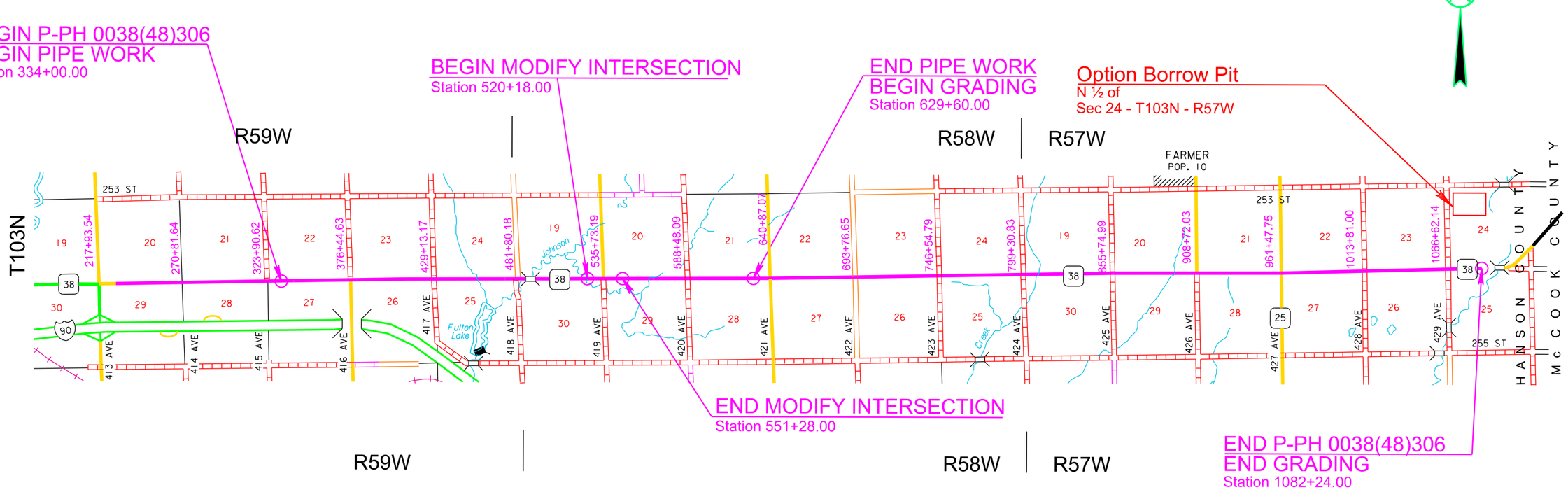
SECTION B: GRADING PLANS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B1	B85

Plotting Date: 12/18/2025

INDEX OF SHEETS



Plot Scale - 1:200

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B2	B85

Plotting Date: 03/12/2026 Rev 03/12/2026 ZJA

SECTION B ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3220	Reestablish Right-of-Way and Property Corner	227	Each
009E3225	Reestablish Public Land Survey System Corner	30	Each
009E3230	Grade Staking	9.901	Mile
009E3245	Final Cross Section Survey	9.164	Mile
009E3250	Miscellaneous Staking	9.164	Mile
009E3280	Slope Staking	9.164	Mile
009E3290	Structure Staking	1	Each
009E3301	Engineer Directed Surveying/Staking	40.0	Hour
009E4200	Construction Schedule, Category II	Lump Sum	LS
100E0100	Clearing	Lump Sum	LS
110E0600	Remove Fence	57,527	Ft
110E1100	Remove Concrete Pavement	2,493.4	SqYd
110E7040	Remove Gate for Reset	11	Each
110E7500	Remove Pipe for Reset	54	Ft
110E7510	Remove Pipe End Section for Reset	6	Each
120E0010	Unclassified Excavation	371,109	CuYd
120E0500	Option Borrow Excavation	173,491	CuYd
120E1000	Muck Excavation	16,946	CuYd
120E2000	Undercutting	145,957	CuYd
120E6100	Water for Embankment	3,970.8	MGal
250E0020	Incidental Work, Grading	Lump Sum	LS
260E6010	Granular Material	160.0	Ton
270E0040	Salvage and Stockpile Asphalt Mix and Granular Base Material	138,518.9	Ton
270E0230	Haul and Stockpile Asphalt Mix Material	10,000.0	Ton
421E0100	Pipe Culvert Undercut	406	CuYd
450E0142	24" RCP Class 2, Furnish	204	Ft
450E0150	24" RCP, Install	204	Ft
450E0162	30" RCP Class 2, Furnish	484	Ft
450E0170	30" RCP, Install	484	Ft
450E0182	36" RCP Class 2, Furnish	168	Ft
450E0190	36" RCP, Install	168	Ft
450E0202	48" RCP Class 2, Furnish	204	Ft
450E0210	48" RCP, Install	204	Ft
450E2028	36" RCP Flared End, Furnish	4	Each
450E2029	36" RCP Flared End, Install	4	Each
450E2036	48" RCP Flared End, Furnish	4	Each
450E2037	48" RCP Flared End, Install	4	Each
450E2200	24" RCP Sloped End, Furnish	6	Each
450E2201	24" RCP Sloped End, Install	6	Each
450E2204	30" RCP Sloped End, Furnish	18	Each
450E2205	30" RCP Sloped End, Install	18	Each

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
450E3012	24" RCP Arch Class 2, Furnish	504	Ft
450E3020	24" RCP Arch, Install	504	Ft
450E3022	30" RCP Arch Class 2, Furnish	1,276	Ft
450E3030	30" RCP Arch, Install	1,276	Ft
450E3032	36" RCP Arch Class 2, Furnish	84	Ft
450E3040	36" RCP Arch, Install	84	Ft
450E3042	42" RCP Arch Class 2, Furnish	168	Ft
450E3050	42" RCP Arch, Install	168	Ft
450E3052	48" RCP Arch Class 2, Furnish	84	Ft
450E3060	48" RCP Arch, Install	84	Ft
450E4512	36" RCP Arch Flared End, Furnish	2	Each
450E4513	36" RCP Arch Flared End, Install	2	Each
450E4516	42" RCP Arch Flared End, Furnish	4	Each
450E4517	42" RCP Arch Flared End, Install	4	Each
450E4520	48" RCP Arch Flared End, Furnish	2	Each
450E4521	48" RCP Arch Flared End, Install	2	Each
450E4600	24" RCP Arch Sloped End, Furnish	16	Each
450E4601	24" RCP Arch Sloped End, Install	16	Each
450E4604	30" RCP Arch Sloped End, Furnish	26	Each
450E4605	30" RCP Arch Sloped End, Install	26	Each
450E4759	18" CMP 16 Gauge, Furnish	1,180	Ft
450E4760	18" CMP, Install	1,180	Ft
450E4769	24" CMP 16 Gauge, Furnish	430	Ft
450E4770	24" CMP, Install	430	Ft
450E4779	30" CMP 16 Gauge, Furnish	464	Ft
450E4780	30" CMP, Install	464	Ft
450E4789	36" CMP 16 Gauge, Furnish	168	Ft
450E4790	36" CMP, Install	168	Ft
450E5406	18" CMP Safety End, Furnish	36	Each
450E5407	18" CMP Safety End, Install	36	Each
450E5410	24" CMP Safety End, Furnish	14	Each
450E5411	24" CMP Safety End, Install	14	Each
450E5414	30" CMP Safety End, Furnish	14	Each
450E5417	30" CMP Safety End, Install	14	Each
450E5420	36" CMP Safety End, Furnish	4	Each
450E5423	36" CMP Safety End, Install	4	Each
450E5519	24" CMP Arch 16 Gauge, Furnish	304	Ft
450E5520	24" CMP Arch, Install	304	Ft
450E5529	30" CMP Arch 16 Gauge, Furnish	168	Ft
450E5530	30" CMP Arch, Install	168	Ft
450E6010	24" CMP Arch Safety End, Furnish	8	Each
450E6011	24" CMP Arch Safety End, Install	8	Each
450E6014	30" CMP Arch Safety End, Furnish	4	Each

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
450E6017	30" CMP Arch Safety End, Install	4	Each
* 450E8900	Cleanout Pipe Culvert	1	Each
450E9000	Reset Pipe	54	Ft
450E9001	Reset Pipe End Section	6	Each
451E0004	4" PVC Encasement Pipe	86	Ft
464E0100	Controlled Density Fill	46.4	CuYd
600E0200	Type II Field Laboratory	1	Each
620E0010	Type 1 Right-of-Way Fence	874	Ft
620E0020	Type 2 Right-of-Way Fence	33,223	Ft
620E0030	Type 3 Right-of-Way Fence	8,579	Ft
620E0040	Type 4 Right-of-Way Fence	3,501	Ft
620E0060	Type 6 Right-of-Way Fence	995	Ft
620E0300	Special Right-of-Way Fence	681	Ft
620E0510	Type 1 Temporary Fence	10,162	Ft
620E0520	Type 2 Temporary Fence	1,218	Ft
620E1020	2 Post Panel	71	Each
620E1030	3 Post Panel	135	Each
620E2012	12' Tubular Gate	8	Each
620E2100	Reset Gate	11	Each
720E1015	Bank and Channel Protection Gabion	24.0	CuYd
734E0900	Temporary Diversion Channel for Fish Passage	1	Each
831E0110	Type B Drainage Fabric	68	SqYd
900E0010	Refurbish Single Mailbox	9	Each
900E1150	Concrete Right of Way Marker	32	Each

*** - Denotes Non-Participating**

MACHINE CONTROL GRADING & MODEL INFORMATION

Electronic design files are made available by the SDDOT Bid Letting Office through the SDDOT's SharePoint Directory for Contractors. The roadway subgrade model(s) xml file(s) provided for this project includes the following highway features: inslope transitions at pipes and box culverts.

Highway features not included in the roadway subgrade model(s) xml file(s) are the following: intersecting roads and entrances, mailbox turnouts, ditch blocks, undercutting, muck excavation, and unstable excavation.

These files are provided for informational purposes only. The information shown in the plans will govern over the provided electronic information. The Contractor assumes the risk of error if the information is used for any purposes for which the information was not intended. The Contractor assumes all risk of any assumptions or manipulations made of the electronic information.

GRADING OPERATIONS

Water for Embankment is estimated at the rate of 10 gallons of water per cubic yard of Embankment minus Waste.

The estimated cubic yards of excavation and/or embankment required to construct outlet ditches, ditch blocks, and approaches are included in the earthwork balance notes on the profile sheets.

Special ditch grades and other sections of the roadway different than the typical section(s) will be constructed to the limits shown on the cross sections. If significant changes to the cross sections are necessary during construction, the Engineer will contact the Designer for the proposed change.

Generally, all shallow inlet and outlet ditches as noted on the plan sheets will be cut with a 10-foot wide bottom with 5:1 backslopes. However, the Engineer may direct the Contractor to adjust the ditch width for proper alignment with the drainage structure.

Temporary fence and/or permanent fence will be placed ahead of the grading operation unless otherwise directed by the Engineer.

A copy of the subsurface/subgrade investigation for this project is available from the Mitchell Region and Mitchell Area offices.

The Contractor is advised that groundwater was encountered at a level that will be near the bottom of the proposed ditch cuts/undercut at Station 980+00. Seasonal changes may affect the groundwater elevations. The Contractor is encouraged to review the soil borings shown in the cross sections for additional water table information.

The Contractor is alerted that Sioux Quartzite was encountered at Stations 799+00, 801+00, 803+00, and 806+00. The depth to quartzite is depicted on the soil borings in the cross sections. It is not anticipated that in-place quartzite will be encountered during the undercut excavation.

GENERAL GEOLOGY

The Sioux Quartzite underlies the project area and may be covered by a varying thickness of Quaternary Glacial and Alluvial Deposits. The Sioux Quartzite outcrops within the Pierre Creek drainage and on the East end of the project limits at the Spencer Quarry. The South Dakota Geological Survey describes the deposits/formations that will be encountered on the project as outlined below:

Quaternary Alluvium deposits consist of clay to boulder sized clasts with locally abundant organic material. Alluvial materials may be encountered within the large drainages adjacent to mainline and sporadically throughout the project limits.

Quaternary Glacial Deposits within the project limits consist of a compact, silty, clay-rich matrix with sand to boulder-sized clasts of glacial origin deposited as a stagnation or ground moraine.

The *Sioux Quartzite* consists of pink and reddish to tan, siliceous, fine to coarse grained, iron stained orthoquartzite with minor metamorphosed conglomerate and mudstone layers.

CLASSIFICATION OF EXCAVATION

Large glacial boulders may be encountered sporadically within the project limits. Very large boulders could require more effort to excavate. Most of the material encountered should be able to be excavated using conventional methods associated with normal Unclassified Excavation. Muck Excavation will be required at the areas shown in the plans or as directed by the Engineer.

Surface observations and soils borings indicate that Sioux Quartzite may be shallow within the Pierre Creek floodplain and could be encountered in Muck and Box Culvert Undercut Excavations from Station 799+00± to Station 811+00±. The Sioux Quartzite is difficult to typify as the surface of the formation is extremely irregular and may vary greatly in a short distance. The Sioux Quartzite and associated large boulders could require extra effort to excavate. In place quartzite will not be excavated as part of normal Muck Excavation. Designated Muck Excavation limits will be adjusted as needed to ensure all organic compressible materials are removed from the quartzite surface as directed by the Engineer.

TYPE II FIELD LABORATORY

The Contractor will provide high-speed broadband internet connection to the field lab. The multiport internet connection may be hardwired, through a cellular method, or other approved service that allows Wi-Fi connection. Prior to obtaining the internet connection, the Contractor will submit the internet connection's technical data to the Area Office to check for compatibility with the state's computer equipment. The Contractor's personnel are prohibited from using the internet connection unless pre-approved by the Project Engineer. The internet service will be incidental to the contract unit price per each for "Type II Field Laboratory".

UTILITIES

The Contractor will be aware that the existing utilities shown in the plans were surveyed prior to the design of this project and might have been relocated or replaced by a new utility facility prior to construction of this project, might be relocated or replaced by a new utility facility during the construction of this project, or might not require adjustment and may remain in its current location. The Contractor will contact each utility owner and confirm the status of all existing and new utility facilities. The utility contact information is provided elsewhere in the plans or bidding documents.

INSLOPE TRANSITIONS

Inslope transitions will be required at various pipe locations. Refer to Standard Plate 120.05 for details.

TABLE OF INSLOPE TRANSITIONS AT PIPE CULVERTS OR REINFORCED CONCRETE BOX CULVERTS

Station	L/R	Type
692+62	L/R	2
694+65	L/R	2
752+06	L/R	2
798+65	L/R	2
881+97	L/R	2
932+30	L/R	2
1019+92	L/R	2
1046+90	L	2
1063+91	L/R	2

TABLE OF TEMPORARY DIVERSION CHANNELS FOR FISH PASSAGE

The Contractor will construct a temporary diversion channel in accordance with standard plate 734.30 at the locations listed in the following table:

Station	Quantity (Each)
809+12	1

SHRINKAGE FACTOR: Embankment +25% and +35%

TABLE OF EXCAVATION QUANTITIES BY BALANCES

Station to	Station	Excavation (CuYd)	*Undercut (CuYd)	* Muck Exc. (CuYd)	* Option Borrow Exc. (CuYd)	Total Excavation (CuYd)	**Out-of-Balance Exc. (CuYd)	** Waste (CuYd)	** Dead Haul (CuYdSta)	** Option Borrow Haul (CuYdSta)	** Haul (CuYdSta)	** Out-of-Balance Haul (CuYdSta)
520+18	551+28	10,118	8352			18,470		2646			2600	
629+60	642+00	5440	5588			11,028					12,100	
642+00	659+00	7818	6025			13,843					12,900	
659+00	694+00	4564	9573		12,025	28,808	2646		5,401,900	68,900	23,600	344,200
694+00	746+00	7637	13,349		22,815	43,801			9,062,600	412,400	4000	
746+00	800+00	14,042	15,807		13,870	43,719			4,760,500	325,300	72,800	
800+00	856+00	11,661	15,188	4885	27,406	59,140		4885	7,871,600	1,118,600	29,300	
856+00	909+00	3492	15,259	1265	24,829	44,845		1265	5,815,500	708,000	100	
909+00	962+00	3531	18,800	4470	22,584	49,385		4470	4,092,700	758,800	1000	
962+00	1014+00	2583	17,284	4506	23,505	47,878		4506	3,037,400	659,100	400	
1014+00	1067+00	6266	15,657	1820	22,842	46,585		1820	1,749,700	706,300	2300	
1067+00	1082+24	476	5075		3615	9166			276,900	23,300	0	
	Totals:	77,628	145,957	16,946	173,491	416,668	2646	19,592	42,068,800	4,780,700	161,100	344,200

* The quantities for these items are in the Estimate of Quantities under their respective contract items.
** The quantities for these items are for information only.

TABLE OF UNCLASSIFIED EXCAVATION

	(CuYd)
Excavation	77,628
Undercut	145,957
Topsoil	72,436
Exc. for RCBC Installation	1798
Salvaged Asphalt Mix and Granular Base Material (from cut sections)	72,308
Salvaged Asphalt Mix and Granular Base Material (from fill sections)	982
Total	371,109

PROCEDURES FOR DETERMINING UNCLASSIFIED EXCAVATION QUANTITY

When plan quantities are used for payment, the Unclassified Excavation quantity will be used for final payment and the plans quantity of Topsoil and salvaged surfacing items listed in the Table of Unclassified Excavation will not be adjusted according to field measurements.

The following paragraphs are general earthwork information and information in regard to computing the Unclassified Excavation quantity when final cross sections are taken in the field:

The Unstable Material Excavation quantity is included in the Excavation quantity listed in the Table of Unclassified Excavation. When finaling a project, the Unstable Material Excavation quantity will be added to the Excavation quantity to compute the Unclassified Excavation quantity.

Out-of-Balance Excavation is material obtained from waste generated from excavation from other balances. The quantity of Out-of-Balance Excavation is included in the Excavation quantity in the balance where it is excavated and is paid for once as Unclassified Excavation.

The Topsoil quantity in the Table of Unclassified Excavation is an estimate. When finaling a project, the total quantity of field measured Topsoil will be used in place of the estimated Topsoil quantity. The quantity of Topsoil from the cuts will be paid for twice as Unclassified Excavation, as it will be in both the Excavation and Topsoil quantities. This will be full compensation for Excavation, which includes necessary undercutting to provide space for placement of topsoil.

The Excavation quantities from individual balances and the Table of Unclassified Excavation have been reduced by the volume of in place surfacing that will be removed and/or salvaged.

Salvaged Asphalt Mix and Granular Base Material will be paid for at the contract unit price per ton and is also included in and paid for once as Unclassified Excavation. As shown in the Table of Unclassified Excavation, the estimated quantity of 982 cubic yards of Salvaged Asphalt Mix and Granular Base Material from fill sections will be added to the Excavation quantity to determine the Unclassified Excavation quantity. When finaling a project, the quantities of Salvaged Asphalt Mix and Granular Base Material from fill sections will not be adjusted according to field measurements. The quantity of Salvaged Asphalt Mix and Granular Base Material from cut sections will not be added to the Excavation quantity as it is already in the cuts on the final cross sections.

The volume of in place Concrete Surfacing will NOT be paid for as Unclassified Excavation.

The Excavation quantities from individual balances and the table above have been reduced by the volume of in place concrete pavement and asphalt pavement that will be removed.

When finaling a project, the estimated quantity of 457 cubic yards of Concrete Pavement will be subtracted from the Unclassified Excavation quantity for final payment. The quantity of Concrete Pavement from cut sections subtracted from the Unclassified Excavation quantity will be plans quantity and will not be adjusted according to field measurements.

WASTE EXCAVATION

The quantity of waste in the Table of Excavation Quantities by Balances that is muck excavation or excess excavation material will be disposed of at a Contractor furnished site acceptable to the Engineer. Waste material that is not muck excavation should be used as Out-of-Balance Excavation where specified in the plans.

TABLE OF OPTION BORROW EXCAVATION

	(CuYd)
Option Borrow Excavation	173,491
Topsoil in Option Borrow Pits	0
Total:	173,491

HAUL

Included in the Table of Excavation Quantities by Balances are Dead Haul, Option Borrow Haul, Out-of-Balance Haul, and Haul. They are not pay items and are for informational purposes only. The mass haul diagram is available as part of the bid package for use in figuring this haul.

Dead Haul: Estimated quantity (CuYdSta) for moving borrow excavation material or option borrow excavation material from the option borrow site to the centerline mainline station listed in the Table of Borrow Pits plus the distance from this centerline station to the location of the injection point of each earthwork balance.

Option Borrow Haul: Estimated quantity (CuYdSta) for moving option borrow excavation material from the injection location of the earthwork balance.

Out-of-Balance Haul: Estimated quantity (CuYdSta) for moving material from an earthwork balance to another earthwork balance.

Haul: Estimated quantity (CuYdSta) for moving unclassified excavation material to the locations where it is needed throughout the earthwork balance.

For Purpose of Extra Haul Computations:

Average Haul = (Haul + Out-of-Balance Haul)/Unclassified Excavation = (161,100 + 344,200)/371,109 = 1.4 Sta.

Average Option Borrow Haul = (Option Borrow Haul + Dead Haul)/Total Option Borrow Excavation = 4,780,700 + 42,068,800/173,491 = 270.0 Sta.

Compensation for “Extra Haul” will not be made for haul distances less than 5 stations. When payment for “Extra Haul” is authorized, the distance used for “Extra Haul” calculations will be that in excess of 5 stations.

UNDERCUTTING

In the intersection modification area from 520+18 to 551+28, the existing embankment will be undercut in a manner that allows 2 feet of new embankment to be constructed below the finished subgrade top. The remaining new embankment will be benched in to the existing inslope as per Section 120.3 B.2 of the Specifications.

In the grading area from 629+60 to 1082+24, all cut sections the earthen subgrade will be undercut 2 feet below the earthen subgrade surface. The undercut material or other suitable material, as directed by the Engineer, will then be replaced and compacted to the density specified for the section being constructed.

Shallow embankment sections, fills less than 2 feet in height measured at the finished subgrade shoulders, will be undercut to ensure a minimum 2 foot height of earth embankment for the entire width of roadbed. The upper 6 inches of undercut material that consists of topsoil with a high humus content will be used as topsoil, placed in the fill slopes outside the shoulders of the earthen subgrade, or placed in the lower portion (below 4 foot depth) in fills which are greater than 4 feet in height. The remaining undercut soil and soil obtained from adjacent excavation (excluding the upper 6 inches) will then be replaced and compacted to the density specified for the section being constructed.

The plan shown quantity will be the basis of payment. However, if there are additional areas of undercut other than what is shown in the plans, the Engineer will direct removal of these areas and the additional areas will be measured according to the Engineer.

TABLE OF UNDERCUTTING LOCATIONS RURAL

Station	to	Station
520+18		551+28
629+60		685+00
695+50		736+50
751+50		795+00
805+00		807+50
811+50		854+00
855+40		869+00
872+50		1042+00
1046+50		1082+24

UNSTABLE MATERIAL EXCAVATION

The areas of unstable material excavation are drawn on the cross sections with a normal depth of 2 feet. The estimated quantity of 11,291 cubic yards of unstable material excavation will be paid for at the contract unit price per cubic yard for “Unclassified Excavation”.

All areas designated as Unstable will be excavated. The unstable material excavated on this project will be placed outside the subgrade shoulder in fill sections or stockpiled and used as topsoil.

Field measurement of unstable material excavation will not be made. However, if there are additional areas of unstable material excavation other than what is shown in the plans, the Engineer will direct removal of these areas and the additional areas will be measured according to the Engineer.

TABLE OF UNSTABLE MATERIAL EXCAVATION

Station	to	Station	L/R	Depth (Ft)	Quantity (CuYd)
642+00		650+00	L	2	1139
656+00		659+00	L	2	424
718+00		723+00	R	2	530
721+00		725+00	L	2	357
734+00		737+50	L	2	424
738+50		746+25	L	2	1247
746+75		753+00	L	2	831
751+00		753+00	R	2	190
812+50		813+00	L	2	96
857+00		860+00	R	2	342
870+00		881+00	L/R	2	1937
886+00		891+00	L	2	367
887+00		889+00	R	2	140
892+00		900+00	R	2	740
1023+00		1027+00	L	2	406
1038+00		1039+00	R	2	99
1039+00		1040+00	L	2	125
1041+00		1047+00	R	2	780
1043+00		1046+00	L	2	423
1060+00		1064+00	L/R	2	694
				Total:	11,291

MUCK EXCAVATION

The areas of muck excavation are drawn on the cross sections with a normal depth of 3 feet. The estimated quantity of 16,946 cubic yards of muck excavation will be paid for at the contract unit price per cubic yard for “Muck Excavation”.

