

DESIGN DATA			
Traffic	Average Daily		
Current	Pass: 558	Trucks: 62	Total: 620
Forecast	Pass:	Trucks:	Total:
Clear Zone Distance:	Design Speed: 25		
Minimum Sight Dist. for Stopping:	Bridges: N/A		
Sight Dist. for No Passing Zone:	N/A		
Pavement Design Life (years)			
Design Accumulated One-way	ESALs:		

# JOB # 17 NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

STATE	PROJECT NO.	PCN	SECTION NO.	SHEET NO.
ND	NH-2-013(055)298	20977	1	1

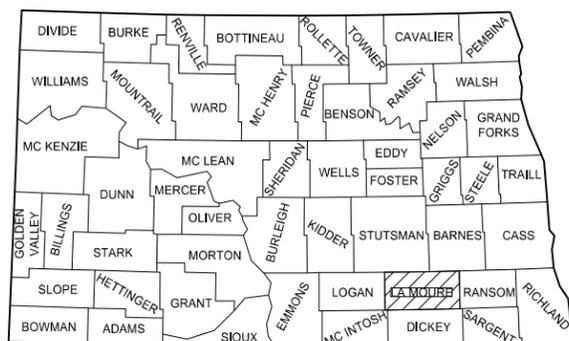
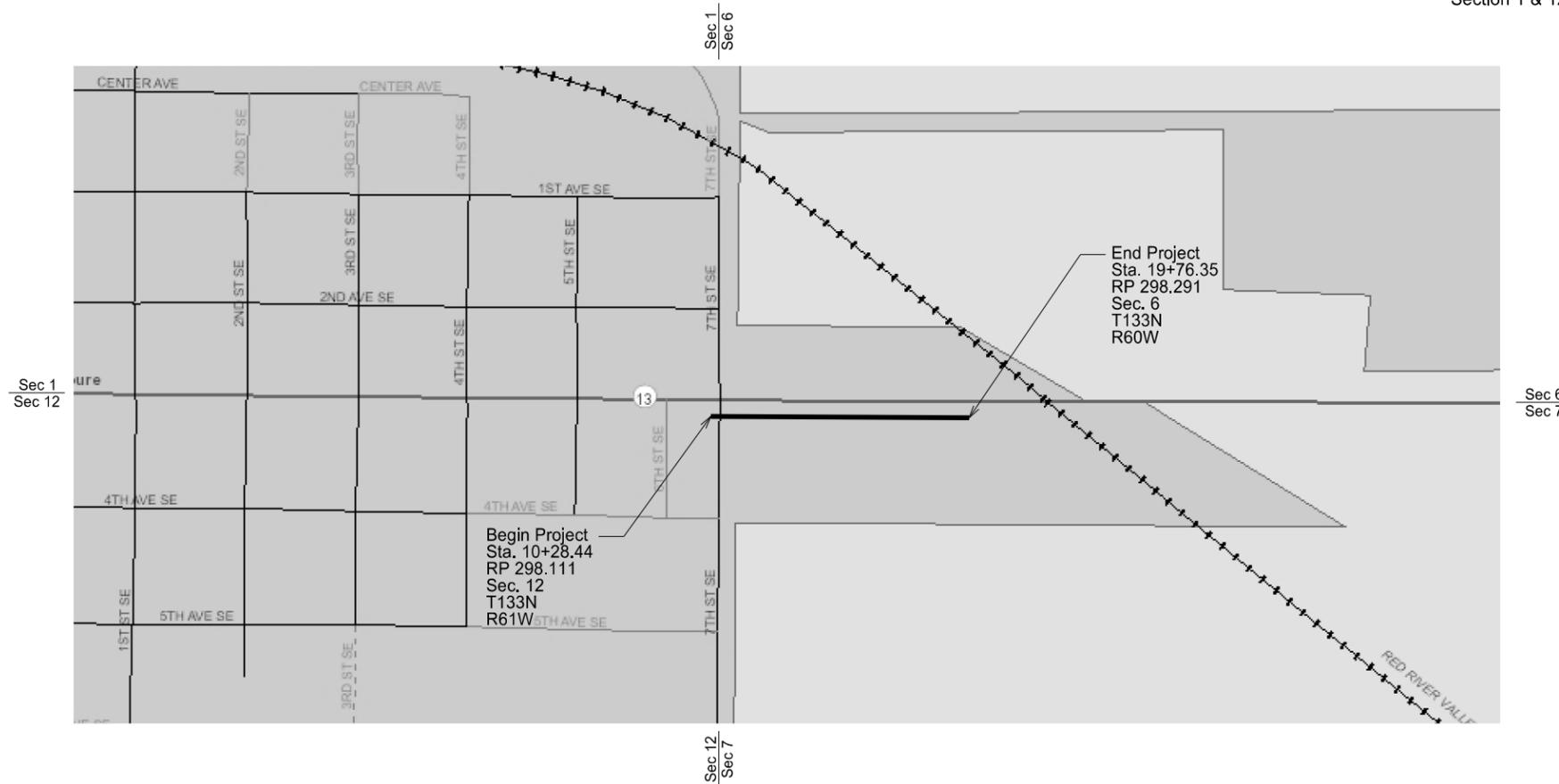
NH-2-013(055)298  
LaMoure, ND

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

LaMoure County  
South Side of ND 13 from 7th Street SE to 900' East  
Concrete Sidewalk, Aggregate Base, Grading, Pavement Marking,  
Signing, Drainage and Incidentals

PROJECT NUMBER \ DESCRIPTION	NET MILES	GROSS MILES
NH-2-013(055)298	0.180	0.180

**LEGAL DESCRIPTION**  
Section 6 & 7, Township 133N, Range 60W  
Section 1 & 12, Township 133N, Range 61W



STATE COUNTY MAP

**DESIGNERS**

David A. Roedel, P.E.

Andrew H. Krog, P.E.

Ryan Frolek

I hereby certify that the attached plans were prepared by me or under my direct supervision and that I am a duly registered professional engineer under the laws of the state of ND.

APPROVED DATE 28 March, 2016

David A. Roedel, PE /s/  
Moore Engineering, Inc.

APPROVED DATE 29 March, 2016

Robert Fode, PE /s/  
OFFICE OF PROJECT DEVELOPMENT  
ND DEPARTMENT OF TRANSPORTATION

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	NH-2-013(055)298	2	1

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D-101-1, 2, 3	NDDOT Abbreviations
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D-261-1	Erosion Control – Fiber Roll Placement Details
D-704-5	Contractor Sign Detail
D-704-7	Breakaway Systems for Construction Zone Signs – Perforated Tube
D-704-8	Breakaway Systems for Construction Zone Signs – U-Channel Post
D-704-9	Construction Sign Details – Terminal and guide Signs
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D-704-14	Construction Sign Punching and Mounting Details
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D-714-1	Reinforced Concrete Pipe Culverts and End Sections (Round)
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D-714-27	Pipe Installation Detail for Longitudinal Mainline Pipe or Pipe Not Under the Roadway
D-714-27M	Pipe Installation Detail for Multiple Longitudinal Mainline Pipe or Pipe Not Under the Roadway
D-748-1	Curb & Gutter and Valley Gutter
D-750-2	Sidewalk
D-750-3	Curb Ramp Detail
D-754-23	Perforated Tube Assembly Details
D-754-24	Mounting Details Perforated Tube
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D-754-25	Mounting Details Perforated Tube
D-754-28	Sign Punching, Stringer and Support Location Details Regulatory, Warning and Guide Signs
D-754-46	Bike Route Signs, Punching, Stringer & Support Location Details Regulatory, Warning and Guide Signs
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**NOTES**

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	NH-2-013(055)298	6	1

**GENERAL NOTES**

- 100-P01 CONSTRUCTION TRAFFIC AND NOISE: The contractor's construction traffic shall not park or operate on any sidewalk or multi-use path either existing or that has been established. Parking shall be allowed per City ordinance and posted signing. All streets shall remain open to two-way traffic during construction. The contractor will also ensure that construction activities are conducted during daylight hours only Monday through Saturday. Work will not be permitted on Sunday.
- 100-P02 COORDINATION OF PROJECTS: Another project in the vicinity of this project is under contract during the 2016 construction season. This project number is NH-2-013(056)278, PCN 21271 and includes a mill and overlay through LaMoure on ND 13.
- 107-500 PAVEMENT SWEEPING: Sweep the roadway adjacent to the construction area at the end of each day. Utilize a vacuum or pickup type sweeper.
- 107-710 HAUL ROADS: Before submitting a proposal, contact the appropriate State, County, Township, or City officials to determine if there are any roadways that will be designated as "no haul route".
- 202-P01 SAWING: The "Saw Concrete" item shall be payment for sawing existing sidewalks and curb & gutter to facilitate proper removal for connecting to existing hard surfaces. "Saw Bituminous Surfacing-Full Depth" item shall be payment for sawing existing asphalt pavement. No payment shall be given for resawing areas that were previously sawed but damaged.
- 202-P02 REMOVAL OF BITUMINOUS SURFACING: Removal of existing aggregate base necessary for the placement of concrete forms shall be included in the contract unit price for "Removal of Bituminous Surfacing".
- 203-P01 COMMON EXCAVATION-WASTE: The "Common Excavation-Waste" item shall include any excavation required of existing topsoil in areas proposed for sidewalk concrete. Topsoil shall not be used as embankment material and shall become property of the contractor and shall be removed from the site. Payment for "Common Excavation-Waste" shall be by plan quantity.
- 203-P02 TOPSOIL: Payment for "Topsoil" shall be by plan quantity.
- 203-P03 SHRINKAGE: No additional volume is included for shrinkage in earth embankment.
- 203-P04 DRAINAGE DITCH EXCAVATION: The pay item "203-0710 Drainage Ditch Exc – LF" shall include reshaping of the existing ditch where shown on the plans and shall be measured and paid along the centerline of the ditch by the linear foot.
- 216-P01 WATER: Water for compaction, turf establishment, and for use as a dust palliative, is available from the city. Contractors must contact the Public Works Department to obtain a hydrant permit prior to using city water. Contact Del Kindelspire at (701) 709-0236.
- 251-P01 SEEDING CLASS III:  
 The seed mixture for permanent seeding shall be as follows:  
 Perennial Ryegrass-50 lb/acre  
 Park Kentucky Bluegrass-50 lb/acre  
 Durar hard Fescue-30 lb/acre

- 302-P01 SCARIFY & RECOMPACT: The area under the sidewalk as shown on the typical section on plan sheet 30-1 shall be scarified to a depth of 6 inches and recompact in accordance with NDDOT Standard Specification 203.04 E.2 Compaction Control, Type A, ND T 180. This work shall be included in the unit price for "Aggregate Base Course CL 5"
- 430-P01 COMMERCIAL GRADE HOT MIX ASPHALT: Place the Hot Mix Asphalt in accordance with Section 430.03F "Commercial Grade Hot Mix Asphalt," with the following revisions:
  - Meet the compaction requirements of Section 430.04 1.3 "Ordinary Compaction".
 Include the cost for the prime, blotter, asphalt cement and tack required for the bituminous pavement in the unit price bid for "Commercial Grade Hot Mix Asphalt."
- 704-P01 FLAGGING: A quantity for flagging has been included in the plans for use at the direction of the engineer.
- 708-P01 INLET PROTECTION-SPECIAL: All devices that are installed shall remain in place until the turf has been established. If the turf has not been established by November 1st, all devices that are installed in a street section and are determined to have the potential to cause damage to snow removal equipment shall be removed on or after November 1st and prior to the first snow event. The inlet protection devices shall then be reinstalled as directed by the Engineer in the spring. The Engineer will not measure reinstalled inlet protection. Include the cost of removal and reinstallation in the contract unit price for "Inlet Protection – Special".
- 724-P01 RELOCATE CURB STOP & BOX: The existing curb stop and box at Sta 11+87.22 shall be adjusted to match finished grade. The adjustment of curb stop and box shall be paid under bid item "724-0940 Relocate Curb Stop & Box – EA" and shall include any additional materials for bringing box to finish grade.
- 750-P01 JOINTS: All contraction joints on path and sidewalk shall be sawed. Grooved joints shall not be allowed as shown in D-750-2.
- 750-P02 JOINTS: All isolation joints on path and sidewalk shall be tied with 1/2" x 12" smooth dowels @ 30" O.C.
- 750-PO3 SIDEWALK TRENCH DRAIN: The trench grate shall be East Jordan Iron Works, V-7384-20, Neenah Foundry R-4999-DX with type P grate or approved equal. Install the trench grate in accordance with manufacturer's recommendations and according to the detail provided on sheet 20-1. The trench grate shall be paid as "750-0150 Sidewalk Trench Drain – EA" and shall include all reinforcing steel, concrete, excavation, forming and all other labor and materials required to install one 10 LF segment of trench grate at each location as shown on the plans.

