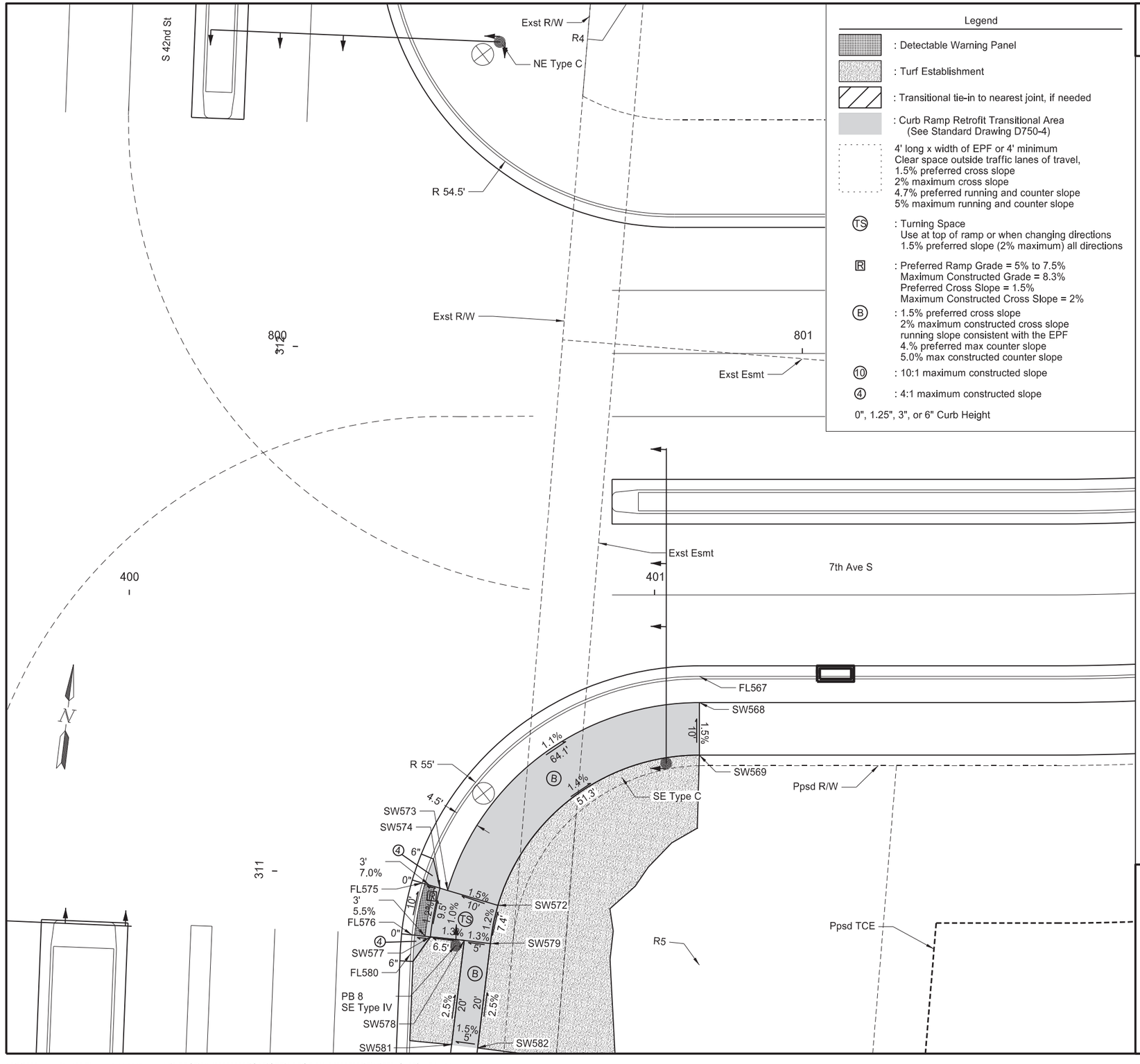
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4226
DATE: 2025.12.05 15:02:23 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	80	29



Legend

- : Detectable Warning Panel
- : Turf Establishment
- : Transitional tie-in to nearest joint, if needed
- : Curb Ramp Retrofit Transitional Area (See Standard Drawing D750-4)
- 4' long x width of EPF or 4' minimum
  Clear space outside traffic lanes of travel,
  1.5% preferred cross slope
  2% maximum cross slope
  4.7% preferred running and counter slope
  5% maximum running and counter slope
- (TS) : Turning Space
  Use at top of ramp or when changing directions
  1.5% preferred slope (2% maximum) all directions
- (R) : Preferred Ramp Grade = 5% to 7.5%
  Maximum Constructed Grade = 8.3%
  Preferred Cross Slope = 1.5%
  Maximum Constructed Cross Slope = 2%
- (B) : 1.5% preferred cross slope
  2% maximum constructed cross slope
  running slope consistent with the EPF
  4.% preferred max counter slope
  5.0% max constructed counter slope
- (10) : 10:1 maximum constructed slope
- (4) : 4:1 maximum constructed slope

0", 1.25", 3", or 6" Curb Height

7th Ave S at S 42nd St SE			
Name	Easting (X)	Northing (Y)	Elevation
FL567	2805284.02	352855.78	829.36
SW568	2805284.63	352850.82	829.96
SW569	2805285.84	352840.89	830.11
SW572	2805251.26	352807.81	830.84
SW573	2805241.40	352809.47	830.69
SW574	2805239.92	352809.72	830.67
FL575	2805236.47	352810.30	830.46
FL576	2805235.71	352800.25	830.62
SW577	2805239.21	352800.31	830.78
SW578	2805245.71	352800.42	830.86
SW579	2805250.71	352800.43	830.93
FL580	2805235.89	352796.67	830.68
SW581	2805245.74	352780.42	831.42
SW582	2805250.74	352780.43	831.54

7th Ave S at S 42nd St Radius			
Name	Easting (X)	Northing (Y)	Radius (FT)
R4	2805262.07	352996.16	54.5
R5	2805290.71	352801.19	55

7th Ave S at S 42nd St PB		
Name	Easting (X)	Northing (Y)
PB8	2805244.21	352799.24
NE Type C	2805231.61	352971.09
SE Type C	2805271.68	352834.93
SE Type IV	2805244.21	352799.24

Notes:

1. All flares are B (4:1 Maximum Slope).
2. All Truncated Domes are to be Cast Iron.
3. Curb radii are measured to front face of curb. Radius dimension call outs point to where the radius was measured from.
4. Any ramp found to be in noncompliance will be removed and replaced by the contractor at their own expense.
5. See Standards Drawings D-750-2 & D-750-3 for additional details.

ADA Layouts

Ramps

S 42nd St & 7th Ave S

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4256
DATE: 2025.12.05 15:02:41 -06'00'
NORTH DAKOTA

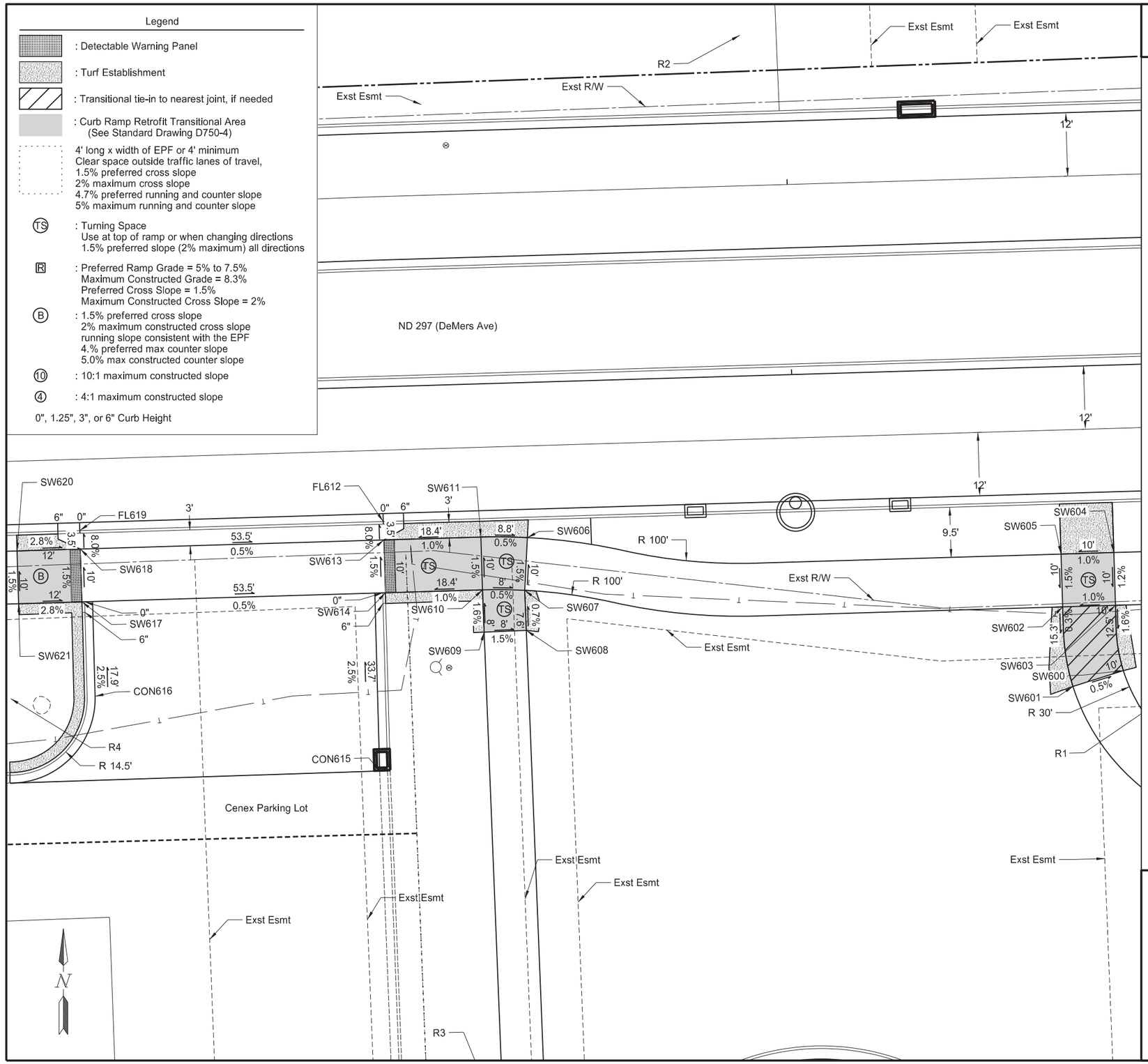
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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	80	30

Legend

- : Detectable Warning Panel
- : Turf Establishment
- : Transitional tie-in to nearest joint, if needed
- : Curb Ramp Retrofit Transitional Area (See Standard Drawing D750-4)
- 4' long x width of EPF or 4' minimum Clear space outside traffic lanes of travel, 1.5% preferred cross slope, 2% maximum cross slope, 4.7% preferred running and counter slope, 5% maximum running and counter slope
- (TS) : Turning Space. Use at top of ramp or when changing directions. 1.5% preferred slope (2% maximum) all directions
- (R) : Preferred Ramp Grade = 5% to 7.5%, Maximum Constructed Grade = 8.3%, Preferred Cross Slope = 1.5%, Maximum Constructed Cross Slope = 2%
- (B) : 1.5% preferred cross slope, 2% maximum constructed cross slope, running slope consistent with the EPF, 4.% preferred max counter slope, 5.0% max constructed counter slope
- (10) : 10:1 maximum constructed slope
- (4) : 4:1 maximum constructed slope

0", 1.25", 3", or 6" Curb Height



SUP Intersection at ND 297 (DeMers Ave)			
Name	Easting (X)	Northing (Y)	Elevation
SW600	2804904.04	353447.73	835.51
SW601	2804894.49	353444.73	835.56
SW602	2804892.55	353459.79	835.60
SW603	2804902.54	353460.09	835.71
SW604	2804902.24	353470.08	835.86
SW605	2804892.25	353469.78	835.75

SUP Radii			
Name	Easting (X)	Northing (Y)	Radius (FT)
R1	2804932.66	353456.72	30
R2	2804931.37	353568.00	100
R3	2804785.64	353363.05	100
R4	2804693.27	353442.43	14.5

Convenience Store Entrance			
Name	Easting (X)	Northing (Y)	Elevation
SW606	2804904.04	353447.73	835.68
SW607	2804790.66	353462.93	835.83
SW608	2804790.96	353455.33	835.88
SW609	2804782.97	353455.01	836.00
SW610	2804782.65	353463.01	835.87
SW611	2804782.35	353473.00	835.72
FL612	2804763.85	353475.95	835.25
SW613	2804763.95	353472.45	835.53
SW614	2804764.25	353462.46	835.68
CON615	2804763.18	353428.71	836.49
CON616	2804709.27	353442.86	836.42
SW617	2804706.78	353460.74	835.97
SW618	2804706.48	353470.74	835.82
FL619	2804706.38	353474.23	835.54
SW620	2804694.49	353470.38	836.16
SW621	2804694.78	353460.38	836.31

Notes:

1. All flares are B (4:1 Maximum Slope).
2. All Truncated Domes are to be Cast Iron.
3. Curb radii are measured to front face of curb. Radius dimension call outs point to where the radius was measured from.
4. Any ramp found to be in noncompliance will be removed and replaced by the contractor at their own expense.
5. See Standards Drawings D-750-2 & D-750-3 for additional details.

ADA Layouts

Shared Use Path / Driveway Crossing

Cenex Entrance on ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

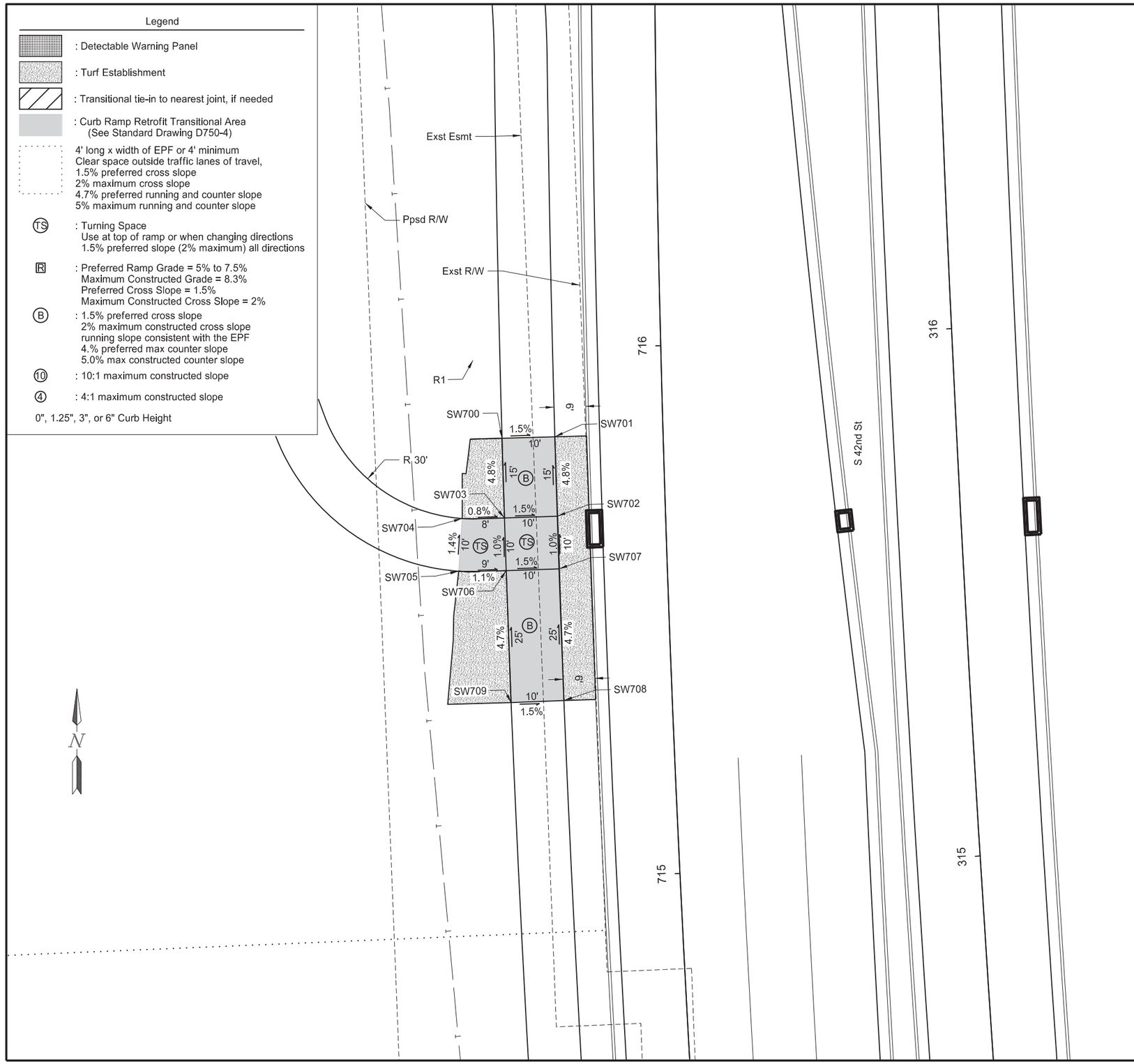
REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
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DATE: 2025.12.05 15:02:59 -06'00'
NORTH DAKOTA

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	80	31

Legend

- : Detectable Warning Panel
- : Turf Establishment
- : Transitional tie-in to nearest joint, if needed
- : Curb Ramp Retrofit Transitional Area (See Standard Drawing D750-4)
- 4' long x width of EPF or 4' minimum Clear space outside traffic lanes of travel, 1.5% preferred cross slope, 2% maximum cross slope, 4.7% preferred running and counter slope, 5% maximum running and counter slope
- (TS) : Turning Space. Use at top of ramp or when changing directions. 1.5% preferred slope (2% maximum) all directions
- (R) : Preferred Ramp Grade = 5% to 7.5%. Maximum Constructed Grade = 8.3%. Preferred Cross Slope = 1.5%. Maximum Constructed Cross Slope = 2%
- (B) : 1.5% preferred cross slope, 2% maximum constructed cross slope, running slope consistent with the EPF, 4.% preferred max counter slope, 5.0% max constructed counter slope
- (10) : 10:1 maximum constructed slope
- (4) : 4:1 maximum constructed slope
- 0", 1.25", 3", or 6" Curb Height



SUP Intersection at S 42nd St			
Name	Easting (X)	Northing (Y)	Elevation
SW700	2805086.73	353287.02	824.33
SW701	2805096.73	353287.30	824.18
SW702	2805097.18	353272.26	824.90
SW703	2805087.19	353271.94	825.05
SW704	2805079.18	353271.83	825.11
SW705	2805078.52	353261.85	825.25
SW706	2805087.51	353261.94	825.15
SW707	2805097.52	353262.29	825.00
SW708	2805098.45	353237.37	826.18
SW709	2805088.46	353236.96	826.33

SUP Radii			
Name	Easting (X)	Northing (Y)	Radius (FT)
R1	2805081.23	353301.76	30

Notes:

1. All flares are B (4:1 Maximum Slope).
2. All Truncated Domes are to be Cast Iron.
3. Curb radii are measured to front face of curb. Radius dimension call outs point to where the radius was measured from.
4. Any ramp found to be in noncompliance will be removed and replaced by the contractor at their own expense.
5. See Standards Drawings D-750-2 & D-750-3 for additional details.

ADA Layouts

Shared Use Path Connection

S 42nd St SW Intersection

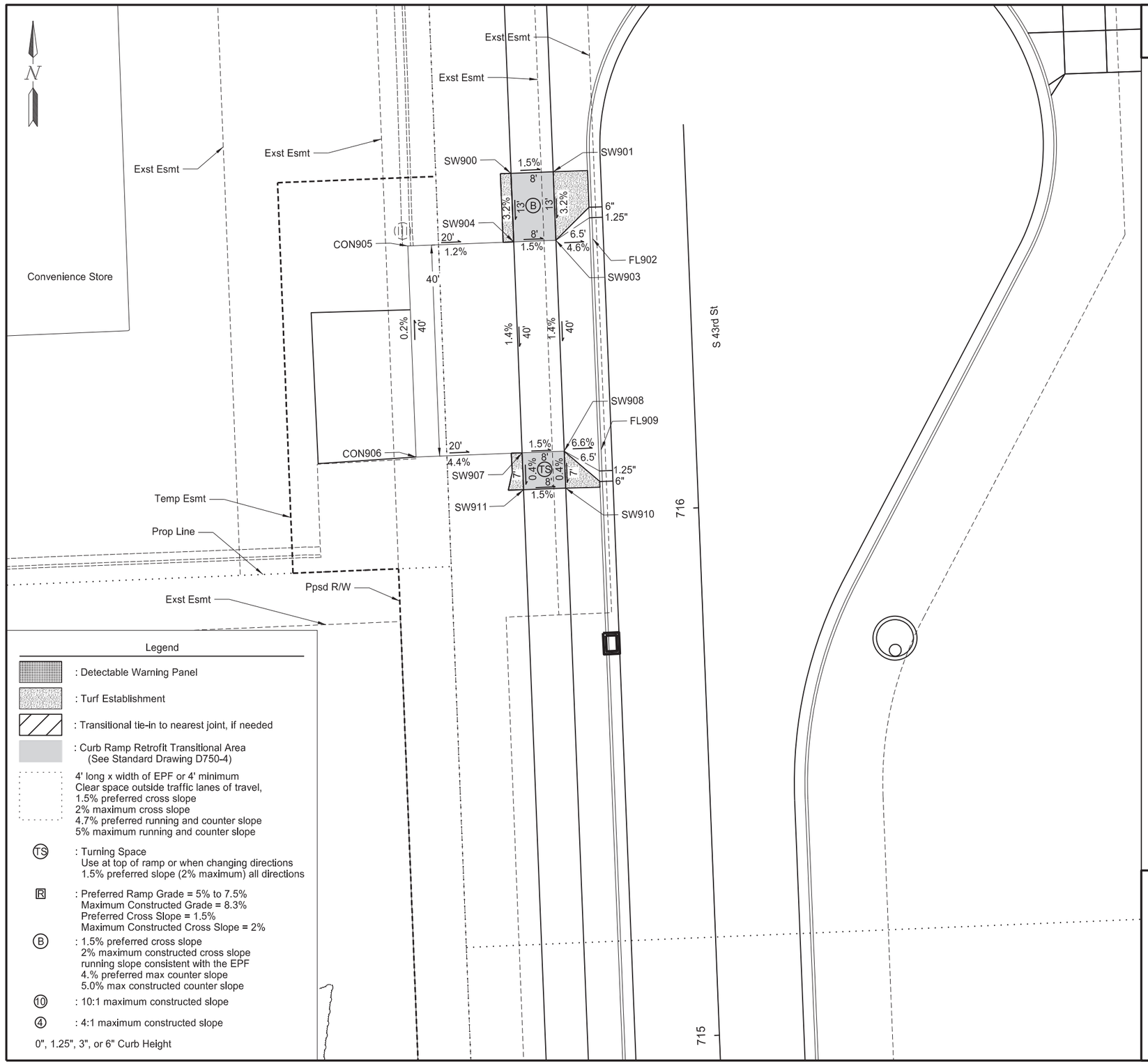
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8276
DATE: 2025.12.05 15:03:21 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	80	32

SE Convenience Store Entrance			
Name	Easting (X)	Northing (Y)	Elevation
SW900	2804788.04	353326.84	836.51
SW901	2804796.04	353327.16	836.39
FL902	2804803.55	353314.45	835.58
SW903	2804796.55	353314.17	835.98
SW904	2804788.56	353313.86	836.10
CON905	2804768.51	353313.08	836.33
CON906	2804770.06	353273.11	836.42
SW907	2804790.14	353273.89	835.55
SW908	2804798.13	353274.18	835.43
FL909	2804805.13	353274.48	834.90
SW910	2804798.41	353267.21	835.40
SW911	2804790.42	353266.89	835.52

Notes:

1. All flares are B (4:1 Maximum Slope).
2. All Truncated Domes are to be Cast Iron.
3. Curb radii are measured to front face of curb. Radius dimension call outs point to where the radius was measured from.
4. Any ramp found to be in noncompliance will be removed and replaced by the contractor at their own expense.
5. See Standards Drawings D-750-2 & D-750-3 for additional details.

ADA Layouts

Shared Use Path / Driveway Crossing

SE Cenex Driveway

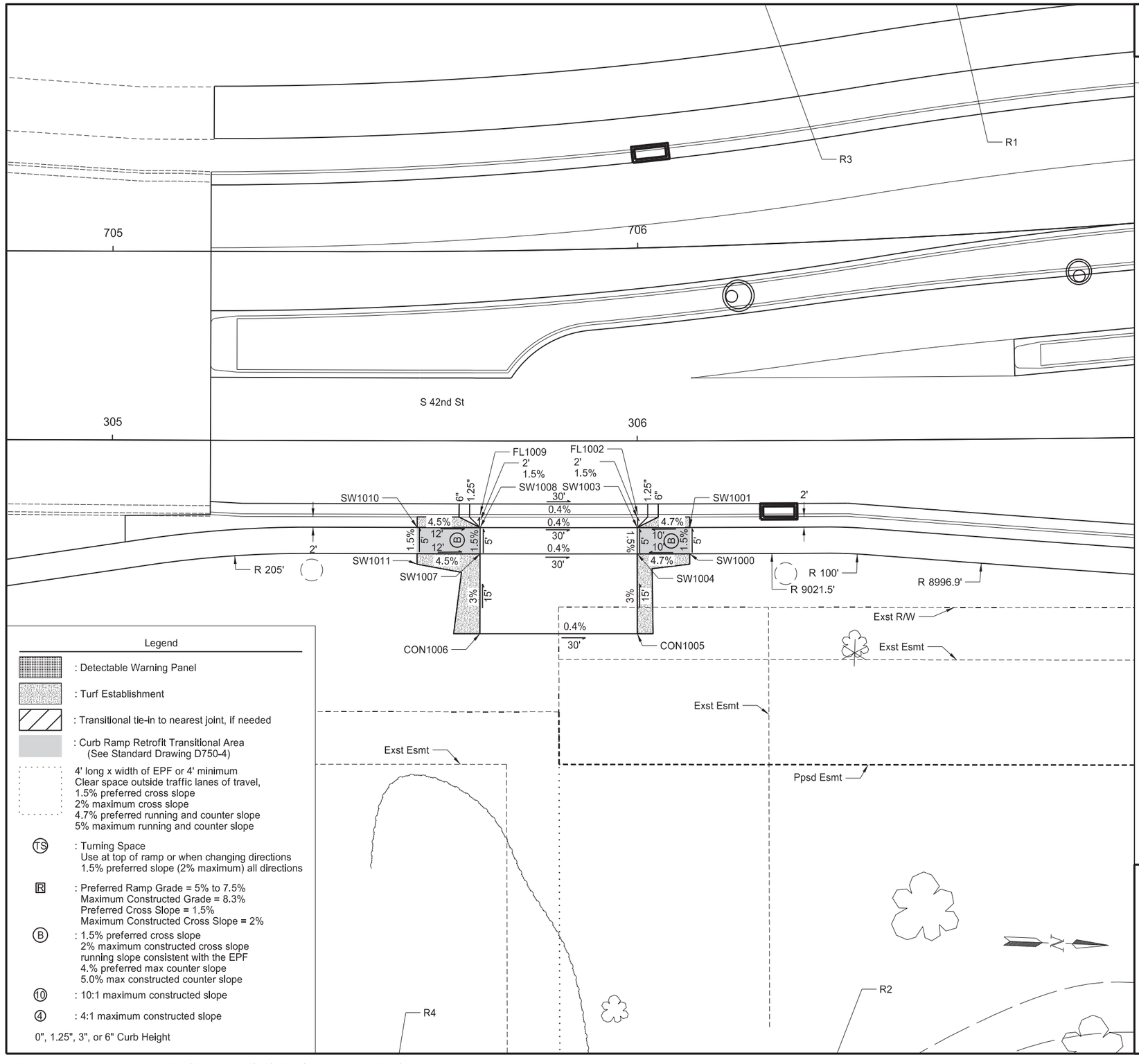
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	80	33



Legend

- : Detectable Warning Panel
- : Turf Establishment
- : Transitional tie-in to nearest joint, if needed
- : Curb Ramp Retrofit Transitional Area (See Standard Drawing D750-4)
- 4' long x width of EPF or 4' minimum Clear space outside traffic lanes of travel, 1.5% preferred cross slope, 2% maximum cross slope, 4.7% preferred running and counter slope, 5% maximum running and counter slope
- (TS) : Turning Space — Use at top of ramp or when changing directions, 1.5% preferred slope (2% maximum) all directions
- (R) : Preferred Ramp Grade = 5% to 7.5%, Maximum Constructed Grade = 8.3%, Preferred Cross Slope = 1.5%, Maximum Constructed Cross Slope = 2%
- (B) : 1.5% preferred cross slope, 2% maximum constructed cross slope, running slope consistent with the EPF, 4.% preferred max counter slope, 5.0% max constructed counter slope
- (10) : 10:1 maximum constructed slope
- (4) : 4:1 maximum constructed slope
- 0", 1.25", 3", or 6" Curb Height

Golf Course Entrance			
Name	Easting (X)	Northing (Y)	Elevation
SW1000	2805263.79	352321.25	831.96
SW1001	2805258.79	352321.04	831.88
FL1002	2805256.72	352310.94	831.36
SW1003	2805259.22	352311.05	831.41
SW1004	2805264.22	352311.26	831.49
CON1005	2805279.41	352311.90	831.94
CON1006	2805280.63	352281.93	832.06
SW1007	2805265.43	352281.33	831.60
SW1008	2805260.44	352281.14	831.53
FL1009	2805257.94	352281.04	831.48
SW1010	2805260.90	352269.15	832.07
SW1011	2805265.90	352269.33	832.15

Golf Course Radii			
Name	Easting (X)	Northing (Y)	Radius (FT)
R1	2796271.42	352676.15	8996.9
R2	2805362.85	352351.50	100
R3	2796250.82	351929.00	9021.5
R4	2805471.52	352256.57	205

Notes:

1. All Flares are B (4:1 Maximum Slope).
2. All Truncated Domes are to be Cast Iron.
3. Curb Radii are measured to front face of curb. Radius dimension call outs point to where the radius was measured from.
4. Any ramp found to be in noncompliance will be removed and replaced by the contractor at their own expense.
5. See Standards Drawings D-750-2 & D-750-3 for additional details.

ADA Layouts

Shared Use Path / Driveway Crossing

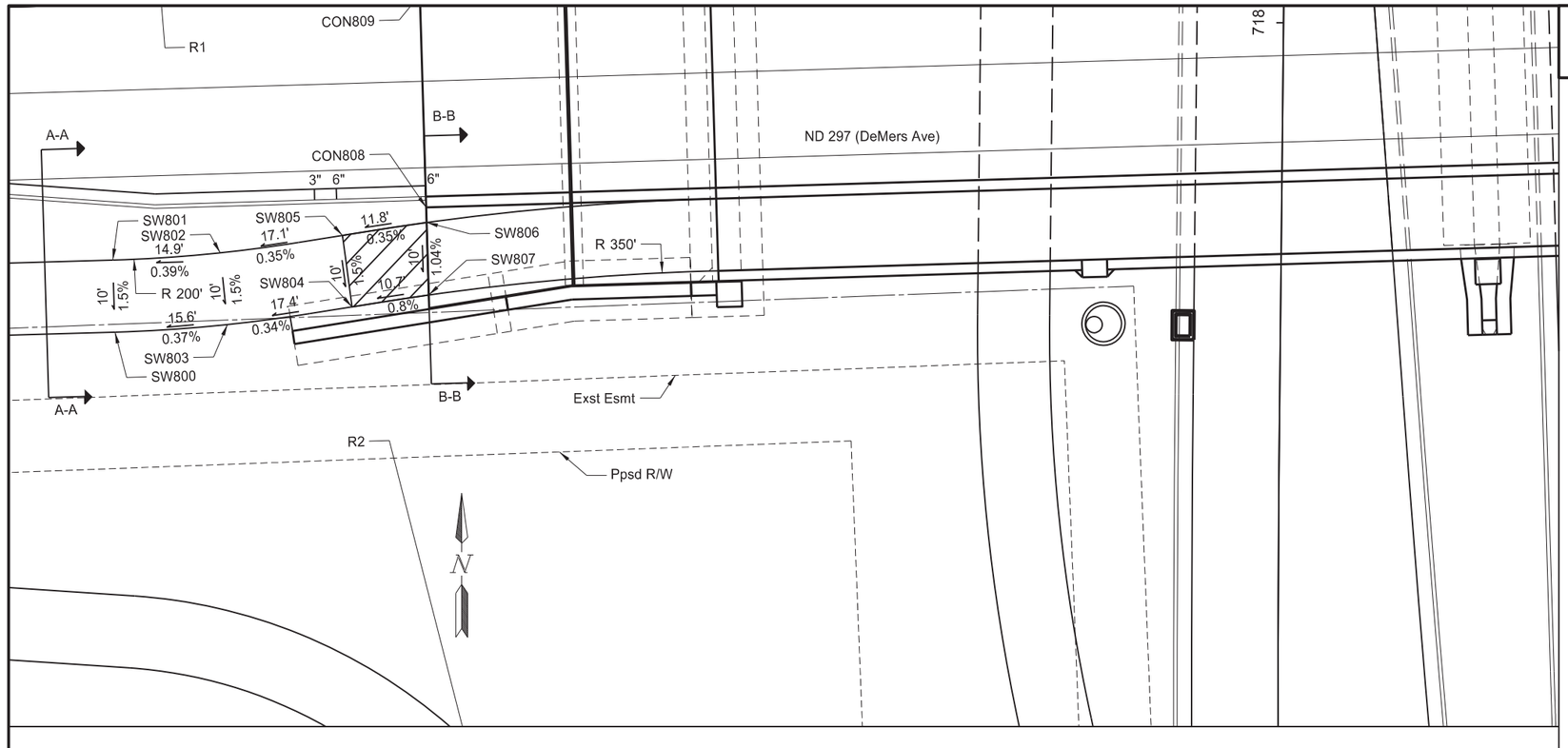
South East Golf Course Entrance

ND 297 (DeMers Ave) & 42nd St Grade Separation

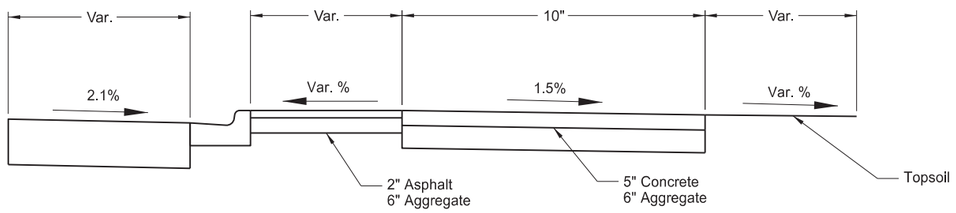
Grand Forks County

Grand Forks, ND

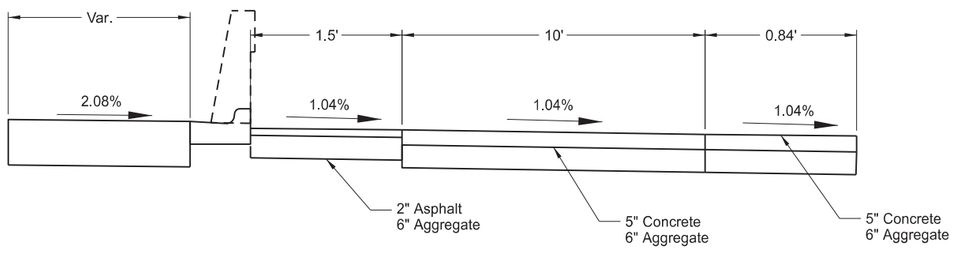
REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9256
DATE: 2025.12.05 15:05:54 -06'00'
NORTH DAKOTA



Section A-A



Section B-B



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	80	34

SUP Tie In to West Side Bridge			
Name	Easting (X)	Northing (Y)	Elevation
SW800	2804954.17	353461.63	836.07
SW801	2804953.91	353471.63	836.22
SW802	2804968.77	353472.63	836.28
SW803	2804969.78	353462.68	836.13
SW804	2804987.07	353465.13	836.19
SW805	2804985.72	353475.04	836.34
SW806	2804997.39	353476.83	836.38
SW807	2804997.69	353466.78	826.28
CON80	2804997.33	353478.93	836.40
CON80	2804996.45	353508.41	837.02

West Bridge Tie In Radius			
Name	Easting (X)	Northing (Y)	Radius (FT)
R1	2804947.93	353671.54	200
R2	2805046.84	353120.25	350

Legend

- : Detectable Warning Panel
- : Turf Establishment
- : Transitional tie-in to nearest joint, if needed
- : Curb Ramp Retrofit Transitional Area (See Standard Drawing D750-4)
- 4' long x width of EPF or 4' minimum Clear space outside traffic lanes of travel, 1.5% preferred cross slope, 2% maximum cross slope, 4.7% preferred running and counter slope, 5% maximum running and counter slope
- (TS) : Turning Space. Use at top of ramp or when changing directions. 1.5% preferred slope (2% maximum) all directions
- (R) : Preferred Ramp Grade = 5% to 7.5%, Maximum Constructed Grade = 8.3%, Preferred Cross Slope = 1.5%, Maximum Constructed Cross Slope = 2%
- (B) : 1.5% preferred cross slope, 2% maximum constructed cross slope, running slope consistent with the EPF, 4.% preferred max counter slope, 5.0% max constructed counter slope
- (10) : 10:1 maximum constructed slope
- (4) : 4:1 maximum constructed slope
- 0", 1.25", 3", or 6" Curb Height

Notes:

1. All flares are B (4:1 Maximum Slope).
2. All Truncated Domes are to be Cast Iron.
3. Curb radii are measured to front face of curb. Radius dimension call outs point to where the radius was measured from.
4. Any ramp found to be in noncompliance will be removed and replaced by the contractor at their own expense.
5. See Standards Drawings D-750-2 & D-750-3 for additional details.

ADA Layouts

West Bridge Sidewalk Tie In

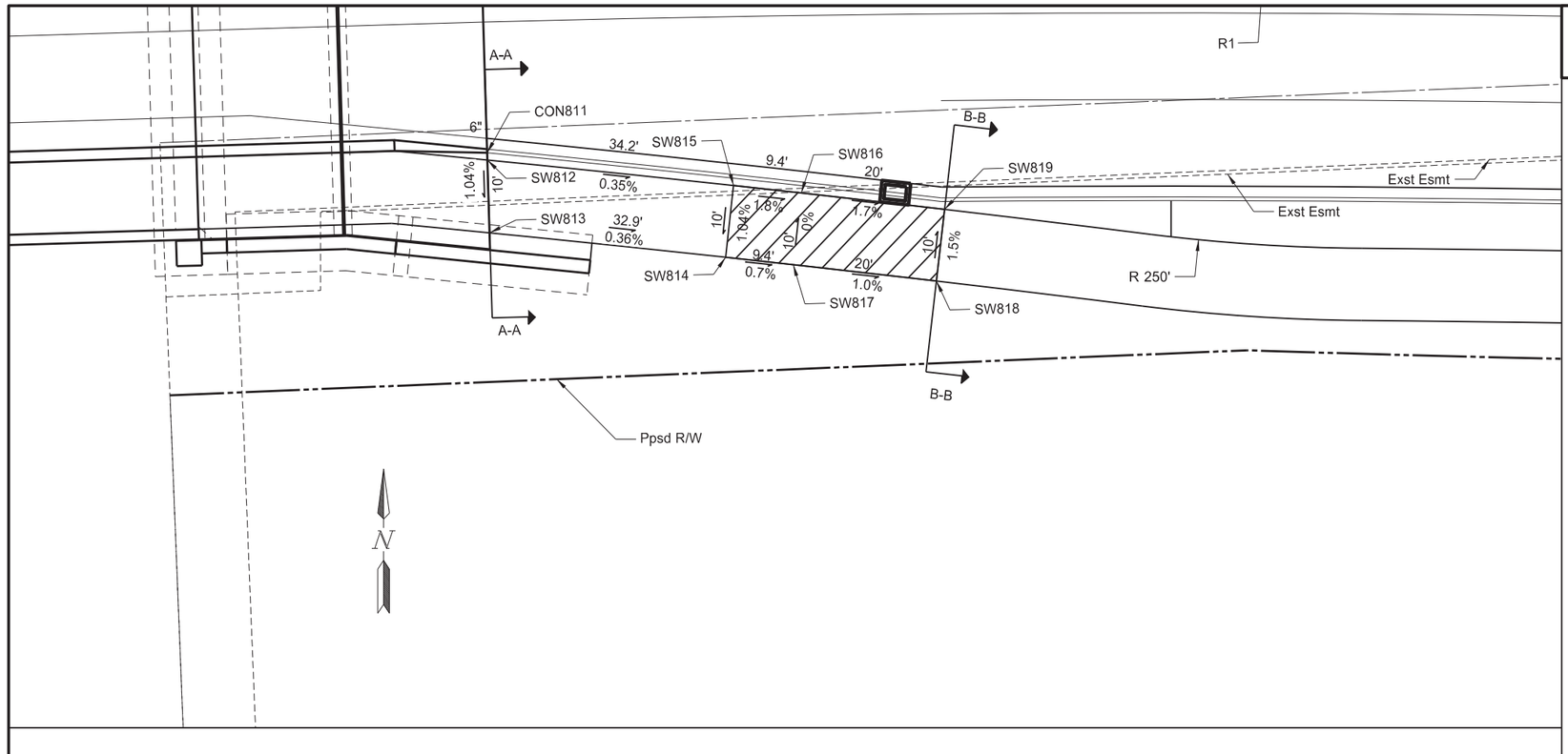
ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8276
DATE: 2025.12.05 15:04:30 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	80	35

SUP Tie In to East Side Bridge			
Name	Easting (X)	Northing (Y)	Elevation
CON810	2805272.16	353516.64	837.22
CON811	2805273.06	353486.54	836.59
SW812	2805273.09	353485.53	836.58
SW813	2805273.39	353475.45	836.48
SW814	2805306.07	353472.07	836.36
SW815	2805307.15	353482.01	836.46
SW816	2805316.54	353480.98	836.29
SW817	2805315.43	353471.04	836.29
SW818	2805335.25	353468.78	836.10
SW819	2805336.38	353478.71	835.95

East Bridge Tie In Radius			
Name	Easting (X)	Northing (Y)	Radius (FT)
R1	2805396.11	353723.30	250

Legend

: Detectable Warning Panel

: Turf Establishment

: Transitional tie-in to nearest joint, if needed

: Curb Ramp Retrofit Transitional Area
(See Standard Drawing D750-4)

4' long x width of EPF or 4' minimum
Clear space outside traffic lanes of travel,
1.5% preferred cross slope
2% maximum cross slope
4.7% preferred running and counter slope
5% maximum running and counter slope

(TS) : Turning Space
Use at top of ramp or when changing directions
1.5% preferred slope (2% maximum) all directions

(R) : Preferred Ramp Grade = 5% to 7.5%
Maximum Constructed Grade = 8.3%
Preferred Cross Slope = 1.5%
Maximum Constructed Cross Slope = 2%

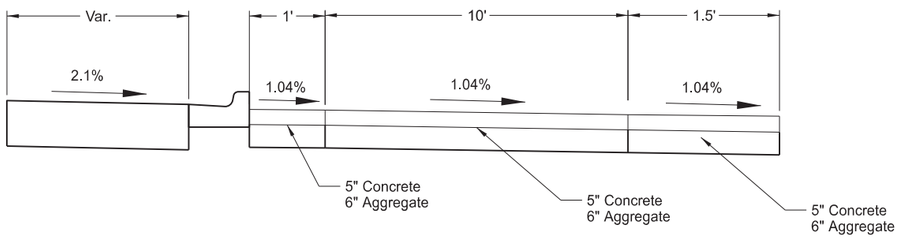
(B) : 1.5% preferred cross slope
2% maximum constructed cross slope
running slope consistent with the EPF
4.% preferred max counter slope
5.0% max constructed counter slope

(10) : 10:1 maximum constructed slope

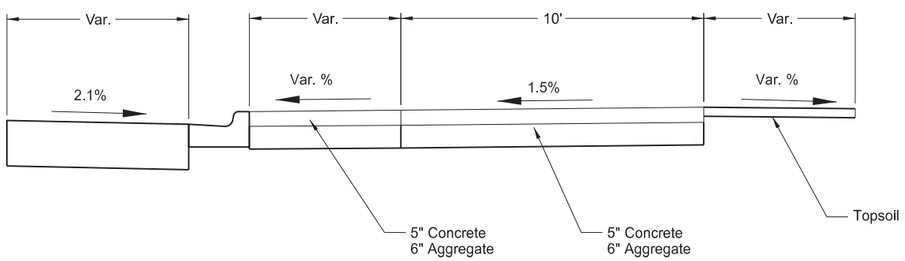
(4) : 4:1 maximum constructed slope

0", 1.25", 3", or 6" Curb Height

Section A-A



Section B-B



Notes:

1. All Flares are B (4:1 Maximum Slope).

2. All Truncated Domes are to be Cast Iron.

3. Curb Radii are measured to front face of curb. Radius dimension call outs point to where the radius was measured from.

4. Any ramp found to be in noncompliance will be removed and replaced by the contractor at their own expense.

5. See Standards Drawings D-750-2 & D-750-3 for additional details.

ADA Layouts

East Bridge Sidewalk Tie In

ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

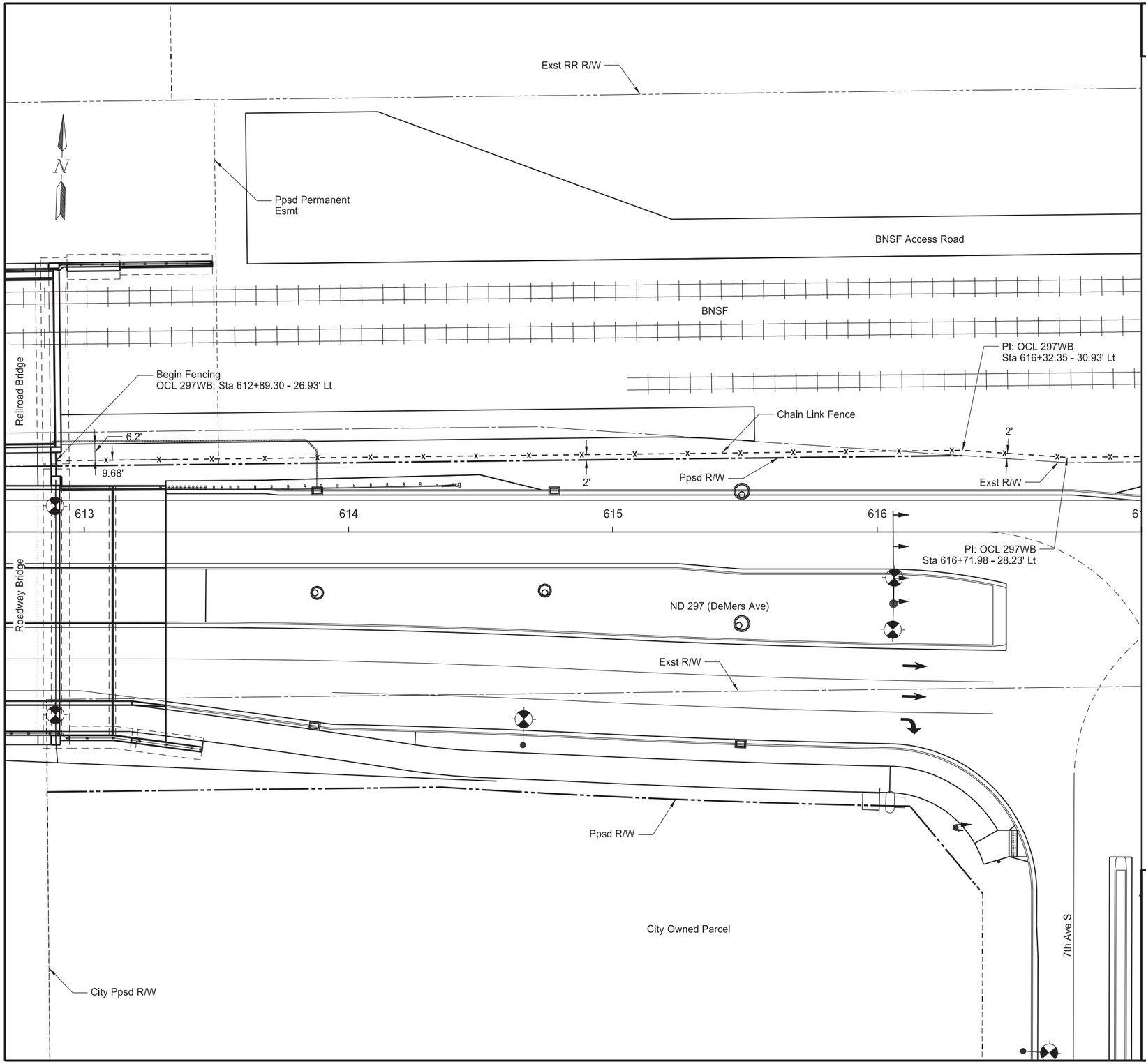
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8276
DATE: 2025.12.05 15:04:49 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	80	36

SPEC	CODE	BID ITEM	QTY	UNIT
752	0600	FENCE CHAIN LINK		
		Sta 612+89.30 - 26.93' Lt to 616+85.00 - 30.00' Lt (OCL_297WB)	396	LF



Fencing Layouts

ND 297 (DeMers Ave)

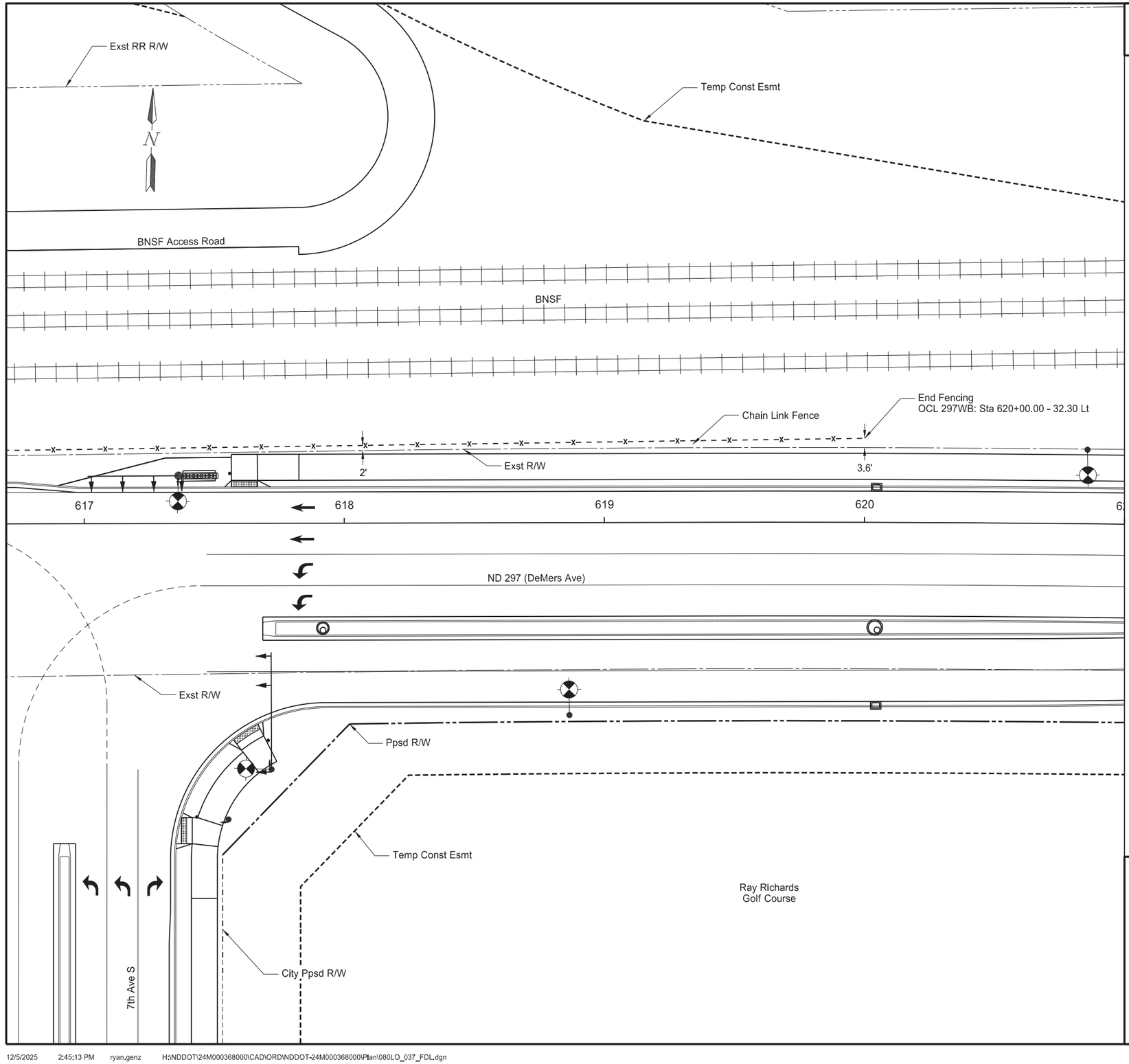
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8256
DATE: 2025.12.05 15:05:08 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	80	37

SPEC	CODE	BID ITEM	QTY	UNIT
752	0600	FENCE CHAIN LINK		
		Sta 616+85.00 - 30.00' Lt to 620+00.00 - 30.15' Lt (OCL_297WB)	315	LF

Fencing Layouts

ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9076
DATE: 2025.12.05 15:05:30 -06'00'
NORTH DAKOTA

SURVEY COORDINATE AND CURVE DATA - GF; INTERSECTION ND 297 AND 42ND ST

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	81	1

HORIZONTAL ALIGNMENT

PNT	STATION	NORTHING	EASTING
DeMers Ave (Chain: SCL_DeMersAve)			
Start	5+51.74	353,507.10	2,803,853.62
PC	6+54.98	353,511.42	2,803,956.77
PI	7+22.56	353,514.26	2,804,024.29
PT	7+89.98	353,509.13	2,804,091.67
PC	9+34.98	353,498.15	2,804,236.25
PI	10+00.05	353,493.21	2,804,301.14
PT	10+64.98	353,495.66	2,804,366.16
Sta Eq DeMers (SCL_DeMersAve) and I94 Ramp (OCL_I29_SE_Ramp)			
DeMers Ave	10+71.14	353,495.89	2,804,372.32
I94 Off Ramp	18+97.86	353,495.89	2,804,372.32
Station Eq DeMers Ave (SCL_DeMersAve) and 42nd St (SCL_42nd)			
DeMers Ave/ Sec line Xing	18+75.60	353,526.09	2,805,176.21
42nd St	75+57.85	353,526.09	2,805,176.21
PC	24+49.24	353,549.90	2,805,749.36
PI	29+86.15	353,572.18	2,806,285.81
PT	35+22.28	353,544.21	2,806,821.99
End	45+30.26	353,491.69	2,807,828.60
S 42nd St / N 42nd St (Chain: SCL_42nd)			
Start	50+00.00	350,970.25	2,805,277.45
DeMers Ave	75+57.85	353,526.09	2,805,176.21
Sec line Xing	76+51.04	353,619.21	2,805,172.52
End	102+96.54	356,262.19	2,805,057.05
I 29 SE Off Ramp (Chain: OCL_I29_SE_Ramp)			
Start	0+00.00	351,686.69	2,803,989.16
PC	3+53.06	352,039.71	2,803,983.71
PI	7+71.49	352,458.09	2,803,977.24
PT	11+67.26	352,814.18	2,804,196.96
PC	14+40.46	353,046.68	2,804,340.42
PI	15+28.02	353,121.19	2,804,386.40
PT	16+10.46	353,208.69	2,804,383.11
End/DeMers Ave	18+97.86	353,495.89	2,804,372.32

CURVE DATA

ARC DEFINITION		CURVE	
CURVE			
PI	= 7+22.56		
Delta	= 6°44'52" (RT)		
Da	= 4°59'54"		
R	= 1,146.28'		
T	= 67.58'		
L	= 135.00		
CURVE			
PI	= 10+00.05		
Delta	= 6°29'54" (LT)		
Da	= 4°59'55"		
R	= 1,146.22'		
T	= 65.07'		
L	= 130.00		
CURVE			
PI	= 29+86.15		
Delta	= 5°21'55" (RT)		
Da	= 0°30'00"		
R	= 11,459.20'		
T	= 536.91'		
L	= 1,073.04		
CURVE		CURVE	
PI	= 7+71.49	PI	= 15+28.02
Delta	= 32°33'41" (RT)	Delta	= 33°49'39" (LT)
Da	= 3°59'57"	Da	= 19°53'55"
R	= 1,432.69'	R	= 287.94'
T	= 418.42'	T	= 87.56'
L	= 814.20	L	= 170.00

US PUBLIC LAND SURVEY DATA

T-151-N R-50-W

CORNER	IRN	NORTHING	EASTING
N Qtr Cor Sec 7	2-C	353,502.94	2,802,520.31
E Qtr Cor Sec 6	3-B	356,262.19	2,805,057.05
NE Cor Sec 7	3-C	353,619.21	2,805,172.52
E Qtr Cor Sec 7	3-D	350,970.21	2,805,277.55
N Qtr Cor Sec 8	4-C	353,735.12	2,807,838.81

SURVEY CONTROL POINTS

PNT	NORTHING	EASTING	ELEV	STATION	OFFSET	ALIGNMENT	MONUMENT
PRIMARY CONTROL							
BM 206413	353,458.86	2,805,221.82	838.53	19+18	69' RT	SCL_DeMersAve	Top cap hydrant
BM 206412	353,464.71	2,805,243.98	838.22	19+41	64' RT	SCL_DeMersAve	Top cap hydrant
BM 200115	352,247.05	2,804,802.34	837.62	62+95	424' LT	SCL_42nd	Top nut hydrant
BM 200963	352,341.78	2,805,167.26	836.03	63+75	56' LT	SCL_42nd	Top nut hydrant
BM 200187	352,567.20	2,804,824.67	836.93	66+14	389' LT	SCL_42nd	Top nut hydrant
BM 201233	352,674.46	2,805,131.45	836.26	67+09	78' LT	SCL_42nd	Top nut hydrant
GPS 6	351,709.53	2,812,416.39	832.70	N/A	N/A	SCL_42nd	Stainless steel monument
GPS 4	353,288.60	2,799,560.31	840.04	N/A	N/A	SCL_42nd	Stainless steel monument
SECONDARY CONTROL							
CP 5108	353,539.66	2,803,975.56	838.25	6+74	28' LT	SCL_DeMersAve	#5 Rebar
CP 5107	353,428.01	2,804,294.37	835.80	9+95	67' RT	SCL_DeMersAve	#5 Rebar
CP 5105	353,445.46	2,804,790.62	836.04	14+87	66' RT	SCL_DeMersAve	#5 Rebar
CP 5115	353,577.80	2,805,013.34	836.81	17+15	58' LT	SCL_DeMersAve	#5 Rebar
CP 5114	353,451.08	2,805,188.19	834.53	18+84	75' RT	SCL_DeMersAve	#5 Rebar
CP 5113	353,577.57	2,805,617.91	835.69	23+19	33' LT	SCL_DeMersAve	#5 Rebar
CP 5112	353,518.50	2,806,080.50	834.31	27+80	40' RT	SCL_DeMersAve	#5 Rebar
CP 5111	353,602.98	2,806,576.34	833.86	32+75	49' LT	SCL_DeMersAve	#5 Rebar
CP 5121	353,504.61	2,806,918.99	831.95	36+21	34' RT	SCL_DeMersAve	#5 Rebar
CP 5120	353,551.07	2,807,330.12	830.64	40+29	33' LT	SCL_DeMersAve	#5 Rebar
CP 5110	353,442.06	2,807,773.51	831.63	44+78	52' RT	SCL_DeMersAve	#5 Rebar
CP 5122	353,467.62	2,803,659.43	837.67	N/A	N/A	SCL_DeMersAve	#5 Rebar
CP 5109	352,247.29	2,807,923.83	832.52	61+71	2695' RT	SCL_42nd	#5 Rebar
CP 5100	352,253.74	2,805,122.14	832.75	62+89	104' LT	SCL_42nd	#5 Rebar
CP 5101	352,354.82	2,804,795.51	834.30	64+03	427' LT	SCL_42nd	#5 Rebar
CP 5102	352,702.55	2,805,118.71	833.26	67+37	90' LT	SCL_42nd	#5 Rebar
CP 5103	352,981.51	2,804,766.18	834.08	70+30	431' LT	SCL_42nd	#5 Rebar
CP 5104	353,179.28	2,805,072.77	833.68	72+15	117' LT	SCL_42nd	#5 Rebar

All coordinates and measurements on this document derived from the International Foot definition.

INITIALIZING BENCH MARK NDGPS Stations (OPUS)

- [X] NAVD-88
- [ ] _____
- [ ] GEOID12B
- [X] GEOID18
- [ ] _____

Date Survey Completed 10/28/24

- [ ] Assumed Coordinates
- [X] All coordinates on this sheet are Grand Forks County ground coordinates. They are derived from the NAD83(2011) reference frame; North Dakota North Zone Combination Factor (cf) = 0.9998805

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9076
DATE: 2025.12.05 14:35:22 -06'00'
NORTH DAKOTA

NOTES: Sheet 1 of 2

SURVEY COORDINATE AND CURVE DATA - GF; INTERSECTION ND 297 AND 42ND ST

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	81	2

HORIZONTAL ALIGNMENT

PNT	STATION	NORTHING	EASTING

CURVE DATA

ARC DEFINITION	

US PUBLIC LAND SURVEY DATA

CORNER	IRN	NORTHING	EASTING

SURVEY CONTROL POINTS

PNT	NORTHING	EASTING	ELEV	STATION	OFFSET	ALIGNMENT	MONUMENT
SECONDARY CONTROL							
CP 5116	353,872.44	2,805,238.16	839.17	79+01	77' RT	SCL_42nd	#5 Rebar
CP 5119	353,920.57	2,804,811.82	834.83	79+68	347' LT	SCL_42nd	#5 Rebar
CP 5117	354,231.95	2,805,218.16	834.54	82+61	72' RT	SCL_42nd	#5 Rebar
CP 5118	354,656.33	2,805,089.67	837.06	86+91	38' LT	SCL_42nd	#5 Rebar
CP 5106	353,230.14	2,804,536.47	837.67	16+26	154' RT	SCL_I29_SE_Ramp	#5 Rebar

All coordinates and measurements on this document derived from the International Foot definition.