Muck excavation consists of the removal of highly organic and/or highly saturated material from the designated areas shown on the cross sections. Highly organic muck material will not be used in the embankment but may be used as topsoil. Non-organic muck material may be used as embankment outside of the fill subgrade shoulder if it is properly handled and dried prior to placement in the embankment.

Field measurement of muck excavation will not be made unless the Engineer orders additional excavation, or when the Engineer determines, in accordance with Section 120.3 A.1 of the Specifications, that the classification of excavation be changed.

If the areas designated as muck excavation can be removed with similar equipment and procedures as used for unclassified excavation, the material will be measured and paid for as “Unclassified Excavation”.

TABLE OF MUCK EXCAVATION

Station	to	Station	L/R	Depth (Ft)	Quantity (CuYd)
800+00		810+00	L/R	3	4885
892+00		900+00	L	3	1265
910+00		915+00	L	3	775
924+00		927+00	R	3	364
924+00		936+00	L	3	2284
929+00		936+00	R	3	1046
967+00		973+50	L	3	1149
972+00		973+50	R	3	180
980+00		985+00	L/R	3	1249
997+00		999+00	L/R	3	497
1008+00		1013+00	L/R	3	1432
1015+00		1023+00	L/R	3	1820
				Total:	16,946

SALVAGE AND STOCKPILE ASPHALT MIX AND GRANULAR BASE MATERIAL

The Los Angeles Abrasion Loss value on the aggregate used for the in-place asphalt concrete was 25. This value was obtained from testing during construction of the in-place asphalt concrete.

An estimated 138,518.9 tons (73,290.4 Cubic Yards) of asphalt mix and granular base material will be salvaged from the existing highway according to the in-place surfacing typical sections and stockpiled at a site furnished by the Contractor and satisfactory to the Engineer.

An estimated 137,518.9 tons (72,761.3 Cubic Yards) of asphalt mix and granular base material will be used as Base Course, Salvaged on this project.

An estimated 1,000 tons (529.1 Cubic Yards) of asphalt mix and granular base material may be used as Temporary Gravel Surfacing on this project as directed by the Engineer. See Section C, Traffic Control Plans, for details on where and when to place Temporary Gravel Surfacing.

Salvaged material will be processed to meet the requirements of Section 884.2 D.7 prior to stockpiling. The Contractor will ensure that no vegetation, topsoil, subgrade, or other foreign material is incorporated into the salvaged asphalt mix and granular base material.

The quantity of salvaged asphalt mix and granular base material may vary from the plans.

The quantity of salvageable material is estimated from the in-place surfacing typical sections. This estimated quantity was included in the unclassified excavation quantities.

HAUL AND STOCKPILE ASPHALT MIX MATERIAL

The Contractor will acquire a stockpile site within 1 mile of the project for placing 10,000 tons (5,291.0 Cubic Yards) tons of salvaged asphalt mix material produced from Cold Milling Asphalt Concrete prior to December 31, 2026. The salvaged asphalt mix material will be used as RAP for PCN 06D9. The Contractor will have approval from the Engineer of the stockpile location prior to stockpiling the material.

A computerized scale, portable platform scale, stationary commercial scale, stationary commercial plant, portable plant scale, or a belt scale along with a scale operator will be provided by the Contractor at the stockpile site to weigh the salvaged material prior to stockpiling. The salvaged asphalt material will be stockpiled with a stacking conveyor. Equipment will not be allowed on the stockpile.

The salvaged asphalt concrete material will be crushed to meet the requirements of Section 884.2 C.1 prior to stockpiling.

The Contractor will secure transferable rights from the landowner for access, storage, handling, and retrieval of the salvaged material through December 31, 2027. The Contractor will provide and transfer these rights to the Department at the completion of Cold Milling Asphalt Concrete and stockpiling operation.

Prior to stockpiling the salvaged asphalt concrete, topsoil will be salvaged from and stockpiled within the leased area. Topsoil may consist of the upper 6 inches of natural soil which normally supports vegetation but may vary according to the actual site conditions.

Upon completion of the stockpile, the stockpile site and haul road to the site will be left in a neat and accessible condition as determined by the Engineer. At this time the Contractor will be released from any further work obligation regarding the stockpile site and haul road.

All costs associated with acquiring the site, including land rental and loss of production to the landowner through December 31, 2027, haul road restoration after completion of stockpiling, stripping of topsoil, any necessary fencing, and site preparation prior to stockpiling will be incidental to the contract unit price per ton for Haul and Stockpile Asphalt Mix Material. All other costs for crushing, hauling, and stockpiling the salvaged asphalt concrete material will be incidental to the contract unit price per ton for Haul and Stockpile Asphalt Mix Material. Stockpile cleanup, replacement of topsoil, reseeding, and final haul road restoration will be the responsibility of the Department.

IN-PLACE SURFACING AND GRANULAR MATERIAL

Test holes were drilled to check the depth of in-place surfacing. A log of the test holes is shown below. It is a summary of information to the Contractor.

Station	Centerline Offset (ft.)	Thickness (in.) AC	Base Course
530+00	15.0 RT	5.0	9.0
540+00	14.2 LT	6.0	9.0
650+00	8.6 RT	9.0	10.0
675+00	7.2 RT	12.0	9.0
700+00	7.6 RT	9.0	9.0
730+00	7.0 RT	10.0	7.0
765+00	6.4 RT	11.0	8.0
780+00	7.0 RT	11.0	8.0
799+00	7.8 RT	6.0	12.0
801+00	6.8 RT	6.0	12.0
803+00	6.4 RT	10.0	9.0
806+00	4.6 RT	8.0	11.0
825+00	7.0 RT	8.0	9.0
850+00	6.8 RT	8.0	8.0
875+00	7.0 RT	9.0	8.0
900+00	6.8 RT	8.0	8.0
925+00	6.4 RT	8.0	12.0
950+00	7.4 RT	8.0	11.0
967+00	7.6 RT	12.0	7.0
980+00	7.0 RT	9.0	9.0
993+00	6.4 RT	9.0	9.0
1025+00	7.8 RT	10.0	8.0
1052+00	8.0 LT	9.0	9.0
1075+00	7.8 LT	9.0	9.0

TABLE OF BORROW PITS

Pit	Station where Borrow is Injected into Balance	Dead Haul Distance from Pit to Mainline (1066+62) (Sta)	Dead Haul Distance from 1066+62 to Balance Injection Point (Sta)	Total Dead Haul Distance (Sta)	Option Borrow Exc. (CuYd)	Dead Haul (CuYdSta)
1	694+00	76.60	372.62	449.22	12,025	5,401,900
1	746+00	76.60	320.62	397.22	22,815	9,062,600
1	800+00	76.60	266.62	343.22	13,870	4,760,500
1	856+00	76.60	210.62	287.22	27,406	7,871,600
1	909+00	76.60	157.62	234.22	24,829	5,815,500
1	962+00	76.60	104.62	181.22	22,584	4,092,700
1	1014+00	76.60	52.62	129.22	23,505	3,037,400
1	1067+00	76.60	0	76.60	22,284	1,749,700
1	1067+00	76.60	0	76.60	3615	276,900
				Totals:	173,491	42,068,800

Stations in the above table are not pit locations, but stations where the borrow is interjected into the earthwork balance for haul calculations.

The quantities listed in the above table for Dead Haul are for information only. The Dead Haul quantities are also included in the Table of Excavation Quantities by Balances.

The quantities listed in the above table for Option Borrow Excavation are also included in the Table of Excavation Quantities by Balances.

CONTRACTOR FURNISHED BORROW

If the borrow needs for the project cannot be completely satisfied with the Option Borrow source, or the Contractor elects to use a Contractor Furnished Borrow source rather than use the established Option Borrow source, the following notes are provided to establish suitable criteria for the material.

The Contractor will provide a suitable site for Contractor furnished borrow excavation material. The Contractor is responsible for obtaining all required permits and clearance for the borrow site.

Restoration of the Contractor furnished borrow excavation site will be the responsibility of the Contractor.

The Contractor furnished borrow excavation material will be uniform in texture and free from organic material. The liquid limit will not exceed 45 and the plastic index will not exceed 25.

The Contractor will be responsible for the following minimum testing prior to use of each borrow site: A minimum of one test for liquid limit and plastic index for each location and soil type, with samples obtained according to SD201.

The Department will be responsible for the following minimum testing:
A minimum of one test for liquid limit and plastic index for every 100,000 cubic yards or a major change in soil type. Independent Assurance testing will not be required.

EXCAVATION FOR REINFORCED CONCRETE BOX CULVERT INSTALLATION

Included in the quantity of “Unclassified Excavation” are 1798 cubic yards of excavation for installation of reinforced concrete box culverts.

All work necessary to excavate a trench for installation of reinforced concrete box culverts including labor, equipment, and incidentals will be incidental to the contract unit price per cubic yard for “Unclassified Excavation”. Payment for excavation of reinforced concrete box culverts will be based only on plans quantity and measurement of these excavation quantities during construction will not be performed.

The excavation quantities for installation of reinforced concrete box culverts are not included with the earthwork balance quantities on the plans profile sheets. The quantities computed for excavation of the reinforced concrete box culverts are based on the limits shown in the drawing below.

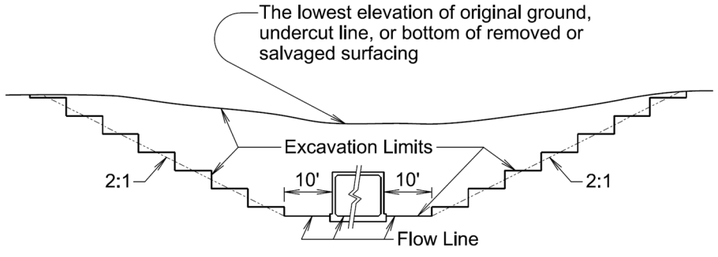


TABLE OF EXCAVATION FOR REINFORCED CONCRETE BOX CULVERT INSTALLATION

Station	Quantity (CuYd)
809+12	1798
Total:	1798

PIPE CULVERT UNDERCUT

The table includes undercut for 36 inch and larger pipe culverts. The depth of undercut is an estimate and the actual depth necessary will be determined during construction. Pipes listed may or may not require undercutting and pipes not listed may require undercutting. The Engineer will determine which pipe will be undercut in accordance with Section 421 of the Specifications.

Station	Undercut Depth (Ft)	Pipe Culvert Undercut (CuYd)
746+55-57' L Twin	1	62.48
798+65	1	35.96
813+27 Twin	2	152.34
932+30 Twin	1	56.91
1046+90 Twin	1	66.74
1063+91	1	31.10
	Total:	406

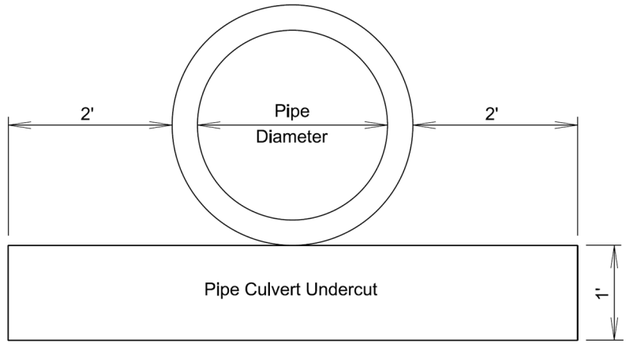
Granular material may be required for backfilling the pipe culvert undercut areas where site conditions warrant. Granular material will conform to the gradation requirements in Section 421.2.A of the Specifications and will be paid for at the contract unit price per ton for “Granular Material”. A quantity of 160 tons of granular material is included in the estimate of quantities for use where it is determined to be needed. The quantity will be adjusted or eliminated by construction change order, depending on field conditions.

At the time of the subsurface investigation (December 2020), groundwater was encountered at depths that may impact the proposed pipe culverts at Stations 963+80 and 973+94. Seasonal changes in groundwater may affect other pipe culverts not listed.

The table below contains the rate for one-foot depth of pipe culvert undercut per foot of pipe length and should be used as an aid in determining the actual amount of undercut to be performed during construction. The table is derived from the drawing below and conforms to the Specifications. When calculating pipe culvert undercut, the length of pipe ends should be included in the overall pipe length.

Storm sewer and approach pipes do not require undercutting unless specified otherwise in these plans.

Pipe Diameter (In)	Round Pipe Undercut Rate for 1’ Depth (CuYd/Ft)	Arch Pipe Undercut Rate for 1’ Depth (CuYd/Ft)
24	0.2407	0.2577
30	0.2623	0.2847
36	0.2840	0.3110
42	0.3056	0.3337
48	0.3272	0.3596
54	0.3488	0.3827
60	0.3704	0.4105
66	0.3920	---
72	0.4136	0.4630
78	0.4352	---
84	0.4568	0.5123
90	0.4784	---



CORRUGATED METAL PIPE

Corrugated metal pipes will have 2 ⅔-inch x ½-inch corrugations for 42-inch and smaller round pipe and 48-inch and smaller arch pipe unless otherwise stated in the plans. Corrugated metal pipes will have 3-inch x 1-inch or 5-inch x 1-inch corrugations for 48-inch and larger round pipe and 54-inch and larger arch pipe unless otherwise stated in the plans.

The gauge of the corrugated metal ends will match the thickest gauge of corrugated metal pipe it is connected to.

PIPE EXTENSIONS

For pipe extensions that are outside the new surfaced shoulder as shown in the typical sections, acceptance tests in the lower one-half and upper one-half of pipe 48” or less in diameter may be performed by visual inspection to the satisfaction of the Engineer. All other MSTR pipe density testing requirements will apply.

PIPE FOR APPROACHES AND INTERSECTING ROADS

Class 2 reinforced concrete pipe, high density polyethylene pipe, polypropylene pipe (will be in conformance with AASHTO M330), or steel reinforced polyethylene pipe may be substituted for corrugated metal pipe at approaches and intersecting roads at no additional cost to the State.

If corrugated metal pipes are provided, the pipes will be as specified in the CORRUGATED METAL PIPE note.

If high density polyethylene pipe, polypropylene pipe (will be in conformance with AASHTO M330), or steel reinforced polyethylene pipe are provided, then the end sections will be metal, be compatible, and conform to the type of end section as shown in the plans.

REINFORCED CONCRETE PIPE (Stations 881+96 and 894+73)

High sulfate levels are likely to be encountered on this project. The type of cement will be either a Type V or a Type II with 20% to 25% Class F Modified Fly Ash substituted for cement in accordance with Section 605 of the Specifications. The Water/Cementitious material ratio will not exceed 0.45 as defined in Section 460.3 C of the Specifications. The mix will be as per the fabricator's design; however, minimum compressive strength will not be less than 4500 psi at 28 days. The pipe must be marked in an acceptable way to designate meeting requirements for sulfate resistance.

CONTROLLED DENSITY FILL FOR PIPE

Controlled density fill will be in conformance with Section 464 of the Specifications.

The controlled density fill will be placed between the pipes from the base of pipe elevation to the haunch of the pipes and extend to the end of the end section.

Controlled density fill between metal pipes will require the pipes to be anchored to resist floating. Anchoring methods will be determined by the Contractor and approved by the Engineer. Payment for anchoring the pipes will be incidental to the pipe installation contract item.

TABLE OF CONTROLLED DENSITY FILL FOR PIPE

Station	Quantity (CuYd)
746+55 L	10.00
746+55 R	5.83
822+95 R	4.71
916+97 L	4.89
997+53	5.15
1013+81 R	3.84
1046+90	11.93
Total:	46.4

CONCRETE PIPE CONNECTIONS

When it is not possible to use a normal pipe joint (male-female ends), connections to existing pipe will be made by placing a 2’ wide by 6" thick M6 concrete collar around the outside of the connection. The concrete collar will be reinforced with 6x6 W2.9 x W2.9 wire mesh.

All costs for constructing the concrete collars including materials and labor will be incidental to the contract unit price per foot for the corresponding pipe contract item.

PIPE COVER

The earthen subgrade cover for some pipe installations is less than one foot. The Contractor will take the necessary precautions to ensure the structural properties of the pipes are not damaged after installation and prior to the placement of final surfacing. Any additional costs for preventing damage to these pipes will be incidental to the contract unit price per foot for the corresponding pipe installation contract item.

INCIDENTAL WORK, GRADING

Station	L/R	Remarks
521+44	R	Take Out 18”-44’ CMP
536+07-160’	R	Take Out 16”-34’ CMP
536+53		Take Out 2 Safety Ends
634+62-41’	L	Take Out 18”-45’ RCP
637+11		Take Out 18”-90’ RCP
649+76-48’	R	Take Out 18”-42’ RCP
651+41-42’	R	Take Out 18”-65’ RCP
656+60		Take Out 24”-65’ RCP
663+53-30’	L	Take Out 18”-51’ RCP
669+33-38’	R	Take Out 18”-46’ RCP
675+07		Take Out Twin 24”-65’ RCP
677+78-37’	R	Take Out 18”-42’ RCP
680+08-40’	L	Take Out 18”-48’ RCP
692+62		Grade to Ditch
692+62		Take Out Twin 24”-64’ RCP
694+01-68’	L	Take Out 15”-31’ RCP
694+36		Take Out 24”-68’ RCP
694+65		Grade to Ditch
738+06-43’	L	Take Out 24”-42’ RCP
738+12-40’	R	Take Out 24”-55’ RCP
746+55-56’	L	Take Out Twin 30”-42’ RCP
746+55-60’	R	Take Out 30”-42’ RCP
773+03-39’	L	Take Out 15”-42’ RCP
773+08-40’	R	Take Out 15”-42’ RCP
798+65		Grade Ditch
798+81		Take Out 24”-60’ RCP
809+12		Take Out 2-8’x6’x84’ Box Culvert
812+65-33’	R	Take Out 15”-54’ RCP
813+11		Take Out 48”-78’ RCP. Skewed 16^{o} RHF.
815+87-43’	L	Take Out 15”-70’ RCP
822+16-41’	R	Take Out 18”-46’ RCP
837+89-41’	L	Take Out 24”-63’ RCP
855+74-59’	L	Take Out 18”-39’ RCP
855+74-54’	L	Take Out 18”-40’ CMP
855+75-51’	R	Take Out 30”-41’ RCP
881+97		Take Out Twin 24”-67’ RCP
891+32-40’	L	Take Out 12”-42’ RCP
894+73		Take Out Twin 30”-61’ RCP
915+83	R	Dispose of Water Tank
916+99-33’	L	Take Out 15”-62’ RCP
927+97-41’	R	Take Out 15”-42’ RCP
932+30		Take Out 32”-63’ CMP
941+55-40’	R	Take Out 15”-44’ RCP
948+09-42’	R	Take Out 18”-72’ CMP
959+20-56’	L	Take Out 24”-68’ RCP
961+37-61’	L	Take Out 24”-106’ RCP
963+80		Take Out 24”-96’ RCP
973+94		Take Out 24”-67’ RCP
975+79-40’	R	Take Out 15”-43’ RCP
978+97-39’	L	Take Out 15”-46’ RCP
997+53		Take Out 30”-83’ RCP
1013+82-61’	L	Take Out 16”-39’ RCP
1013+82-59’	R	Take Out 16”-41’ RCP
1019+92		Take Out 24”-65’ RCP
1027+74-40’	L	Take Out 16”-41’ RCP
1038+68-39’	L	Take Out 16”-43’ RCP
1040+10-41’	R	Take Out 16”-62’ RCP
1046+90		Take Out 36”-68’ RCP
1051+12-40’	L	Take Out 15”-49’ RCP
1063+91		Take Out 18”-60’ RCP

REMOVAL OF EXISTING CONCRETE PAVEMENT STA. 629+60 to STA. 640+82

There is an estimated 2493.4 square yards of concrete pavement removal. The Contractor will dispose of the concrete pavement at a site approved by the Engineer.

Refer to Section F “In Place Typical Sections” for additional information.

TABLE OF BANK AND CHANNEL PROTECTION GABIONS AND DRAINAGE FABRIC

Station	L/R	Bank and Channel Protection Gabion (CuYd)	Type B Drainage Fabric (SqYd)
812+95	L	24.0	68

MAILBOXES

The Contractor will reset the existing mailboxes on new posts with the necessary support hardware for single or double mailbox assemblies. The local Postmaster will determine the recommended mounting height of the mailboxes throughout the project. The Contractor will coordinate with the Engineer on the proper postal representative to contact.

If large mailboxes are located at double mailbox installations, a single post may need to be used for the large mailbox.

All costs for removing existing mailboxes, providing temporary mailboxes, and resetting mailboxes with new posts and necessary support hardware will be incidental to the contract unit price per each for “Refurbish Single Mailbox”.

TABLE OF REFURBISH MAILBOX

Station	L/R	Single (Each)
521+35	R	1
651+71	R	1
669+46	R	1
812+88	R	1
891+19	R	1
917+24	R	1
941+21	R	1
1004+37	R	1
1051+06	L	1
	Total:	9

TEMPORARY FENCE

The Contractor will verify the location of the temporary fence with the landowner prior to installation of the fence.

BRACE PANELS FOR ROW FENCE

The E-Z Brace or an approved equal may be utilized as an alternate horizontal brace in the brace panels if approved by the Engineer. The E-Z Brace will be attached to each wood post utilizing two 5/16” x 3” lag screws. Holes of appropriate diameter, based on wood post condition, will be drilled before placement of lag screws. The following is the contact regarding the E-Z Brace:

Charlie Mack
Macksteel E-Z Braces
415 20th Ave. SE.
Watertown, SD 57201
605-882-2177

FENCING

The Contractor needs to check on site prior to bidding. There are multiple areas throughout the project where the rock is near the surface.

CLEANOUT PIPE CULVERT

Material in existing pipe culvert will be cleaned out by water flushing or other approved methods.

Material removed from the pipe culvert will become property of the Contractor for disposal.

The Contractor will implement appropriate sediment control measures prior to water flushing to prevent discharges from the project boundaries.

The pipe culvert will be cleaned to the satisfaction of the Engineer.

All costs to dewater, clean pipe, and dispose of removed materials will be incidental to the contract unit price per each for “Cleanout Pipe Culvert”.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B10	B85

Plotting Date: 12/18/2025

PUBLIC LANDS SURVEY SYSTEM, RIGHT OF WAY, AND PROPERTY CORNERS

The Contractor will have a Land Surveyor, licensed in the State of South Dakota, to set, reestablish or verify public land survey system (PLSS) corners, right of way (ROW) corners, and property corners as directed by the appropriate SDDOT Region Land Surveyor. It is estimated that 30 PLSS corners and 227 ROW and property corners will be set, reestablished, or verified for this project. The Contractor's Land Surveyor, under the direction of the Region Land Surveyor, will set, reestablish, or verify all corner monuments after surfacing and fencing operations are completed in accordance with the PUBLIC LANDS SURVEY SYSTEM CORNERS section and the RIGHT OF WAY AND PROPERTY CORNERS section in Chapter 8 of the SDDOT Survey Manual.

< https://dot.sd.gov/doing-business/engineering/design-services/surveyors >

The SDDOT Region Land Surveyor will furnish the ROW corner caps, property corner caps, and guard posts for ROW corners in rural areas. All costs associated with furnishing and installing rebar, PLSS corner caps, and all other materials associated with setting, reestablishing, or verifying PLSS corners, ROW corners, and property corners in accordance with the SDDOT Survey Manual will be incidental to the contract unit price per each for "Reestablish Public Land Survey System Corner" and/or "Reestablish Right-of-Way and Property Corner".

RIGHT OF WAY MARKER

The Right of Way Marker and installation locations will conform to the details on standard plate 900.15. Install Right of Way Markers 10 feet from both sides of entrances that are centered on property lines without fence, so that a marker is not placed in the entrance.