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## ENVIRONMENTAL COMMITMENTS

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	NH-2-013(055)298	6	2

**ENVIRONMENTAL COMMITMENTS (EC):** The North Dakota Department of Transportation and the Federal Highway Administration have made environmental commitments to secure approval of this project. The environmental commitments are as follows:

Based on the NEPA documentation, no additional permits or environmental commitments have been identified beyond what is covered by the NDDOT's Standard Specification of Road and Bridge Construction.

Wetland Number	Cowardin Classification	Wetland Type	Wetland Size (acres)	Wetland Feature	USACE Jurisdictional Wetlands	Impacts to Wetlands	
						Temp.	Perm.
<b>**NO WETLANDS PRESENT**</b>							
<b>TOTALS:</b>			<b>0.00</b>			<b>0.00</b>	<b>0.00</b>

\*A Office Wetland Delineation Report was issued by Carlson McCain, Inc. on behalf of Moore Engineering, Inc. on April 2, 2015.

ESTIMATED QUANTITIES

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	NH-2-013(055)298	8	1

SPEC	CODE	ITEM DESCRIPTION	UNIT	QUANTITY
103	0100	CONTRACT BOND	L SUM	1
202	0114	REMOVAL OF CONCRETE	SY	15
202	0119	SAW CONCRETE	LF	17
202	0130	REMOVAL OF CURB & GUTTER	LF	62
202	0132	REMOVAL OF BITUMINOUS SURFACING	SY	16
202	0153	SAW BITUMINOUS SURFACING-FULL DEPTH	LF	83
203	0101	COMMON EXCAVATION - TYPE A	CY	62
203	0109	TOPSOIL	CY	274
203	0140	BORROW - EXCAVATION	CY	414
203	0710	DRAINAGE DITCH EXC	LF	200
216	0100	WATER	M GAL	5
251	0300	SEEDING CLASS III	ACRE	0.34
253	0201	HYDRAULIC MULCH	ACRE	0.34
255	0101	ECB TYPE 1	SY	142
260	0100	SILT FENCE UNSUPPORTED	LF	75
260	0101	REMOVE SILT FENCE UNSUPPORTED	LF	75
261	0106	FIBER ROLLS 6IN	LF	24
261	0107	REMOVE FIBER ROLLS 6IN	LF	24
261	0112	FIBER ROLLS 12IN	LF	933
261	0113	REMOVE FIBER ROLLS 12IN	LF	933
302	0100	AGGREGATE BASE COURSE CL 5	CY	109
430	0500	COMMERCIAL GRADE HOT MIX ASPHALT	TON	4
702	0100	MOBILIZATION	L SUM	1
704	0100	FLAGGING	MHR	40
704	1000	TRAFFIC CONTROL SIGNS	UNIT	244
704	1052	TYPE III BARRICADE	EA	2
704	1060	DELINEATOR DRUMS	EA	12
704	1067	TUBULAR MARKERS	EA	24
708	1540	INLET PROTECTION-SPECIAL	EA	3
708	1541	REMOVE INLET PROTECTION-SPECIAL	EA	3
714	4100	PIPE CONDUIT 18IN	LF	27
714	4105	PIPE CONDUIT 24IN	LF	75
722	6140	ADJUST GATE VALVE BOX	EA	3
724	0940	RELOCATE CURB STOP & BOX	EA	1
748	0140	CURB & GUTTER-TYPE I	LF	62
750	0140	SIDEWALK CONCRETE 6IN	SY	976
750	0150	SIDEWALK TRENCH DRAIN	EA	3
750	2115	DETECTABLE WARNING PANELS	SF	120
754	0110	FLAT SHEET FOR SIGNS - TYPE XI REFLECTIVE SHE	SF	12
754	0206	STEEL GALV POSTS - TELESCOPING PERFORATED	LF	78
754	0592	RESET SIGN PANEL	EA	2
762	1106	PVMT MK PAINTED 6IN LINE	LF	147
762	1124	PVMT MK PAINTED 24IN LINE	LF	16

**BASIS OF ESTIMATE**

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	NH-2-013(055)298	10	1

Station	End Areas (SF)		Volume (CY)		
	Exca	Fill	Exca	Fill	Mass Ordinate
11+00.00	4.9	0.7	0.0	0.0	0.0
11+50.00	1.3	2.7	5.7	3.1	2.6
12+00.00	0.8	4.1	2.0	6.3	-1.7
12+50.00	3.6	1.4	4.1	5.1	-2.7
13+00.00	0.9	4.8	4.2	5.7	-4.2
13+50.00	1.0	7.0	1.8	10.9	-13.4
14+00.00	0.8	9.7	1.7	15.5	-27.1
14+50.00	0.9	10.5	1.6	18.7	-44.2
14+90.53	8.2	0.0	6.9	7.9	-45.2
			Volume (CY)		
			Exca	Fill	Mass Ordinate
<b>Totals</b>			<b>28.0</b>	<b>73.2</b>	

Station	End Areas (SF)		Volume (CY)		
	Exca	Fill	Exca	Fill	Mass Ordinate
15+50.00	7.2	0.0	0.0	0.0	0.0
16+00.00	3.1	0.0	9.5	0.0	9.5
16+50.00	1.0	0.6	3.8	0.5	12.8
17+00.00	1.0	2.4	1.9	2.8	11.9
17+34.06	0.9	27.5	1.2	18.9	-5.7
17+50.00	1.1	41.2	0.6	20.3	-25.4
18+00.00	1.0	40.5	1.9	75.7	-99.2
18+50.00	0.9	18.2	1.7	54.4	-151.9
18+70.23	0.8	28.8	0.6	17.6	-169.0
19+00.00	0.7	41.9	1.5	55.7	-206.2
19+50.00	4.6	44.1	4.9	79.7	-281.0
19+67.79	13.4	1.1	5.9	14.9	-290.0
			Volume (CY)		
			Exca	Fill	Mass Ordinate
<b>Totals</b>			<b>33.4</b>	<b>340.4</b>	

**Aggregate Base Course CL 5**

4" Depth x 976 SY = 108.44 CY ≈ 109 CY

**Detectable Warning Panels**

Warning panel size at 2' X 5' = 10 SF/EA @ sidewalks

At 2' X 10' = 20 SF/EA @ pedestrian trail

Sidewalks = 10 SF/EA X 2 EA = 20 SF

Pedestrian Trail = 20 SF/EA X 5 EA = 100 SF

20 SF + 100 SF = 120 SF

**Topsoil**

Estimated as the area within the boundary of the Limits of Construction.

See Section 77

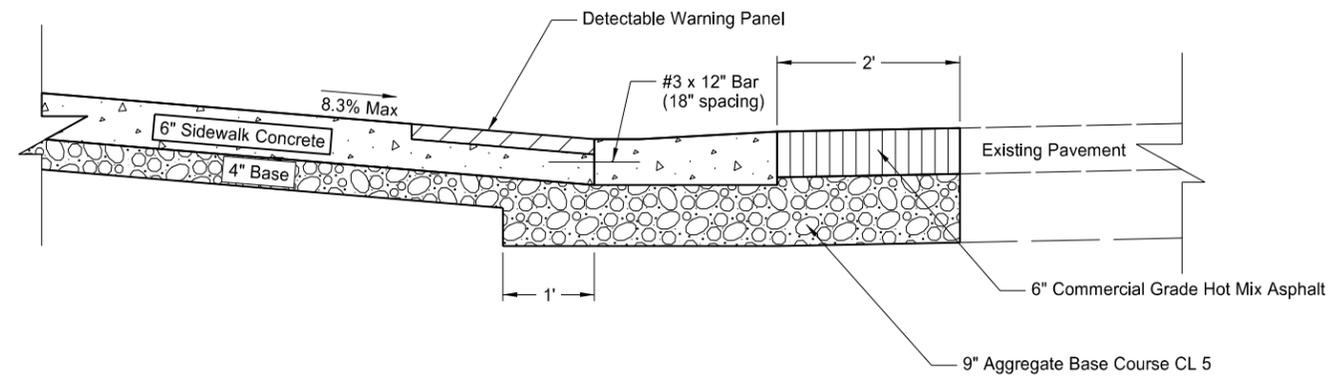
**Water**

20 Gal/Ton for Aggregate Base Course CL 5

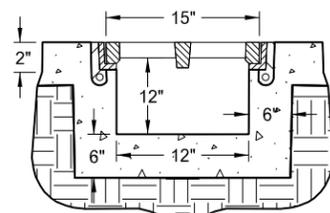
109 CY x 1.875 Ton/CY x 20 Gal/Ton = 4.1 MGal ≈ 5 MGal

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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Curb Ramp Section Detail  
Not to Scale

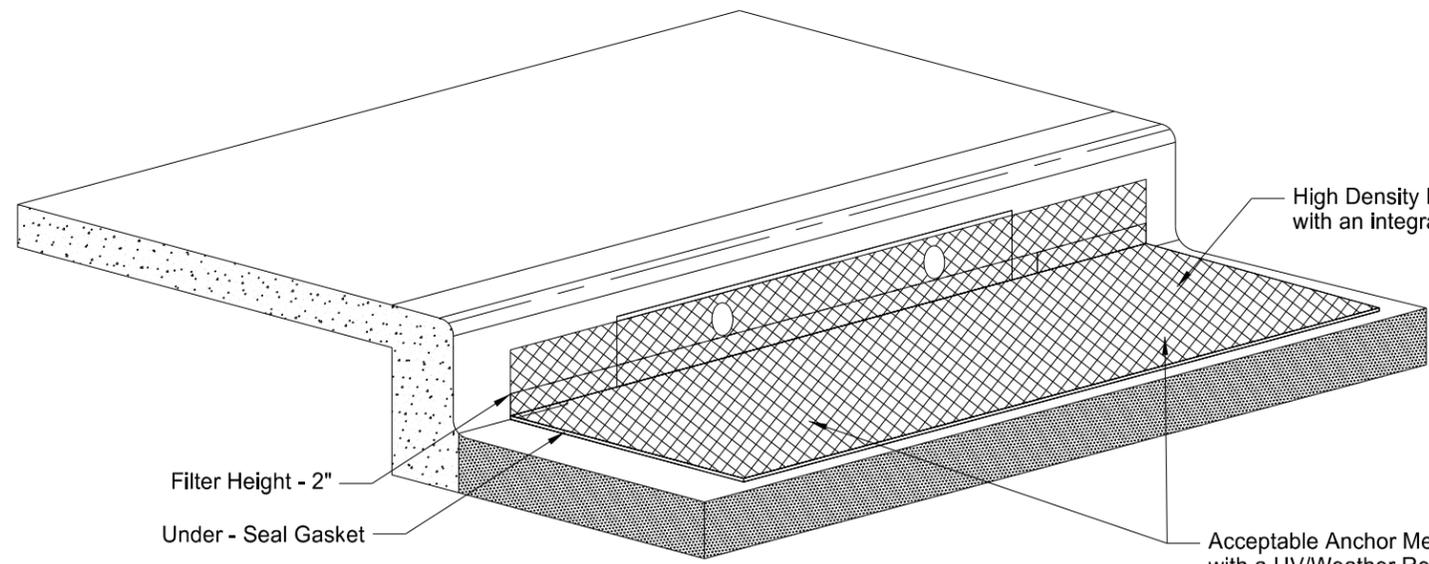
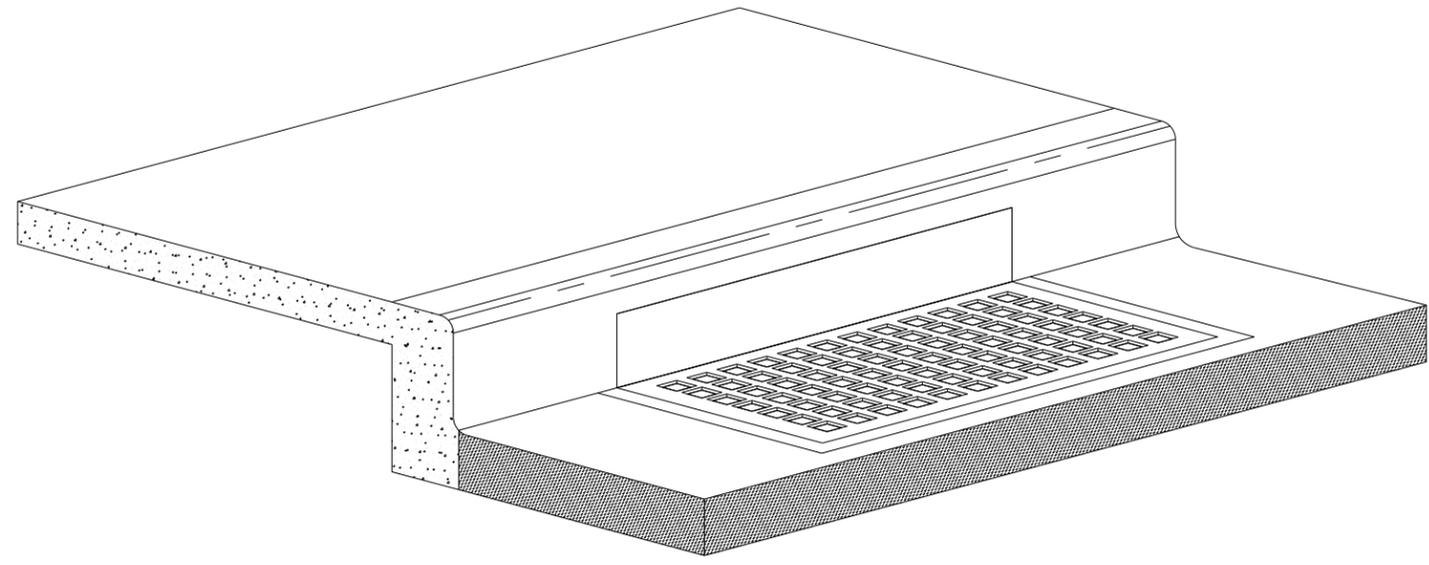


Trench Grate Detail  
Not to Scale

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Special Details

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	NH-2-013(055)298	20	2



Filter Height - 2"  
Under - Seal Gasket

High Density Polyethylene (HDPE) high flow jacket filter (8,000 opening per SY) with an integrated 425 um (micron meter) fine filter particle mesh

Acceptable Anchor Method: Fasten to inlet casting grate with a UV/Weather Resistant Plastic Cable Zip Ties - 16 to 24 in. Install zip ties at each corner of the inlet near the perimeter and two additional zip ties near the middle of the casting. Punch hole through filter and run cable tie downward around grate and back up to fasten.