INITIALIZING BENCH MARK
NDGPS Stations (OPUS)

☒ NAVD-88 ☐ _____

☐ GEOID12B ☐ _____

☒ GEOID18

Date Survey Completed 10/28/24

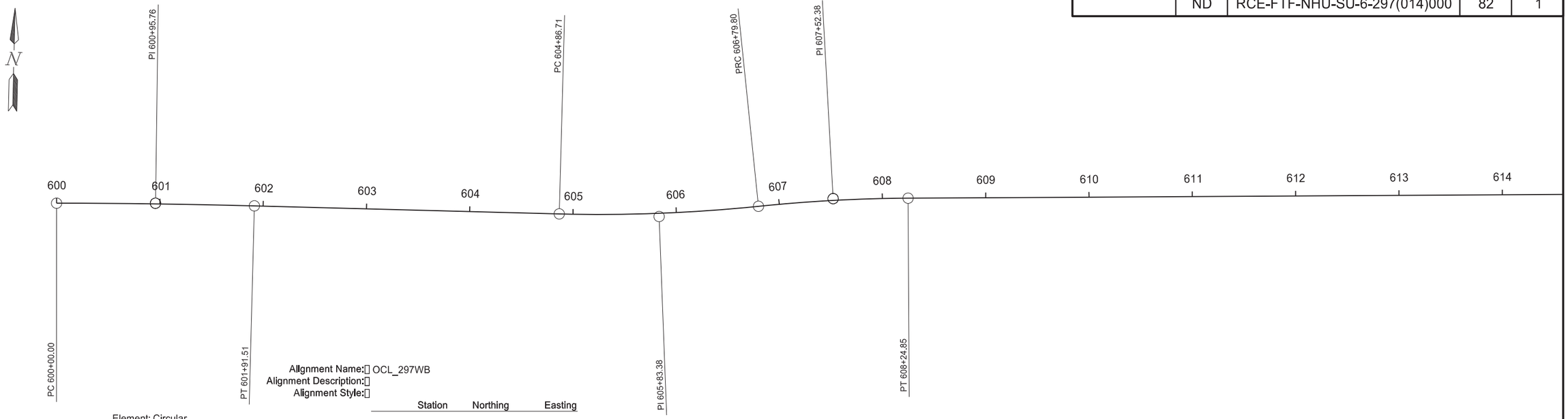
☐ Assumed Coordinates

☒ All coordinates on this sheet are Grand Forks County ground coordinates.
They are derived from the NAD83(2011) reference frame; North Dakota North Zone Combination Factor (cf) = 0.9998805

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8076
DATE: 2025.12.05 15:07:16 -06'00'
NORTH DAKOTA

NOTES: Sheet 2 of 2

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	1



Allgnment Name: OCL_297WB
Alignment Description:
Alignment Style:

		Station	Northing	Easting
Element: Circular				
PC	(PC)	600+00.00 R1	353512.8	2803941.42
	(COMBINATION PI)	600+95.76 R1	353515.03	2804037.16
CC	(CC)		346014.85	2804116.78
PT	(PT)	601+91.51 R1	353514.83	2804132.91
	Radius:	7500		
	Delta:	1.46 Right		
	Degree of Curvature (Arc):	0.76		
	Length:	191.51		
	Tangent:	95.76		
	Chord:	191.5		
	Middle Ordinate:	0.61		
	External:	0.61		
	Back Tangent Direction:	N88.66°E		
	Back Radial Direction:	S1.34°E		
	Chord Direction:	N89.39°E		
	Ahead Radial Direction:	S0.12°W		
	Ahead Tangent Direction:	S89.88°E		
Element: Linear				
PT	(PT)	601+91.51 R1	353514.83	2804132.91
PC	(PC)	604+86.71 R1	353514.19	2804428.11
	Tangential Direction:	S89.88°E		
	Tangential Length:	295.2		
Element: Circular				
PC	(PC)	604+86.71 R1	353514.19	2804428.11
	(COMBINATION PI)	605+83.38 R1	353513.98	2804524.79
CC	(CC)		355014.19	2804431.34
PRC	(PRC)	606+79.80 R1	353526.19	2804620.7
	Radius:	1500		
	Delta:	7.38 Left		
	Degree of Curvature (Arc):	3.82		
	Length:	193.09		
	Tangent:	96.68		
	Chord:	192.96		
	Middle Ordinate:	3.11		
	External:	3.11		
	Back Tangent Direction:	S89.88°E		
	Back Radial Direction:	S0.12°W		
	Chord Direction:	N86.44°E		
	Ahead Radial Direction:	S7.25°E		
	Ahead Tangent Direction:	N82.75°E		

		Station	Northing	Easting
Element: Circular				
PRC	(PRC)	606+79.80 R1	353526.19	2804620.7
	(COMBINATION PI)	607+52.38 R1	353535.35	2804692.7
CC	(CC)		352038.19	2804810.05
PT	(PT)	608+24.85 R1	353537.52	2804765.25
	Radius:	1500		
	Delta:	5.54 Right		
	Degree of Curvature (Arc):	3.82		
	Length:	145.05		
	Tangent:	72.58		
	Chord:	145		
	Middle Ordinate:	1.75		
	External:	1.76		
	Back Tangent Direction:	N82.75°E		
	Back Radial Direction:	S7.25°E		
	Chord Direction:	N85.52°E		
	Ahead Radial Direction:	S1.71°E		
	Ahead Tangent Direction:	N88.29°E		
Element: Linear				
PT	(PT)	608+24.85 R1	353537.52	2804765.25
PC	(PC)	619+42.30 R1	353570.9	2805882.2
	Tangential Direction:	N88.29°E		
	Tangential Length:	1117.45		

Survey Data Layouts

Office Center Line

ND 297 (DeMers Ave) Westbound

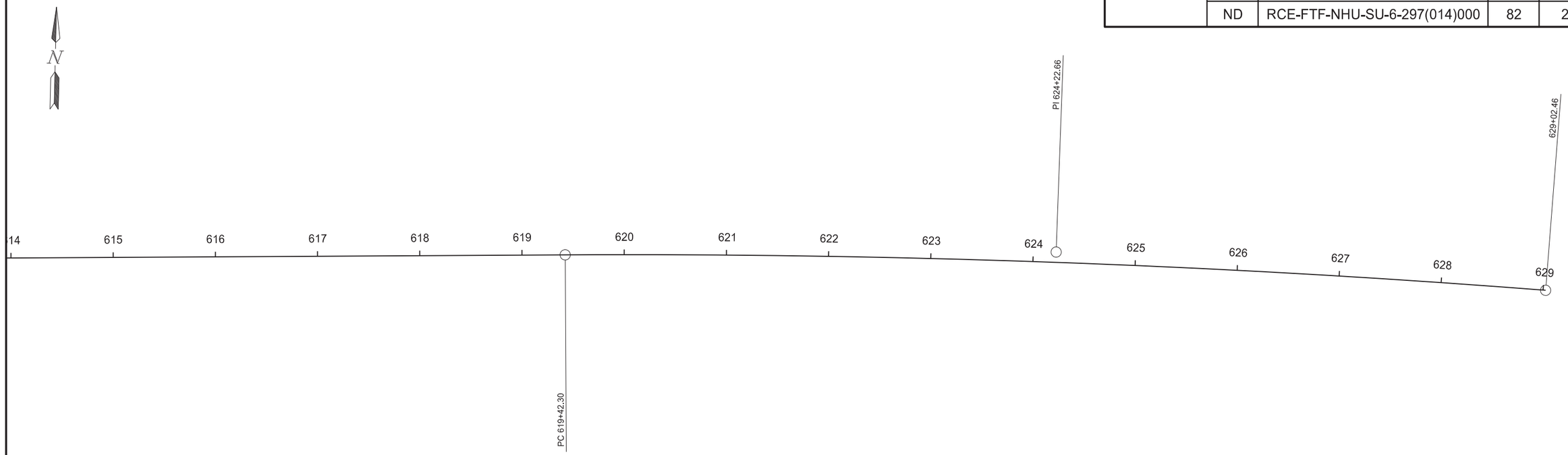
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.05 15:07:38 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	2



Alignment Name: OCL_297WB
Alignment Description:
Alignment Style:

		Station	Northing	Easting
Element: Circular				
PC	(PC)	619+42.30 R1	353570.9	2805882.2
	(COMBINATION PI)	624+22.66 R1	353585.25	2806362.34
CC	(CC)		342101.02	2806224.96
PT	(PT)	629+02.46 R1	353559.42	2806842.01
	Radius:	11475		
	Delta:	4.79 Right		
	Degree of Curvature (Arc):	0.5		
	Length:	960.15		
	Tangent:	480.36		
	Chord:	959.87		
	Middle Ordinate:	10.04		
	External:	10.05		
	Back Tangent Direction:	N88.29°E		
	Back Radial Direction:	S1.71°E		
	Chord Direction:	S89.31°E		
	Ahead Radial Direction:	S3.08°W		
	Ahead Tangent Direction:	S86.92°E		

Survey Data Layouts

Office Center Line

ND 297 (DeMers Ave) Westbound

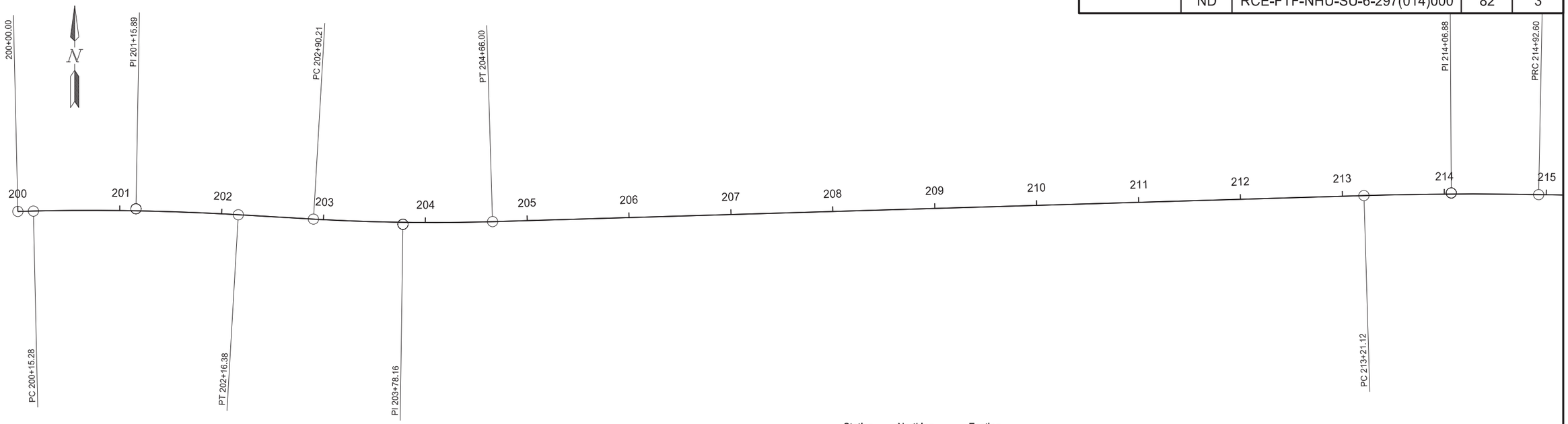
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4256
DATE: 2025.12.05 15:07:48 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	82	3



Alignment Name: OCL_297EB
Alignment Description:
Alignment Style:

		Station	Northing	Easting
Element: Linear				
START	(START)	200+00.00 R1	353500.8	2803941.69
PC	(PC)	200+15.28 R1	353501.14	2803956.97
	Tangential Direction:	N88.72°E		
	Tangential Length:	15.28		
Element: Circular				
PC	(PC)	200+15.28 R1	353501.14	2803956.97
	(COMBINATION PI)	201+15.89 R1	353503.4	2804057.55
CC	(CC)		351001.77	2804013.01
PT	(PT)	202+16.38 R1	353497.57	2804157.98
	Radius:	2500		
	Delta:	4.61 Right		
	Degree of Curvature (Arc):	2.29		
	Length:	201.1		
	Tangent:	100.6		
	Chord:	201.04		
	Middle Ordinate:	2.02		
	External:	2.02		
	Back Tangent Direction:	N88.72°E		
	Back Radial Direction:	S1.28°E		
	Chord Direction:	S88.98°E		
	Ahead Radial Direction:	S3.32°W		
	Ahead Tangent Direction:	S86.68°E		
Element: Linear				
PT	(PT)	202+16.38 R1	353497.57	2804157.98
PC	(PC)	202+90.21 R1	353493.28	2804231.69
	Tangential Direction:	S86.68°E		
	Tangential Length:	73.83		

		Station	Northing	Easting
Element: Circular				
PC	(PC)	202+90.21 R1	353493.28	2804231.69
	(COMBINATION PI)	203+78.16 R1	353488.18	2804319.49
CC	(CC)		355489.92	2804347.67
PT	(PT)	204+66.00 R1	353490.81	2804407.41
	Radius:	2000		
	Delta:	5.04 Left		
	Degree of Curvature (Arc):	2.86		
	Length:	175.79		
	Tangent:	87.95		
	Chord:	175.74		
	Middle Ordinate:	1.93		
	External:	1.93		
	Back Tangent Direction:	S86.68°E		
	Back Radial Direction:	S3.32°W		
	Chord Direction:	S89.19°E		
	Ahead Radial Direction:	S1.71°E		
	Ahead Tangent Direction:	N88.29°E		
Element: Linear				
PT	(PT)	204+66.00 R1	353490.81	2804407.41
PC	(PC)	213+21.12 R1	353516.35	2805262.14
	Tangential Direction:	N88.29°E		
	Tangential Length:	855.12		
Element: Circular				
PC	(PC)	213+21.12 R1	353516.35	2805262.14
	(COMBINATION PI)	214+06.88 R1	353518.91	2805347.86
CC	(CC)		350017.91	2805366.69
PRC	(PRC)	214+92.60 R1	353517.28	2805433.6
	Radius:	3500		
	Delta:	2.81 Right		
	Degree of Curvature (Arc):	1.64		
	Length:	171.48		
	Tangent:	85.76		
	Chord:	171.46		
	Middle Ordinate:	1.05		
	External:	1.05		
	Back Tangent Direction:	N88.29°E		
	Back Radial Direction:	S1.71°E		
	Chord Direction:	N89.69°E		
	Ahead Radial Direction:	S1.10°W		
	Ahead Tangent Direction:	S88.90°E		

		Station	Northing	Easting
Element: Circular				
PRC	(PRC)	214+92.60 R1	353517.28	2805433.6
	(COMBINATION PI)	215+81.58 R1	353515.57	2805522.57
CC	(CC)		357516.54	2805510.08
PT	(PT)	216+70.53 R1	353517.83	2805611.52
	Radius:	4000		
	Delta:	2.55 Left		
	Degree of Curvature (Arc):	1.43		
	Length:	177.93		
	Tangent:	88.98		
	Chord:	177.92		
	Middle Ordinate:	0.99		
	External:	0.99		
	Back Tangent Direction:	S88.90°E		
	Back Radial Direction:	S1.10°W		
	Chord Direction:	N89.82°E		
	Ahead Radial Direction:	S1.45°E		
	Ahead Tangent Direction:	N88.55°E		

Survey Data Layouts

Office Center Line

ND 297 (DeMers Ave) Eastbound

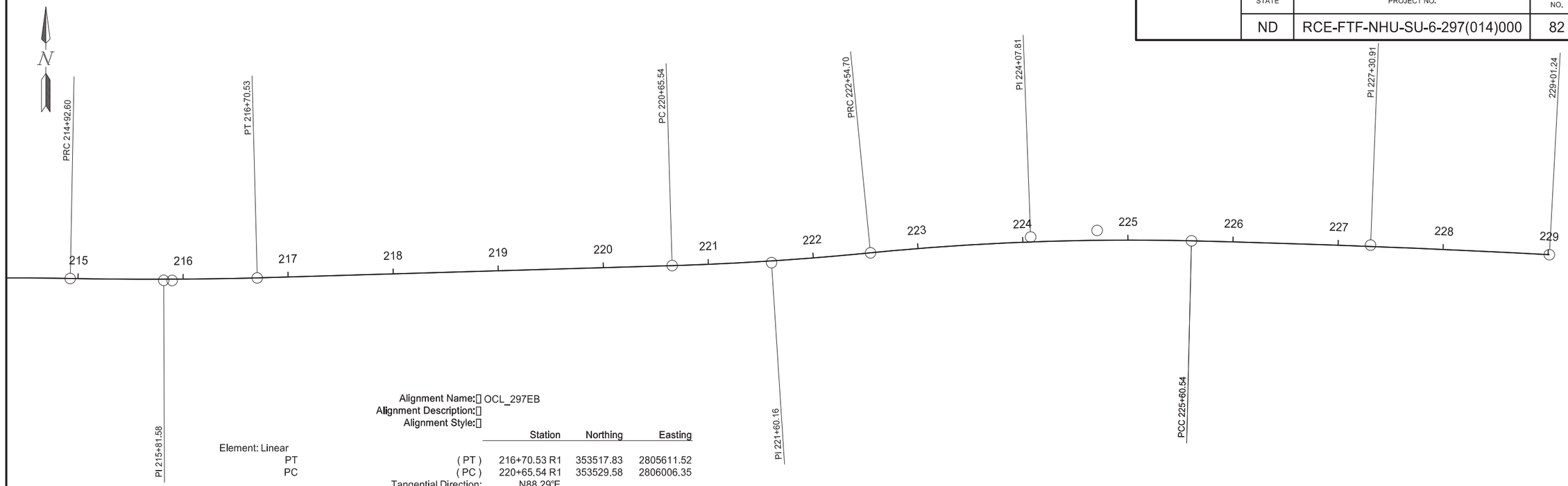
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4276
DATE: 2025.12.05 15:08:00 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	4



Alignment Name: OCL_297EB
Alignment Description:
Alignment Style:

		Station	Northing	Easting
Element: Linear				
PT	(PT)	216+70.53 R1	353517.83	2805611.52
PC	(PC)	220+65.54 R1	353529.58	2806006.35
	Tangential Direction:	N88.29°E		
	Tangential Length:	395		
Element: Circular				
PC	(PC)	220+65.54 R1	353529.58	2806006.35
	(COMBINATION PI)	221+60.16 R1	353532.4	2806100.93
CC	(CC)		356278.37	2805924.52
PRC	(PRC)	222+54.70 R1	353541.71	2806195.08
	Radius:	2750		
	Delta:	3.94 Left		
	Degree of Curvature (Arc):	2.08		
	Length:	189.16		
	Tangent:	94.62		
	Chord:	189.12		
	Middle Ordinate:	1.63		
	External:	1.63		
	Back Tangent Direction:	N88.29°E		
	Back Radial Direction:	S1.71°E		
	Chord Direction:	N86.32°E		
	Ahead Radial Direction:	S5.65°E		
	Ahead Tangent Direction:	N84.35°E		
Element: Circular				
PRC	(PRC)	222+54.70 R1	353541.71	2806195.08
	(COMBINATION PI)	224+07.81 R1	353556.77	2806347.45
CC	(CC)		351053.84	2806441.05
PCC	(PCC)	225+60.54 R1	353553.13	2806500.52
	Radius:	2500		
	Delta:	7.01 Right		
	Degree of Curvature (Arc):	2.29		
	Length:	305.84		
	Tangent:	153.11		
	Chord:	305.65		
	Middle Ordinate:	4.68		
	External:	4.68		
	Back Tangent Direction:	N84.35°E		
	Back Radial Direction:	S5.65°E		
	Chord Direction:	N87.86°E		
	Ahead Radial Direction:	S1.36°W		
	Ahead Tangent Direction:	S88.64°E		

		Station	Northing	Easting
Element: Circular				
PCC	(PCC)	225+60.54 R1	353553.13	2806500.52
	(COMBINATION PI)	227+30.91 R1	353549.06	2806670.84
CC	(CC)		342101.4	2806226.78
PT	(PT)	229+01.24 R1	353539.92	2806840.96
	Radius:	11455		
	Delta:	1.7 Right		
	Degree of Curvature (Arc):	0.5		
	Length:	340.7		
	Tangent:	170.36		
	Chord:	340.69		
	Middle Ordinate:	1.27		
	External:	1.27		
	Back Tangent Direction:	S88.63°E		
	Back Radial Direction:	S1.37°W		
	Chord Direction:	S87.78°E		
	Ahead Radial Direction:	S3.07°W		
	Ahead Tangent Direction:	S86.93°E		

Survey Data Layouts

Office Center Line

ND 297 (DeMers Ave) Eastbound

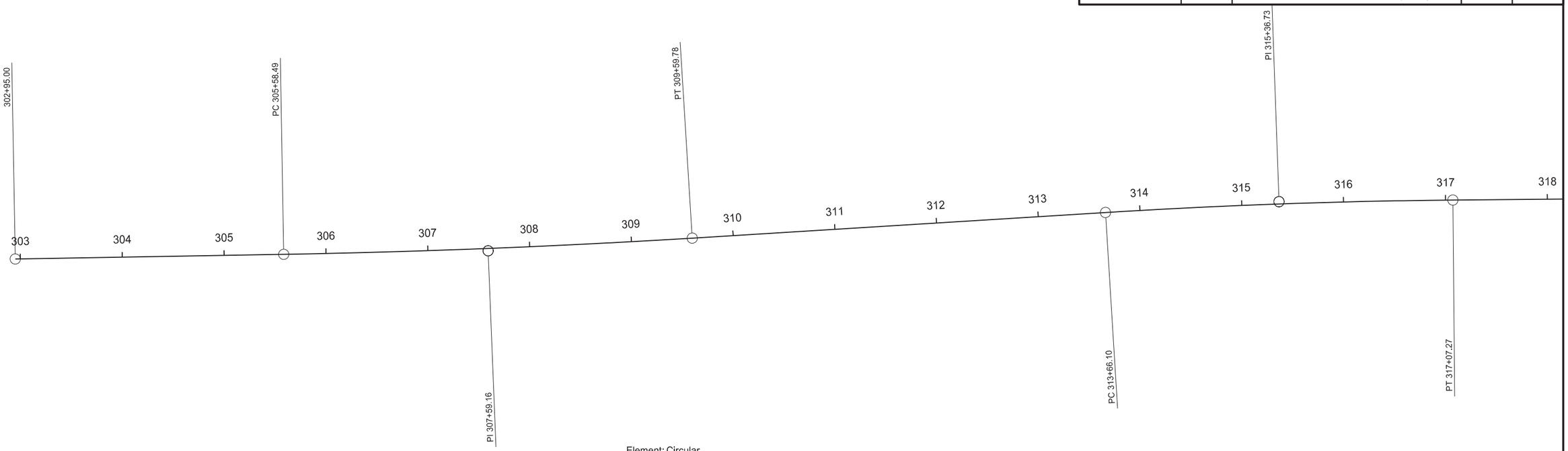
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.05 15:08:12 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	5



Alignment Name: OCL_42nd_NB
Alignment Description:
Alignment Style:

		Station	Northing	Easting
Element: Linear				
START	(START)	302+95.00 R1	352005.6	2805254.35
PC	(PC)	305+58.49 R1	352268.89	2805244.4
	Tangential Direction:	N2.16°W		
	Tangential Length:	263.49		
Element: Circular				
PC	(PC)	305+58.49 R1	352268.89	2805244.4
	(COMBINATION PI)	307+59.16 R1	352469.43	2805236.82
CC	(CC)		351929	2796250.82
PT	(PT)	309+59.78 R1	352669.43	2805220.31
	Radius:	9000		
	Delta:	2.55 Left		
	Degree of Curvature (Arc):	0.64		
	Length:	401.29		
	Tangent:	200.68		
	Chord:	401.26		
	Middle Ordinate:	2.24		
	External:	2.24		
	Back Tangent Direction:	N2.16°W		
	Back Radial Direction:	N87.84°E		
	Chord Direction:	N3.44°W		
	Ahead Radial Direction:	N85.28°E		
	Ahead Tangent Direction:	N4.72°W		
Element: Linear				
PT	(PT)	309+59.78 R1	352669.43	2805220.31
PC	(PC)	313+66.10 R1	353074.38	2805186.88
	Tangential Direction:	N4.72°W		
	Tangential Length:	406.32		
Element: Circular				
PC	(PC)	313+66.10 R1	353074.38	2805186.88
	(COMBINATION PI)	315+36.73 R1	353244.42	2805172.84
CC	(CC)		353609.13	2811664.85
PT	(PT)	317+07.27 R1	353414.97	2805167.75
	Radius:	6500		
	Delta:	3.01 Right		
	Degree of Curvature (Arc):	0.88		
	Length:	341.17		
	Tangent:	170.63		
	Chord:	341.13		
	Middle Ordinate:	2.24		
	External:	2.24		
	Back Tangent Direction:	N4.72°W		
	Back Radial Direction:	N85.28°E		
	Chord Direction:	N3.22°W		
	Ahead Radial Direction:	N88.29°E		
	Ahead Tangent Direction:	N1.71°W		
Element: Linear				
PT	(PT)	317+07.27 R1	353414.97	2805167.75
PC	(PC)	319+86.74 R1	353694.31	2805159.4
	Tangential Direction:	N1.71°W		
	Tangential Length:	279.46		
Element: Circular				
PC	(PC)	319+86.74 R1	353694.31	2805159.4

Survey Data Layouts

Office Center Line

42nd Street Northbound

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4226
DATE: 2025.12.05 15:08:23 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	6



Alignment Name: OCL_42nd_NB
Alignment Description:

		Station	Northing	Easting
Element: Circular				
	PC	319+86.74 R1	353694.31	2805159.4
	COMBINATION PI	321+17.08 R1	353824.59	2805155.51
	CC		353888.47	2811656.5
	PT	322+47.38 R1	353954.93	2805156.84
	Radius:	6500		
	Delta:	2.3 Right		
	Degree of Curvature (Arc):	0.88		
	Length:	260.65		
	Tangent:	130.34		
	Chord:	260.63		
	Middle Ordinate:	1.31		
	External:	1.31		
		N1.71°W		
	Back Radial Direction:	N88.29°E		
	Chord Direction:	N0.56°W		
	Ahead Radial Direction:	N0.59°E		

		Station	Northing	Easting
Element: Linear				
	PT			
	(PT)	322+47.38 R1	353954.93	2805156.84
	PC	323+89.22 R1	354096.76	2805158.29
	Tangential Direction:	N0.59°E		
	Tangential Length:	141.84		
Element: Circular				
	PC	323+89.22 R1	354096.76	2805158.29
	COMBINATION PI	325+08.02 R1	354215.55	2805159.5
	CC		354147.88	2800158.55
	PT	326+26.77 R1	354334.26	2805155.07
	Radius:	5000		
	Delta:	2.72 Left		
	Degree of Curvature (Arc):	1.15		
	Length:	237.55		
	Tangent:	118.8		
	Chord:	237.51		
	Middle Ordinate:	1.41		
	External:	1.41		
	Back Tangent Direction:	N0.59°E		
	Back Radial Direction:	S89.41°E		
	Chord Direction:	N0.78°W		
	Ahead Radial Direction:	N87.86°E		
	Ahead Tangent Direction:	N2.14°W		
Element: Linear				
	PT	326+26.77 R1	354334.26	2805155.07
	END	331+97.36 R1	354904.46	2805133.8
	Tangential Direction:	N2.14°W		
	Tangential Length:	570.59		

Survey Data Layouts

Office Center Line

42nd Street Northbound

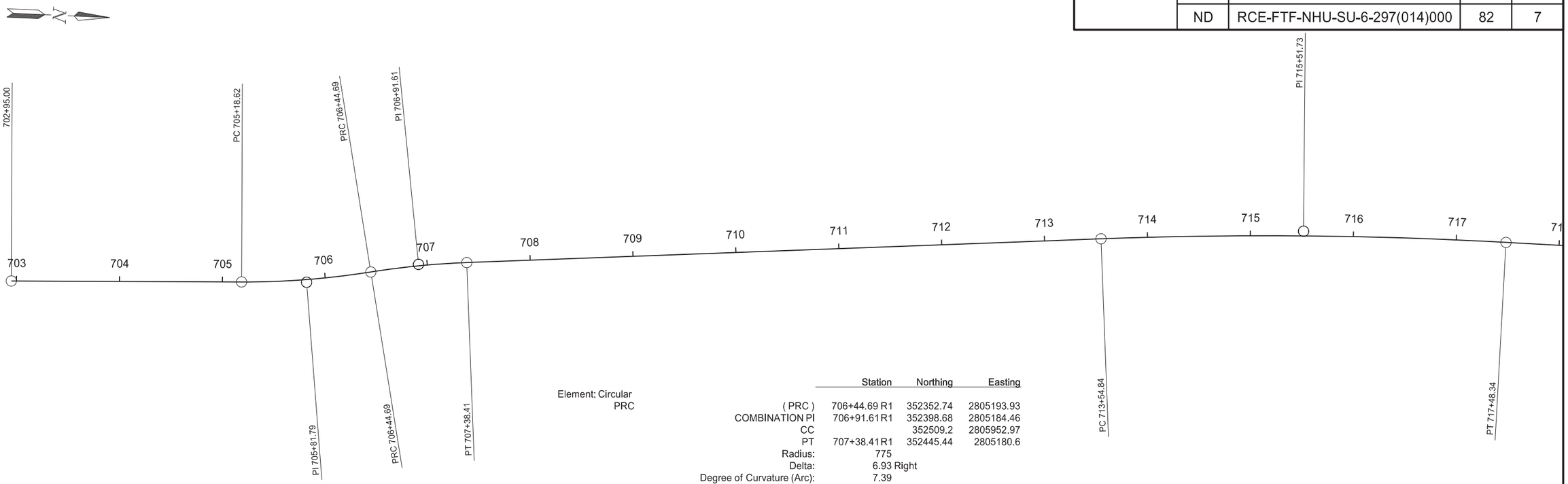
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9076
DATE: 2025.12.05 15:08:50 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	7



Alignment Name: OCL_42nd_SB
Alignment Description:
Alignment Style:

		Station	Northing	Easting
Element: Linear				
START	(START)	702+95.00 R1	352004.3	2805218.33
PC	(PC)	705+18.62 R1	352227.73	2805209.25
	Tangential Direction:	N2.33°W		
	Tangential Length:	223.62		
Element: Circular				
PC	(PC)	705+18.62 R1	352227.73	2805209.25
	(COMBINATION PI)	705+81.79 R1	352290.86	2805206.69
CC	(CC)		352196.27	2804434.89
PRC	(PRC)	706+44.69 R1	352352.74	2805193.93
	Radius:	775		
	Delta:	9.32 Left		
	Degree of Curvature (Arc):	7.39		
	Length:	126.08		
	Tangent:	63.18		
	Chord:	125.94		
	Middle Ordinate:	2.56		
	External:	2.57		
	Back Tangent Direction:	N2.33°W		
	Back Radial Direction:	N87.67°E		
	Chord Direction:	N6.99°W		
	Ahead Radial Direction:	N78.35°E		
	Ahead Tangent Direction:	N11.65°W		

		Station	Northing	Easting
Element: Circular				
PRC	(PRC)	706+44.69 R1	352352.74	2805193.93
	COMBINATION PI	706+91.61 R1	352398.68	2805184.46
	CC		352509.2	2805952.97
	PT	707+38.41 R1	352445.44	2805180.6
	Radius:	775		
	Delta:	6.93 Right		
	Degree of Curvature (Arc):	7.39		
	Length:	93.71		
	Tangent:	46.91		
	Chord:	93.66		
	Middle Ordinate:	1.42		
	External:	1.42		
	Back Tangent Direction:	N11.65°W		
	Back Radial Direction:	N78.35°E		
	Chord Direction:	N85.28°E		
Element: Linear		N4.72°W		
	PT	707+38.41 R1	352445.44	2805180.6
		PC		
		N4.72°W		
		616.43		
Element: Circular				
PC	(PC)	713+54.84 R1	353059.78	2805129.89
	COMBINATION PI	715+51.73 R1	353256	2805113.69
	CC		353409.43	2809365.48
	PT	717+48.34 R1	353452.88	2805115.7
	Radius:	4250		
	Delta:	5.3 Right		
	Degree of Curvature (Arc):	1.35		
	Length:	393.5		
	Tangent:	196.89		
	Chord:	393.36		
	Middle Ordinate:	4.55		
	External:	4.56		
	Back Tangent Direction:	N4.72°W		
	Back Radial Direction:	N85.28°E		
	Chord Direction:	S89.41°E		
		N0.59°E		

Survey Data Layouts

Office Center Line

42nd Street Southbound

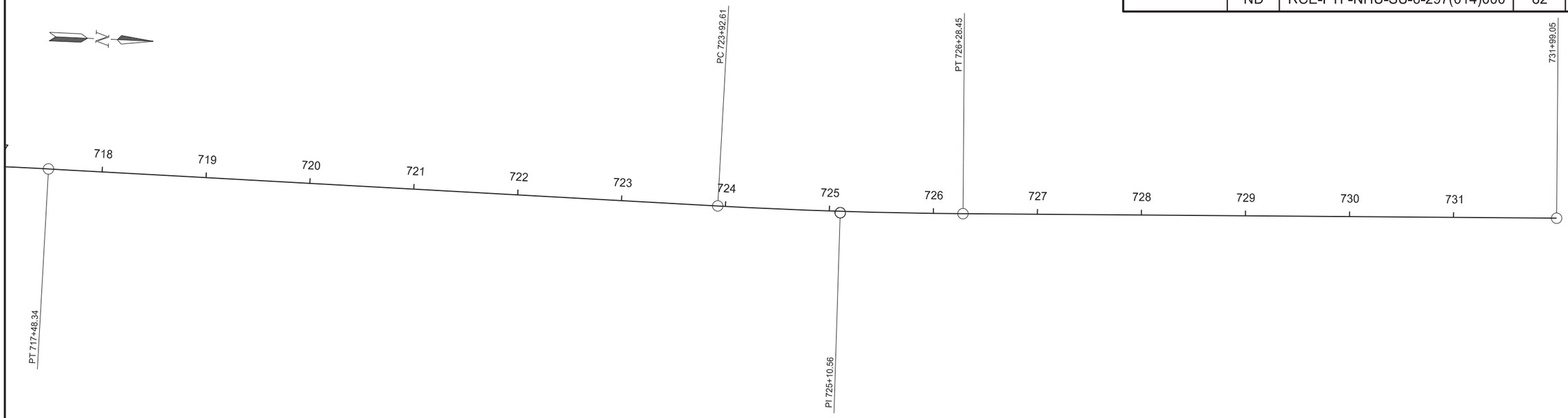
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4276
DATE: 2025.12.05 15:09:00 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	8



Alignment Name: OCL_42nd_SB
Alignment Description:
Alignment Style:

		Station	Northing	Easting
Element: Linear				
	PT	717+48.34 R1	353452.88	2805115.7
	PC	723+92.61 R1	354097.13	2805122.29
	Tangential Direction:	N0.59°E		
	Tangential Length:	644.28		
Element: Circular				
	PC	723+92.61 R1	354097.13	2805122.29
	COMBINATION PI	725+10.56 R1	354215.06	2805123.5
	CC		354147.88	2800158.55
	PT	726+28.45 R1	354332.92	2805119.1
	Radius:	4964		
	Delta:	2.72 Left		
	Degree of Curvature (Arc):	1.15		
	Length:	235.84		
Tangent:		117.94		
Chord:		235.82		
	Middle Ordinate:	1.4		
	External:	1.4		
Back Tangent Direction:		N0.59°E		
Back Radial Direction:		S89.41°E		
Chord Direction:		N0.78°W		
Ahead Radial Direction:		N87.86°E		
Ahead Tangent Direction:		N2.14°W		
Element: Linear				
PT	(PT)	726+28.45 R1	354332.92	2805119.1
END	(END)	731+99.05 R1	354903.12	2805097.83
Tangential Direction:		N2.14°W		
Tangential Length:		570.59		

Survey Data Layouts

Office Center Line

42nd Street Southbound

ND 297 (DeMers Ave) & 42nd St Grade Separation

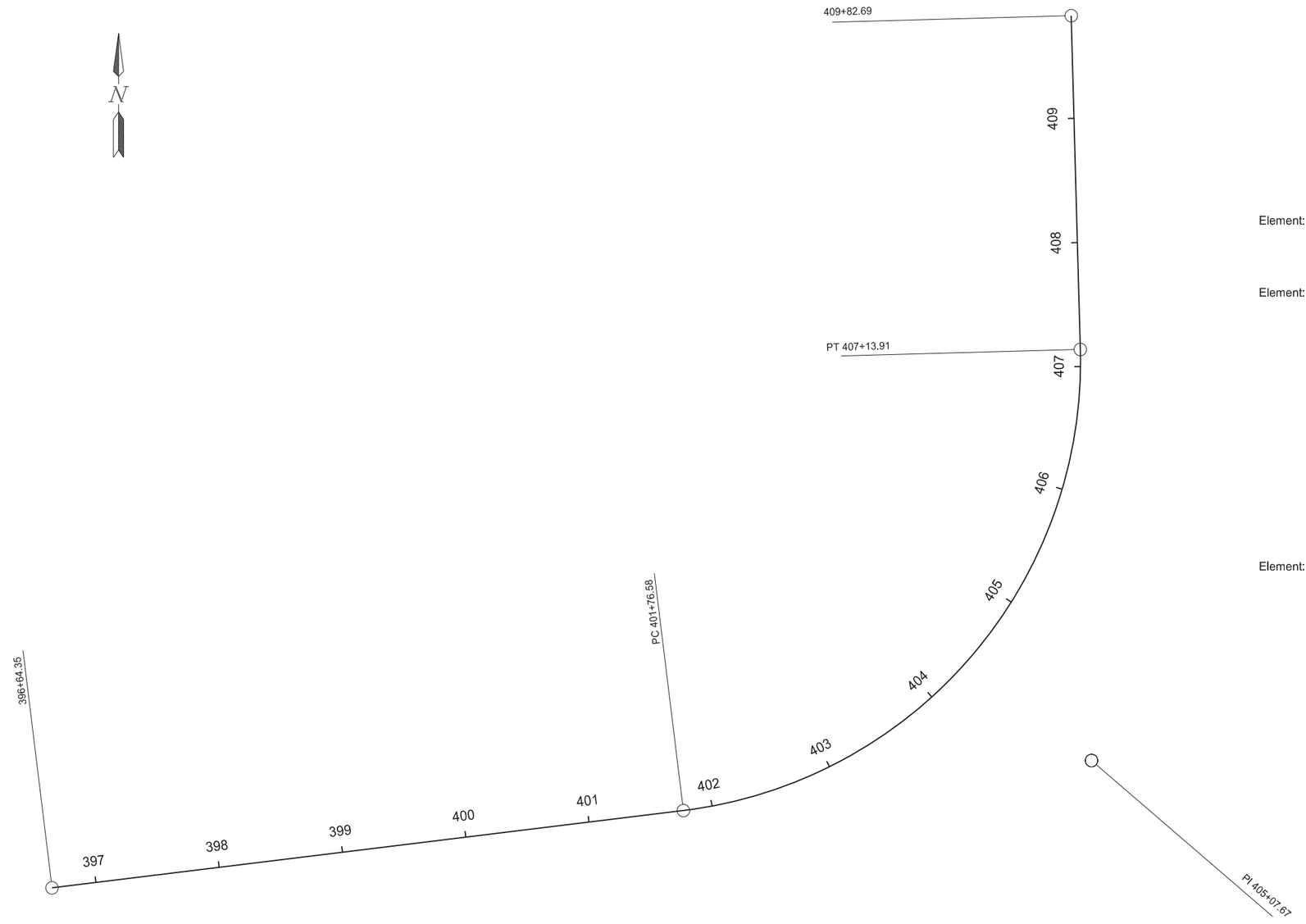
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE - 8256
DATE: 2025.12.05 15:09:10 -06'00'
NORTH DAKOTA

12/5/2025 2:48:31 PM ryan.genz H:\NDDOT\24M000368000\CAD\ORD\NDDOT-24M000368000\Plan\082SD_008.dgn

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	9



Alignment Name: OCL_7th_EB
Alignment Description:
Alignment Style:

		Station	Northing	Easting
Element: Linear				
START	(START)	396+64.35 R1	352817.17	2804841.26
PC	(PC)	401+76.58 R1	352879.44	2805349.69
	Tangential Direction:	N83.02°E		
	Tangential Length:	512.23		
Element: Circular				
PC	(PC)	401+76.58 R1	352879.44	2805349.69
	(COMBINATION PI)	405+07.67 R1	352919.69	2805678.32
CC	(CC)		353240.74	2805305.44
PT	(PT)	407+13.91 R1	353250.65	2805669.31
	Radius:	364		
	Delta:	84.58 Left		
	Degree of Curvature (Arc):	15.74		
	Length:	537.32		
	Tangent:	331.09		
	Chord:	489.85		
	Middle Ordinate:	94.73		
	External:	128.05		
	Back Tangent Direction:	N83.02°E		
	Back Radial Direction:	S6.98°E		
	Chord Direction:	N40.73°E		
	Ahead Radial Direction:	N88.44°E		
	Ahead Tangent Direction:	N1.56°W		
Element: Linear				
PT	(PT)	407+13.91 R1	353250.65	2805669.31
END	(END)	409+82.69 R1	353519.33	2805661.99
	Tangential Direction:	N1.56°W		
	Tangential Length:	268.78		

Survey Data Layouts

Office Center Line

7th Ave S Eastbound

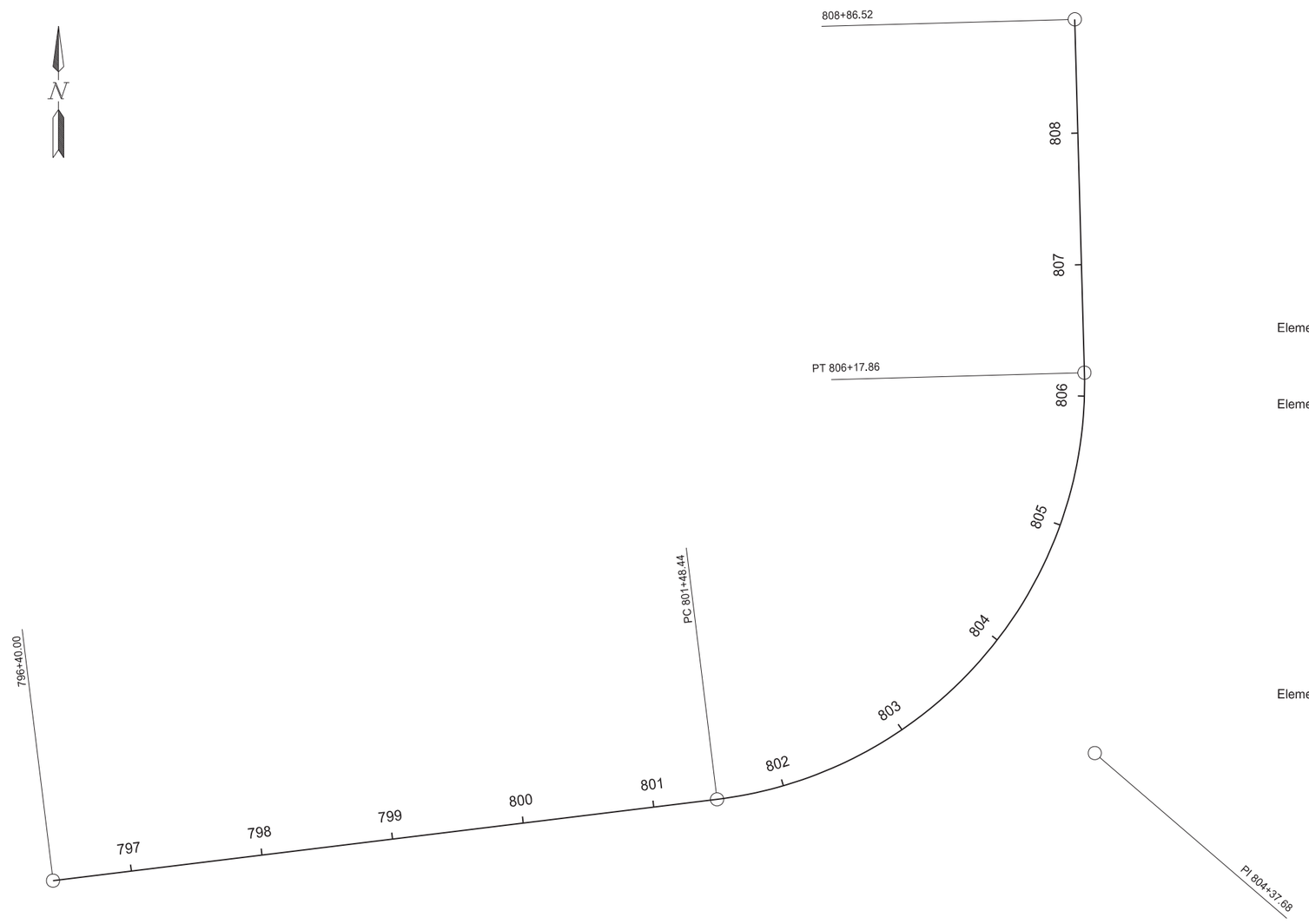
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8276
DATE: 2025.12.05 15:09:21 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	10



Alignment Name: OCL_7th_WB
Alignment Description:
Alignment Style:

		Station	Northing	Easting
Element: Linear				
START	(START)	796+40.00 R1	352863.29	2804839.43
PC	(PC)	801+48.44 R1	352925.1	2805344.1
	Tangential Direction:	N83.02°E		
	Tangential Length:	508.44		
Element: Circular				
PC	(PC)	801+48.44 R1	352925.1	2805344.1
	(COMBINATION PI)	804+37.68 R1	352960.26	2805631.2
CC	(CC)		353240.74	2805305.44
PT	(PT)	806+17.86 R1	353249.4	2805623.32
	Radius:	318		
	Delta:	84.58 Left		
	Degree of Curvature (Arc):	18.02		
	Length:	469.42		
	Tangent:	289.25		
	Chord:	427.95		
	Middle Ordinate:	82.76		
	External:	111.87		
	Back Tangent Direction:	N83.02°E		
	Back Radial Direction:	S6.98°E		
	Chord Direction:	N40.73°E		
	Ahead Radial Direction:	N88.44°E		
	Ahead Tangent Direction:	N1.56°W		
Element: Linear				
PT	(PT)	806+17.86 R1	353249.4	2805623.32
END	(END)	808+86.52 R1	353517.96	2805616.01
	Tangential Direction:	N1.56°W		
	Tangential Length:	268.66		

Survey Data Layouts

Office Center Line

7th Ave S Westbound

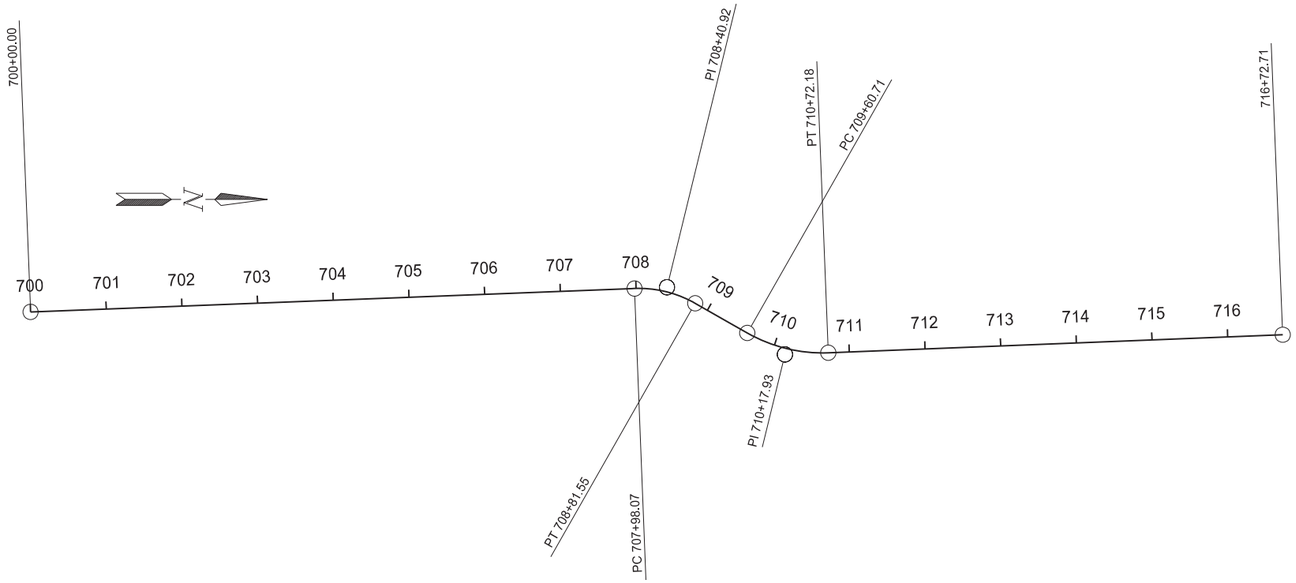
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9026
DATE: 2025.12.05 15:09:33 -06'00'
NORTH DAKOTA

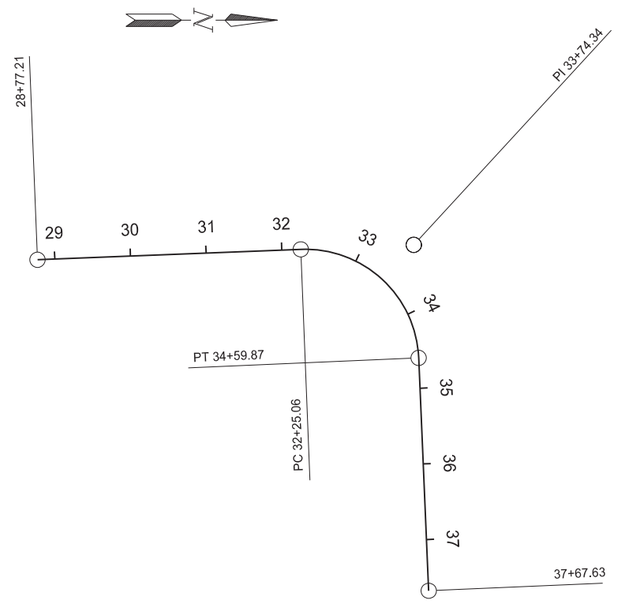
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	11



43rd Street Proposed

Alignment Name: OCL_43RD
Alignment Description:
Alignment Style:

		Station	Northing	Easting
Element: Linear				
START	(START)	700+00.00 R1	351682.86	2804790.63
PC	(PC)	707+98.07 R1	352480.33	2804759.69
	Tangential Direction:	N2.22°W		
	Tangential Length:	798.07		
Element: Circular				
PC	(PC)	707+98.07 R1	352480.33	2804759.69
	(COMBINATION PI)	708+40.92 R1	352523.15	2804758.03
CC	(CC)		352486.15	2804909.58
PT	(PT)	708+81.55 R1	352560.39	2804779.24
	Radius:	150		
	Delta:	31.89 Right		
	Degree of Curvature (Arc):	38.2		
	Length:	83.48		
	Tangent:	42.85		
	Chord:	82.41		
	Middle Ordinate:	5.77		
	External:	6		
	Back Tangent Direction:	N2.22°W		
	Back Radial Direction:	N87.78°E		
	Chord Direction:	N13.72°E		
	Ahead Radial Direction:	S60.34°E		
	Ahead Tangent Direction:	N29.66°E		
Element: Linear				
PT	(PT)	708+81.55 R1	352560.39	2804779.24
PC	(PC)	709+60.71R1	352629.17	2804818.41
	Tangential Direction:	N29.66°E		
	Tangential Length:	79.16		
Element: Circular				
PC	(PC)	709+60.71R1	352629.17	2804818.41
	(COMBINATION PI)	710+17.93 R1	352678.9	2804846.74
CC	(CC)		352728.16	2804644.63
PT	(PT)	710+72.18 R1	352736.07	2804844.47
	Radius:	200		
	Delta:	31.93 Left		
	Degree of Curvature (Arc):	28.65		
	Length:	111.47		
	Tangent:	57.22		
	Chord:	110.03		
	Middle Ordinate:	7.72		
	External:	8.03		
	Back Tangent Direction:	N29.66°E		
	Back Radial Direction:	S60.34°E		
	Chord Direction:	N13.70°E		
	Ahead Radial Direction:	N87.73°E		
	Ahead Tangent Direction:	N2.27°W		
Element: Linear				
PT	(PT)	710+72.18 R1	352736.07	2804844.47
END	(END)	716+72.71R1	353336.14	2804820.7
	Tangential Direction:	N2.27°W		
	Tangential Length:	600.54		



43rd Street Existing

Alignment Name: OCL_43rd_Exst
Alignment Description:
Alignment Style:

		Station	Northing	Easting
Element: Linear				
START	(START)	28+77.21R1	352133.94	2804773.89
PC	(PC)	32+25.06 R1	352481.53	2804760.18
	Tangential Direction:	N2.26°W		
	Tangential Length:	347.86		
Element: Circular				
PC	(PC)	32+25.06 R1	352481.53	2804760.18
	(COMBINATION PI)	33+74.34 R1	352630.68	2804754.29
CC	(CC)		352487.43	2804909.9
PT	(PT)	34+59.87 R1	352637.14	2804903.42
	Radius:	149.84		
	Delta:	89.78 Right		
	Degree of Curvature (Arc):	38.24		
	Length:	234.8		
	Tangent:	149.27		
	Chord:	211.51		
	Middle Ordinate:	43.69		
	External:	61.66		
	Back Tangent Direction:	N2.26°W		
	Back Radial Direction:	N87.74°E		
	Chord Direction:	N42.63°E		
	Ahead Radial Direction:	S2.48°E		
	Ahead Tangent Direction:	N87.52°E		
Element: Linear				
PT	(PT)	34+59.87 R1	352637.14	2804903.42
END	(END)	37+67.63 R1	352650.45	2805210.9
	Tangential Direction:	N87.52°E		
	Tangential Length:	307.76		

Survey Data Layouts

Office Center Line

Existing and Proposed
43rd Street and Backage Road

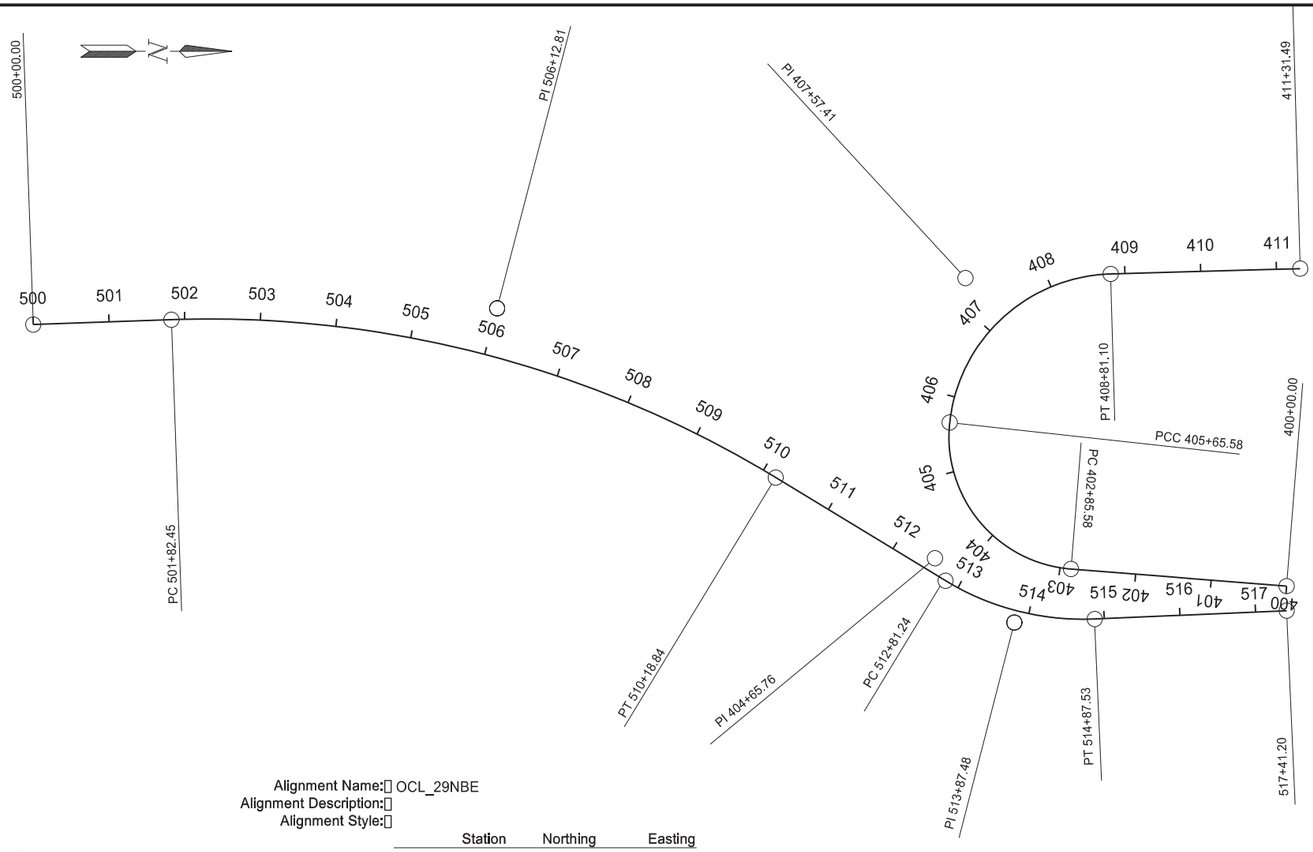
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4256
DATE: 2025.12.05 15:09:44 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	12



Alignment Name: OCL_29NBE
Alignment Description:
Alignment Style:

		Station	Northing	Easting
Element: Linear				
START	(START)	500+00.00 R1	351835.15	2803993.33
PC	(PC)	501+82.45 R1	352017.49	2803986.95
	Tangential Direction:	N2.00°W		
	Tangential Length:	182.45		
Element: Circular				
PC	(PC)	501+82.45 R1	352017.49	2803986.95
	(COMBINATION PI)	506+12.81 R1	352447.59	2803971.91
CC	(CC)		352067.84	2805426.07
PT	(PT)	510+18.84 R1	352815.41	2804195.33
	Radius:	1440		
	Delta:	33.28 Right		
	Degree of Curvature (Arc):	3.98		
	Length:	836.39		
	Tangent:	430.36		
	Chord:	824.69		
	Middle Ordinate:	60.3		
	External:	62.94		
	Back Tangent Direction:	N2.00°W		
	Back Radial Direction:	N88.00°E		
	Chord Direction:	N14.64°E		
	Ahead Radial Direction:	S58.72°E		
	Ahead Tangent Direction:	N31.28°E		
Element: Linear				
PT	(PT)	510+18.84 R1	352815.41	2804195.33
PC	(PC)	512+81.24 R1	353039.68	2804331.55
	Tangential Direction:	N31.28°E		
	Tangential Length:	262.4		

		Station	Northing	Easting
Element: Circular				
PC	(PC)	512+81.24 R1	353039.68	2804331.55
	(COMBINATION PI)	513+87.48 R1	353130.49	2804386.71
CC	(CC)		353221.39	2804032.42
PT	(PT)	514+87.53 R1	353236.63	2804382.08
	Radius:	350		
	Delta:	33.77 Left		
	Degree of Curvature (Arc):	16.37		
	Length:	206.29		
	Tangent:	106.24		
	Chord:	203.32		
	Middle Ordinate:	15.09		
	External:	15.77		
	Back Tangent Direction:	N31.28°E		
	Back Radial Direction:	S58.72°E		
	Chord Direction:	N14.39°E		
	Ahead Radial Direction:	N87.50°E		
	Ahead Tangent Direction:	N2.50°W		
Element: Linear				
PT	(PT)	514+87.53 R1	353236.63	2804382.08
END	(END)	517+41.20 R1	353490.05	2804371.04
	Tangential Direction:	N2.50°W		
	Tangential Length:	253.67		

Alignment Name: OCL_29SEL
Alignment Description:
Alignment Style:

		Station	Northing	Easting
Element: Linear				
START	(START)	400+00.00 R1	353489.94	2804338.63
PC	(PC)	402+85.58 R1	353205.26	2804316.05
	Tangential Direction:	S4.54°W		
	Tangential Length:	285.58		
Element: Circular				
PC	(PC)	402+85.58 R1	353205.26	2804316.05
	(COMBINATION PI)	404+65.76 R1	353025.63	2804301.8
CC	(CC)		353219.09	2804141.6
PCC	(PCC)	405+65.58 R1	353045.12	2804122.67
	Radius:	175		
	Delta:	91.67 Right		
	Degree of Curvature (Arc):	32.74		
	Length:	280		
	Tangent:	180.19		
	Chord:	251.07		
	Middle Ordinate:	53.08		
	External:	76.18		
	Back Tangent Direction:	S4.54°W		
	Back Radial Direction:	N85.46°W		
	Chord Direction:	S50.37°W		
	Ahead Radial Direction:	N6.21°E		
	Ahead Tangent Direction:	N83.79°W		
Element: Circular				
PCC	(PCC)	405+65.58 R1	353045.12	2804122.67
	(COMBINATION PI)	407+57.41 R1	353065.86	2803931.97
CC	(CC)		353263.83	2804146.46
PT	(PT)	408+81.10 R1	353257.62	2803926.55
	Radius:	220		
	Delta:	82.17 Right		
	Degree of Curvature (Arc):	26.04		
	Length:	315.53		
	Tangent:	191.83		
	Chord:	289.17		
	Middle Ordinate:	54.18		
	External:	71.89		
	Back Tangent Direction:	N83.79°W		
	Back Radial Direction:	N6.21°E		
	Chord Direction:	N42.70°W		
	Ahead Radial Direction:	N88.38°E		
	Ahead Tangent Direction:	N1.62°W		
Element: Linear				
PT	(PT)	408+81.10 R1	353257.62	2803926.55
END	(END)	411+31.49 R1	353507.91	2803919.48
	Tangential Direction:	N1.62°W		
	Tangential Length:	250.39		