TABLE OF RIGHT OF WAY MARKER

Station	L/R	Quantity (Each)
536+06	L	1
562+10	L	1
562+14	R	1
640+38	R	1
642+06	L	1
667+31	L	1
667+33	R	1
679+83	L	1
680+43	L	1
693+40	L	1
694+12	R	1
706+84	R	1
707+28	R	1
719+82	R	1
720+09	L	1
720+42	R	1
735+66	R	1
735+66	L	1
746+21	R	1
772+60	L	1
773+20	L	1
785+00	L	1
798+96	L	1
896+00	L	1
907+90	L	1
960+42	L	1
963+45	L	1
971+84	R	1
1014+15	L	1
1030+00	L	1
1055+01	L	1
1066+28	L	1
	Total:	32

Plot Scale - 1:200

Plotted From - TRPR13522

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B11	B85

Plotting Date: 12/18/2025

TABLE OF CONSTRUCTION STAKING FOR PROJECT P-PH 0038(48)306

(See Special Provision for Contractor Staking)

					Grade Staking								
Roadway and Description	Begin Station	End Station	Number of Lanes	Length (Ft)	Length (Mile)	Lane Factor	*Sets of Stakes	**Grade Staking Quantity (Mile)	Miscellaneous Staking Quantity (Mile)	Slope Staking Quantity (Mile)	Final Cross Section Survey Quantity (Mile)	Structure Staking Quantity (Each)
SD 38 (Transition from 2 Lanes to 3 Lanes AC Pavement)	520+18	528+58	3	840	0.159	1.5	1	0.239	0.159	0.159	0.159	
SD 38 (3 Lanes AC Pavement)	528+58	542+88	3	1,430	0.271	1.5	1	0.407	0.271	0.271	0.271	
SD 38 (Transition from 3 Lanes to 2 Lanes AC Pavement)	542+88	551+28	3	840	0.159	1.5	1	0.239	0.159	0.159	0.159	
SD 38 (Transition from 2 Lanes to 3 Lanes AC Pavement)	629+60	633+80	3	420	0.080	1.5	1	0.120	0.080	0.080	0.080	
SD 38 (3 Lanes AC Pavement)	633+80	648+10	3	1,430	0.271	1.5	1	0.407	0.271	0.271	0.271	
SD 38 (Transition from 3 Lanes to 2 Lanes AC Pavement)	648+10	652+30	3	420	0.080	1.5	1	0.120	0.080	0.080	0.080	
SD 38 (2 Lanes AC Pavement)	652+30	949+63	2	29,733	5.631	1	1	5.631	5.631	5.631	5.631	
SD 38 (RCBC)	809+12											1
SD 38 (Transition from 2 Lanes to 3 Lanes AC Pavement)	949+63	953+83	3	420	0.080	1.5	1	0.120	0.080	0.080	0.080	
SD 38 (3 Lanes AC Pavement)	953+83	969+13	3	1,530	0.290	1.5	1	0.435	0.290	0.290	0.290	
SD 38 (Transition from 3 Lanes to 2 Lanes AC Pavement)	969+13	973+33	3	420	0.080	1.5	1	0.120	0.080	0.080	0.080	
SD 38 (2 Lanes AC Pavement)	973+33	1082+24	2	10,891	2.063	1	1	2.063	2.063	2.063	2.063	
							Totals:	9.901	9.164	9.164	9.164	1

* 1 = Blue Top Stakes Only (Asphalt Concrete Pavement)
2 = Blue Top and Paving Hub Stakes (PCC Pavement)

** Grade Staking Quantity = (Length) x (Lane Factor) x (Sets of Stakes)

PIPE QUANTITIES

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B12	B85

Plotting Date: 03/12/2026 Rev 03/12/2026 ZJA

		Reinforced Concrete																				Corrugated Metal											
		Circular				Arch					Cicular Flared End		Circular Sloped End		Arch Sloped End		Arch Flared End			Remove & Reset Pipe		Remove & Reset Ends		Circular				Arch		Circular Safety End				Arch Safety End	
Station	Offset (L/R)	24" Ft	30" FT	36" Ft	48' Ft	24" Ft	30" Ft	36" Ft	42" Ft	48" Ft	36" Each	48" Each	24" Each	30" Each	24" Each	30" Each	36" Each	42" Each	48" Each	18" Ft	24" Ft	18" Each	24" Each	18" 16 Ga Ft	24" 16 Ga Ft	30" 16 Ga Ft	36" 16 Ga Ft	24" 16 Ga Ft	30" 16 Ga Ft	18" Each	24" Each	30" Each	36" Each	24" Each	30" Each
335+00																					24		2											
340+80																					12		1											
376+00																				6		1												
437+91																					12		2											
521+40-54'	R																							66						2					
536+08-160'	R																							44						2					
536+53-4'	L																							4						1					
536+53-16'	R																							16						1					
634+65-56'	L																							60						2					
637+11						144									4																				
651+43-50'	R																							66						2					
656+60						180									6																				
663+56-49'	L																							78						2					
669+27-49'	R																							58						2					
675+09						180									6																				
680+11-49'	L																												84						2
680+11-44'	R																							52						2					
692+62							252									6																			
694+65							168									4																			
720+12-51'	L																							78						2					
746+55-57'	L																										168						4		
746+55-56'	R																									124						4			
752+06							336									8																			
772+86-49'	L																							76						2					
798+65										84									2																
813+27					204							4																							
816+24-49'	L																																	2	
822+95-51'	R																																	6	
837+86-49'	L																								56						2				
855+75-53'	L																								78						2				
855+75-52'	R																									68						2			
881+97							168									4																			
891+24-48'	L																								56						2				
894+73			320											10																					
916+97-49'	R																							64						2					
916+97-48'	L																									116						4			
927+96-51'	R																							72						2					
932+30				168							4																								
941+50-49'	R																							78						2					
948+07-49'	R																							78						2					
959+18-58'	L																												84						2
961+48-58'	L																									90						2			
963+80			164											4																					
973+94		204											6																						
978+97-49'	L																								58						2				
997+53							184							4																					
1013+81-44'	R																								128						4				
1013+81-49'	L																									66						2			
1019+92							168									4																			
1027+76-50'	L																							78						2					
1040+22-52'	R																							84						2					

Plot Scale - 1:200

Plotted From - TRPR13522

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PIPE QUANTITIES

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B12a	B85

Plotting Date: 03/12/2026 Rev 03/12/2026 ZJA

		Reinforced Concrete																					Corrugated Metal											
		Circular				Arch					Cicular Flared End		Circular Sloped End		Arch Sloped End		Arch Flared End			Remove & Reset Pipe		Remove & Reset Ends		Circular				Arch		Circular Safety End				Arch Safety End	
Station	Offset (L/R)	24" Ft	30" FT	36" Ft	48' Ft	24" Ft	30" Ft	36" Ft	42" Ft	48" Ft	36" Each	48" Each	24" Each	30" Each	24" Each	30" Each	36" Each	42" Each	48" Each	18" Ft	24" Ft	18" Each	24" Each	18" 16 Ga Ft	24" 16 Ga Ft	30" 16 Ga Ft	36" 16 Ga Ft	24" 16 Ga Ft	30" 16 Ga Ft	18" Each	24" Each	30" Each	36" Each	24" Each	30" Each
1040+22-57'	L																							94						2					
1046+90									168									4																	
1057+74-47'	L																								54						2				
1063+91								84									2																		
1066+63-549'	R																							34						2					
	Total:	204	484	168	204	504	1276	84	168	84	4	4	6	18	16	26	2	4	2	6	48	1	5	1180	430	464	168	304	168	36	14	14	4	8	4

FENCE QUANTITIES

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B13	B85

Plotting Date: 03/12/2026 Rev 03/12/2026 ZJA

Station to Station		Side (L/R)	Right-of-Way Fence Type 1 (Ft)	Type 2 (Ft)	Type 3 (Ft)	Type 4 (Ft)	Type 6 (Ft)	Special (Ft)	Temporary Fence Type 1 (Ft)	Type 2 (Ft)	Post Panels 2 Post Panel (Each)	3 Post Panel (Each)	Gates (for informational purposes only) 12' Tubular Gate (Each)	24' N.A.B.I. Barbed Wire Gate (Each)	40' N.A.B.I. Barbed Wire Gate (Each)	Remove Gate for Reset Tubular Gate (Each)	Reset Gate Tubular Gate (Each)	Stream Crossing (for informational purposes only) N.A.B.I. (Ft)	Remove Fence (Ft)
519+52	535+23	L		1636							6	4							1636
519+48	523+33	R				465					2	5	2			2	2		524
523+30	529+92	R		658							2	2							705
529+92	535+40	R		573								2							598
536+10	549+21	R		1342							1	3							1364
629+35	640+48	L		1267						1218	4	6	2						1269
641+40	648+72	R		849							5	4		1					934
653+63	666+25	R		1314					1280			4							1345
671+93	673+26	R		129					129		4								210
673+26	676+22	R		320								2							315
676+22	693+49	R				1757					2	4		1					1791
720+10	743+49	L		2444							3	8		1					2377
743+49	746+25	L				328					2	2							2654
746+84	755+73	L					995				1	7							1101
772+86	798+94	R		2649					2661		2	4							2684
799+74	829+44	L			3010						5	9	4			2	2	101	2990
799+79	809+76	R		1084							3	5						88	1128
809+76	810+11	R		62							1	2							130
812+88	814+46	R		154							2								0
814+46	816+32	R	204								3								253
816+32	822+96	R	670									1			1				670
822+89	829+47	R		677								3							704
829+39	829+39	L														2	2		0
829+45	855+43	L			2758				2601			8				3	3		2729
829+47	855+47	R		2654							3	2							2709
856+07	882+12	L		2665					2633		2	6		1					2716
856+09	863+00	R			778				858		2	4							829
863+00	868+54	R				581						1		1					558
868+54	882+16	R		1362							1	2							1358
885+83	907+90	R		2234							1	5			1				2261
935+03	939+06	R						400				1							400
953+10	960+44	R		795							4	3							1278
967+78	987+63	L			2033						3	5				2	2		2644
1000+10	1007+34	L				370		281				8							607
1014+12	1040+25	R		2685							2	4							2718
1040+25	1066+32	R		2607							3	2							2607
1066+92	1079+79	R		1282							1	1							1282
1067+09	1081+93	L		1522							1	5							1675
1079+79	1082+38	R		259								1							228
	TOTALS:		874	33223	8579	3501	995	681	10162	1218	71	135	8	5	2	11	11	189	51981

Plot Scale - 1:200

Plotted From - TRPR13522

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BORROW PIT INFORMATION LAYOUT

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B14	B85

Plotting Date: 01/25/2024

PIT NO. Pit 1

PROJECT NO. P-PH 0038(48)306 PCN 05FA COUNTY HANSON

LOCATION N 1/2 SEC. 24 TOWNSHIP 103N RANGE 57W

PIT OWNER Spencer Quarries Inc. ADDRESS

AVERAGE DEPTH OF MATERIAL 24.75' AVERAGE DEPTH OF TOPSOIL NA

MATERIAL AVAILABLE 200,000 CU.YDS.

ESTIMATED CU. YDS. OF TOPSOIL NA CU.YDS.

7,660' DEADHAUL TO STATION 1066+62 - SD38 Mainline

Haul Route

253rd St.

Haul Route
5280' to Sta. 1066+62 on SD38

429th Ave

Sec 24 - T103N - R57W

Hole #1

Hole #2

Hole #3

Pit Area
5.01 acres

1/4 Line

PIT DATA			
LAB. SAMPLE #	23-1276	23-1277	23-1278
PIT NUMBER/NAME	Spencer	Spencer	Spencer
HOLE#	1	2	3
FIELD SAMPLE #	1	2	3
DEPTH	Stockpile	Stockpile	Stockpile
FIELD MOISTURE	#N/A	#N/A	#N/A
DRY LOOSE WT.	77.3	75.8	75.5
% passing 3/8	99.3	98.6	99.7
% passing # 4	98.7	98.2	99.2
% passing # 10	97.3	97.1	98.2
% coarse sand	8.8	9.3	10.0
% fine sand	20.7	19.9	22.5
% silt	32.6	32.7	32.1
% clay	35.2	35.1	33.6
% passing # 40	88.5	87.7	88.2
% passing # 200	67.9	67.8	65.7
% coarse & fine sand	29.4	29.3	32.5
liquid limit	41	41	35
liquid plastic limit	21	20	19
P. I.	20	21	17
TEX. CLASSIFICATION	SANDY CLAY	SANDY CLAY	SANDY CLAY
AASHTO CLASS.	A-7-6	A-7-6	A-6
GP Index	11	11	9
Field Color	Lt. Brown	Lt. Brown	Lt. Brown
DEPTH TO GROUNDWATER	0	0	0
OPT. MOISTURE			
MAX. DRY DENSITY			
DEPTH OF TOPSOIL	NA	NA	NA

SCALE:
200 ft = 1"

STANDARD PIT INFORMATION SHEET

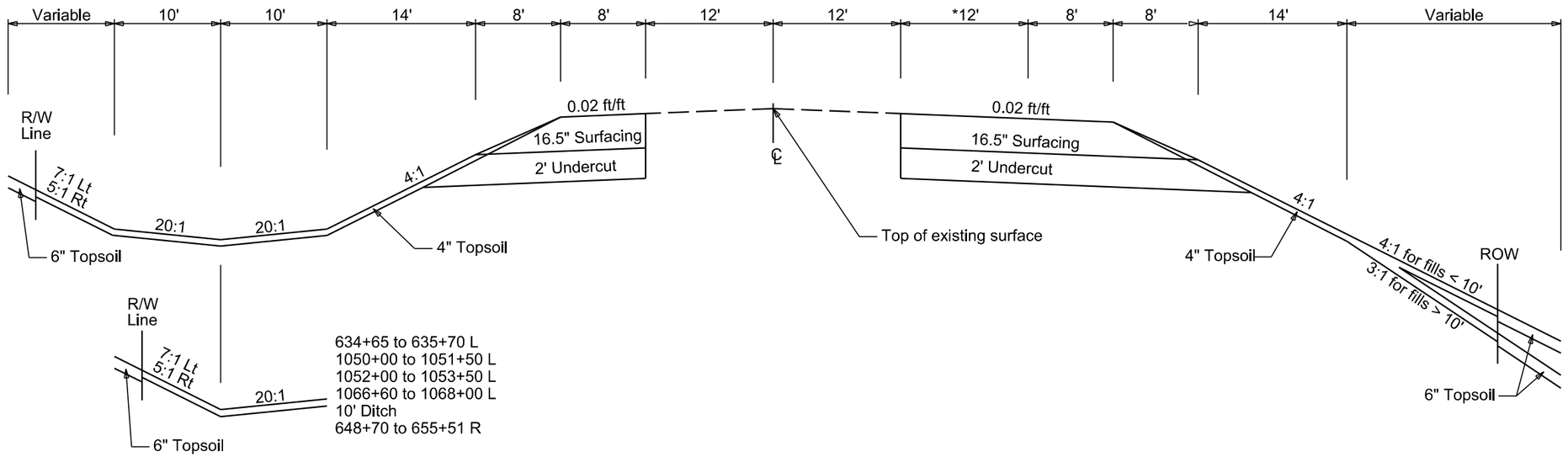
SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION

TYPICAL GRADING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B15	B85

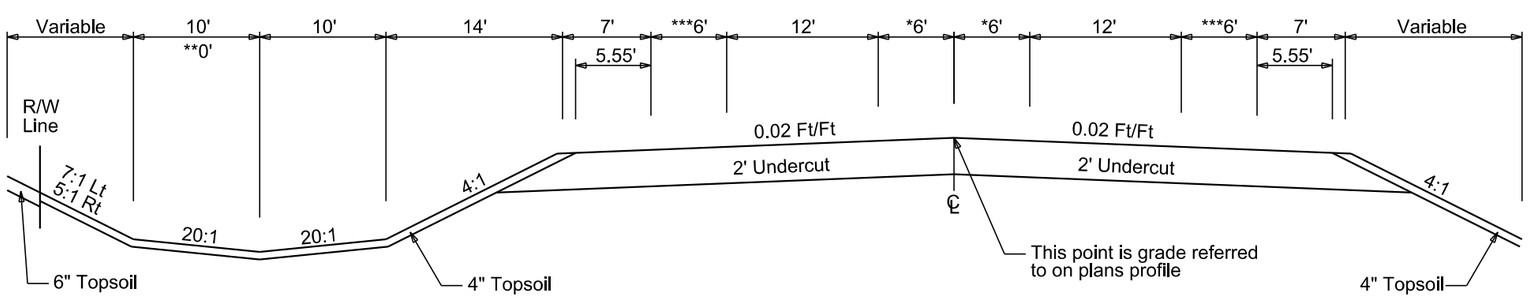
Plotting Date: 12/18/2025 Rev 09/08/2025 ZJA

520+18 to 551+28 SD38/419th Ave



* Transitions:
520+18 to 528+58 - 0' to 12'
542+88 to 551+28 - 12' to 0'

629+60 to 652+30 SD38/421st Ave
949+63 to 973+33 SD38/SD25 (AKA 427th Ave)



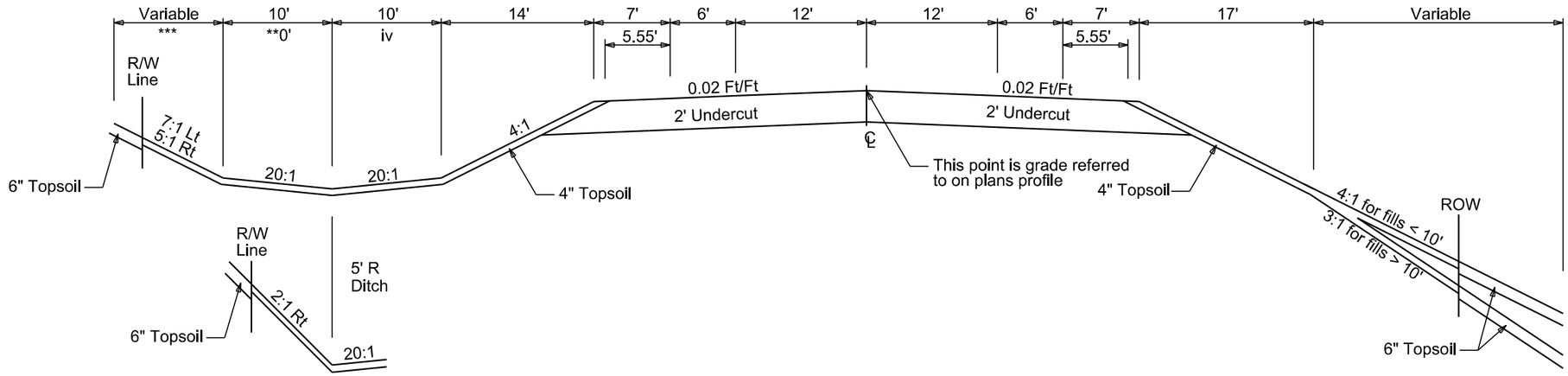
* Transitions:
629+60 to 633+80 - 0' to 6'
648+10 to 652+30 - 6' to 0
949+63 to 953+83 - 0' to 6'
969+13 to 973+33 - 6' to 0'
** 10-Foot Ditch:
641+42 to 653+66 R
648+70 to 655+51 R
*** 8-Foot Shoulder:
629+60 to 640+95
SD 38/421st Ave

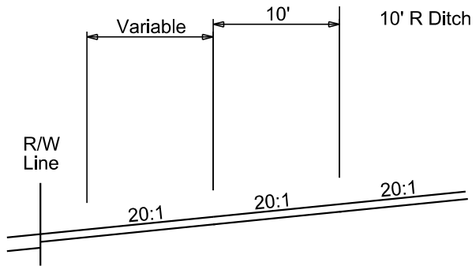
TYPICAL GRADING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B16	B85

Plotting Date: 12/18/2025 Rev 09/08/2025 ZJA

652+30 to 949+63
973+33 to 1082+24





675+45.01 to 677+50 R

** 0' 745+55 to 745+55 L

** 10-foot Ditch
666+07 to 673+07 R
939+00 to 941+50 R

** 5-foot Rt Ditch, 2:1 Backslope
706+96 to 708+60 R
(Hanson Rural Water System)

** 500:1 L Special Cut Hinge
746+00 to 746+33L

** 7:1 Ditch Backslope
814+00 to 821+00 R

*** 45:1 R Ditch Backslope
675+09.01 to 675+45 R

*** -20:1 L Ditch Backslope
726+50.01 to 727+50 L

iv 20:1 is infinite hoeizontally
745+55 to 745+55 L

HORIZONTAL ALIGNMENT DATA

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B17	B85

Plotting Date: 12/18/2025

MAINLINE

Type	Station			Northing	Easting
POB	323+90.80			508460.696	2609871.825
		TL= 2625.93	N 88°33'37" E		
PI	350+16.72			508526.676	2612496.922
		TL= 2627.90	N 88°37'44" E		
PI	376+44.63			508589.554	2615124.071
		TL= 5268.55	N 88°28'30" E		
PI	429+13.17			508729.759	2620390.753
		TL= 2637.72	N 88°24'05" E		
PI	455+50.89			508803.344	2623027.446
		TL= 2629.28	N 87°58'04" E		
PI	481+80.18			508896.586	2625655.076
		TL= 2747.14	N 89°04'53" E		
PI	509+27.31			508940.632	2628401.859
		TL= 2645.88	N 88°50'28" E		
PI	535+73.19			508994.141	2631047.193
		TL= 2639.50	N 88°57'37" E		
PI	562+12.69			509042.036	2633686.259
		TL= 2635.85	N 88°57'10" E		
PI	588+48.54			509090.213	2636321.673
		TL= 2611.01	N 87°38'40" E		
PI	614+59.55			509197.522	2638930.479
		TL= 2033.57	N 88°06'46" E		
PC	634+93.13			509264.491	2640962.948
PI	640+87.00	R = 175000.00	Delta = 0°23'20" R	509284.049	2641556.504
PT	646+80.88			509299.577	2642150.178
		TL= 4695.77	N 88°30'06" E		
PI	693+76.65			509422.361	2646844.343
		TL= 4697.36	N 88°22'02" E		
PC	740+74.01			509556.198	2651539.801
PI	746+54.83	R = 43500.00	Delta = 1°31'48" L	509572.747	2652120.380
PT	752+35.57			509604.791	2652700.311
		TL= 4350.22	N 86°50'15" E		
PC	795+85.80			509844.794	2657043.906
PI	801+22.17	R = 26000.00	Delta = 2°21'49" R	509874.386	2657579.461
PT	806+58.39			509881.866	2658115.780
		TL= 4916.68	N 89°12'04" E		
PI	855+75.06			509950.426	2663031.979
		TL= 2109.29	N 88°57'01" E		
PC	876+84.35			509989.067	2665140.914
PI	882+12.20	R = 105000.00	Delta = 0°34'34" L	509998.737	2665668.669
PT	887+40.03			510013.712	2666196.300
		TL= 1597.75	N 88°22'27" E		
PC	903+37.78			510059.042	2667793.404
PI	908+72.04	R = 160000.00	Delta = 0°22'57" L	510074.199	2668327.449
PT	914+06.29			510092.922	2668861.381
		TL= 2191.52	N 87°59'30" E		
PC	935+97.81			510169.726	2671051.552
PI	941+31.59	R = 110000.00	Delta = 0°33'22" R	510188.432	2671585.006
PT	946+65.36			510201.961	2672118.615
		TL= 1482.38	N 88°32'52" E		
PI	961+47.75			510239.532	2673600.521
		TL= 2615.75	N 88°19'56" E		
PI	987+63.50			510315.665	2676215.165
		TL= 2617.50	N 88°05'21" E		
PI	1013+81.00			510402.948	2678831.210
		TL= 2108.66	N 88°13'39" E		
PC	1034+89.66			510468.172	2680938.862
PI	1040+21.64	R = 135000.00	Delta = 0°27'06" L	510484.626	2681470.584
PT	1045+53.61			510505.271	2682002.160
		TL= 1570.18	N 87°46'33" E		
PC	1061+23.79			510566.206	2683571.161
PI	1066+62.14	R = 145000.00	Delta = 0°25'32" R	510587.098	2684109.107
PT	1072+00.49			510603.995	2684647.193
		TL= 1149.06	N 88°12'05" E		
POE	1083+49.55			510640.061	2685795.691

The coordinates shown on this sheet are based on the South Dakota State Plane Coordinate System. South Zone (NAD 83/11); epoch 2010.00; Geoid 12A; SF = 0.99984694

CONTROL DATA

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B18	B85

Plotting Date: 12/18/2025

HORIZONTAL AND VERTICAL CONTROL POINTS						
POINT	**STATION**	**OFFSET**	**DESCRIPTION**	**NORTHING**	**EASTING**	**ELEVATION**
CP 1	634+53	53’ L	5/8" Rebar & cap stamped "SDDOT CONTROL POINT" - 2' South of the West gate post - 640'+/- West of intersection of 421st Ave. & SD Hwy 38	509311.770	2640921.433	1358.62
CP 2	798+87	239’ R	5/8" Rebar & cap stamped "SDDOT CONTROL POINT" - SW corner of approach on west side of 424th Ave. - 2' East of South gate post	509620.507	2657354.815	1351.08
CP 3	960+25	170’ R	5/8" Rebar & cap stamped "SDDOT CONTROL POINT" - 2' East of wood post along angled right-of-way fence at the SW corner of SD Hwy 25 & SD Hwy 38 intersection	510066.951	2673481.994	1384.60
CP 4	1082+37	73’ R	5/8" Rebar & cap stamped "SDDOT CONTROL POINT" - 2' North of East post of 2 post panel at SW corner of approach	510563.870	2685685.853	1369.54

The coordinates shown on this sheet are based on the South Dakota State Plane Coordinate System. South Zone (NAD 83/11); epoch 2010.00
Geoid 12A; SF = 0.99984694
The elevations shown on this sheet are based on NAVD 88.