Inlet Protection Device

Installation Notes:

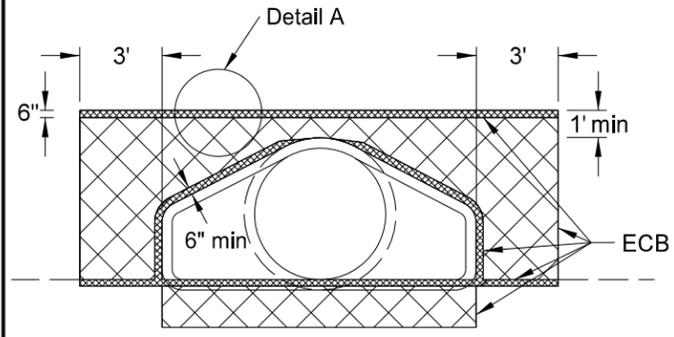
1. Place device tightly against drain opening and cover entire grate. The device should extend at least 2 inches past grate toward street.
2. Overlap the segments at longer openings.
3. Anchor the device so that water cannot flow behind it.

General Notes:

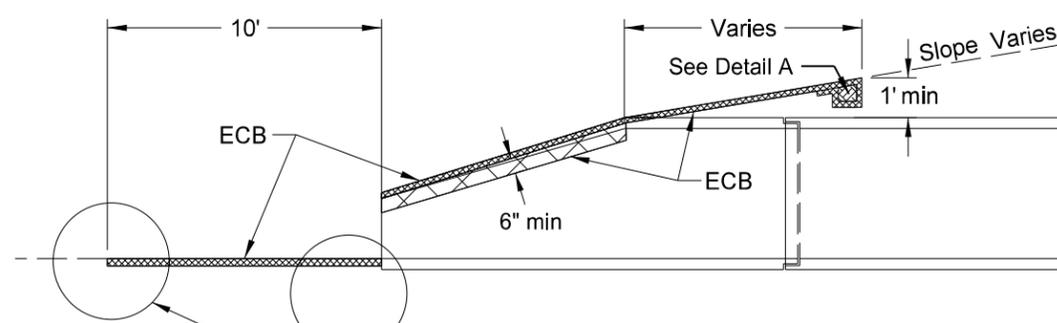
1. Inlet Protection shall be maintained or replaced at the direction of the engineer.
2. Manufactured alternatives may be substituted at the direction of the engineer.
3. When removing or maintaining inlet protection, care shall be taken so that fabric does not fall into the inlet. Any material falling into the inlet shall be removed immediately.
4. Inlet protection is to be used (and reused) as needed to prevent material from entering inlets as the work progresses through the project.

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Inlet Protection Device



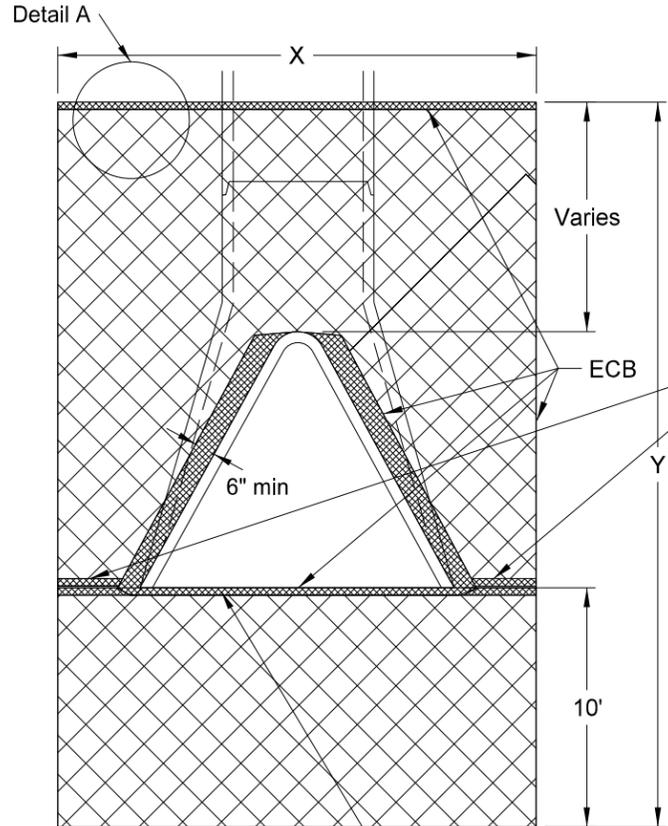
FRONT VIEW



SIDE VIEW

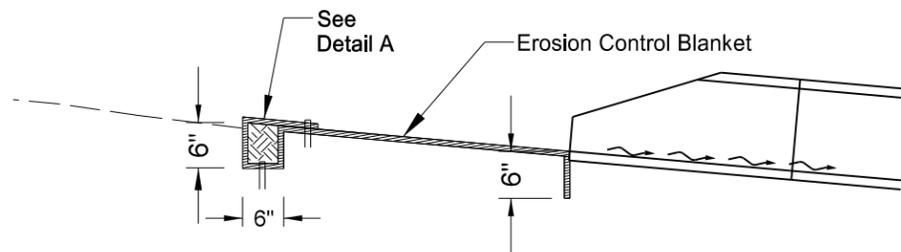
Erosion Control Blanket - Type 1					
Sta	Pipe Diam (Inch)	Slope (Run:1)	X (FT)	Y (FT)	Quantity (SY)
17+27.0 Lt	24	4:1	25.67	17.42	50
17+34.0 Lt	24				
17+41.0 Lt	24				
17+27.0 Rt	24	4:1	25.67	15.63	45
17+34.0 Rt	24				
17+41.0 Rt	24				
18+67.2 Lt	18	4:1	9.42	16.58	18
18+74.6 Rt	18	4:1	9.42	16.58	18
19+24.0 Lt	18	Ditch Bottom	9.42	10	11
Total					142

NOTE: See Standard Drawing D-255-2 for installation details.

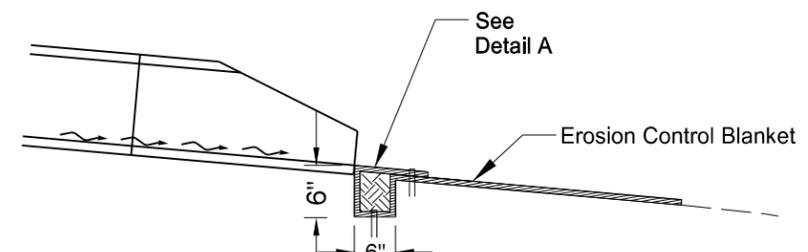


TOP VIEW

Tuck this end a minimum of 6" into the embankment.



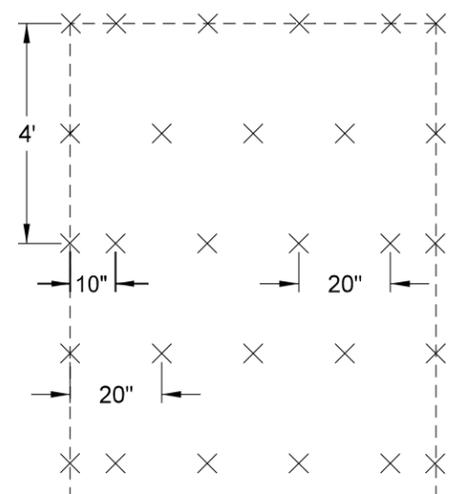
PIPE INLETS



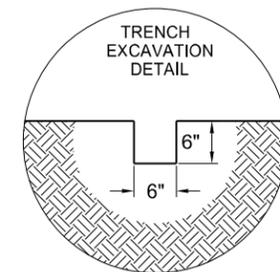
PIPE OUTLETS

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

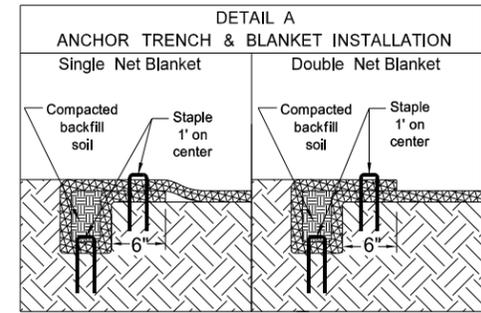
Inlet side - see applicable detail for pipe inlet.  
Outlet side - see applicable detail for pipe outlet.



STAPLE PATTERN



TRENCH EXCAVATION DETAIL

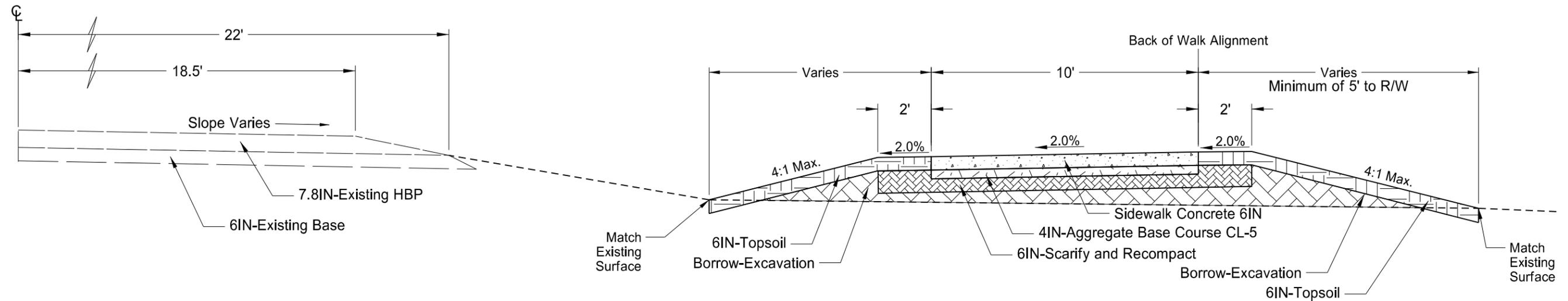


DETAIL A ANCHOR TRENCH & BLANKET INSTALLATION

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Erosion Control at Culvert Flared End Sections