Survey Data Layouts

Office Center Line

I-29 Ramps

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

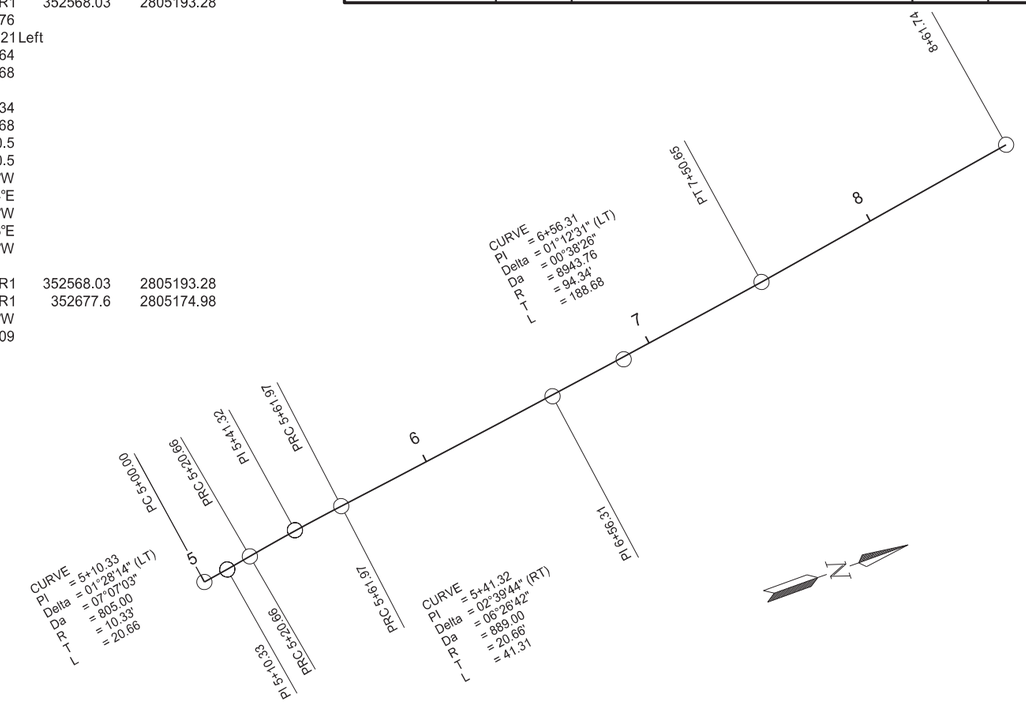
Grand Forks, ND

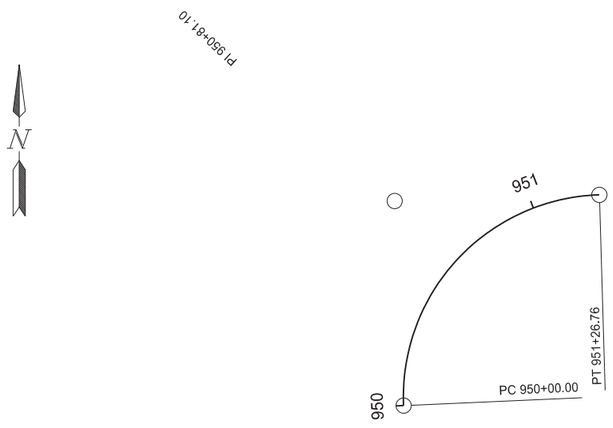
REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8276
DATE: 2025.12.05 15:09:55 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	82	13

Alignment Name: OCL_3 Qtr
Alignment Description:
Alignment Style:

		Station	Northing	Easting
Element: Circular				
PC	(PC)	5+00.00 R1	352320.15	2805230.3
	(COMBINATION PI)	5+10.33 R1	352330.36	2805228.71
CC	(CC)		352196.27	2804434.89
PRC	(PRC)	5+20.66 R1	352340.52	2805226.86
	Radius:	805		
	Delta:	1.47 Left		
	Degree of Curvature (Arc):	7.12		
	Length:	20.66		
	Tangent:	10.33		
	Chord:	20.66		
	Middle Ordinate:	0.07		
	External:	0.07		
	Back Tangent Direction:	N8.85°W		
	Back Radial Direction:	N81.15°E		
	Chord Direction:	N9.59°W		
	Ahead Radial Direction:	N79.68°E		
	Ahead Tangent Direction:	N10.32°W		
Element: Circular				
PRC	(PRC)	5+20.66 R1	352340.52	2805226.86
	(COMBINATION PI)	5+41.32 R1	352360.84	2805223.16
CC	(CC)		352499.82	2806101.47
PRC	(PRC)	5+61.97 R1	352381.32	2805220.41
	Radius:	889		
	Delta:	2.66 Right		
	Degree of Curvature (Arc):	6.44		
	Length:	41.31		
	Tangent:	20.66		
	Chord:	41.3		
	Middle Ordinate:	0.24		
	External:	0.24		
	Back Tangent Direction:	N10.32°W		
	Back Radial Direction:	N79.68°E		
	Chord Direction:	N8.99°W		
	Ahead Radial Direction:	N82.34°E		
	Ahead Tangent Direction:	N7.66°W		
CC	(COMBINATION PI)	6+56.31 R1	352474.82	2805207.83
	(CC)		351189.09	2796356.47
PT	(PT)	7+50.65 R1	352568.03	2805193.28
	Radius:	8943.76		
	Delta:	1.21 Left		
	Degree of Curvature (Arc):	0.64		
	Length:	188.68		
	Tangent:	94.34		
	Chord:	188.68		
	Middle Ordinate:	0.5		
	External:	0.5		
	Back Tangent Direction:	N7.66°W		
	Back Radial Direction:	N82.34°E		
	Chord Direction:	N8.26°W		
	Ahead Radial Direction:	N81.13°E		
	Ahead Tangent Direction:	N8.87°W		
Element: Linear				
PT	(PT)	7+50.65 R1	352568.03	2805193.28
END	(END)	8+61.74 R1	352677.6	2805174.98
	Tangential Direction:	N9.48°W		
	Tangential Length:	111.09		





Alignment Name: FREE_RIGHT
Alignment Description:
Alignment Style:

		Station	Northing	Easting
Element: Circular				
PC	(PC)	950+00.00 R1	353396.71	2804375.11
	(COMBINATION PI)	950+81.10 R1	353477.73	2804371.58
CC	(CC)		353400.19	2804455.03
PT	(PT)	951+26.76 R1	353480.16	2804452.64
	Radius:	80		
	Delta:	90.78 Right		
	Degree of Curvature (Arc):	71.62		
	Length:	126.76		
	Tangent:	81.1		
	Chord:	113.91		
	Middle Ordinate:	23.82		
	External:	33.92		
	Back Tangent Direction:	N2.50°W		
	Back Radial Direction:	N87.50°E		
	Chord Direction:	N42.90°E		
	Ahead Radial Direction:	S1.71°E		
	Ahead Tangent Direction:	N88.29°E		

Survey Data Layouts

Office Center Line

42nd Street 3-Quarter Left Turn Lane
and I-29 to DeMers Ave Free Right

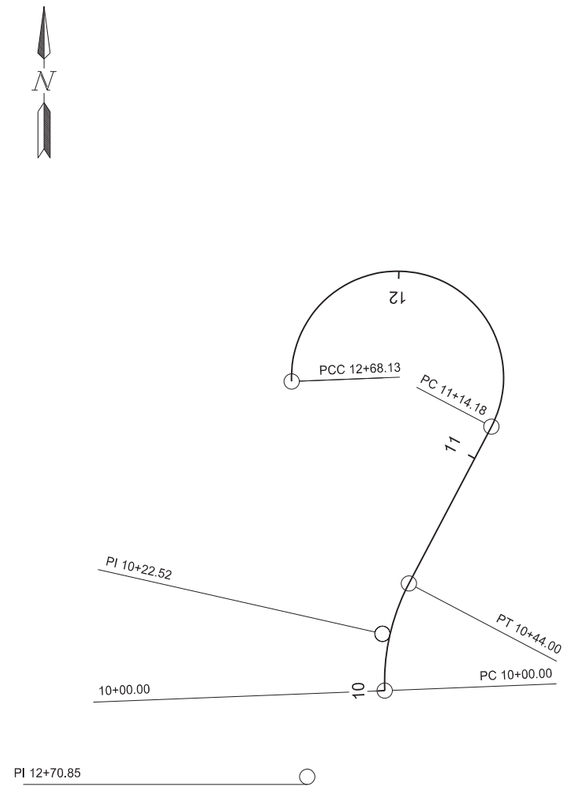
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4276
DATE: 2025.12.05 15:10:07 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	14



Alignment Name: CDS_CURB
Alignment Description:
Alignment Style:

			Station	Northing	Easting
Element: Circular					
PC		(PC)	10+00.00 R1	353208.08	2804841.79
		(COMBINATION PI)	10+22.52 R1	353230.58	2804840.89
CC		(CC)		353211.4	2804925.72
PT		(PT)	10+44.00 R1	353250.51	2804851.38
		Radius:	84		
		Delta:	30.01 Right		
		Degree of Curvature (Arc):	68.21		
		Length:	44		
		Tangent:	22.52		
		Chord:	43.5		
		Middle Ordinate:	2.86		
		External:	2.97		
		Back Tangent Direction:	N2.27°W		
		Back Radial Direction:	N87.73°E		
		Chord Direction:	N12.74°E		
		Ahead Radial Direction:	S62.25°E		
		Ahead Tangent Direction:	N27.75°E		
Element: Linear					
PT		(PT)	10+44.00 R1	353250.51	2804851.38
PC		(PC)	11+14.18 R1	353312.62	2804884.05
		Tangential Direction:	N27.75°E		
		Tangential Length:	70.18		
Element: Circular					
PC		(PC)	11+14.18 R1	353312.62	2804884.05
CC		(CC)		353332.17	2804846.88
PT		(PT)	12+68.13 R1	353330.51	2804804.91
		Radius:	42		
		Delta:	210.01 Left		
		Degree of Curvature (Arc):	136.42		
		Length:	153.95		
		Tangent:	0		
		Chord:	81.14		
		Middle Ordinate:	0		
		External:	0		
		Back Tangent Direction:	N27.75°E		
		Back Radial Direction:	S62.25°E		
		Chord Direction:	N77.26°W		
		Ahead Radial Direction:	S87.73°W		
		Ahead Tangent Direction:	S2.27°E		

Survey Data Layouts

Office Center Line

S 43rd St Cul de Sac Curb

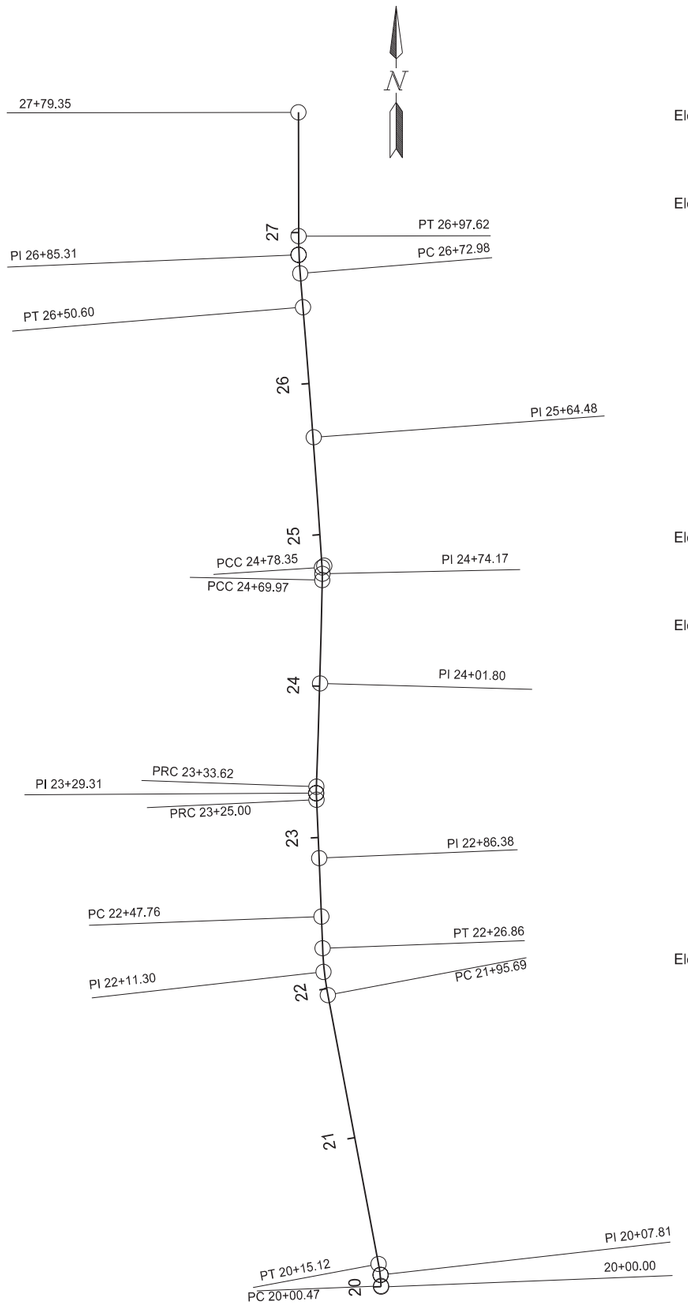
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4276
DATE: 2025.12.05 15:10:19 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	15



Alignment Name: OCL_42nd_SW_1
Alignment Description:
Alignment Style:

		Station	Northing	Easting
Element: Linear				
START	(START)	20+00.00 R1	352025.2295	2805300.255
PC	(PC)	20+00.47 R1	352025.6951	2805300.237
	Tangential Direction:	N2.273°W		
	Tangential Length:	0.466		
Element: Circular				
PC	(PC)	20+00.47 R1	352025.6951	2805300.237
	(COMBINATION PI)	20+07.81 R1	352033.0298	2805299.945
CC	(CC)		352021.7285	2805200.315
PT	(PT)	20+15.12 R1	352040.2432	2805298.586
	Radius:	100		
	Delta:	8.396 Left		
	Degree of Curvature (Arc):	57.296		
	Length:	14.6545		
	Tangent:	7.3404		
	Chord:	14.6414		
	Middle Ordinate:	0.2683		
	External:	0.269		
	Back Tangent Direction:	N2.273°W		
	Back Radial Direction:	N87.727°E		
	Chord Direction:	N6.472°W		
	Ahead Radial Direction:	N79.330°E		
	Ahead Tangent Direction:	N10.670°W		
Element: Linear				
PT	(PT)	20+15.12 R1	352040.2432	2805298.586
PC	(PC)	21+95.69 R1	352217.6883	2805265.155
	Tangential Direction:	N10.670°W		
	Tangential Length:	180.567		
Element: Circular				
PC	(PC)	21+95.69 R1	352217.6883	2805265.155
	(COMBINATION PI)	22+11.30 R1	352233.034	2805262.264
CC	(CC)		352256.5694	2805471.524
PT	(PT)	22+26.86 R1	352248.6386	2805261.674
	Radius:	210		
	Delta:	8.505 Right		
	Degree of Curvature (Arc):	27.284		
	Length:	31.174		
	Tangent:	15.6157		
	Chord:	31.1454		
	Middle Ordinate:	0.5782		
	External:	0.5798		
	Back Tangent Direction:	N10.670°W		
	Back Radial Direction:	N79.330°E		
	Chord Direction:	N6.417°W		
	Ahead Radial Direction:	N87.836°E		
	Ahead Tangent Direction:	N2.164°W		
Element: Linear				
PT	(PT)	22+26.86 R1	352248.6386	2805261.674
PC	(PC)	22+47.76 R1	352269.5178	2805260.885
Tangential Direction:		N2.164°W		
Tangential Length:		20.8942		
Element: Circular				
PC		22+47.76 R1	352269.5178	2805260.885
COMBINATION PI		22+86.38 R1	352308.1141	2805259.426
CC			351929.0043	2796250.817
PRC		23+25.00 R1	352346.6965	2805257.637
Radius:		9016.5		
Delta:		0.491 Left		
Degree of Curvature (Arc):		0.635		
Length:		77.2472		
Tangent:		38.6238		
Chord:		77.2469		
Middle Ordinate:		0.0827		
External:		0.0827		
Chord Direction:		N2.164°W		
		N87.836°E		
		N2.410°W		
		N87.345°E		
		N2.655°W		

		Station	Northing	Easting
Element: Circular				
PRC	(PRC)	23+25.00 R1	352346.6965	2805257.637
	(COMBINATION PI)	23+29.31 R1	352351.0009	2805257.437
CC	(CC)		352351.5606	2805362.524
PRC	(PRC)	23+33.62 R1	352355.3071	2805257.591
	Radius:	105		
	Delta:	4.7 Right		
	Degree of Curvature (Arc):	54.567		
	Length:	8.6132		
	Tangent:	4.309		
	Chord:	8.6108		
	Middle Ordinate:	0.0883		
	External:	0.0884		
	Back Tangent Direction:	N2.655°W		
	Back Radial Direction:	N87.345°E		
	Chord Direction:	N0.305°W		
	Ahead Radial Direction:	S87.955°E		
	Ahead Tangent Direction:	N2.045°E		
Element: Circular				
PRC	(PRC)	23+33.62 R1	352355.3071	2805257.591
	(COMBINATION PI)	24+01.80 R1	352423.4433	2805260.024
CC	(CC)		352676.1482	2796271.419
PCC	(PCC)	24+69.97 R1	352491.6085	2805261.423
	Radius:	8991.8983		
	Delta:	0.869 Left		
	Degree of Curvature (Arc):	0.637		
	Length:	136.3565		
	Tangent:	68.1795		
	Chord:	136.3552		
	Middle Ordinate:	0.2585		
	External:	0.2585		
	Back Tangent Direction:	N2.045°E		
	Back Radial Direction:	S87.955°E		
	Chord Direction:	N1.610°E		
	Ahead Radial Direction:	S88.824°E		
	Ahead Tangent Direction:	N1.176°E		
Element: Circular				
PCC	(PCC)	24+69.97 R1	352491.6085	2805261.423
	(COMBINATION PI)	24+74.17 R1	352495.8005	2805261.509
CC	(CC)		352493.6607	2805161.444
PCC	(PCC)	24+78.35 R1	352499.9849	2805261.244
	Radius:	100		
	Delta:	4.802 Left		
	Degree of Curvature (Arc):	57.296		
	Length:	8.3809		
	Tangent:	4.1929		
	Chord:	8.3784		
	Middle Ordinate:	0.0878		
	External:	0.0879		
	Back Tangent Direction:	N1.176°E		
	Back Radial Direction:	S88.824°E		
	Chord Direction:	N1.225°W		
	Ahead Radial Direction:	N86.374°E		
	Ahead Tangent Direction:	N3.626°W		

Survey Data Layouts

Office Center Line

42nd Street Sidewalk

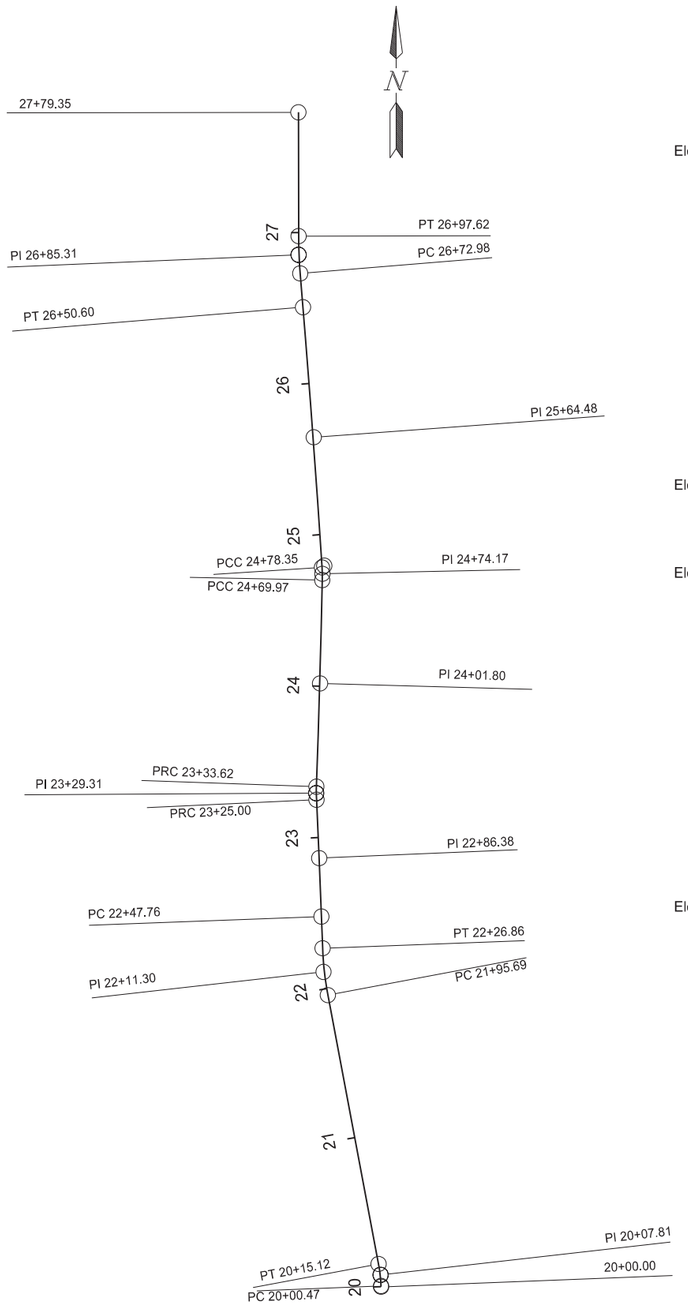
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.05 15:10:31 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	16



Alignment Name:
Alignment Description:
Alignment Style:

		Station	Northing	Easting
Element: Circular				
PCC	(PCC)	24+78.35 R1	352499.9849	2805261.244
	(COMBINATION PI)	25+64.48 R1	352585.9394	2805255.797
CC	(CC)		351929.0043	2796250.817
PT	(PT)	26+50.60 R1	352671.7743	2805248.711
	Radius:	9028.5		
	Delta:	1.093 Left		
	Degree of Curvature (Arc):	0.635		
	Length:	172.2485		
	Tangent:	86.1269		
	Chord:	172.2459		
	Middle Ordinate:	0.4108		
	External:	0.4108		
	Back Tangent Direction:	N3.626°W		
	Back Radial Direction:	N86.374°E		
	Chord Direction:	N4.172°W		
	Ahead Radial Direction:	N85.281°E		
	Ahead Tangent Direction:	N4.719°W		
Element: Linear				
PT	(PT)	26+50.60 R1	352671.7743	2805248.711
PC	(PC)	26+72.98 R1	352694.0761	2805246.87
	Tangential Direction:	N4.719°W		
	Tangential Length:	22.3777		
Element: Circular				
PC	(PC)	26+72.98 R1	352694.0761	2805246.87
	(COMBINATION PI)	26+85.31 R1	352706.3608	2805245.856
CC	(CC)		352719.1683	2805550.837
PT	(PT)	26+97.62 R1	352718.6872	2805245.837
	Radius:	305		
	Delta:	4.629 Right		
	Degree of Curvature (Arc):	18.786		
	Length:	24.6395		
	Tangent:	12.3264		
	Chord:	24.6328		
	Middle Ordinate:	0.2488		
	External:	0.249		
	Back Tangent Direction:	N4.719°W		
	Back Radial Direction:	N85.281°E		
	Chord Direction:	N2.405°W		
	Ahead Radial Direction:	N89.910°E		
	Ahead Tangent Direction:	N0.090°W		
Element: Linear				
PT	(PT)	26+97.62 R1	352718.6872	2805245.837
END	(END)	27+79.35 R1	352800.4197	2805245.708
	Tangential Direction:	N0.090°W		
	Tangential Length:	81.7326		

Survey Data Layouts

Office Center Line

42nd Street Sidewalk (Continued)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

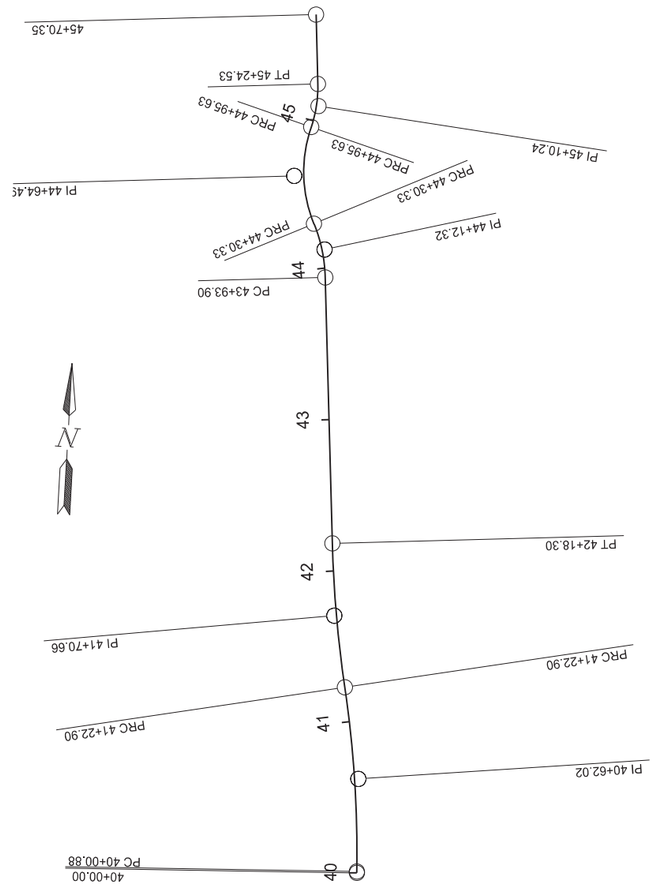
REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9295
DATE: 2025.12.05 15:10:58 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	17

Alignment Name: OCL_42nd-SUP_1
Alignment Description:
Alignment Style:

		Station	Northing	Easting
Element: Linear				
START	(START)	40+00.00 R1	352227.5	2805188.43
PC	(PC)	40+00.88 R1	352228.38	2805188.4
	Tangential Direction:	N2.27°W		
	Tangential Length:	0.88		
Element: Circular				
PC	(PC)	40+00.88 R1	352228.38	2805188.4
	(COMBINATION PI)	40+62.02 R1	352289.48	2805185.98
CC	(CC)		352198.7	2804438.98
PRC	(PRC)	41+22.90 R1	352349.38	2805173.69
	Radius:	750		
	Delta:	9.32 Left		
	Degree of Curvature (Arc):	7.64		
	Length:	122.03		
	Tangent:	61.15		
	Chord:	121.89		
	Middle Ordinate:	2.48		
	External:	2.49		
	Back Tangent Direction:	N2.27°W		
	Back Radial Direction:	N87.73°E		
	Chord Direction:	N6.93°W		
	Ahead Radial Direction:	N78.41°E		
	Ahead Tangent Direction:	N11.59°W		
Element: Circular				
PRC	(PRC)	41+22.90 R1	352349.38	2805173.69
	(COMBINATION PI)	41+70.66 R1	352396.16	2805164.1
CC	(CC)		352509.2	2805952.97
PT	(PT)	42+18.30 R1	352443.75	2805160.17
	Radius:	795.5		
	Delta:	6.87 Right		
	Degree of Curvature (Arc):	7.2		
	Length:	95.39		
	Tangent:	47.75		
	Chord:	95.34		
	Middle Ordinate:	1.43		
	External:	1.43		
	Back Tangent Direction:	N11.59°W		
	Back Radial Direction:	N78.41°E		
	Chord Direction:	N8.15°W		
	Ahead Radial Direction:	N85.28°E		
	Ahead Tangent Direction:	N4.72°W		
Element: Linear				
PT	(PT)	42+18.30 R1	352443.75	2805160.17
PC	(PC)	43+93.90 R1	352618.76	2805145.72
	Tangential Direction:	N4.72°W		
	Tangential Length:	175.6		

		Station	Northing	Easting
Element: Circular				
PC	(PC)	43+93.90 R1	352618.76	2805145.72
	COMBINATION PI	44+12.32 R1	352637.11	2805144.21
CC			352610.53	2805046.06
PRC		44+30.33 R1	352653.73	2805136.25
	Radius:	100		
	Delta:	20.87 Left		
	Degree of Curvature (Arc):	57.3		
	Length:	36.43		
	Tangent:	18.42		
	Chord:	36.23		
	Middle Ordinate:	1.65		
	External:	1.68		
	Back Tangent Direction:	N4.72°W		
	Back Radial Direction:	N85.28°E		
				Chord Direction:
		N64.41°E		
		N25.59°W		
Element: Circular				
PRC	(PRC)	44+30.33 R1	352653.73	2805136.25
	COMBINATION PI	44+64.49 R1	352684.54	2805121.49
CC			352692.61	2805217.42
PRC		44+95.63 R1	352717.38	2805130.9
	Radius:	90		
	Delta:	41.57 Right		
	Degree of Curvature (Arc):	63.66		
	Length:	65.3		
	Tangent:	34.16		
	Chord:	63.88		
	Middle Ordinate:	5.86		
	External:	6.27		
	Back Tangent Direction:	N25.59°W		
	Back Radial Direction:	N64.41°E		
				Chord Direction:
		S74.02°E		
		N15.98°E		
Element: Circular				
PRC	(PRC)	44+95.63 R1	352717.38	2805130.9
	COMBINATION PI	45+10.24 R1	352731.42	2805134.92
CC			352739.4	2805053.99
PT		45+24.53 R1	352745.98	2805133.72
	Radius:	80		
	Delta:	20.7 Left		
	Degree of Curvature (Arc):	71.62		
	Length:	28.9		
	Tangent:	14.61		
	Chord:	28.74		
	Middle Ordinate:	1.3		
	External:	1.32		
	Back Tangent Direction:	N15.98°E		
	Back Radial Direction:	S74.02°E		
				Chord Direction:
		N85.28°E		
		N4.72°W		
Element: Linear				
	PT	45+24.53 R1	352745.98	2805133.72
END	(END)	45+70.35 R1	352791.65	2805129.95
	Tangential Direction:	N4.72°W		
	Tangential Length:	45.82		



Survey Data Layouts

Office Center Line

42nd Street Shared Use Path

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

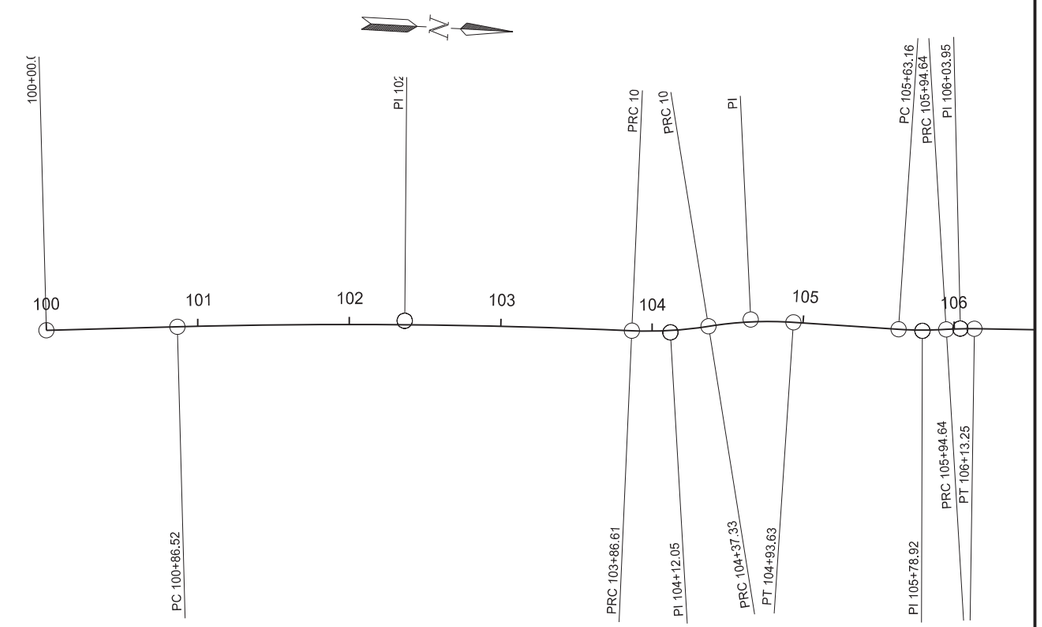
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9026
DATE: 2025.12.05 15:11:11 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	18

Alignment Name: OCL_42nd-SUP_2
Alignment Description:
Alignment Style:

		Station	Northing	Easting
Element: Linear				
START	(START)	100+00.00 R1	352971.87	2805116.57
PC	(PC)	100+86.52 R1	353058.09	2805109.46
	Tangential Direction:	N4.72°W		
	Tangential Length:	86.52		
Element: Circular				
PC	(PC)	100+86.52 R1	353058.09	2805109.46
	(COMBINATION PI)	102+36.62 R1	353207.69	2805097.11
CC	(CC)		353409.43	2809365.48
PRC	(PRC)	103+86.61 R1	353357.79	2805095.29
	Radius:	4270.5		
	Delta:	4.03 Right		
	Degree of Curvature (Arc):	1.34		
	Length:	300.09		
	Tangent:	150.11		
	Chord:	300.03		
	Middle Ordinate:	2.64		
	External:	2.64		
	Back Tangent Direction:	N4.72°W		
	Back Radial Direction:	N85.28°E		
	Chord Direction:	N2.71°W		
	Ahead Radial Direction:	N89.31°E		
	Ahead Tangent Direction:	N0.69°W		
Element: Circular				
PRC	(PRC)	103+86.61 R1	353357.79	2805095.29
	(COMBINATION PI)	104+12.05 R1	353383.24	2805094.98
CC	(CC)		353354.77	2804845.31
PRC	(PRC)	104+37.33 R1	353408.1	2805089.56
	Radius:	250		
	Delta:	11.62 Left		
	Degree of Curvature (Arc):	22.92		
	Length:	50.72		
	Tangent:	25.45		
	Chord:	50.63		
	Middle Ordinate:	1.29		
	External:	1.29		
	Back Tangent Direction:	N0.69°W		
	Back Radial Direction:	N89.31°E		
	Chord Direction:	N6.51°W		
	Ahead Radial Direction:	N77.68°E		
	Ahead Tangent Direction:	N12.32°W		
Element: Circular				
PRC	(PRC)	104+37.33 R1	353408.1	2805089.56
	(COMBINATION PI)	104+65.60 R1	353435.72	2805083.53
CC	(CC)		353461.43	2805333.8
PT	(PT)	104+93.63 R1	353463.99	2805083.81
	Radius:	250		
	Delta:	12.9 Right		
	Degree of Curvature (Arc):	22.92		
	Length:	56.3		
	Tangent:	28.27		
	Chord:	56.18		
	Middle Ordinate:	1.58		
	External:	1.59		
	Back Tangent Direction:	N12.32°W		
	Back Radial Direction:	N77.68°E		
	Chord Direction:	N5.87°W		
	Ahead Radial Direction:	S89.41°E		
	Ahead Tangent Direction:	N0.59°E		
Element: Linear				
PT	(PT)	104+93.63 R1	353463.99	2805083.81
PC	(PC)	105+63.16 R1	353533.51	2805084.53
	Tangential Direction:	N0.59°E		
	Tangential Length:	69.53		



	Station	Northing	Easting
Element: Circular			
PC	(PC)	105+63.16 R1	353533.51	2805084.53
	(COMBINATION PI)	105+78.92 R1	353549.27	2805084.69
	CC		353536.07	2804834.54
	PRC	105+94.64 R1	353564.93	2805082.87
	Radius:	250		
	Delta:	7.21 Left		
	Degree of Curvature (Arc):	22.92		
	Length:	31.48		
	Tangent:	15.76		
	Chord:	31.46		
	Middle Ordinate:	0.5		
	External:	0.5		
	Back Tangent Direction:	N0.59°E		
	Back Radial Direction:	S89.41°E		
	Chord Direction:	N3.02°W		
	Ahead Radial Direction:	N6.63°W		
Element: Circular				
PRC	(PRC)	105+94.64 R1	353564.93	2805082.87
	(COMBINATION PI)	106+03.95 R1	353574.17	2805081.79
	CC		353593.79	2805331.2
	PT	106+13.25 R1	353583.47	2805081.41
	Radius:	250		
	Delta:	4.26 Right		
	Degree of Curvature (Arc):	22.92		
	Length:	18.6		
	Tangent:	9.31		
	Chord:	18.6		
	Middle Ordinate:	0.17		
	External:	0.17		
	Back Tangent Direction:	N6.63°W		
	Back Radial Direction:	N83.37°E		
	Chord Direction:	N4.50°W		
	Ahead Radial Direction:	N2.37°W		

Survey Data Layouts

Office Center Line

42nd Street Shared Use Path

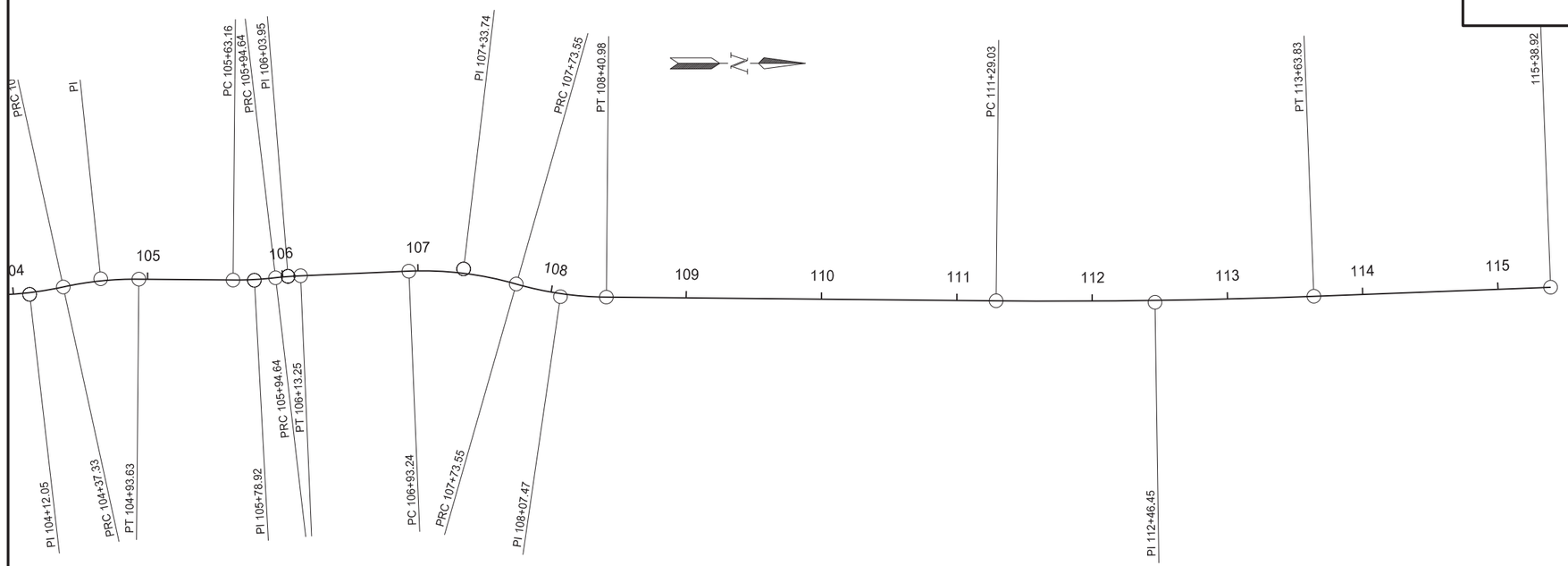
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.05 15:11:23 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	19



Alignment Style:

Element: Circular		Station	Northing	Easting
PRC	(PRC)	105+94.64 R1	353564.93	2805082.87
	COMBINATION PI	106+03.95 R1	353574.17	2805081.79
	CC		353593.79	2805331.2
	PT	106+13.25 R1	353583.47	2805081.41
	Radius:	250		
	Delta:	4.26 Right		
	Degree of Curvature (Arc):	22.92		
	Length:	18.6		
	Tangent:	9.31		
	Chord:	18.6		
	Middle Ordinate:	0.17		
	External:	0.17		
	Back Tangent Direction:	N6.63°W		
	Back Radial Direction:	N83.37°E		
	Chord Direction:	N87.63°E		
		N2.37°W		
PT	(PT)	106+13.25 R1	353583.47	2805081.41
PC	(PC)	106+93.24 R1	353663.4	2805078.11
	Tangential Direction:	N2.37°W		
	Tangential Length:	80		

Element: Circular		Station	Northing	Easting
	PC	106+93.24 R1	353663.4	2805078.11
	COMBINATION PI	107+33.74 R1	353703.87	2805076.44
	CC		353673.72	2805327.89
	PRC	107+73.55 R1	353742.79	2805087.63
	Radius:	250		
	Delta:	18.4 Right		
	Degree of Curvature (Arc):	22.92		
	Length:	80.31		
	Tangent:	40.5		
	Chord:	79.96		
	Middle Ordinate:	3.26		
External:		N2.37°W		
	Back Radial Direction:	N87.63°E		
	Chord Direction:	N6.84°E		
	Ahead Radial Direction:	N16.04°E		

Element: Circular		Station	Northing	Easting
PRC	(PRC)	107+73.55 R1	353742.79	2805087.63
	COMBINATION PI	108+07.47 R1	353775.39	2805097
	CC		353811.87	2804847.36
	PT	108+40.98 R1	353809.31	2805097.35
	Radius:	250		
	Delta:	15.45 Left		
	Degree of Curvature (Arc):	22.92		
	Length:	67.43		
	Tangent:	33.92		
	Chord:	67.23		
	Middle Ordinate:	2.27		
	External:	2.29		
	Back Tangent Direction:	N16.04°E		
	Back Radial Direction:	S73.96°E		
	Chord Direction:	S89.41°E		
		N0.59°E		

Element: Linear		Station	Northing	Easting
PT	(PT)	108+40.98 R1	353809.31	2805097.35
PC	(PC)	111+29.03 R1	354097.35	2805100.29
	Tangential Direction:	N0.59°E		
	Tangential Length:	288.06		

Element: Circular		Station	Northing	Easting
PC	(PC)	111+29.03 R1	354097.35	2805100.29
	COMBINATION PI	112+46.45 R1	354214.77	2805101.49
	CC		354147.88	2800158.55
	PT	113+63.83 R1	354332.1	2805097.11
	Radius:	4942		
	Delta:	2.72 Left		
	Degree of Curvature (Arc):	1.16		
	Length:	234.79		
	Tangent:	117.42		
	Chord:	234.77		
	Middle Ordinate:	1.39		
	External:	1.39		
	Back Tangent Direction:	N0.59°E		
	Back Radial Direction:	S89.41°E		
	Chord Direction:	N0.78°W		
	Ahead Radial Direction:	N87.86°E		
	Ahead Tangent Direction:	N2.14°W		

Element: Linear		Station	Northing	Easting
PT	(PT)	113+63.83 R1	354332.1	2805097.11
END	(END)	115+38.92 R1	354507.07	2805090.59
	Tangential Direction:	N2.14°W		
	Tangential Length:	175.09		

Survey Data Layouts

Office Center Line

42nd Street Shared Use Path

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

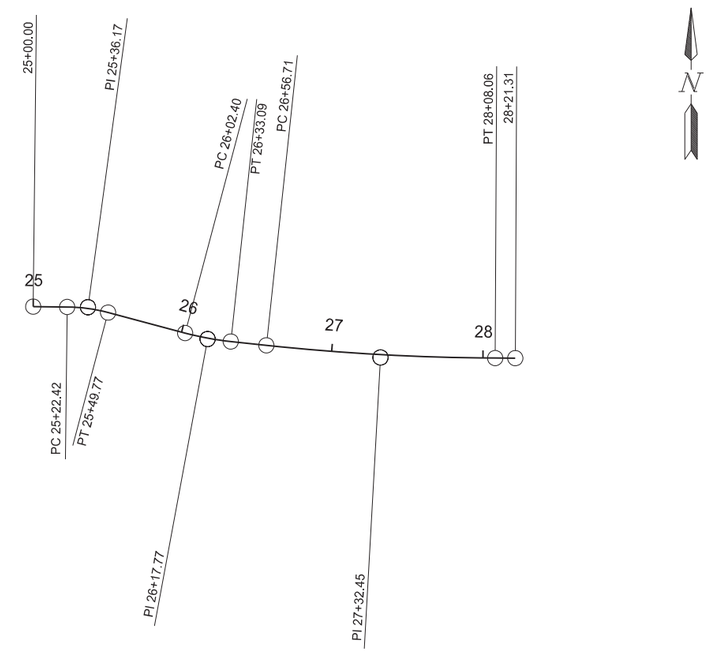
REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4256
DATE: 2025.12.05 15:11:35 -06'00'
NORTH DAKOTA

12/5/2025 2:48:47 PM ryan.genz H:\NDDOT\24M000368000\CAD\ORD\NDDOT-24M000368000\Plan\082SD_019-SUP.dgn

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	20

Alignment Name: OCL_297-SUP_1
Alignment Description:
Alignment Style:

		Station	Northing	Easting
Element: Linear				
START	(START)	25+00.00 R1	353483.74	2803948.54
PC	(PC)	25+22.42 R1	353484.58	2803970.95
	Tangential Direction:	N87.87°E		
	Tangential Length:	22.42		
Element: Circular				
PC	(PC)	25+22.42 R1	353484.58	2803970.95
	(COMBINATION PI)	25+36.17 R1	353485.09	2803984.68
CC	(CC)		353374.65	2803975.04
PT	(PT)	25+49.77 R1	353482.2	2803998.13
	Radius:	110		
	Delta:	14.25 Right		
	Degree of Curvature (Arc):	52.09		
	Length:	27.35		
	Tangent:	13.75		
	Chord:	27.28		
	Middle Ordinate:	0.85		
	External:	0.86		
	Back Tangent Direction:	N87.87°E		
	Back Radial Direction:	S2.13°E		
	Chord Direction:	S85.01°E		
	Ahead Radial Direction:	S12.12°W		
	Ahead Tangent Direction:	S77.88°E		
Element: Linear				
PT	(PT)	25+49.77 R1	353482.2	2803998.13
PC	(PC)	26+02.40 R1	353471.16	2804049.58
	Tangential Direction:	S77.88°E		
	Tangential Length:	52.63		
Element: Circular				
PC	(PC)	26+02.40 R1	353471.16	2804049.58
	(COMBINATION PI)	26+17.77 R1	353467.93	2804064.61
CC	(CC)		353666.7	2804091.56
PT	(PT)	26+33.09 R1	353467.04	2804079.96
	Radius:	200		
	Delta:	8.79 Left		
	Degree of Curvature (Arc):	28.65		
	Length:	30.69		
	Tangent:	15.37		
	Chord:	30.66		
	Middle Ordinate:	0.59		
	External:	0.59		
	Back Tangent Direction:	S77.88°E		
	Back Radial Direction:	S12.12°W		
	Chord Direction:	S82.28°E		
	Ahead Radial Direction:	S3.32°W		
	Ahead Tangent Direction:	S86.68°E		
Element: Linear				
PT	(PT)	26+33.09 R1	353467.04	2804079.96
PC	(PC)	26+56.71 R1	353465.67	2804103.54
	Tangential Direction:	S86.68°E		
	Tangential Length:	23.62		
Element: Circular				
PC	(PC)	26+56.71 R1	353465.67	2804103.54
	(COMBINATION PI)	27+32.45 R1	353461.28	2804179.16
CC	(CC)		354953.16	2804189.95
PT	(PT)	28+08.06 R1	353464.57	2804254.83
	Radius:	1490		
	Delta:	5.82 Left		
	Degree of Curvature (Arc):	3.85		
	Length:	151.35		
	Tangent:	75.74		
	Chord:	151.29		
	Middle Ordinate:	1.92		
	External:	1.92		
	Back Tangent Direction:	S86.68°E		
	Back Radial Direction:	S3.32°W		
	Chord Direction:	S89.59°E		
	Ahead Radial Direction:	S2.50°E		
	Ahead Tangent Direction:	N87.50°E		
Element: Linear				
PT	(PT)	28+08.06 R1	353464.57	2804254.83
END	(END)	28+21.31 R1	353465.15	2804268.06
	Tangential Direction:	N87.50°E		
	Tangential Length:	13.25		



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Grand Forks County

Grand Forks, ND

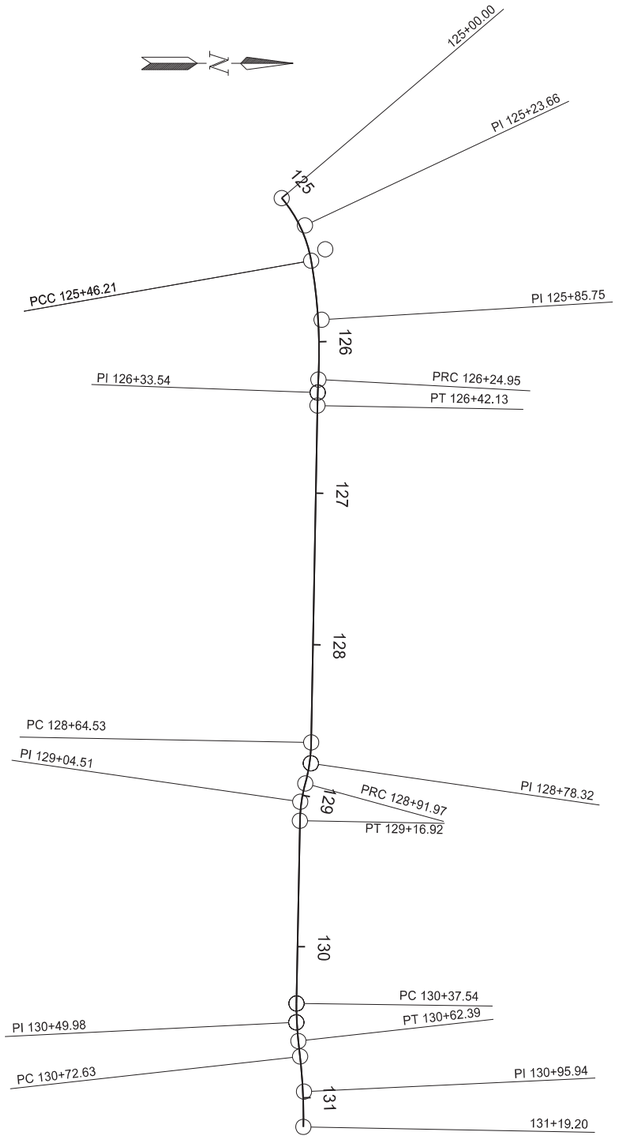


	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	21

Alignment Name: OCL_297-SUP_2
Alignment Description:

		Station	Northing	Easting
Element: Circular				
PC	(PC)	125+00.00 R1	353436.19	2804424.42
	(COMBINATION PI)	125+23.66 R1	353452.38	2804441.68
CC	(CC)		353372.74	2804483.95
PCC	(PCC)	125+46.21 R1	353457.6	2804464.76
	Radius:	87		
	Delta:	30.43 Right		
	Degree of Curvature (Arc):	65.86		
	Length:	46.21		
	Tangent:	23.66		
	Chord:	45.66		
	Middle Ordinate:	3.05		
	External:	3.16		
	Back Tangent Direction:	N46.83°E		
	Back Radial Direction:	S43.17°E		
	Chord Direction:	N62.04°E		
	Ahead Radial Direction:	S12.74°E		
	Ahead Tangent Direction:	N77.26°E		
Element: Circular				
PCC	(PCC)	125+46.21 R1	353457.6	2804464.76
	(COMBINATION PI)	125+85.75 R1	353466.32	2804503.33
CC	(CC)		353119.14	2804541.31
PRC	(PRC)	126+24.95 R1	353466.14	2804542.86
	Radius:	347		
	Delta:	13 Right		
	Degree of Curvature (Arc):	16.51		
	Length:	78.74		
	Tangent:	39.54		
	Chord:	78.57		
	Middle Ordinate:	2.23		
	External:	2.25		
	Back Tangent Direction:	N77.26°E		
	Back Radial Direction:	S12.74°E		
	Chord Direction:	N83.76°E		
	Ahead Radial Direction:	S0.26°W		
	Ahead Tangent Direction:	S89.74°E		
Element: Circular				
PRC	(PRC)	126+24.95 R1	353466.14	2804542.86
	(COMBINATION PI)	126+33.54 R1	353466.1	2804551.46
CC	(CC)		353966.14	2804545.11
PT	(PT)	126+42.13 R1	353466.36	2804560.04
	Radius:	500		
	Delta:	1.97 Left		
	Degree of Curvature (Arc):	11.46		
	Length:	17.18		
	Tangent:	8.59		
	Chord:	17.18		
	Middle Ordinate:	0.07		
	External:	0.07		
	Back Tangent Direction:	S89.74°E		
	Back Radial Direction:	S0.26°W		
	Chord Direction:	N89.27°E		
	Ahead Radial Direction:	S1.71°E		
	Ahead Tangent Direction:	N88.29°E		
Element: Linear				
PT	(PT)	126+42.13 R1	353466.36	2804560.04
PC	(PC)	128+64.53 R1	353473	2804782.35
	Tangential Direction:	N88.29°E		
	Tangential Length:	222.41		
Element: Circular				
PC	(PC)	128+64.53 R1	353473	2804782.35
	(COMBINATION PI)	128+78.32 R1	353473.41	2804796.14
CC	(CC)		353363.05	2804785.64
PRC	(PRC)	128+91.97 R1	353470.41	2804809.6
	Radius:	110		
	Delta:	14.29 Right		
	Degree of Curvature (Arc):	52.09		
	Length:	27.44		
	Tangent:	13.79		
	Chord:	27.37		
	Middle Ordinate:	0.85		
	External:	0.86		
	Back Tangent Direction:	N88.29°E		
	Back Radial Direction:	S1.71°E		
	Chord Direction:	S84.57°E		
	Ahead Radial Direction:	S12.58°W		
	Ahead Tangent Direction:	S77.42°E		

		Station	Northing	Easting
Element: Circular				
PRC	(PRC)	128+91.97 R1	353470.41	2804809.6
	(COMBINATION PI)	129+04.51 R1	353467.68	2804821.83
CC	(CC)		353568.01	2804831.38
PT	(PT)	129+16.92 R1	353468.05	2804834.36
	Radius:	100		
	Delta:	14.29 Left		
	Degree of Curvature (Arc):	57.3		
	Length:	24.95		
	Tangent:	12.54		
	Chord:	24.88		
	Middle Ordinate:	0.78		
	External:	0.78		
	Back Tangent Direction:	S77.42°E		
	Back Radial Direction:	S12.58°W		
	Chord Direction:	S84.57°E		
	Ahead Radial Direction:	S1.71°E		
	Ahead Tangent Direction:	N88.29°E		
Element: Linear				
PT	(PT)	129+16.92 R1	353468.05	2804834.36
PC	(PC)	130+37.54 R1	353471.66	2804954.93
	Tangential Direction:	N88.29°E		
	Tangential Length:	120.62		
Element: Circular				
PC	(PC)	130+37.54 R1	353471.66	2804954.93
	(COMBINATION PI)	130+49.98 R1	353472.1	2804967.36
CC	(CC)		353672.24	2804947.85
PT	(PT)	130+62.39 R1	353474.07	2804979.65
	Radius:	200.71		
	Delta:	7.09 Left		
	Degree of Curvature (Arc):	28.55		
	Length:	24.85		
	Tangent:	12.44		
	Chord:	24.84		
	Middle Ordinate:	0.38		
	External:	0.39		
	Back Tangent Direction:	N87.98°E		
	Back Radial Direction:	S2.02°E		
	Chord Direction:	N84.43°E		
	Ahead Radial Direction:	S9.12°E		
	Ahead Tangent Direction:	N80.88°E		
Element: Linear				
PT	(PT)	130+62.39 R1	353474.07	2804979.65
PC	(PC)	130+72.63 R1	353475.69	2804989.76
	Tangential Direction:	N80.88°E		
	Tangential Length:	10.24		
Element: Circular				
PC	(PC)	130+72.63 R1	353475.69	2804989.76
	(COMBINATION PI)	130+95.94 R1	353479.39	2805012.78
CC	(CC)		353120.25	2805046.84
PT	(PT)	131+19.20 R1	353480.08	2805036.09
	Radius:	360		
	Delta:	7.41 Right		
	Degree of Curvature (Arc):	15.92		
	Length:	46.57		
	Tangent:	23.32		
	Chord:	46.54		
	Middle Ordinate:	0.75		
	External:	0.75		
	Back Tangent Direction:	N80.88°E		
	Back Radial Direction:	S9.12°E		
	Chord Direction:	N84.58°E		
	Ahead Radial Direction:	S1.71°E		



Survey Data Layouts

Office Center Line

ND 297 (DeMers Ave) Shared Use Path

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

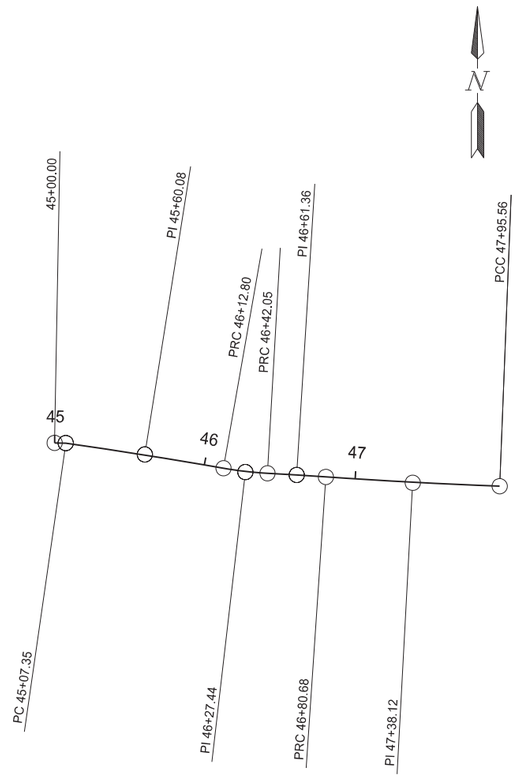
REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4276
DATE: 2025.12.05 15:12:02 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	22

Alignment Name: OCL_297-SUP_3
Alignment Description:
Alignment Style:

		Station	Northing	Easting
Element: Linear				
START	(START)	45+00.00 R1	353486.56	2805252.8
PC	(PC)	45+07.35 R1	353486.78	2805260.14
	Tangential Direction:	N88.29°E		
	Tangential Length:	7.35		
Element: Circular				
PC	(PC)	45+07.35 R1	353486.78	2805260.14
	(COMBINATION PI)	45+60.08 R1	353481.82	2805312.64
CC	(CC)		350062.98	2804936.44
PRC	(PRC)	46+12.80 R1	353475.25	2805364.96
	Radius:	3439.07		
	Delta:	1.76 Right		
	Degree of Curvature (Arc):	1.67		
	Length:	105.45		
	Tangent:	52.73		
	Chord:	105.45		
	Middle Ordinate:	0.4		
	External:	0.4		
	Back Tangent Direction:	S84.60°E		
	Back Radial Direction:	S5.40°W		
	Chord Direction:	S83.72°E		
	Ahead Radial Direction:	S7.16°W		
	Ahead Tangent Direction:	S82.84°E		
Element: Circular				
PRC	(PRC)	46+12.80 R1	353475.25	2805364.96
	(COMBINATION PI)	46+27.44 R1	353473.42	2805379.48
CC	(CC)		353723.3	2805396.11
PRC	(PRC)	46+42.05 R1	353473.31	2805394.12
	Radius:	250		
	Delta:	6.7 Left		
	Degree of Curvature (Arc):	22.92		
	Length:	29.25		
	Tangent:	14.64		
	Chord:	29.23		
	Middle Ordinate:	0.43		
	External:	0.43		
	Back Tangent Direction:	S82.84°E		
	Back Radial Direction:	S7.16°W		
	Chord Direction:	S86.19°E		
	Ahead Radial Direction:	S0.45°W		
	Ahead Tangent Direction:	S89.55°E		

		Station	Northing	Easting
Element: Circular				
PRC	(PRC)	46+42.05 R1	353473.31	2805394.12
	(COMBINATION PI)	46+61.36 R1	353473.15	2805413.44
CC			350017.91	2805366.69
PRC		46+80.68 R1	353472.78	2805432.75
	Radius:	3455.5		
	Delta:	0.64 Right		
	Degree of Curvature (Arc):	1.66		
	Length:	38.63		
	Tangent:	19.32		
	Chord:	38.63		
	Middle Ordinate:	0.05		
	External:	0.05		
	Back Tangent Direction:	S89.55°E		
	Back Radial Direction:	S0.45°W		
	Chord Direction:	S89.22°E		
			Ahead Radial Direction:	
		S88.90°E		
Element: Circular				
PRC	(PRC)	46+80.68 R1	353472.78	2805432.75
	(COMBINATION PI)	47+38.12 R1	353471.68	2805490.18
CC			357516.54	2805510.08
PT		47+95.56 R1	353472.22	2805547.62
	Radius:	4044.5		
	Delta:	1.63 Left		
	Degree of Curvature (Arc):	1.42		
	Length:	114.88		
	Tangent:	57.44		
	Chord:	114.87		
	Middle Ordinate:	0.41		
	External:	0.41		
	Back Tangent Direction:	S88.90°E		
	Back Radial Direction:	S1.10°W		
	Chord Direction:	S89.72°E		
Ahead Radial Direction:		S0.53°E		
Ahead Tangent Direction:		N89.47°E		



Survey Data Layouts

Office Center Line

ND 297 (DeMers Ave) Shared Use Path

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Grand Forks County

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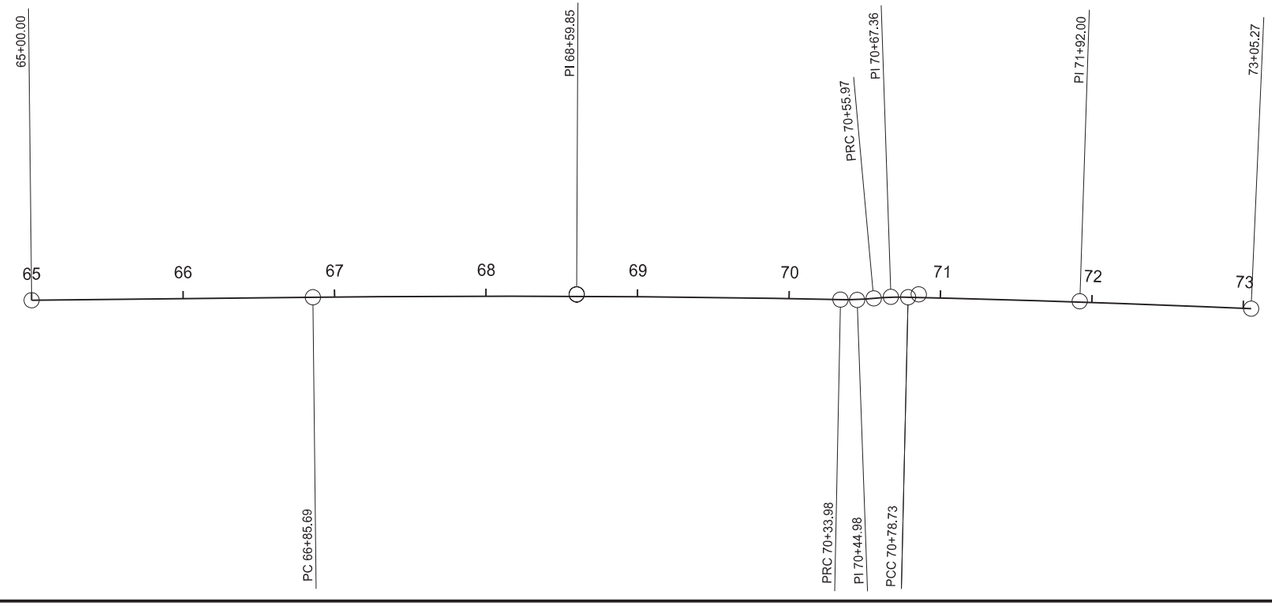
REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9275
DATE: 2025.12.05 15:12:15 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	23