LEGEND

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B19	B85

Plotting Date: 12/18/2025

- Anchor
- Antenna
- Approach
- Assumed Corner
- Azimuth Marker
- BBQ Grill/ Fireplace
- Bearing Tree
- Bench Mark
- Box Culvert
- Bridge
- Brush/Hedge
- Buildings
- Bulk Tank
- Cattle Guard
- Cemetery
- Centerline
- Cistern
- Clothes Line
- Concrete Symbol
- Control Point
- Creek Edge
- Curb/Gutter
- Curb
- Dam Grade/Dike/Levee
- Deck Edge
- Ditch Block
- Doorway Threshold
- Drainage Profile
- Drop Inlet
- Edge Of Asphalt
- Edge Of Concrete
- Edge Of Gravel
- Edge Of Other
- Edge Of Shoulder
- Electric Transformer/Power Junction Box
- Fence Barbwire
- Fence Chainlink
- Fence Electric
- Fence Miscellaneous
- Fence Rock
- Fence Snow
- Fence Wood
- Fence Woven
- Fire Hydrant
- Flag Pole
- Flower Bed
- Gas Valve Or Meter
- Gas Pump Island
- Grain Bin
- Guardrail
- Gutter
- Guy Pole
- Haystack
- Highway ROW Marker
- Interstate Close Gate
- Iron Pin
- Irrigation Ditch
- Lake Edge
- Lawn Sprinkler
- Mailbox
- Manhole Electric
- Manhole Gas
- Manhole Miscellaneous
- Manhole Sanitary Sewer
- Manhole Storm Sewer
- Manhole Telephone
- Manhole Water
- Merry-Go-Round
- Microwave Radio Tower
- Miscellaneous Line
- Miscellaneous Property Corner
- Miscellaneous Post
- Overhang Or Encroachment
- Overhead Utility Line — OH —
- Parking Meter
- Pedestrian Push Button Pole
- Pipe With End Section
- Pipe With Headwall
- Pipe Without End Section
- Playground Slide
- Playground Swing
- Power And Light Pole
- Power And Telephone Pole
- Power Meter
- Power Pole
- Power Pole And Transformer
- Power Tower Structure
- Propane Tank
- Property Pipe
- Property Pipe With Cap
- Property Stone
- Public Telephone
- Railroad Crossing Signal
- Railroad Milepost Marker
- Railroad Profile
- Railroad ROW Marker
- Railroad Signs
- Railroad Switch
- Railroad Track
- Railroad Trestle
- Rebar
- Rebar With Cap
- Reference Mark
- Retaining Wall
- Riprap
- River Edge
- Rock And Wire Baskets
- Rockpiles
- Satellite Dish
- Septic Tank
- Shrub Tree
- Sidewalk
- Sign Face
- Sign Post
- Slough Or Marsh
- Spring
- Stream Gauge
- Street Marker
- Subsurface Utility Exploration Test Hole
- Telephone Fiber Optics — T/F —
- Telephone Junction Box
- Telephone Pole
- Television Cable Jct Box
- Television Tower
- Test Wells/Bore Holes
- Traffic Sign Double Face
- Traffic Sign One Post
- Traffic Sign Two Post
- Traffic Signal
- Trash Barrel
- Tree Belt
- Tree Coniferous
- Tree Deciduous
- Tree Stumps
- Triangulation Station
- Underground Electric Line — P —
- Underground Gas Line — G —
- Underground High Pressure Gas Line — HG —
- Underground Sanitary Sewer — S —
- Underground Storm Sewer — S —
- Underground Tank
- Underground Telephone Line — T —
- Underground Television Cable — TV —
- Underground Water Line — W —
- Water Fountain
- Water Hydrant
- Water Meter
- Water Tower
- Water Valve
- Water Well
- Weir Rock
- Windmill
- Wingwall
- Witness Corner
- State and National Line
- County Line
- Section Line
- Quarter Line
- Sixteenth Line
- Property Line
- Construction Line
- ROW Line
- New ROW Line
- Cut and Fill Limits
- Control of Access
- New Control of Access
- Proposed ROW (After Property Disposal)
- Drainage Arrow
- Remove Concrete Pavement
- Remove Concrete Driveway Pavement
- Remove Asphalt Concrete Pavement
- Remove Concrete Sidewalk
- Remove Concrete Median Pavement
- Remove Concrete Curb and/or Gutter
- Detectable Warning Pedestrian Push Button Pole and 30" x 48" Clear Space with 1.5% slope

Plot Scale - 1:200

Plotted From - TRPR13522

File - U:\rdp\rp\hans05FA\Legend.dgn

335+00
Retain 24"-28' RCP

335+00
Remove for Reset on R
24"-12' RCP
& Sloped End

335+00
Reset on R
24"-12' RCP
& Sloped End

335+00
Remove for Reset on L
24"-12' RCP
& Sloped End

335+00
Reset on L
24"-12' RCP
& Sloped End

340+80
Retain 24"-40' RCP

340+80
Remove for Reset on L
24"-12' R
& Sloped End

340+80
Reset on L
24"-12' RCP
& Sloped End

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B20	B85

Plotting Date: 12/18/2025

Sec 22 - T103N - R59W

Lovrien Smith Holdings, L.L.C.
(INFORMATION ONLY)

John David Bumgardner & Becky Rose Bumgardner
(INFORMATION ONLY)

BEGIN P-PH 0038(48)306
BEGIN PIPE WORK
Station 334+00.00

350+16.72

SW1/4

SE1/4

N 88°33'37" E

Present SD Hwy 38

99'

99'

Section Line

330+00 335+00 340+00 345+00 350+00 355+00 360+00

NW1/4

NE1/4

Douglas L. Degen & Diane M. Degen
(INFORMATION ONLY)

1/4 Line

Millbrook Hutterian Brethren, Inc.
(INFORMATION ONLY)

PI 350+16.72
N 508526.68
E 2612496.92
Del 0°04'07" R

Sec 27 - T103N - R59W

Plot Scale - 1:200

Plotted From - TRPR13522

File - U:\rdp\hans05FA\0330.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B21	B85

Plotting Date: 12/18/2025

376+00
Retain 18"-58' RCP
& L Safety End

376+00
Remove for Reset on L
18"-6' RCP
& Safety End

376+00
Reset on L
18"-6' RCP
& Safety End

Sec 22 - T103N - R59W

Sec 23 - T103N - R59W

John David Bumgardner & Becky Rose Bumgardner
(INFORMATION ONLY)

Glennys Bumgardner Living Trust
(INFORMATION ONLY)

376+44.63

416th Avenue

33'

33'

SE1/4

SW1/4

N 88°37'44" E

Present SD Hwy 38

99'

99'

Section Line

360+00 365+00 370+00 375+00 380+00 385+00 390+00

55'

55'

LOT A

NW1/4

NE1/4

Section Line

416th Avenue

Millbrook Hutterian Brethren, Inc.
(INFORMATION ONLY)

Dennis Axemaker & Brenda Axemaker
(INFORMATION ONLY)

PI 376+44.63
N 508589.55
E 2615124.07
Del 0°09'14" L

Sec 26 - T103N - R59W

Plot Scale - 1:200

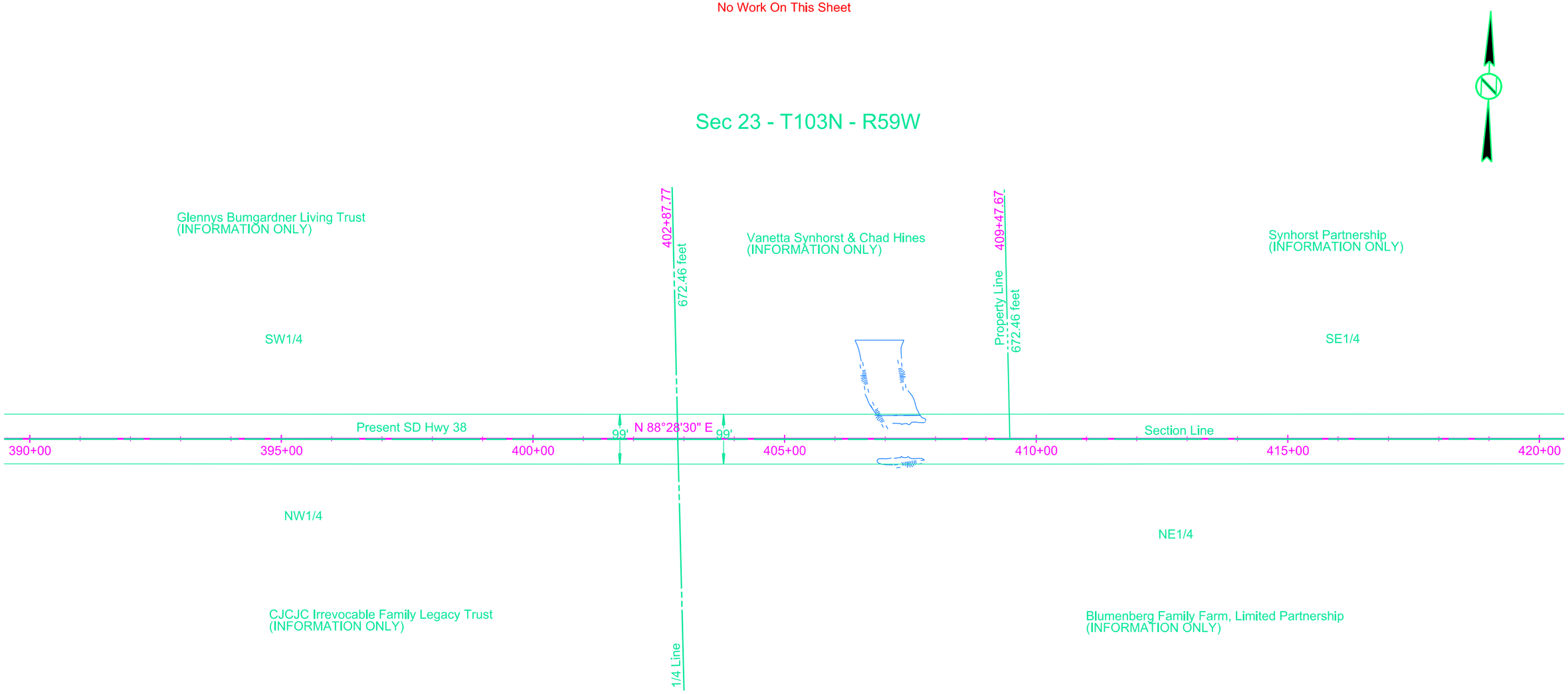
Plotted From - TRPR13522

File - U:\rdp\hans05FA0360.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B22	B85

Plotting Date: 12/18/2025

No Work On This Sheet



Plot Scale - 1:200

Plotted From - TRPR13522

File - U:\rdp\hans05FA\0390.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B23	B85

Plotting Date: 12/18/2025

437+91
Retain 24"-48' RCP
& 1 Sloped End

437+91
Clean Out 24"-48' RCP
& both Sloped Ends

437+91
Remove for Reset on R
24"-6' RCP
& Sloped End

437+91
Remove for Reset on L
24"-6' RCP
& Sloped End

437+91
Reset on R
24"-6' RCP
& Sloped End

437+91
Reset on L
24"-6' RCP
& Sloped End

Sec 23 - T103N - R59W

Sec 24 - T103N - R59W

Synhorst Partnership
(INFORMATION ONLY)

Larry A. Synhorst & Sheryl R. Synhorst
(INFORMATION ONLY)

429+13.17

417th Avenue

SE1/4

SW1/4

33'

33'

Present SD Hwy 38

99'

99'

Section Line

N 88°24'05" E

99'

150'

420+00

425+00

430+00

435+00

440+00

445+00

450+00

NE1/4

NW1/4

Section Line

417th Avenue

Blumenberg Family Farm Limited Partnership
(INFORMATION ONLY)

Harold E. Guericke and Sharon K. Guericke
Irrevocable Real Estate Trust
(INFORMATION ONLY)

PI 429+13.17
N 508729.76
E 2620390.75
Del 0°04'25" L

Sec 26 - T103N - R59W

Sec 25 - T103N - R59W

Plot Scale - 1:200

Plotted From - TRPR13522

File - U:\rdprj\hans\05FA\0420.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B24	B85

Plotting Date: 12/18/2025

No Work On This Sheet

Sec 24 - T103N - R59W

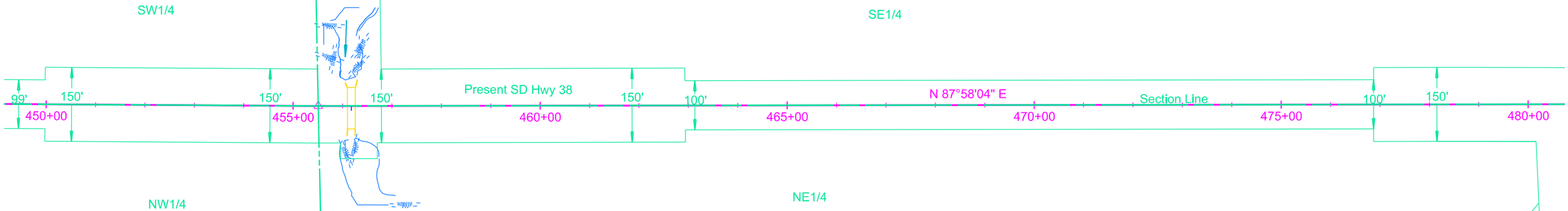
Larry A. Synhorst & Sheryl R. Synhorst
(INFORMATION ONLY)

455+50.89

Blumenberg Family Farm, Limited Partnership
(INFORMATION ONLY)

SW1/4

SE1/4



NW1/4

NE1/4

Harold E. Guericke and Sharon K. Guericke
Irrevocable Real Estate Trust
(INFORMATION ONLY)

Cody Gronsten & Melissa Maier
(INFORMATION ONLY)

IRREGULAR
TRACT NO.1

1/4 Line

PI 455+50.89
N 508803.34
E 2623027.45
Del 0°26'01" L

Sec 25 - T103N - R59W

Plot Scale - 1:200

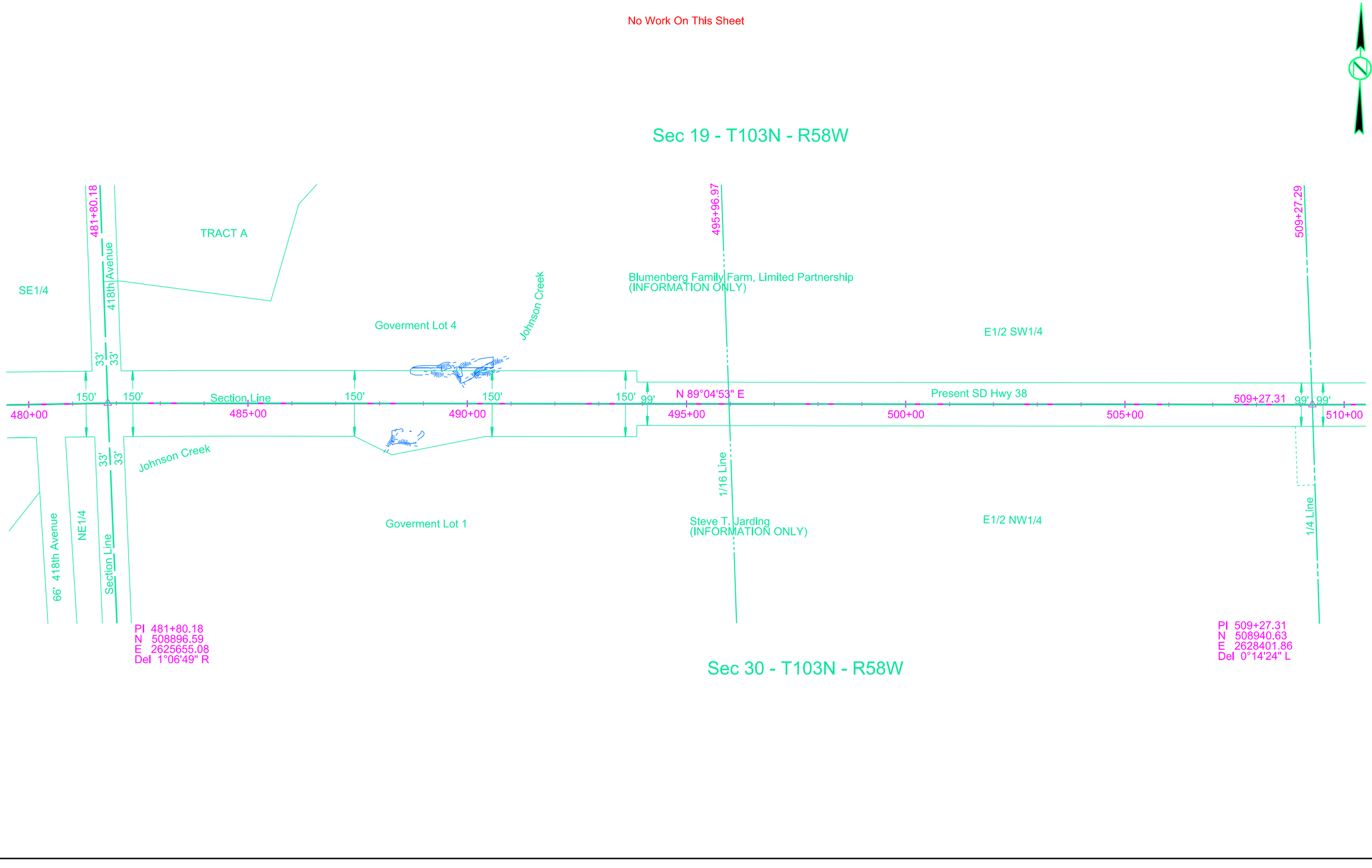
Plotted From - TRPR13522

File - U:\rdp\hans05FA\0450.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B25	B85

Plotting Date: 12/18/2025

No Work On This Sheet



Plot Scale - 1:200

Plotted From - TRPR13522

File - U:\rdp\jh\ans05FA\0480.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B26	B85

Plotting Date: 02/04/2026 Rev 02/03/2026 ZJA

521+33 L
Retain Entrance

521+33 L
Retain 15"-28' CMP
& 2 Safety Ends

521+44 R
Take Out 18"-44' CMP
(Incidental Work, Grading)

521+40-54' R (1 ac)
Install 18"-66' CMP
& 2 Safety Ends

525+48
Retain Twin 7'x6'x136'-7 1/4"
RC Box Culvert
Skewed 35° LHF

525+48 on R
Extend Twin 7'x6'x5'
RC Box Culvert
Skewed 35° LHF
(See Section E)

525+81 L
Install Riprap
(See Section E)

535+65-201' L
Retain 18"-36' RCP

536+07-160' R
Take Out 16"-34' CMP
(Incidental Work,
Grading)

536+08-160' R (3 ac)
Install 18"-44' CMP
& 2 Safety Ends

536+53
Retain 18"-46' RCP

536+53
Take Out 2 Safety Ends
(Incidental Work, Grading)

536+53 (4 ac)
Install 18"-20' RCP
(4' L & 16' R)
& 2 Safety Ends

Refurbish mailboxes
at the following location:
521+35 R (single)

Plot Scale - 1:200

Sec 19 - T103N - R58W

Sec 20 - T103N - R58W

519+52 L
Begin Type 2 Fence

535+23 L
End Type 2 Fence

Blumenberg Family Farm, Limited Partnership
Parcel A1

BEGIN MODIFY INTERSECTION
Station 520+18.00

Janelle J. VenOsdel and
Barbara A. Keena
Parcel A2

West 100 acres

SW1/4

SE1/4

Section Line

N 88°50'28" E

Present SD Hwy 38

419th Avenue

Tract A

LOT D

Lot C

NE1/4

LOT B

LOT A

NW1/4

H. SCHULZ'S FIRST ADDITION

H. SCHULZ'S FIRST ADDITION

Adam K. Popp & Nicole R. Popp
Parcel 2

Curt L. Hart & Kelly J. Hart
Parcel 3

Edwin Waldner Jr. & Leona Waldner
(INFORMATION ONLY)

Ronald G. Schulz and Darcy Deinert
Parcel 1

519+48 R
Begin Type 4 Fence

521+40 R
Remove & Reset
Tubular Gates

523+30 R
End Type 4 Fence
Begin Type 2 Fence

535+40 R
End Type 2 Fence

PI 535+73.19
N 508994.14
E 2631047.19
Del 0°07'09" R

536+10 R
Begin Type 2 Fence

Sec 30 - T103N - R58W

Sec 29 - T103N - R58W

Parcel 1
519+97.00 to 523+34.51 R
Temporary Easement containing
0.2 ac, more or less

Parcel A1
519+97.00 to 525+79.87 L
Temporary Easement containing
0.4 ac, more or less

Parcel A1
526+34.91 to 535+38.71 L
Temporary Easement containing
0.6 ac, more or less

Parcel A2
536+03.14 to 538+27.00 L
Temporary Easement containing
0.1 ac, more or less

Parcel 2
523+34.06 to 535+43.14 R
Temporary Easement containing
0.9 ac, more or less

Parcel 3
536+08.44 to 551+28.00 R
Temporary Easement containing
1.1 ac, more or less

Plotted From - TRPR13522

File - U:\dgn\hans\05FA0510.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B27	B85

Plotting Date: 12/18/2025 Revised 7/17/2025 ZJA

Excavation 10118
Undercut 8352
18470

Embankment 4306
25.0% 1077 5383
Undercut 8352
25.0% 2088 10440
Waste 2647
18470

Haul 2,600 C Y Sta

Waste is excess material to be used
as Out-of-Balance Excavation from 694+00 to 746+00

520+18.00
Begin Modify Intersection

521+40 R
24' Ent

535+73 L
24' Int Rd
(419th Ave)

535+73 R
24' Int Rd
(419th Ave)

536+07-106' R & Ah
24' Ent

PVI 520+18
Elev 1314.60

PVI 521+18
Elev 1312.60

-2.0000%

LDG
-0.3409%

LDG
0.3000%

LDGPI 535+65
Elev 1314.30

RDG -0.6818%

RDG 0.0717%

RDGPI 535+65
Elev 1314.30

LDGPI 536+53
Elev 1314.00

LDGPI 537+53
Elev 1314.30

RDGPI 536+53
Elev 1313.70

1450 1440 1430 1420 1410 1400 1390 1380 1370 1360 1350 1340 1330 1320 1310 1300 1290 1280 1270

510+00 515+00 520+00 525+00 530+00 535+00 540+00

Plot Scale - 1:200

Plotted From - TRPP13522

File - U:\rdprj\hans\05FA0510v.dgn

563+99
Retain 8'x4'x108'
RC Box Culvert
Skewed 10° LHF
& 2 Flared Ends

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B28	B85

Plotting Date: 12/18/2025 Rev 07/16/2025 ZJA

Plot Scale - 1:200

Sec 20 - T103N - R58W

Janelle J. VenOsdel & Barbara A. Keena
Parcel A2

West 100 acres

SW1/4

Janelle J. VenOsdel and Barbara A. Keena
(INFORMATION ONLY)

LOT A

350 feet

180 feet

Kent W. Nagel
(INFORMATION ONLY)

180 feet

350 feet

SE1/4

Darla M. McManus
(INFORMATION ONLY)

562+12.69

550+02.00-50.04'

550+08-73'

551+49.00
49.98'&73.00'

OH

W HO T/F

Section Line

N 88°57'37" E

Present SD Hwy 38

99' 99' 99'

75'

540+00 545+00 550+00 555+00 560+00 565+00 570+00

2 PP

3 PP

550+27-95'

551+28.00-74.51'

562+15.02-75.00'