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ND	NH-2-013(055)298	30	1

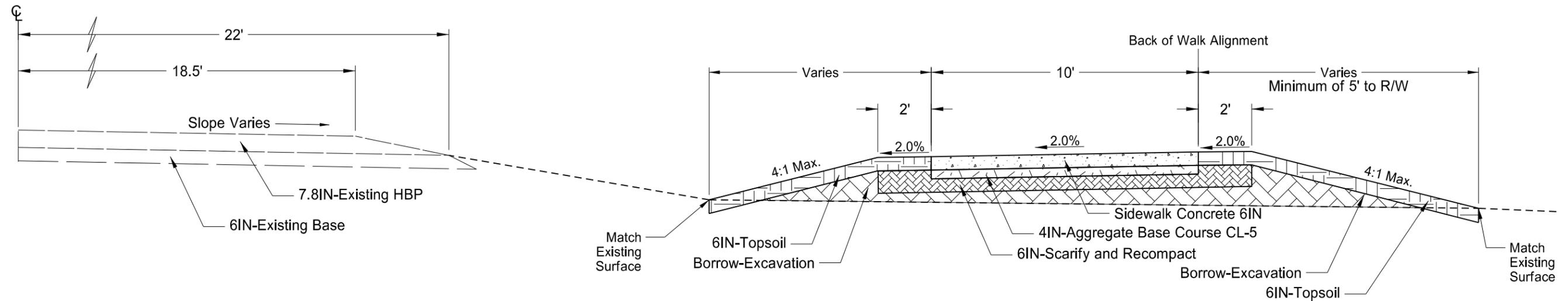


**Typical Trail Section**  
 Sta 10+99.04 to Sta 19+76.35  
 Scale: 1"=4'

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Typical Section

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	NH-2-013(055)298	30	1



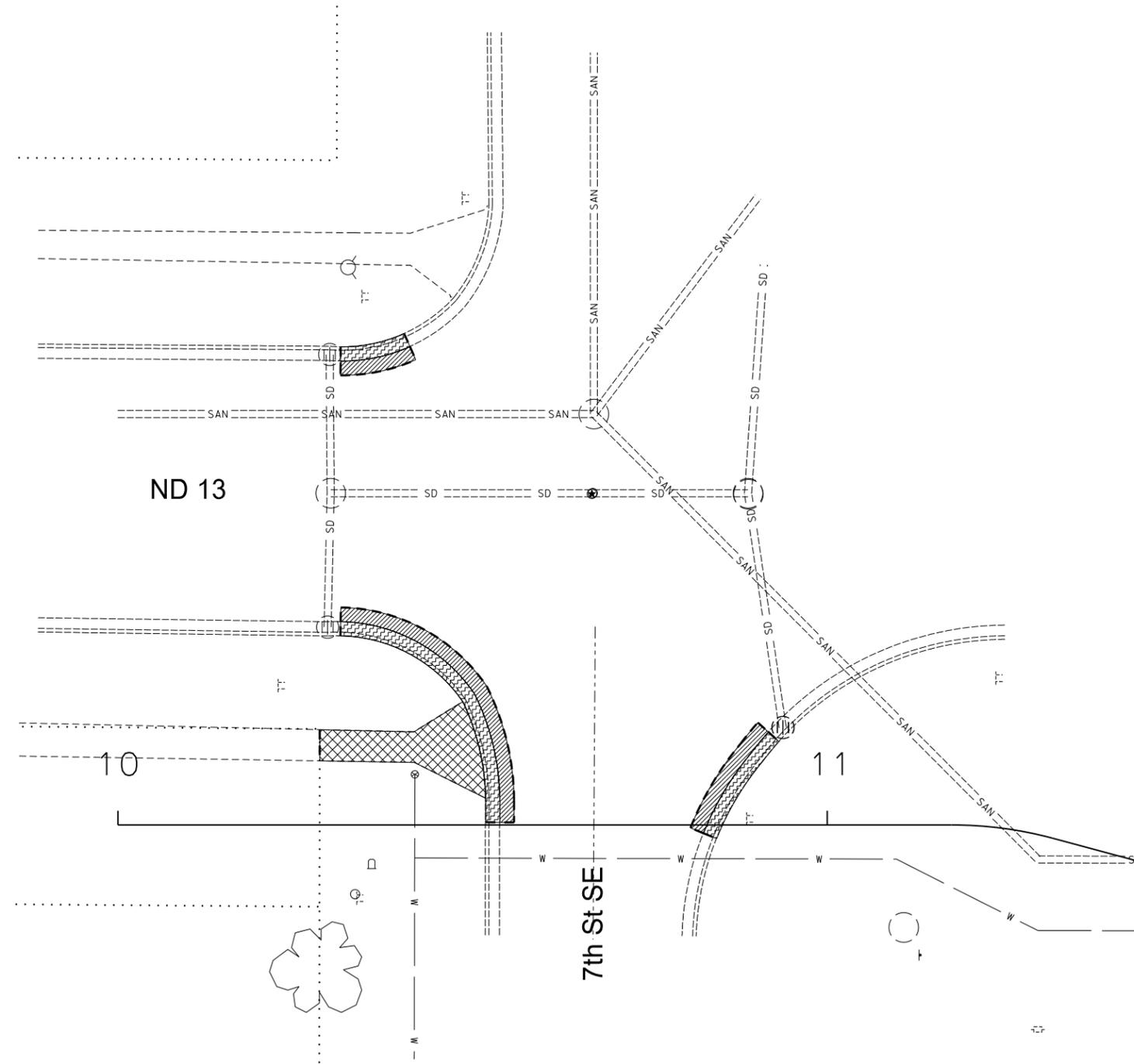
**Typical Trail Section**  
 Sta 10+99.04 to Sta 19+76.35  
 Scale: 1"=4'

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Typical Section

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	NH-2-013(055)298	40	1

SPEC	CODE	BID ITEM	QUANTITY	UNIT
202	0114	REMOVAL OF CONCRETE	14.8	SY
202	0119	SAW CONCRETE	17	LF
202	0130	REMOVAL OF CURB & GUTTER	62	LF
202	0132	REMOVAL OF BITUMINOUS SURFACING	15.2	SY
202	0153	SAW BITUMINOUS SURFACING-FULL DEPTH	83	LF



ND 13

7th St SE

LEGEND

-  Removal of Bituminous Surfacing
-  Removal of Curb & Gutter
-  Removal of Concrete
-  Saw Cut

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Removals

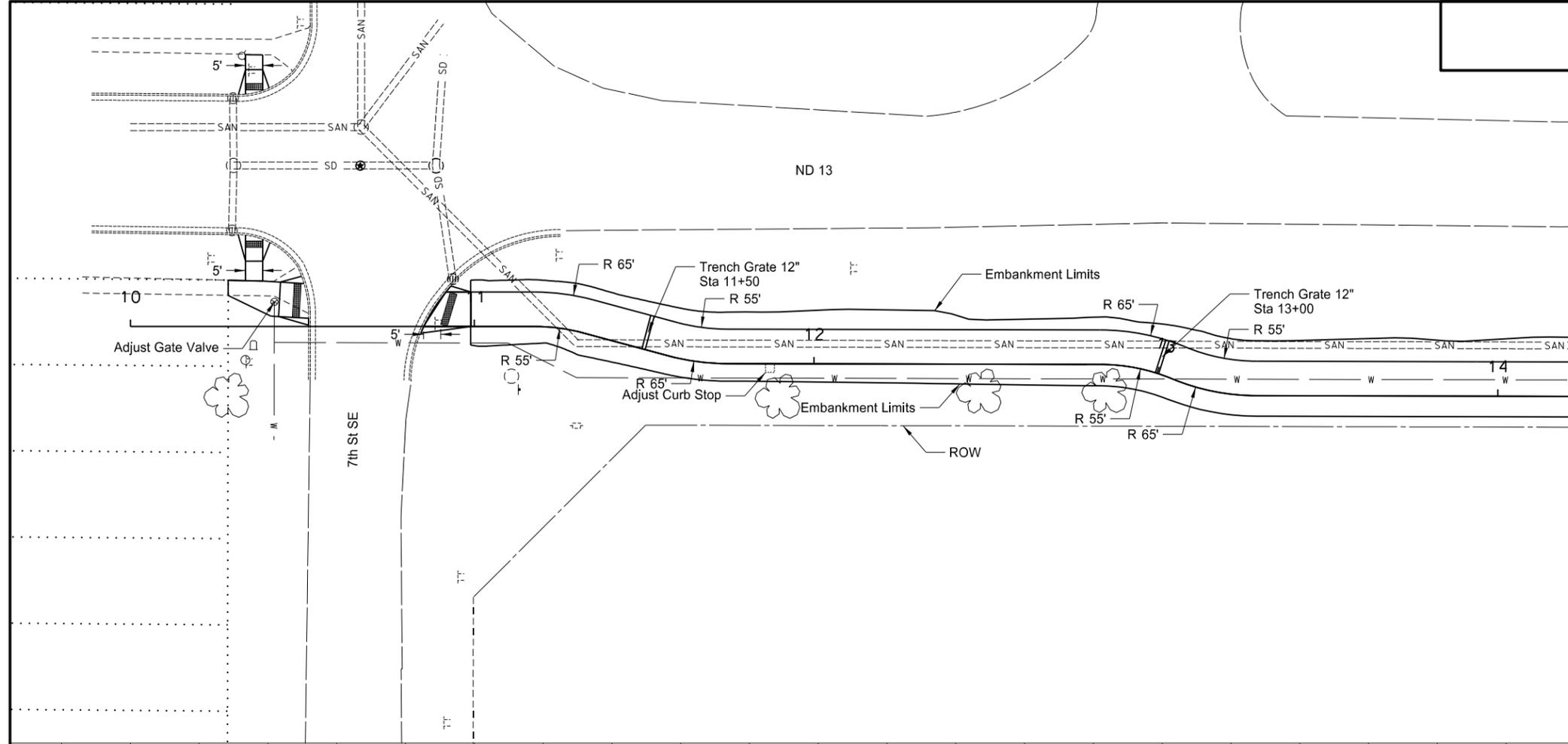
Begin Station/ Location	Begin Offset	End Station/ Location	End Offset	Pay Length	Pipe Conduit Storm Drain Pay Size	Allowable Material	Required Diameter	Minimum Thickness	(A) End Sections		Applicable Backfill Detail
									Begin	End	
									EA	EA	
17+27.0	17.2' LT	17+27.0	7.8' RT	25	24	Reinforced Concrete Pipe - Class III	24		Y	Y	D-714-27M
						High Density Polyethylene					
						Polymeric Coated Steel (3/4" x 3/4" Rib @ 7-1/2")		0.064			
						Polymeric Coated Steel (3/4" x 1" Rib @ 11-1/2")		0.064			
17+34.0	17.2' LT	17+34.0	7.8' RT	25	24	Reinforced Concrete Pipe - Class III	24		Y	Y	D-714-27M
						High Density Polyethylene					
						Polymeric Coated Steel (3/4" x 3/4" Rib @ 7-1/2")		0.064			
						Polymeric Coated Steel (3/4" x 1" Rib @ 11-1/2")		0.064			
17+41.0	17.2' LT	17+41.0	7.8' RT	25	24	Reinforced Concrete Pipe - Class III	24		Y	Y	D-714-27M
						High Density Polyethylene					
						Polymeric Coated Steel (3/4" x 3/4" Rib @ 7-1/2")		0.064			
						Polymeric Coated Steel (3/4" x 1" Rib @ 11-1/2")		0.064			
18+67.2	17.0' LT	18+74.6	9.0' RT	27	18	Reinforced Concrete Pipe - Class III	18		Y	Y	D-714-27
						High Density Polyethylene					
						Polymeric Coated Steel (3/4" x 3/4" Rib @ 7-1/2")		0.064			
						Polymeric Coated Steel (3/4" x 1" Rib @ 11-1/2")		0.064			

NOTE: Length of the pipes were measured from the opening of the end section.

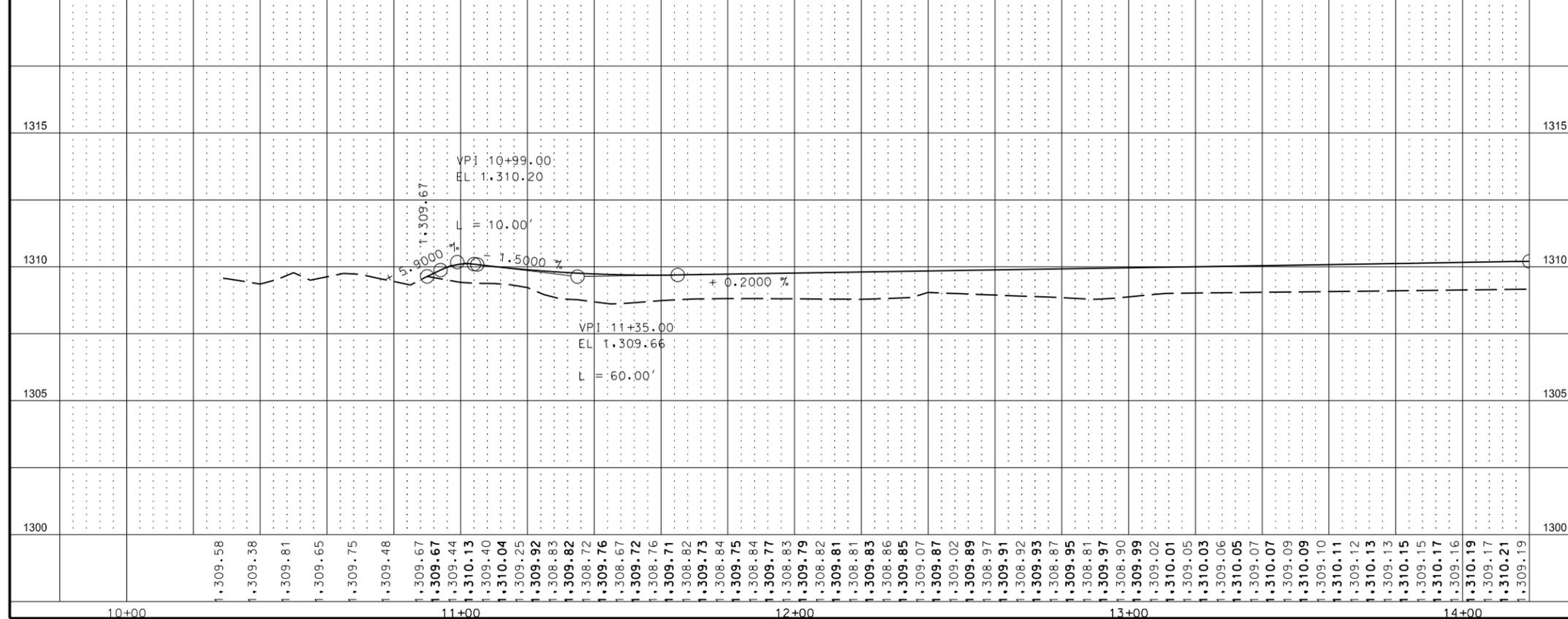
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Allowable Pipe List