Alignment Name: OCL_297-SUP_4
Alignment Description:
Alignment Style:

		Station	Northing	Easting
Element: Linear				
START	(START)	65+00.00 R1	353581.84	2805696.1
PC	(PC)	66+85.69 R1	353587.39	2805881.71
	Tangential Direction:	N88.29°E		
	Tangential Length:	185.69		
Element: Circular				
PC	(PC)	66+85.69 R1	353587.39	2805881.71
	(COMBINATION PI)	68+59.85 R1	353592.59	2806055.79
CC	(CC)		342101.02	2806224.96
PRC	(PRC)	70+33.98 R1	353592.52	2806229.95
	Radius:	11491.5		
	Delta:	1.74 Right		
	Degree of Curvature (Arc):	0.5		
	Length:	348.29		
	Tangent:	174.16		
	Chord:	348.28		
	Middle Ordinate:	1.32		
	External:	1.32		
	Back Tangent Direction:	N88.29°E		
	Back Radial Direction:	S1.71°E		
	Chord Direction:	N89.16°E		
	Ahead Radial Direction:	S0.02°W		
	Ahead Tangent Direction:	S89.98°E		
Element: Circular				
PRC	(PRC)	70+33.98 R1	353592.52	2806229.95
	(COMBINATION PI)	70+44.98 R1	353592.51	2806240.95
CC	(CC)		353792.52	2806230.03
PRC	(PRC)	70+55.97 R1	353593.72	2806251.89
	Radius:	200		
	Delta:	6.3 Left		
	Degree of Curvature (Arc):	28.65		
	Length:	21.99		
	Tangent:	11		
	Chord:	21.98		
	Middle Ordinate:	0.3		
	External:	0.3		
	Back Tangent Direction:	S89.98°E		
	Back Radial Direction:	S0.02°W		
	Chord Direction:	N86.88°E		
	Ahead Radial Direction:	S6.27°E		
	Ahead Tangent Direction:	N83.73°E		

		Station	Northing	Easting
Element: Circular				
PRC	(PRC)	70+55.97 R1	353593.72	2806251.89
	(COMBINATION PI)	70+67.36 R1	353594.96	2806263.22
	CC		353394.91	2806273.75
	PCC	70+78.73 R1	353594.91	2806274.61
	Radius:	200		
	Delta:	6.52 Right		
	Degree of Curvature (Arc):	28.65		
	Length:	22.76		
	Tangent:	11.39		
	Chord:	22.75		
	Middle Ordinate:	0.32		
	External:	0.32		
	Back Tangent Direction:	N83.73°E		
	Back Radial Direction:	S6.27°E		
	Chord Direction:	N86.99°E		
				Ahead Radial Direction:
		S89.75°E		
Element: Circular				
PCC	(PCC)	70+78.73 R1	353594.91	2806274.61
	(COMBINATION PI)	71+92.00 R1	353594.42	2806387.88
	CC		342101.02	2806224.95
	PT	73+05.27 R1	353591.7	2806501.12
	Radius:	11494		
	Delta:	1.13 Right		
	Degree of Curvature (Arc):	0.5		
	Length:	226.54		
	Tangent:	113.27		
	Chord:	226.53		
	Middle Ordinate:	0.56		
	External:	0.56		
	Back Tangent Direction:	S89.75°E		
	Back Radial Direction:	S0.25°W		
	Chord Direction:	S89.19°E		
	Ahead Radial Direction:	S1.38°W		
	Ahead Tangent Direction:	S88.62°E		



Survey Data Layouts

Office Center Line

ND 297 (DeMers Ave) Shared Use Path

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

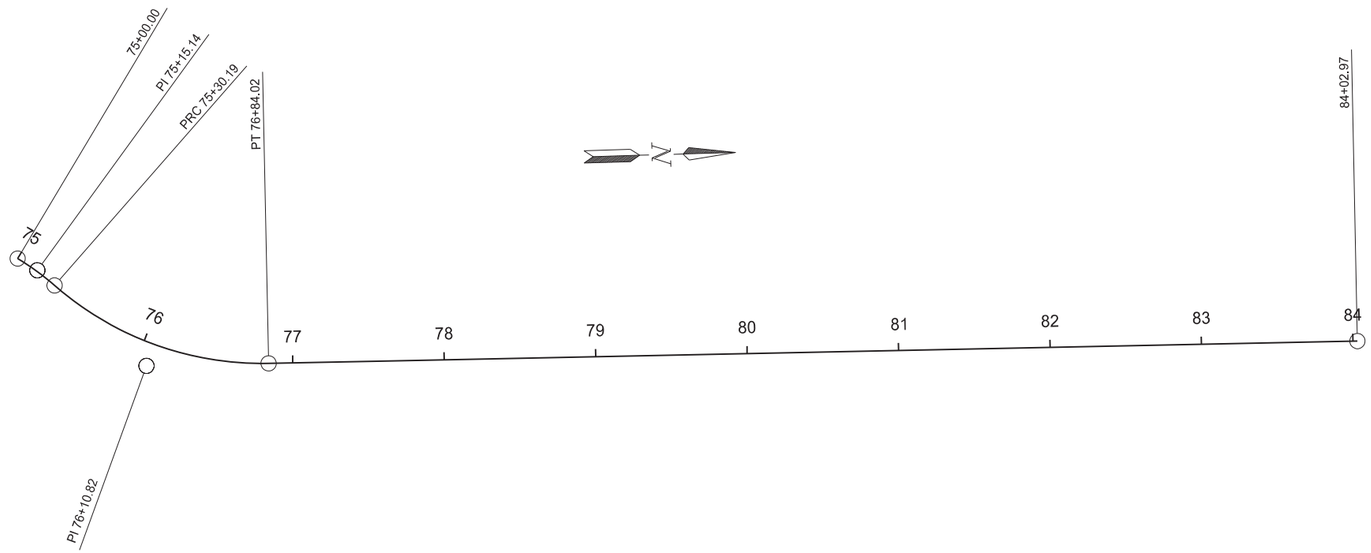
REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-10276
DATE: 2025.12.05 15:12:27 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	24

Alignment Name: OCL_43rd-SUP_1
Alignment Description:
Alignment Style:

		Station	Northing	Easting
Element: Circular				
PC	(PC)	75+00.00 R1	352577.59	2804753.11
	(COMBINATION PI)	75+15.14 R1	352590.74	2804760.62
CC	(CC)		352494.74	2804898.1
PRC	(PRC)	75+30.19 R1	352602.32	2804770.37
	Radius:	167		
	Delta:	10.36 Right		
	Degree of Curvature (Arc):	34.31		
	Length:	30.19		
	Tangent:	15.14		
	Chord:	30.15		
	Middle Ordinate:	0.68		
	External:	0.68		
	Back Tangent Direction:	N29.75°E		
	Back Radial Direction:	S60.25°E		
	Chord Direction:	N34.93°E		
	Ahead Radial Direction:	S49.90°E		
	Ahead Tangent Direction:	N40.10°E		
Element: Circular				
PRC	(PRC)	75+30.19 R1	352602.32	2804770.37
	(COMBINATION PI)	76+10.82 R1	352663.98	2804822.31
CC	(CC)		352736.31	2804611.28
PT	(PT)	76+84.02 R1	352744.54	2804819.12
	Radius:	208		
	Delta:	42.37 Left		
	Degree of Curvature (Arc):	27.55		
	Length:	153.83		
	Tangent:	80.62		
	Chord:	150.35		
	Middle Ordinate:	14.06		
	External:	15.08		
	Back Tangent Direction:	N40.10°E		
	Back Radial Direction:	S49.90°E		
	Chord Direction:	N18.92°E		
	Ahead Radial Direction:	N87.73°E		
	Ahead Tangent Direction:	N2.27°W		
Element: Linear				
PT	(PT)	76+84.02 R1	352744.54	2804819.12
END	(END)	84+02.97 R1	353462.93	2804790.66
	Tangential Direction:	N2.27°W		
	Tangential Length:	718.95		



Survey Data Layouts

Office Center Line

S 43rd Street Shared Use Path

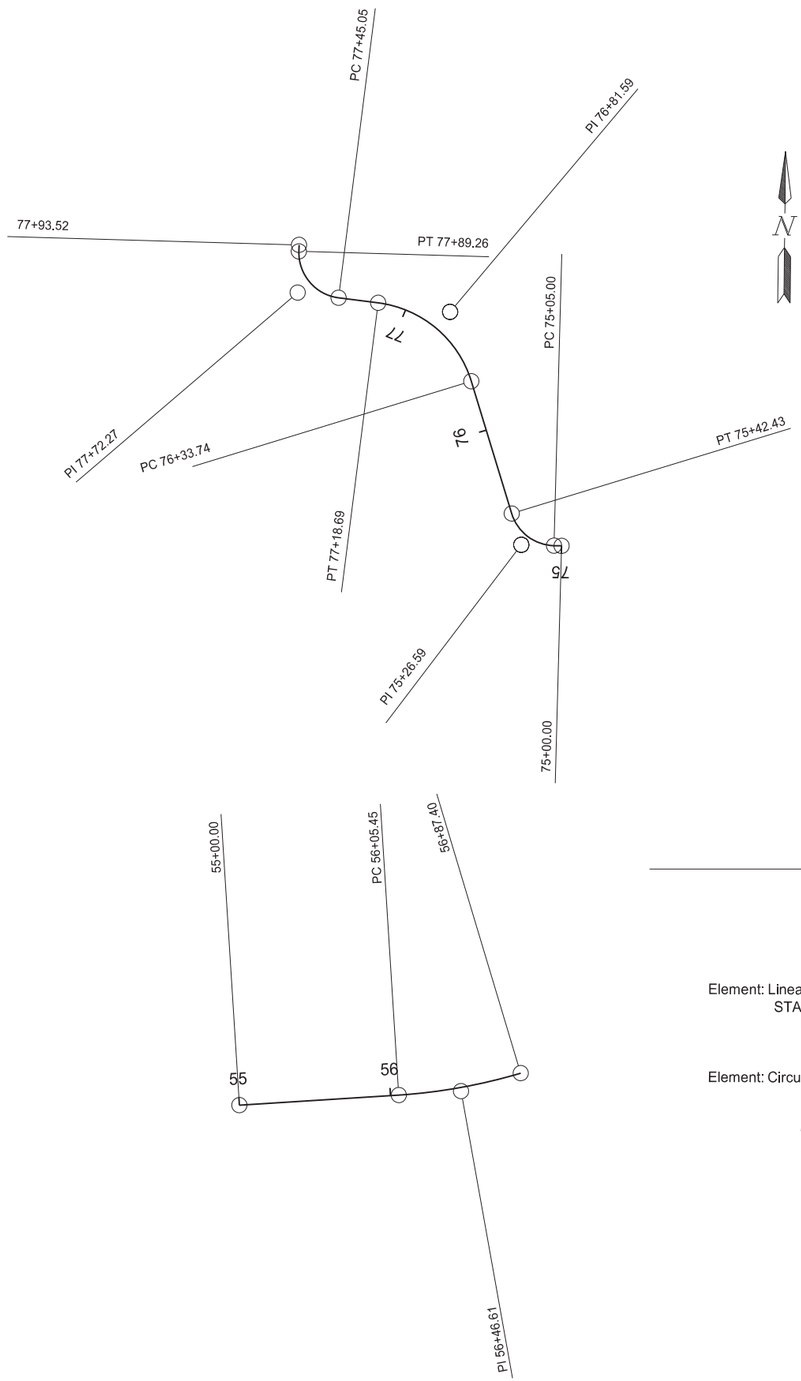
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8256
DATE: 2025.12.05 15:12:40 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	25



Element: Linear
START
PC

Element: Circular
PC

CC
PT

Element: Linear
PT
PC

Alignment Name: OCL_SUP-Connection
Alignment Description:
Alignment Style:

	Station	Northing	Easting
(START)	75+00.00 R1	353271.94	2805087.19
(PC)	75+05.00 R1	353271.78	2805082.19
Tangential Direction:	S88.16°W		
Tangential Length:	5		
(PC)	75+05.00 R1	353271.78	2805082.19
(COMBINATION PI)	75+26.59 R1	353271.08	2805060.61
(CC)		353301.76	2805081.23
(PT)	75+42.43 R1	353291.32	2805053.1
Radius:	30		
Delta:	71.48 Right		
Degree of Curvature (Arc):	190.99		
Length:	37.43		
Tangent:	21.59		
Chord:	35.05		
Middle Ordinate:	5.65		
External:	6.96		
Back Tangent Direction:	S88.16°W		
Back Radial Direction:	N1.84°W		
Chord Direction:	N56.10°W		
Ahead Radial Direction:	N69.64°E		
Ahead Tangent Direction:	N20.36°W		
(PT)	75+42.43 R1	353291.32	2805053.1
(PC)	76+33.74 R1	353376.93	2805021.33
Tangential Direction:	N20.36°W		
Tangential Length:	91.31		

Element: Circular
PC

	Station	Northing	Easting
(PC)	76+33.74 R1	353376.93	2805021.33
(COMBINATION PI)	76+81.59 R1	353421.79	2805004.68
CC		353351.18	2804951.95
PT	77+18.69 R1	353425.01	2804956.94
Radius:	74		
Delta:	65.77 Left		
Degree of Curvature (Arc):	77.43		
Length:	84.95		
Tangent:	47.85		
Chord:	80.36		
Middle Ordinate:	11.86		
External:	14.12		
Back Tangent Direction:	N20.36°W		
Back Radial Direction:	N69.64°E		
Chord Direction:	N53.25°W		
Ahead Radial Direction:	N86.14°W		

Element: Linear

	Station	Northing	Easting
PT	77+18.69 R1	353425.01	2804956.94
PC	77+45.05 R1	353426.79	2804930.63
Tangential Direction:	26.37		

Element: Circular
PC

	Station	Northing	Easting
(PC)	77+45.05 R1	353426.79	2804930.63
(COMBINATION PI)	77+72.27 R1	353428.62	2804903.48
CC		353456.72	2804932.66
PT	77+89.26 R1	353455.83	2804902.67
Radius:	30		
Delta:	84.42 Right		
Degree of Curvature (Arc):	190.99		
Length:	44.2		
Tangent:	27.21		
Chord:	40.31		
Middle Ordinate:	7.78		
External:	10.5		
Back Tangent Direction:	N86.14°W		
Back Radial Direction:	N3.86°E		
Chord Direction:	N43.92°W		
Ahead Radial Direction:	N1.71°W		

Element: Linear

	Station	Northing	Easting
PT	77+89.26 R1	353455.83	2804902.67
END	77+93.52 R1	353460.09	2804902.54
Tangential Direction:	N1.71°W		
Tangential Length:	4.26		

Element: Linear
START
PC

Element: Circular
PC

CC
PT

Alignment Name: OCL_7th-SUP_1
Alignment Description:
Alignment Style:

	Station	Northing	Easting
(START)	55+00.00 R1	352890.93	2804896.49
(PC)	56+05.45 R1	352903.75	2805001.16
Tangential Direction:	N83.02°E		
Tangential Length:	105.45		
(PC)	56+05.45 R1	352903.75	2805001.16
(COMBINATION PI)	56+46.61 R1	352908.76	2805042.01
(CC)		353259.1	2804957.64
(PT)	56+87.40 R1	352922.9	2805080.66
Radius:	358		
Delta:	13.12 Left		
Degree of Curvature (Arc):	16		
Length:	81.95		
Tangent:	41.15		
Chord:	81.77		
Middle Ordinate:	2.34		
External:	2.36		
Back Tangent Direction:	N83.02°E		
Back Radial Direction:	S6.98°E		
Chord Direction:	N76.46°E		
Ahead Radial Direction:	S20.10°E		
Ahead Tangent Direction:	N69.90°E		

Survey Data Layouts

Office Center Line

42nd St to DeMers Ave Connection and
7th Ave S Shared Use Paths

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

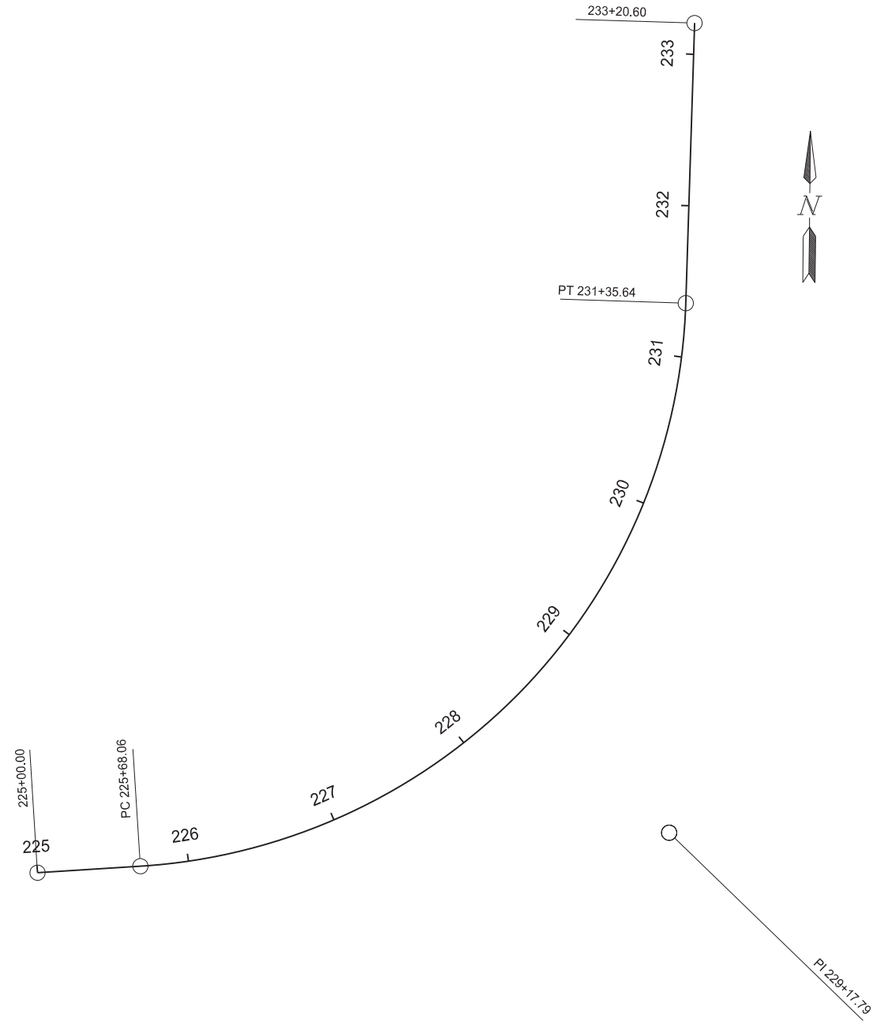
Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4226
DATE: 2025.12.05 15:13:14 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	26

Alignment Name: OCL_7th-SUP_2
Alignment Description:
Alignment Style:

		Station	Northing	Easting
Element: Linear				
START	(START)	225+00.00 R1	352850.819	2805284.629
PC	(PC)	225+68.06 R1	352859.093	2805352.181
	Tangential Direction:	N83.018°E		
	Tangential Length:	68.06		
Element: Circular				
PC	(PC)	225+68.06 R1	352859.093	2805352.181
	(COMBINATION PI)	229+17.79 R1	352901.608	2805699.32
CC	(CC)		353240.741	2805305.44
PT	(PT)	231+35.64 R1	353251.211	2805689.797
	Radius:	384.5		
	Delta:	84.578 Left		
	Degree of Curvature (Arc):	14.901		
	Length:	567.58		
	Tangent:	349.73		
	Chord:	517.44		
	Middle Ordinate:	100.06		
	External:	135.26		
	Back Tangent Direction:	N83.018°E		
	Back Radial Direction:	S6.982°E		
	Chord Direction:	N40.729°E		
	Ahead Radial Direction:	N88.440°E		
	Ahead Tangent Direction:	N1.560°W		
Element: Linear				
PT	(PT)	231+35.64 R1	353251.211	2805689.797
END	(END)	233+20.60 R1	353436.104	2805684.761
Tangential Direction:		N1.560°W		
Tangential Length:		184.96		



Survey Data Layouts

Office Center Line

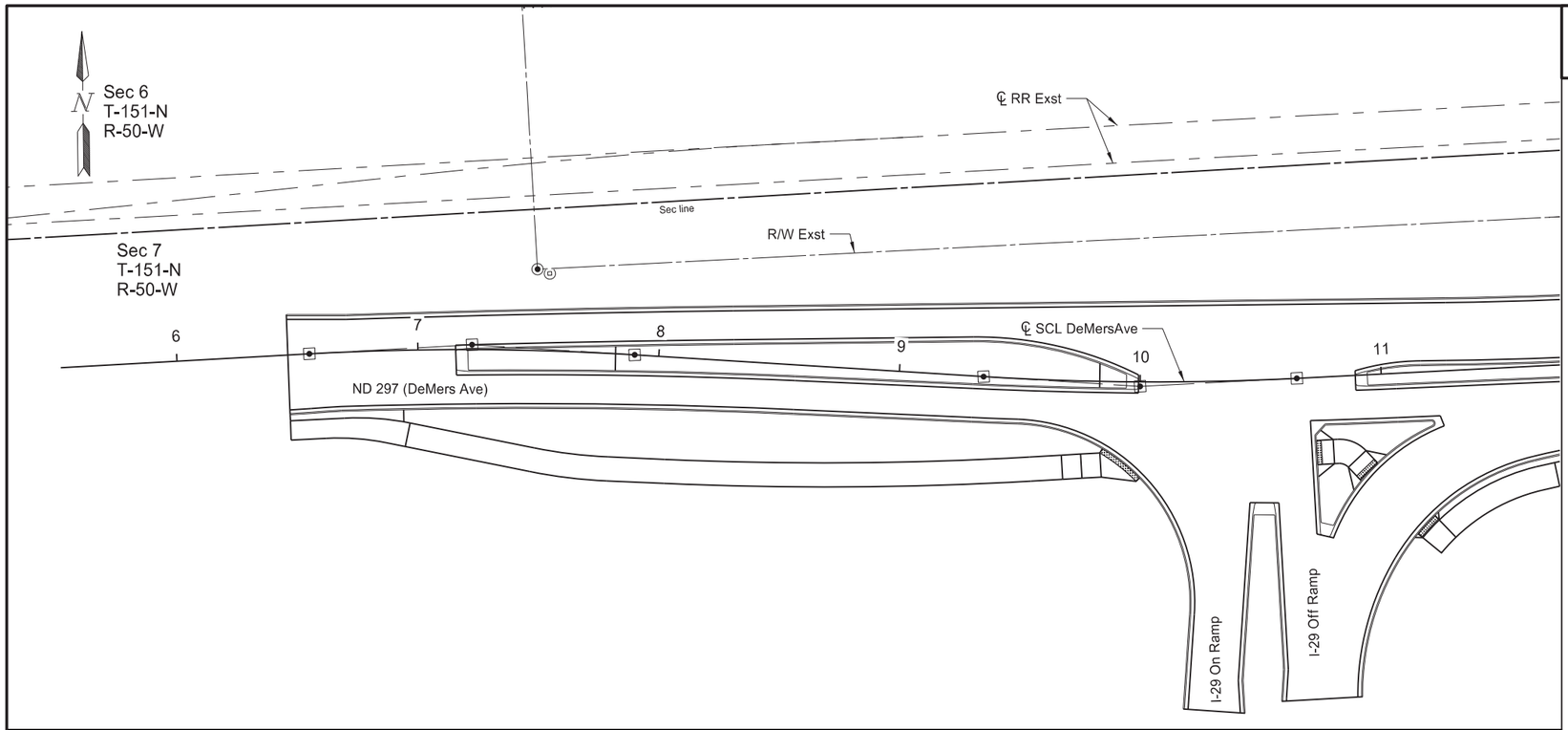
7th Ave S Shared Use Paths

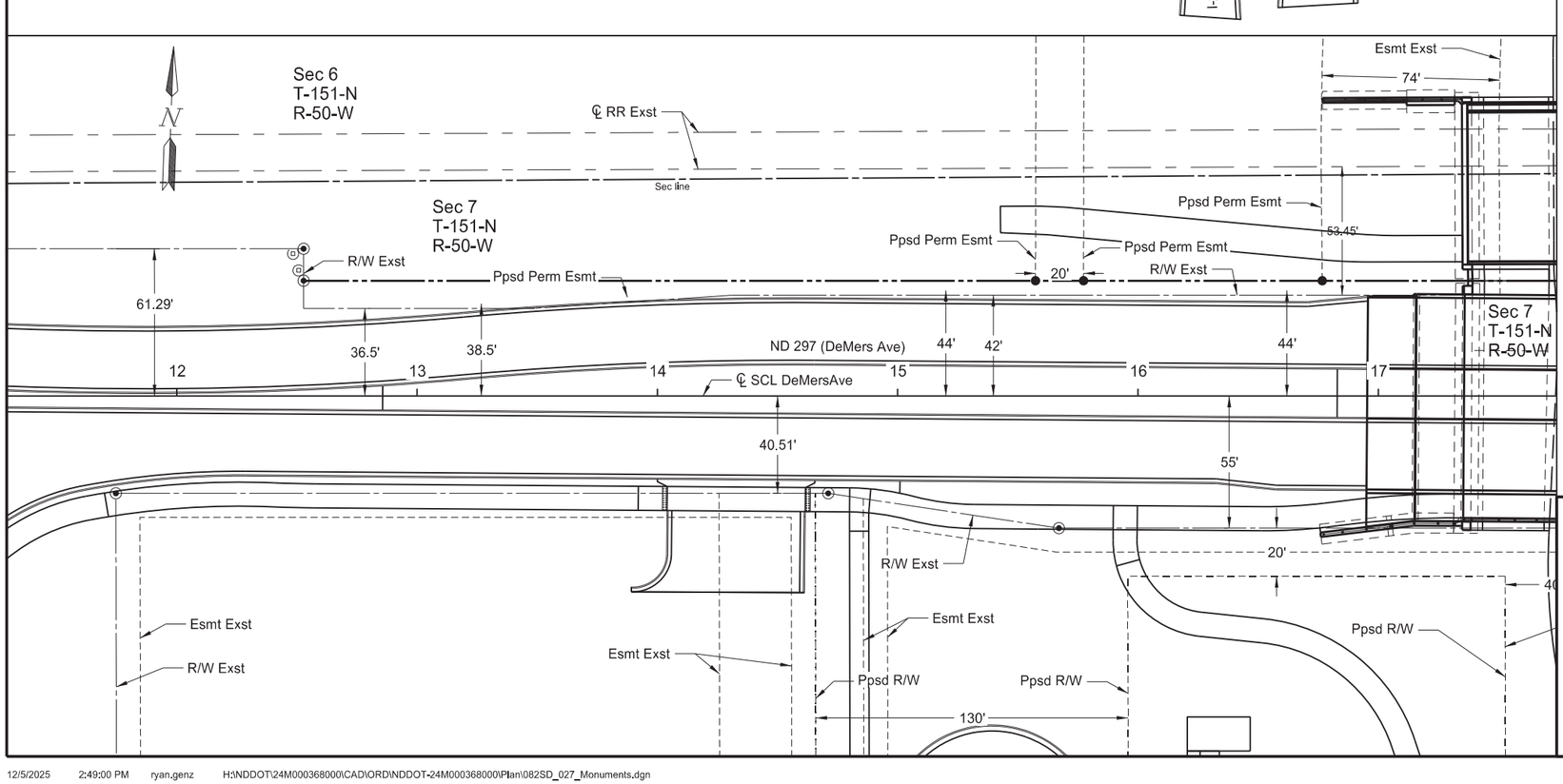
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4276
DATE: 2025.12.05 15:13:29 -06'00'
NORTH DAKOTA





	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	27

SPEC	CODE	BID ITEM	QTY	UNIT
720	0110	RIGHT OF WAY MARKERS		
		Sta 7+48.78 O/s 33.69 Lt - R/W	1	EA
		Sta 12+52.79 O/s 48.00 Lt - R/W	1	EA
		Sta 12+52.79 O/s 61.29 Lt -R/W	1	EA
720	0125	ALIGNMENT MONUMENTS		
		Sta 6+54.98 O/s 0.00 CL - PC	1	EA
		Sta 7+22.48 O/s 1.99 Lt - PI	1	EA
		Sta 7+89.98 O/s 0.00 CL - PT	1	EA
		Sta 9+34.98 O/s 0.00 CL - PC	1	EA
		Sta 9+99.98 O/s 1.85 Rt - PI	1	EA
		Sta 10+64.98 O/s 0.00 CL - PT	1	EA
720	0130	IRON PIN R/W MONUMENTS		
		Sta 7+48.78 O/s 33.69 Lt - R/W	1	EA
		Sta 11+74.68 O/s 40.51 Rt - R/W	1	EA
		Sta 12+52.79 O/s 48.00 Lt - R/W	1	EA
		Sta 12+52.79 O/s 61.29 Lt - R/W	1	EA
		Sta 14+71.09 O/s 40.50 Rt - R/W	1	EA
		Sta 15+67.09 O/s 55.00 Rt - R/W	1	EA
720	0135	IRON PIN REFERENCE MONUMENTS		
		Sta 12+52.79 O/s 38.50 Lt - Perm Esmt	1	EA
		Sta 13+48.92 O/s 38.50 Lt - Perm Esmt	1	EA
		Sta 14+30.91 O/s 44.00 Lt - Perm Esmt	1	EA
		Sta 15+57.34 O/s 48.00 Lt - Perm Esmt	1	EA
		Sta 15+77.34 O/s 48.00 Lt - Perm Esmt	1	EA
		Sta 16+76.67 O/s 48.00 Lt - Perm Esmt	1	EA

Note:
1. Control Alignment SCL_DeMersAve
2. Station and offsets are perpendicular to alignment
3. Install all iron pin reference monuments and alignment monuments per NDDOT Standard Drawing D-720-1

Legend
- Iron Pin Reference Monument
- R/W Marker
- Alignment Monument
- Iron Pin R/W Monument

Survey Data Layouts

Monuments & Markers

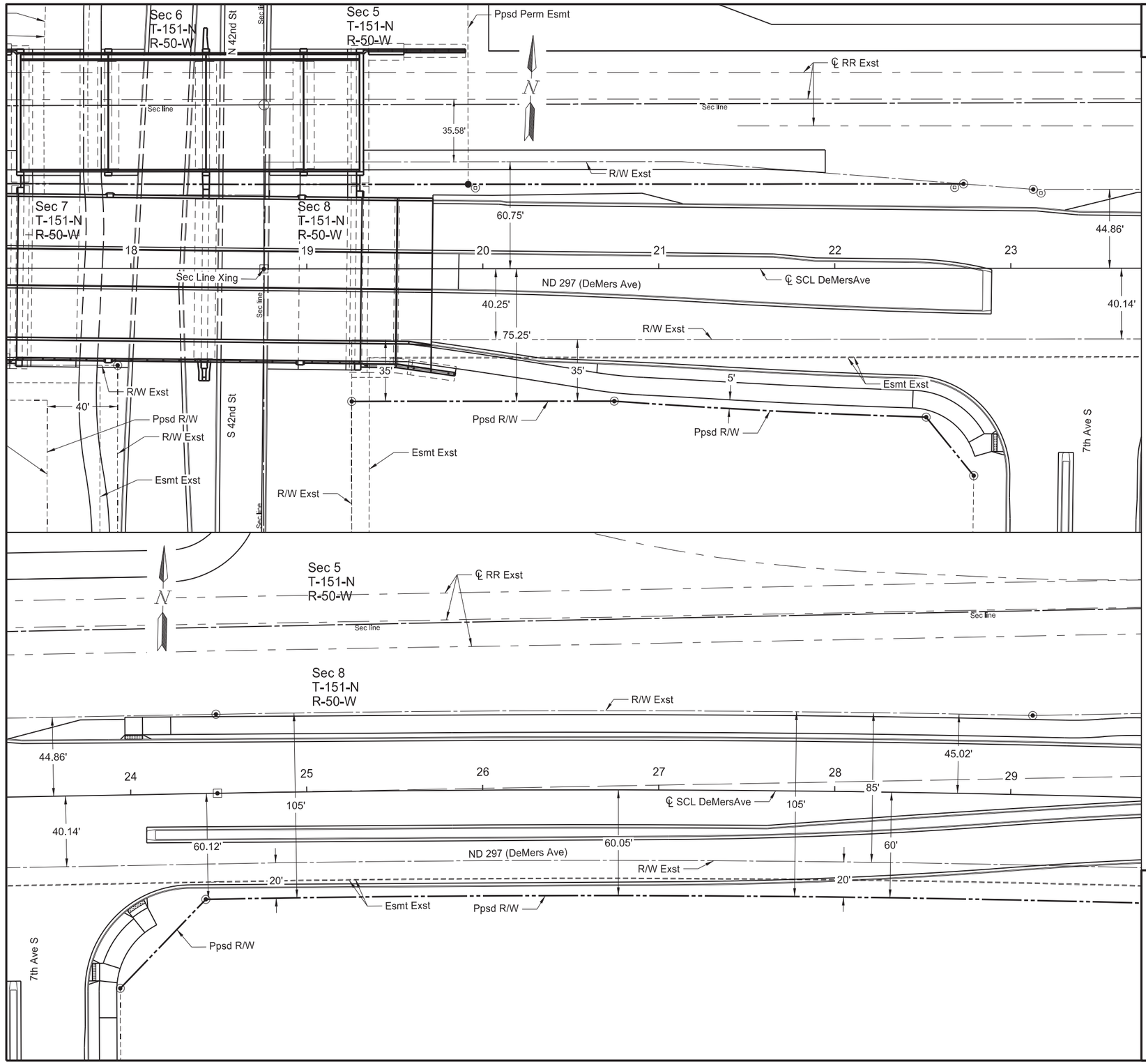
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8276
DATE: 2025.12.05 15:13:43 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	28

SPEC	CODE	BID ITEM	QTY	UNIT
720	0110	RIGHT OF WAY MARKERS		
		Sta 19+91.72 O/s 60.74 Lt - Perm Esmt at R/W	1	EA
		Sta 21+12.88 O/s 60.78 Lt - R/W	1	EA
		Sta 22+73.87 O/s 48.00 Lt - R/W	1	EA
		Sta 23+12.79 O/s 44.84 Lt - R/W	1	EA
720	0125	ALIGNMENT MONUMENTS		
		* Sta 18+75.60 O/s 0.00 CL - Sec Xing	1	EA
		Sta 24+49.24 O/s 0.00 CL - PC	1	EA
720	0130	IRON PIN R/W MONUMENTS		
		Sta 17+92.71 O/s 55.00 Rt - R/W	1	EA
		Sta 19+25.45 O/s 75.28 Rt - R/W	1	EA
		Sta 20+74.65 O/s 75.23 Rt - R/W	1	EA
		Sta 22+51.84 O/s 84.48 Rt - R/W	1	EA
		Sta 22+73.19 O/s 48.00 Lt - R/W	1	EA
		Sta 22+78.87 O/s 117.73 Rt - R/W	1	EA
		Sta 23+12.79 O/s 44.84 Lt - R/W	1	EA
		Sta 23+92.00 O/s 109.77 Rt - R/W	1	EA
		Sta 24+41.53 O/s 60.12 Rt - R/W	1	EA
		Sta 24+49.21 O/s 44.89 Lt - R/W	1	EA
		Sta 29+11.54 O/s 45.03 Lt - R/W	1	EA
720	0135	IRON PIN REFERENCE MONUMENTS		
		Sta 19+91.73 O/s 48.00 Lt - Perm Esmt at R/W	1	EA

Note:

1. Control Alignment SCL_DeMersAve
2. Station and offsets are perpendicular to alignment
3. Install all iron pin reference monuments and alignment monuments per NDDOT Standard Drawing D-720-1

*See Sec 6 Note 720-P01

Legend

- Iron Pin Reference Monument
- R/W Marker
- Alignment Monument
- Iron Pin R/W Monument

Survey Data Layouts

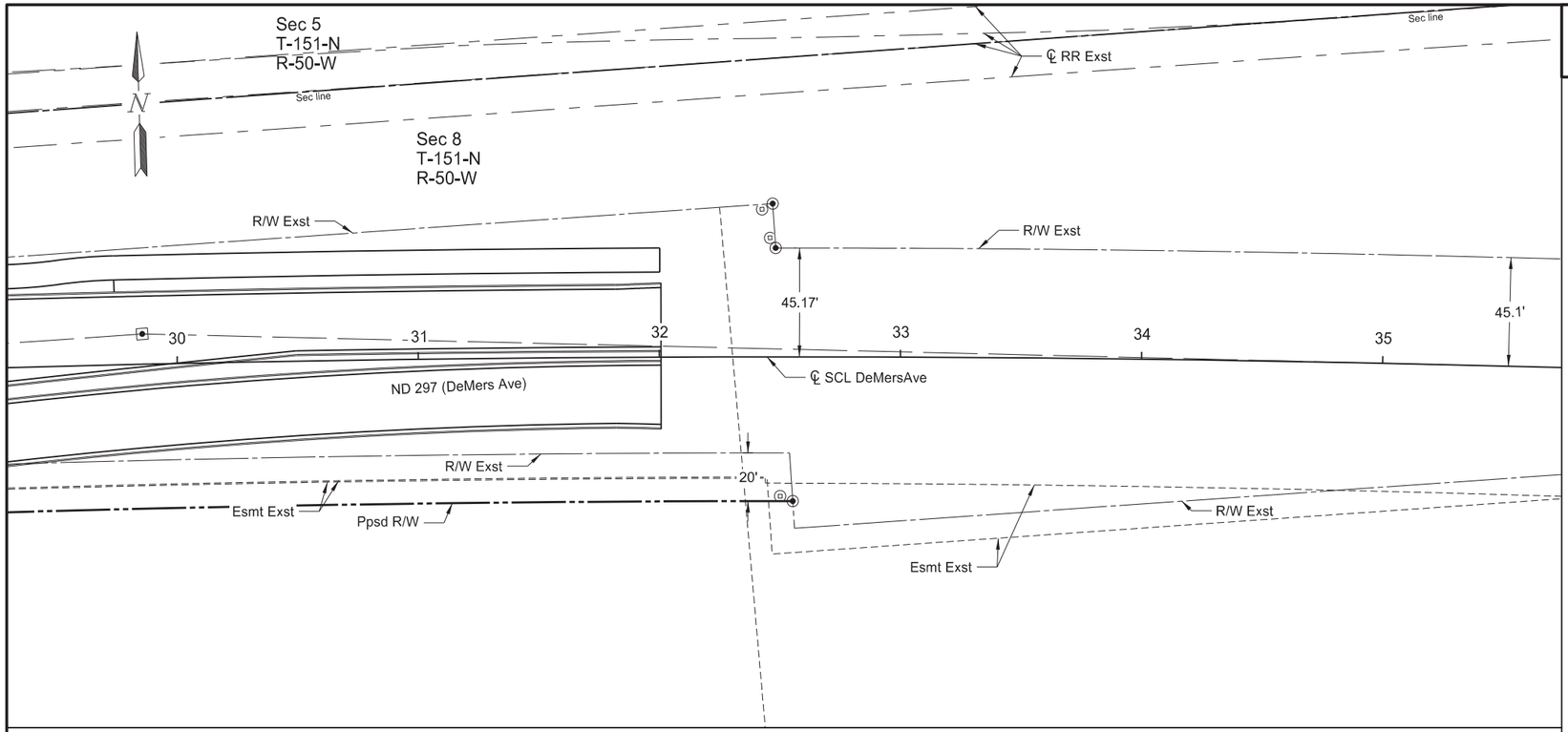
Monuments & Markers

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9275
DATE: 2025.12.05 15:14:00 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	29

SPEC	CODE	BID ITEM	QTY	UNIT
720	0110	RIGHT OF WAY MARKERS		
		Sta 32+47.04 O/s 63.58 Lt - R/W	1	EA
		Sta 32+48.26 O/s 45.18 Lt - R/W	1	EA
		Sta 32+55.35 O/s 59.86 Rt - R/W	1	EA
720	0125	ALIGNMENT MONUMENTS		
		Sta 29+85.76 O/s 12.57 Lt - PI	1	EA
720	0130	IRON PIN R/W MONUMENTS		
		Sta 32+47.04 O/s 63.58 Lt - R/W	1	EA
		Sta 32+48.26 O/s 45.18 Lt - R/W	1	EA
		Sta 32+55.35 O/s 59.86 Rt - R/W	1	EA

Note:

1. Control Alignment SCL_DeMersAve
2. Station and offsets are perpendicular to alignment
3. Install all iron pin reference monuments and alignment monuments per NDDOT Standard Drawing D-720-1

Legend

- Iron Pin Reference Monument
- R/W Marker
- Alignment Monument
- Iron Pin R/W Monument

Survey Data Layouts

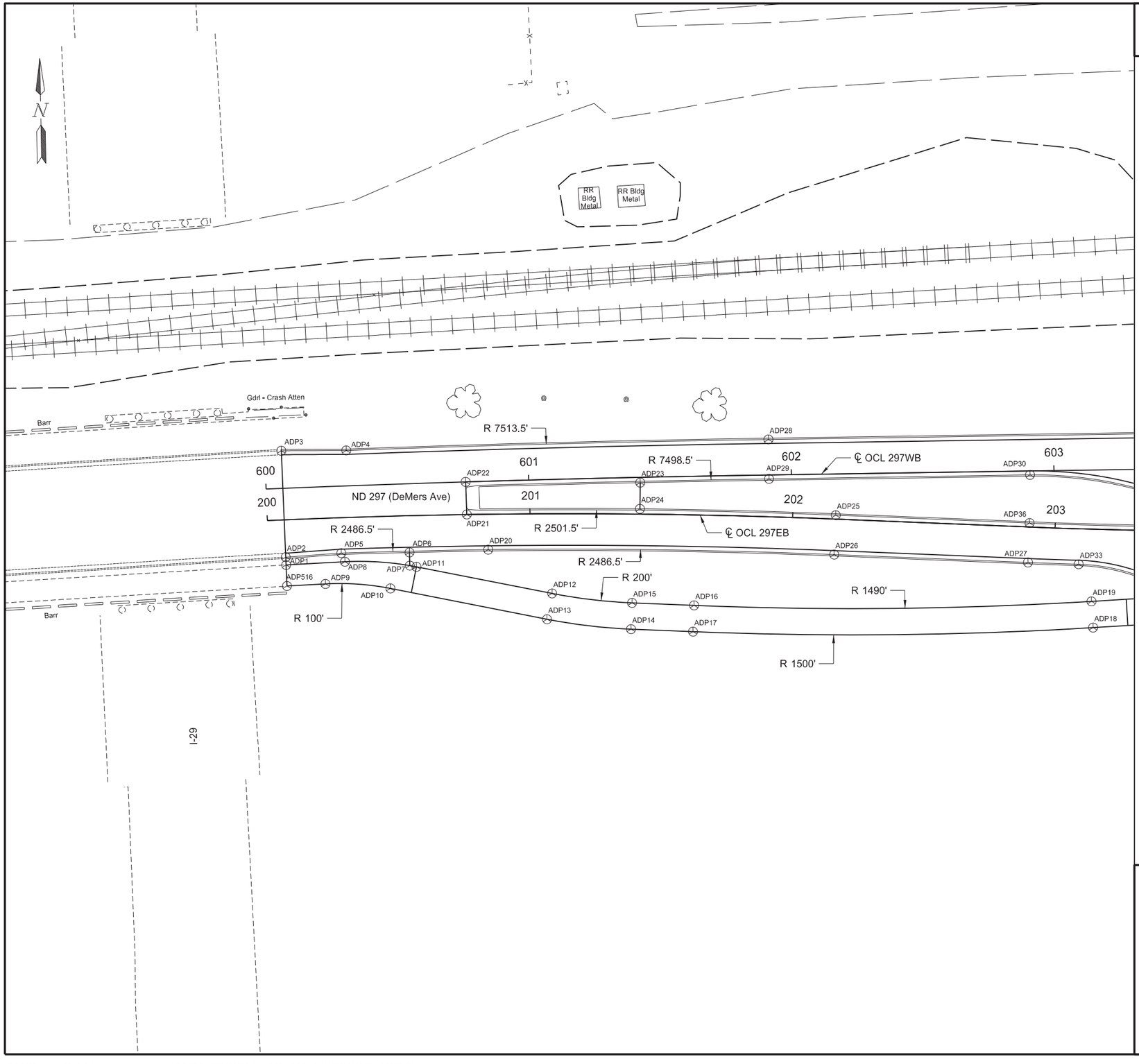
Monuments & Markers

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-10276
DATE: 2025.12.05 15:14:15 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	30

POINT	NORTHING	EASTING	STATION	OFFSET
ADP3	353527.26	2803947.45	200+06.35	-26.32
ADP2	353486.74	2803948.44	200+06.43	14.21
ADP516	353475.74	2803948.72	200+06.47	25.21
ADP1	353483.74	2803948.54	200+06.47	17.21
ADP9	353476.29	2803963.37	200+21.19	24.99
ADP5	353487.89	2803969.61	200+27.69	13.50
ADP8	353484.58	2803970.95	200+28.98	16.84
ADP4	353526.95	2803972.19	200+30.91	-25.51
ADP10	353474.13	2803988.08	200+46.12	27.52
ADP6	353487.71	2803995.58	200+53.80	14.00
ADP7	353482.71	2803995.61	200+53.80	19.00
ADP11	353482.20	2803998.13	200+56.33	19.52
ADP22	353514.19	2804017.42	200+75.71	-12.42
ADP21	353501.77	2804017.66	200+75.97	0.00
ADP20	353488.24	2804025.56	200+83.94	13.50
ADP13	353461.38	2804047.48	201+06.37	40.15
ADP12	353471.16	2804049.58	201+08.35	30.34
ADP14	353457.06	2804079.38	201+38.89	43.82
ADP15	353467.04	2804079.96	201+39.21	33.82
ADP24	353502.78	2804083.57	201+41.84	-2.00
ADP23	353512.77	2804083.85	201+41.84	-12.00
ADP17	353455.69	2804102.96	201+62.93	44.44
ADP16	353465.67	2804103.54	201+63.15	34.44
ADP28	353528.33	2804132.94	201+89.91	-29.40
ADP29	353513.33	2804132.91	201+90.59	-14.42
ADP25	353499.06	2804158.07	202+16.38	-1.50
ADP26	353484.09	2804157.20	202+16.38	13.50
ADP30	353513.11	2804232.26	202+89.63	-19.83
ADP36	353494.78	2804231.77	202+90.21	-1.50
ADP27	353479.81	2804230.90	202+90.21	13.50
ADP33	353478.78	2804250.18	203+09.38	13.50
ADP19	353464.57	2804254.83	203+14.64	27.47
ADP18	353454.58	2804255.26	203+15.52	37.43

Notes:

1. Sta & O/s referenced from Alignment = OCL_297EB
2. Curb and Gutter Radii Labels are to Face of Curb
3. Curb and Gutter Points are to Face of Curb
4. Median Start/Ends are to Lip of Curb

Survey Data Layouts

Alignment Data Points

ND 297 (DeMers Ave)

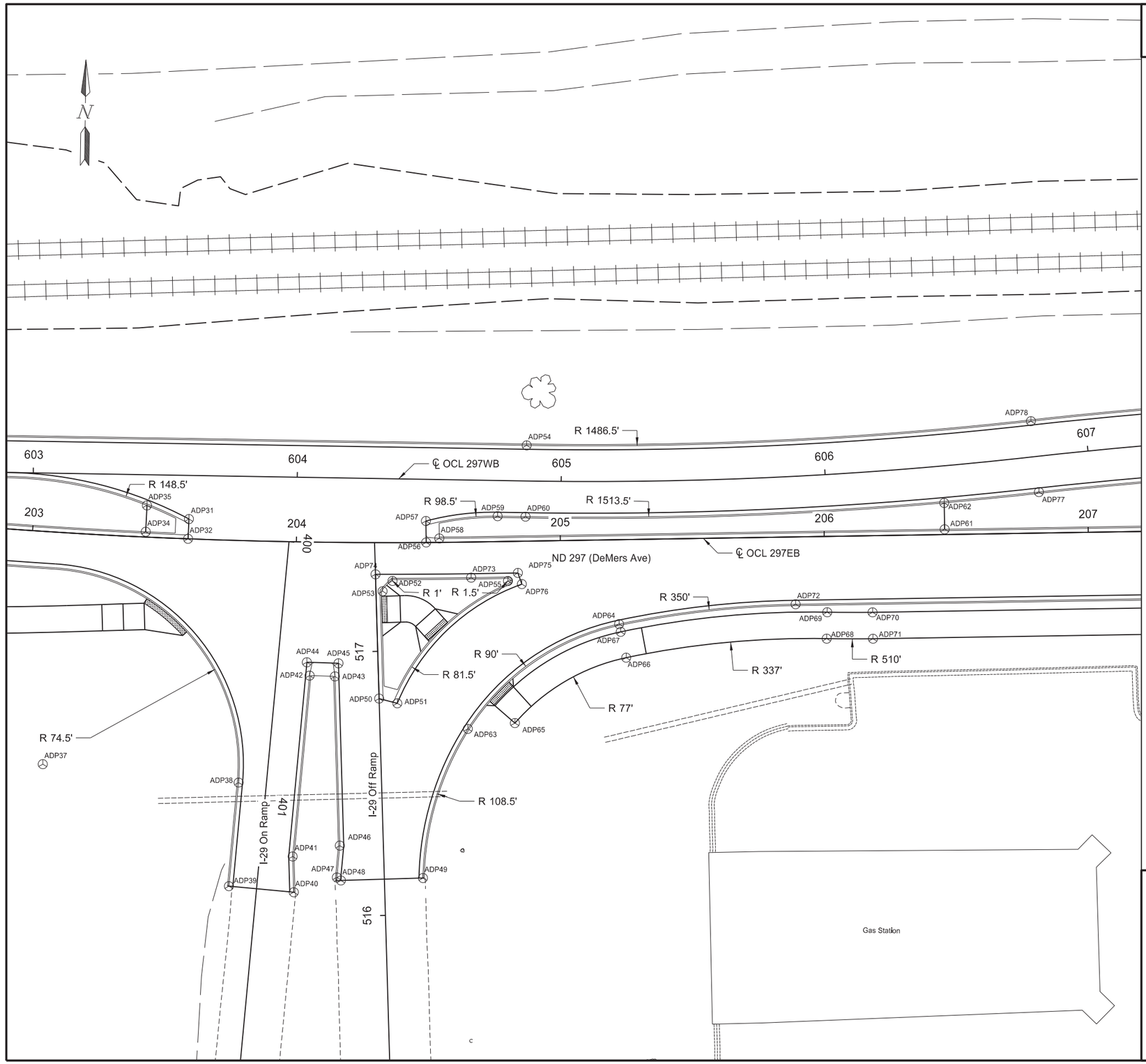
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.05 15:15:17 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	82	31



POINT	NORTHING	EASTING	STATION	OFFSET
ADP35	353502.92	2804284.63	203+42.83	-12
ADP34	353492.92	2804284.31	203+42.83	-2
ADP32	353490.48	2804300.38	203+58.97	0
ADP31	353497.98	2804300.6	203+59.01	-7.5
ADP39	353359.18	2804317.72	203+78.15	130.95
ADP38	353398.48	2804320.84	203+80.60	91.61
ADP41	353370.76	2804341.72	204+00.64	119.16
ADP40	353357.23	2804342.33	204+01.25	132.69
ADP44	353444.37	2804346.05	204+04.67	45.54
ADP42	353439.35	2804347.16	204+05.76	50.56
ADP43	353439.18	2804356.74	204+15.10	50.75
ADP45	353444.16	2804358.02	204+16.38	45.78
ADP47	353363.08	2804358.56	204+16.49	126.86
ADP46	353375.14	2804359.53	204+17.48	114.81
ADP48	353361.95	2804360.11	204+17.95	128
ADP74	353478.06	2804371.56	204+30.01	12
ADP50	353431.03	2804373.61	204+31.46	59.05
ADP53	353471.68	2804374.34	204+32.69	18.41
ADP52	353475.65	2804378.04	204+36.41	14.5
ADP51	353429.34	2804380.53	204+38.15	60.84
ADP49	353363.31	2804391.19	204+47.18	127.05
ADP57	353498.52	2804390.36	204+49.12	-8.14
ADP56	353490.38	2804390.58	204+49.17	0
ADP58	353491.99	2804395.54	204+54.17	-1.5
ADP63	353420.03	2804407.38	204+63.93	70.75
ADP73	353477.32	2804407.81	204+66.00	13.5
ADP59	353500.72	2804417.51	204+76.40	-9.6
ADP55	353476.24	2804421.77	204+79.92	15
ADP65	353422.48	2804425.17	204+81.72	68.83
ADP75	353479.35	2804425.49	204+83.73	12
ADP76	353475.14	2804427.05	204+85.17	16.25
ADP60	353500.69	2804428.08	204+86.96	-9.26
ADP54	353527.69	2804428.14	204+87.83	-36.25
ADP64	353460.52	2804464.1	205+21.76	31.97
ADP67	353457.6	2804464.76	205+22.34	34.91
ADP66	353447.84	2804466.97	205+24.25	44.73
ADP72	353468.99	2804530.85	205+88.74	25.5
ADP68	353456.14	2804542.82	206+00.32	38.7
ADP69	353466.14	2804542.86	206+00.66	28.7
ADP71	353456.36	2804560.34	206+17.84	39
ADP70	353466.36	2804560.04	206+17.84	29
ADP61	353498.18	2804586.89	206+45.63	-2
ADP62	353508.17	2804586.59	206+45.63	-12
ADP78	353539.58	2804618.99	206+78.95	-42.43
ADP77	353512.8	2804622.4	206+81.56	-15.56

Notes:
1. Sta & O/s referenced from Alignment = OCL_297EB
2. Curb and Gutter Radii Labels are to Face of Curb
3. Curb and Gutter Points are to Face of Curb
4. Median Start/Ends are to Lip of Curb

Survey Data Layouts

Alignment Data Points

ND 297 (DeMers Ave)

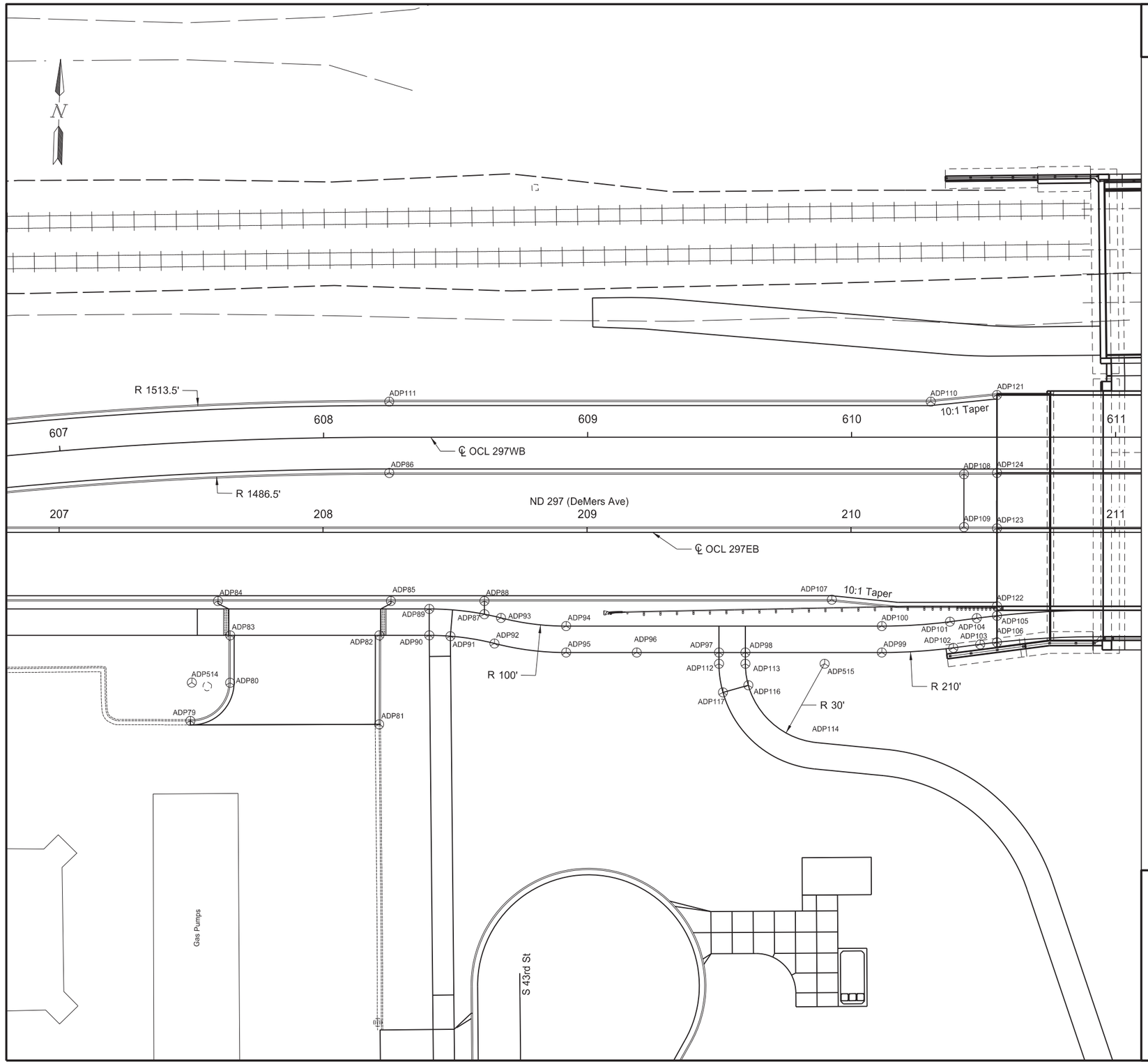
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4276
DATE: 2025.12.05 15:15:28 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	82	32



POINT	NORTHING	EASTING	STATION	OFFSET
ADP514	353442.43	2804693.27	207+50.30	56.90
ADP84	353473.61	2804702.23	207+60.18	26.00
ADP80	353442.82	2804707.77	207+64.80	56.94
ADP83	353460.75	2804707.28	207+64.84	39.00
ADP81	353428.76	2804764.67	208+21.25	72.70
ADP82	353462.44	2804763.75	208+21.34	39.00
ADP111	353551.01	2804764.85	208+25.08	-49.50
ADP86	353524.03	2804765.65	208+25.08	-22.50
ADP85	353475.57	2804767.72	208+25.70	26.00
ADP89	353473.00	2804782.35	208+40.25	29.00
ADP90	353463.01	2804782.65	208+40.25	39.00
ADP91	353462.93	2804790.66	208+48.25	39.32
ADP88	353476.62	2804803.13	208+61.13	26.00
ADP87	353471.63	2804803.28	208+61.13	31.00
ADP92	353460.65	2804807.42	208+64.94	42.10
ADP93	353470.41	2804809.60	208+67.40	32.40
ADP94	353468.05	2804834.36	208+92.09	35.50
ADP95	353458.06	2804834.66	208+92.09	45.50
ADP96	353458.86	2804861.41	209+18.85	45.50
ADP97	353459.79	2804892.55	209+50.00	45.50
ADP112	353455.53	2804892.67	209+50.00	49.76
ADP117	353444.73	2804894.49	209+51.50	60.61
ADP98	353460.09	2804902.54	209+60.00	45.50
ADP113	353455.83	2804902.67	209+60.00	49.76
ADP116	353447.73	2804904.04	209+61.12	57.90
ADP115	353416.81	2804929.96	209+86.11	89.57
ADP114	353426.79	2804930.63	209+87.09	79.62
ADP515	353456.72	2804932.66	209+90.00	49.76
ADP107	353481.06	2804934.67	209+92.74	25.50
ADP99	353461.63	2804954.21	210+11.69	45.50
ADP100	353471.63	2804953.91	210+11.69	35.50
ADP118	353415.04	2804956.27	210+12.35	92.14
ADP119	353425.01	2804956.94	210+13.33	82.18
ADP110	353557.14	2804969.91	210+30.24	-49.50
ADP101	353474.07	2804979.65	210+37.49	33.83
ADP102	353464.19	2804981.23	210+38.78	43.75
ADP108	353530.03	2804983.30	210+42.81	-22.00
ADP109	353510.04	2804983.90	210+42.81	-2.00
ADP104	353475.69	2804989.76	210+47.64	32.51
ADP103	353465.82	2804991.34	210+48.93	42.42
ADP124	353530.90	2804995.78	210+55.31	-22.50
ADP121	353560.39	2804994.90	210+55.31	-52.00
ADP106	353466.78	2804997.69	210+55.31	41.65
ADP122	353480.43	2804997.29	210+55.31	28.00
ADP105	353476.83	2804997.39	210+55.31	31.59
ADP123	353509.91	2804996.41	210+55.31	-1.50

Notes:
1. Sta & O/s referenced from Alignment = OCL_297EB
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3. Curb and Gutter Points are to Face of Curb
4. Median Start/Ends are to Lip of Curb