1/4 Line

LOT A

LOT B

Curt L. Hart & Kelly J. Hart
Parcel 3

NW1/4

NE1/4

KAYSER'S SUBDIVISION

Jessica L. Anderson and
Paul W. Jerke
(INFORMATION ONLY)

END MODIFY INTERSECTION
Station 551+28.00

549+21 R
End Type 2 Fence

PI 562+12.69
N 509042.04
E 2633686.26
Del 0°00'27" L

Sec 29 - T103N - R58W

Parcel A2
550+08.00 to 551+49.00 L
Temporary Easement containing
0.1 ac, more or less

Plotted From - TRPR13522

File - U:\dlp\hans05\FA\0540.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B29	B85

Plotting Date: 12/18/2025

551+28.00
End Modify Intersection

RDG 0.0717%

RDGPI 543+50
Elev 1314.20

LDGPI 550+28
Elev 1316.60

LDG
2.0000%

LDGPI 551+28
Elev 1318.60

1450 1440 1430 1420 1410 1400 1390 1380 1370 1360 1350 1340 1330 1320 1310 1300 1290 1280 1270

540+00 545+00 550+00 555+00 560+00 565+00 570+00

Plot Scale - 1:200

Plotted From - TRPR13522

File - U:\rdprj\hans\05FA0540v.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B30	B85

Plotting Date: 12/18/2025

No Work On This Sheet

Sec 20 - T103N - R58W

Sec 21 - T103N - R58W

Darla M. McManus
(INFORMATION ONLY)

SE1/4

588+48.09

420th Avenue

33'

33'

N 88°57'10" E

Present SD Hwy 38

99'

99'

Section Line

570+00

575+00

580+00

585+00

590+00

595+00

600+00

Carol A. McManus Living Trust
(INFORMATION ONLY)

SW1/4

KAYSER'S SUBDIVISION

LOT B

NE1/4

NW1/4

Gary L. Dittmer Declaration of Living Trust
(INFORMATION ONLY)

Section Line

420th Avenue

Jessica L. Anderson &
Paul W. Jerke
(INFORMATION ONLY)

William Nebelsick and Christopher Nebelsick
(INFORMATION ONLY)

PI 588+48.54
N 509090.21
E 2636321.67
Del 1°18'29" L

Sec 29 - T103N - R58W

Sec 28 - T103N - R58W

Plot Scale - 1:200

Plotted From - TRPR13522

File - U:\rdprj\hans05FA0570.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B31	B85

Plotting Date: 12/18/2025

1470
1460
1450
1440
1430
1420
1410
1400
1390
1380
1370
1360
1350
1340
1330
1320
1310
1300
1290

570+00 575+00 580+00 585+00 590+00 595+00 600+00

Plot Scale - 1:200

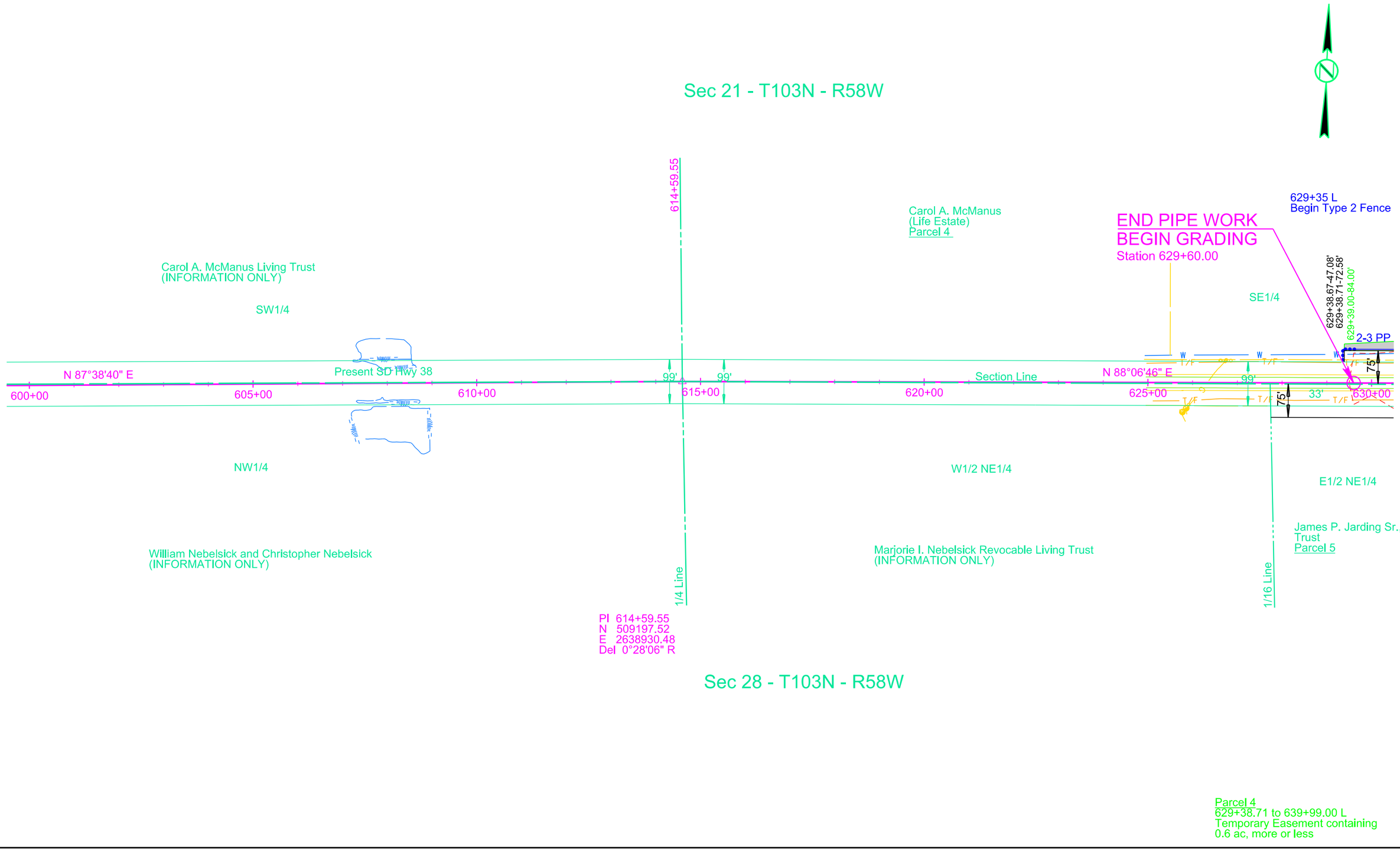
Plotted From - TRPR13522

File - U:\rdprj\hans\05FA0570v.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B32	B85

Plotting Date: 12/18/2025 Revised 12-02-25 ZJA

Plot Scale - 1:200



Parcel 4
629+38.71 to 639+99.00 L
Temporary Easement containing
0.6 ac, more or less

Plotted From - TRPR13522

File - U:\rdp\hans05\FA10600.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B33	B85

Plotting Date: 12/18/2025 Revised 06-12-25 JWF

629+60.00
End Pipe Work
Begin Grading

LDGPI 629+60
Elev 1356.28
LDG 0.5499%
RDG 0.3864%
0.0001%
RDGPI 629+60
Elev 1352.40
PVI 630
Elev 135
1356.49

1480 1470 1460 1450 1440 1430 1420 1410 1400 1390 1380 1370 1360 1350 1340 1330 1320 1310 1300

600+00 605+00 610+00 615+00 620+00 625+00 630+00

Plot Scale - 1:200
Plotted From - TRPR13522
File - U:\rdprj\hans\05FA0600v.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B34	B85

Plotting Date: 12/18/2025 Revised 12-03-25 ZJA

634+62-41' L
Take Out 18"-45' RCP
(Incidental Work, Grading)

634+65-56' L (1 ac)
Install 18"-60' CMP
& 2 Safety Ends

637+11
Take Out 18"-90' RCP
(Incidental Work, Grading)

637+11 (44 ac)
Install Twin 24"-72' RCP Arch
(Spaced 23' C to C)
& 4 Sloped Ends

649+76-48' R
Take Out 18"-42' RCP
(Incidental Work, Grading)

651+41-42' R
Take Out 18"-65' RCP
(Incidental Work, Grading)

651+43-50' R (1 ac)
Install 18"-66' CMP
& 2 Safety Ends

656+60
Take Out 24"-65' RCP
(Incidental Work, Grading)

656+60 (59 ac)
Install Triple 24"-60' RCP Arch
(Spaced 23' C to C)
& 6 Sloped Ends

Refurbish mailboxes
at the following location:
651+71 R (single)

Sec 21 - T103N - R58W

Sec 22 - T103N - R58W

640+48 L
End Type 2 Fence

Carol A. McManus
(Life Estate)
Parcel 4

Remove &
Reset Tubular
Gates

Jalmar Jorgenson, Mark Jorgenson and
James Jorgenson
Parcel 6

421st Avenue

Present SD Hwy 38

Section Line

E1/2 NE1/4

SE1/4

SW1/4

NW1/4

LOT A

LOT A-1

V.O. HELMUTH
FIRST ADDITION

G.E. SCHULTE'S
FIRST ADDITION

Brenda R. Schulte
Parcel 8

Vernon O. Helmuth & Miriam D. Helmuth
Parcel 7

James P. Jarding Sr., Trust
Parcel 5

648+50 R
1-20' barbed
wire gate

649+76 R
Elim Ent

648+46 to 651+12 R
Do Not Disturb Trees

641+44 R
Begin Type 2 Fence

648+72 R
End Type 2 Fence

653+71 R
Begin Type 2 Fence

PI 640+87.00
N 509284.05
E 2641556.50
Del 0°23'20" R
Dc 0°01'58"
T 593.88'
L 1187.75'
R 175000.00'

Sec 28 - T103N - R58W

Sec 27 - T103N - R58W

Parcel 6
641+64.53 to 667+30.08 L
Temporary Easement containing
2.1 ac, more or less

Parcel 7
641+38.84 to 648+78.00 R
Temporary Easement containing
0.3 ac, more or less

Parcel 7
649+25.00 to 653+66.26 R
Temporary Easement containing
0.2 ac, more or less

Plot Scale - 1:200

Plotted From - TRPR13522

File - U:\rdp\rhans05FA\0630.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B35	B85

Plotting Date: 02/04/2026 Rev 02/04/2026 ZJA

Plot Scale - 1:200

Excavation 5440
Undercut 5588
11028

Embankment 2581
35.0% 903 3484
Undercut 5588
35.0% 1956 7544
11028

Haul 12,100 C Y Sta

636+83 L
Ditch Block
Elev 1358.1

634+65 L
24' Ent

640+95 L
28' Int Rd
(421st Ave)
(See Intersection Layout)

640+95 R
28' Int Rd
(421st Ave)
(See Intersection Layout)

FLL 1357.20
FLR 1357.00

RDGPI 634+00
Elev 1354.10

0.5499%
RDG 0.3864%
RDG 0.9325%
LDG 0.2366%
LDG 1.2022%
LDG -0.3571%
0.0 LDG 0.1058%
RDG 0.2116%

L 800.00ft
G1 0.5474%
G2 0.3877%
K 5008

PVI 630+00
Elev 1351.50

LDGPI 634+65
Elev 1352.60

LDGPI 635+00
Elev 1355.10

LDGPI 636+83
Elev 1357.30

RDGPI 637+11
Elev 1357.00

RDGPI 639+00
Elev 1357.40

LDGPI 639+21
Elev 1361.54

LDGPI 639+00
Elev 1357.40

LDGPI 637+11
Elev 1357.20

CP 1
634+53-53' L
5/8" Rebar & cap stamped
"SDDOT CONTROL POINT"
1358.62

Excavation 7818
Undercut 6025
13843

Embankment 4229
35.0% 1480 5709
Undercut 6025
35.0% 2109 8134
13843

Haul 12,900 C Y Sta

654+25 L
Ditch Block
Elev 1366.9

648+50 R
24' Ent

651+43 R
24' Ent

0.3877%

FLL 1365.40
FLR 1365.20

L 800.00ft
G1 0.3877%
G2 1.1625%
K 1032

PVI 660
Elev 136

LDGPI 654+25
Elev 1366.60

LDG -0.5106%
RDG 0.6000%
RDG -0.5000%
0.0 0.0
LDG 0.0294%

LDGPI 656+60
Elev 1365.40

LDGPI 660+00
Elev 1365.50

RDGPI 655+60
Elev 1364.60

RDGPI 657+60
Elev 1364.70

RDGPI 656+60
Elev 1365.20

1490 1480 1470 1460 1450 1440 1430 1420 1410 1400 1390 1380 1370 1360 1350 1340 1330 1320 1310

1356.49 1357.04 1357.59 1358.14 1358.68 1359.23 1359.77 1360.29 1360.80 1361.28 1361.74 1362.18 1362.60 1363.01 1363.39 1363.78 1364.17 1364.56 1364.94 1365.33 1365.72 1366.11 1366.49 1366.88 1367.27 1367.66 1368.05 1368.43 1368.84 1369.35 1369.95

630+00 635+00 640+00 645+00 650+00 655+00 660+00

Plotted From - TRPR13522

U:\rdp\rhans05FA\0630v.dgn

File -

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B36	B85

Plotting Date: 02/10/2026 Rev 02/10/2026 ZJA

663+53-30' L
Take Out 18"-51' RCP
(Incidental Work, Grading)

663+56-49' L (3 ac)
Install 18"-78' CMP
& 2 Safety Ends

660+35-49' R (3 ac)
Install 18"-60' CMP
& 2 Safety Ends

669+33-38' R
Take Out 18"-46' RCP
(Incidental Work, Grading)

669+27-49' R (1 ac)
Install 18"-58' CMP
& 2 Safety Ends

675+07
Take Out Twin 24"-65' RCP
(Incidental Work, Grading)

677+78-37' R
Take Out 18"-42' RCP
(Incidental Work, Grading)

675+09 (75 ac)
Install Triple 24"-60' RCP Arch
(Spaced 23' C to C)
& 6 Sloped Ends

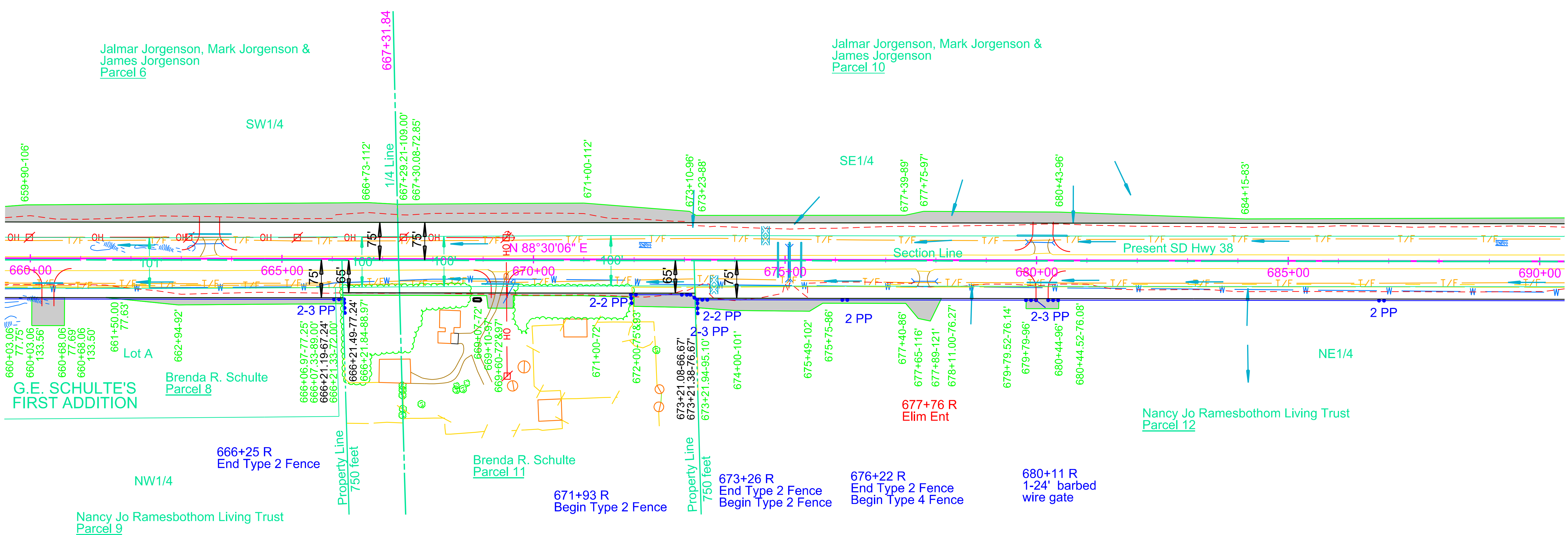
680+08-40' L
Take Out 18"-48' RCP
(Incidental Work, Grading)

680+11-49' L (19 ac)
Install 30"-84' CMP Arch
& 2 Safety Ends

680+11-44' R (2 ac)
Install 18"-52' CMP
& 2 Safety Ends

Refurbish mailboxes
at the following location:
669+46 R (single)

Sec 22 - T103N - R58W



Sec 27 - T103N - R58W

Parcel 9
666+06.97 to 666+21.84 R
Temporary Easement containing
0.1 ac, more or less

Parcel 8
661+50.00 to 666+07.33 R
Temporary Easement containing
0.1 ac, more or less

Parcel 8
660+03.06 to 660+68.06 R
Temporary Easement containing
0.1 ac, more or less

Parcel 10
667+29.21 to 693+41.54 L
Temporary Easement containing
1.3 ac, more or less

Parcel 11
666+21.19 to 673+21.94 R
Temporary Easement containing
0.2 ac, more or less

Parcel 12
673+21.38 to 678+11.00 R
Temporary Easement containing
0.2 ac, more or less

Parcel 12
679+79.00 to 680+44.52 R
Temporary Easement containing
0.1 ac, more or less

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B37	B85

Plotting Date: 01/30/2026 Rev 01/29/2026 ZJA

Excavation 4564 Embankment 12452
Undercut 9573 30.8% 3835 16287
Option Borrow Exc 12025 Undercut 9573
Out-of-Balance Exc 2646 30.8% 2948 12521
28808 28808

Haul 23,600 C Y Sta
Dead Haul 5,401,900 C Y Sta
Option Borrow Haul 68,900 C Y Sta
Out-of-Balance Haul 344,200 C Y Sta

Out-of-Balance Excavation material is Waste from 520+18 to 551+28
Option Borrow may be obtained from Pit 1

673+59 R
Ditch Block
Elev 1379.2

674+61 L
Ditch Block
Elev 1379.5

663+56 L
40' Ent

680+11 L
40' Ent

660+35 R
24' Ent

669+27 R
32' Ent

680+11 R
24' Ent

L 800.00ft
G1 0.3877%
G2 1.1625%
K 1032

FLL 1377.60
FLR 1377.50

RDG 2.2619%

RDG -0.5333%

RDG 0.7083%

0.3002%

LDG -0.1187%

0.0 0.0

RDG 0.0666%

LDG 0.1707%

LDGPI 671+50
Elev 1375.90

LDG 0.4735%

LDGPI 675+09
Elev 1377.60

LDG 0.1245%

LDGPI 677+50
Elev 1377.90

RDGPI 683+50
Elev 1379.60

LDGPI 689+25
Elev 1380.60

LDGPI 669+30
Elev 1379.40

RDGPI 672+75
Elev 1376.40

RDGPI 673+59
Elev 1378.30

RDGPI 677+49
Elev 1379.20

RDGPI 675+09
Elev 1377.50

0.0000%

LDGPI 660+00
Elev 1365.50

LDGPI 661+30
Elev 1370.10

L 800.00ft
G1 1.1625%
G2 0.3002%
K 928

1510 1500 1490 1480 1470 1460 1450 1440 1430 1420 1410 1400 1390 1380 1370 1360 1350 1340 1330

1369.95 1370.65 1371.44 1372.33 1373.32 1374.41 1375.54 1376.57 1377.50 1378.31 1379.02 1379.63 1380.12 1380.51 1380.81 1381.11 1381.41 1381.71 1382.01 1382.31 1382.61 1382.91 1383.21 1383.51 1383.81 1384.11 1384.41 1384.71 1385.01 1385.31 1385.62

660+00 665+00 670+00 675+00 680+00 685+00 690+00

Plot Scale - 1:200

Plotted From - TRPR13522

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B38	B85

Plotting Date: 12/18/2025 Rev 12/03/2025 ZJA

692+62
Take Out Twin 24"-64' RCP
(Incidental Work, Grading)

692+62 (110 ac)
Install Triple 30"-84' RCP Arch
(Spaced 24' C to C)
& 6 Sloped Ends
Grade to Ditch
(Incidental Work, Grading)

694+01-68' L
Take Out 15"-31' RCP
(Incidental Work, Grading)

694+36
Take Out 24"-68' RCP
(Incidental Work, Grading)

694+65 (95 ac)
Install Twin 30"-84' RCP Arch
(Spaced 24' C to C)
& 4 Sloped Ends
Grade to Ditch
(Incidental Work, Grading)

Sec 22 - T103N - R58W

Sec 23 - T103N - R58W

Sec 27 - T103N - R58W

Sec 26 - T103N - R58W

693+76.65

693+34.42-330.00'
693+41.54-74.97'

422nd Avenue

Section Line

693+86-86' L
Elim Ent
(East Side of 422nd Ave)

Jalmar Jorgenson,
Mark Jorgenson &
James Jorgenson
Parcel 10

Arlin L. Houtkooper
Parcel 13

690+82.67-86.50' & 92.00'
691+17.66-86.74' & 92.00'
692+96-89'
694+07.33-91.00'
694+07.74-75.00'
695+27-80'
700+14-80'
706+70-87'
706+70-95'
707+52-95'
707+52-85'
713+45-80'
713+69-91'
719+72-85'
719+82-95'
720+10.13-95.00'
720+10.62-75.00'
720+42-95'

SE1/4
SW1/4
NE1/4
NW1/4

693+76.66
Section Line
690+00
695+00
700+00
705+00
710+00
715+00
720+00
Present SD Hwy 38
N 88°22'02" E

720+12.46
1/4 Line

2-3 PP

693+45.40-75.03'
694+11.24-75.00'
694+11.53-89.00'

Nancy Jo Ramesbothom
Living Trust
Parcel 12

693+41 R
End Type 4 Fence

707+60 to 707+90-73' to 75' R
Do Not Disturb
Water Valves

706+96.01-65.00'
706+96.23-75.00'
706+96.68-95.00'
707+28-95'
707+48.00-65.00'
708+39.00-65.00'
708+47-92'
708+60.76-65.00'
708+60.98-75.00'
708+61.36-92.00'

1/16 Line

Property Line

NW1/4 NW1/4 NW1/4 NE1/4 NW1/4

707+78-75' R
Do Not Disturb
Fire Hydrant

Hanson Rural
Water System, Inc.
Parcel 15

Bleeker Enterprises, Inc.
Parcel 14

720+14.23-75.00'
720+14.70-95.00'

PI 693+76.65
N 509422.36
E 2646844.34
Del 0°08'04" L

Parcel 14
694+11.24 to 706+96.68 R
Temporary Easement containing
0.5 ac, more or less

Parcel 13
694+07.33 to 720+10.62 L
Temporary Easement containing
0.6 ac, more or less

Parcel 14
708+60.98 to 720+14.70 R
Temporary Easement containing
0.3 ac, more or less

Parcel 15
706+96.01 to 708+61.36 R
Temporary Easement containing
0.1 ac, more or less