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	NH-2-013(055)298	60	1



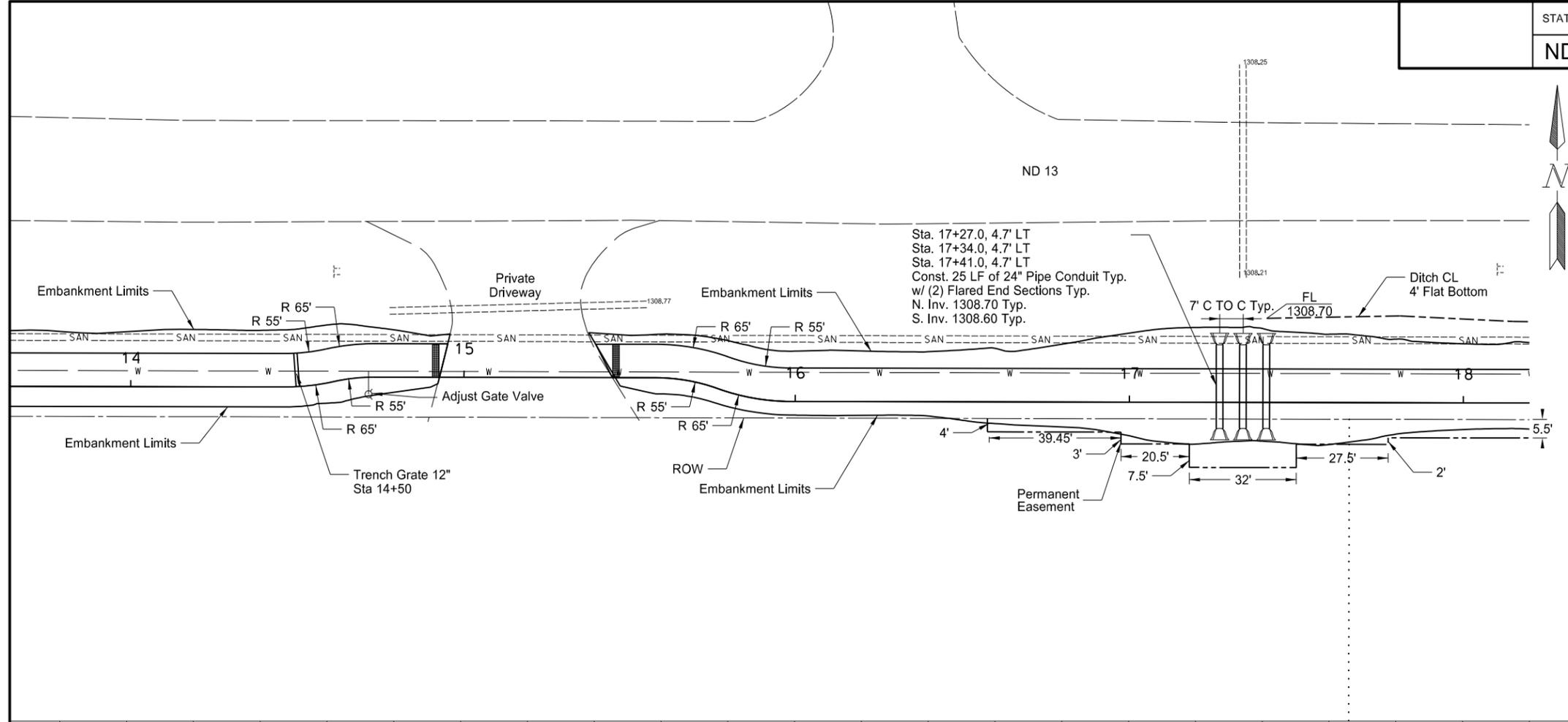
SPEC	CODE	BID ITEM	QUANTITY	UNIT
302	0100	AGGREGATE BASE COURSE CL 5	44	CY
430	0500	COMMERCIAL GRADE HOT MIX ASPHALT	3.4	TON
722	6140	ADJUST GATE VALVE BOX 10+41.89, 7.1' LT	1	EA
724	0940	RELOCATE CURB STOP & BOX 11+87.19, 1.3' RT	1	EA
748	0140	CURB & GUTTER - TYPE 1	62	LF
750	0140	SIDEWALK CONCRETE 6IN	393	SY
750	0150	SIDEWALK TRENCH DRAIN		
		11+50.00, 0.0' LT to 11+50.00, 10.0' LT	1	EA
		13+00.00, 0.0' LT to 13+00.00, 10.0' LT	1	EA
750	2115	DETECTABLE WARNING PANELS		
		10+35.96, 69.5' LT	10	SF
		10+35.96, 23.9' LT	10	SF
		10+48.37, 7.6' LT	20	SF
		10+92.59, 5.0' LT	20	SF



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Plan and Profile  
Sta 10+00 to Sta 14+00

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	NH-2-013(055)298	60	2



SPEC	CODE	BID ITEM	QUANTITY	UNIT
203	0710	DRAINAGE DITCH EXC 17+41.12, 25.1' LT to 18+00.00, 25.0' LT	57	LF
302	0100	AGGREGATE BASE COURSE CL 5	43	CY
714	4105	PIPE CONDUIT 24IN 17+27.0, 17.2' LT to 17+27.0, 7.8' RT 17+34.0, 17.2' LT to 17+34.0, 7.8' RT 17+41.0, 17.2' LT to 17+41.0, 7.8' RT	25 25 25	LF LF LF
722	6140	ADJUST GATE VALVE BOX 17+27.0, 17.2' LT to 17+27.0, 7.8' RT	25	LF
750	0140	SIDEWALK CONCRETE 6IN	387	SY
750	0150	SIDEWALK TRENCH DRAIN 14+50.00, 0.0' LT to 14+50.00, 10.0' LT	1	EA
750	2115	DETECTABLE WARNING PANELS 14+91.53, 5.0' LT 15+45.49, 5.0' LT	20 20	SF SF

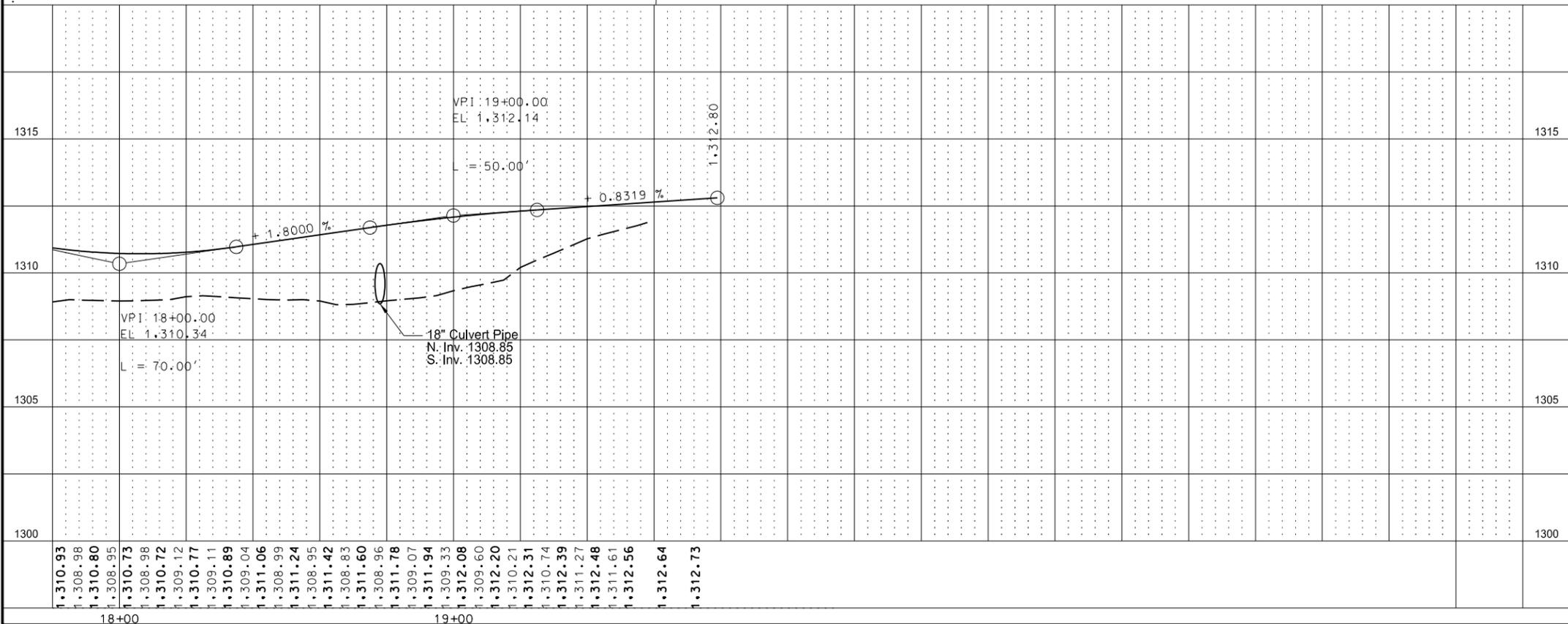
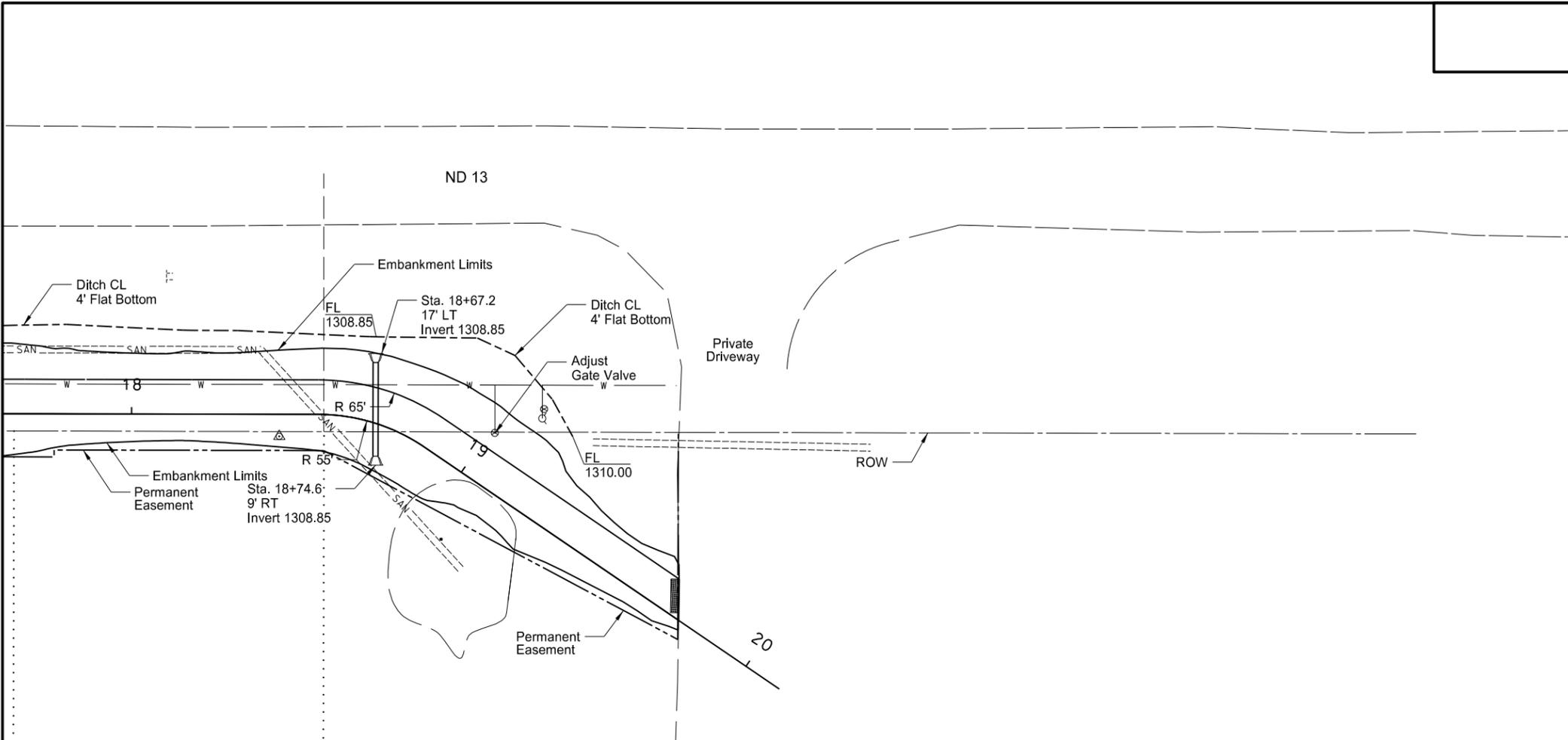