Survey Data Layouts

Alignment Data Points

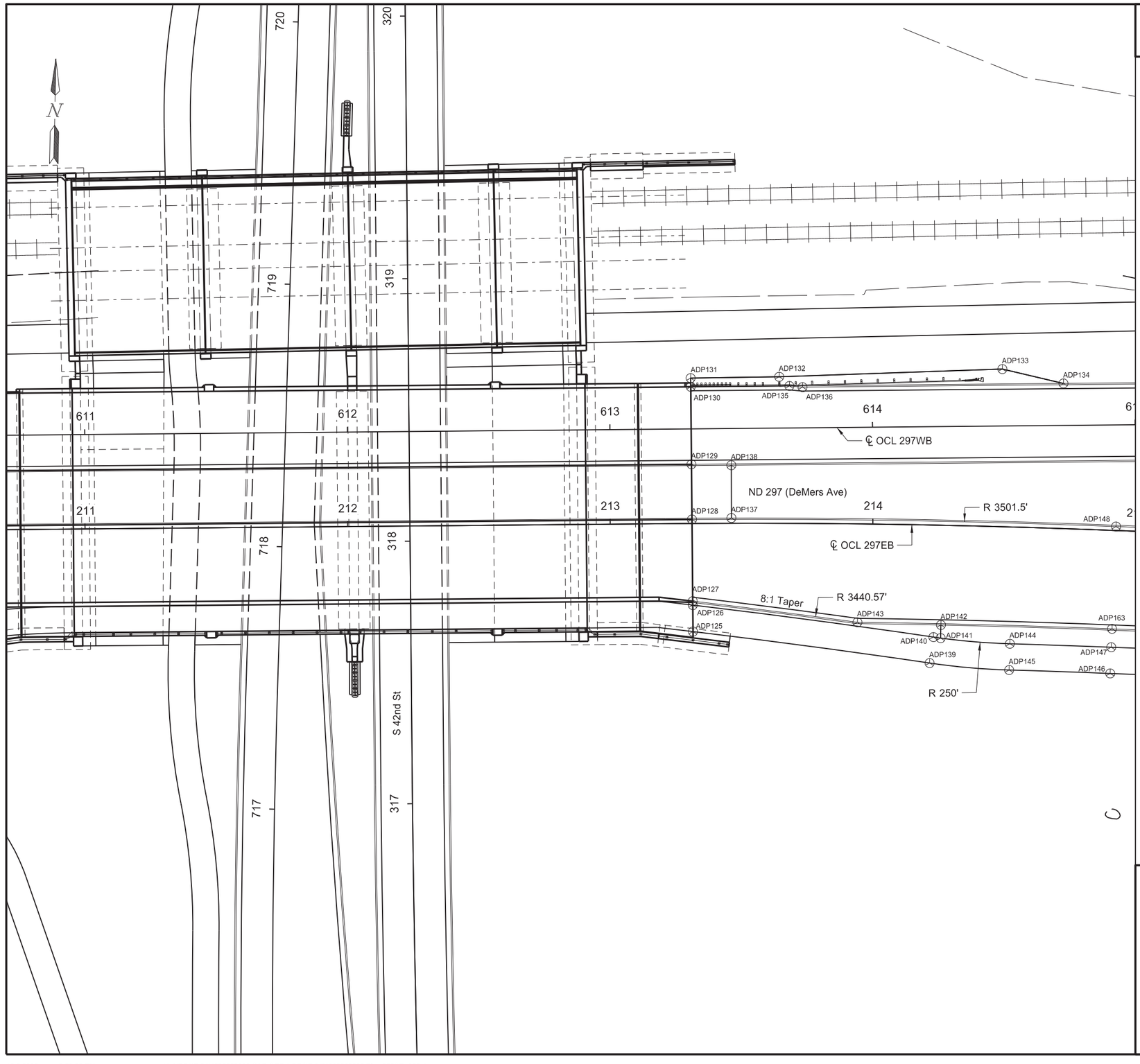
ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9026
DATE: 2025.12.05 15:15:40 -06'00'
NORTH DAKOTA



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	82	33

POINT	NORTHING	EASTING	STATION	OFFSET
ADP130	353568.63	2805270.6	213+30.99	-52.01
ADP129	353539.14	2805271.48	213+31.08	-22.51
ADP128	353518.15	2805272.11	213+31.14	-1.51
ADP127	353487.04	2805273.04	213+31.23	29.61
ADP126	353485.53	2805273.09	213+31.23	31.12
ADP125	353475.45	2805273.39	213+31.26	41.2
ADP137	353519.01	2805287.11	213+46.15	-2
ADP138	353539.1	2805286.66	213+46.15	-22.09
ADP132	353573.15	2805304.2	213+64.17	-55.78
ADP135	353569.75	2805308.15	213+68.01	-52.32
ADP136	353569.4	2805313.17	213+72.94	-51.89
ADP143	353480.28	2805335.92	213+94.58	37.5
ADP139	353465.32	2805363.71	214+22.66	52.59
ADP140	353475.25	2805364.96	214+23.93	42.67
ADP141	353474.91	2805367.72	214+26.73	43
ADP142	353479.91	2805367.72	214+26.73	38
ADP133	353577.85	2805389.11	214+47.72	-60
ADP145	353463.31	2805394.04	214+53.47	54.5
ADP144	353473.31	2805394.12	214+53.47	44.5
ADP134	353572.87	2805412.49	214+70.77	-55.25
ADP148	353518.77	2805433.63	214+92.60	-1.5
ADP163	353479.78	2805432.89	214+92.60	37.5
ADP146	353462.79	2805432.56	214+92.60	54.5
ADP147	353472.78	2805432.75	214+92.60	44.5

Notes:

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2. Curb and Gutter Radii Labels are to Face of Curb
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Survey Data Layouts

Alignment Data Points

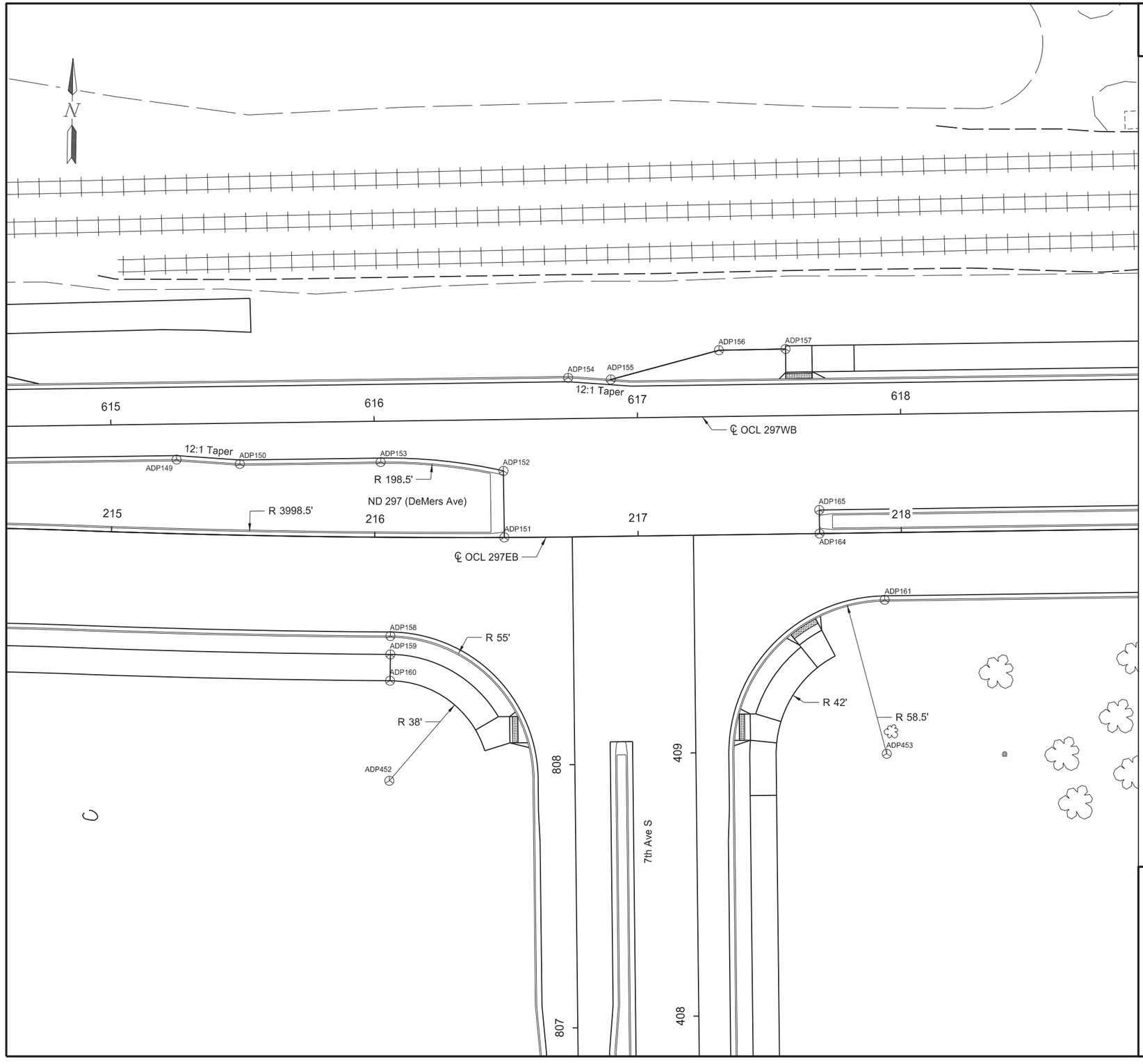
ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.05 15:16:06 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	34

POINT	NORTHING	EASTING	STATION	OFFSET
ADP149	353544.93	2805465.26	215+23.95	-28.14
ADP150	353543.65	2805489.31	215+48.17	-27.05
ADP153	353545.25	2805542.77	216+02.01	-28.57
ADP158	353479.22	2805547.52	216+06.18	37.5
ADP160	353462.22	2805547.68	216+06.18	54.5
ADP159	353472.22	2805547.62	216+06.21	44.5
ADP152	353542.64	2805589.45	216+48.96	-25.31
ADP151	353517.35	2805590.2	216+49.21	0
ADP154	353578.37	2805613.45	216+74.27	-60.46
ADP155	353578.01	2805629.64	216+90.44	-59.62
ADP156	353589.78	2805670.54	217+31.66	-70.16
ADP157	353590.67	2805695.84	217+56.98	-70.3
ADP164	353520.76	2805709.86	217+68.92	0
ADP165	353529.72	2805709.62	217+68.94	-8.97
ADP161	353496	2805735	217+93.31	25.5

Notes:

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Survey Data Layouts

Alignment Data Points

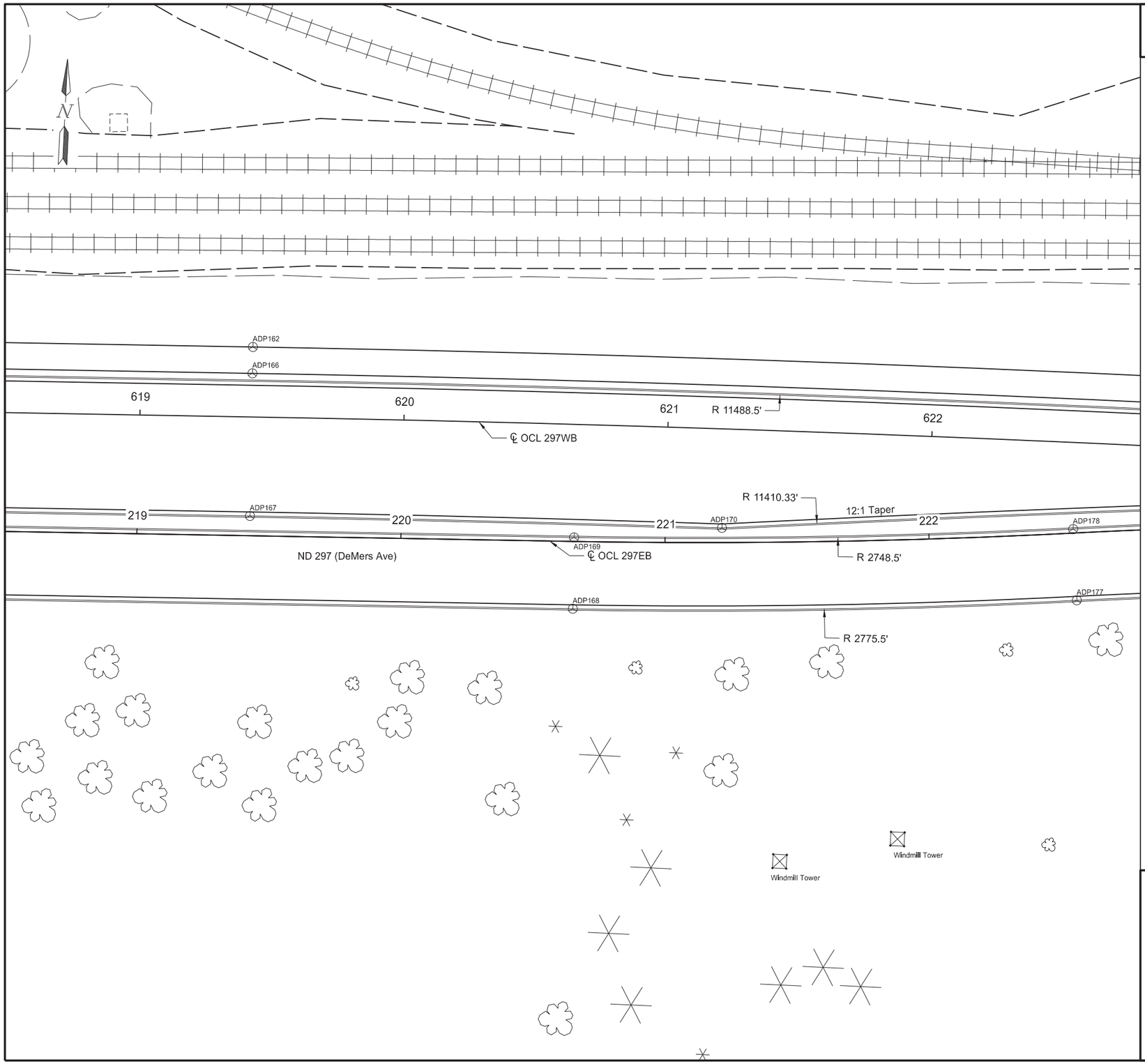
ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4276
DATE: 2025.12.05 15:16:16 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	35

POINT	NORTHING	EASTING	STATION	OFFSET
ADP162	353597.39	2805881.41	219+42.67	-71.49
ADP166	353587.39	2805881.71	219+42.67	-61.49
ADP167	353533.42	2805883.32	219+42.68	-7.49
ADP169	353531.08	2806006.31	220+65.54	-1.5
ADP168	353504.1	2806007.11	220+65.54	25.5
ADP170	353537.36	2806062.06	221+21.58	-5.54
ADP177	353516.33	2806197.59	222+54.70	25.5
ADP178	353543.2	2806194.94	222+54.70	-1.5

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Survey Data Layouts

Alignment Data Points

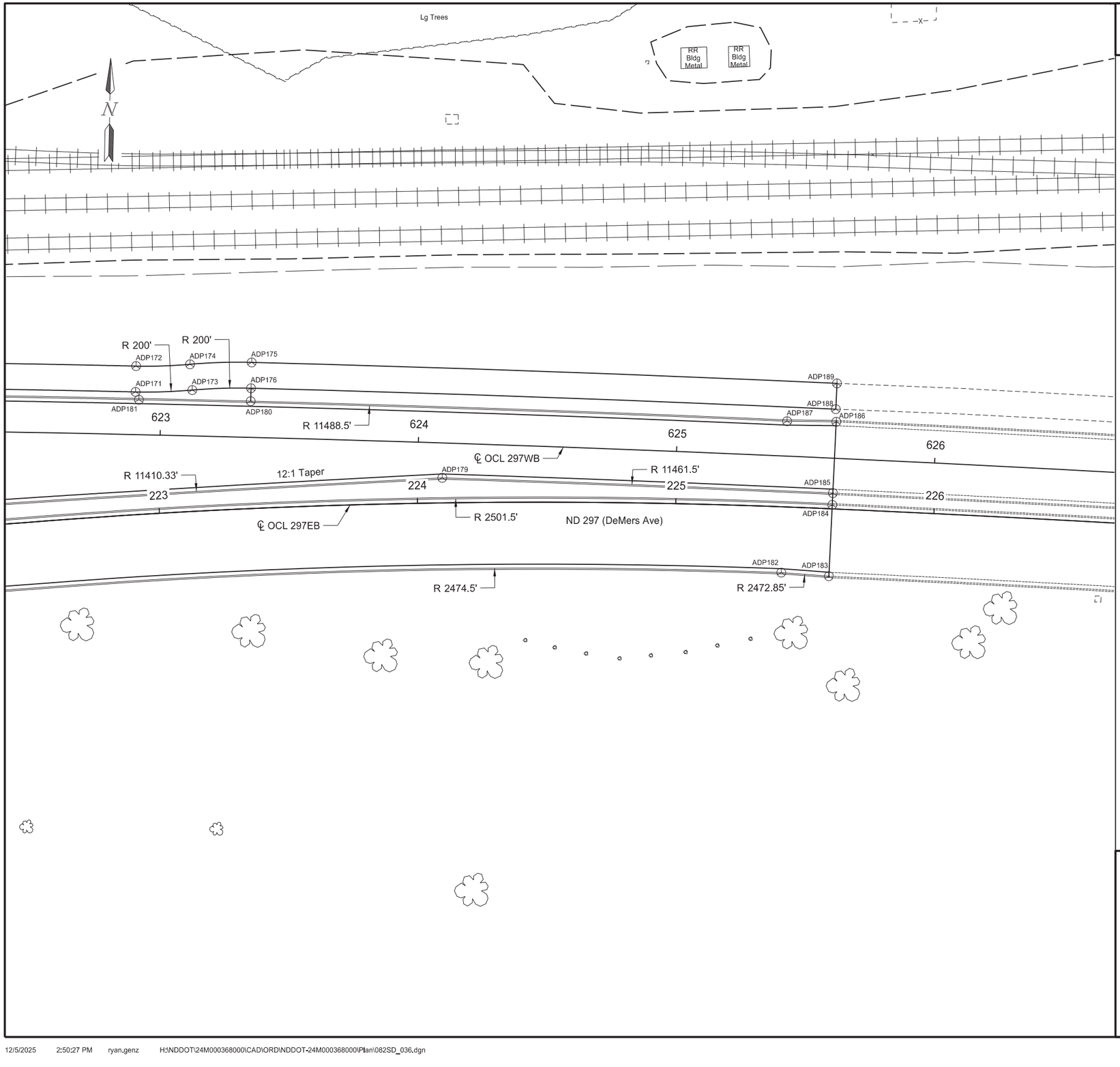
ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8276
DATE: 2025.12.05 15:16:26 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	36

POINT	NORTHING	EASTING	STATION	OFFSET
ADP171	353592.52	2806229.95	222+93.66	-47.44
ADP172	353602.52	2806229.95	222+94.47	-57.41
ADP181	353589.52	2806231.32	222+94.75	-44.34
ADP174	353603.66	2806250.8	223+14.87	-56.91
ADP173	353593.72	2806251.89	223+15.22	-46.91
ADP180	353589.91	2806274.59	223+37.21	-41.53
ADP176	353594.91	2806274.61	223+37.55	-46.52
ADP175	353604.91	2806274.66	223+38.23	-56.49
ADP179	353561.84	2806349.37	224+09.72	-9.68
ADP182	353528.01	2806481.39	225+41.82	25.5
ADP187	353586.63	2806482.38	225+41.85	-33.13
ADP189	353601.7	2806501.35	225+60.22	-48.57
ADP188	353591.7	2806501.12	225+60.23	-38.57
ADP183	353527.02	2806499.83	225+60.47	26.12
ADP184	353554.63	2806500.56	225+60.55	-1.5
ADP185	353559.2	2806500.68	225+60.56	-6.07
ADP186	353586.83	2806501.42	225+60.63	-33.71

Notes:

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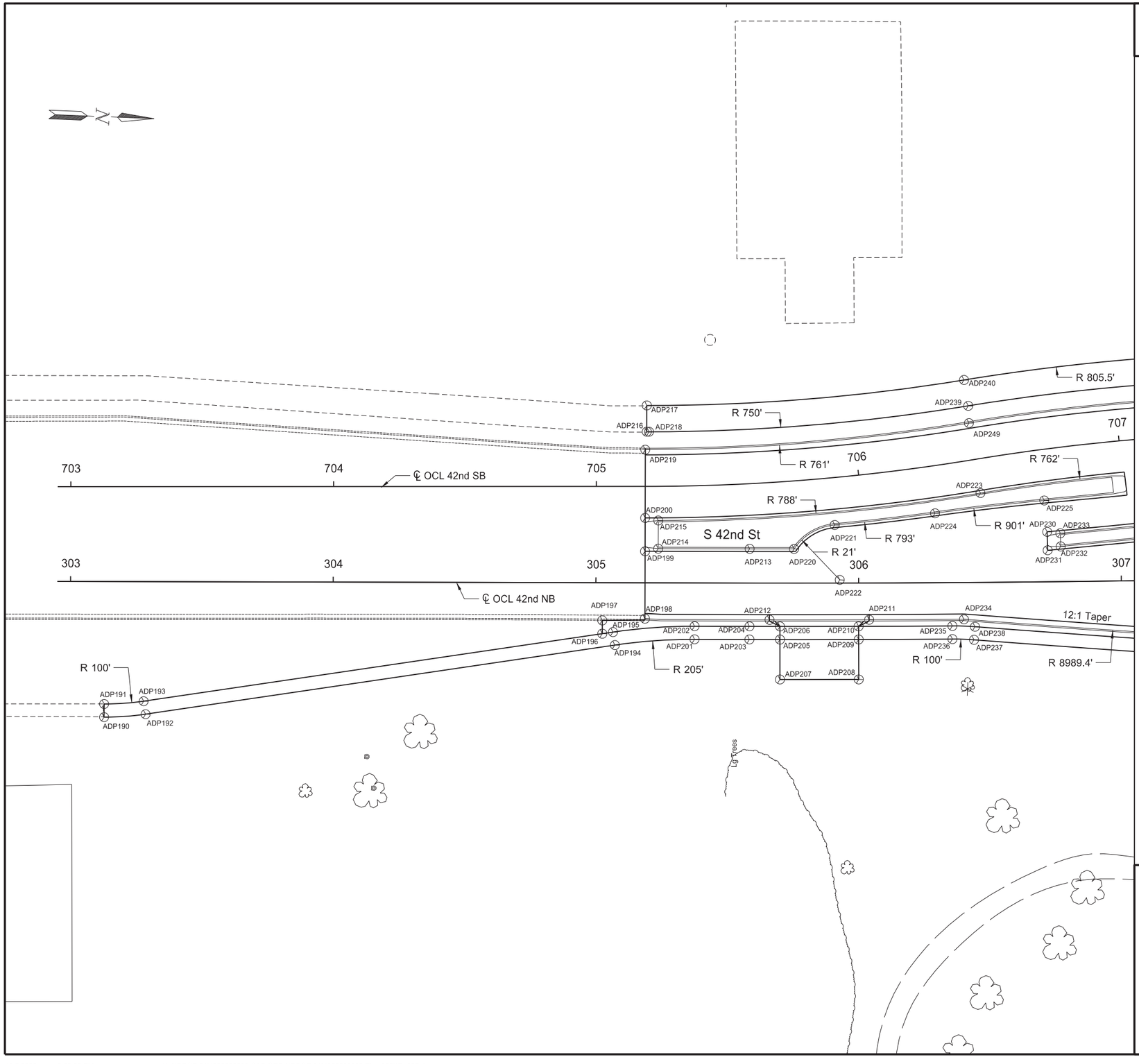
ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

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CHRISTOPHER S. DAHL
PE-8276
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NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	37

POINT	NORTHING	EASTING	STATION	OFFSET
ADP191	352025.23	2805300.26	303+12.88	46.62
ADP190	352025.42	2805305.25	303+12.88	51.62
ADP193	352040.24	2805298.59	303+27.95	45.52
ADP192	352041.17	2805303.5	303+28.69	50.46
ADP197	352213.44	2805260.87	305+02.45	14.37
ADP196	352213.65	2805265.92	305+02.47	19.42
ADP195	352217.69	2805265.15	305+06.53	18.81
ADP194	352218.61	2805270.07	305+07.27	23.75
ADP198	352229.63	2805259.55	305+18.68	13.66
ADP199	352228.66	2805233.91	305+18.68	-12
ADP200	352228.19	2805221.24	305+18.68	-24.67
ADP219	352227.2	2805195.26	305+18.68	-50.67
ADP217	352227.11	2805178.44	305+19.22	-67.49
ADP216	352227.5	2805188.43	305+19.24	-57.49
ADP218	352228.38	2805188.4	305+20.11	-57.49
ADP215	352233.21	2805222.02	305+23.67	-23.7
ADP214	352233.62	2805232.72	305+23.68	-13
ADP202	352248.64	2805261.67	305+37.59	16.5
ADP201	352248.83	2805266.67	305+37.59	21.5
ADP203	352269.71	2805265.88	305+58.49	21.5
ADP204	352269.52	2805260.88	305+58.49	16.5
ADP213	352268.4	2805231.41	305+58.49	-13
ADP212	352277.03	2805258.1	305+66.09	14
ADP206	352281.14	2805260.44	305+70.09	16.5
ADP207	352281.93	2805280.63	305+70.09	36.71
ADP205	352281.33	2805265.43	305+70.09	21.5
ADP220	352285.32	2805230.75	305+75.44	-13
ADP221	352300.39	2805221.03	305+90.92	-22.11
ADP222	352303.15	2805241.84	305+92.82	-1.19
ADP210	352311.05	2805259.22	305+99.97	16.5
ADP208	352311.9	2805279.41	305+99.97	36.71
ADP209	352311.26	2805264.21	305+99.97	21.5
ADP211	352314.94	2805256.55	306+03.97	14
ADP224	352338.37	2805215.05	306+29.23	-26.42
ADP236	352346.93	2805262.63	306+35.59	21.5
ADP235	352346.7	2805257.64	306+35.59	16.5
ADP234	352350,99	2805254,93	306+40,00	14
ADP240	352347.37	2805163.9	306+40.65	-77.11
ADP239	352349.38	2805173.69	306+42.21	-67.23
ADP249	352349.91	2805180.22	306+42.43	-60.68
ADP237	352355.13	2805262.59	306+43.77	21.84
ADP238	352355.31	2805257.59	306+44.18	16.86
ADP223	352355.36	2805206.66	306+46.65	-34.01
ADP225	352379.72	2805208.51	306+70.97	-30.97
ADP230	352381.32	2805220.41	306+71.98	-19.01
ADP231	352381.79	2805227.4	306+72.10	-12
ADP233	352386.35	2805220.74	306+77.00	-18.43
ADP232	352386.69	2805225.74	306+77.08	-13.42

Notes:
1. Sta & O/s referenced from Alignment = OCL_42nd_NB
2. Curb and Gutter Radii Labels are to Face of Curb
3. Curb and Gutter Points are to Face of Curb
4. Median Start/Ends are to Lip of Curb

Survey Data Layouts

Alignment Data Points

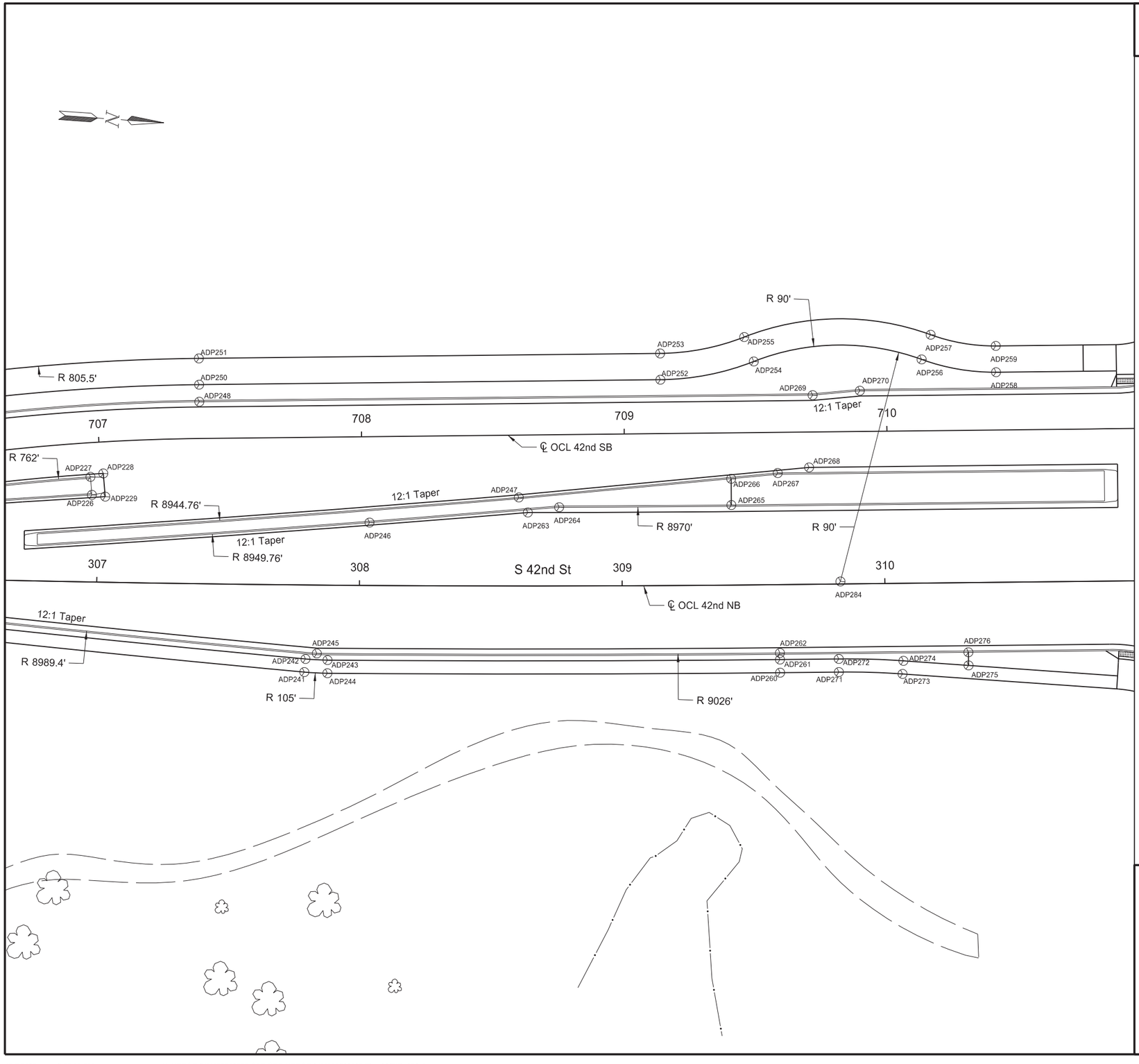
S 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2025.12.05 15:16:46 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	38

POINT	NORTHING	EASTING	STATION	OFFSET
ADP227	352404.99	2805198.13	306+96.86	-40.03
ADP226	352406.04	2805204.93	306+97.54	-33.19
ADP228	352409.78	2805196.48	307+01.74	-41.43
ADP229	352411.15	2805205.24	307+02.64	-32.61
ADP251	352442.93	2805150.2	307+37.67	-85.79
ADP250	352443.75	2805160.17	307+37.92	-75.79
ADP248	352444.29	2805166.65	307+38.08	-69.29
ADP241	352491.51	2805266.42	307+79.32	33.14
ADP242	352491.61	2805261.42	307+79.73	28.15
ADP245	352495.75	2805259.01	307+84.00	26
ADP244	352500.3	2805266.23	307+88.07	33.5
ADP243	352499.98	2805261.24	307+88.07	28.5
ADP246	352512.19	2805207.88	308+03.67	-23.97
ADP247	352568.19	2805194.27	308+60.65	-33.73
ADP263	352572.03	2805199.74	308+64.10	-28
ADP264	352583.77	2805196.89	308+76.06	-30
ADP253	352617.93	2805135.76	309+14.97	-88.39
ADP252	352618.76	2805145.72	309+15.02	-78.39
ADP265	352649.11	2805191.36	309+41.85	-30.5
ADP266	352648.31	2805181.4	309+41.85	-40.5
ADP255	352649.41	2805127.23	309+47.35	-94.4
ADP254	352653.73	2805136.25	309+50.96	-85.06
ADP267	352665.85	2805177.96	309+59.69	-42.5
ADP261	352671.77	2805248.71	309+59.78	28.5
ADP262	352671.57	2805246.22	309+59.78	26
ADP260	352672.19	2805253.69	309+59.78	33.5
ADP268	352677.6	2805174.98	309+71.65	-44.5
ADP269	352676.98	2805147.44	309+73.30	-72
ADP271	352694.49	2805251.85	309+82.15	33.5
ADP272	352694.08	2805246.87	309+82.15	28.5
ADP284	352692.61	2805217.42	309+83.11	-0.97
ADP270	352694.78	2805144.47	309+91.28	-73.5
ADP273	352718.7	2805250.84	310+06.36	34.48
ADP274	352718.69	2805245.84	310+06.77	29.49
ADP256	352717.38	2805130.9	310+14.92	-85.16
ADP257	352720.13	2805121.28	310+18.45	-94.52
ADP276	352743.13	2805240.81	310+31.53	26.5
ADP275	352743.54	2805245.8	310+31.53	31.5
ADP258	352745.98	2805133.72	310+43.19	-80
ADP259	352745.16	2805123.75	310+43.19	-90

Notes:

1. Sta & O/s referenced from Alignment = OCL_42nd_NB
2. Curb and Gutter Radii Labels are to Face of Curb
3. Curb and Gutter Points are to Face of Curb
4. Median Start/Ends are to Lip of Curb

Survey Data Layouts

Alignment Data Points

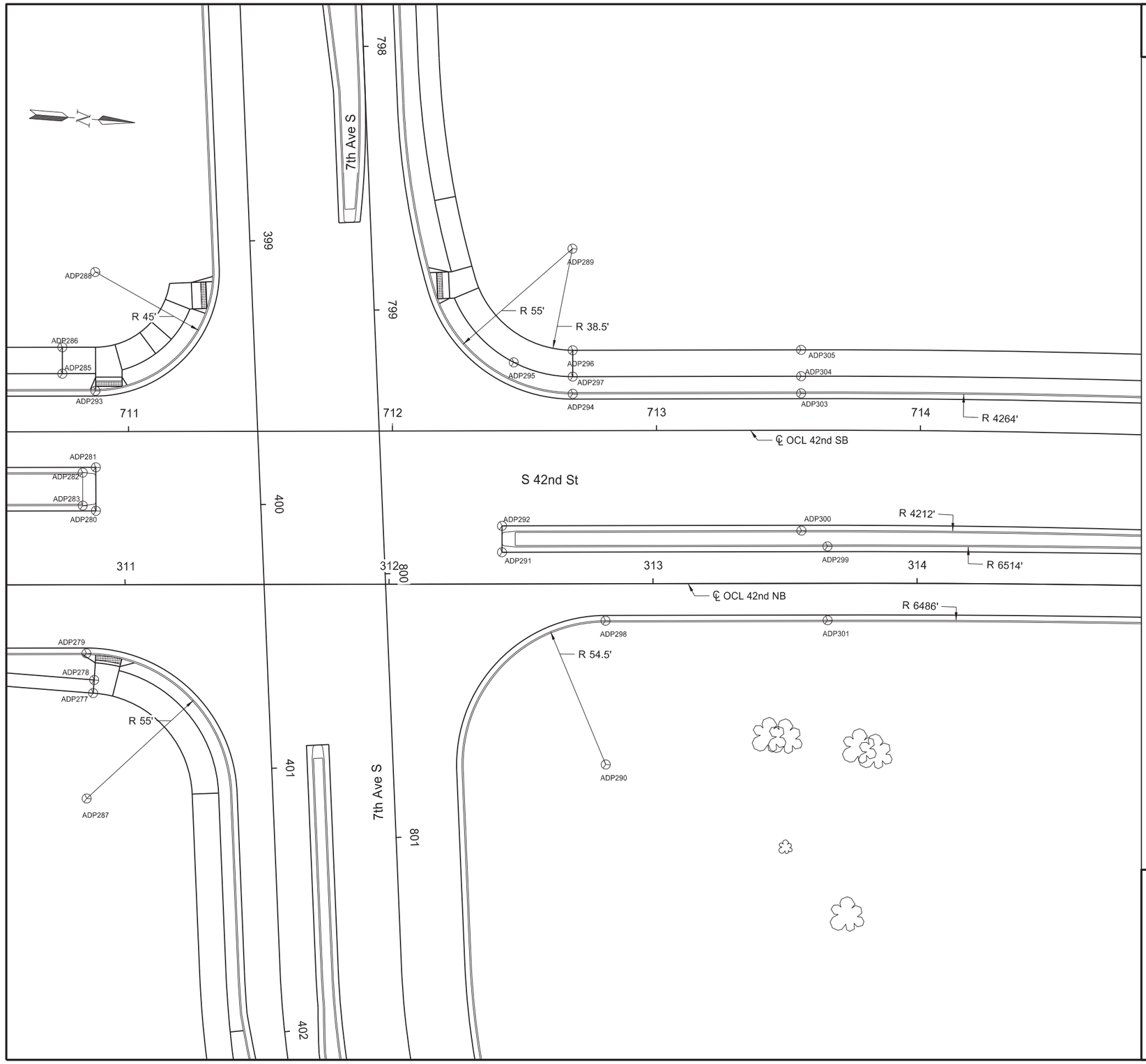
S 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4276
DATE: 2025.12.05 15:16:57 -06'00'
NORTH DAKOTA



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	82	39

POINT	NORTHING	EASTING	STATION	OFFSET
ADP286	352778.26	2805121.02	310+76.40	-90
ADP285	352779.08	2805130.98	310+76.40	-80
ADP282	352789.75	2805167.73	310+84.01	-42.5
ADP283	352790.78	2805180.19	310+84.01	-30
ADP287	352801.19	2805290.71	310+85.30	81
ADP279	352796.67	2805235.89	310+85.30	26
ADP277	352800.43	2805250.71	310+87.83	41.07
ADP278	352800.42	2805245.71	310+88.23	36.09
ADP288	352788.39	2805091.58	310+88.92	-118.5
ADP293	352792.09	2805136.43	310+88.92	-73.5
ADP281	352794.57	2805165.33	310+89.01	-44.5
ADP280	352795.93	2805181.77	310+89.01	-28
ADP291	352950.52	2805185.06	312+42.81	-12
ADP292	352949.7	2805175.1	312+42.81	-22
ADP295	352949.18	2805112.99	312+47.41	-83.94
ADP296	352971.05	2805106.61	312+69.73	-88.5
ADP297	352971.87	2805116.57	312+69.73	-78.5
ADP294	352972.41	2805123.05	312+69.73	-72
ADP289	352967.88	2805068.24	312+69.73	-127
ADP298	352991.67	2805207.75	312+81.96	14
ADP290	352996.15	2805262.07	312+81.96	68.5
ADP305	353057.27	2805099.49	313+56.24	-88.5
ADP303	353058.63	2805115.93	313+56.24	-72
ADP300	353062.91	2805167.76	313+56.24	-20
ADP304	353058.09	2805109.46	313+56.24	-78.5
ADP301	353075.53	2805200.83	313+66.10	14
ADP299	353073.22	2805172.93	313+66.10	-14

Notes:

1. Sta & O/s referenced from Alignment = OCL_42nd_NB
2. Curb and Gutter Radii Labels are to Face of Curb
3. Curb and Gutter Points are to Face of Curb
4. Median Start/Ends are to Lip of Curb

Survey Data Layouts

Alignment Data Points

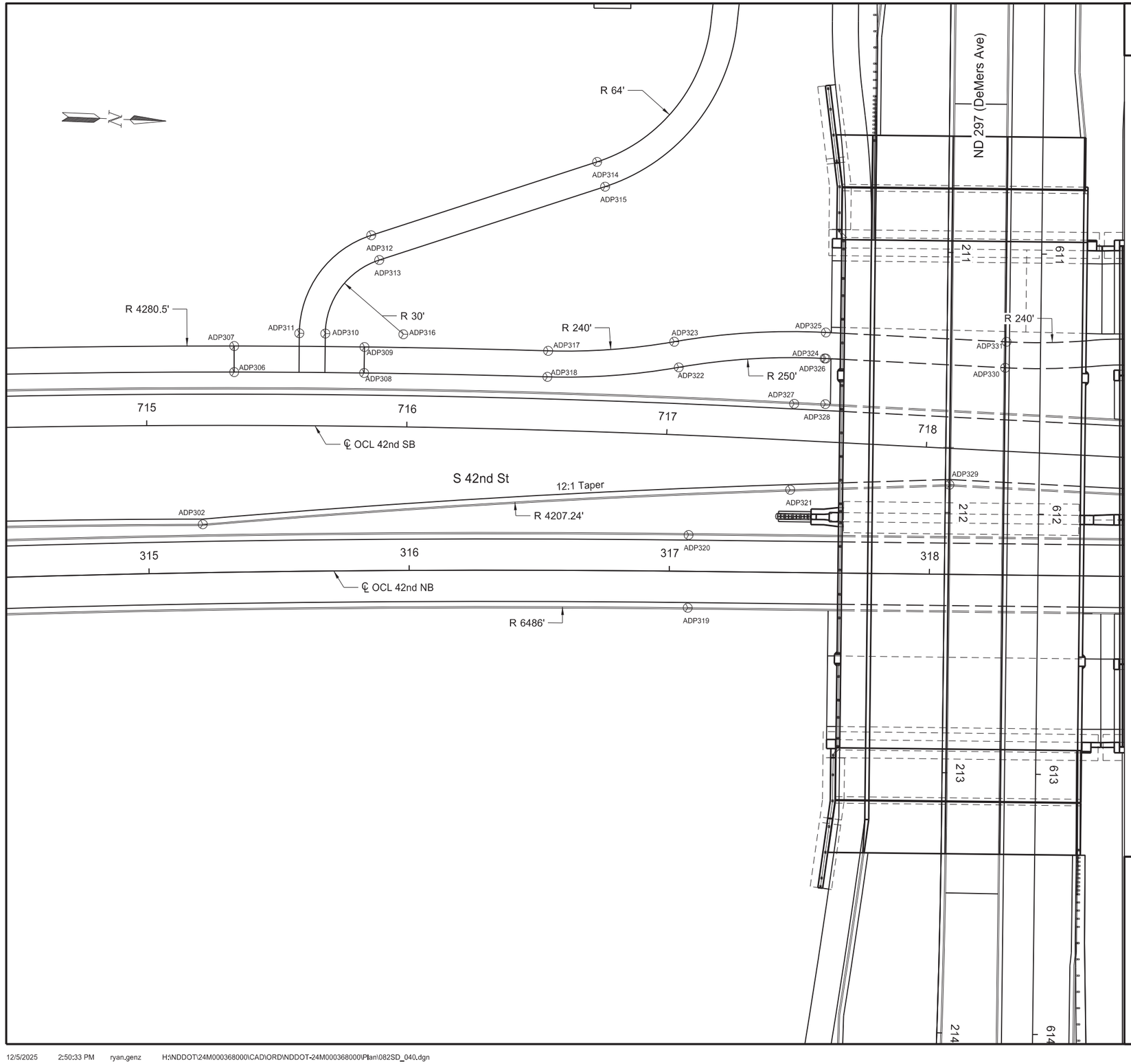
S 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4226
DATE: 2025.12.05 15:17:13 -06'00'
NORTH DAKOTA



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	82	40

POINT	NORTHING	EASTING	STATION	OFFSET
ADP302	353227.74	2805157.4	315+20.94	-18.61
ADP306	353237.37	2805098.45	315+33.85	-76.91
ADP307	353236.96	2805088.46	315+34.01	-86.91
ADP311	353261.78	2805082.51	315+58.77	-91.49
ADP310	353271.78	2805082.19	315+68.63	-91.29
ADP308	353287.3	2805096.73	315+83.22	-76
ADP309	353287.01	2805086.73	315+83.42	-86
ADP312	353287.84	2805043.73	315+86.30	-128.91
ADP313	353291.32	2805053.1	315+89.26	-119.38
ADP316	353301.76	2805081.23	315+98.21	-90.79
ADP318	353357.79	2805095.29	316+52.90	-74.36
ADP317	353357.67	2805085.29	316+53.16	-84.36
ADP314	353373.45	2805011.95	316+71.29	-157.07
ADP315	353376.93	2805021.33	316+74.37	-147.57
ADP323	353405.96	2805079.79	317+00.98	-88.19
ADP322	353408.1	2805089.56	317+02.79	-78.36
ADP320	353414.55	2805153.75	317+07.27	-14
ADP319	353415.39	2805181.74	317+07.27	14
ADP321	353452.85	2805134.79	317+46.12	-31.81
ADP327	353453.02	2805101.7	317+47.28	-64.88
ADP324	353463.99	2805083.81	317+58.77	-82.43
ADP325	353464.09	2805073.82	317+59.17	-92.42
ADP328	353464.98	2805101.33	317+59.25	-64.9
ADP326	353464.46	2805083.82	317+59.25	-82.41
ADP330	353533.51	2805084.53	318+28.25	-79.64
ADP331	353533.62	2805074.53	318+28.65	-89.63

Notes:

1. Sta & O/s referenced from Alignment = OCL_42nd_NB
2. Curb and Gutter Radii Labels are to Face of Curb
3. Curb and Gutter Points are to Face of Curb
4. Median Start/Ends are to Lip of Curb

Survey Data Layouts

Alignment Data Points

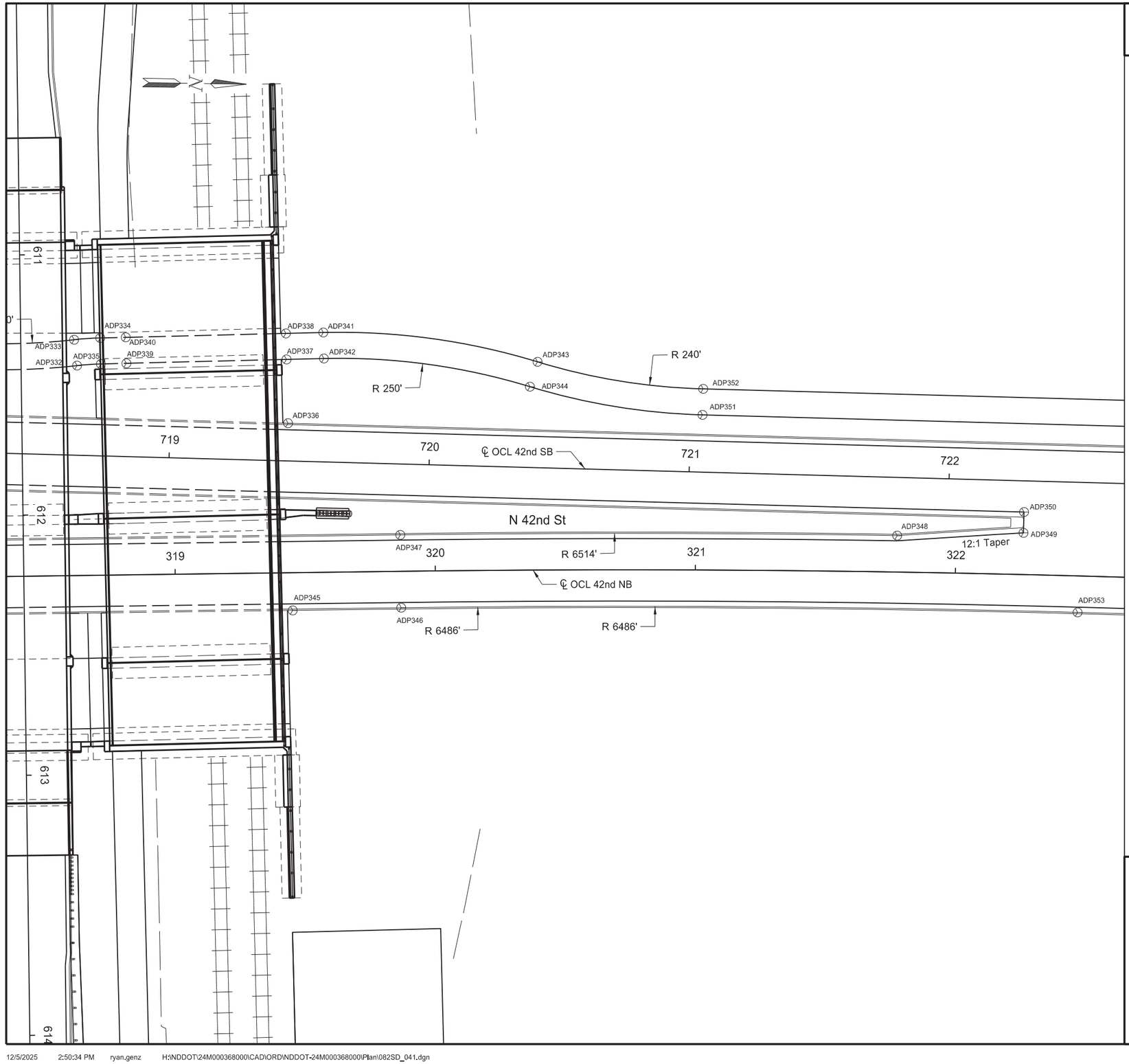
S 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8276
DATE: 2025.12.05 15:17:25 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	41

POINT	NORTHING	EASTING	STATION	OFFSET
ADP333	353567.24	2805072.51	318+62.31	-90.65
ADP332	353568.54	2805082.42	318+63.32	-80.7
ADP334	353577.28	2805071.66	318+72.37	-91.2
ADP335	353577.69	2805081.65	318+72.49	-81.2
ADP340	353587.07	2805071.25	318+82.18	-91.31
ADP339	353587.49	2805081.24	318+82.29	-81.31
ADP338	353648.61	2805068.71	319+43.77	-92.01
ADP337	353649.02	2805078.7	319+43.88	-82.01
ADP336	353650.04	2805103.22	319+44.16	-57.48
ADP345	353653.01	2805175.14	319+44.98	14.5
ADP341	353662.99	2805068.12	319+58.15	-92.18
ADP342	353663.4	2805078.11	319+58.27	-82.18
ADP346	353694.73	2805173.39	319+86.73	14
ADP347	353693.89	2805145.4	319+86.73	-14
ADP344	353742.79	2805087.63	320+36.80	-70.49
ADP343	353745.56	2805078.02	320+39.74	-80.03
ADP351	353809.31	2805097.35	321+02.48	-59.63
ADP352	353809.41	2805087.35	321+02.70	-69.63
ADP348	353884.93	2805142.5	321+77.39	-14
ADP349	353933.47	2805140.63	322+25.81	-16.03
ADP350	353933.55	2805132.62	322+25.84	-24.04
ADP353	353954.78	2805170.84	322+47.38	14

Notes:

1. Sta & O/s referenced from Alignment = OCL_42nd_NB
2. Curb and Gutter Radii Labels are to Face of Curb
3. Curb and Gutter Points are to Face of Curb
4. Median Start/Ends are to Lip of Curb

Survey Data Layouts

Alignment Data Points

N 42nd St

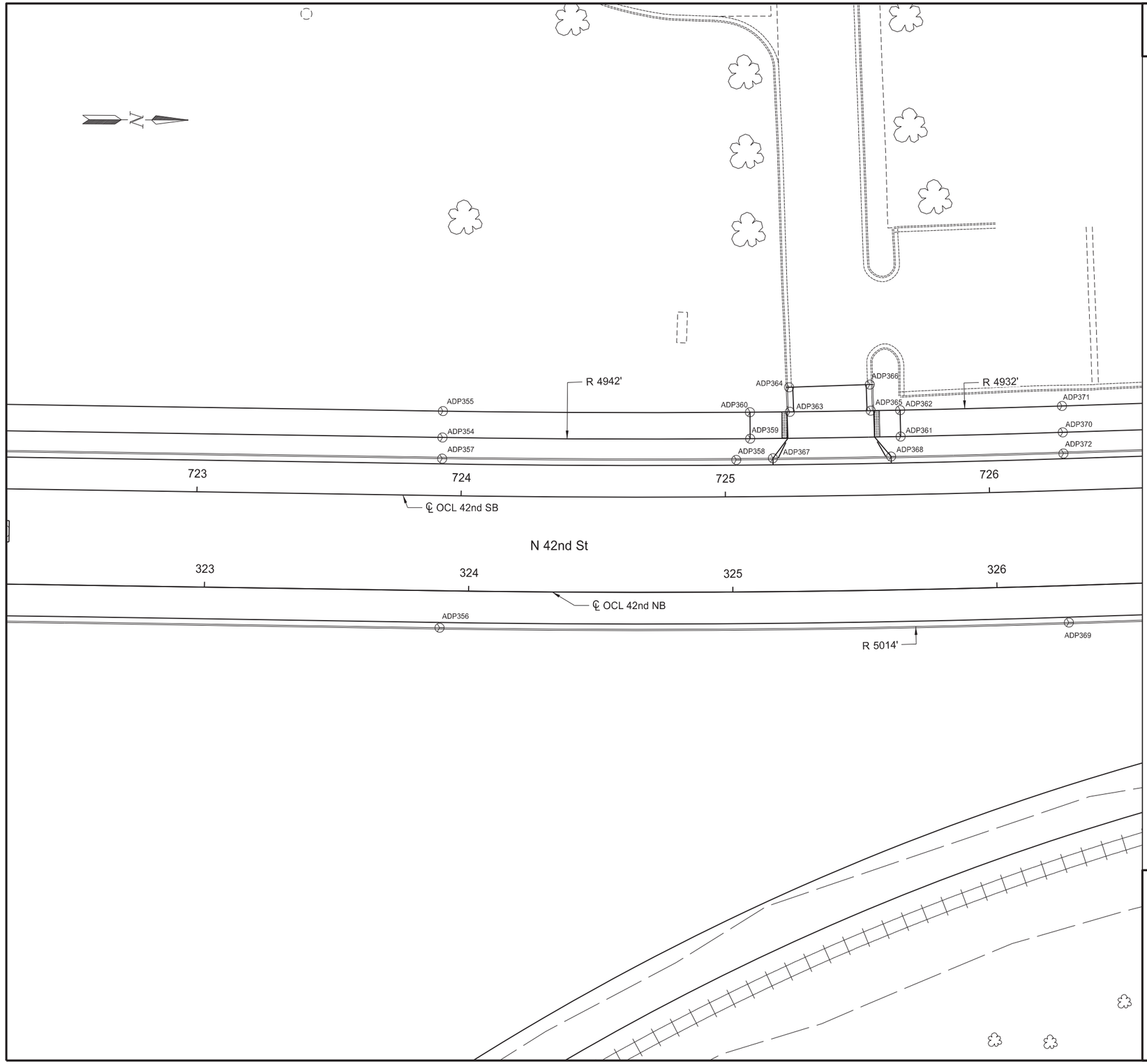
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8276
DATE: 2025.12.05 15:17:35 -06'00'
NORTH DAKOTA

12/5/2025 2:50:34 PM ryan.genz H:\NDDOT\24M000368000\CAD\ORD\NDDOT-24M000368000\Plan\082SD_041.dgn



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	42

POINT	NORTHING	EASTING	STATION	OFFSET
ADP354	354097.35	2805100.29	323+89.22	-58
ADP357	354097.27	2805108.29	323+89.22	-50
ADP355	354097.45	2805090.29	323+89.22	-68
ADP356	354096.61	2805172.29	323+89.22	14
ADP358	354208.58	2805108.18	325+01.66	-50
ADP359	354213.81	2805100.11	325+07.04	-58
ADP360	354213.67	2805090.11	325+07.04	-68
ADP367	354222.45	2805107.49	325+15.67	-50.5
ADP364	354228.41	2805080.6	325+22.14	-77.29
ADP363	354228.77	2805089.89	325+22.35	-68
ADP366	354258.97	2805079.41	325+53.20	-77.88
ADP365	354259.36	2805089.29	325+53.37	-68
ADP368	354267.18	2805106.61	325+60.87	-50.5
ADP361	354270.75	2805099.02	325+64.66	-58
ADP362	354270.5	2805089.03	325+64.66	-68
ADP372	354332.4	2805105.11	326+26.77	-50
ADP370	354332.1	2805097.11	326+26.77	-58
ADP369	354334.78	2805169.06	326+26.77	14
ADP371	354331.73	2805087.12	326+26.77	-68

Notes:

1. Sta & O/s referenced from Alignment = OCL_42nd_NB
2. Curb and Gutter Radii Labels are to Face of Curb
3. Curb and Gutter Points are to Face of Curb
4. Median Start/Ends are to Lip of Curb

Survey Data Layouts

Alignment Data Points

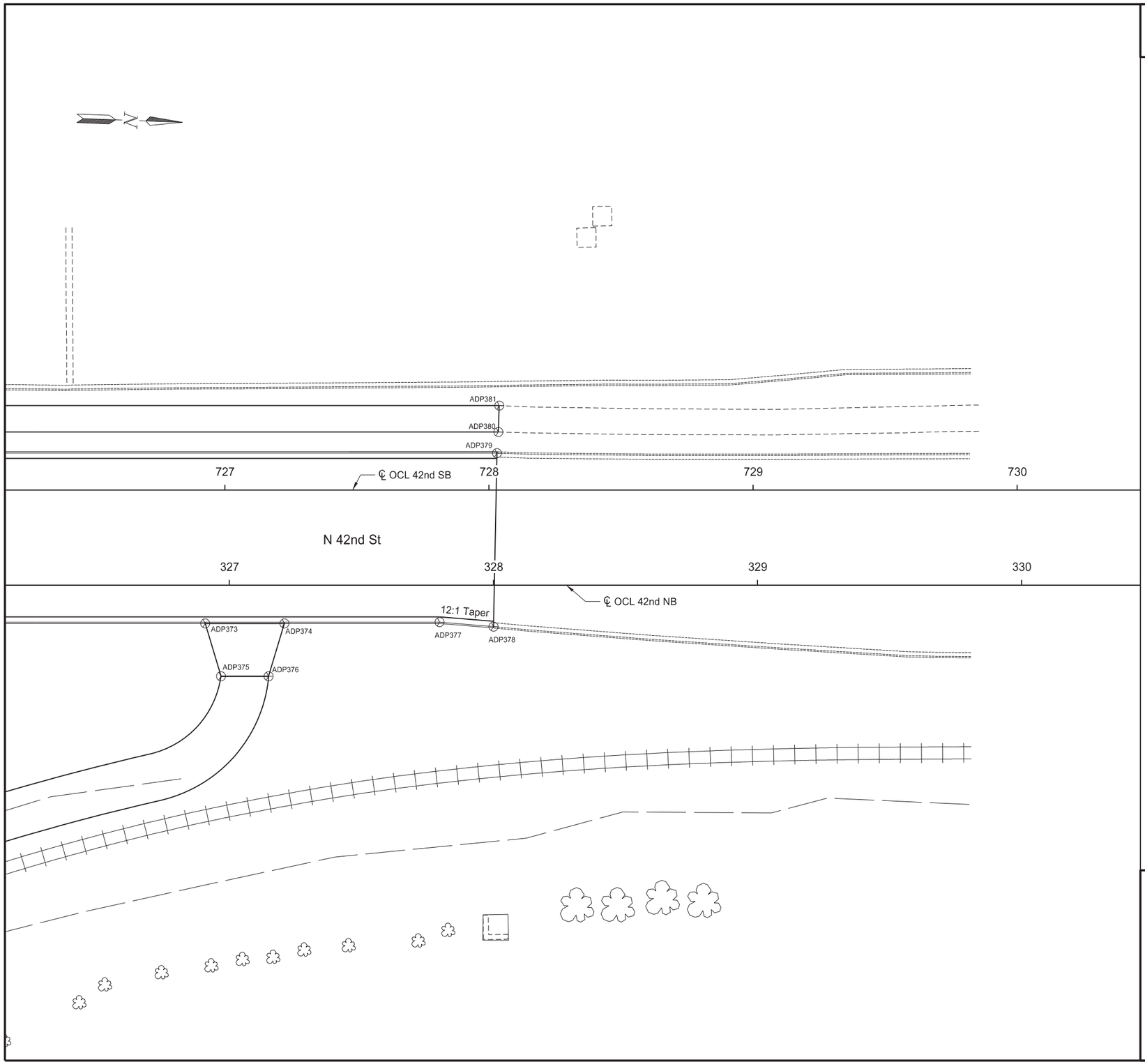
N 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8256
DATE:2025.12.05 15:17:46 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	43

POINT	NORTHING	EASTING	STATION	OFFSET
ADP373	354398.84	2805167.18	326+90.85	14.5
ADP375	354405.58	2805186.94	326+96.85	34.5
ADP376	354423.57	2805186.28	327+14.85	34.51
ADP374	354428.82	2805166.06	327+20.85	14.5
ADP377	354487.51	2805163.37	327+79.60	14
ADP378	354507.98	2805164.31	328+00.02	15.7
ADP379	354506.83	2805098.6	328+01.32	-50
ADP380	354507.07	2805090.59	328+01.86	-58
ADP381	354507.05	2805080.58	328+02.21	-68

Notes:

1. Sta & O/s referenced from Alignment = OCL_42nd_NB
2. Curb and Gutter Radii Labels are to Face of Curb
3. Curb and Gutter Points are to Face of Curb
4. Median Start/Ends are to Lip of Curb

Survey Data Layouts

Alignment Data Points

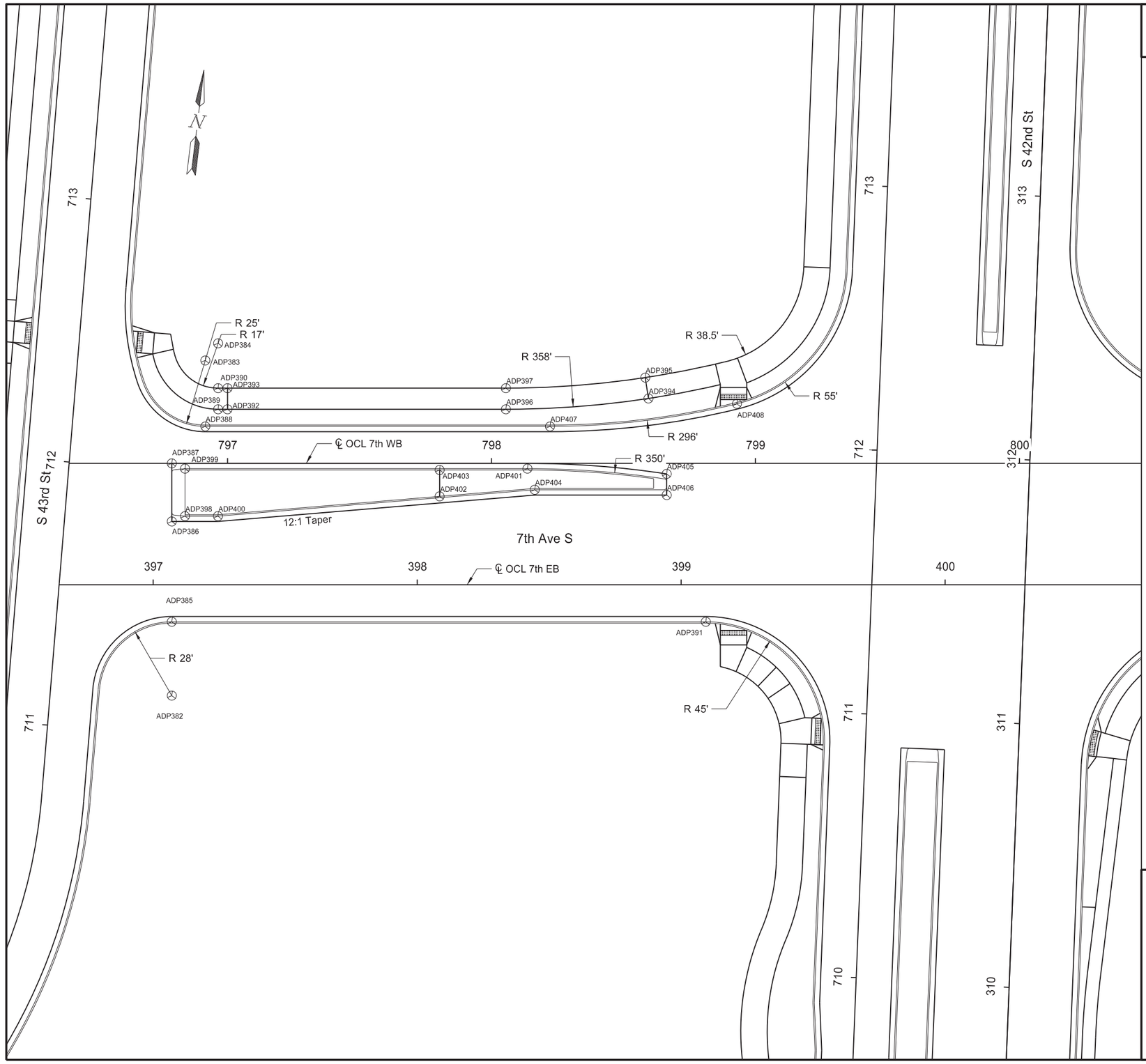
N 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8026
DATE: 2025.12.05 15:17:58 -06'00'
NORTH DAKOTA