Plot Scale - 1:200

Plotted From - TRPR13522

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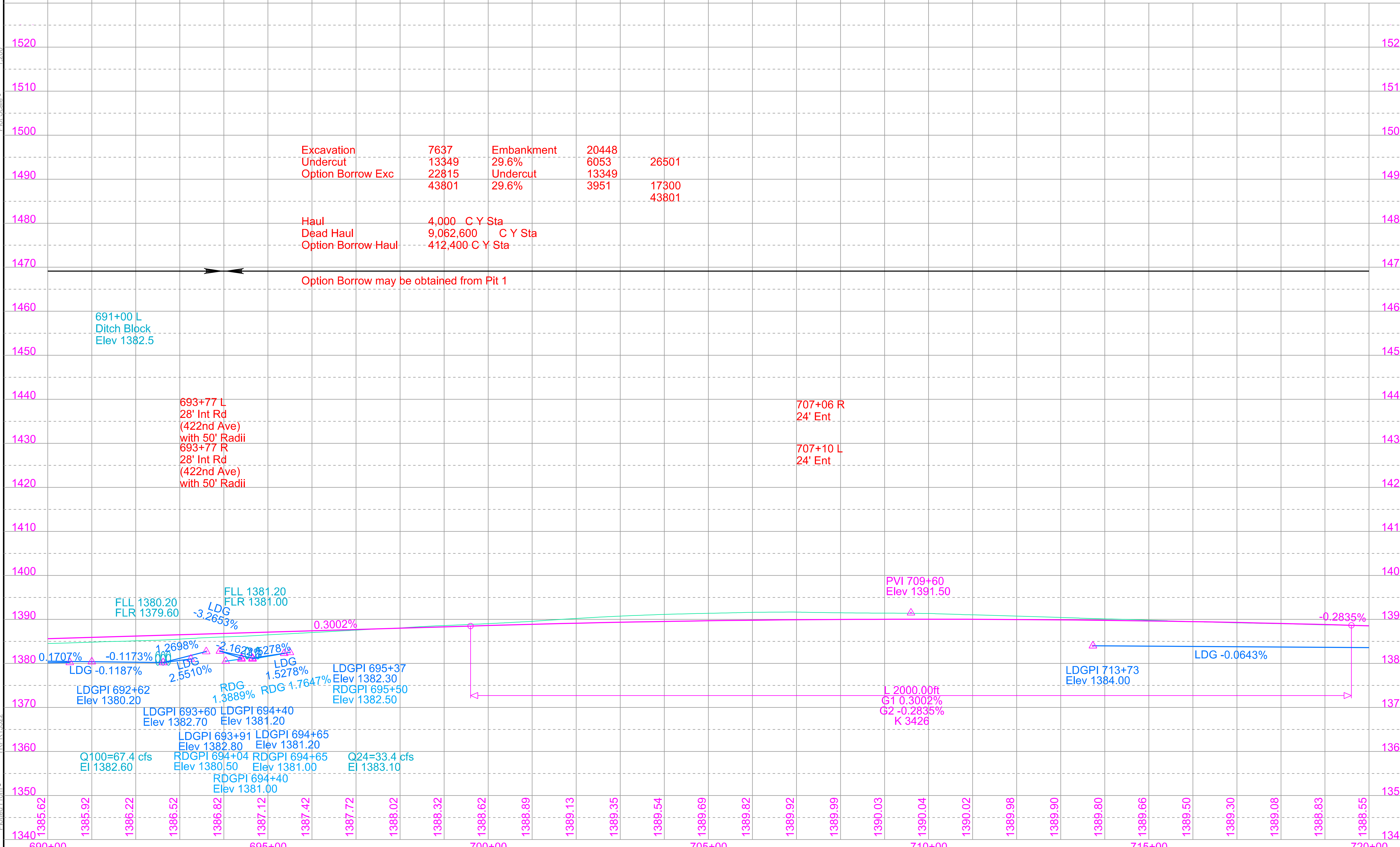
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B39	B85

Plotting Date: 12/18/2025 Revised 08/04/25 ZJA



Excavation 7637 Embankment 20448
Undercut 13349 29.6% 6053 26501
Option Borrow Exc 22815 Undercut 13349
43801 29.6% 3951 17300
43801
Haul 4,000 C Y Sta
Dead Haul 9,062,600 C Y Sta
Option Borrow Haul 412,400 C Y Sta
Option Borrow may be obtained from Pit 1
691+00 L
Ditch Block
Elev 1382.5
693+77 L
28' Int Rd
(422nd Ave)
with 50' Radii
693+77 R
28' Int Rd
(422nd Ave)
with 50' Radii
707+06 R
24' Ent
707+10 L
24' Ent
PVI 709+60
Elev 1391.50
FLL 1380.20
FLR 1379.60
FLL 1381.20
FLR 1381.00
0.3002%
-0.2835%
0.1707%
-0.1173%
1.2698%
LDG -0.1187%
LDG 2.5510%
LDG -3.2653%
LDG 1.5278%
RDG 1.3889%
RDG 1.7647%
LDG -0.0643%
LDGPI 692+62
Elev 1380.20
LDGPI 693+60
Elev 1382.70
LDGPI 693+91
Elev 1382.80
LDGPI 694+40
Elev 1381.20
LDGPI 694+65
Elev 1381.20
RDGPI 694+04
Elev 1380.50
RDGPI 694+65
Elev 1381.00
RDGPI 694+40
Elev 1381.00
LDGPI 695+37
Elev 1382.30
RDGPI 695+50
Elev 1382.50
LDGPI 713+73
Elev 1384.00
L 2000.00ft
G1 0.3002%
G2 -0.2835%
K 3426
Q100=67.4 cfs
El 1382.60
Q24=33.4 cfs
El 1383.10
1520
1510
1500
1490
1480
1470
1460
1450
1440
1430
1420
1410
1400
1390
1380
1370
1360
1350
1340
1385.62 1385.92 1386.22 1386.52 1386.82 1387.12 1387.42 1387.72 1388.02 1388.32 1388.62 1388.89 1389.13 1389.35 1389.54 1389.69 1389.82 1389.92 1389.99 1390.03 1390.04 1390.02 1389.98 1389.90 1389.80 1389.66 1389.50 1389.30 1389.08 1388.83 1388.55
690+00
695+00
700+00
705+00
710+00
715+00
720+00

Plot Scale - 1:200

Plotted From - TRPR13522

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B40	B85

Plotting Date: 12/18/2025 Rev 10/31/2025 ZJA

720+12-51' L (1 ac)
Install 18"-78' CMP
& 2 Safety Ends

738+06-43' L
Take Out 24"-42' RCP
(Incidental Work, Grading)

738+12-40' R
Take Out 24"-55' RCP
(Incidental Work, Grading)

746+55-56' L
Take Out Twin 30"-42' RCP
(Incidental Work, Grading)

746+55-60' R
Take Out 30"-42' RCP
(Incidental Work, Grading)

746+55-57' L (266 ac)
Install Twin 36"-84' CMP
with Controlled Density Fill
(Spaced 4.5' C to C)
& 4 Safety Ends

746+55-56' R (35 ac)
Install Twin 30"-62' CMP
with Controlled Density Fill
(Spaced 4.0' C to C)
& 4 Safety Ends

Sec 23 - T103N - R58W

Jon L. Decker
Parcel 16

720+12.46
720+10.13-95.00'
720+10.62-75.00'
1/4 Line
720+42-95'
720+62.00-75.00'
720+10 L
Begin Type 2 Fence
3-2 PP
3 PP
2 PP
729+30.00-75.00'
729+42-86'
732+53-82'
732+60.00-75.00'
3 PP
2 PP
SE1/4
738+10 L
Elim Ent
2-3 PP
2-3 PP
2-3 PP
743+49 L
End Type 2 Fence
743+49 L
Begin Type 4 Fence
746+25 L
End Type 4 Fence
745+32.00-72.59'
745+46-121'
3 PP
2 PP
746+20.89-71.57'
746+54.75
Section Line
423rd Avenue
33'
33'
OH
746+53.94-71.12'
746+84 L
Begin Type 6 Fence
Marvin Mowry
Parcel 18
M. AND E. MEINEN'S
FIRST ADDITION
LOT A
746+86.74
95.00'
746+86.99
71.55'
747+85.00-72.67'
3 PP
2 PP
2-3 PP
2-3 PP
Sec 24 - T103N - R58W

Section Line
Present SD Hwy 38
720+00
725+00
730+00
735+00
740+00
745+00
750+00
75'
75'
100'
100'
99'
150'
75'
75'
T/F
OH
W

732+13-90'
735+18.00-75.00'
736+14.00-75.00'
738+17-90'
738+13 R
Elim Ent
NE1/4
Lu Etta Decker
Parcel 17
746+05-95'
746+22.54-78.47'
746+22.90-115.00'
746+88.41-78.45'
NW1/4
Lou Etta Decker
(Life Estate)
Parcel 20
423rd Avenue
PI 746+54.83
N 509572.75
E 2652120.38
Del 1°31'48" L
Dc 0°07'54"
T 580.82'
L 1161.56'
R 43500.00'
Sec 25 - T103N - R58W

Sec 26 - T103N - R58W

Parcel 16
720+10.13 to 720+62 L
Temporary Easement containing
0.1 ac, more or less

Parcel 16
729+30.00 to 732+60.00 L
Temporary Easement containing
0.1 ac, more or less

Parcel 16
745+32.00 to 746+20.89 L
Temporary Easement containing
0.1 ac, more or less

Parcel 17
720+14.23 to 735+18.00 R
Temporary Easement containing
0.4 ac, more or less

Parcel 17
736+14.00 to 746+22.90 R
Temporary Easement containing
0.3 ac, more or less

Parcel 18
746+86.74 to 747+85.00 L
Temporary Easement containing
0.1 ac, more or less

Plot Scale - 1:200
Plotted From - TRPR13522
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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B41	B85

Plotting Date: 12/18/2025

Plot Scale - 1:200

1510 1500 1490 1480 1470 1460 1450 1440 1430 1420 1410 1400 1390 1380 1370 1360 1350 1340 1330

746+55 L
28' Int Rd
(423rd Ave)
With 50' Radii

746+55 R
28' Int Rd
(423rd Ave)
With 50' Radii

LDG -0.0643%

LDGPI 729+29
Elev 1383.00

-0.2835%

RDGPI 735+50
Elev 1380.20

RDG -0.9740%

RDGPI 738+58
Elev 1377.20

RDG -0.2965%

RDG -0.2000%

LDG -0.2500%

RDGPI 748+00
Elev 1374.60

LDGPI 745+55
Elev 1374.80

LDGPI 747+55
Elev 1374.30

RDGPI 746+00
Elev 1375.00

1388.55 1388.27 1387.98 1387.70 1387.42 1387.13 1386.85 1386.57 1386.28 1386.00 1385.72 1385.43 1385.15 1384.87 1384.58 1384.30 1384.02 1383.73 1383.45 1383.17 1382.88 1382.60 1382.32 1382.03 1381.75 1381.46 1381.18 1380.90 1380.61 1380.33 1380.05

720+00 725+00 730+00 735+00 740+00 745+00 750+00

Plotted From - TRPR13522

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B42	B85

Plotting Date: 01/30/2026 Rev 01/29/2026 ZJA

752+06
Take Out 5'x2'-76' Box Culvert
(Incidental Work, Grading)

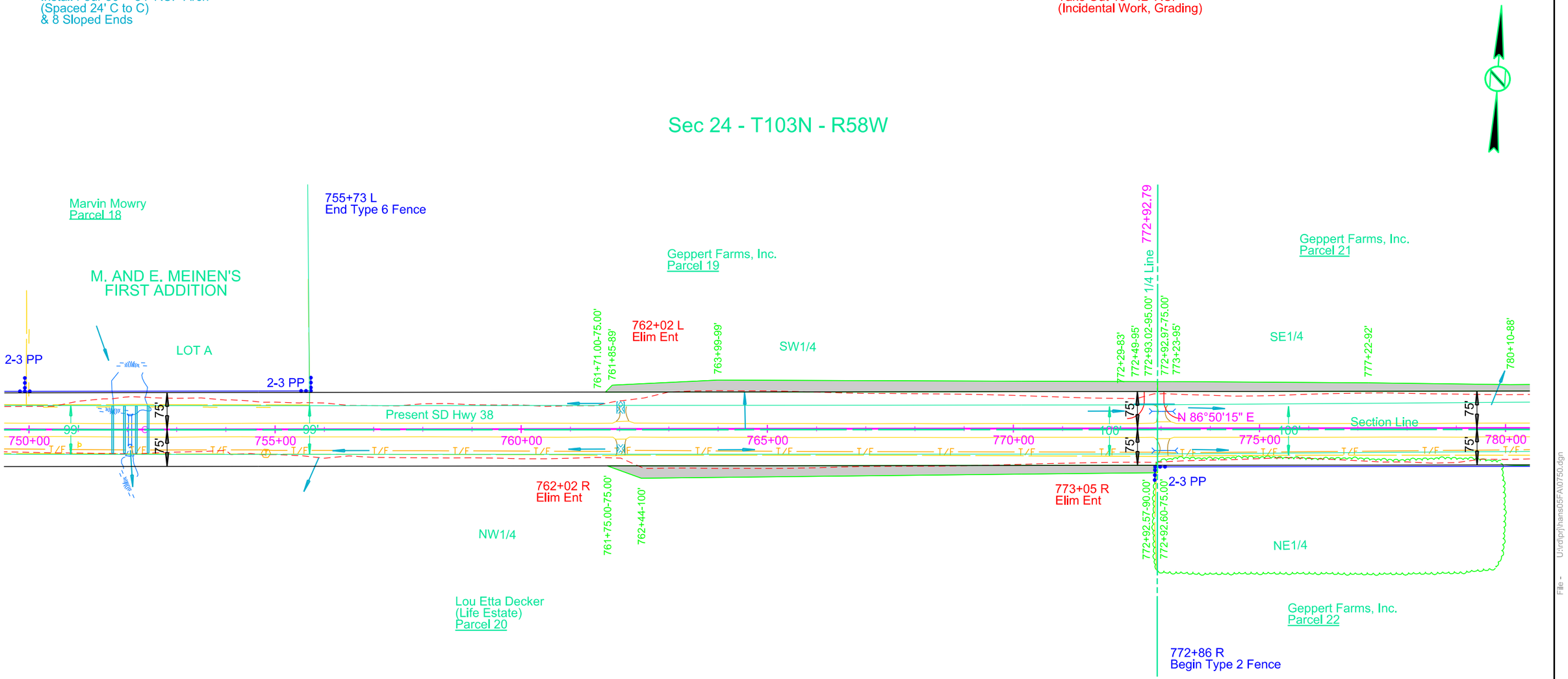
752+06 (311 ac)
Install Four 30" - 84' RCP Arch
(Spaced 24' C to C)
& 8 Sloped Ends

772+86-49' L (3 ac)
Install 18"-76' CMP
& 2 Safety Ends

773+03-39' L
Take Out 15"-42' RCP
(Incidental Work, Grading)

773+08-40' R
Take Out 15"-42' RCP
(Incidental Work, Grading)

Plot Scale - 1:200



Parcel 19
761+71.00 to 772+92.97 L
Temporary Easement containing
0.5 ac, more or less

Parcel 20
761+75.00 to 772+92.60 R
Temporary Easement containing
0.5 ac, more or less

Parcel 21
772+92.97 to 795+25.00 L
Temporary Easement containing
1.0 ac, more or less

Plotted From - TRPR13522

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B43	B85

Plotting Date: 01/30/2026 Rev 01/29/2026 ZJA

Plot Scale - 1:200

Excavation	14042	Embankment	17389		
Undercut	15807	31.7%	5512	22901	
Option Borrow Exc	13870	Undercut	15807		
	43719	31.7%	5011	20818	
				43719	

Haul	72,800	C Y Sta
Dead Haul	4,760,500	C Y Sta
Option Borrow Haul	325,300	C Y Sta

Option Borrow may be obtained from Pit 1

762+02 L
Ditch Block
Elev 1375.1

762+02 R
Ditch Block
Elev 1375.1

772+86 L
40' Ent

FLL 1373.70
FLR 1373.40

LDG
-0.5660%

LDGPI 751+00
Elev 1374.30

LDGPI 752+06
Elev 1373.70

RDGPI 754+10
Elev 1374.40

RDG 0.0379%

LDG 0.0502%

-0.2835%

LDG -2.3469%

LDGPI 762+02
Elev 1374.20

RDGPI 762+02
Elev 1374.70

LDGPI 763+00
Elev 1371.90

L 800.00ft
G1 -0.2835%
G2 0.1839%
K 1712

PVI 779+80
Elev 1371.60

Q7=47.2 cfs
El 1375.10

1380.05 1379.76 1379.48 1379.20 1378.91 1378.63 1378.35 1378.06 1377.78 1377.50 1377.21 1376.93 1376.65 1376.36 1376.08 1375.80 1375.51 1375.23 1374.95 1374.66 1374.38 1374.09 1373.81 1373.53 1373.24 1372.96 1372.68 1372.44 1372.25 1372.13 1372.06

750+00 755+00 760+00 765+00 770+00 775+00 780+00

1510 1500 1490 1480 1470 1460 1450 1440 1430 1420 1410 1400 1390 1380 1370 1360 1350 1340 1330

Plotted From - TRPR13522

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B44	B85

Plotting Date: 02/04/2026 Rev 02/04/2026 ZJA

798+81
Take Out 24"-60' RCP
(Incidental Work, Grading)

798+65 (73 ac)
Install 48"-84' RCP Arch
& 2 Flared Ends
Grade Ditch
(Incidental Work, Grading)

809+12
Take Out 2-8'x6'x84' Box Culvert
(Incidental Work, Grading)

809+12
Alternate A (DA = 20 mi^2 out of 61.22 mi^2)
Install 2-10'x9'x117'-7/16" Box Culvert (C.I.P.)
Alternate B
Install 2-11'x9'x116'-0" Box Culvert (Precast)
(See Section E)

Sec 24 - T103N - R58W

Sec 19 - T103N - R57W

Geppert Farms, Inc.
Parcel 21

SE1/4

Present SD Hwy 38

780+10-88'

790+00-95'

793+85-116'

795+25.00
75.00'&89.00'

797+70.00-75.00'

798+96.91-100.00'

798+97.14-75.00'

799+30.83

424th Avenue

799+74 L
Begin Type 3 Fence

799+62.94-75.00'

John Pommer
Parcel 23

Goverment Lot 4

Rocky ground near Pierre Creek

805+45.00-75.00'

807+05-138'

Pierre Creek

Stream
Crossing
2-2 PP

810+29-157'

2-3 PP

2 PP

780+00

785+00

790+00

795+00

800+00

805+00

810+00

33' F Section Line T/F

780+00.00-75.00'

782+55-87'

791+69-87'

793+35-105'

795+25.00-75.00'

798+25.00-75.00'

798+42-89'

798+98.92-75.00'

798+99.21-93.00'

799+82.28-75.00'

807+23.00-75.00'

808+93.78
75.00'&83.00'

809+30.78
75.00'&83.00'

809+13.00-99.00'

809+75.78-75.00'

NE1/4

West 59 acres

Goverment Lot 1

LOT C

Stream
Crossing

2 PP

3 PP

798+94 R
End Type 2 Fence

Section Line

424th Avenue

Richard Nebelsick & Ruth Nebelsick
Parcel 24

799+79 R
Begin Type 2 Fence

809+76 R
End Type 2 Fence
Begin Type 2 Fence

Geppert Farms, Inc.
Parcel 22

PI 801+22.17
N 509874.39
E 2657579.46
Del 2°21'49" R
Dc 0°13'13"
T 536.37'
L 1072.59'
R 26000.00'

Sec 25 - T103N - R58W

Sec 30 - T103N - R57W

Parcel 21
797+70.00 to 798+97.14 L
Temporary Easement containing
0.1 ac, more or less

Parcel 22
780+00.00 to 795+25.00 R
Temporary Easement containing
0.4 ac, more or less

Parcel 22
798+25.00 to 798+99.21 R
Temporary Easement containing
0.1 ac, more or less

Parcel 23
805+45.00 to 829+38.79 L
Temporary Easement containing
1.6 ac, more or less

Parcel 24
807+23.00 to 809+75.78 R
Temporary Easement containing
0.1 ac, more or less

Plot Scale - 1:200

Plotted From - TRPR13522

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B45	B85

Plotting Date: 02/04/2026 Rev 01/23/2026 ZJA

Plot Scale - 1:200

799+31 L
28' Int Rd
(424th Ave)
With 50' Radii

799+31 R
28' Int Rd
(424th Ave)
With 50' Radii

L 800.00ft
G1 -0.2835%
G2 0.1839%
K 1712

PVI 788+50
Elev 1373.20

0.1839%

-1.5072%

L 800.00ft
G1 0.1839%
G2 -1.5072%
K 473

L 1495.00ft
G1 -1.5072%
G2 1.6588%
K 472

FLL 1350.90
FLR 1350.70

LDG
-2.9231%

LDG
0.3030%

RDG
-2.0000%

RDG
-1.0606%

LDGPI 798+00
Elev 1352.80
RDGPI 798+00
Elev 1352.80

LDGPI 798+65
Elev 1350.90
RDGPI 798+65
Elev 1350.70
Q50=78.8 cfs
EI 1355.10

LDGPI 799+31
Elev 1351.10
RDGPI 799+31
Elev 1351.10

LDGPI 805+75
Elev 1347.20

CP 2
789+87-239' R
5/8" Rebar & cap stamped
"SDDOT CONTROL POINT"
1351.08

Twin
Q_{100} = 1802 cfs
Alternate A EL. 1353.1
Alternate B EL. 1353.1
Q_{25} = 857 cfs
Alternate A EL. 1349.10
Alternate B EL. 1349.10

1372.06 1372.05 1372.10 1372.21 1372.37 1372.53 1372.50 1372.26 1371.81 1371.15 1370.28 1369.19 1367.90 1366.42 1364.91 1363.40 1361.90 1360.39 1358.88 1357.43 1356.18 1355.15 1354.32 1353.71 1353.31 1353.12 1353.14 1353.38 1353.82 1354.48 1355.35

1490 1480 1470 1460 1450 1440 1430 1420 1410 1400 1390 1380 1370 1360 1350 1340 1330 1320 1310

780+00 785+00 790+00 795+00 800+00 805+00 810+00

Plotted From - TRPR13522

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B46	B85

Plotting Date: 12/18/2025 Rev 07/16/2025 ZJA

812+65-33' R
Take Out 15"-54' RCP
(Incidental Work, Grading)

813+11
Take Out 48"-78' RCP
Skewed 16° RHF
(Incidental Work, Grading)

813+27 (338 ac)
Install Twin 48"-102' RCP
Skewed 34° RHF
(Spaced 25' C to C)
& 4 Flared Ends

812+95 L
Install Twin Bank and Channel Protection Gabions (24.0 CuYd) and Type B Drainage Fabric (68 SqYd)

815+87-43' L
Take Out 15"-70' RCP
(Incidental Work, Grading)

816+24-49' L (7 ac)
Install 24"-76' CMP Arch
& 2 Safety Ends

816+24 L Remove and Reset 16' Tubular Gates

822+16-41' R
Take Out 18"-46' RCP
(Incidental Work, Grading)

822+95-51' R (70 ac)
Install Triple 24"-76' CMP Arch with Controlled Density Fill
(Spaced 3.5' C to C)
& 6 Safety Ends

837+89-41' L
Take Out 24"-63' RCP
(Incidental Work, Grading)

837+86-49' L (4 ac)
Install 24"-56' CMP
& 2 Safety Ends

837+86 L Remove and Reset 24' Tubular Gates

Refurbish mailboxes at the following location:
812+88 R (single)

813+00 L
Existing fence will be removed, tubular gate materials will remain the landowner's property and will be stockpiled on the parcel.