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Plan and Profile  
Sta 14+00 to Sta 18+00

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	NH-2-013(055)298	60	3

SPEC	CODE	BID ITEM	QUANTITY	UNIT
203	0710	DRAINAGE DITCH EXC 18+00.00, 25.0' LT to 19+20.96, 26.7' LT	143	LF
302	0100	AGGREGATE BASE COURSE CL 5	22	CY
714	4100	PIPE CONDUIT 18IN 18+67.2, 17.0' LT to 18+74.6, 9.0' RT	27	LF
722	6140	ADJUST GATE VALVE BOX 14+71.36, 2.2' RT	1	EA
750	0140	SIDEWALK CONCRETE 6 IN	199	SY
750	2115	DETECTABLE WARNING PANELS 19+71.29, 5.2' LT	20	SF



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Plan and Profile  
Sta 18+00 to Sta 20+00

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	NH-2-013(055)298	76	1

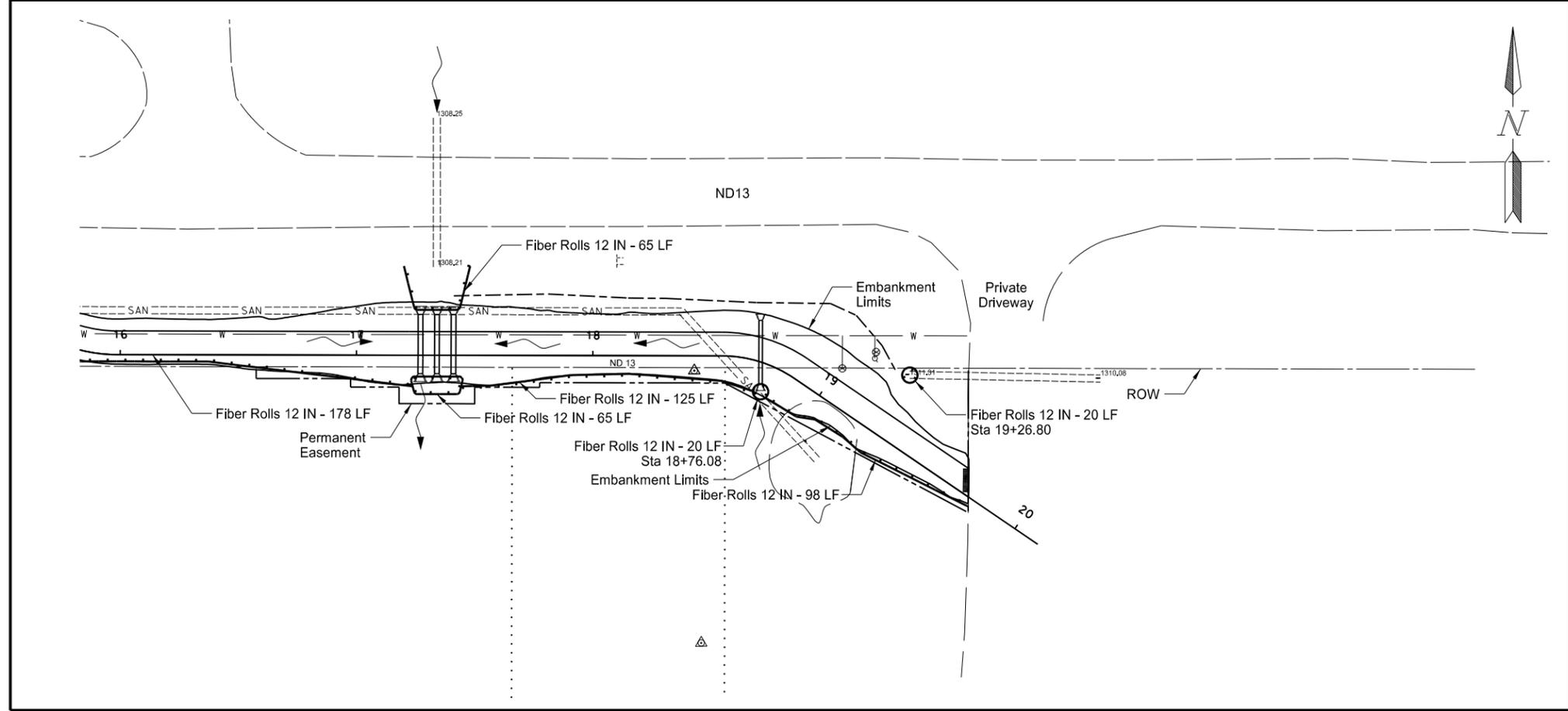
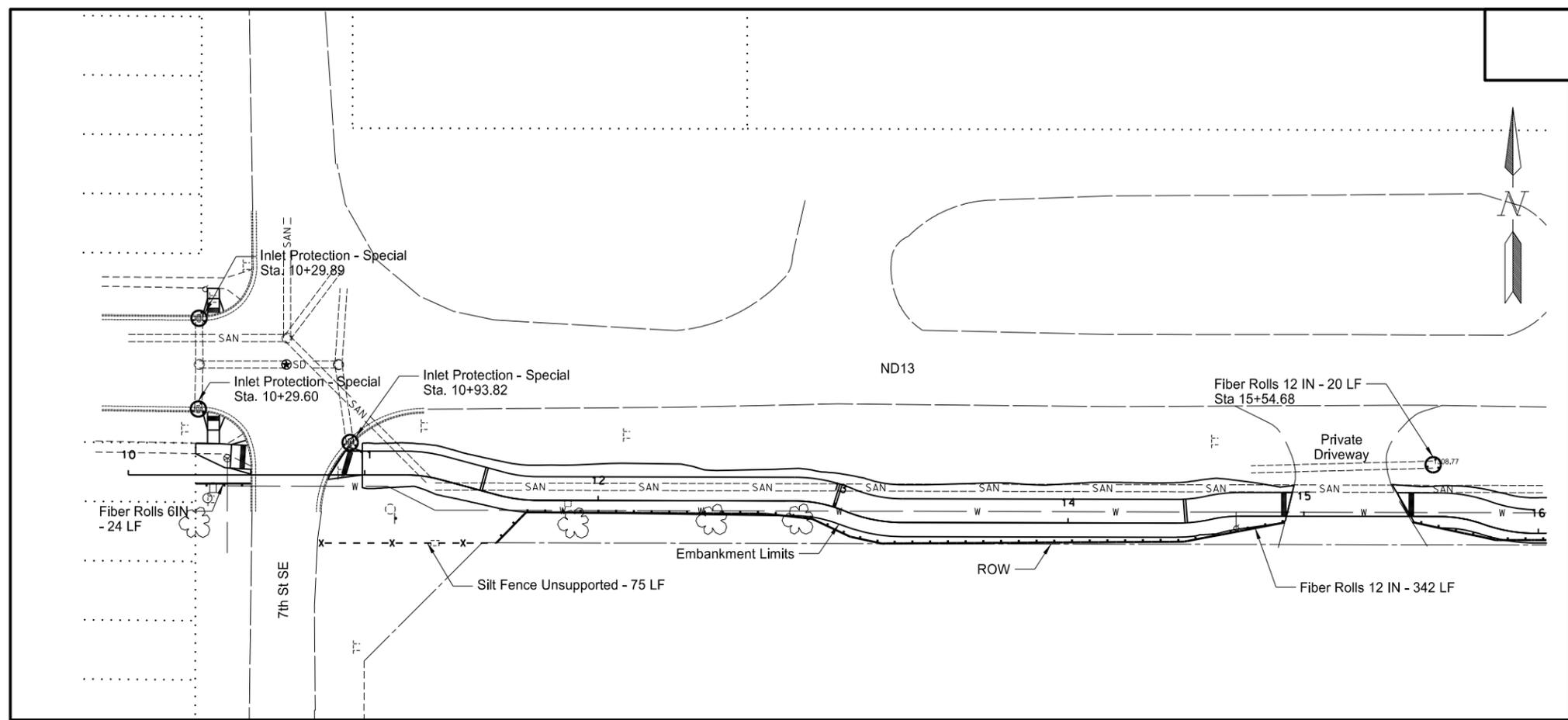
SPEC	CODE	BID ITEM	QUANTITY	UNIT
260	0100	SILT FENCE UNSUPPORTED 10+80.10, 28.7' RT to 11+60.88, 19.9' RT	75	LF
260	0101	REMOVE SILT FENCE UNSUPPORTED 10+80.10, 28.7' RT to 11+60.88, 19.9' RT	75	LF
261	0106	FIBER ROLLS 6IN 10+28.42, 3.7' RT to 10+51.83, 3.7' RT	24	LF
261	0107	REMOVE FIBER ROLLS 6IN 10+28.42, 3.7' RT to 10+51.83, 3.7' RT	24	LF
261	0112	FIBER ROLLS 12IN 11+60.88, 19.9' RT to 14+91.94, 2.7' RT 15+45.89, 2.4' RT to 17+23.75, 13.1' RT 15+54.68, 22.1' LT 17+19.96, 37.7' LT to 17+48.02, 37.7' RT 17+23.18, 10.8' RT to 17+44.86, 10.8' RT 17+44.30, 13.1' RT to 18+72.06, 12.7' RT 18+76.08, 11.8' RT 18+79.80, 13.3' RT to 19+78.57, 3.4' RT 19+26.80, 28.6' LT	342 178 20 65 65 125 20 98 20	LF LF LF LF LF LF LF LF LF
261	0113	REMOVE FIBER ROLLS 12IN 11+60.88, 19.9' RT to 14+91.94, 2.7' RT 15+45.89, 2.4' RT to 17+23.75, 13.1' RT 15+54.68, 22.1' LT 17+19.96, 37.7' LT to 17+48.02, 37.7' RT 17+23.18, 10.8' RT to 17+44.86, 10.8' RT 17+44.30, 13.1' RT to 18+72.06, 12.7' RT 18+76.08, 11.8' RT 18+79.80, 13.3' RT to 19+78.57, 3.4' RT 19+26.80, 28.6' LT	342 178 20 65 65 125 20 98 20	LF LF LF LF LF LF LF LF LF
708	1540	INLET PROTECTION-SPECIAL 10+29.60, 27.8' LT 10+29.89, 66.1' LT 10+93.82, 13.7' LT	1 1 1	EA EA EA
708	1541	REMOVE INLET PROTECTION-SPECIAL 10+29.60, 27.8' LT 10+29.89, 66.1' LT 10+93.82, 13.7' LT	1 1 1	EA EA EA