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	82	44

POINT	NORTHING	EASTING	STATION	OFFSET
ADP382	352780.67	2804888.74	397+07.04	42
ADP387	352868.02	2804878.04	397+07.04	-46
ADP385	352808.47	2804885.34	397+07.04	14
ADP386	352846.18	2804880.72	397+07.04	-24
ADP398	352848.78	2804885.44	397+12.04	-26
ADP399	352866.64	2804883.25	397+12.04	-44
ADP383	352908.27	2804885.89	397+19.73	-85
ADP388	352883.46	2804888.93	397+19.73	-60
ADP400	352850.29	2804897.83	397+24.53	-26
ADP384	352915.32	2804889.92	397+24.59	-91.5
ADP390	352898.44	2804891.99	397+24.59	-74.5
ADP389	352890.5	2804892.96	397+24.59	-66.5
ADP392	352890.93	2804896.49	397+28.14	-66.5
ADP393	352898.87	2804895.52	397+28.14	-74.5
ADP402	352867.95	2804980.27	398+08.51	-33.5
ADP403	352877.87	2804979.05	398+08.51	-43.5
ADP396	352903.75	2805001.16	398+33.60	-66.5
ADP397	352911.69	2805000.19	398+33.60	-74.5
ADP401	352882.41	2805012	398+41.76	-44
ADP404	352874.81	2805015.72	398+44.53	-36
ADP407	352899.33	2805018.54	398+50.31	-60
ADP395	352922.09	2805052.12	398+86.40	-78.51
ADP394	352914.39	2805054.28	398+87.61	-70.6
ADP405	352886.86	2805064.62	398+94.53	-42.02
ADP406	352878.9	2805065.59	398+94.53	-34
ADP391	352833.06	2805086.11	399+09.32	14
ADP408	352916.47	2805087.79	399+21.13	-68.6

Notes:

1. Sta & O/s referenced from Alignment = OCL_7th_EB
2. Curb and Gutter Radii Labels are to Face of Curb
3. Curb and Gutter Points are to Face of Curb
4. Median Start/Ends are to Lip of Curb

Survey Data Layouts

Alignment Data Points

7th Ave S

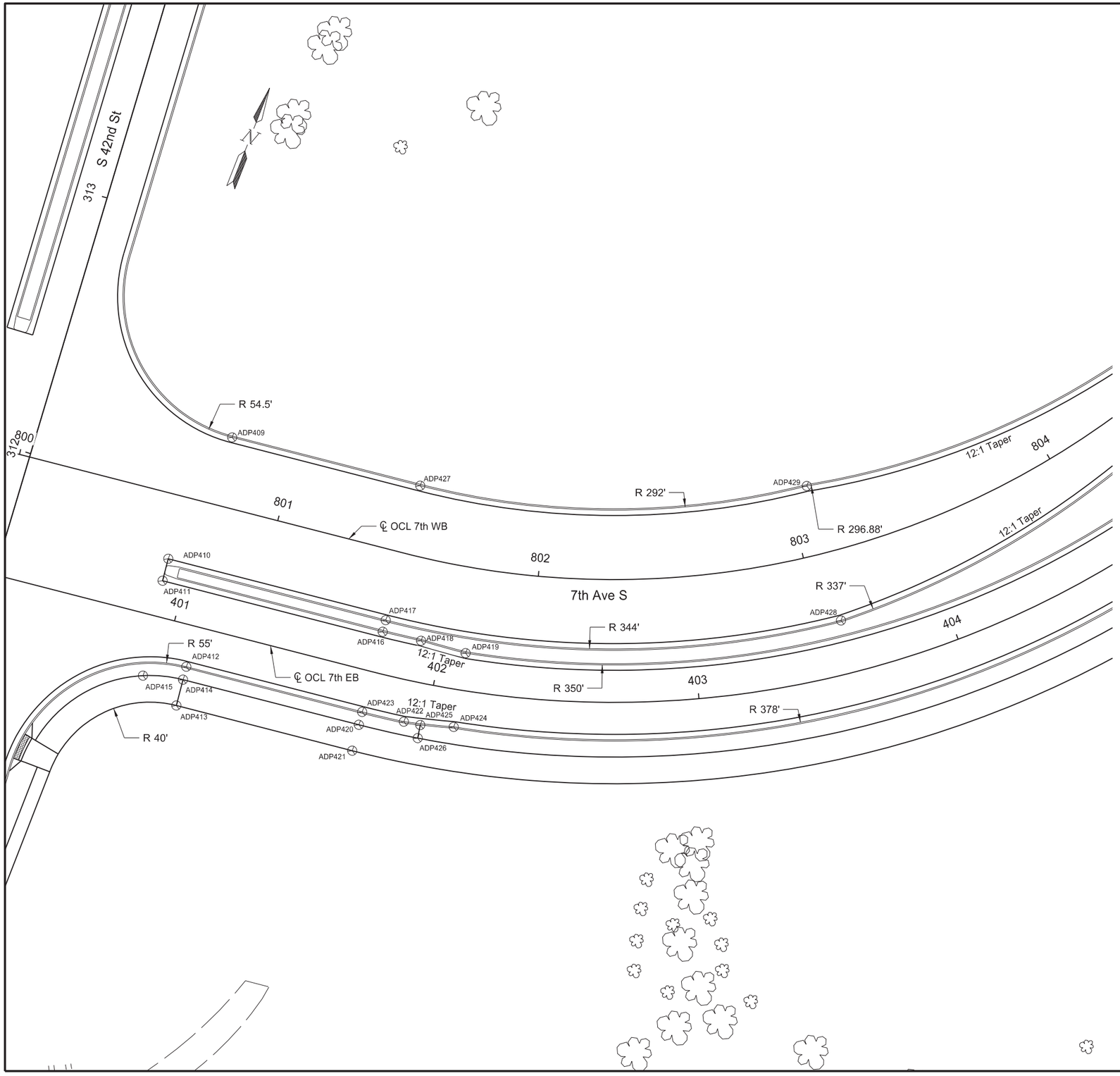
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4256
DATE 2025.12.05 15:18:09 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	82	45



POINT	NORTHING	EASTING	STATION	OFFSET
ADP411	352882.55	2805264	400+91.91	-13.5
ADP410	352890.98	2805262.97	400+91.91	-22
ADP415	352846.75	2805270.1	400+93.61	22.78
ADP409	352942.06	2805268.7	401+03.80	-72
ADP414	352850.82	2805284.63	401+08.52	20.5
ADP412	352855.78	2805284.02	401+08.52	15.5
ADP413	352840.89	2805285.84	401+08.52	30.5
ADP423	352864.06	2805351.57	401+76.58	15.5
ADP421	352849.17	2805353.4	401+76.58	30.5
ADP427	352950.91	2805340.94	401+76.58	-72
ADP420	352859.09	2805352.18	401+76.58	20.5
ADP417	352899.29	2805347.26	401+76.58	-20
ADP416	352894.83	2805347.81	401+76.58	-15.5
ADP422	352866.34	2805367.47	401+91.98	15.5
ADP418	352896.93	2805362.41	401+92.00	-15.5
ADP425	352867.42	2805373.65	401+98.00	15.5
ADP426	352862.5	2805374.55	401+98.00	20.5
ADP424	352871.33	2805385.58	402+09.98	14
ADP419	352898.7	2805379.65	402+10.00	-14
ADP428	352961.42	2805506.22	403+59.08	-20
ADP429	353003.65	2805475.89	403+59.11	-72

Notes:

1. Sta & O/s referenced from Alignment = OCL_7th_EB
2. Curb and Gutter Radii Labels are to Face of Curb
3. Curb and Gutter Points are to Face of Curb
4. Median Start/Ends are to Lip of Curb

Survey Data Layouts

Alignment Data Points

7th Ave S

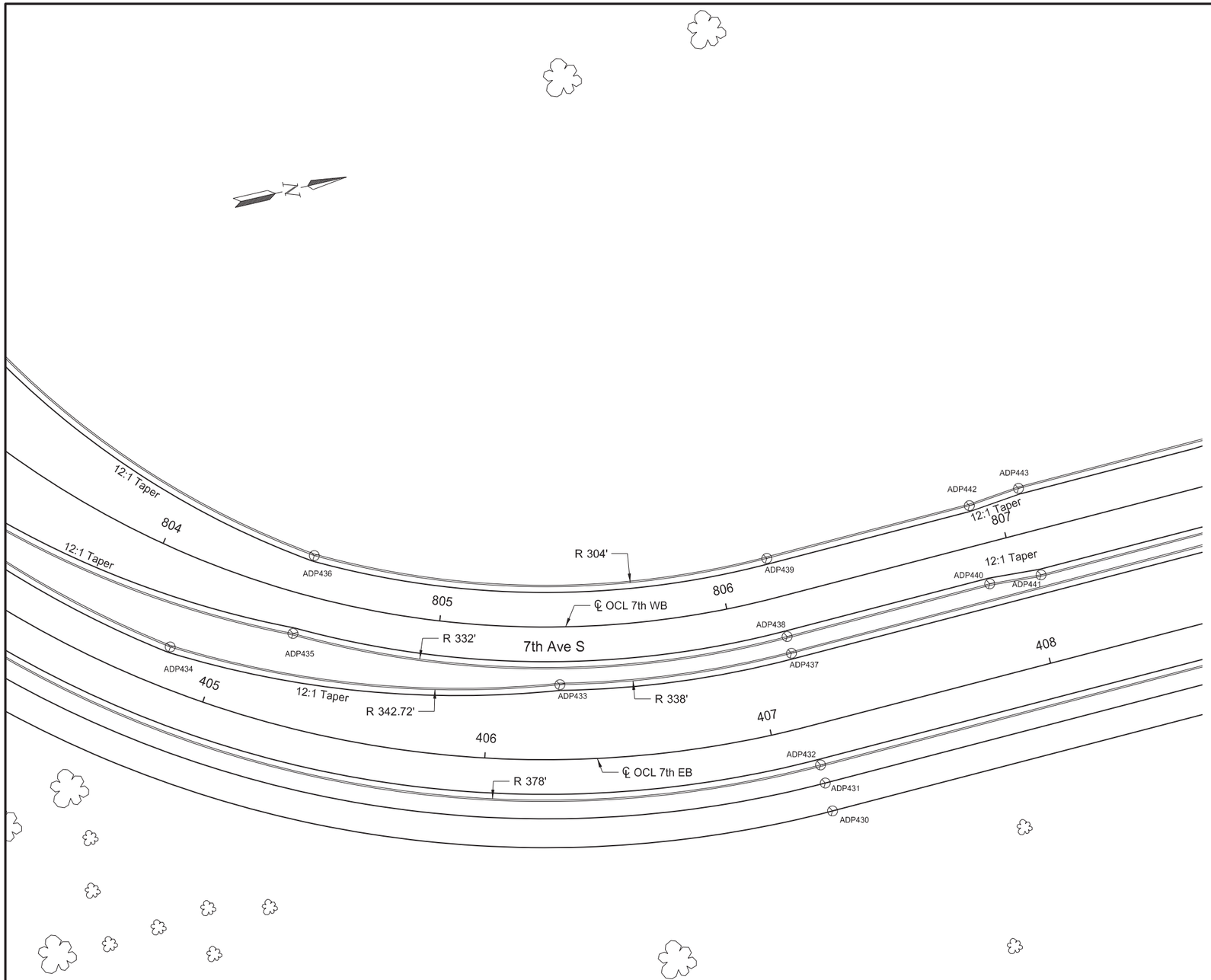
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9026
DATE: 2025.12.05 15:18:20 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	46

POINT	NORTHING	EASTING	STATION	OFFSET
ADP434	353040.62	2805592.58	404+82.44	-14
ADP435	353083.12	2805597.64	405+23.92	-32
ADP436	353096.42	2805573	405+23.93	-60
ADP433	353169.26	2805635.8	406+26.43	-26
ADP430	353251.48	2805699.79	407+13.91	30.5
ADP431	353251.21	2805689.8	407+13.91	20.5
ADP432	353251.03	2805683.3	407+13.91	14
ADP438	353249.78	2805637.32	407+13.91	-32
ADP437	353249.94	2805643.31	407+13.91	-26
ADP439	353249.02	2805609.33	407+13.91	-60
ADP440	353322.34	2805635.34	407+86.49	-32
ADP442	353321.58	2805607.35	407+86.49	-60
ADP441	353340.37	2805636.35	408+04.49	-30.5
ADP443	353339.53	2805605.36	408+04.49	-61.5

Notes:

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Survey Data Layouts

Alignment Data Points

7th Ave S

ND 297 (DeMers Ave) & 42nd St Grade Separation

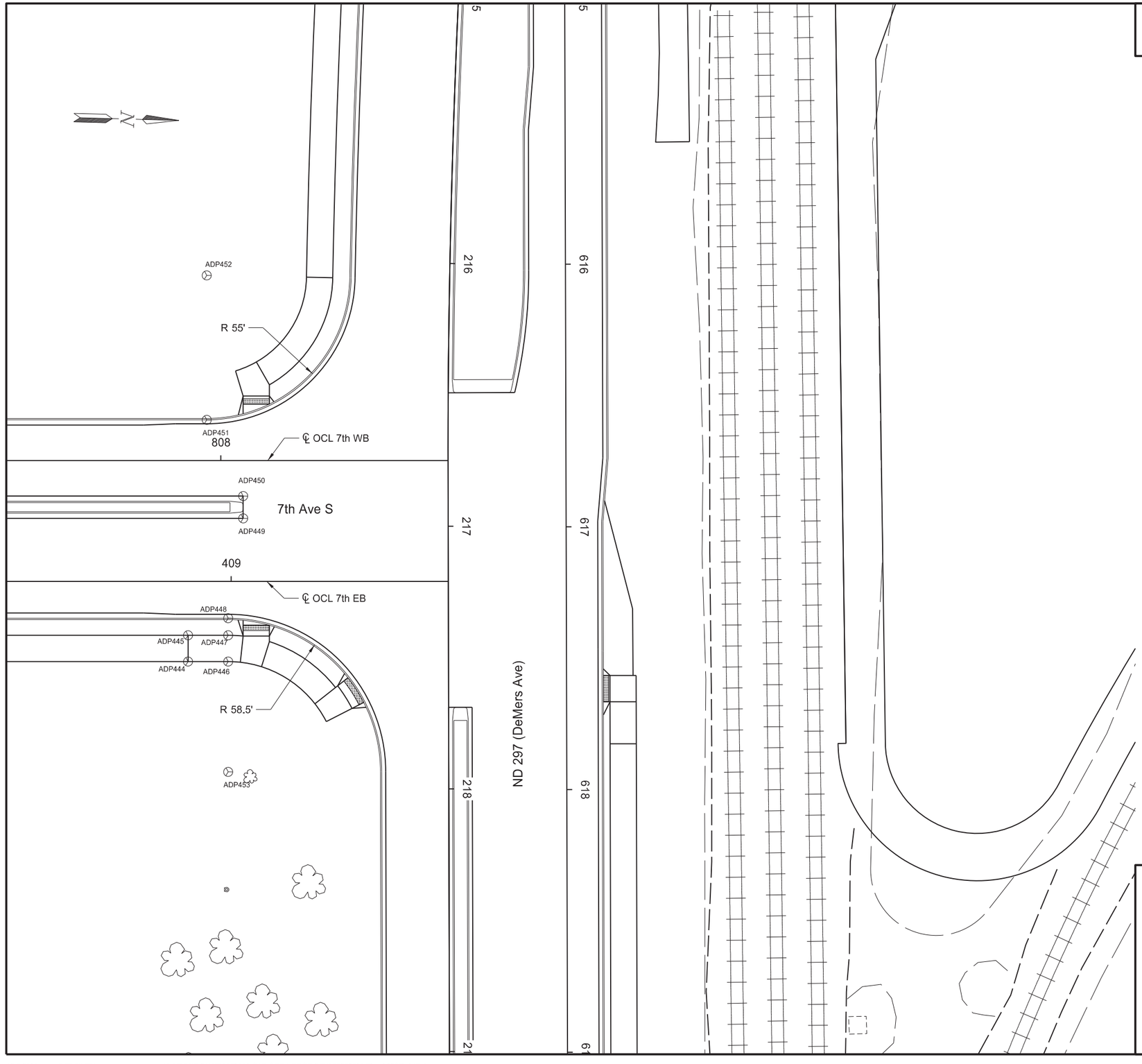
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8256
DATE: 2025.12.05 15:18:43 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	82	47

POINT	NORTHING	EASTING	STATION	OFFSET
ADP445	353420.83	2805685.18	408+83.59	20.5
ADP444	353421.1	2805695.17	408+83.59	30.5
ADP451	353425.72	2805603.01	408+90.71	-61.5
ADP452	353424.22	2805548.03	408+90.71	-116.5
ADP446	353436.38	2805694.76	408+98.87	30.5
ADP448	353435.93	2805678.26	408+98.87	14
ADP447	353436.11	2805684.76	408+98.87	20.5
ADP453	353437.52	2805736.74	408+98.87	72.5
ADP449	353440.6	2805640.12	409+04.58	-24
ADP450	353440.37	2805631.63	409+04.58	-32.5



Notes:

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Survey Data Layouts

Alignment Data Points

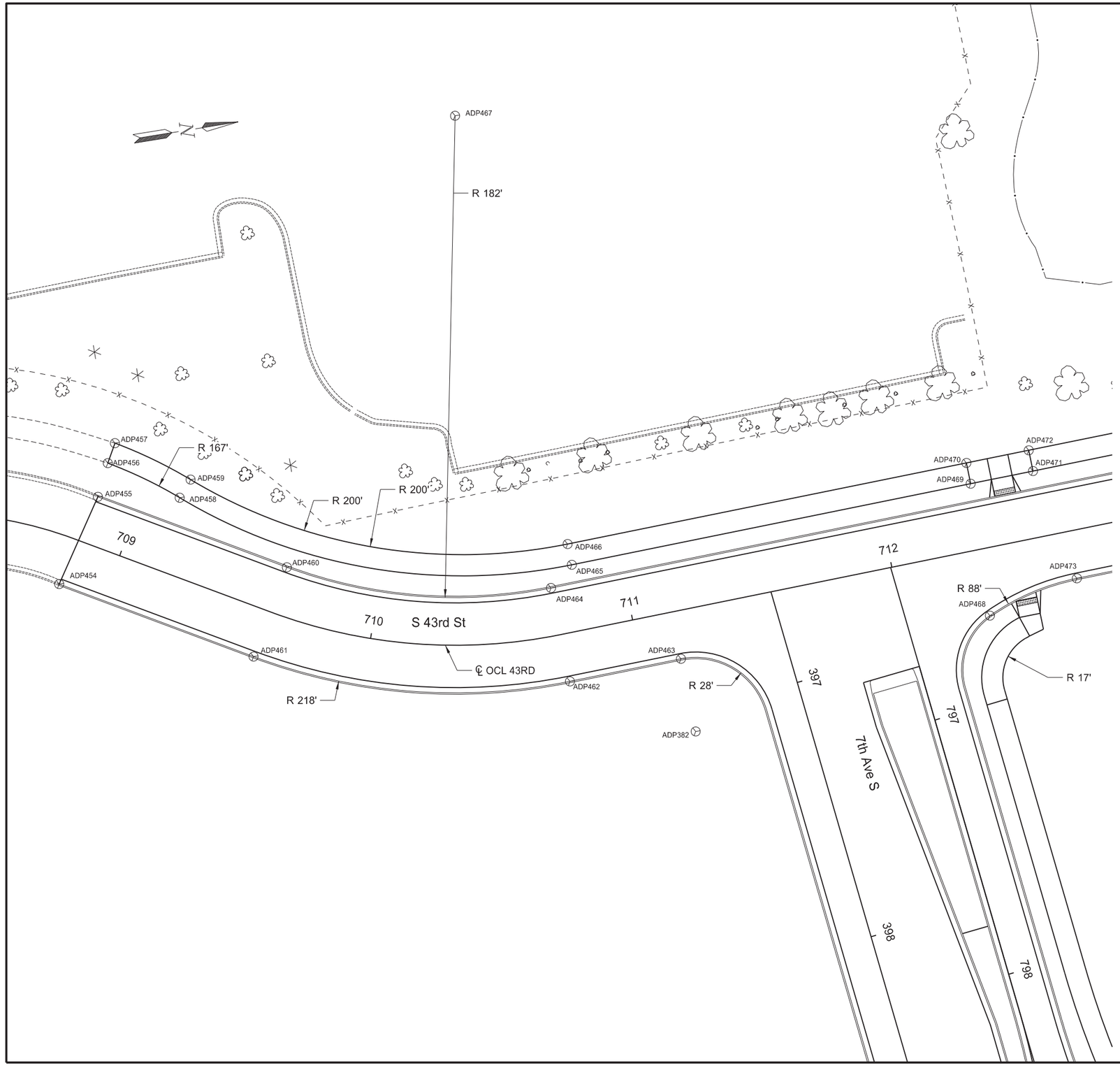
7th Ave S

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8276
DATE: 2025.12.05 15:19:11 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	82	48

POINT	NORTHING	EASTING	STATION	OFFSET
ADP454	352552.14	2804795.25	708+82.31	18
ADP457	352581.45	2804746.1	708+83.46	-39.22
ADP456	352577.59	2804753.11	708+83.57	-31.22
ADP455	352571.86	2804765.06	708+84.50	-18
ADP458	352602.32	2804770.37	709+13.60	-28.46
ADP459	352607.47	2804764.25	709+15.05	-36.32
ADP460	352638.08	2804802.77	709+60.71	-18
ADP461	352620.26	2804834.06	709+60.71	18
ADP467	352728.16	2804644.63	710+64.47	-200
ADP462	352736.79	2804862.46	710+72.18	18
ADP464	352735.36	2804826.48	710+72.18	-18
ADP466	352744.22	2804811.12	710+81.64	-33
ADP465	352744.54	2804819.12	710+81.64	-25
ADP463	352779.57	2804860.76	711+14.99	18
ADP468	352897.42	2804863.37	712+32.65	25.27
ADP469	352898.23	2804813.03	712+35.46	-25
ADP470	352897.92	2804805.03	712+35.46	-33
ADP471	352922.25	2804812.08	712+59.49	-25
ADP472	352921.94	2804804.08	712+59.49	-33
ADP473	352932.14	2804854.72	712+67.69	18

Notes:

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4. Median Start/Ends are to Lip of Curb

Survey Data Layouts

Alignment Data Points

S 43rd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

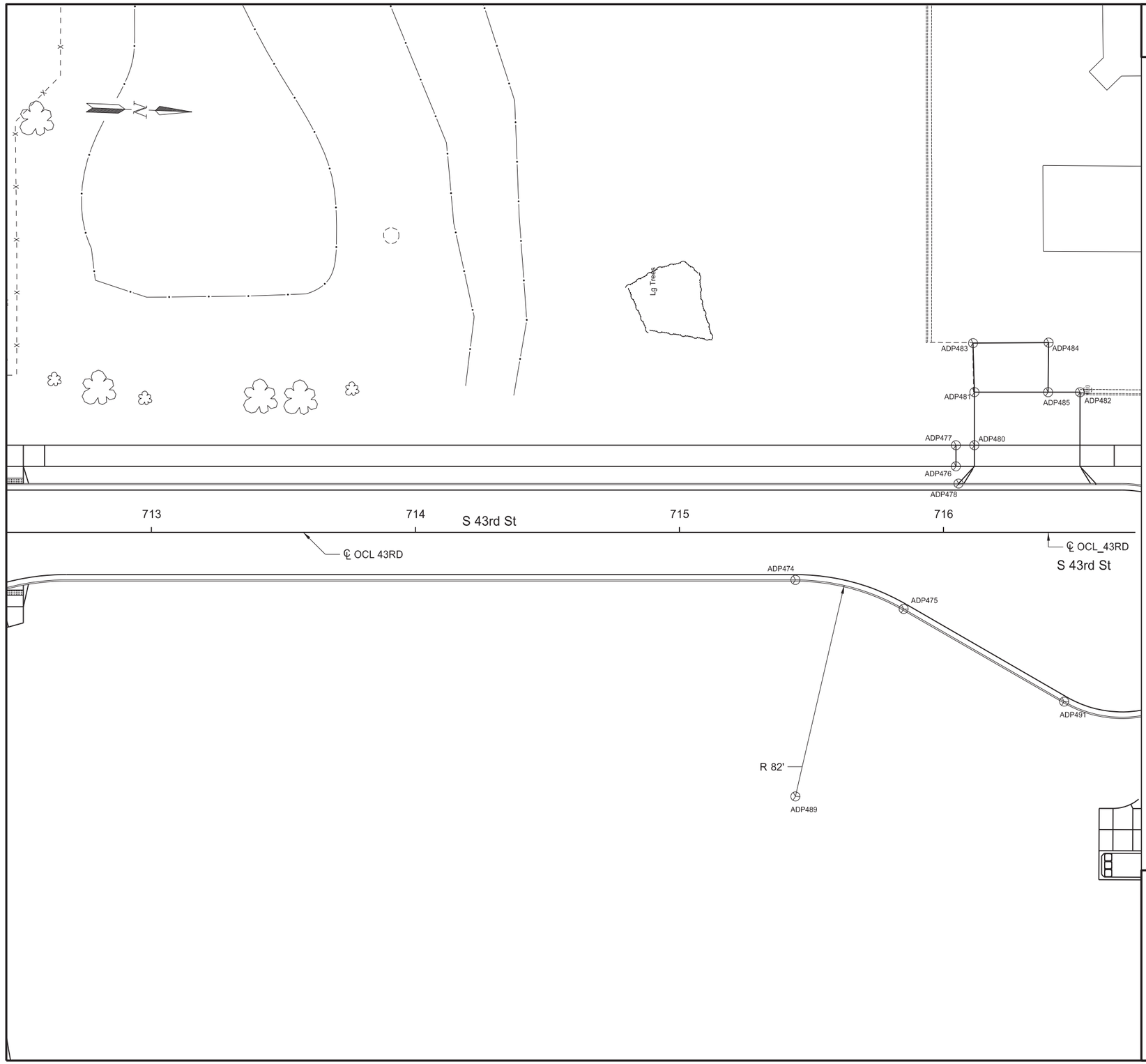
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4276
DATE: 2025.12.05 15:19:23 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	82	49

POINT	NORTHING	EASTING	STATION	OFFSET
ADP474	353208.16	2804843.78	715+43.92	18
ADP489	353211.4	2804925.72	715+43.92	100
ADP475	353249.58	2804853.15	715+84.94	29
ADP476	353267.21	2804798.41	716+04.72	-25
ADP477	353266.89	2804790.42	716+04.72	-33
ADP478	353268.46	2804804.87	716+05.71	-18.5
ADP483	353271.84	2804751.53	716+11.21	-71.67
ADP480	353273.89	2804790.14	716+11.72	-33
ADP481	353273.11	2804770.06	716+11.74	-53.09
ADP485	353301.01	2804768.98	716+39.66	-53.07
ADP484	353300.45	2804750.19	716+39.84	-71.87
ADP491	353311.69	2804885.82	716+45.71	64.1
ADP482	353313.08	2804768.51	716+51.74	-53.07



Notes:

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Survey Data Layouts

Alignment Data Points

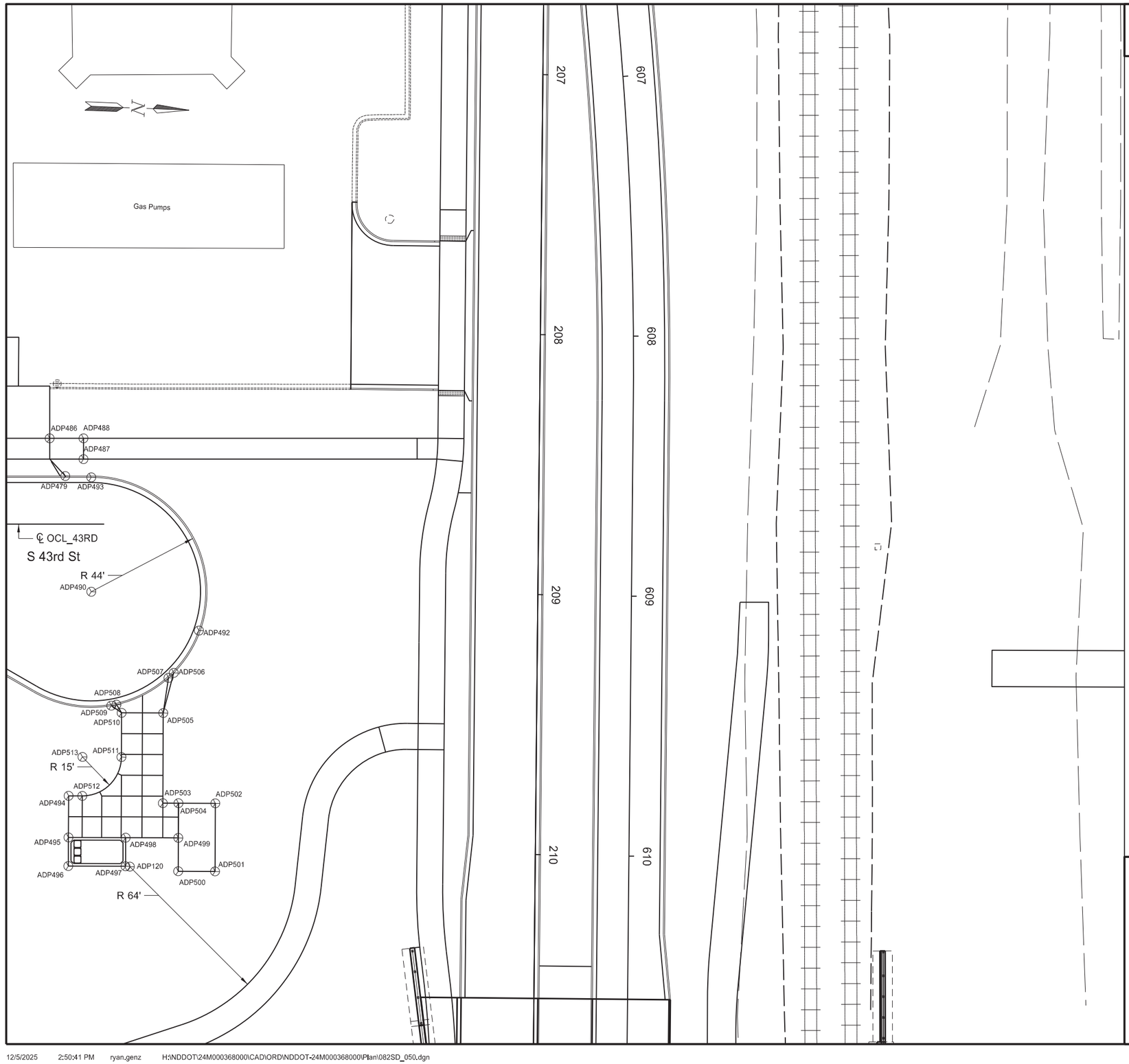
S 43rd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE - 8256
DATE: 2025.12.05 15:19:35 -06'00'
NORTH DAKOTA



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	82	50

POINT	NORTHING	EASTING	STATION	OFFSET
ADP486	353313.86	2804788.56	716+51.72	-33
ADP479	353320.42	2804802.81	716+57.72	-18.5
ADP496	353327.53	2804952.66	716+58.89	131.52
ADP495	353327.14	2804941.67	716+58.94	120.52
ADP494	353326.57	2804925.68	716+59.00	104.52
ADP512	353331.82	2804925.49	716+64.26	104.54
ADP513	353331.29	2804910.5	716+64.31	89.54
ADP487	353327.16	2804796.04	716+64.72	-25
ADP488	353326.84	2804788.04	716+64.72	-33
ADP493	353330.43	2804802.91	716+67.71	-18
ADP490	353332.17	2804846.88	716+67.71	26
ADP509	353341.6	2804890.37	716+75.42	69.88
ADP508	353343.57	2804889.89	716+77.41	69.59
ADP510	353345.67	2804892.98	716+79.38	72.9
ADP120	353351.18	2804951.95	716+82.55	132.11
ADP511	353346.28	2804909.97	716+79.31	89.84
ADP507	353363.17	2804878.8	716+97.43	64.08
ADP499	353369.37	2804940.16	717+01.19	124
ADP500	353369.83	2804952.99	717+01.14	136.51
ADP498	353349.13	2804940.89	716+80.94	120.89
ADP492	353374.11	2804860.18	717+09.10	54.78
ADP497	353349.52	2804951.88	716+80.89	131.86
ADP501	353383.99	2804952.48	717+15.31	140.2
ADP505	353361.66	2804892.41	716+95.38	76.12
ADP506	353365.09	2804876.82	716+99.43	63.15
ADP504	353368.9	2804926.84	717+01.25	111.08
ADP502	353383.05	2804926.33	717+15.41	115.58
ADP503	353362.9	2804927.05	716+95.25	109.67

Notes:

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Survey Data Layouts

Alignment Data Points

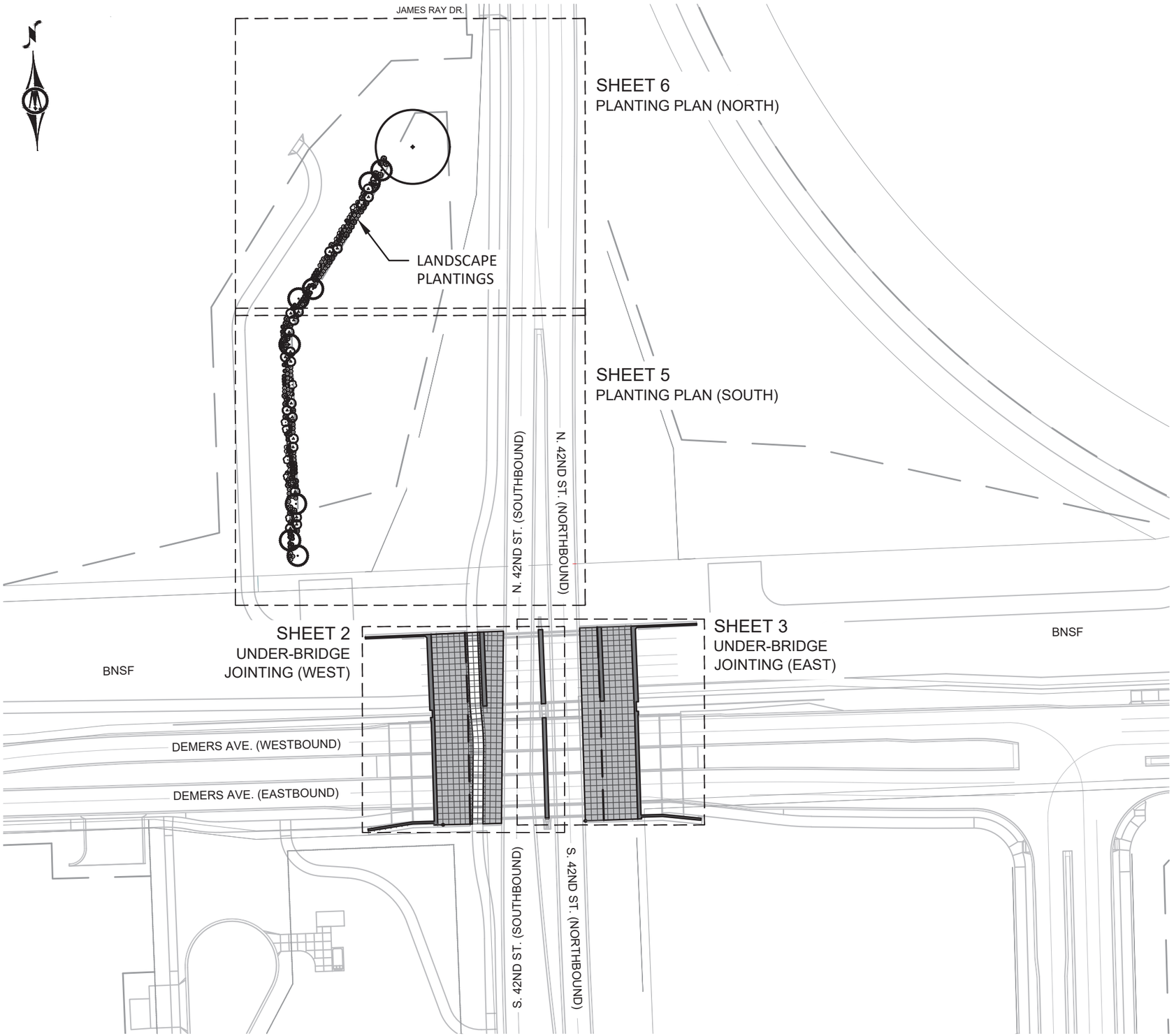
S 43rd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8276
DATE: 2025.12.05 15:19:45 -06'00'
NORTH DAKOTA



1 KEY PLAN

HORZ. SCALE 0 50 100 FEET

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	85	1

LANDSCAPE PLANS & DETAILS
SCORING & PLANTING KEY PLAN

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County
Grand Forks, ND

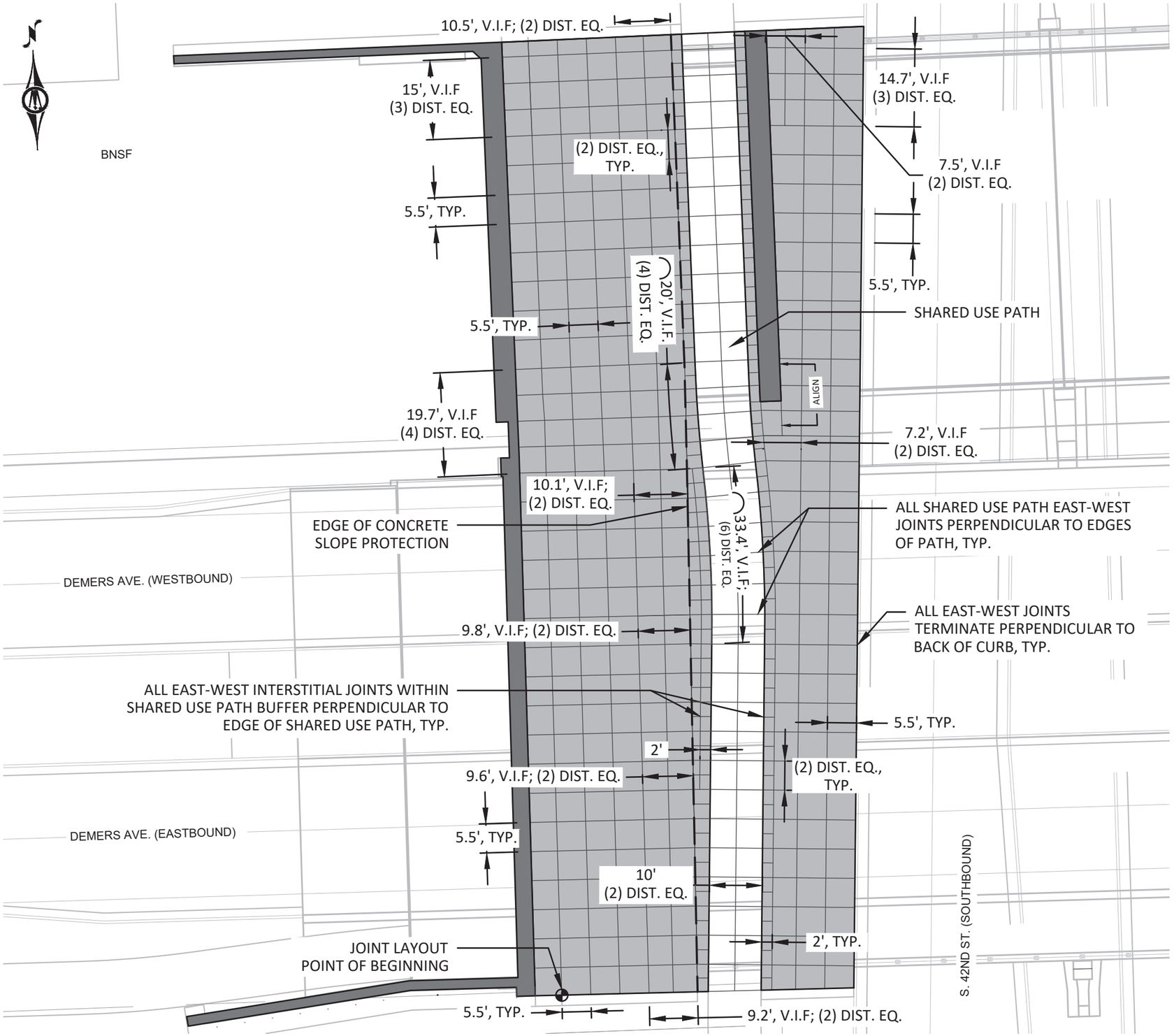
I hereby certify that this plan specification, or report was prepared by me or under my direct supervision, and that I am a duly Registered Landscape Architect under the laws of the State of North Dakota.

JOSHUA SHIELDS
Joshua Shields

Date Reg No. 182

12/19/2025 10:29:55 AM bill.elliot H:\NDDOT\24M000368000\CAD\C3D\24M000368000_L101.dwg

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	85	2



1 UNDER-BRIDGE JOINTING PLAN (WEST)

LEGEND - PAVEMENT JOINTING

- SCORE JOINT
- SHARED USE PATH
- CONCRETE SLOPE PROTECTION / BOULEVARD PIGMENTED CONCRETE TO MATCH *AMS-STD-595A 36424 MEDIUM GRAY, GRAY* OR APPROVED EQUAL
- ABUTMENT WALL / RETAINING WALL / PIER BASE
- V.I.F. VERIFY IN FIELD
- JOINT LAYOUT POINT OF BEGINNING

JOINTING NOTES

1. 10' SHARED USE PATH
   - 1.1. SAWED LONGITUDINAL JOINT DOWN MIDDLE
   - 1.2. TRANSVERSE (EAST-WEST) JOINTS ORIENTED PERPENDICULAR TO THE EDGES OF THE PATH
   - 1.3. TRANSVERSE (EAST-WEST) INTERSTITIAL JOINTS PERPENDICULAR TO 2' OFFSET FROM SHARED USE PATH AND PERPENDICULAR TO EDGE OF SHARED USE PATH
2. CONCRETE SLOPE PROTECTION:
   - 2.1. 5.5' SQUARE INTERIOR PANELS UNLESS OTHERWISE NOTED IN LOCATIONS THAT RESOLVE MULTIPLE GRIDS CREATED BY ROADWAY ALIGNMENT.
   - 2.2. EXTERIOR PANEL VARIABLE WIDTH FROM 5' TO 8' AT SIDES, 3' TO 8' AT BOTTOM.

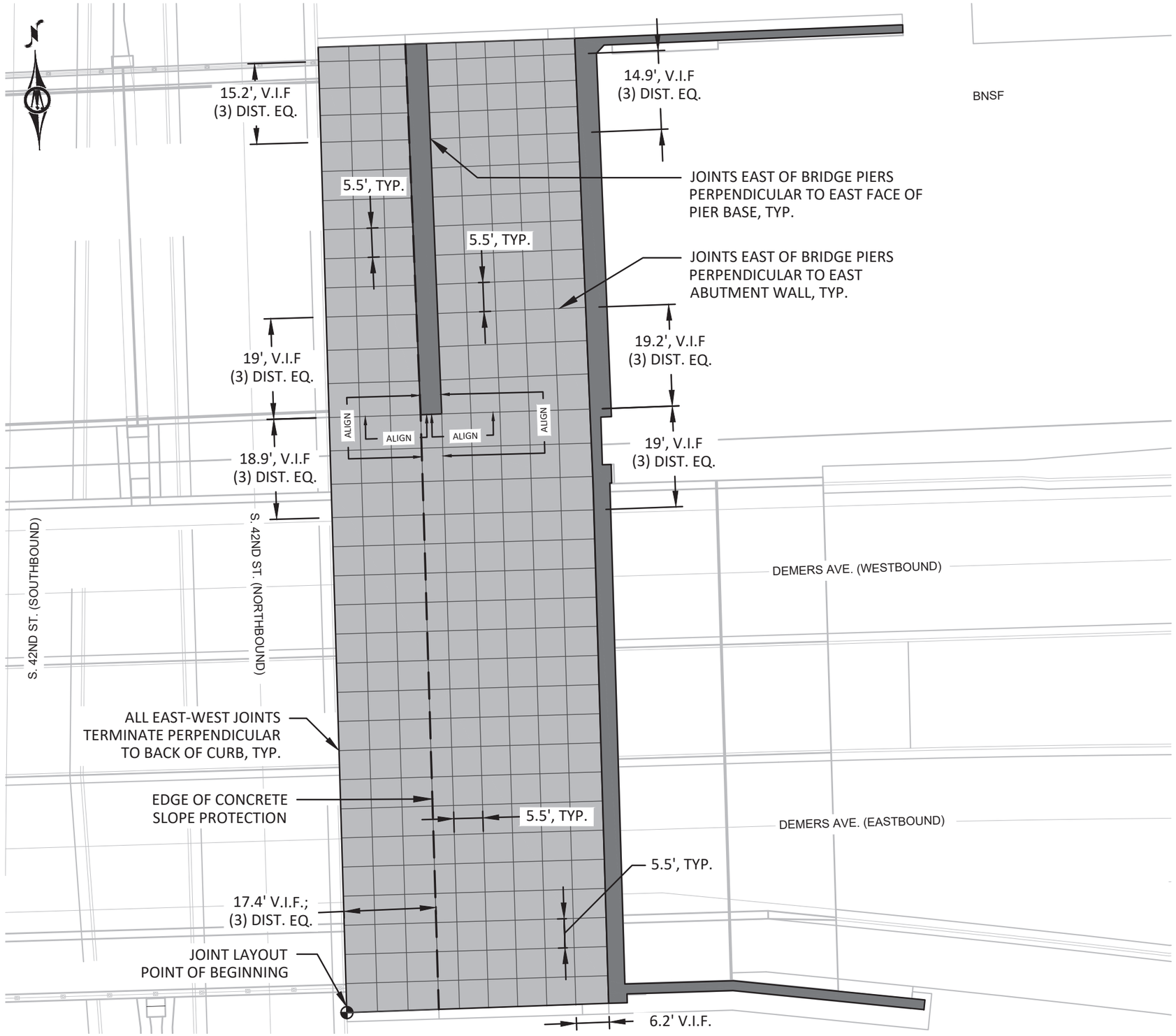
LANDSCAPE PLANS & DETAILS
UNDER-BRIDGE JOINTING (WEST)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County
Grand Forks, ND

I hereby certify that this plan specification, or report was prepared by me or under my direct supervision, and that I am a duly Registered Landscape Architect under the laws of the State of North Dakota.

JOSHUA SHIELDS
Joshua Shields
Date _____ Reg No. 182



1 UNDER-BRIDGE JOINTING PLAN (EAST)

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	85	3

LEGEND - PAVEMENT JOINTING

- SCORE JOINT
- SHARED USE PATH
- CONCRETE SLOPE PROTECTION / BOULEVARD PIGMENTED CONCRETE TO MATCH *AMS-STD-595A 36424 MEDIUM GRAY, GRAY* OR APPROVED EQUAL
- ABUTMENT WALL / RETAINING WALL / PIER BASE
- V.I.F. VERIFY IN FIELD
- JOINT LAYOUT POINT OF BEGINNING

JOINTING NOTES

1. 10' SHARED USE PATH
   - 1.1. SAWED LONGITUDINAL JOINT DOWN MIDDLE
   - 1.2. TRANSVERSE (EAST-WEST) JOINTS ORIENTED PERPENDICULAR TO THE EDGES OF THE PATH
   - 1.3. TRANSVERSE (EAST-WEST) INTERSTITIAL JOINTS PERPENDICULAR TO 2' OFFSET FROM SHARED USE PATH AND PERPENDICULAR TO EDGE OF SHARED USE PATH
2. CONCRETE SLOPE PROTECTION:
   - 2.1. 5.5' SQUARE INTERIOR PANELS UNLESS OTHERWISE NOTED IN LOCATIONS THAT RESOLVE MULTIPLE GRIDS CREATED BY ROADWAY ALIGNMENT.
   - 2.2. EXTERIOR PANEL VARIABLE WIDTH FROM 5' TO 8' AT SIDES, 3' TO 8' AT BOTTOM.

LANDSCAPE PLANS & DETAILS
UNDER-BRIDGE JOINTING (EAST)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County
Grand Forks, ND

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JOSHUA SHIELDS

Joshua Shields

Date _____ Reg No. 182

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	85	4

PLANT SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	CALIPER	CONTAINER	SPACING
TREES							
	GD	8	GLEDITSIA TRIACANTHOS INERMIS 'DRAVES'	STREET KEEPER® HONEY LOCUST	2" CAL.		PER PLAN
SYMBOL	**CODE**	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**SPREAD**	**CONTAINER**	**SPACING**
SHRUBS							
	AM	23	ARONIA MELANOCARPA	BLACK CHOKEBERRY	N.A.	#5 CONT.	48" O.C
	DS	59	DIERVILLA SESSILIFOLIA	BUSH-HONEYSUCKLE	N.A.	#5 CONT.	42" O.C
	PN	47	PHYSOCARPUS OPULIFOLIUS	NINEBARK	N.A.	#5 CONT.	48" O.C
	PL	74	PRUNUS X CISTENA 'UCONNPCSDR'	STAY CLASSY™ PURPLE LEAF SAND CHERRY	N.A.	#5 CONT.	30" O.C
	RG	21	RHUS GLABRA	SMOOTH SUMAC	N.A.	#7 CONT.	72" O.C.
	SA	9	SYRINGA X HYACINTHIFLORA 'ASESSIPPI'	ASESSIPPI LILAC	N.A.	#7 CONT.	72" O.C.

GENERAL PLANTING NOTES:

1. IF THE CONTRACTOR PERCEIVES DEFICIENCIES IN PLANT SELECTION, SOIL CONDITIONS, OR OTHER SITE CONDITIONS *PRIOR TO PLANT INSTALLATION* THAT MAY NEGATIVELY AFFECT PLANT MATERIAL ESTABLISHMENT, SURVIVAL, OR GUARANTEE, CONTRACTOR SHALL BRING THESE DEFICIENCIES TO THE ATTENTION OF THE ENGINEER AND LANDSCAPE ARCHITECT OF RECORD.

2. SEE EROSION CONTROL & TURF ESTABLISHMENT SHEETS FOR TURF RE-ESTABLISHMENT IN AREAS DISTURBED BY CONSTRUCTION.

3. PROVIDE PLANT MATERIAL OF SIZE, GENUS, SPECIES, AND VARIETY SHOWN AND COMPLYING WITH REQUIREMENTS OF MOST RECENT VERSION OF ANSI Z60.1 "AMERICAN STANDARD FOR NURSERY STOCK." ALL PLANTING MATERIAL SUBJECT TO APPROVAL BY ENGINEER AND LANDSCAPE ARCHITECT OF RECORD.

4. PLANT SCHEDULES: ALL TREES, SHRUBS, PERENNIALS, AND ORNAMENTAL GRASSES ARE LISTED IN THE PLANT SCHEDULE. IF THERE IS A CONFLICT BETWEEN THE QUANTITIES SHOWN ON THE PLAN DRAWING AND THE QUANTITIES SHOWN IN THE PLANT SCHEDULE, PLAN QUANTITIES SHALL PREVAIL.

5. PLANTING LAYOUT: CONTRACTOR SHALL STAKE TYPICAL PLANTING BED LAYOUT AND OBTAIN APPROVAL OF THE ENGINEER AND LANDSCAPE ARCHITECT OF RECORD PRIOR TO PLANTING.

6. PLANTINGS TO BE INSTALLED PER DETAILS IN THIS PLAN SET AND IN ACCORDANCE WITH SPECIAL PROVISIONS.

7. PRIOR TO DIGGING, IT IS REQUIRED BY LAW TO CALL *NORTH DAKOTA ONE CALL* (811) FOR UTILITY LOCATIONS.

8. SHRUB AND PERENNIAL GROUPINGS SHALL BE PLANTED AND MULCHED IN ONE CONTINUOUS BED.

9. MAINTAIN AND WARRANTY ALL LIVING PLANT MATERIAL AS PER SPECIFICATIONS. ACTS OF VANDALISM OR DAMAGE WHICH MAY OCCUR PRIOR TO THE OWNER'S WRITTEN ACCEPTANCE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

10. FIELD ADJUSTMENT OF PROPOSED PLANT MATERIAL MAY BE NEEDED. SHOULD AN ADJUSTMENT BE ADVISED, CONTRACTOR SHALL CONTACT LANDSCAPE ARCHITECT OF RECORD PRIOR TO PLANNED ADJUSTMENT.

11. NO PLANT MATERIAL SUBSTITUTIONS WILL BE ACCEPTED WITHOUT WRITTEN APPROVAL BY THE LANDSCAPE ARCHITECT OF RECORD PRIOR TO THE SUBMISSION OF A BID AND/OR QUOTATION. IF CONTRACTOR REQUIRES A PLANT SUBSTITUTION AFTER AWARD OF CONTRACT, THEY SHOULD PROVIDE WRITTEN REQUEST OF SUBSTITUTION TO LANDSCAPE ARCHITECT OF RECORD FOR APPROVAL PRIOR TO MAKING SUBSTITUTION.

LANDSCAPE PLANS & DETAILS
PLANTING SCHEDULE & NOTES

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County
Grand Forks, ND

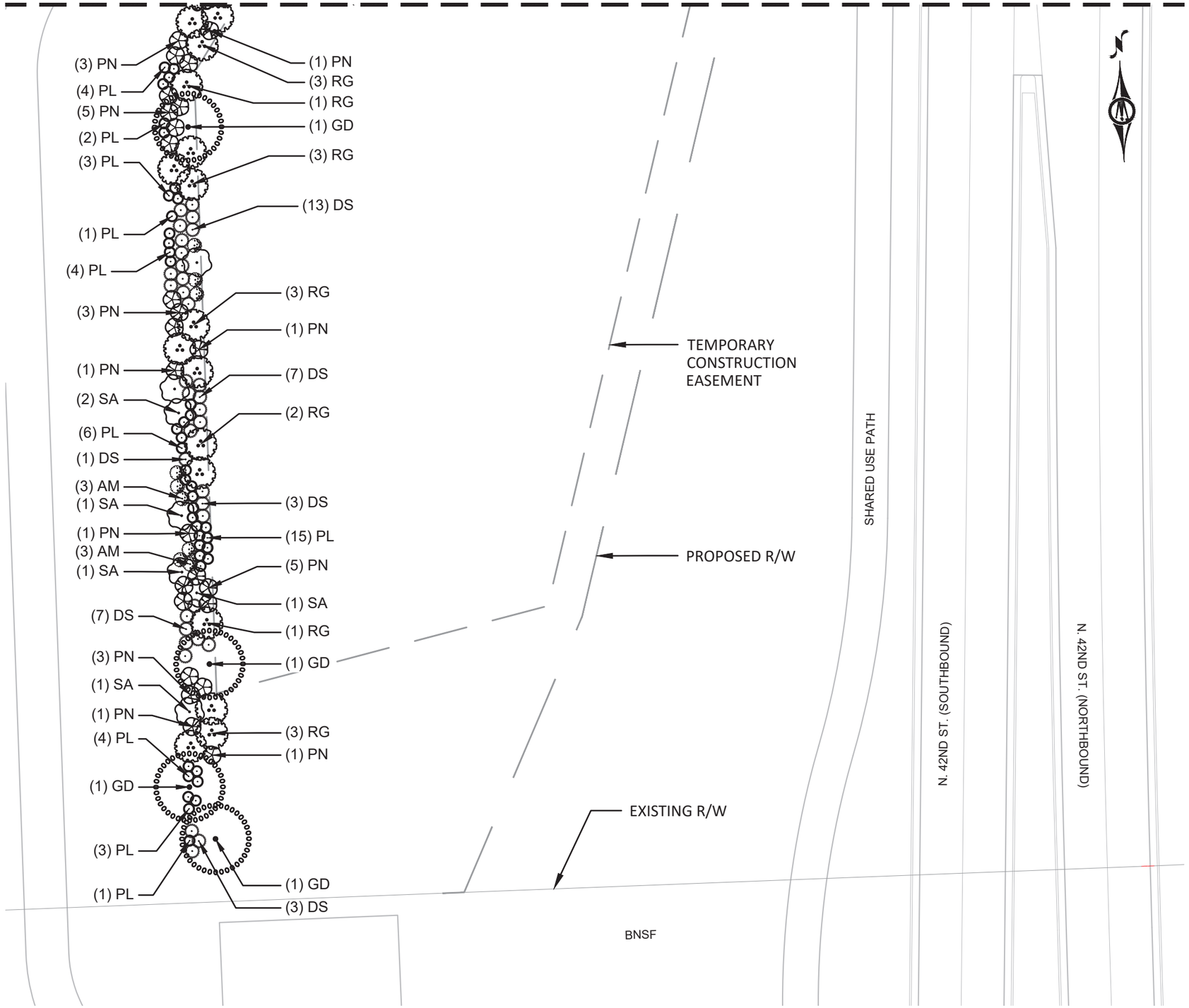
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JOSHUA SHIELDS

Joshua Shields

Date_____ Reg No. 182

MATCH LINE - SEE SHEET 6

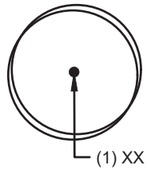


1 PLANTING PLAN (SOUTH)

HORZ. SCALE 0 15 30 FEET

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	85	5

LEGEND



TREE AND SHRUB SYMBOLS VARY, SEE PLAN CALLOUTS AND PLANT SCHEDULE ON SHEET NO. 4 SECTION NO. 85. SEE DETAILS ON SHEET NO. 7 SECTION 85

(1) QUANTITY
XX SPECIES, SEE PLANT SCHEDULE, SHEET NO. 4 SECTION NO. 85

LANDSCAPE PLANS & DETAILS
PLANTING PLAN (SOUTH)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County
Grand Forks, ND

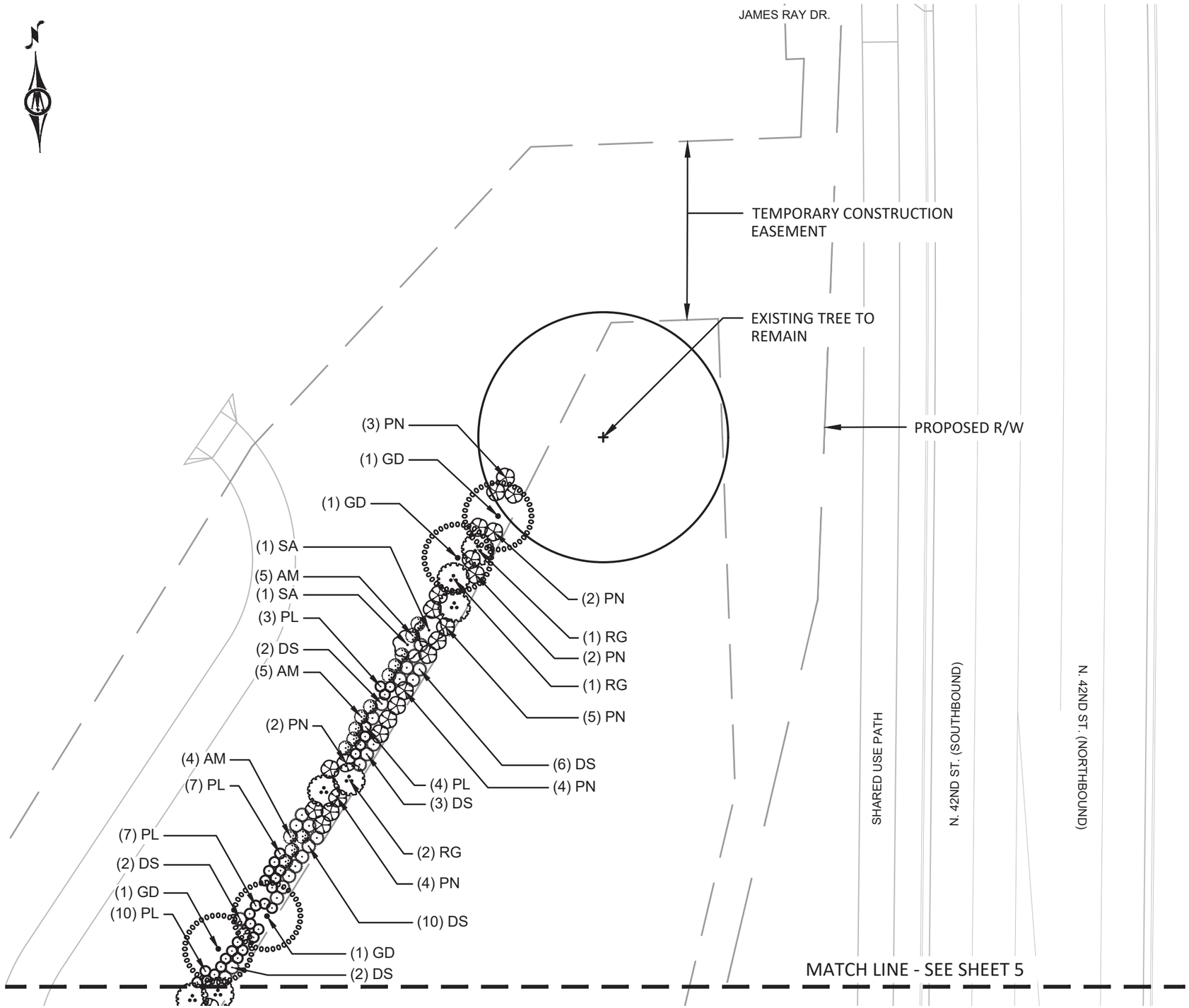
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Date Reg No. 182

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	85	6



1 PLANTING PLAN (NORTH)

HORZ. SCALE 0 15 30 FEET

LEGEND

TREE AND SHRUB SYMBOLS VARY, SEE PLAN CALLOUTS AND PLANT SCHEDULE ON SHEET NO. 4 SECTION NO. 85. SEE DETAILS ON SHEET NO. 7 SECTION 85

(1) QUANTITY
XX SPECIES, SEE PLANT SCHEDULE, SHEET NO. 4 SECTION NO. 85

LANDSCAPE PLANS & DETAILS
PLANTING PLAN (NORTH)

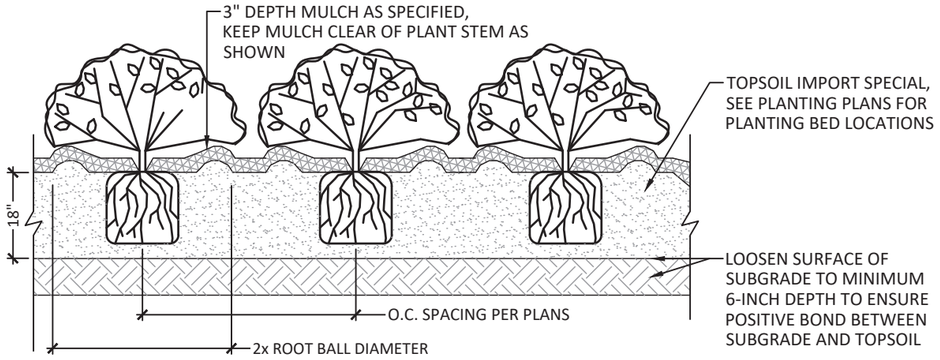
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County
Grand Forks, ND

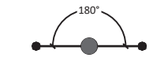
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Joshua Shields
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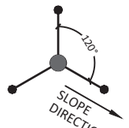


1 SHRUB PLANTING
SCALE: N.T.S.

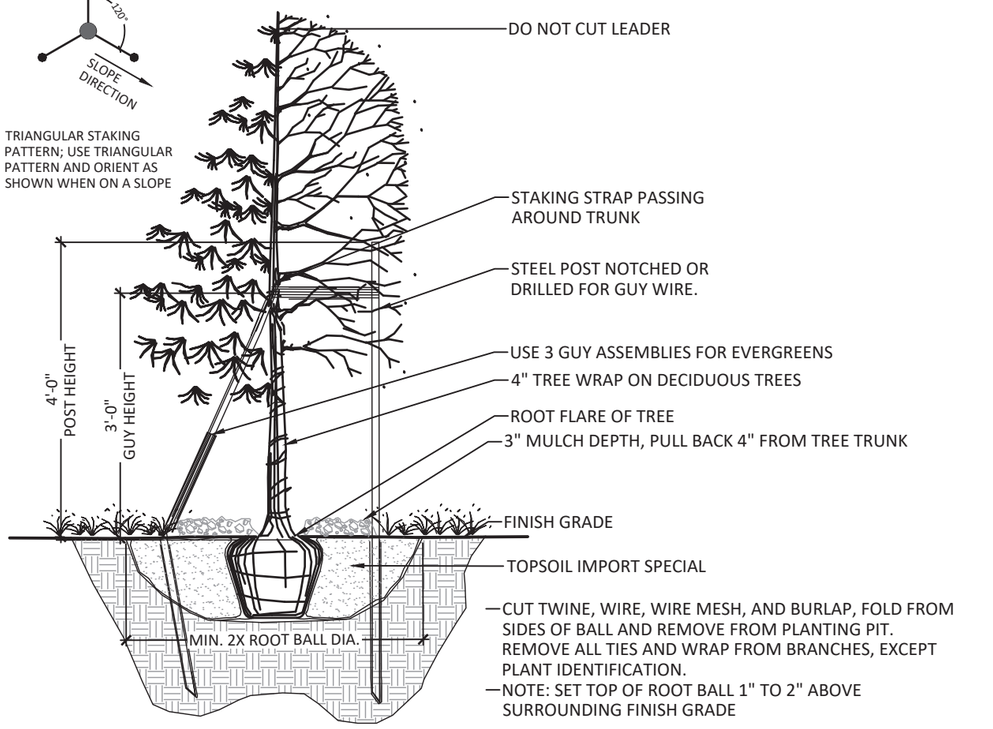


OPPOSING STAKING PATTERN

NOTE: REMOVE STAKING WITHIN ONE YEAR AFTER INSTALLATION.