Beware of bedrock 2-inches below topsoil on parcel 23

Sec 19 - T103N - R57W

Pierre Creek
Goverment Lot 4
John Pommer
Parcel 23
816+30.06 1/16 Line
816+24 L
Remove & Reset
Tubular Gates
829+45 L
End Type 3 Fence
Begin Type 3 Fence
829+39 L
Remove & Reset
2 Tubular Gates
829+40.55 E1/4 Line
John Pommer
Parcel 28
837+85 L
Remove & Reset
3 Tubular Gates
SE1/4
E1/2 SW1/4
Present SD Hwy 38
N 89°12'04" E
Section Line
LOT A
LOT B
LOT C
West 40 acres
East 38.66 acres
Duane A. Nebelsick &
Marjorie I. Nebelsick
(Life Estate)
Parcel 27
NE1/4
Velma M. Wagner Revocable Trust
Parcel 29
William Nebelsick & Sherry Nebelsick
Parcel 25
E1/2 NW1/4
Property Line
Goverment Lot 1
D.A. NEBELSICK'S FIRST ADDITION
Tim David Ditter &
Catalina Lopez Ditter
Parcel 26

812+88 R
Begin Type 2 Fence

814+46 R
End Type 2 Fence
Begin Type 1 Fence

816+32 R
End Type 1 Fence
Begin Type 1 Fence

822+89 R
End Type 1 Fence

822+96 R
1-40' barbed wire gate

823+15 R
Begin Type 2 Fence

829+47 R
End Type 2 Fence
Begin Type 2 Fence

829+45 R
Remove Sign

Sec 30 - T103N - R57W

Parcel 26
810+51.00 to 814+74.67 R
Temporary Easement containing
0.3 ac, more or less

Parcel 25
814+42.58 to 822+96.30 R
Temporary Easement containing
0.8 ac, more or less

Parcel 27
822+95.80 to 829+42.73 R
Temporary Easement containing
0.3 ac, more or less

Parcel 28
829+38.37 to 855+40.32 L
Temporary Easement containing
1.2 ac, more or less

Parcel 29
829+42.36 to 830+14.00 R
Temporary Easement containing
0.1 ac, more or less

Plot Scale - 1:200
Plotted From - TRPR13522
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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B47	B85

Plotting Date: 12/18/2025 Revised 07/17/25 ZJA

Excavation	11661	Embankment	26387		
Undercut	15188	30.5%	8048	34435	
Option Borrow Exc	27406	Undercut	15188		
Muck	4885	30.5%	4632	19820	
	59140	Waste	4885		
				59140	

Haul	29,300	C Y Sta
Dead Haul	7,871,600	C Y Sta
Option Borrow Haul	1,118,600	C Y Sta

Option Borrow may be obtained from Pit 1

Waste is muck excavation to be disposed of at a site approved by the Engineer

812+66 R
40' Ent

816+24 L
40' Ent

822+95 R
40' Ent

837+86 L
24' Ent

L 1495.00ft
G1 -1.5072%
G2 1.6588%
K 472

FLL 1349.70
FLR 1351.60

1.6588%

RDGPI 812+66
Elev 1352.90

RDG -1.3793%

PVI 816+30
Elev 1364.70

RDG 1.2702%

RDGPI 823+45
Elev 1364.30

0.5800%

PVI 836+30
Elev 1376.30

L 800.00ft
G1 0.5800%
G2 0.3586%
K 3614

L 600.00ft
G1 1.6588%
G2 0.5800%
K 556

RDGPI 813+53
Elev 1351.70

Q100=186.0 cfs
El 1356.85

1355.35 1356.43 1357.73 1359.23 1360.84 1362.28 1363.55 1364.63 1365.53 1366.26 1366.85 1367.43 1368.01 1368.59 1369.17 1369.75 1370.33 1370.91 1371.49 1372.07 1372.65 1373.23 1373.81 1374.38 1374.93 1375.45 1375.94 1376.40 1376.84 1377.24 1377.63

1495 1490 1480 1470 1460 1450 1440 1430 1420 1410 1400 1390 1380 1370 1360 1350 1340 1330 1320 1310

810+00 815+00 820+00 825+00 830+00 835+00 840+00

Plot Scale - 1:200

Plotted From - TRPR13522

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B48	B85

Plotting Date: 12/18/2025 Rev 07/16/2025 ZJA

855+74-59' L
Take Out 18"-39' RCP
(Incidental Work, Grading)

855+74-54' L
Take Out 18"-40' CMP
(Incidental Work, Grading)

855+75-53' L (2 ac)
Install 24"-78' CMP
& 2 Safety Ends

855+75-51' R
Take Out 30"-41' RCP
(Incidental Work, Grading)

855+75-52' R (31 ac)
Install 30"-68' CMP
& 2 Safety Ends

Sec 19 - T103N - R57W

Sec 20 - T103N - R57W

855+43 L
End Type 3 Fence

856+03 L
Begin Type 2 Fence

868+53 L
1-24' barbed
wire gate_

John Pommer
Parcel 28

SE1/4

Linda Pommer Family Trust
Parcel 30

S1/2 SW1/4

843+09-87'
846+61-91'
847+61-83'
850+55-84'
852+58-96'
855+39.87-95.00'
855+40.32-75.00'
855+74.99
Section Line
425th Avenue
856+06.35-92.00'
856+06.66-75.00'
857+43-97'
858+58-85'
867+81-85'
868+31-95'
868+75-95'
869+08-85'
869+87-95'

2-3 PP
2 PP

Present SD Hwy 38

N 88°57'01" E

Section Line

840+00
845+00
850+00
855+00
860+00
865+00
870+00

75'
100'
33'
150'

NE1/4

Velma M. Wagner Revocable Trust
Parcel 29

NW1/4

Kathleen R Aulner
(Life Estate)
Parcel 32

Lot A-1

John A. Pommer & Melissa K. Pommer
Parcel 31

LOT A

R. AULNER FIRST ADDITION

852+64.00-75.00'
852+97-85'
854+50-85'
855+00.00-75.00'
855+43.81-75.00'
856+88.76-88.00'
857+00.60-75.00'
860+00-96'
862+96.57-75.00'
868+12.00-75.00'
868+12-95'
868+97-95'
868+97.00-75.00'

855+47 R
End Type 2 Fence

856+09 R
Begin Type 3 Fence

863+00 R
End Type 3 Fence
Begin Type 4 Fence

868+54 R
1-24' barbed
wire gate_

868+54 R
End Type 4 Fence
Begin Type 2 Fence

PI 855+75.06
N 509950.43
E 2663031.98
Del 0°15'03" L

Sec 30 - T103N - R57W

Sec 29 - T103N - R57W

Parcel 29
852+64.00 to 855+00.00 R
Temporary Easement containing
0.1 ac, more or less

Parcel 30
856+06.26 to 870+85.00 L
Temporary Easement containing
0.4 ac, more or less

Parcel 31
856+87.76 to 862+96.57 R
Temporary Easement containing
0.2 ac, more or less

Parcel 32
868+12.00 to 868+97.00 R
Temporary Easement containing
0.1 ac, more or less

Plot Scale - 1:200

Plotted From - TRPR13522

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B49	B85

Plotting Date: 12/18/2025

Plot Scale - 1:200

855+75 L
28' Int Rd
(425th Ave)
With 50' Radii

855+75 R
28' Int Rd
(425th Ave)
With 50' Radii

868+53 L
24' Ent

868+54 R
24' Ent

L 1040.00ft
G1 0.3586%
G2 0.5761%
K 4783

PVI 847+50
Elev 1376.30

PVI 869+20
Elev 1390.10

0.3586%

RDG 0.2444%

LDG 0.1700%

LDG
1.7333%

RDG 0.9333%

RDGPI 846+50
Elev 1375.90

LDGPI 847+50
Elev 1376.30

LDGPI 857+50
Elev 1378.00

LDGPI 859+00
Elev 1380.60

RDGPI 860+00
Elev 1379.20

RDGPI 864+50
Elev 1383.40

L 800.00ft
G1 0.5800%
G2 0.3586%
K 3614

L 800.00ft
G1 0.5761%
G2 -0.2813%
K 933

1377.63 1377.99 1378.34 1378.70 1379.06 1379.42 1379.78 1380.14 1380.50 1380.85 1381.21 1381.57 1381.93 1382.29 1382.65 1383.01 1383.38 1383.77 1384.19 1384.63 1385.08 1385.56 1386.06 1386.58 1387.12 1387.68 1388.22 1388.66 1388.99 1389.21 1389.33

840+00 845+00 850+00 855+00 860+00 865+00 870+00

1510 1500 1490 1480 1470 1460 1450 1440 1430 1420 1410 1400 1390 1380 1370 1360 1350 1340 1330

Plotted From - TRPR13522

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B50	B85

Plotting Date: 12/18/2025 Rev 10/20/2025 ZJA

881+97
Take Out Twin 24"-67' RCP
(Incidental Work, Grading)

881+97 (46 ac)
Install Twin 30"-84' RCP Arch
(Spaced 24' C to C)
& 4 Sloped Ends

891+32-40' L
Take Out 12"-42' RCP
(Incidental Work, Grading)

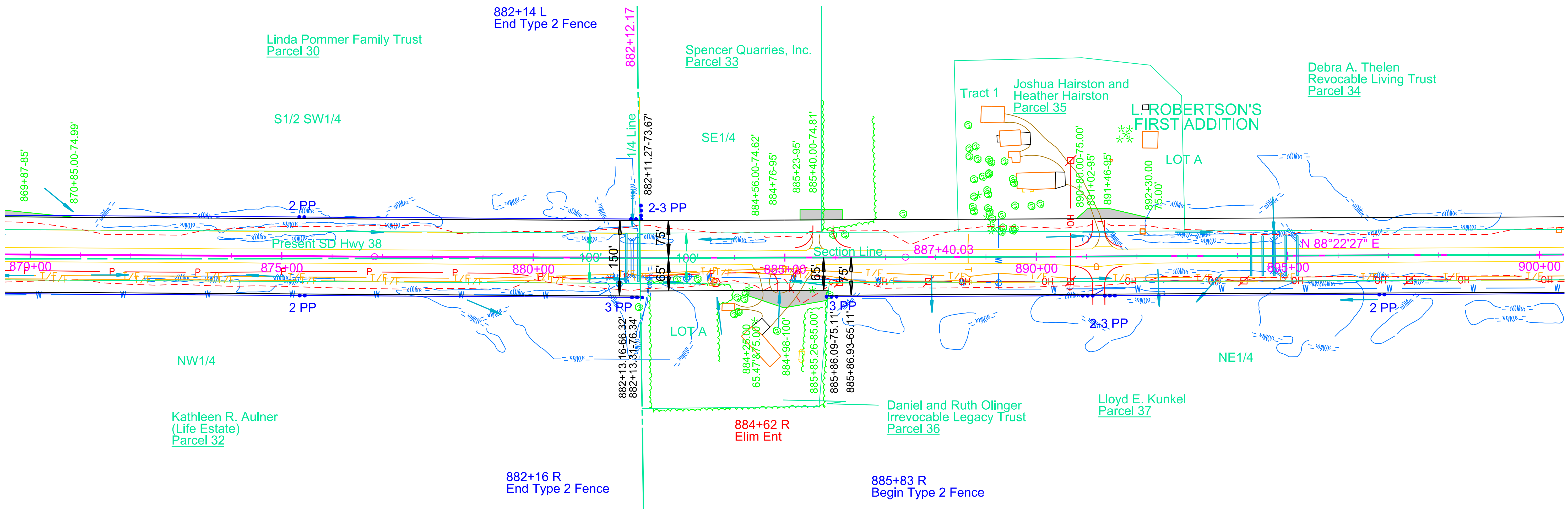
891+24-48' L (6 ac)
Install 24"-56' CMP
& 2 Safety Ends

894+73
Take Out Twin 30"-61' RCP
(Incidental Work, Grading)

894+73 (536 ac)
Install Five 30"-64' RCP
(Spaced 23' C to C)
& 10 Sloped Ends

Refurbish mailboxes
at the following location:
891+19 R (single)

Sec 20 - T103N - R57W



PI 882+12.20
N 509998.74
E 2665668.67
Del 0°34'34" L
Dc 0°03'16"
T 527.84'
L 1055.68'
R 105000.00'

Sec 29 - T103N - R57W

Parcel 36
884+25.00 to 885+86.93 R
Temporary Easement containing
0.1 ac, more or less

Parcel 33
884+56.00 to 885+40.00 L
Temporary Easement containing
0.1 ac, more or less

Parcel 35
890+80.00 to 892+30.00 L
Temporary Easement containing
0.1 ac, more or less

Plot Scale - 1:200

Plotted From - TRPR13522

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B51	B85

Plotting Date: 12/18/2025 Revised 08/06/2025 ZJA

Plot Scale - 1:200

Excavation	3492	Embankment	18498	
Undercut	15259	29.1%	5383	23881
Option Borrow Exc	24829	Undercut	15259	
Muck	1265	29.1%	4440	19699
	44845	Waste		1265
				44845

Haul	100	C Y Sta
Dead Haul	5,815,500	C Y Sta
Option Borrow Haul	708,000	C Y Sta

Option Borrow may be obtained from Pit 1

Waste is muck excavation to be disposed of at a site approved by the Engineer

884+98 R
24' Ent

885+76 L
40' Ent

891+24 L
24' Ent

891+19 R
24' Ent

L 800.00ft
G1 -0.2813%
G2 0.1283%
K 1953

FLL 1383.50
FLR 1382.90

FLL 1383.30
FLR 1383.10

-0.2813%

0.1283%

RDG -0.7614%

LDG 0.4167%

LDG -0.2635%

LDG -0.1153%

RDG 0.6931%

LDGPI 885+33
Elev 1385.00

LDGPI 892+16
Elev 1383.10

L 800.00ft
G1 0.5761%
G2 -0.2813%
K 933

LDGPI 878+50
Elev 1383.90

RDGPI 880+00
Elev 1384.40

LDGPI 881+97
Elev 1383.50

RDGPI 881+97
Elev 1382.90

RDGPI 885+00
Elev 1385.00

Q66=209.2 cfs
El 1388.30

Q100=34.3 cfs
El 1385.50

1389.33 1389.33 1389.24 1389.03 1388.75 1388.47 1388.19 1387.91 1387.63 1387.37 1387.16 1387.01 1386.91 1386.86 1386.86 1386.91 1387.01 1387.14 1387.27 1387.40 1387.53 1387.65 1387.78 1387.91 1388.04 1388.17 1388.30 1388.42 1388.55 1388.68 1388.81

870+00 875+00 880+00 885+00 890+00 895+00 900+00

1520 1510 1500 1490 1480 1470 1460 1450 1440 1430 1420 1410 1400 1390 1380 1370 1360 1350 1340

Plotted From - TRPR13522

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B52	B85

Plotting Date: 03/12/2026 Revised 03/12/2026 ZJA

915+83 R
Dispose of Water Tank
(Incidental Work, Grading)

916+99-33' L
Take Out 15"-62' RCP
(Incidental Work, Grading)

916+97-48' L (50 ac)
Install Twin 30"-58' CMP
with Controlled Density Fill
(Spaced 4.0' C to C)
& 4 Safety Ends

916+97-49' R (1 ac)
Install 18"-64' CMP
& 2 Safety Ends

927+97-41' R
Take Out 15"-42' RCP
(Incidental Work, Grading)

927+96-51' R (1 ac)
Install 18"-72' CMP
& 2 Safety Ends

916+00
Install 4"-86' PVC Encasement Pipe
(Schedule 80 PVC)

Refurbish mailboxes
at the following location:
917+24 R (single)

Sec 20 - T103N - R57W

Sec 21 - T103N - R57W

L. ROBERTSON'S FIRST ADDITION

Debra A. Thelen
Revocable Living Trust
Parcel 34

LOT A

900+65.00-75.00'
901+36-80'
907+76.68-181.70'
907+77.42-242.63'
908+21.84-181.10' & 243.00'
907+91.36-74.36'
908+04.84-90'
Section Line 908+72.03
426th Avenue
33'
910+87.67-68.89'

Do not disturb loop
driveway feedbunks
916+03-115' L to
916+06-208' L

915+83.00-67.37'
916+85.00-85.00'
917+24.00-66.85' & 85.00'
920+22.81-65.74'
920+22.84-75.74'

David A. Ditter Family Trust and Sharon I. Ditter Revocable Trust
Parcel 38

SW1/4

903+37.78
Section Line
Present SD Hwy 38
N 87°59'30" E
75'
70'
80'
100'

900+00 905+00 910+00 915+00 920+00 925+00 930+00

2-3 PP

907+91.11-75.64'
33'
426th Avenue
909+57.91-70.95'
909+05.48-198.30' & 909+05.58-242.30'
909+67.00-198.12' & 242.12'

NE1/4

Lloyd E. Kunkel
Parcel 37

907+90 R
End Type 2 Fence

PI 908+72.04
N 510074.20
E 2668327.45
Del 0°22'57" L
Dc 0°02'09"
T 534.26'
L 1068.52'
R 160000.00'

916+52.00-72.89'
916+75-95'
917+19-95'
917+79.00-73.36'

NW1/4

927+20.00-76.84'
927+74-95'
928+18-95'
930+11.00-77.91'

David A. Ditter Family Trust and Sharon I. Ditter Revocable Trust
Parcel 39

Sec 29 - T103N - R57W

Sec 28 - T103N - R57W

909+42.87-86.00'
909+81.00-70.97'

Parcel 39
909+05.48 to 909+67.00 R
Temporary Easement containing
0.1 ac, more or less

Parcel 34
907+76.68 to 908+21.84 L
Temporary Easement containing
0.1 ac, more or less

Parcel 34
900+65.00 to 908+04.84 L
Temporary Easement containing
0.2 ac, more or less

Parcel 39
909+42.87 to 909+81.00 R
Temporary Easement containing
0.1 ac, more or less

Parcel 39
916+52.00 to 917+79.00 R
Temporary Easement containing
0.1 ac, more or less

Parcel 39
927+20.00 to 930+11.00 R
Temporary Easement containing
0.1 ac, more or less

Parcel 38
915+83.00 to 917+24.00 L
Temporary Easement containing
0.1 ac, more or less

Plot Scale - 1:200
Plotted From - TRPR13522
File - U:\rdpr\hans05FA0900.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B53	B85

Plotting Date: 03/12/2026 Rev 03/12/2026 ZJA

908+71-210' L & BK
40' Ent

908+72 L
28' Int Rd
(426th Ave)
With 50' Radii

908+72 R
28' Int Rd
(426th Ave)
With 50' Radii

908+75-220' R & Ah
24' Ent

916+97 R
32' Ent

916+97 L
32' Ent

927+96 R
32' Ent

PVI 912+40
Elev 1390.40

0.1283%

-0.1827%

LDG -0.0909%

LDGPI 909+20
Elev 1385.90

L 800.00ft
G1 0.1283%
G2 -0.1827%
K 2572

LDGPI 921+30
Elev 1384.80

L 800.00ft
G1 -0.1827%
G2 1.1675%
K 593

RDG -0.2000%

RDGPI 927+00
Elev 1382.70

1388.81 1388.94 1389.07 1389.19 1389.32 1389.45 1389.58 1389.71 1389.84 1389.96 1390.04 1390.09 1390.10 1390.07 1390.00 1389.89 1389.74 1389.56 1389.38 1389.19 1389.01 1388.83 1388.65 1388.46 1388.28 1388.10 1387.92 1387.73 1387.55 1387.37 1387.24

900+00 905+00 910+00 915+00 920+00 925+00 930+00

1340 1350 1360 1370 1380 1390 1400 1410 1420 1430 1440 1450 1460 1470 1480 1490 1500 1510 1520

Plot Scale - 1:200

Plotted From - TRPR13522

File - U:\rdprj\hans\05FA0900v.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B54	B85

Plotting Date: 03/12/2026 Rev 03/12/2026 ZJA

932+30
Take Out 32"-63' CMP
(Incidental Work, Grading)

932+30 (198 ac)
Install Twin 36"-84' RCP
(Spaced 24' C to C)
& 4 Flared Ends

941+55-40' R
Take Out 15"-44' RCP
(Incidental Work, Grading)

941+50-49' R (1 ac)
Install 18"-78' CMP
& 2 Safety Ends

948+09-42' R
Take Out 18"-72' CMP
(Incidental Work, Grading)

948+07-49' R (1 ac)
Install 18"-78' CMP
& 2 Safety Ends

959+20-56' L
Take Out 24"-68' RCP
(Incidental Work, Grading)

959+18-58' L (16 ac)
Install 30"-84' CMP Arch
& 2 Safety Ends

Refurbish mailboxes
at the following location:
941+21 R (single)

PI 941+31.59
N 510188.43
E 2671585.01
Del 0°33'22" R
Dc 0°03'08"
T 533.78'
L 1067.55'
R 110000.00'

Sec 21 - T103N - R57W

David A. Ditter Family Trust and
Sharon I. Ditter Revocable Trust
Parcel 38

SW1/4

935+05.82

1/4 Line

936+93.00-69.60'

937+77-83'

941+73-95'

Priscilla A. Hofer Trust
Parcel 40

944+94 L
Elim Ent

SE1/4

951+89.75-74.27'

952+07.72-83.00'

952+41.39

Michael David Wise
(INFORMATION ONLY)

P. HOFER
TRACT 1

Present SD Hwy 38

Section Line

N 88°32'52" E

930+00 935+00 940+00 945+00 950+00 955+00 960+00

80' 70' 70' 60' 80' 70' 80' 70'

100' 100' 200' 200'

NW1/4

Do not disturb trees:
940+65-77' R
941+12-93' R
941+15-93' R

947+00.00-78.67'

947+67-95'

LOT A

2-2 PP
3 PP

952+94.07-75.11'

953+32.72-95.00'

2-2 PP
2-3 PP

David A. Ditter Family Trust and
Sharon I. Ditter Revocable Trust
Parcel 39

Jerry Wollman & Sarah Wollman
Parcel 41

R.M. RANG'S FIRST ADDITION

940+06.07-80.85'

940+06.07-70.85'

942+11.20-70.66'

942+11.22-80.66'

NE1/4

953+10 R
Begin Type 2 Fence

960+44 R
End Type 2 Fence

Sec 28 - T103N - R57W

Parcel 41
940+06.07 to 942+11.22 R
Temporary Easement containing
0.1 ac, more or less

Parcel 41
947+00.00 to 953+32.72 R
Temporary Easement containing
0.2 ac, more or less

Parcel 40
936+93.00 to 952+07.72 L
Temporary Easement containing
0.6 ac, more or less

Plot Scale - 1:200

Plotted From - TRPR13522

File - U:\rdp\hans05FA\0930.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B55	B85

Plotting Date: 12/18/2025 Revised 07/17/2025 ZJA

Plot Scale - 1:200

Excavation	3531	Embankment	15804		
Undercut	18800	29.8%	4709	20513	
Option Borrow Exc	22584	Undercut	18800		
Muck	4470	29.8%	5602	24402	
	49385	Waste	4470		
			49385		

Haul 1000 C Y Sta
Dead Haul 4,092,700 C Y Sta
Option Borrow Haul 758,800 C Y Sta

Option Borrow may be obtained from Pit 1

Waste is muck excavation to be disposed of at a site approved by the Engineer

941+50 R
40' Ent

941+50 L
40' Ent

948+07 R
40' Ent

959+18 L
40' Ent

L 800.00ft
G1 -0.1827%
G2 1.1675%
K 593

PVI 943+05
Elev 1398.10

FLL 1382.20
FLR 1381.90

PVI 933+20
Elev 1386.60

1.1675%

-0.4383%

LDG -0.5441%

L 800.00ft
G1 1.1675%
G2 -0.4383%
K 498

LDGPI 950+20
Elev 1390.90

RDG -0.2000%

Q85=121.8 cfs
El 1387.70

RDGPI 931+00
Elev 1381.90

1387.24 1387.28 1387.48 1387.86 1388.40 1389.11 1389.99 1391.04 1392.20 1393.37 1394.45 1395.32 1396.00 1396.48 1396.75 1396.82 1396.70 1396.37 1395.93 1395.49 1395.05 1394.62 1394.18 1393.74 1393.30 1392.86 1392.42 1391.99 1391.55 1391.11 1390.67

930+00 935+00 940+00 945+00 950+00 955+00 960+00

1520 1510 1500 1490 1480 1470 1460 1450 1440 1430 1420 1410 1400 1390 1380 1370 1360 1350 1340

Plotted From - TRPR13522

File - U:\rdprj\hans\05FA0930v.dgn

961+37-61' L
Take Out 24"-106' RCP
(Incidental Work, Grading)

961+48-58' L (20 ac)
Install 30"-90' CMP
& 2 Safety Ends

963+80
Take Out 24"-96' RCP
(Incidental Work, Grading)

963+80 (26 ac)
Install Twin 30"-82' RCP
(Spaced 23' C to C)
& 4 Sloped Ends

973+94
Take Out 24"-67' RCP
(Incidental Work, Grading)

973+94 (64 ac)
Install Triple 24"-68' RCP
(Spaced 23' C to C)
& 6 Sloped Ends

975+79-40' R
Take Out 15"-43' RCP
(Incidental Work, Grading)