### LEGEND

-  Fiber Roll
-  Silt Fence

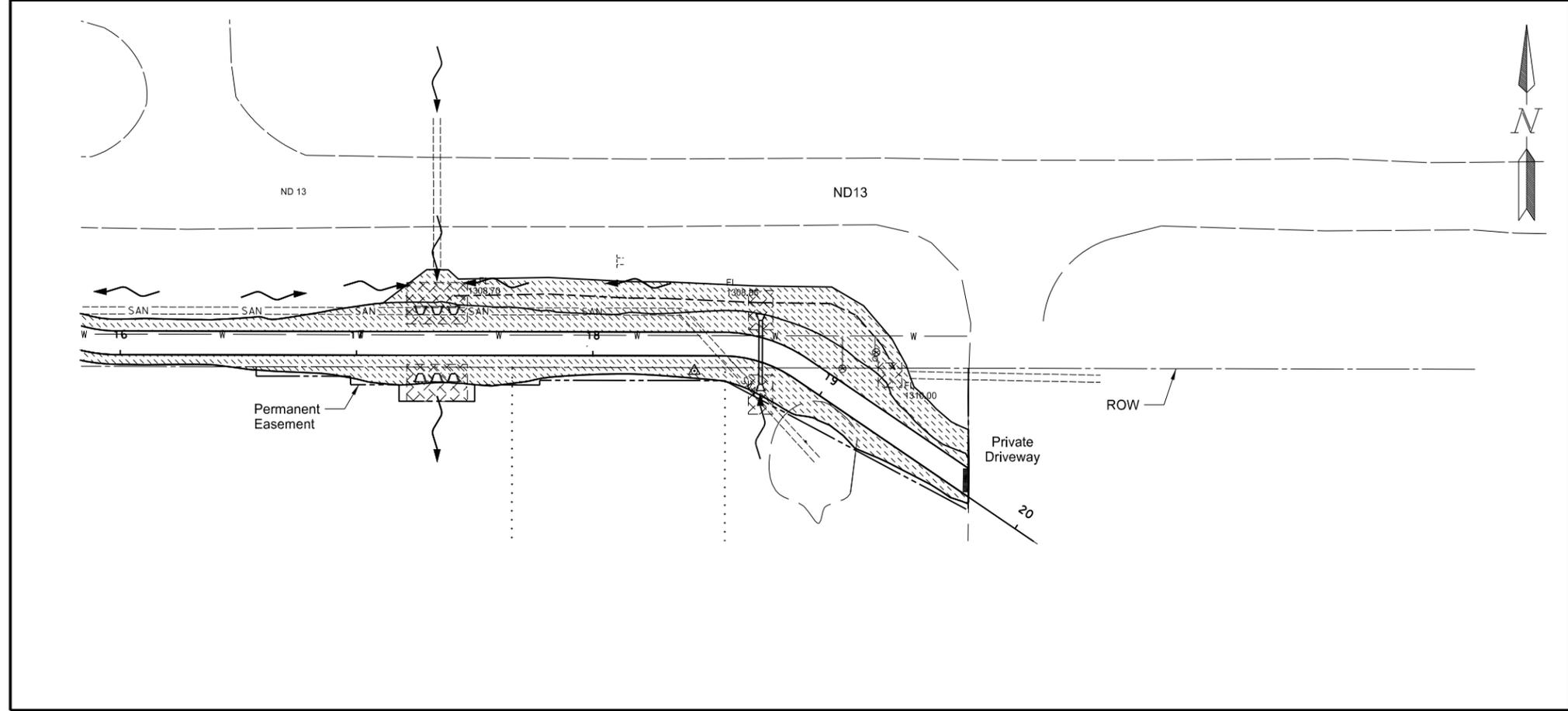
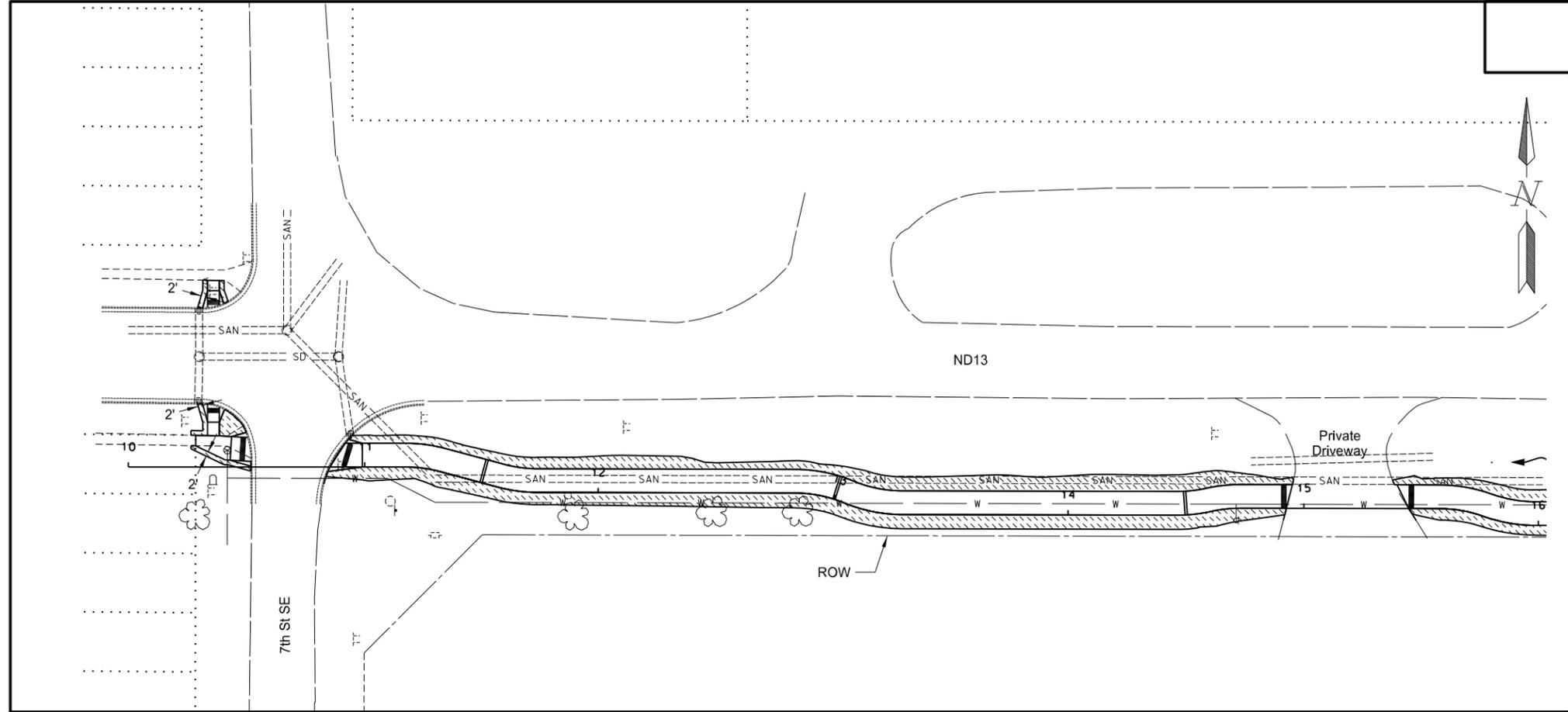
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Temporary Sediment and Erosion Control



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	NH-2-013(055)298	77	1

SPEC CODE	BID ITEM	QUANTITY	UNIT
203	0109 TOPSOIL 10+00 to 20+00	274	CY
251	0300 SEEDING CLASS III 10+00 to 20+00	0.34	ACRE
253	0201 HYDRAULIC MULCH 10+00 to 20+00	0.34	ACRE
255	0101 ECB TYPE 1		
	17+27.0 LT, 17+34.0 LT, 17+41.0 LT	50	SY
	17+27.0 RT, 17+34.0 RT, 17+41.0 RT	45	SY
	18+67.2 LT	18	SY
	18+74.6 RT	18	SY
	19+24.0 LT	11	SY



### LEGEND

-  Topsoil, Seeding and Hydro-Mulching
-  ECB Type 1

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Permanent Sediment and Erosion Control

PRELIMINARY SURVEY COORDINATE AND CURVE DATA - LAMOURE SIDEWALK

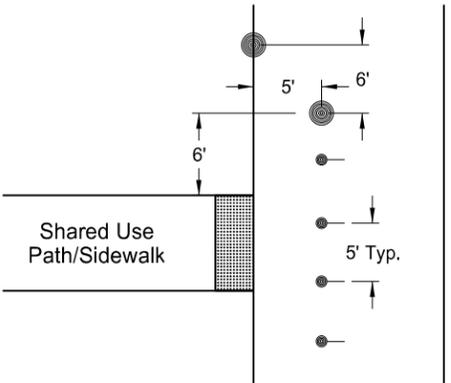
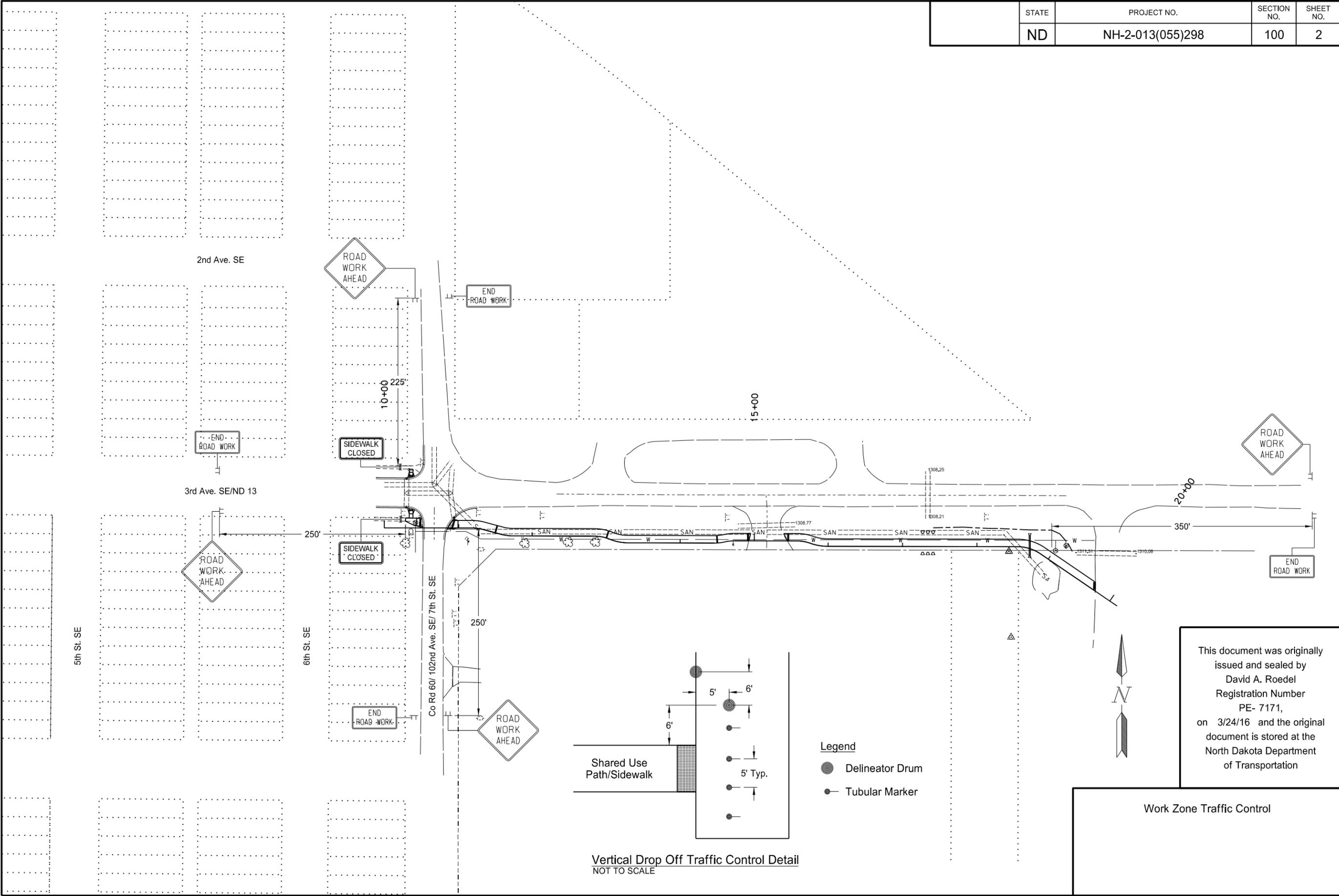
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	NH-2-013(055)298	81	1