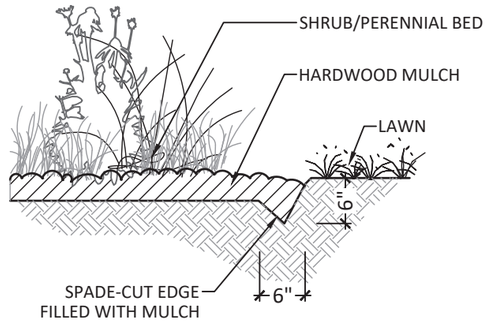


TRIANGULAR STAKING PATTERN; USE TRIANGULAR PATTERN AND ORIENT AS SHOWN WHEN ON A SLOPE



2 TREE PLANTING
SCALE: N.T.S.

NOTES:
SPADE-CUT EDGE TO BE INCIDENTAL TO PLANT MATERIAL AND SHALL BE USED WHERE ALL LANDSCAPE BEDS MEET ADJACENT SEEDED OR LAWN AREAS.



3 SPADE-CUT EDGE
SCALE: N.T.S.

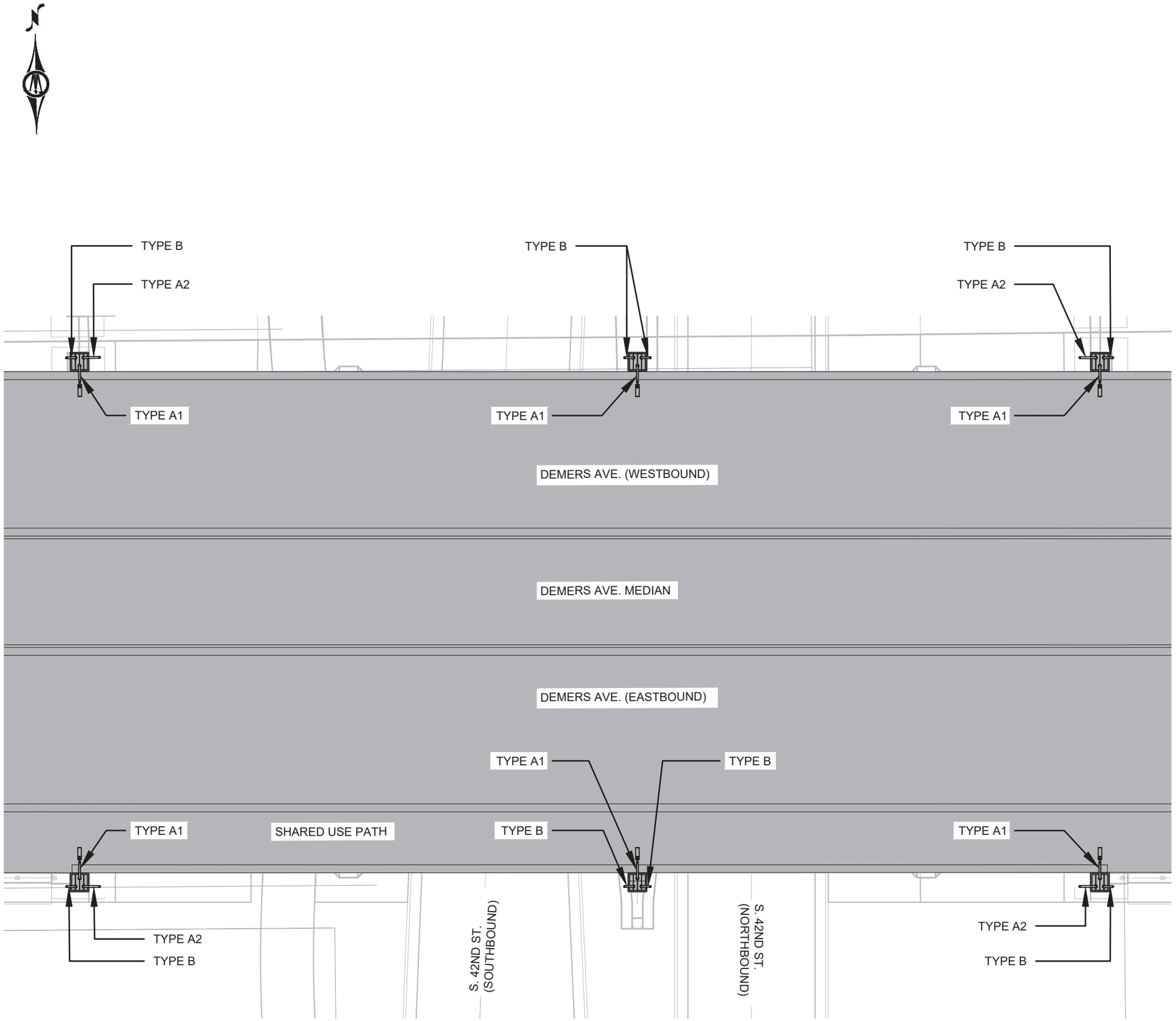
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	85	7

LANDSCAPE PLANS & DETAILS
PLANTING DETAILS

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County
Grand Forks, ND

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1 ORNAMENTAL LIGHT STANDARD LAYOUT PLAN

HORZ. SCALE 0 10 20 FEET

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	85	8

NOTES

1. ORNAMENTAL LIGHT STANDARDS
   - 1.1. TYPE A1 - 20' TALL STANDARD WITH TENON AND TENON-MOUNTED 'LED LUMINAIRE - TYPE C'
   - 1.2. TYPE A2 - 20' TALL STANDARD, NO LUMINAIRE
   - 1.3. TYPE B - 14' TALL STANDARD, NO LUMINAIRE
2. ORNAMENTAL LIGHT STANDARD BASIS OF DESIGN
   - 2.1. TYPE A1 - *REED* BY structura, *MEDIUM 2* POLE
   - 2.2. TYPE A2 - *REED* BY structura, *MEDIUM 2* POLE
   - 2.3. TYPE B - *REED* BY structura, *SMALL 2* POLE

   OR APPROVED EQUAL BY ENGINEER AND LANDSCAPE ARCHITECT OF RECORD.
3. SEE ORNAMENTAL LIGHT STANDARD DETAILS ON SHEET NO. 9, SECTION NO. 85
4. SEE ORNAMENTAL LIGHT STANDARD BASE PLATE COVER DETAILS ON SHEET NOS. 10 AND 11, SECTION NO. 85
5. SEE SECTION 140 FOR CONDUIT LOCATIONS, LED LUMINAIRE TYPE, AND LED LUMINAIRE MOUNTING DETAILS
6. SEE SECTION 170a STRUCTURAL DRAWINGS FOR BASE PLATE LOCATIONS AND ORNAMENTAL LIGHT STANDARD MOUNTING DETAILS

LANDSCAPE PLANS & DETAILS
ORNAMENTAL LIGHT STANDARD LAYOUT

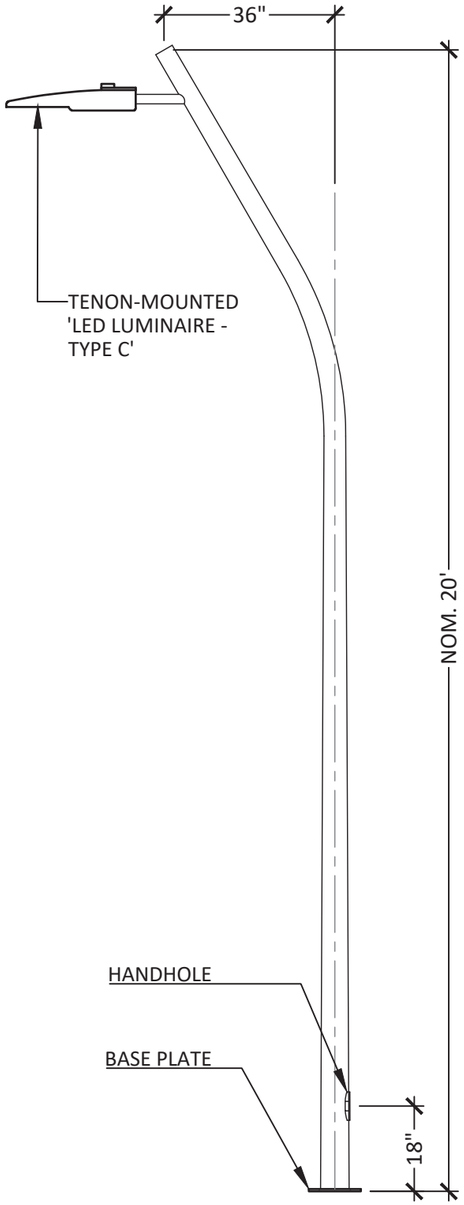
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County
Grand Forks, ND

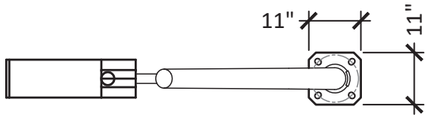
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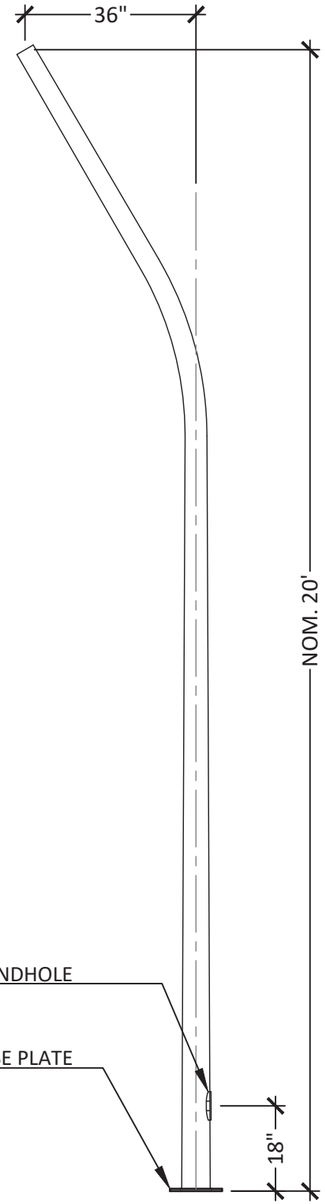


ELEVATION

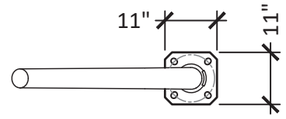


TOP VIEW

1 ORNAMENTAL LIGHT STANDARD - TYPE A1
SCALE: N.T.S.

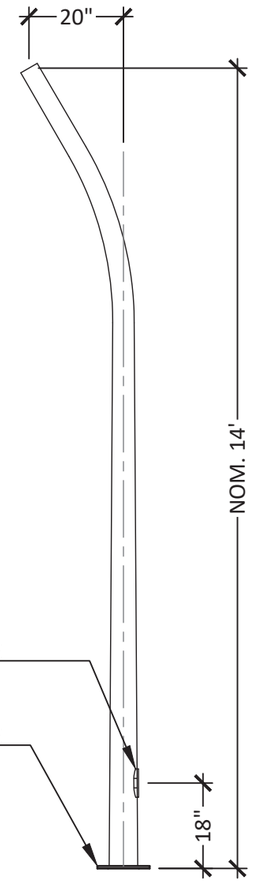


ELEVATION

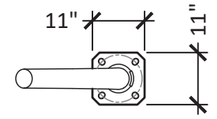


TOP VIEW

2 ORNAMENTAL LIGHT STANDARD - TYPE A2
SCALE: N.T.S.



ELEVATION



TOP VIEW

3 ORNAMENTAL LIGHT STANDARD - TYPE B
SCALE: N.T.S.

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	85	9

NOTES

1. ORNAMENTAL LIGHT STANDARDS
   - 1.1. TYPE A1 - 20' TALL STANDARD WITH TENON AND TENON-MOUNTED 'LED LUMINAIRE - TYPE C'
   - 1.2. TYPE A2 - 20' TALL STANDARD, NO LUMINAIRE
   - 1.3. TYPE B - 14' TALL STANDARD, NO LUMINAIRE
2. ORNAMENTAL LIGHT STANDARD BASIS OF DESIGN
   - 2.1. TYPE A1 - *REED* BY structura, *MEDIUM 2* POLE
   - 2.2. TYPE A2 - *REED* BY structura, *MEDIUM 2* POLE
   - 2.3. TYPE B - *REED* BY structura, *SMALL 2* POLE

   OR APPROVED EQUAL BY ENGINEER AND LANDSCAPE ARCHITECT OF RECORD.
3. ORNAMENTAL LIGHT STANDARD BASE PLATE COVERS
   - 3.1. BASE PLATE COVER DETAILS SHOW DESIGN INTENT FOR BIDDING ONLY. FINAL FABRICATION DETAILING TO BE COMPLETED BY ORNAMENTAL LIGHT STANDARD FABRICATOR. SUBMIT WORKING DRAWINGS FOR REVIEW AND APPROVAL BY ENGINEER AND PROJECT LANDSCAPE ARCHITECT OF RECORD PRIOR TO FABRICATION.
   - 3.2. SIZING FOR ALL WORK IS FOR AESTHETIC REFERENCE ONLY. ADJUSTMENTS TO SIZES PER STRUCTURAL REQUIREMENTS AND/OR AS REQUIRED FOR POSITIVE DRAINAGE THROUGH THE BASE PLATE COVERS ARE THE RESPONSIBILITY OF THE ORNAMENTAL LIGHT STANDARD FABRICATOR AND SHALL BE IDENTIFIED IN WORKING DRAWING SUBMITTALS.
4. ALL WELDS TO BE CONTINUOUS UNLESS OTHERWISE NOTED AT ALL NON-MECHANICALLY FASTENED JOINTS.
5. GRIND SMOOTH ALL WELDS AND CUTS.
6. ALL FIELD CONNECTIONS ARE TO BE BOLTED, NO DRILLING OR FIELD WELDING.
7. ALL METAL/STRUCTURAL CONNECTIONS SHALL BE HIDDEN OR MINIMIZED FROM GROUND PLANE VIEW.
4. SEE ORNAMENTAL LIGHT STANDARD BASE PLATE COVER DETAILS ON SHEET NOS. 10 AND 11, SECTION NO. 85.
5. SEE SECTION 140 FOR CONDUIT LOCATIONS, LED LUMINAIRE TYPE, AND LED LUMINAIRE MOUNTING DETAILS.
6. SEE SECTION 170a STRUCTURAL DRAWINGS FOR BASE PLATE LOCATIONS AND ORNAMENTAL LIGHT STANDARD MOUNTING DETAILS.
7. ALL METAL TO BE GALVANIZED AND PAINTED UNLESS OTHERWISE NOTED.
   - 7.1. COLOR/FINISH SHALL MATCH AMS-STD-595A 30108: RED BROWN, WALNUT BROWN.

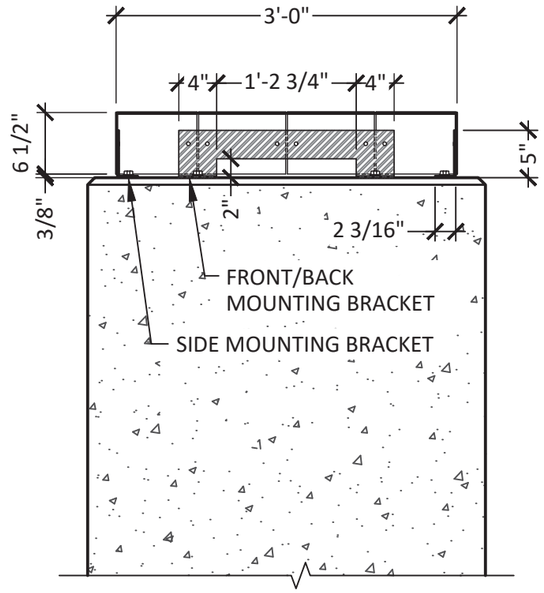
LANDSCAPE PLANS & DETAILS
ORNAMENTAL LIGHT STANDARD DETAILS

ND 297 (DeMers Ave) & 42nd St Grade Separation

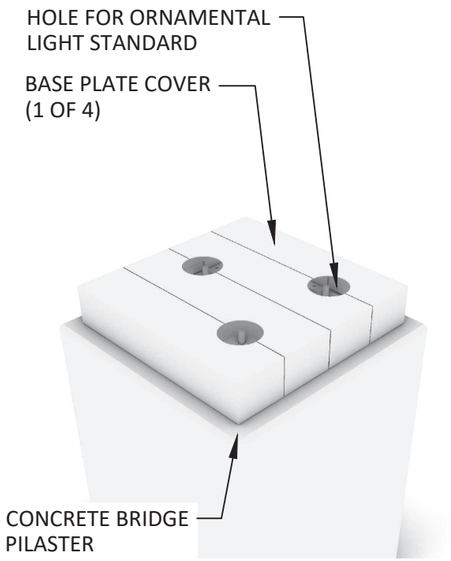
Grand Forks County
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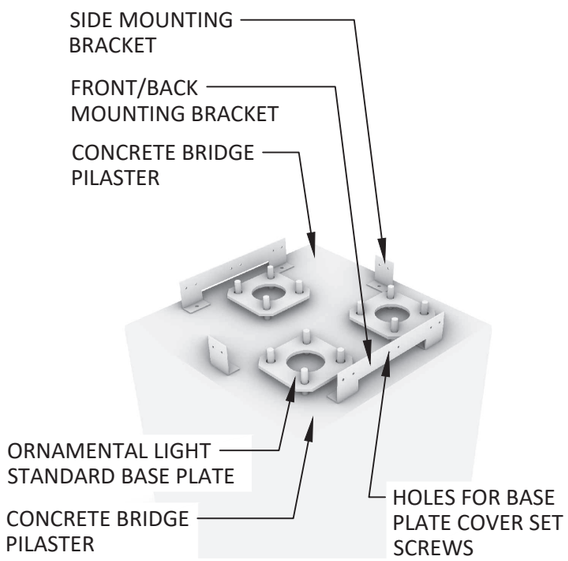
JOSHUA SHIELDS
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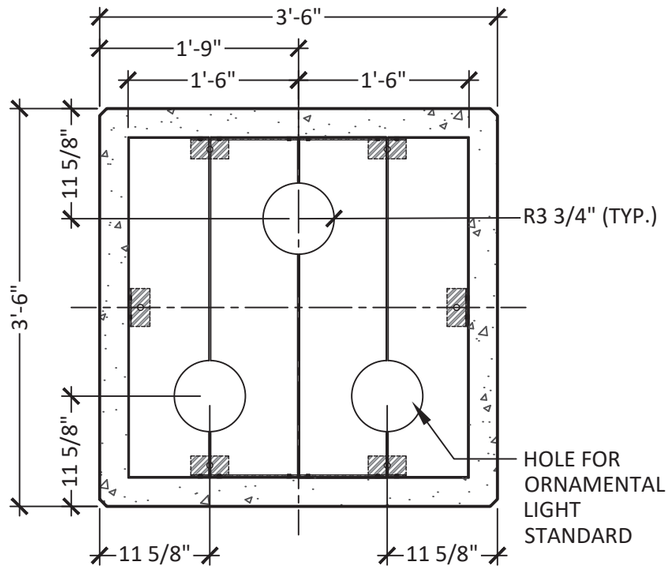
FRONT VIEW



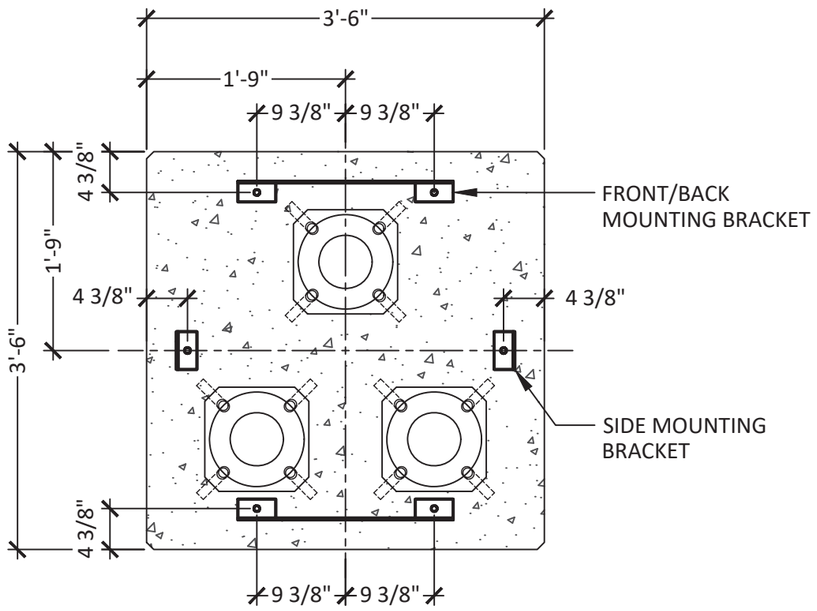
PERSPECTIVE VIEW
(WITH BASE PLATE COVERS)



PERSPECTIVE VIEW
(ONLY MOUNTING BRACKETS SHOWN)



TOP VIEW (BASE PLATE COVERS SHOWN)



TOP VIEW (ONLY MOUNTING BRACKETS SHOWN)

1 ORNAMENTAL LIGHT STANDARD - BASE PLATE COVER DETAIL 1
SCALE: N.T.S.

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	85	10

NOTES

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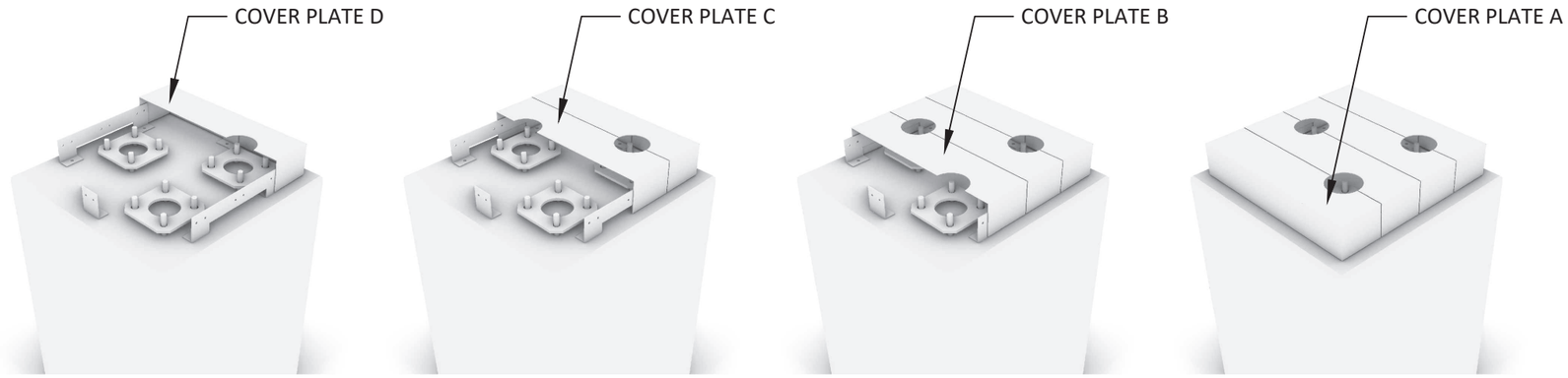
   OR APPROVED EQUAL BY ENGINEER AND LANDSCAPE ARCHITECT OF RECORD.
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6. SEE SECTION 170a STRUCTURAL DRAWINGS FOR BASE PLATE LOCATIONS AND ORNAMENTAL LIGHT STANDARD MOUNTING DETAILS.
7. ALL METAL TO BE GALVANIZED AND PAINTED UNLESS OTHERWISE NOTED.

LANDSCAPE PLANS & DETAILS
ORNAMENTAL LIGHT STANDARD - BASE PLATE COVER DETAILS

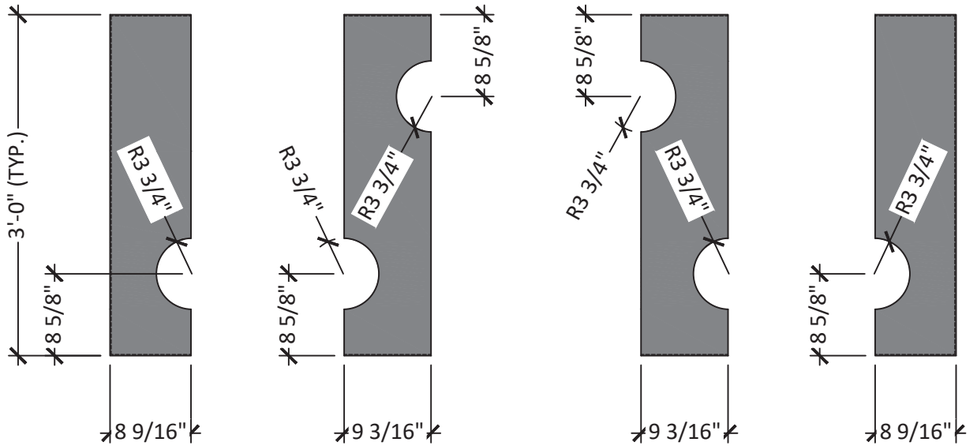
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County
Grand Forks, ND

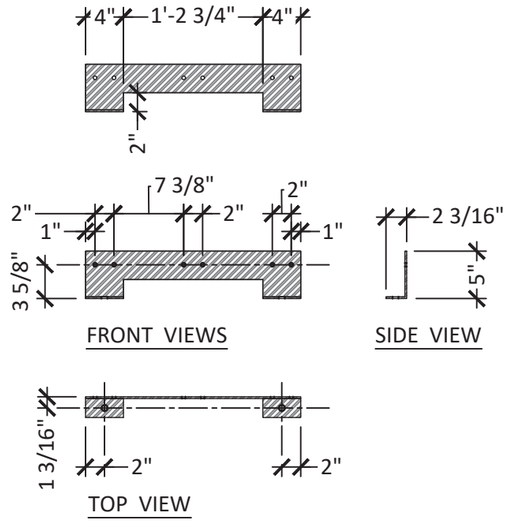
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Joshua Shields
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PERSPECTIVE VIEW - BASE PLATE COVER INSTALLATION CONCEPT

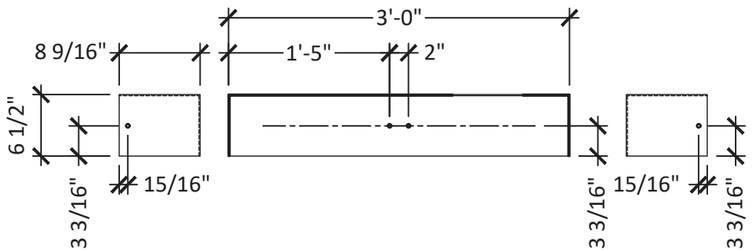


COVER PLATE A | COVER PLATE B | COVER PLATE C | COVER PLATE D

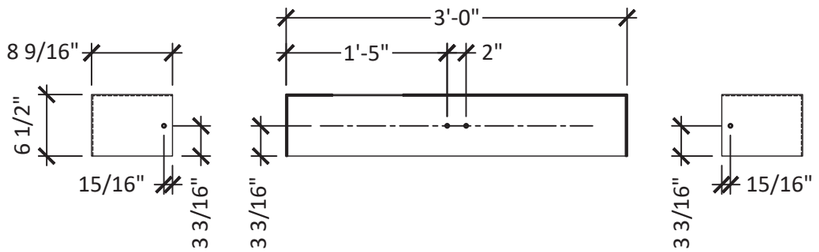


FRONT VIEWS | SIDE VIEW | TOP VIEW

FRONT/BACK MOUNTING BRACKET



COVER PLATE D - ELEVATIONS



COVER PLATE A - ELEVATIONS

1 ORNAMENTAL LIGHT STANDARD - BASE PLATE COVER DETAIL 2
SCALE: N.T.S.

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	85	11

NOTES

1. ORNAMENTAL LIGHT STANDARDS
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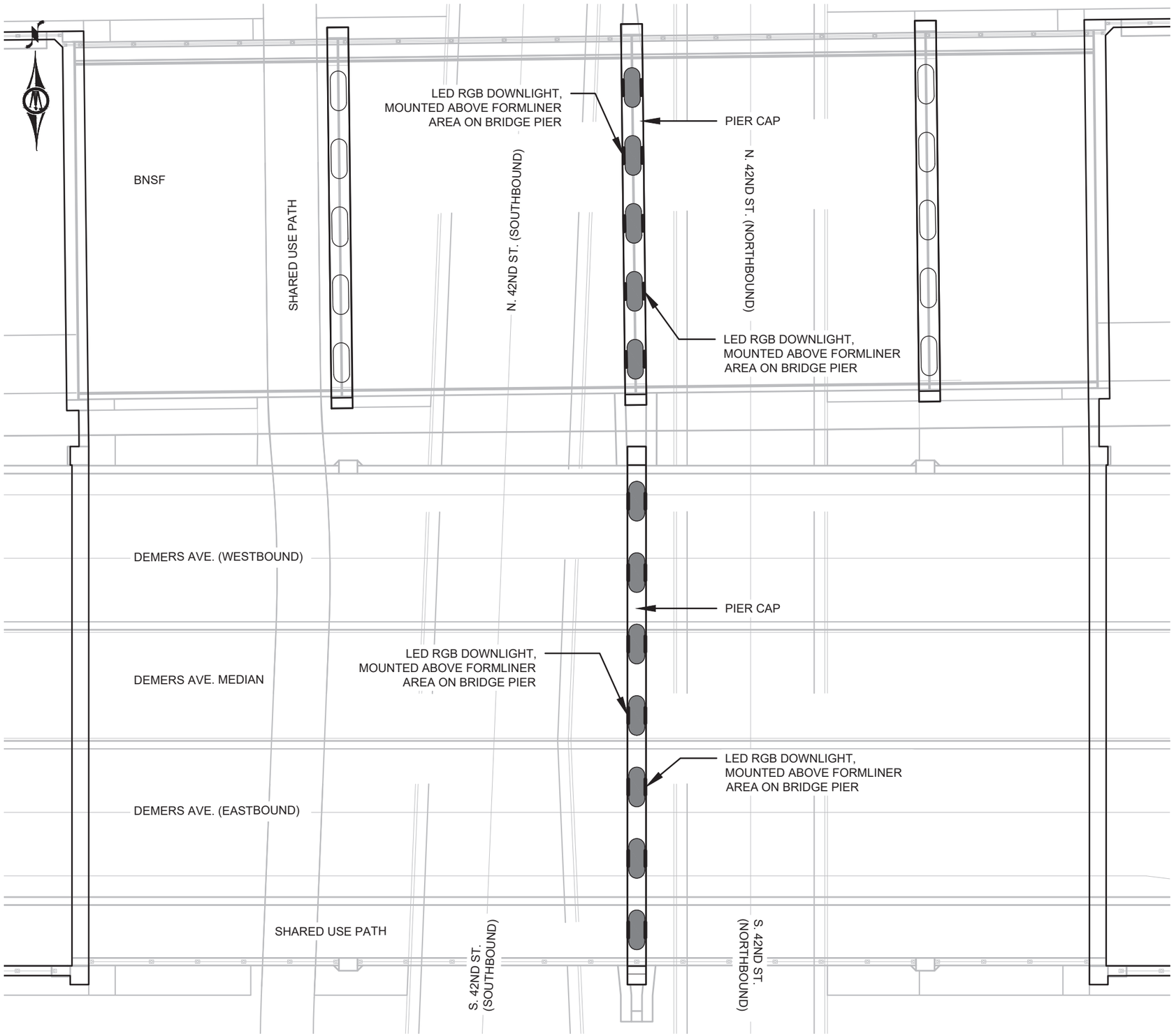
   OR APPROVED EQUAL BY ENGINEER AND LANDSCAPE ARCHITECT OF RECORD.
3. ORNAMENTAL LIGHT STANDARD BASE PLATE COVERS
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6. SEE SECTION 170a STRUCTURAL DRAWINGS FOR BASE PLATE LOCATIONS AND ORNAMENTAL LIGHT STANDARD MOUNTING DETAILS.
7. ALL METAL TO BE GALVANIZED AND PAINTED UNLESS OTHERWISE NOTED.

LANDSCAPE PLANS & DETAILS
ORNAMENTAL LIGHT STANDARD - BASE PLATE COVER DETAILS

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County
Grand Forks, ND

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Joshua Shields
Date _____ Reg No. 182



1 LED RGB DOWNLIGHT LAYOUT PLAN

HORZ. SCALE 0 10 20 FEET

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	85	12

LEGEND

BRIDGE PIER

BRIDGE PIER WITH LED RGB DOWNLIGHT. SEE SHEET NO. 13 SECTION 85 FOR DETAIL. SEE SECTION 140 FOR CONDUIT LAYOUT AND ELECTRICAL DETAILS.

NOTES

1. LED RGB DOWNLIGHT BASIS OF DESIGN
   - 1.1. LUMENPULSE - LUMENFACADE MAX LFM-SA, 36" LENGTH
   - 1.2. GRIVEN - PARADE L3 MC RGBW
   - 1.3. TARGETTI - JEDI PROJECTOR RGBW Q, 36" LENGTH

   OR APPROVED EQUAL BY ENGINEER AND LANDSCAPE ARCHITECT OF RECORD.
2. SECURE LED RGB DOWNLIGHT WITH MOUNTING BRACKET RATED FOR BRIDGES AND OVERPASSES.

LANDSCAPE PLANS & DETAILS
LED RGB DOWNLIGHT LAYOUT

ND 297 (DeMers Ave) & 42nd St Grade Separation

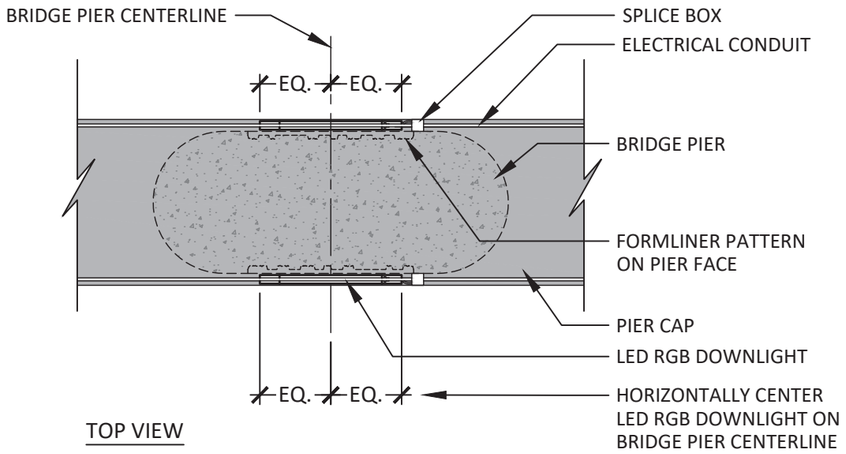
Grand Forks County
Grand Forks, ND

I hereby certify that this plan specification, or report was prepared by me or under my direct supervision, and that I am a duly Registered Landscape Architect under the laws of the State of North Dakota.

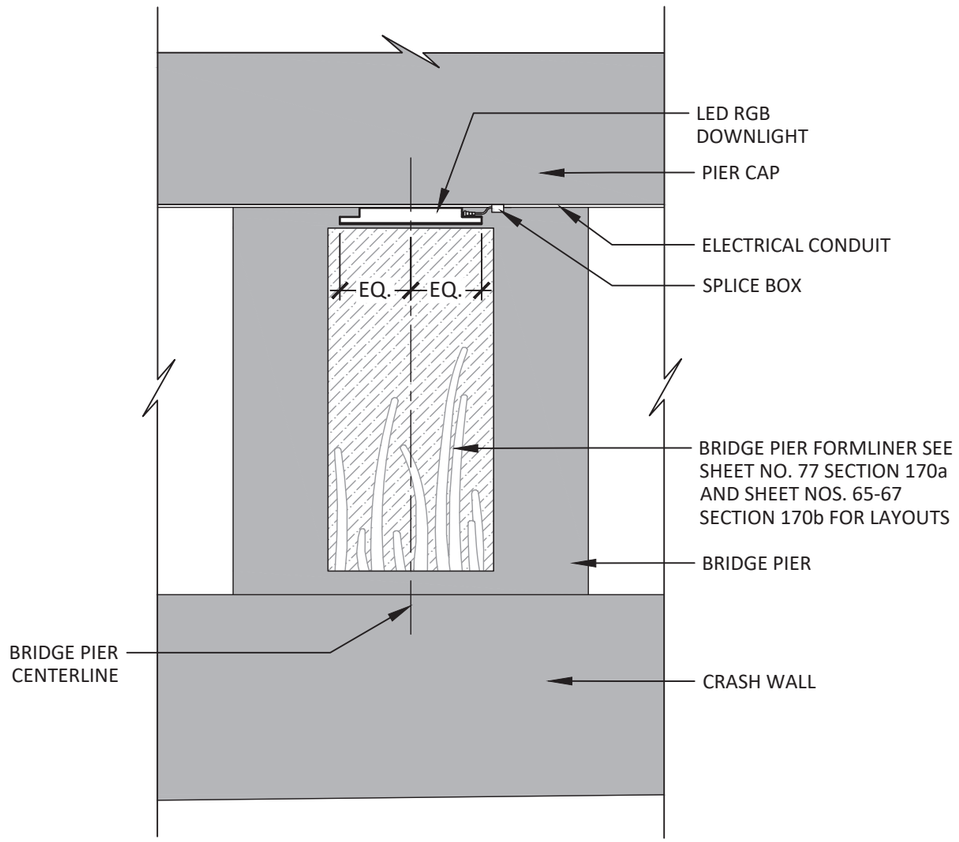
JOSHUA SHIELDS

Date _____ Joshua Shields _____ Reg No. 182

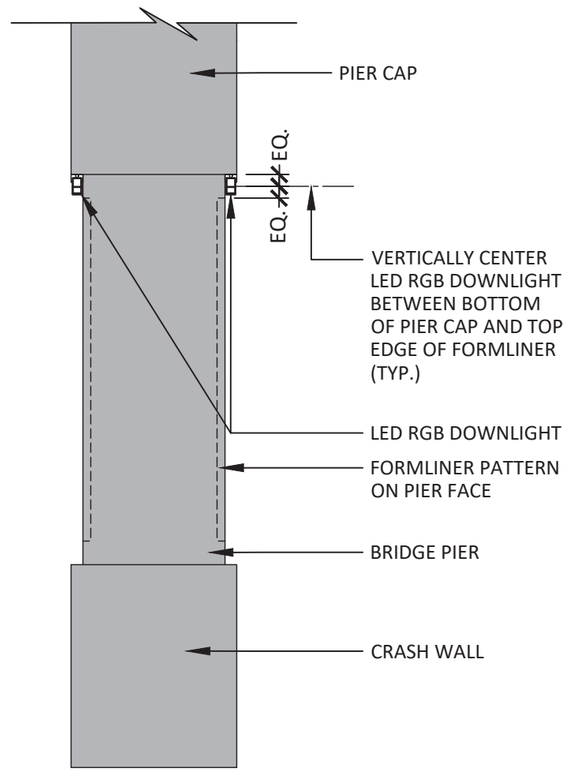
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TOP VIEW



ELEVATION



CROSS SECTION

1 LED RGB DOWNLIGHT
SCALE: N.T.S.

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	85	13

NOTES

1. LED RGB DOWNLIGHT BASIS OF DESIGN
   - 1.1. LUMENPULSE - LUMENFACADE MAX LFM-SA, 36" LENGTH
   - 1.2. GRIVEN - PARADE L3 MC RGBW
   - 1.3. TARGETTI - JEDI PROJECTOR RGBW Q, 36" LENGTH

   OR APPROVED EQUAL BY ENGINEER AND LANDSCAPE ARCHITECT OF RECORD.
2. SECURE LED RGB DOWNLIGHT WITH MOUNTING BRACKET RATED FOR BRIDGES AND OVERPASSES.

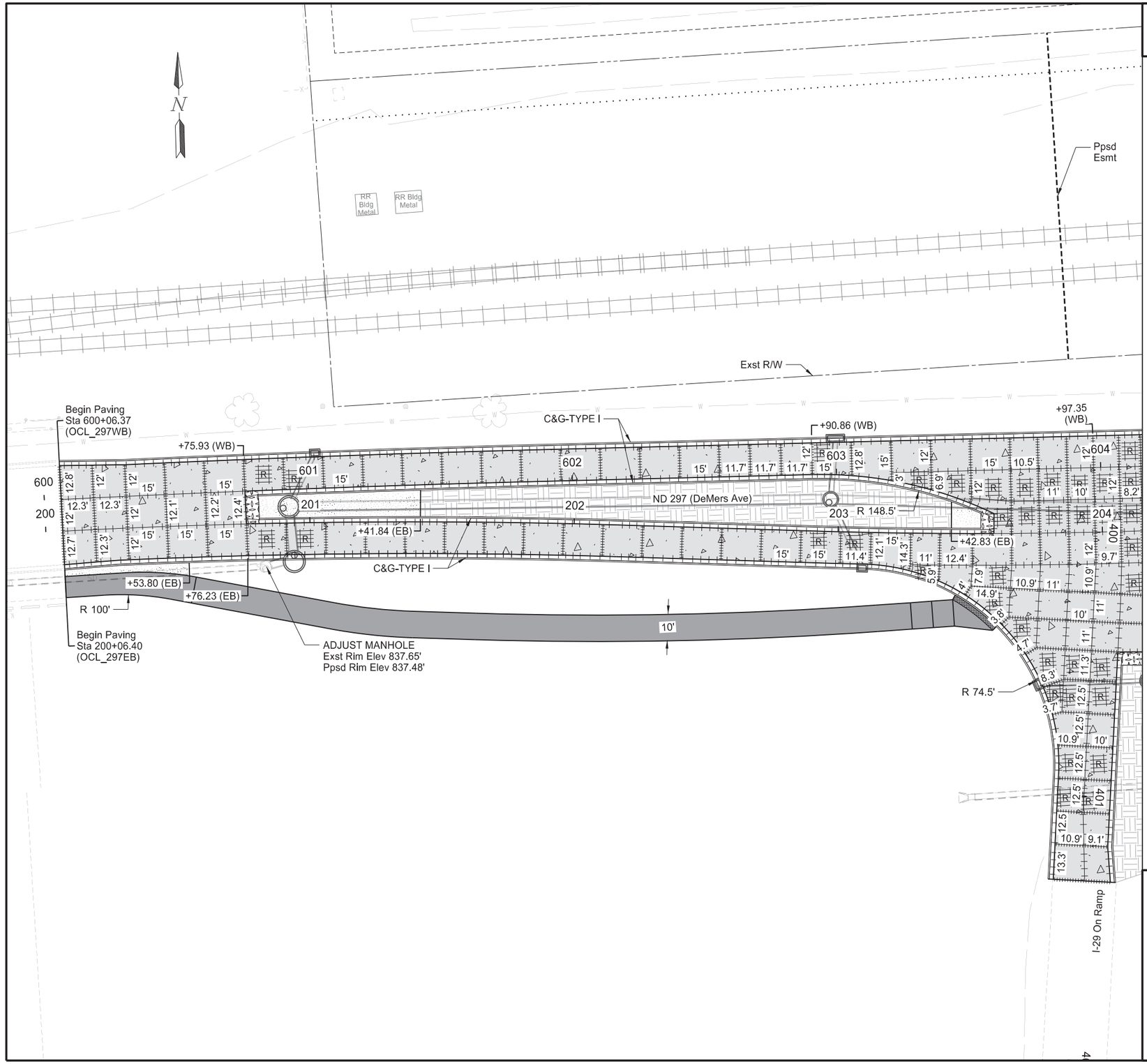
LANDSCAPE PLANS & DETAILS
LED RGB DOWNLIGHT DETAILS

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County
Grand Forks, ND

I hereby certify that this plan specification, or report was prepared by me or under my direct supervision, and that I am a duly Registered Landscape Architect under the laws of the State of North Dakota.
JOSHUA SHIELDS
Joshua Shields
Date Reg No. 182

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	90	1



SPEC	CODE	BID ITEM	QTY	UNIT
550	0305	9IN NON-REINF CONCRETE PVMT CL AE-DOWELED		
		Sta 200+06.40 to 204+00 (OCL_297EB)	1678	SY
722	6200	ADJUST MANHOLE		
		Sta 200+83 Rt (OCL_297EB)	1	EA
748	0140	CURB & GUTTER-TYPE I		
		Sta 200+06.40 to 204+00 (OCL_297EB)	1402	LF
750	0020	PIGMENTED CONCRETE		
		Sta 200+06.40 to 204+00 (OCL_297EB)	88	SY
750	0125	SIDEWALK CONCRETE 5IN		
		Sta 200+06.40 to 204+00 (OCL_297EB)	381	SY
750	0210	CONCRETE MEDIAN NOSE PAVING		
		Sta 200+06.40 to 204+00 (OCL_297EB)	12	SY
750	2115	DETECTABLE WARNING PANELS		
		Sta 200+06.40 to 204+00 (OCL_297EB)	39	SF

Notes:

1. Tie bars or dowel bars will be drilled and epoxied into place where existing pavement abuts new pavement or curb and gutter. All costs to be included in the price bid for "9 IN NON-REINF CONCRETE PVMT CL AE-DOWELED".
2. Pour Curb & Gutter separate from adjacent concrete pavement.
3. See section 20 for pavement jointing details
4. See section 20 for CURB & GUTTER-TYPE I 30IN details.
5. See section 20 for CURB & GUTTER-TYPE 1 SPECIAL details.
6. See Std Dwg D-748-1 for CURB & GUTTER-TYPE I
7. Median Curb & Gutter tipped out unless shown otherwise.
8. Pavement Widths shown measured to lip of gutter and median widths measured from back of curb to back of curb.

Legend

- 9IN NON-REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- SIDEWALK CONCRETE 4IN
- PIGMENTED CONCRETE 4IN
- DRIVEWAY CONCRETE 8IN
- GRASS MEDIAN
- CONCRETE MEDIAN NOSE PAVING - See Section 20 Detail
- CONCRETE SLOPE PROTECTION
- COMMERCIAL GRADE HOT MIX ASPHALT
- DETECTABLE WARNING PANELS
- Doweled Joint - Placed at 15' typical spacing unless otherwise shown.
- #4 Deformed Tie Bar
- REINFORCED PANEL - See Section 20 Detail

Paving Layouts

Sta 200+00 to 204+00

ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2026.01.28 16:34:00 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	90	2

SPEC	CODE	BID ITEM	QTY	UNIT
550	0305	9IN NON-REINF CONCRETE PVMT CL AE-DOWELED		
		Sta 204+00 to 208+00 (OCL_297EB)	2728	SY
748	0140	CURB & GUTTER-TYPE I		
		Sta 204+00 to 208+00 (OCL_297EB)	1846	LF
750	0020	PIGMENTED CONCRETE		
		Sta 204+00 to 208+00 (OCL_297EB)	304	SY
750	0125	SIDEWALK CONCRETE 5IN		
		Sta 204+00 to 208+00 (OCL_297EB)	366	SY
750	0210	CONCRETE MEDIAN NOSE PAVING		
		Sta 204+00 to 208+00 (OCL_297EB)	20	SY
750	1000	DRIVEWAY CONCRETE		
		Sta 204+00 to 208+00 (OCL_297EB)	185	SY
750	2115	DETECTABLE WARNING PANELS		
		Sta 204+00 to 208+00 (OCL_297EB)	81	SF

Notes:

1. Tie bars or dowel bars will be drilled and epoxied into place where existing pavement abuts new pavement or curb and gutter. All costs to be included in the price bid for "9 IN NON-REINF CONCRETE PVMT CL AE-DOWELED".
2. Pour Curb & Gutter separate from adjacent concrete pavement.
3. See section 20 for pavement jointing details
4. See section 20 for CURB & GUTTER-TYPE I 30IN details.
5. See section 20 for CURB & GUTTER-TYPE 1 SPECIAL details.
6. See Std Dwg D-748-1 for CURB & GUTTER-TYPE I
7. Median Curb & Gutter tipped out unless shown otherwise.
8. Pavement Widths shown measured to lip of gutter and median widths measured from back of curb to back of curb.

Legend

- 9IN NON-REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- SIDEWALK CONCRETE 4IN
- PIGMENTED CONCRETE 4IN
- DRIVEWAY CONCRETE 8IN
- GRASS MEDIAN
- CONCRETE MEDIAN NOSE PAVING - See Section 20 Detail
- CONCRETE SLOPE PROTECTION
- COMMERCIAL GRADE HOT MIX ASPHALT
- DETECTABLE WARNING PANELS
- Doweled Joint - Placed at 15' typical spacing unless otherwise shown.
- #4 Deformed Tie Bar
- REINFORCED PANEL - See Section 20 Detail

Paving Layouts

Sta 204+00 to 208+00

ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8276
DATE: 2026.01.28 16:34:12 -06'00'
NORTH DAKOTA

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	90	3

SPEC	CODE	BID ITEM	QTY	UNIT
430	0500	COMMERCIAL GRADE HOT MIX ASPHALT		
		Sta 208+35.97 to 210+75.56 (OCL_297EB)	20	TON
550	0305	9IN NON-REINF CONCRETE PVMT CL AE-DOWELED		
		Sta 208+00 to 212+00 (OCL_297EB)	1373	SY
722	6140	ADJUST GATE VALVE BOX		
		Sta 608+36 Lt (OCL_297WB)	1	EA
748	0140	CURB & GUTTER-TYPE I		
		Sta 208+00 to 212+00 (OCL_297EB)	1055	LF
750	0020	PIGMENTED CONCRETE		
		Sta 208+00 to 212+00 (OCL_297EB)	42	SY
750	0125	SIDEWALK CONCRETE 5IN		
		Sta 208+00 to 212+00 (OCL_297EB)	399	SY
750	1000	DRIVEWAY CONCRETE		
		Sta 208+00 to 212+00 (OCL_297EB)	107	SY
750	2115	DETECTABLE WARNING PANELS		
		Sta 208+00 to 212+00 (OCL_297EB)	20	SF

Notes:

1. Tie bars or dowel bars will be drilled and epoxied into place where existing pavement abuts new pavement or curb and gutter. All costs to be included in the price bid for "9 IN NON-REINF CONCRETE PVMT CL AE-DOWELED".
2. Pour Curb & Gutter separate from adjacent concrete pavement.
3. See section 20 for pavement jointing details
4. See section 20 for CURB & GUTTER-TYPE I 30IN details.
5. See section 20 for CURB & GUTTER-TYPE 1 SPECIAL details.
6. See Std Dwg D-748-1 for CURB & GUTTER-TYPE I
7. Median Curb & Gutter tipped out unless shown otherwise.
8. Pavement Widths shown measured to lip of gutter and median widths measured from back of curb to back of curb.

Legend

- 9IN NON-REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- SIDEWALK CONCRETE 4IN
- PIGMENTED CONCRETE 4IN
- DRIVEWAY CONCRETE 8IN
- GRASS MEDIAN
- CONCRETE MEDIAN NOSE PAVING - See Section 20 Detail
- CONCRETE SLOPE PROTECTION
- COMMERCIAL GRADE HOT MIX ASPHALT
- DETECTABLE WARNING PANELS
- Doweled Joint - Placed at 15' typical spacing unless otherwise shown.
- #4 Deformed Tie Bar
- REINFORCED PANEL - See Section 20 Detail

Paving Layouts

Sta 208+00 to 212+00

ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8256
DATE:2026.01.28 16:34:23 -06'00'
NORTH DAKOTA

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	90	4

SPEC	CODE	BID ITEM	QTY	UNIT
430	0500	COMMERCIAL GRADE HOT MIX ASPHALT		
		Sta 613+10.64 to 615+53.41 (OCL_297EB)	7	TON
550	0305	9IN NON-REINF CONCRETE PVMT CL AE-DOWELED		
		Sta 212+00 to 216+00 (OCL_297EB)	1843	SY
748	0140	CURB & GUTTER-TYPE I		
		Sta 212+00 to 216+00 (OCL_297EB)	1077	LF
750	0020	PIGMENTED CONCRETE		
		Sta 212+00 to 216+00 (OCL_297EB)	51	SY
750	0125	SIDEWALK CONCRETE 5IN		
		Sta 212+00 to 216+00 (OCL_297EB)	302	SY

Notes:

1. Tie bars or dowel bars will be drilled and epoxied into place where existing pavement abuts new pavement or curb and gutter. All costs to be included in the price bid for "9 IN NON-REINF CONCRETE PVMT CL AE-DOWELED".
2. Pour Curb & Gutter separate from adjacent concrete pavement.
3. See section 20 for pavement jointing details
4. See section 20 for CURB & GUTTER-TYPE I 30IN details.
5. See section 20 for CURB & GUTTER-TYPE 1 SPECIAL details.
6. See Std Dwg D-748-1 for CURB & GUTTER-TYPE I
7. Median Curb & Gutter tipped out unless shown otherwise.
8. Pavement Widths shown measured to lip of gutter and median widths measured from back of curb to back of curb.

Legend

- 9IN NON-REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- SIDEWALK CONCRETE 4IN
- PIGMENTED CONCRETE 4IN
- DRIVEWAY CONCRETE 8IN
- GRASS MEDIAN
- CONCRETE MEDIAN NOSE PAVING - See Section 20 Detail
- CONCRETE SLOPE PROTECTION
- COMMERCIAL GRADE HOT MIX ASPHALT
- DETECTABLE WARNING PANELS
- Doweled Joint - Placed at 15' typical spacing unless otherwise shown.
- #4 Deformed Tie Bar
- REINFORCED PANEL - See Section 20 Detail

Paving Layouts

Sta 212+00 to 216+00

ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE:2026.01.28 16:34:33 -06'00'
NORTH DAKOTA

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	90	5

SPEC	CODE	BID ITEM	QTY	UNIT
430	0500	COMMERCIAL GRADE HOT MIX ASPHALT		
		Sta 216+00 to 220+00 (OCL_297EB)	7	TON
550	0305	9IN NON-REINF CONCRETE PVMT CL AE-DOWELED		
		Sta 216+00 to 220+00 (OCL_297EB)	3459	SY
748	0140	CURB & GUTTER-TYPE I		
		Sta 216+00 to 220+00 (OCL_297EB)	1225	LF
750	0020	PIGMENTED CONCRETE		
		Sta 216+00 to 220+00 (OCL_297EB)	190	SY
750	0125	SIDEWALK CONCRETE 5IN		
		Sta 216+00 to 220+00 (OCL_297EB)	328	SY
750	0210	CONCRETE MEDIAN NOSE PAVING		
		Sta 216+00 to 220+00 (OCL_297EB)	19	SY
750	2115	DETECTABLE WARNING PANELS		
		Sta 216+00 to 220+00 (OCL_297EB)	42	SF

Notes:

1. Tie bars or dowel bars will be drilled and epoxied into place where existing pavement abuts new pavement or curb and gutter. All costs to be included in the price bid for "9 IN NON-REINF CONCRETE PVMT CL AE-DOWELED".
2. Pour Curb & Gutter separate from adjacent concrete pavement.
3. See section 20 for pavement jointing details
4. See section 20 for CURB & GUTTER-TYPE I 30IN details.
5. See section 20 for CURB & GUTTER-TYPE 1 SPECIAL details.
6. See Std Dwg D-748-1 for CURB & GUTTER-TYPE I
7. Median Curb & Gutter tipped out unless shown otherwise.
8. Pavement Widths shown measured to lip of gutter and median widths measured from back of curb to back of curb.

Legend

- 9IN NON-REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- SIDEWALK CONCRETE 4IN
- PIGMENTED CONCRETE 4IN
- DRIVEWAY CONCRETE 8IN
- GRASS MEDIAN
- CONCRETE MEDIAN NOSE PAVING - See Section 20 Detail
- CONCRETE SLOPE PROTECTION
- COMMERCIAL GRADE HOT MIX ASPHALT
- DETECTABLE WARNING PANELS
- Doweled Joint - Placed at 15' typical spacing unless otherwise shown.
- #4 Deformed Tie Bar
- REINFORCED PANEL - See Section 20 Detail

Paving Layouts

Sta 216+00 to 220+00

ND 297 (DeMers Ave)

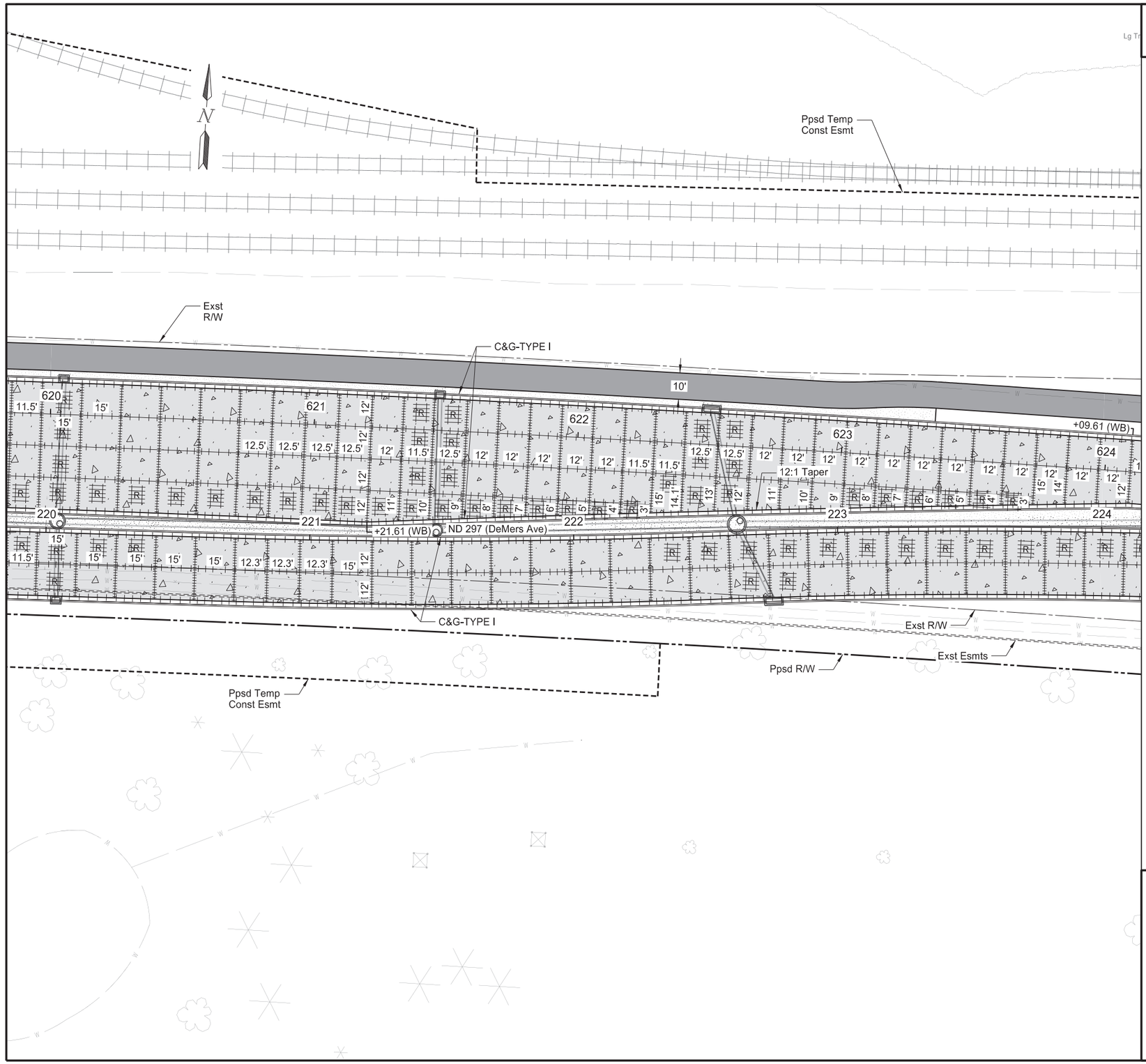
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9206
DATE: 2026.01.28 16:34:44 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	90	6

SPEC	CODE	BID ITEM	QTY	UNIT
550	0305	9IN NON-REINF CONCRETE PVMT CL AE-DOWELED		
		Sta 220+00 to 224+00 (OCL_297EB)	2840	SY
748	0140	CURB & GUTTER-TYPE I		
		Sta 220+00 to 224+00 (OCL_297EB)	1600	LF
750	0020	PIGMENTED CONCRETE		
		Sta 220+00 to 224+00 (OCL_297EB)	319	SY
750	0125	SIDEWALK CONCRETE 5IN		
		Sta 220+00 to 224+00 (OCL_297EB)	444	SY

Notes:

1. Tie bars or dowel bars will be drilled and epoxied into place where existing pavement abuts new pavement or curb and gutter. All costs to be included in the price bid for "9 IN NON-REINF CONCRETE PVMT CL AE-DOWELED".
2. Pour Curb & Gutter separate from adjacent concrete pavement.
3. See section 20 for pavement jointing details
4. See section 20 for CURB & GUTTER-TYPE I 30IN details.
5. See section 20 for CURB & GUTTER-TYPE 1 SPECIAL details.
6. See Std Dwg D-748-1 for CURB & GUTTER-TYPE I
7. Median Curb & Gutter tipped out unless shown otherwise.
8. Pavement Widths shown measured to lip of gutter and median widths measured from back of curb to back of curb.

Legend

- 9IN NON-REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- SIDEWALK CONCRETE 4IN
- PIGMENTED CONCRETE 4IN
- DRIVEWAY CONCRETE 8IN
- GRASS MEDIAN
- CONCRETE MEDIAN NOSE PAVING - See Section 20 Detail
- CONCRETE SLOPE PROTECTION
- COMMERCIAL GRADE HOT MIX ASPHALT
- DETECTABLE WARNING PANELS
- Doweled Joint - Placed at 15' typical spacing unless otherwise shown.
- #4 Deformed Tie Bar
- R — REINFORCED PANEL - See Section 20 Detail

Paving Layouts

Sta 220+00 to 224+00

ND 297 (DeMers Ave)

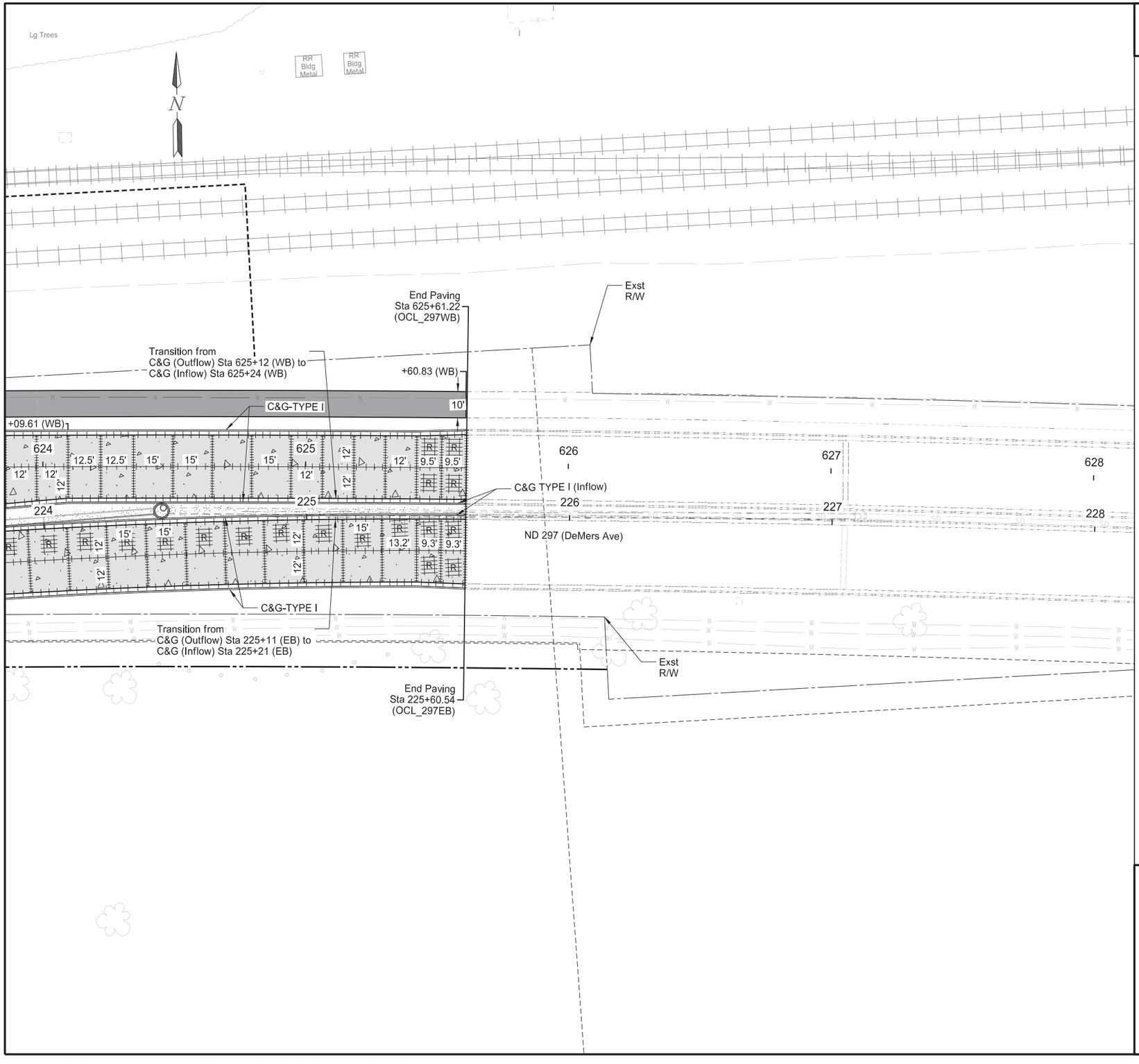
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2026.01.28 16:34:55 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	90	7

SPEC	CODE	BID ITEM	QTY	UNIT
550	0305	9IN NON-REINF CONCRETE PVMT CL AE-DOWELED		
		Sta 224+00 to 226+00 (OCL_297EB)	860	SY
748	0140	CURB & GUTTER-TYPE I		
		Sta 224+00 to 226+00 (OCL_297EB)	644	LF
750	0020	PIGMENTED CONCRETE		
		Sta 224+00 to 226+00 (OCL_297EB)	88	SY
750	0125	SIDEWALK CONCRETE 5IN		
		Sta 224+00 to 226+00 (OCL_297EB)	181	SY

Notes:

1. Tie bars or dowel bars will be drilled and epoxied into place where existing pavement abuts new pavement or curb and gutter. All costs to be included in the price bid for "9 IN NON-REINF CONCRETE PVMT CL AE-DOWELED".
2. Pour Curb & Gutter separate from adjacent concrete pavement.
3. See section 20 for pavement jointing details
4. See section 20 for CURB & GUTTER-TYPE I 30IN details.
5. See section 20 for CURB & GUTTER-TYPE 1 SPECIAL details.
6. See Std Dwg D-748-1 for CURB & GUTTER-TYPE I
7. Median Curb & Gutter tipped out unless shown otherwise.
8. Pavement Widths shown measured to lip of gutter and median widths measured from back of curb to back of curb.

Legend

- 9IN NON-REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- SIDEWALK CONCRETE 4IN
- PIGMENTED CONCRETE 4IN
- DRIVEWAY CONCRETE 8IN
- GRASS MEDIAN
- CONCRETE MEDIAN NOSE PAVING - See Section 20 Detail
- CONCRETE SLOPE PROTECTION
- COMMERCIAL GRADE HOT MIX ASPHALT
- DETECTABLE WARNING PANELS
- Doweled Joint - Placed at 15' typical spacing unless otherwise shown.
- #4 Deformed Tie Bar
- REINFORCED PANEL - See Section 20 Detail

Paving Layouts

Sta 224+00 to 226+00

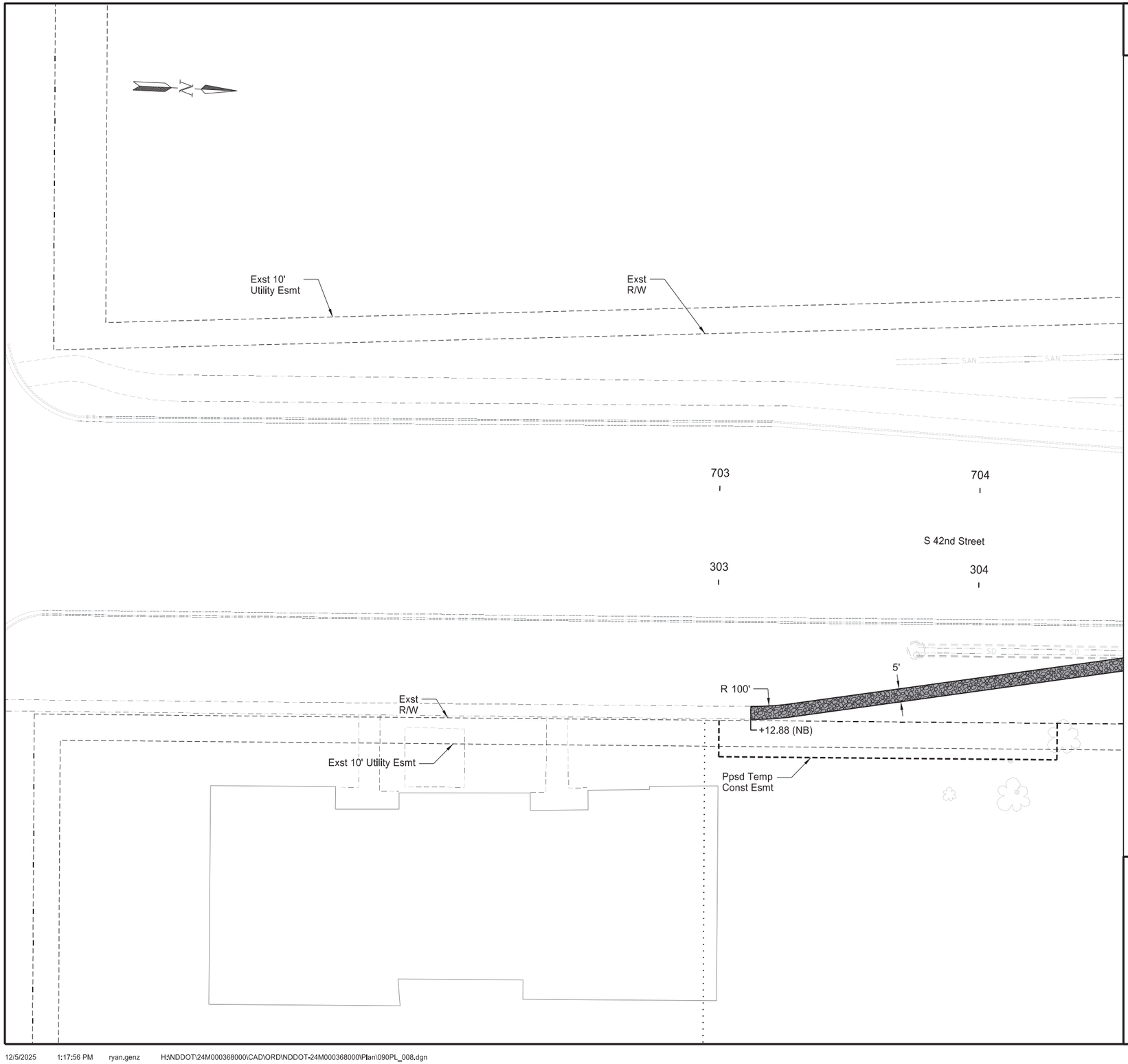
ND 297 (DeMers Ave)

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4276
DATE: 2026.01.28 16:35:06 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	90	8

SPEC	CODE	BID ITEM	QTY	UNIT
750	0115	SIDEWALK CONCRETE 4IN		
		Sta 303+12.88 to 304+50 (OCL_42nd_NB)	77	SY

Notes:

1. Tie bars or dowel bars will be drilled and epoxied into place where existing pavement abuts new pavement or curb and gutter. All costs to be included in the price bid for "9 IN NON-REINF CONCRETE PVMT CL AE-DOWELED".
2. Pour Curb & Gutter separate from adjacent concrete pavement.
3. See section 20 for pavement jointing details
4. See section 20 for CURB & GUTTER-TYPE I 30IN details.
5. See section 20 for CURB & GUTTER-TYPE 1 SPECIAL details.
6. See Std Dwg D-748-1 for CURB & GUTTER-TYPE I
7. Median Curb & Gutter tipped out unless shown otherwise.
8. Pavement Widths shown measured to lip of gutter and median widths measured from back of curb to back of curb.

Legend

- 9IN NON-REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- SIDEWALK CONCRETE 4IN
- PIGMENTED CONCRETE 4IN
- DRIVEWAY CONCRETE 8IN
- GRASS MEDIAN
- CONCRETE MEDIAN NOSE PAVING - See Section 20 Detail
- CONCRETE SLOPE PROTECTION
- COMMERCIAL GRADE HOT MIX ASPHALT
- DETECTABLE WARNING PANELS
- Doweled Joint - Placed at 15' typical spacing unless otherwise shown.
- #4 Deformed Tie Bar
- R — REINFORCED PANEL - See Section 20 Detail

Paving Layouts

Sta 303+00 to 304+50

S 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2026.01.28 16:35:33 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	90	9

SPEC	CODE	BID ITEM	QTY	UNIT
550	0305	9IN NON-REINF CONCRETE PVMT CL AE-DOWELED		
		Sta 304+50 to 308+40 (OCL_42nd_NB)	2436	SY
748	0141	CURB & GUTTER-TYPE 1 SPECIAL		
		Sta 304+50 to 308+40 (OCL_42nd_NB)	677	LF
748	0190	CURB & GUTTER-TYPE I 30IN		
		Sta 304+50 to 308+40 (OCL_42nd_NB)	605	LF
750	0020	PIGMENTED CONCRETE		
		Sta 304+50 to 308+40 (OCL_42nd_NB)	293	SY
750	0115	SIDEWALK CONCRETE 4IN		
		Sta 304+50 to 308+40 (OCL_42nd_NB)	201	SY
750	0125	SIDEWALK CONCRETE 5IN		
		Sta 304+50 to 308+40 (OCL_42nd_NB)	355	SY
750	0210	CONCRETE MEDIAN NOSE PAVING		
		Sta 304+50 to 308+40 (OCL_42nd_NB)	16	SY
750	1000	DRIVEWAY CONCRETE		
		Sta 304+50 to 308+40 (OCL_42nd_NB)	86	SY

Notes:

1. Tie bars or dowel bars will be drilled and epoxied into place where existing pavement abuts new pavement or curb and gutter. All costs to be included in the price bid for "9 IN NON-REINF CONCRETE PVMT CL AE-DOWELED".
2. Pour Curb & Gutter separate from adjacent concrete pavement.
3. See section 20 for pavement jointing details
4. See section 20 for CURB & GUTTER-TYPE I 30IN details.
5. See section 20 for CURB & GUTTER-TYPE 1 SPECIAL details.
6. See Std Dwg D-748-1 for CURB & GUTTER-TYPE I
7. Median Curb & Gutter tipped out unless shown otherwise.
8. Pavement Widths shown measured to lip of gutter and median widths measured from back of curb to back of curb.

Legend

- 9IN NON-REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- SIDEWALK CONCRETE 4IN
- PIGMENTED CONCRETE 4IN
- DRIVEWAY CONCRETE 8IN
- GRASS MEDIAN
- CONCRETE MEDIAN NOSE PAVING - See Section 20 Detail
- CONCRETE SLOPE PROTECTION
- COMMERCIAL GRADE HOT MIX ASPHALT
- DETECTABLE WARNING PANELS
- Doweled Joint - Placed at 15' typical spacing unless otherwise shown.
- #4 Deformed Tie Bar
- REINFORCED PANEL - See Section 20 Detail

Paving Layouts

Sta 304+50 to 308+40

S 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9256
DATE: 2026.01.28 16:40:00 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	90	10

SPEC	CODE	BID ITEM	QTY	UNIT
550	0305	9IN NON-REINF CONCRETE PVMT CL AE-DOWELED		
		Sta 308+40 to 312+40 (OCL_42nd_NB)	3760	SY
722	6140	ADJUST GATE VALVE BOX		
		Sta 709+87 Lt (OCL_42nd_SB)	1	EA
748	0190	CURB & GUTTER-TYPE 1 SPECIAL		
		Sta 308+40 to 312+40 (OCL_42nd_NB)	156	LF
748	0190	CURB & GUTTER-TYPE I 30IN		
		Sta 308+40 to 312+40 (OCL_42nd_NB)	878	LF
750	0020	PIGMENTED CONCRETE		
		Sta 308+40 to 312+40 (OCL_42nd_NB)	126	SY
750	0115	SIDEWALK CONCRETE 4IN		
		Sta 308+40 to 312+40 (OCL_42nd_NB)	138	SY
750	0125	SIDEWALK CONCRETE 5IN		
		Sta 308+40 to 312+40 (OCL_42nd_NB)	336	SY
750	0210	CONCRETE MEDIAN NOSE PAVING		
		Sta 308+40 to 312+40 (OCL_42nd_NB)	9	SY
750	2115	DETECTABLE WARNING PANELS		
		Sta 308+40 to 312+40 (OCL_42nd_NB)	40	SF

Notes:

1. Tie bars or dowel bars will be drilled and epoxied into place where existing pavement abuts new pavement or curb and gutter. All costs to be included in the price bid for "9 IN NON-REINF CONCRETE PVMT CL AE-DOWELED".
2. Pour Curb & Gutter separate from adjacent concrete pavement.
3. See section 20 for pavement jointing details
4. See section 20 for CURB & GUTTER-TYPE I 30IN details.
5. See section 20 for CURB & GUTTER-TYPE 1 SPECIAL details.
6. See Std Dwg D-748-1 for CURB & GUTTER-TYPE I
7. Median Curb & Gutter tipped out unless shown otherwise.
8. Pavement Widths shown measured to lip of gutter and median widths measured from back of curb to back of curb.

Legend

- 9IN NON-REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- SIDEWALK CONCRETE 4IN
- PIGMENTED CONCRETE 4IN
- DRIVEWAY CONCRETE 8IN
- GRASS MEDIAN
- CONCRETE MEDIAN NOSE PAVING - See Section 20 Detail
- CONCRETE SLOPE PROTECTION
- COMMERCIAL GRADE HOT MIX ASPHALT
- DETECTABLE WARNING PANELS
- Doweled Joint - Placed at 15' typical spacing unless otherwise shown.
- #4 Deformed Tie Bar
- REINFORCED PANEL - See Section 20 Detail

Paving Layouts

Sta 308+40 to 312+40

S 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

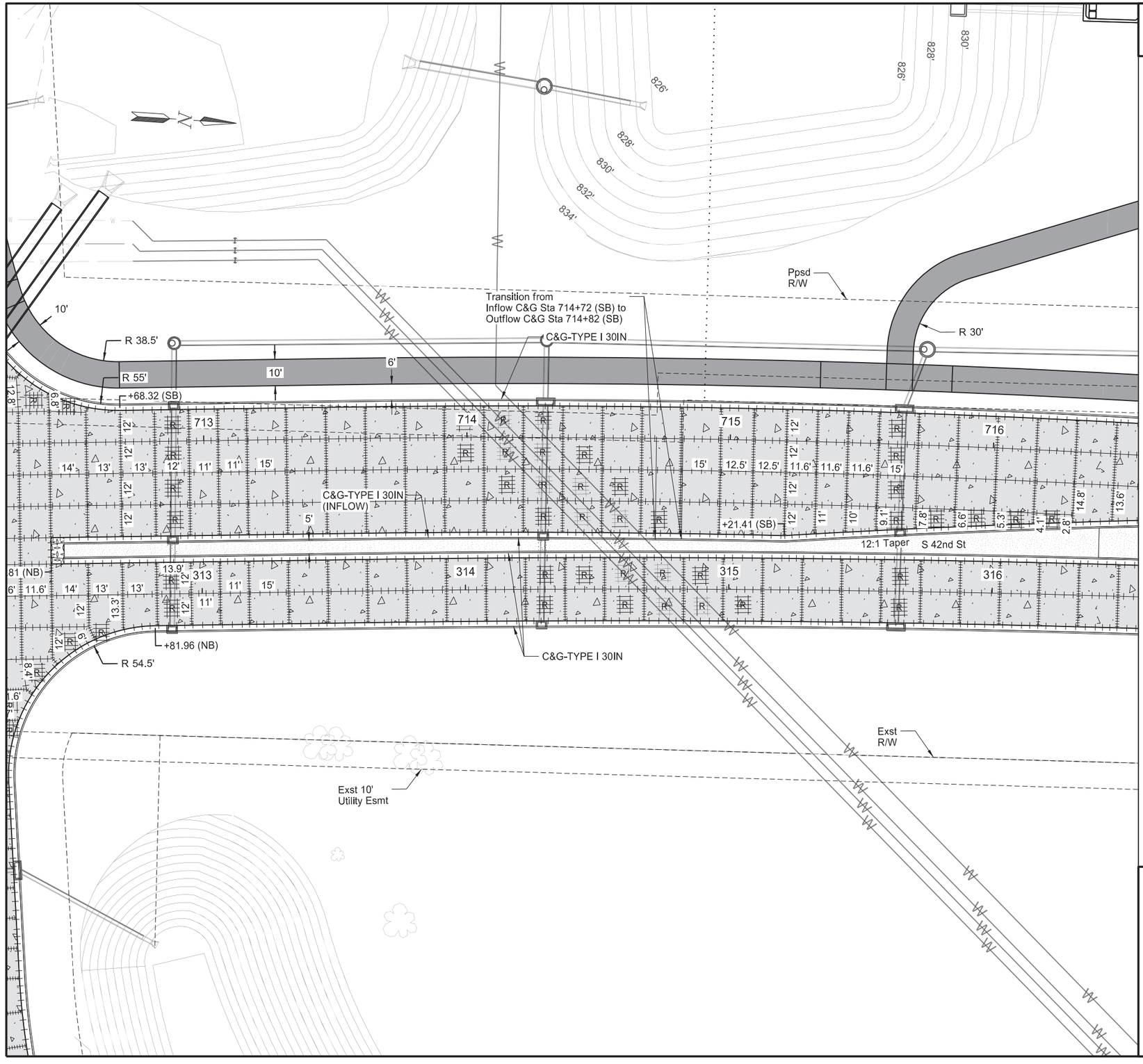
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8256
DATE: 2026.01.22 16:40:30 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	90	11



SPEC	CODE	BID ITEM	QTY	UNIT
550	0305	9IN NON-REINF CONCRETE PVMT CL AE-DOWELED		
		Sta 312+40 to 316+40 (OCL_42nd_NB)	3149	SY
748	0190	CURB & GUTTER-TYPE I 30IN		
		Sta 312+40 to 316+40 (OCL_42nd_NB)	1583	LF
750	0020	PIGMENTED CONCRETE		
		Sta 312+40 to 316+40 (OCL_42nd_NB)	243	SY
750	0125	SIDEWALK CONCRETE 5IN		
		Sta 312+40 to 316+40 (OCL_42nd_NB)	555	SY
750	0210	CONCRETE MEDIAN NOSE PAVING		
		Sta 312+40 to 316+40 (OCL_42nd_NB)	6	SY

Notes:

1. Tie bars or dowel bars will be drilled and epoxied into place where existing pavement abuts new pavement or curb and gutter. All costs to be included in the price bid for "9 IN NON-REINF CONCRETE PVMT CL AE-DOWELED".
2. Pour Curb & Gutter separate from adjacent concrete pavement.
3. See section 20 for pavement jointing details
4. See section 20 for CURB & GUTTER-TYPE I 30IN details.
5. See section 20 for CURB & GUTTER-TYPE 1 SPECIAL details.
6. See Std Dwg D-748-1 for CURB & GUTTER-TYPE I
7. Median Curb & Gutter tipped out unless shown otherwise.
8. Pavement Widths shown measured to lip of gutter and median widths measured from back of curb to back of curb.

Legend

- 9IN NON-REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- SIDEWALK CONCRETE 4IN
- PIGMENTED CONCRETE 4IN
- DRIVEWAY CONCRETE 8IN
- GRASS MEDIAN
- CONCRETE MEDIAN NOSE PAVING - See Section 20 Detail
- CONCRETE SLOPE PROTECTION
- COMMERCIAL GRADE HOT MIX ASPHALT
- DETECTABLE WARNING PANELS
- Doweled Joint - Placed at 15' typical spacing unless otherwise shown.
- #4 Deformed Tie Bar
- R — REINFORCED PANEL - See Section 20 Detail

Paving Layouts

Sta 312+40 to 316+40

S 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9076
DATE: 2026.01.28 16:41:16 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	90	12

SPEC	CODE	BID ITEM	QTY	UNIT
550	0305	9IN NON-REINF CONCRETE PVMT CL AE-DOWELED		
		Sta 316+40 to 320+40 (OCL_42nd_NB)	2266	SY
748	0190	CURB & GUTTER-TYPE I 30IN		
		Sta 316+40 to 320+40 (OCL_42nd_NB)	1602	LF
750	0020	PIGMENTED CONCRETE		
		Sta 316+40 to 320+40 (OCL_42nd_NB)	1328	SY
750	0125	SIDEWALK CONCRETE 5IN		
		Sta 316+40 to 320+40 (OCL_42nd_NB)	448	SY

Notes:

1. Tie bars or dowel bars will be drilled and epoxied into place where existing pavement abuts new pavement or curb and gutter. All costs to be included in the price bid for "9 IN NON-REINF CONCRETE PVMT CL AE-DOWELED".
2. Pour Curb & Gutter separate from adjacent concrete pavement.
3. See section 20 for pavement jointing details
4. See section 20 for CURB & GUTTER-TYPE I 30IN details.
5. See section 20 for CURB & GUTTER-TYPE 1 SPECIAL details.
6. See Std Dwg D-748-1 for CURB & GUTTER-TYPE I
7. Median Curb & Gutter tipped out unless shown otherwise.
8. Pavement Widths shown measured to lip of gutter and median widths measured from back of curb to back of curb.

Legend

- 9IN NON-REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- SIDEWALK CONCRETE 4IN
- PIGMENTED CONCRETE 4IN
- DRIVEWAY CONCRETE 8IN
- GRASS MEDIAN
- CONCRETE MEDIAN NOSE PAVING - See Section 20 Detail
- CONCRETE SLOPE PROTECTION
- COMMERCIAL GRADE HOT MIX ASPHALT
- DETECTABLE WARNING PANELS
- Doweled Joint - Placed at 15' typical spacing unless otherwise shown.
- #4 Deformed Tie Bar
- REINFORCED PANEL - See Section 20 Detail

Paving Layouts

Sta 316+40 to 320+40

S 42nd St / N 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9026
DATE: 2026.01.28 16:41:34 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	90	13

SPEC	CODE	BID ITEM	QTY	UNIT
550	0305	9IN NON-REINF CONCRETE PVMT CL AE-DOWELED		
		Sta 320+40 to 324+40 (OCL_42nd_NB)	2432	SY
748	0190	CURB & GUTTER-TYPE I 30IN		
		Sta 320+40 to 324+40 (OCL_42nd_NB)	1164	LF
750	0020	PIGMENTED CONCRETE		
		Sta 320+40 to 324+40 (OCL_42nd_NB)	158	SY
750	0125	SIDEWALK CONCRETE 5IN		
		Sta 320+40 to 324+40 (OCL_42nd_NB)	447	SY
750	0210	CONCRETE MEDIAN NOSE PAVING		
		Sta 320+40 to 324+40 (OCL_42nd_NB)	5	SY

Notes:

1. Tie bars or dowel bars will be drilled and epoxied into place where existing pavement abuts new pavement or curb and gutter. All costs to be included in the price bid for "9 IN NON-REINF CONCRETE PVMT CL AE-DOWELED".
2. Pour Curb & Gutter separate from adjacent concrete pavement.
3. See section 20 for pavement jointing details
4. See section 20 for CURB & GUTTER-TYPE I 30IN details.
5. See section 20 for CURB & GUTTER-TYPE 1 SPECIAL details.
6. See Std Dwg D-748-1 for CURB & GUTTER-TYPE I
7. Median Curb & Gutter tipped out unless shown otherwise.
8. Pavement Widths shown measured to lip of gutter and median widths measured from back of curb to back of curb.

Legend

- 9IN NON-REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- SIDEWALK CONCRETE 4IN
- PIGMENTED CONCRETE 4IN
- DRIVEWAY CONCRETE 8IN
- GRASS MEDIAN
- CONCRETE MEDIAN NOSE PAVING - See Section 20 Detail
- CONCRETE SLOPE PROTECTION
- COMMERCIAL GRADE HOT MIX ASPHALT
- DETECTABLE WARNING PANELS
- Doweled Joint - Placed at 15' typical spacing unless otherwise shown.
- #4 Deformed Tie Bar
- REINFORCED PANEL - See Section 20 Detail

Paving Layouts

Sta 320+40 to 324+40

N 42nd St

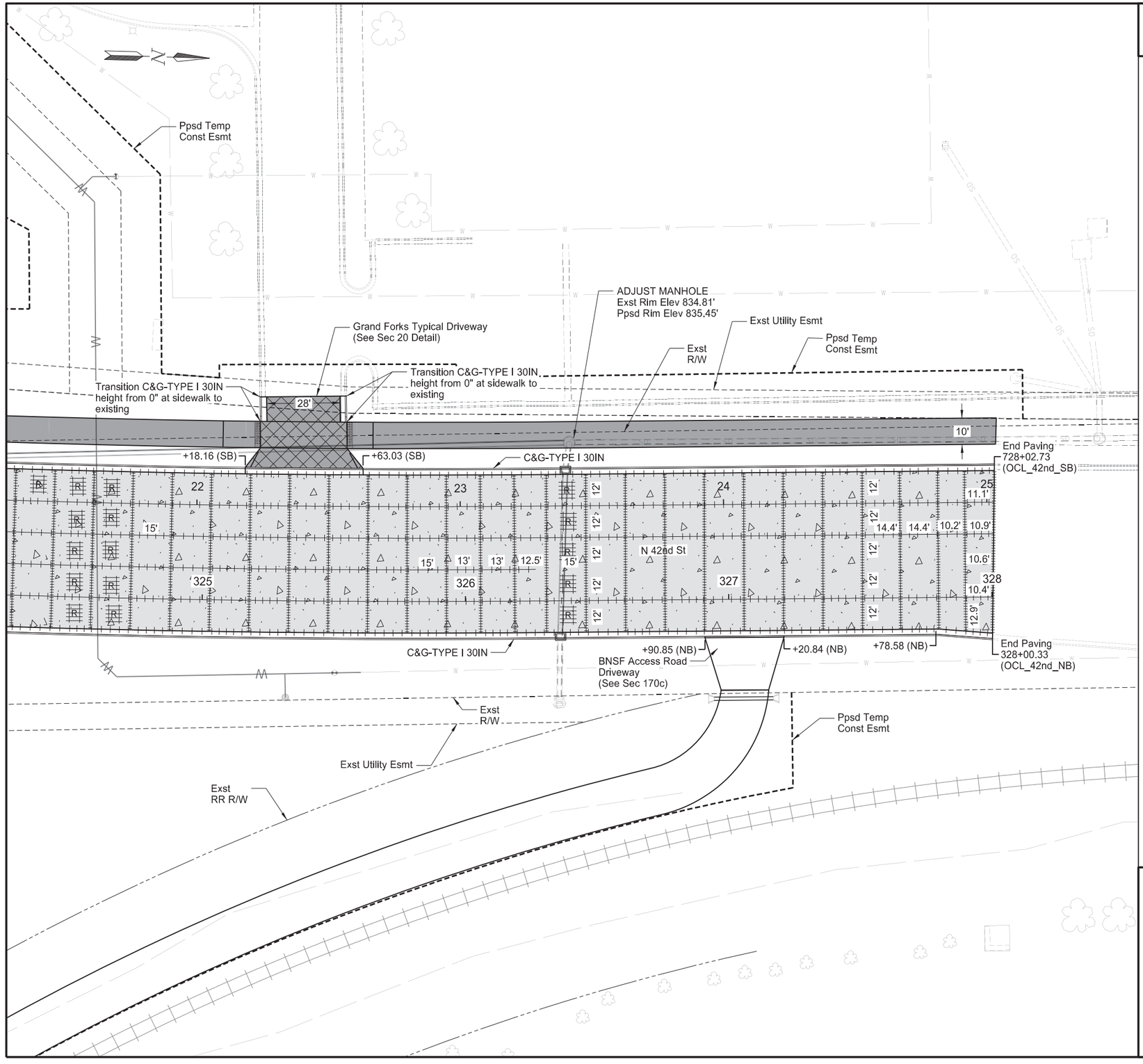
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8276
DATE:2026.01.28 16:41:47 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	90	14

SPEC	CODE	BID ITEM	QTY	UNIT
550	0305	9IN NON-REINF CONCRETE PVMT CL AE-DOWELED		
		Sta 324+40 to 328+02.21 (OCL_42nd_NB)	2402	SY
720	6200	ADJUST MANHOLE		
		Sta 726+42 Lt (OCL_42nd_SB)	1	EA
748	0190	CURB & GUTTER-TYPE I 30IN		
		Sta 324+40 to 328+02.21 (OCL_42nd_NB)	739	LF
750	0125	SIDEWALK CONCRETE 5IN		
		Sta 324+40 to 328+02.21 (OCL_42nd_NB)	363	SY
750	1000	DRIVEWAY CONCRETE		
		Sta 324+40 to 328+02.21 (OCL_42nd_NB)	99	SY
750	2115	DETECTABLE WARNING PANELS		
		Sta 324+40 to 328+02.21 (OCL_42nd_NB)	40	SF

Notes:

1. Tie bars or dowel bars will be drilled and epoxied into place where existing pavement abuts new pavement or curb and gutter. All costs to be included in the price bid for "9 IN NON-REINF CONCRETE PVMT CL AE-DOWELED".
2. Pour Curb & Gutter separate from adjacent concrete pavement.
3. See section 20 for pavement jointing details
4. See section 20 for CURB & GUTTER-TYPE I 30IN details.
5. See section 20 for CURB & GUTTER-TYPE 1 SPECIAL details.
6. See Std Dwg D-748-1 for CURB & GUTTER-TYPE I
7. Median Curb & Gutter tipped out unless shown otherwise.
8. Pavement Widths shown measured to lip of gutter and median widths measured from back of curb to back of curb.

Legend

- 9IN NON-REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- SIDEWALK CONCRETE 4IN
- PIGMENTED CONCRETE 4IN
- DRIVEWAY CONCRETE 8IN
- GRASS MEDIAN
- CONCRETE MEDIAN NOSE PAVING - See Section 20 Detail
- CONCRETE SLOPE PROTECTION
- COMMERCIAL GRADE HOT MIX ASPHALT
- DETECTABLE WARNING PANELS
- Doweled Joint - Placed at 15' typical spacing unless otherwise shown.
- #4 Deformed Tie Bar
- REINFORCED PANEL - See Section 20 Detail

Paving Layouts

Sta 324+40 to 328+40

N 42nd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-8076
DATE: 2026.01.28 16:42:02 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	90	15

SPEC	CODE	BID ITEM	QTY	UNIT
550	0305	9IN NON-REINF CONCRETE PVMT CL AE-DOWELED		
		Sta 396+88.46 to 399+50 (OCL_7th_EB)	1991	SY
748	0190	CURB & GUTTER-TYPE I 30IN		
		Sta 396+88.46 to 399+50 (OCL_7th_EB)	896	LF
750	0020	PIGMENTED CONCRETE		
		Sta 396+88.46 to 399+50 (OCL_7th_EB)	64	SY
750	0125	SIDEWALK CONCRETE 5IN		
		Sta 396+88.46 to 399+50 (OCL_7th_EB)	281	SY
750	0210	CONCRETE MEDIAN NOSE PAVING		
		Sta 396+88.46 to 399+50 (OCL_7th_EB)	17	SY
750	2115	DETECTABLE WARNING PANELS		
		Sta 396+88.46 to 399+50 (OCL_7th_EB)	40	SF

Notes:

1. Tie bars or dowel bars will be drilled and epoxied into place where existing pavement abuts new pavement or curb and gutter. All costs to be included in the price bid for "9 IN NON-REINF CONCRETE PVMT CL AE-DOWELED".
2. Pour Curb & Gutter separate from adjacent concrete pavement.
3. See section 20 for pavement jointing details
4. See section 20 for CURB & GUTTER-TYPE I 30IN details.
5. See section 20 for CURB & GUTTER-TYPE 1 SPECIAL details.
6. See Std Dwg D-748-1 for CURB & GUTTER-TYPE I
7. Median Curb & Gutter tipped out unless shown otherwise.
8. Pavement Widths shown measured to lip of gutter and median widths measured from back of curb to back of curb.

Legend

- 9IN NON-REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- SIDEWALK CONCRETE 4IN
- PIGMENTED CONCRETE 4IN
- DRIVEWAY CONCRETE 8IN
- GRASS MEDIAN
- CONCRETE MEDIAN NOSE PAVING - See Section 20 Detail
- CONCRETE SLOPE PROTECTION
- COMMERCIAL GRADE HOT MIX ASPHALT
- DETECTABLE WARNING PANELS
- Doweled Joint - Placed at 15' typical spacing unless otherwise shown.
- #4 Deformed Tie Bar
- REINFORCED PANEL - See Section 20 Detail

Paving Layouts

Sta 396+88.46 to 399+50

7th Ave S

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2026.01.28 16:42:16 -06'00'
NORTH DAKOTA

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	90	16

SPEC	CODE	BID ITEM	QTY	UNIT
550	0305	9IN NON-REINF CONCRETE PVMT CL AE-DOWELED		
		Sta 400+60 to 404+60 (OCL_7th_EB)	3156	SY
748	0190	CURB & GUTTER-TYPE I 30IN		
		Sta 400+60 to 404+60 (OCL_7th_EB)	1467	LF
750	0020	PIGMENTED CONCRETE		
		Sta 400+60 to 404+60 (OCL_7th_EB)	288	SY
750	0125	SIDEWALK CONCRETE 5IN		
		Sta 400+60 to 404+60 (OCL_7th_EB)	464	SY
750	0210	CONCRETE MEDIAN NOSE PAVING		
		Sta 400+60 to 404+60 (OCL_7th_EB)	5	SY

Notes:

1. Tie bars or dowel bars will be drilled and epoxied into place where existing pavement abuts new pavement or curb and gutter. All costs to be included in the price bid for "9 IN NON-REINF CONCRETE PVMT CL AE-DOWELED".
2. Pour Curb & Gutter separate from adjacent concrete pavement.
3. See section 20 for pavement jointing details
4. See section 20 for CURB & GUTTER-TYPE I 30IN details.
5. See section 20 for CURB & GUTTER-TYPE 1 SPECIAL details.
6. See Std Dwg D-748-1 for CURB & GUTTER-TYPE I
7. Median Curb & Gutter tipped out unless shown otherwise.
8. Pavement Widths shown measured to lip of gutter and median widths measured from back of curb to back of curb.

Legend

- 9IN NON-REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- SIDEWALK CONCRETE 4IN
- PIGMENTED CONCRETE 4IN
- DRIVEWAY CONCRETE 8IN
- GRASS MEDIAN
- CONCRETE MEDIAN NOSE PAVING - See Section 20 Detail
- CONCRETE SLOPE PROTECTION
- COMMERCIAL GRADE HOT MIX ASPHALT
- DETECTABLE WARNING PANELS
- Doweled Joint - Placed at 15' typical spacing unless otherwise shown.
- #4 Deformed Tie Bar
- REINFORCED PANEL - See Section 20 Detail

Paving Layouts

Sta 400+60 to 404+60

7th Ave S

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4276
DATE 2026.01.26 16:42:30 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	90	17

SPEC	CODE	BID ITEM	QTY	UNIT
550	0305	9IN NON-REINF CONCRETE PVMT CL AE-DOWELED		
		Sta 404+60 to 408+60 (OCL_7th_EB)	2495	SY
748	0190	CURB & GUTTER-TYPE I 30IN		
		Sta 404+60 to 408+60 (OCL_7th_EB)	1532	LF
750	0020	PIGMENTED CONCRETE		
		Sta 404+60 to 408+60 (OCL_7th_EB)	303	SY
750	0125	SIDEWALK CONCRETE 5IN		
		Sta 404+60 to 408+60 (OCL_7th_EB)	464	SY

Notes:

1. Tie bars or dowel bars will be drilled and epoxied into place where existing pavement abuts new pavement or curb and gutter. All costs to be included in the price bid for "9 IN NON-REINF CONCRETE PVMT CL AE-DOWELED".
2. Pour Curb & Gutter separate from adjacent concrete pavement.
3. See section 20 for pavement jointing details
4. See section 20 for CURB & GUTTER-TYPE I 30IN details.
5. See section 20 for CURB & GUTTER-TYPE 1 SPECIAL details.
6. See Std Dwg D-748-1 for CURB & GUTTER-TYPE I
7. Median Curb & Gutter tipped out unless shown otherwise.
8. Pavement Widths shown measured to lip of gutter and median widths measured from back of curb to back of curb.

Legend

- 9IN NON-REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- SIDEWALK CONCRETE 4IN
- PIGMENTED CONCRETE 4IN
- DRIVEWAY CONCRETE 8IN
- GRASS MEDIAN
- CONCRETE MEDIAN NOSE PAVING - See Section 20 Detail
- CONCRETE SLOPE PROTECTION
- COMMERCIAL GRADE HOT MIX ASPHALT
- DETECTABLE WARNING PANELS
- Doweled Joint - Placed at 15' typical spacing unless otherwise shown.
- #4 Deformed Tie Bar
- REINFORCED PANEL - See Section 20 Detail

Paving Layouts

Sta 404+60 to 408+60

7th Ave S

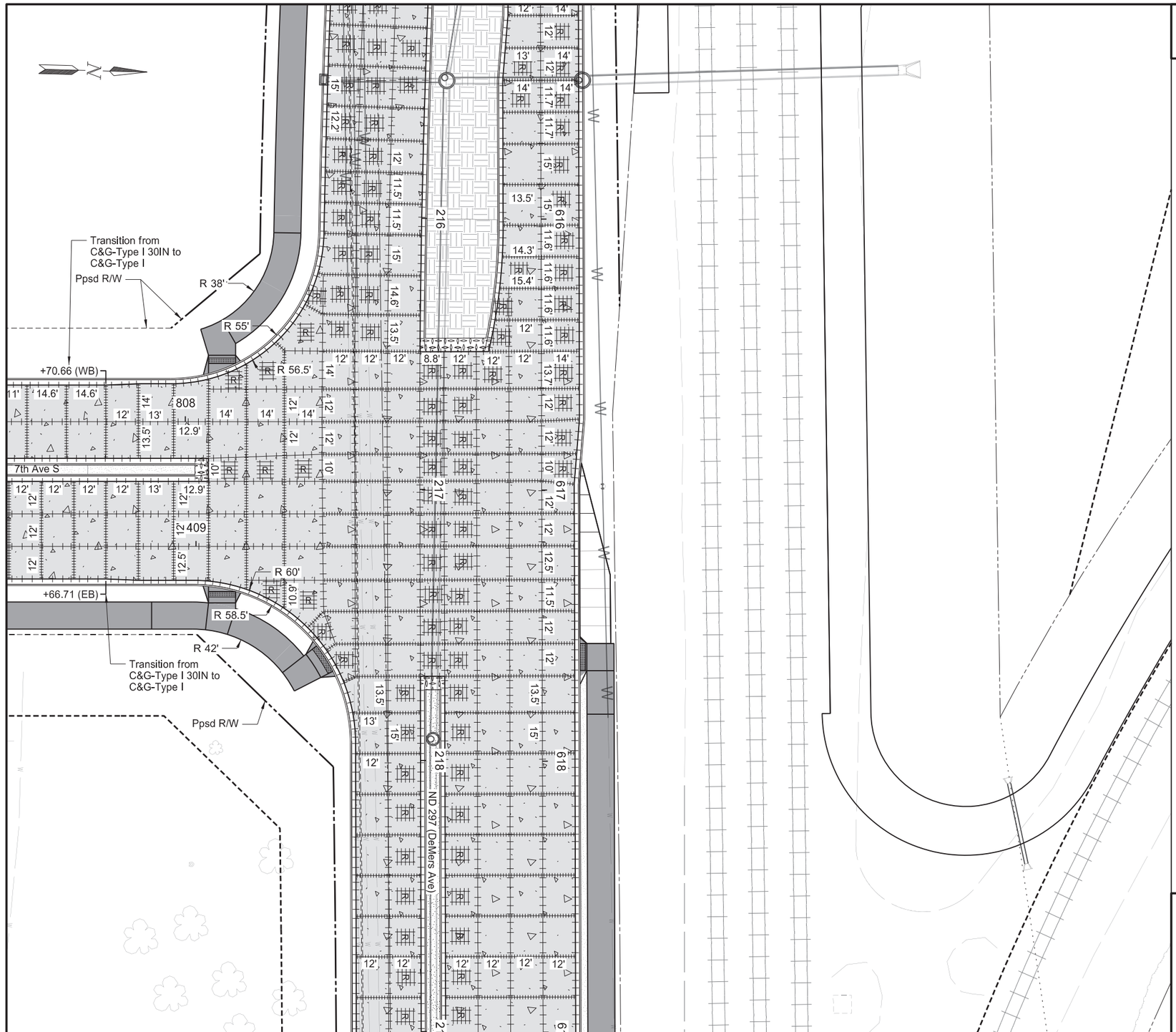
ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4276
DATE: 2026.01.28 16:42:44 -06'00'
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	90	18

SPEC	CODE	BID ITEM	QTY	UNIT
550	0305	9IN NON-REINF CONCRETE PVMT CL AE-DOWELED		
		Sta 408+60 to 409+47 (OCL_7th_EB)	759	SY
748	0140	CURB & GUTTER-TYPE I		
		Sta 408+60 to 409+47 (OCL_7th_EB)	161	LF
748	0190	CURB & GUTTER-TYPE I 30IN		
		Sta 408+60 to 409+47 (OCL_7th_EB)	93	LF
750	0020	PIGMENTED CONCRETE		
		Sta 408+60 to 409+47 (OCL_7th_EB)	15	SY
750	0125	SIDEWALK CONCRETE 5IN		
		Sta 408+60 to 409+47 (OCL_7th_EB)	138	SY
750	0210	CONCRETE MEDIAN NOSE PAVING		
		Sta 408+60 to 409+47 (OCL_7th_EB)	5	SY
750	2115	DETECTABLE WARNING PANELS		
		Sta 408+60 to 409+47 (OCL_7th_EB)	40	SF

Notes:

1. Tie bars or dowel bars will be drilled and epoxied into place where existing pavement abuts new pavement or curb and gutter. All costs to be included in the price bid for "9 IN NON-REINF CONCRETE PVMT CL AE-DOWELED".
2. Pour Curb & Gutter separate from adjacent concrete pavement.
3. See section 20 for pavement jointing details
4. See section 20 for CURB & GUTTER-TYPE I 30IN details.
5. See section 20 for CURB & GUTTER-TYPE 1 SPECIAL details.
6. See Std Dwg D-748-1 for CURB & GUTTER-TYPE I
7. Median Curb & Gutter tipped out unless shown otherwise.
8. Pavement Widths shown measured to lip of gutter and median widths measured from back of curb to back of curb.

Legend

- 9IN NON-REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- SIDEWALK CONCRETE 4IN
- PIGMENTED CONCRETE 4IN
- DRIVEWAY CONCRETE 8IN
- GRASS MEDIAN
- CONCRETE MEDIAN NOSE PAVING - See Section 20 Detail
- CONCRETE SLOPE PROTECTION
- COMMERCIAL GRADE HOT MIX ASPHALT
- DETECTABLE WARNING PANELS
- Doweled Joint - Placed at 15' typical spacing unless otherwise shown.
- #4 Deformed Tie Bar
- REINFORCED PANEL - See Section 20 Detail

Paving Layouts

Sta 408+60 to 409+54

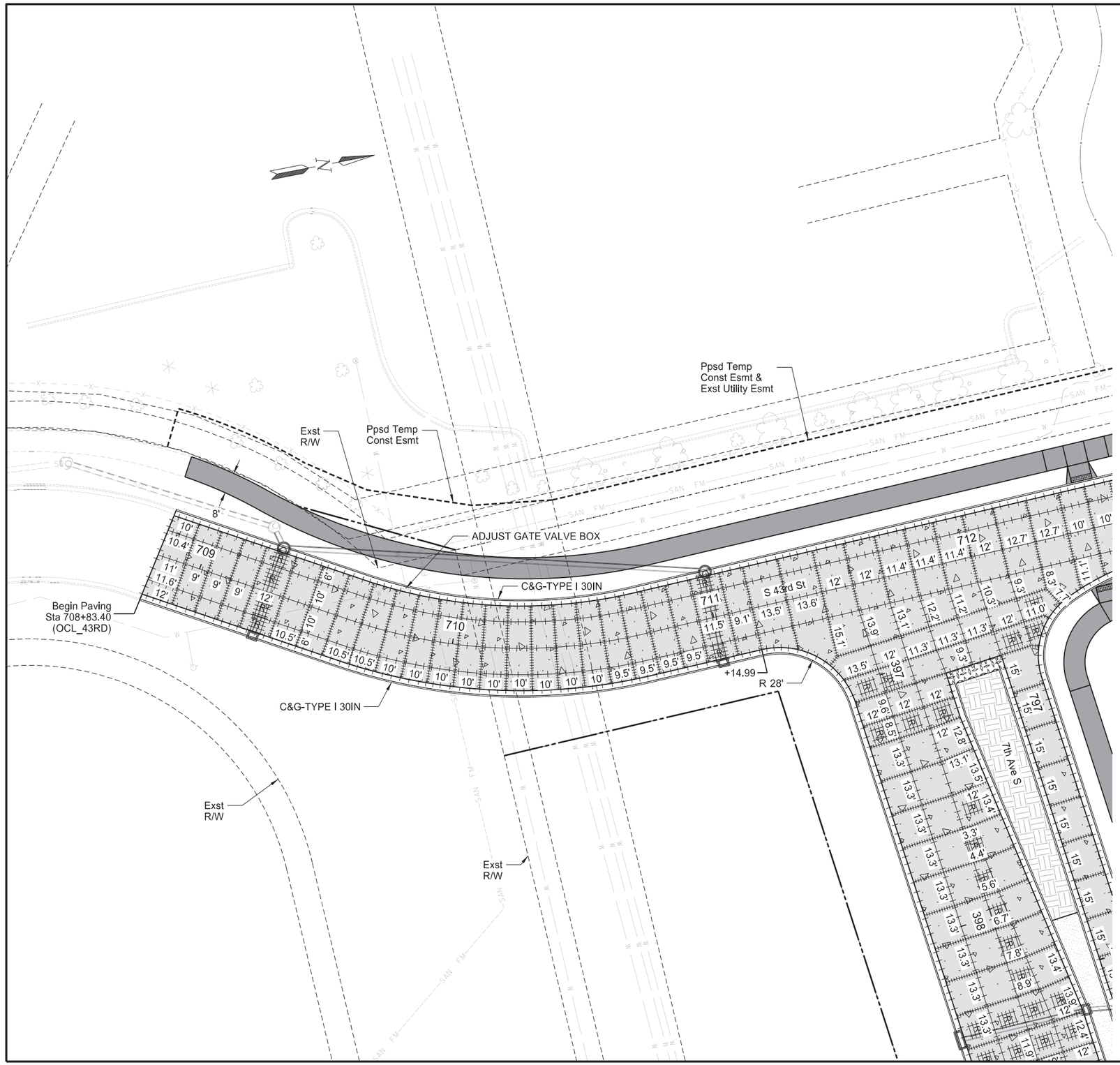
7th Ave S

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4256
DATE: 2026.01.28 16:42:59 -06'00'
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	90	19

SPEC	CODE	BID ITEM	QTY	UNIT
550	0305	9IN NON-REINF CONCRETE PVMT CL AE-DOWELED		
		Sta 708+50 to 712+50 NB (OCL_43RD)	1383	SY
722	6140	ADJUST GATE VALVE BOX		
		Sta 709+78 (OCL_43RD)	1	EA
748	0190	CURB & GUTTER-TYPE I 30IN		
		Sta 708+50 to 712+50 NB (OCL_43RD)	645	LF
750	0125	SIDEWALK CONCRETE 5IN		
		Sta 708+50 to 712+50 NB (OCL_43RD)	336	SY
750	2115	DETECTABLE WARNING PANELS		
		Sta 708+50 to 712+50 NB (OCL_43RD)	26	SF

Notes:

1. Tie bars or dowel bars will be drilled and epoxied into place where existing pavement abuts new pavement or curb and gutter. All costs to be included in the price bid for "9 IN NON-REINF CONCRETE PVMT CL AE-DOWELED".
2. Pour Curb & Gutter separate from adjacent concrete pavement.
3. See section 20 for pavement jointing details
4. See section 20 for CURB & GUTTER-TYPE I 30IN details.
5. See section 20 for CURB & GUTTER-TYPE 1 SPECIAL details.
6. See Std Dwg D-748-1 for CURB & GUTTER-TYPE I
7. Median Curb & Gutter tipped out unless shown otherwise.
8. Pavement Widths shown measured to lip of gutter and median widths measured from back of curb to back of curb.

Legend

- 9IN NON-REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- SIDEWALK CONCRETE 4IN
- PIGMENTED CONCRETE 4IN
- DRIVEWAY CONCRETE 8IN
- GRASS MEDIAN
- CONCRETE MEDIAN NOSE PAVING - See Section 20 Detail
- CONCRETE SLOPE PROTECTION
- COMMERCIAL GRADE HOT MIX ASPHALT
- DETECTABLE WARNING PANELS
- Doweled Joint - Placed at 15' typical spacing unless otherwise shown.
- #4 Deformed Tie Bar
- REINFORCED PANEL - See Section 20 Detail

Paving Layouts

Sta 708+50 to 712+50

S 43rd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

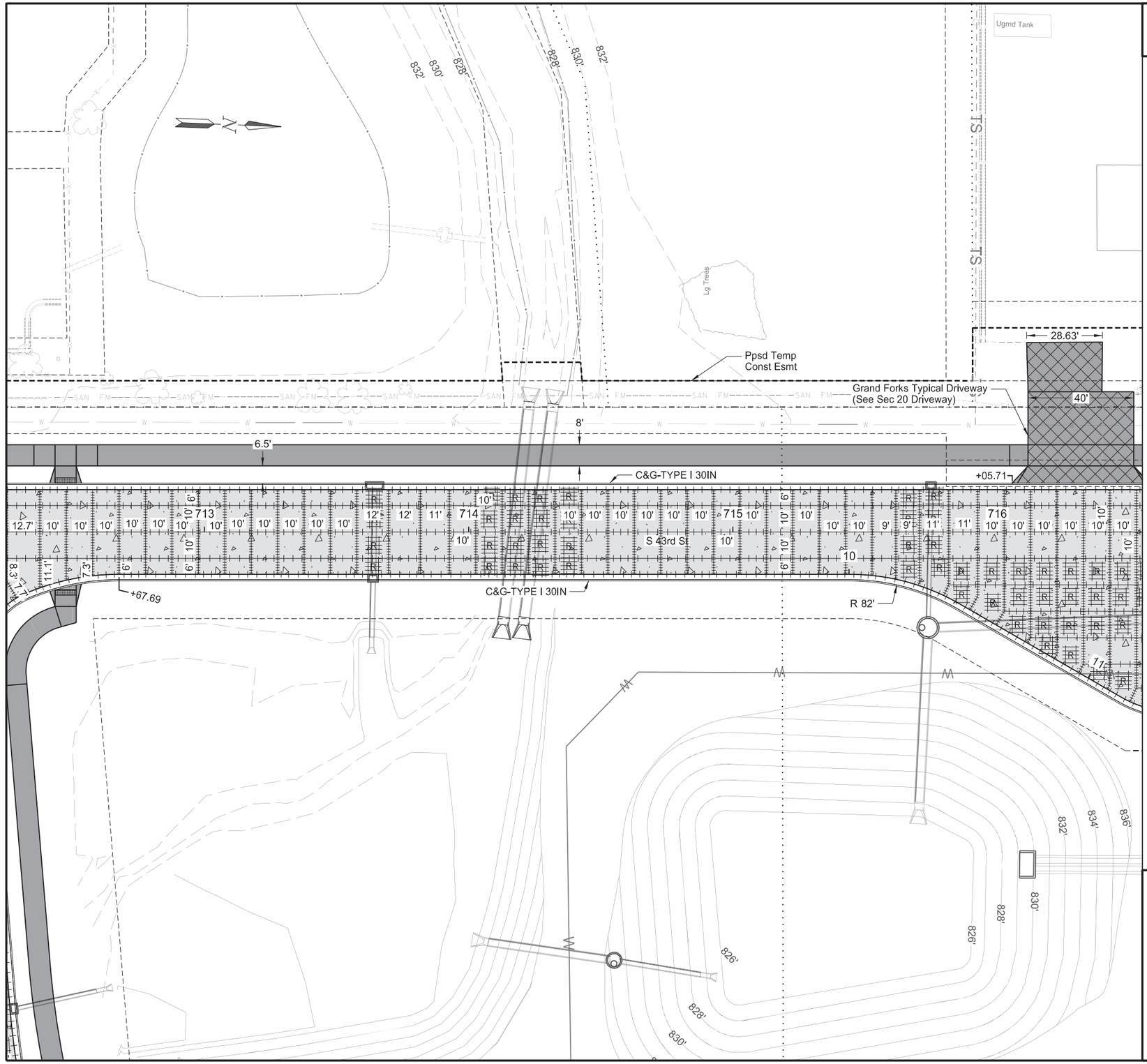
Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2026.01.28 16:43:15 -06'00'
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	RCE-FTF-NHU-SU-6-297(014)000	90	20

SPEC	CODE	BID ITEM	QTY	UNIT
550	0305	9IN NON-REINF CONCRETE PVMT CL AE-DOWELED		
		Sta 712+50 to 716+50 (OCL_43RD)	1566	SY
748	0190	CURB & GUTTER-TYPE I 30IN		
		Sta 712+50 to 716+50 (OCL_43RD)	791	LF
750	0125	SIDEWALK CONCRETE 5IN		
		Sta 712+50 to 716+50 (OCL_43RD)	327	SY
750	1000	DRIVEWAY CONCRETE		
		Sta 712+50 to 716+50 (OCL_43RD)	170	SY
750	2115	DETECTABLE WARNING PANELS		
		Sta 712+50 to 716+50 (OCL_43RD)	6	SF



Notes:

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2. Pour Curb & Gutter separate from adjacent concrete pavement.
3. See section 20 for pavement jointing details
4. See section 20 for CURB & GUTTER-TYPE I 30IN details.
5. See section 20 for CURB & GUTTER-TYPE 1 SPECIAL details.
6. See Std Dwg D-748-1 for CURB & GUTTER-TYPE I
7. Median Curb & Gutter tipped out unless shown otherwise.
8. Pavement Widths shown measured to lip of gutter and median widths measured from back of curb to back of curb.

Legend

- 9IN NON-REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- SIDEWALK CONCRETE 4IN
- PIGMENTED CONCRETE 4IN
- DRIVEWAY CONCRETE 8IN
- GRASS MEDIAN
- CONCRETE MEDIAN NOSE PAVING - See Section 20 Detail
- CONCRETE SLOPE PROTECTION
- COMMERCIAL GRADE HOT MIX ASPHALT
- DETECTABLE WARNING PANELS
- Doweled Joint - Placed at 15' typical spacing unless otherwise shown.
- #4 Deformed Tie Bar
- REINFORCED PANEL - See Section 20 Detail

Paving Layouts

Sta 712+50 to 716+50

S 43rd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-4276
DATE: 2026.01.28 16:43:30 -06'00'
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	RCE-FTF-NHU-SU-6-297(014)000	90	21

SPEC	CODE	BID ITEM	QTY	UNIT
550	0305	9IN NON-REINF CONCRETE PVMT CL AE-DOWELED		
		Sta 716+50 to 717+50 (OCL_43RD)	557	SY
748	0190	CURB & GUTTER-TYPE I 30IN		
		Sta 716+50 to 717+50 (OCL_43RD)	196	LF
750	0125	SIDEWALK CONCRETE 5IN		
		Sta 716+50 to 717+50 (OCL_43RD)	133	SY
750	1000	DRIVEWAY CONCRETE		
		Sta 716+50 to 717+50 (OCL_43RD)	48	SY

Notes:

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5. See section 20 for CURB & GUTTER-TYPE 1 SPECIAL details.
6. See Std Dwg D-748-1 for CURB & GUTTER-TYPE I
7. Median Curb & Gutter tipped out unless shown otherwise.
8. Pavement Widths shown measured to lip of gutter and median widths measured from back of curb to back of curb.

Legend

- 9IN NON-REINF CONCRETE PVMT CL AE-DOWELED
- SIDEWALK CONCRETE 5IN
- SIDEWALK CONCRETE 4IN
- PIGMENTED CONCRETE 4IN
- DRIVEWAY CONCRETE 8IN
- GRASS MEDIAN
- CONCRETE MEDIAN NOSE PAVING - See Section 20 Detail
- CONCRETE SLOPE PROTECTION
- COMMERCIAL GRADE HOT MIX ASPHALT
- DETECTABLE WARNING PANELS
- Doweled Joint - Placed at 15' typical spacing unless otherwise shown.
- #4 Deformed Tie Bar
- REINFORCED PANEL - See Section 20 Detail

Paving Layouts

Sta 716+50 to 717+50

S 43rd St

ND 297 (DeMers Ave) & 42nd St Grade Separation

Grand Forks County

Grand Forks, ND

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER S. DAHL
PE-9276
DATE: 2026.01.28 16:43:44 -06'00'
NORTH DAKOTA

12/5/2025 1:18:43 PM ryan.genz H:\NDDOT\24M000368000\CAD\ORD\NDDOT-24M000368000\Plan\090PL_021.dgn