HORIZONTAL ALIGNMENT				CURVE DATA		US PUBLIC LAND SURVEY DATA				SURVEY CONTROL POINTS					
PNT	STATION	NORTHING	EASTING	ARC DEFINITION		DESC.	SEC-TWP-RGE	NORTHING	EASTING	PNT	NORTHING	EASTING	ELEV	STATION	OFFSET
CONTROL POINT DESCRIPTION															
436	10+00.00	99953.42	199933.11	Curve PROP_BOW-1	Curve PROP_BOW-5										
PC	11+17.51	99953.42	200050.62	PI STA = 11+24.75	PI STA = 14+53.47										
PI	11+24.75	99953.42	200057.86	Delta = 15° 00' 00.00" RT	Delta = 12° 50' 18.85" LT					PRIMARY CONTROL					
PT	11+31.91	99951.54	200064.85	D <sub>a</sub> = 104° 10' 26.92"	D <sub>a</sub> = 88° 08' 50.47"										
PC	11+57.66	99944.88	200089.73	R = 55.00'	R = 65.00'					CP 1	99806.87	200775.5	1309.03		
PI	11+66.15	99942.68	200097.92	T = 7.24'	T = 7.31'										
PT	11+74.54	99942.66	200106.41	L = 14.40'	L = 14.56'					CP 2	99921.85	200772.60	1309.09		
PC	12+83.22	99942.44	200215.09												
PI	12+94.08	99942.41	200225.95	Curve PROP_BOW-2	Curve PROP_BOW-6					BM 1	99999.97	199999.96	1309.49		
PT	13+04.66	99938.27	200235.98	PI STA = 11+66.15	PI STA = 14+66.91										
PC	13+04.66	99938.27	200235.98	Delta = 14° 52' 52.32" LT	Delta = 12° 50' 18.85" RT					CP NGS A27	108861.10	194392.14	1306.96		
PI	13+17.49	99933.37	200247.84	D <sub>a</sub> = 88° 08' 50.47"	D <sub>a</sub> = 104° 10' 26.92"										
PT	13+29.99	99933.34	200260.67	R = 65.00'	R = 55.00'										
PC	14+46.16	99933.10	200376.84	T = 8.49'	T = 6.19'										
PI	14+53.47	99933.09	200384.15	L = 16.88'	L = 12.32'										
PT	14+60.72	99934.70	200391.28												
PC	14+60.72	99934.70	200391.28	Curve PROP_BOW-3	Curve PROP_BOW-7										
PI	14+66.91	99936.06	200397.32	PI STA = 12+94.08	PI STA = 15+67.03										
PT	14+73.05	99936.05	200403.51	Delta = 22° 19' 53.92" RT	Delta = 19° 39' 59.90" RT										
PC	15+57.50	99935.87	200487.95	D <sub>a</sub> = 104° 10' 26.92"	D <sub>a</sub> = 104° 10' 26.92"										
PI	15+67.03	99935.85	200497.49	R = 55.00'	R = 55.00'										
PT	15+76.38	99932.62	200506.46	T = 10.86'	T = 9.53'										
PC	15+76.38	99932.62	200506.46	L = 21.44'	L = 18.88'										
PI	15+87.64	99928.81	200517.06												
PT	15+98.69	99928.79	200528.32	Curve PROP_BOW-4	Curve PROP_BOW-8										
PC	18+54.40	99928.26	200784.04	PI STA = 13+17.49	PI STA = 15+87.64										
PI	18+71.26	99928.22	200800.90	Delta = 22° 19' 53.92" LT	Delta = 19° 39' 59.90" LT										
PT	18+87.12	99918.74	200814.84	D <sub>a</sub> = 88° 08' 50.47"	D <sub>a</sub> = 88° 08' 50.47"										
437	20+11.72	99848.69	200917.89	R = 65.00'	R = 65.00'										
				T = 12.83'	T = 11.27'										
				L = 25.33'	L = 22.31'										
NOTES:				Date Survey Completed 01/15/15		<input checked="" type="checkbox"/> Assumed Coordinates <input type="checkbox"/> All coordinates on this sheet are County ground coordinates. They are derived from the NAD83( ) reference frame; North Dakota Zone Combination Factor (cf) =				All coordinates and measurements on this document derived from the International Foot definition.			This document was originally issued and sealed by David A. Roedel Registration Number PE- 7171 , on 03/24/16 and the original document is stored at the North Dakota Department of Transportation		
										INITIALIZING BENCH MARK					
										<input checked="" type="checkbox"/> NAVD-88 <input type="checkbox"/> NGVD-29					
										<input type="checkbox"/> GEOID 09 <input type="checkbox"/> _____ <input type="checkbox"/> GEOID 12A					





STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	NH-2-013(055)298	100	2



Vertical Drop Off Traffic Control Detail  
NOT TO SCALE

Legend

- Delineator Drum
- Tubular Marker

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Work Zone Traffic Control

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
N.D.	NH-2-013(055)298	110	1

Sta/RP	Sign No.	Assembly No.	Flat Sheet For Signs		Sign Support Length				Support Size	Max Post Len LF	Sleeve Length				Sleeve Size	Anchor EA	Anchor LF	Anchor Size	Reset Sign Panel EA	Reset Sign Support EA	Break-Away EA	Comments
			IV SF	XI SF	1st LF	2nd LF	3rd LF	4th LF			1st LF	2nd LF	3rd LF	4th LF								
10+41 Lt	SA 1E				7.9				2 x 2 12 ga	23.5					1	4	2.25 x 2.25 12 ga	1				
10+90 Rt	SA 2E				10.4				2.5 x 2.5 12 ga	12.5					1	4	3 x 3 7 ga	1				
11+05 Lt	1	100		1.9	6.3				2 x 2 12 ga	21.4					1	4	2.25 x 2.25 12 ga					
11+10 Rt	2	14		4.0	6.2				2 x 2 12 ga	13.0					1	4	2.25 x 2.25 12 ga					
14+86 Rt	3	100		1.9	6.3				2 x 2 12 ga	21.4					1	4	2.25 x 2.25 12 ga					
15+55 Lt	4	100		1.9	6.3				2 x 2 12 ga	21.4					1	4	2.25 x 2.25 12 ga					
19+79 Rt		100		1.9	6.3				2 x 2 12 ga	21.4					1	4	2.25 x 2.25 12 ga					
<b>Sub Total</b>			0.0	11.6	<b>Total</b>	49.9									<b>Total</b>	28		2	0	0		
<b>Grand Total</b>			0.0	11.6	<b>Total</b>	49.9									<b>Total</b>	28		2	0	0		

Basis of Estimate  
Sign Support Lengths

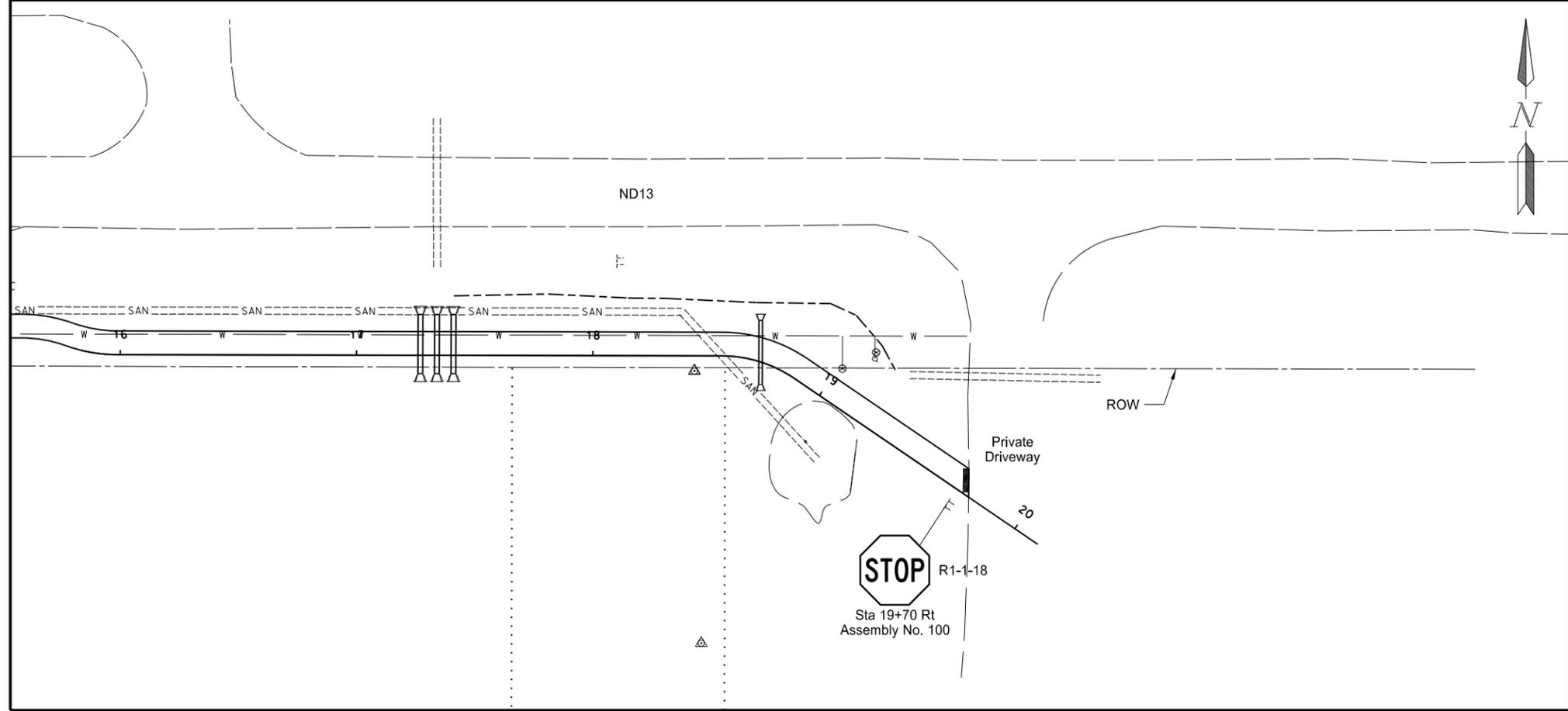
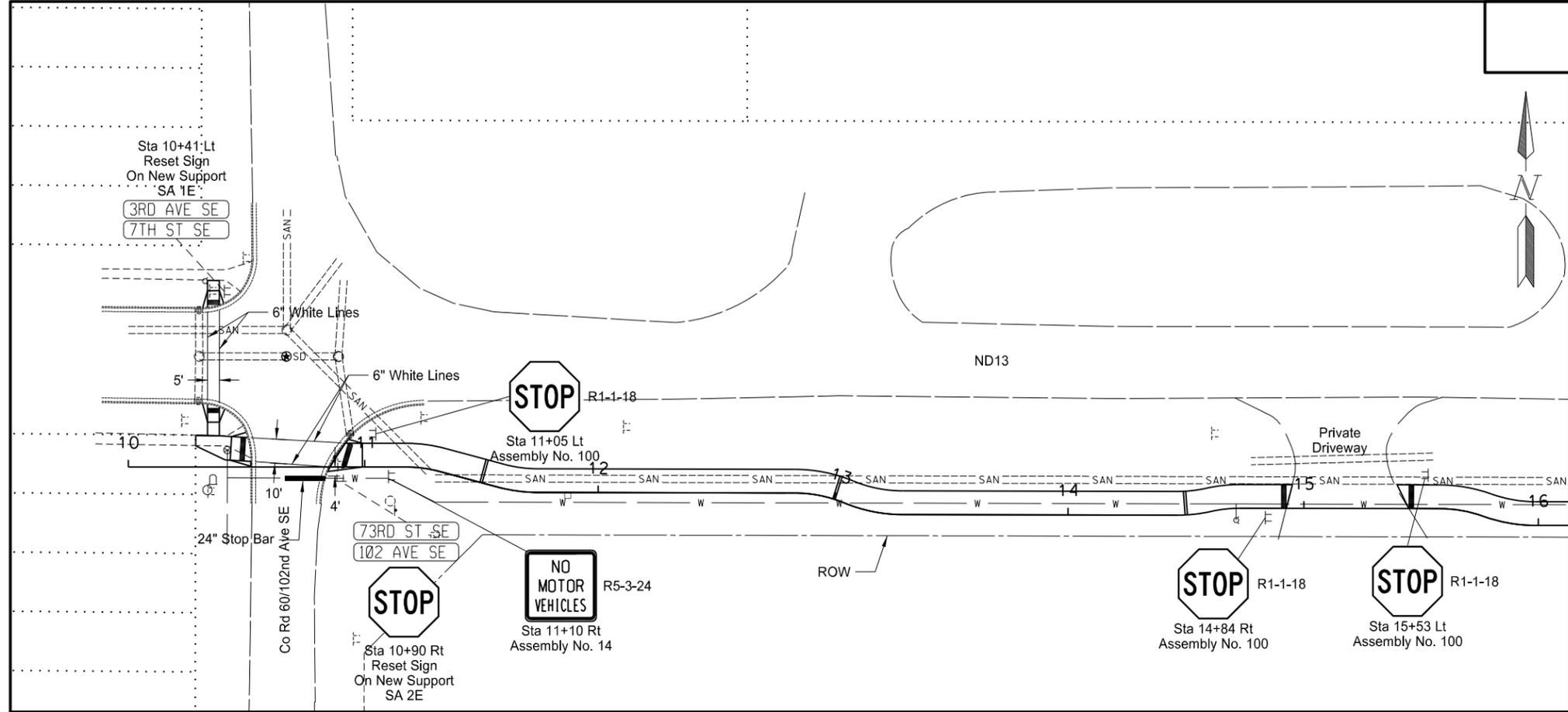
The sign support lengths have been calculated using the following vertical clearances:

Areas where parking and/or pedestrian movement will occur - 84"  
Bike and pedestrian facility - 48"

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	NH-2-013(055)298	110	2

SPEC	CODE	BID ITEM	QUANTITY	UNIT
754	0592	RESET SIGN PANEL	2	EA
762	1104	PV/MT MK PAINTED 4IN LINE		
		6" Crosswalk - White	147	LF
762	1124	PV/MT MK PAINTED 24IN LINE		
		24" Crosswalk - White	16	LF



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Signing & Marking