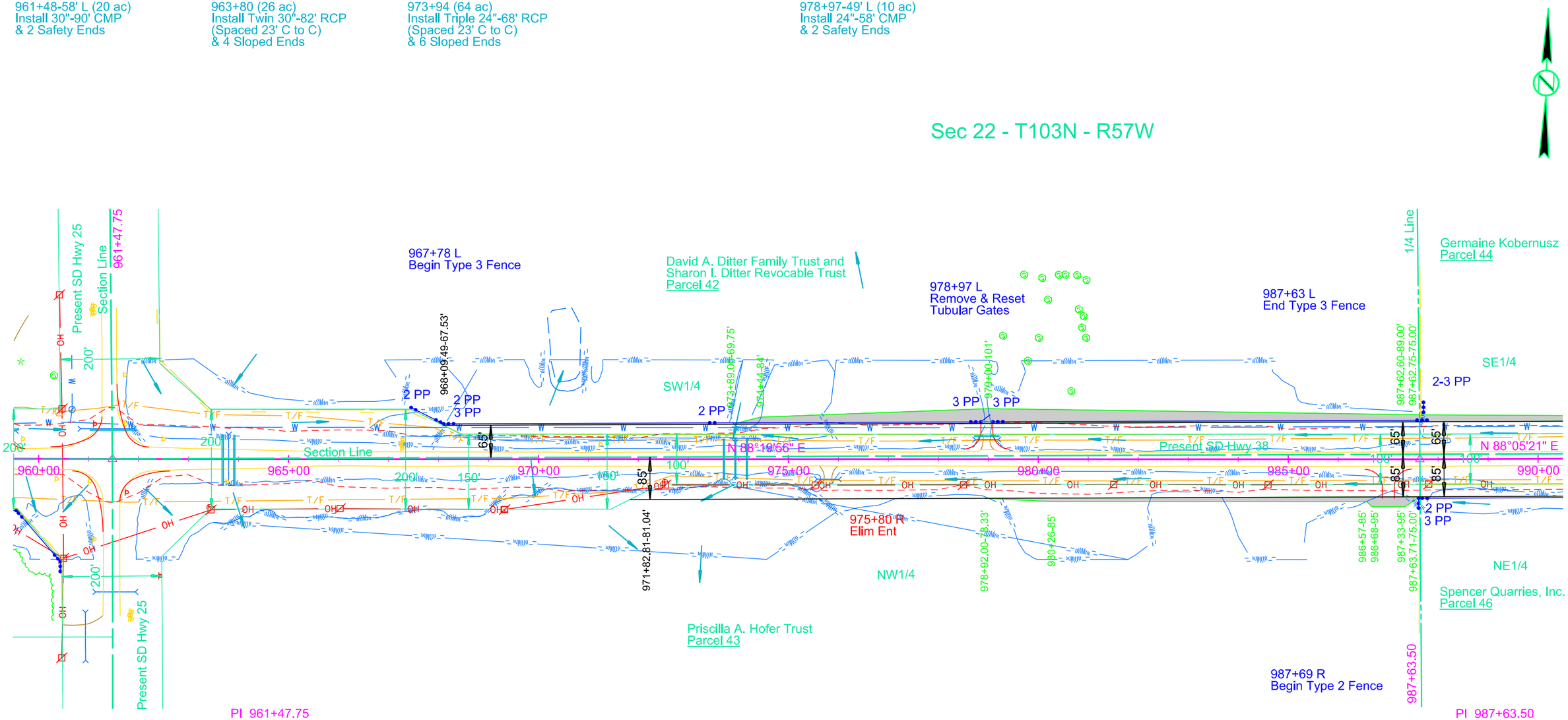
978+97-39' L
Take Out 15"-46' RCP
(Incidental Work, Grading)

978+97-49' L (10 ac)
Install 24"-58' CMP
& 2 Safety Ends

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B56	B85

Plotting Date: 03/12/2026 Rev 03/12/2026 ZJA

Plot Scale - 1:200



Parcel 42
973+89.00 to 987+62.75 L
Temporary Easement containing
0.7 ac, more or less

Parcel 43
978+92.00 to 987+63.71 R
Temporary Easement containing
0.2 ac, more or less

Parcel 44
987+62.60 to 998+53.00 L
Temporary Easement containing
0.3 ac, more or less

Plotted From - TRPR13522

File - U:\rlp\rhans05FA\0960.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B57	B85

Plotting Date: 02/04/2026 Rev 02/04/2026

Plot Scale - 1:200

964+91 L
Ditch Block
Elev 1385.7

961+48 L
28' Int Rd
(427th Ave (AKA SD25))
(See Intersection Layout)

961+48 R
28' Int Rd
(427th Ave (AKA SD25))
(See Intersection Layout)

978+97 L
24' Ent

987+00 R
24' Ent

L 2400.00ft
G1 -0.4383%
G2 0.4410%
K 2729

-0.4383%

FLL 1383.50
FLR 1383.00

FLL 1381.90
FLR 1381.70

PVI 977+50
Elev 1383.00

0.4410%

LDG -0.5441%

LDG 0.4505%

LDGPI 963+80
Elev 1383.50

LDGPI 964+91
Elev 1384.00

Q29=36.2 cfs
EI 1385.70

CP 3
960+25-170' R
5/8" Rebar & cap stamed
"SDDOT CONTROL POINT"
1384.60

RDGPI 970+50
Elev 1382.00

RDG -0.0872%

LDG
-0.5556%

LDGPI 973+40
Elev 1382.20

LDGPI 973+94
Elev 1381.90

RDGPI 973+94
Elev 1381.70

LDG 0.0189%
RDG 0.0199%

RDGPI 984+00
Elev 1381.90

LDGPI 984+50
Elev 1382.10

1520 1510 1500 1490 1480 1470 1460 1450 1440 1430 1420 1410 1400 1390 1380 1370 1360 1350 1340

1390.67 1390.23 1389.79 1389.36 1388.92 1388.48 1388.05 1387.64 1387.28 1386.95 1386.66 1386.40 1386.18 1386.00 1385.86 1385.75 1385.68 1385.64 1385.64 1385.68 1385.76 1385.87 1386.01 1386.20 1386.42 1386.68 1386.97 1387.30 1387.67 1388.08 1388.51

960+00 965+00 970+00 975+00 980+00 985+00 990+00

Plotted From - TPPR13522

File - U:\rdp\hans\65FA\0960v.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B58	B85

Plotting Date: 12/18/2025 Rev 09/17/2025 ZJA

997+53
Take Out 30"-83' RCP
(Incidental Work, Grading)

997+53 (51 ac)
Install Twin 30"-92' RCP Arch
with Controlled Density Fill
(Spaced 4.6' C to C)
& 4 Sloped Ends

1013+82-61' L
Take Out 16"-39' RCP
(Incidental Work, Grading)

1013+82-59' R
Take Out 16"-41' RCP
(Incidental Work, Grading)

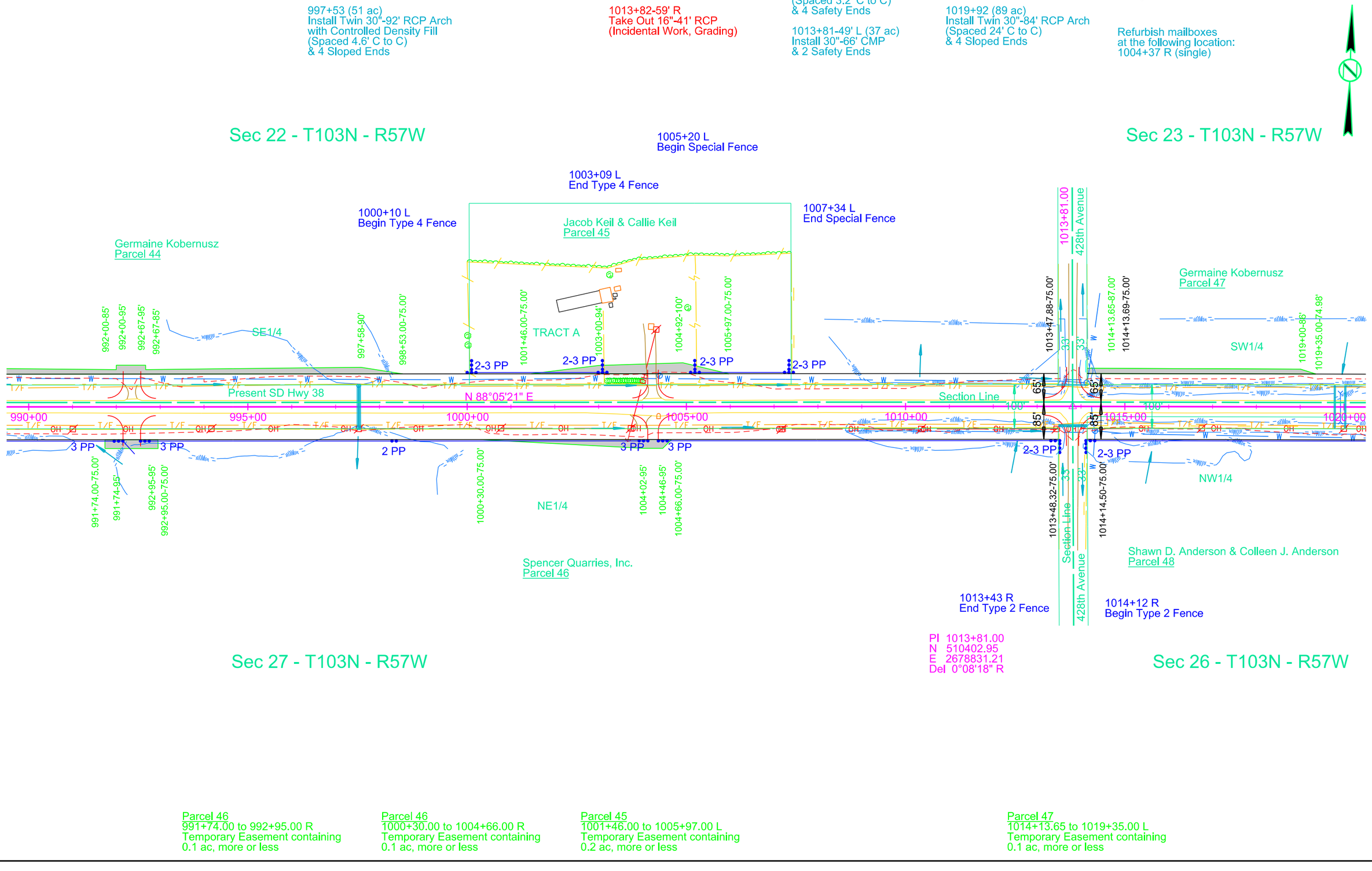
1013+81-44' R (15 ac)
Install Twin 24"-64' CMP
with Controlled Density Fill
(Spaced 3.2' C to C)
& 4 Safety Ends

1013+81-49' L (37 ac)
Install 30"-66' CMP
& 2 Safety Ends

1019+92
Take Out 24"-65' RCP
(Incidental Work, Grading)

1019+92 (89 ac)
Install Twin 30"-84' RCP Arch
(Spaced 24' C to C)
& 4 Sloped Ends

Refurbish mailboxes
at the following location:
1004+37 R (single)



Parcel 46
991+74.00 to 992+95.00 R
Temporary Easement containing
0.1 ac, more or less

Parcel 46
1000+30.00 to 1004+66.00 R
Temporary Easement containing
0.1 ac, more or less

Parcel 45
1001+46.00 to 1005+97.00 L
Temporary Easement containing
0.2 ac, more or less

Parcel 47
1014+13.65 to 1019+35.00 L
Temporary Easement containing
0.1 ac, more or less

Plot Scale - 1:200
Plotted From - TRPR13522
File - U:\rdp\rjhans\05FA\0990.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B59	B85

Plotting Date: 02/04/2026 Revised 02/04/26 ZJA

Excavation	2583	Embankment	16234		
Undercut	17284	26.9%	4773	21007	
Option Borrow Exc	23505	Undercut	17284		
Muck	4506	29.4%	5081	22365	
	47878	Waste		4506	
				47878	

Haul	400	C Y Sta
Dead Haul	3,037,400	C Y Sta
Option Borrow Haul	659,100	C Y Sta

Option Borrow may be obtained from Pit 1

Waste is muck excavation to be disposed of at a site approved by the Engineer

992+35 L
40' Ent

992+35 R
40' Ent

1004+24 L
24' Ent

1004+24 R
24' Ent

1013+81 L
28' Int Rd
(428th Ave)
With 50' Radii

1013+81 R
28' Int Rd
(428th Ave)
With 50' Radii

FLL 1384.10
FLR 1383.80

0.4410%

LDGPI 992+35
Elev 1388.10

LDG -0.7722%

LDG 2.3711%

LDGPI 997+53
Elev 1384.10

Q100=37.1 cfs
El 1386.15

LDGPI 998+50
Elev 1386.40

PVI 1003+35
Elev 1394.40

L 800.00ft
G1 0.4410%
G2 -0.4670%
K 881

RDGPI 1004+24
Elev 1390.00

RDG -0.6522%

RDGPI 1007+00
Elev 1388.20

-0.4670%

RDGPI 1009+50
Elev 1386.90

L 800.00ft
G1 -0.4670%
G2 0.2252%
K 1156

PVI 1014+70
Elev 1389.10

RDG -0.0762%

FLL 1386.30
FLR 1386.10

0.2252%

LDG -0.1923%

LDGPI 1019+40
Elev 1386.40

LDGPI 1019+92
Elev 1386.30

RDGPI 1020+00
Elev 1386.10

Q9=58.4 cfs
El 1389.60

1388.51 1388.95 1389.39 1389.84 1390.28 1390.72 1391.16 1391.60 1392.04 1392.48 1392.90 1393.21 1393.41 1393.49 1393.46 1393.32 1393.06 1392.69 1392.23 1391.76 1391.29 1390.83 1390.43 1390.12 1389.90 1389.76 1389.71 1389.74 1389.86 1390.07 1390.29

990+00 995+00 1000+00 1005+00 1010+00 1015+00 1020+00

1340 1350 1360 1370 1380 1390 1400 1410 1420 1430 1440 1450 1460 1470 1480 1490 1500 1510 1520

Plot Scale - 1:200

Plotted From - TRPR13522

File - U:\rdprj\hans\05FA0990v.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B60	B85

Plotting Date: 02/02/2026 Rev 01/23/2026 ZJA

1027+74-40' L
Take Out 16"-41' RCP
(Incidental Work, Grading)

1027+76-50' L (1 ac)
Install 18"-78' CMP
& 2 Safety Ends

1038+68-39' L
Take Out 16"-43' RCP
(Incidental Work, Grading)

1040+22-57' L (1 ac)
Install 18"-94' CMP
& 2 Safety Ends

1040+10-41' R
Take Out 16"-62' RCP
(Incidental Work, Grading)

1040+22-52' R (2 ac)
Install 18"-84' CMP
& 2 Safety Ends

1046+90
Take Out 36"-68' RCP
(Incidental Work, Grading)

1046+90 (174 ac)
Install Twin 42"-84' RCP Arch
with Controlled Density Fill
(Spaced 7.3' C to C)
& 4 Flared Ends

Sec 23 - T103N - R57W

Germaine Kobernusz
Parcel 47

1027+05.00-74.96'
1027+46-103'
1028+06-103'
1028+48.00-74.96'
1032+00.00-74.95'
SW1/4
1040+21.63
1040+21.63-73.87'
1/4 Line
1040+21.64-104.00'
Noah Brinkman
Parcel 49
1038+68 L
Elim Ent
3 PP
W.F.B. FIRST ADDITION
LOT 1B
LOT 1A
1047+64-94'
SE1/4
1049+54.00-75.28'

N 88°13'39" E
Present SD Hwy 38
65'
100'
Section Line
1020+00
1025+00
1030+00
1035+00
1040+00
1045+00
1050+00
2 PP
2-3 PP
2 PP
3 PP
2 PP
NW1/4
NE1/4

1039+17.00-75.75'
1039+92-95'
1040+21.83-76.13'
1040+21.98-95.18'
1047+03-96'
1047+12.00-74.98'
1049+55.00-74.72'

Shawn D. Anderson and Colleen J. Anderson
Joint Revocable Living Trust
Parcel 48

Calvin and Glorious Heitzman Living Trust
Parcel 51

1040+25 R
End Type 2 Fence
Begin Type 2 Fence

PI 1040+21.64
N 510484.63
E 2681470.58
Del 0°27'06" L
Dc 0°02'33"
T 531.98'
L 1063.95'
R 135000.00'

Sec 26 - T103N - R57W

Parcel 47
1027+05.00 to 1028+31.00 L
Temporary Easement containing
0.1 ac, more or less

Parcel 47
1032+00.00 to 1040+21.64 L
Temporary Easement containing
0.3 ac, more or less

Parcel 48
1039+17.00 to 1040+21.98 R
Temporary Easement containing
0.1 ac, more or less

Parcel 49
1040+21.63 to 1049+54.00 L
Temporary Easement containing
0.5 ac, more or less

Parcel 51
1040+21.83 to 1047+12.00 R
Temporary Easement containing
0.3 ac, more or less

Plot Scale - 1:200
Plotted From - TRPR13522
File - U:\trdp\hans05FA\1020.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B61	B85

Plotting Date: 01/30/2026 Rev 01/23/2026 ZJA

Excavation	6266	Embankment	19619		
Undercut	15657	29.2%	5277	15657	24896
Option Borrow Exc	22842	Undercut	15657		
Muck	1820	29.2%	4572	19869	
	46585	Waste		1820	
				46585	
Haul	2,300	C Y Sta			
Dead Haul	1,749,700	C Y Sta			
Option Borrow Haul	706,300	C Y Sta			

Option Borrow may be obtained from Pit 1

Waste is muck excavation to be disposed of at a site approved by the Engineer

1027+76 L
40' Ent

1040+22 L
40' Ent

1040+22 R
40' Ent

FLL 1386.30
FLR 1386.10

0.2252%

LDG 0.1316%

RDGPI 1020+00
Elev 1386.10

LDGPI 1026+00
Elev 1387.10

LDGPI 1026+74
Elev 1387.00

LDG 0.1500%

LDGPI 1028+74
Elev 1387.30

PVI 1029+80
Elev 1392.50

L 800.00ft
G1 0.2252%
G2 -0.3475%
K 1397

LDGPI 1031+20
Elev 1387.60

LDG -0.5669%

RDGPI 1039+00
Elev 1384.50

-0.3475%

RDG -0.8228%

FLL 1378.60
FLR 1378.10

LDG 0.7801%

LDGPI 1046+90
Elev 1378.70

RDGPI 1046+90
Elev 1378.00

Q100=124.0 cfs
EI 1382.66

1390.29 1390.52 1390.74 1390.97 1391.19 1391.42 1391.64 1391.82 1391.92 1391.95 1391.91 1391.80 1391.62 1391.37 1391.04 1390.69 1390.35 1390.00 1389.65 1389.30 1388.96 1388.61 1388.26 1387.91 1387.57 1387.22 1386.87 1386.52 1386.18 1385.83 1385.48

1020+00 1025+00 1030+00 1035+00 1040+00 1045+00 1050+00

1520 1510 1500 1490 1480 1470 1460 1450 1440 1430 1420 1410 1400 1390 1380 1370 1360 1350 1340

Plot Scale - 1:200

Plotted From - TRPP13522

File - U:\rdprj\hans\05FA1\1020v.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B62	B85

Plotting Date: 01/30/2026 Rev 01/23/2026 ZJA

1051+12-40' L
Take Out 15"-49' RCP
(Incidental Work, Grading)

1057+74-47' L (3 ac)
Install 24"-54' CMP
& 2 Safety Ends

1063+91
Take Out 18"-60' RCP
(Incidental Work, Grading)

1063+91 (16 ac)
Install 36"-84' RCP Arch
& 2 Flared Ends

1066+63-549' R
Install 18"-34' CMP
& 2 Safety Ends

Refurbish mailboxes
at the following location:
1051+06 L (single)

Remove trees:
1050+90-70' L
1051+49-72' L
1051+66-73' L
1052+04-75' L
1052+27-73' L
1052+91-75' L

Do not disturb trees:
1052+07-78' L
1052+47-75' L

Sec 23 - T103N - R57W

Sec 24 - T103N - R57W

1050+85 L
End Type 2 Fence

Noah Brinkman
Parcel 49

W.F.B. FIRST ADDITION

LOT 1A

1050+52.00-75.31'

1050+81-95'

1053+14.90-75.41'

1053+14.94-85.00'

1053+23 L
Elim Ent

Kathryn Hofer Revocable Living Trust
Parcel 50

1057+33-84'

1057+44-95'

1058+04-95'

1058+47.00-75.61'

SE1/4

1063+79.00-76.04'

1063+86-102'

1066+29.35-76.79'

1066+62.14

Section Line

1066+29.41-95.00'

33'

50'

429th Avenue

1067+09 L
Begin Type 2 Fence

Do Not Disturb
Power Pole, Anchor Guys,
Communications Shack and
Tower, and Fence

R & L Work Limits and TE's
Might Change Due to Sp Ditch R
and L and End Condition Exceptions

Laurie Mae Rosendahl
Parcel 52

1067+12.27-65.64'

1067+12.32-85.00'

2-3 PP

2 PP

SW1/4

1076+68-88'

1078+76-98'

1079+54-88'

N 87°46'33" E

Present SD Hwy 38

N 88°12'05" E

Section Line

1050+00

1055+00

1060+00

1065+00

1070+00

1075+00

1080+00

100'

85'

150'

2 PP

2 PP

3 PP

3 PP

2 PP

1049+55.00-74.72'

1050+72-85'

NE1/4

1060+34-84'

1061+20.00-74.28'

1063+89.00-73.94'

1066+29.15-92.00'

1066+29.15-73.21'

33'

33'

1066+95.19-84.28'

1066+63 Rt 75' & Ah 12'
Elim Ent

W1/2 NW1/4

Calvin and Glorious Heitzman Living Trust
Parcel 51

1066+63 Rt 82' & Bk 10'
Elim Ent

Calvin and Glorious Heitzman Living Trust
Parcel 53

1066+32 R
End Type 2 Fence

429th Avenue

1066+92 R
Begin Type 2 Fence

1079+79 R
End Type 2 Fence
Begin Type 2 Fence

1079+78.06

1/16 Line

PI 1066+62.14
N 510587.10
E 2684109.11
Del 0°25'32" R
Dc 0°02'22"
T 538.35'
L 1076.70'
R 145000.00'

Sec 26 - T103N - R57W

Sec 25 - T103N - R57W

Parcel 49
1050+52.00 to 1053+14.94 L
Temporary Easement containing
0.1 ac, more or less

Parcel 50
1053+14.90 to 1058+47.00 L
Temporary Easement containing
0.1 ac, more or less

Parcel 50
1063+79.00 to 1066+29.41 L
Temporary Easement containing
0.1 ac, more or less

Parcel 51
1049+55.00 to 1061+20.00 R
Temporary Easement containing
0.2 ac, more or less

Parcel 51
1063+89.00 to 1066+29.15 R
Temporary Easement containing
0.1 ac, more or less

Parcel 52
1067+12.27 to 1082+45.00 L
Temporary Easement containing
0.7 ac, more or less

Plot Scale - 1:200

Plotted From - TRPR13522

File - U:\rdp\hans05FA\1050.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B63	B85

Plotting Date: 01/30/2026 Rev 01/29/2026 ZJA

Plot Scale - 1:200

Excavation	476	Embankment	2108	
Undercut	5075	33.2%	582	2690
Option Borrow Exc	3615	Undercut	5075	
	9166	33.2%	1401	6476
				9166

Haul	0	C Y Sta
Dead Haul	276,900	C Y Sta
Option Borrow Haul	23,300	C Y Sta

Option Borrow may be obtained from Pit 1

Waste is muck excavation to be disposed of at a site approved by the Engineer

1051+13 L
24' Ent

1057+74 L
40' Ent

1066+62 L
28' Int Rd
(429th Ave)
With 50' Radii

1066+62 R
28' Int Rd
(429th Ave)
With 50' Radii

1066+63-549' R & Ah
30' Ent

Special Ditch Rt 1067+00 to 1079+50 R
Special Ditch Lt 1068+00 to 1079+50 L

-0.3475%

LDGPI 1051+13
Elev 1382.00

LDG 0.7801%

LDG -0.6103%

PVI 1055+70
Elev 1383.50

L 600.00ft
G1 -0.7000%
G2 -0.2625%
K 1371

PVI 1061+70
Elev 1379.30

PVI 1063+91
Elev 1374.20

FLL 1374.20
FLR 1374.30

LDG 0.3828%

PVI 1066+00
Elev 1375.00

-0.2625%

LDG -0.2957%

PVI 1079+50
Elev 1370.30

L 600.00ft
G1 -0.3475%
G2 -0.7000%
K 1702

LDGPI 1063+91
Elev 1374.20

Q100=27.1 cfs
El 1376.83

LDGPI 1066+00
Elev 1375.00

LDGPI 1068+00
Elev 1373.70

L 800.00ft
G1 -0.2625%
G2 -0.9141%
K 1228

LDGPI 1077+70
Elev 1375.10

1385.48 1385.13 1384.79 1384.44 1384.04 1383.59 1383.08 1382.51 1381.88 1381.19 1380.55 1379.98 1379.49 1379.06 1378.71 1378.43 1378.17 1377.91 1377.65 1377.38 1377.12 1376.86 1376.60 1376.33 1376.07 1375.74 1375.33 1374.84 1374.27 1373.61 1372.88

1050+00 1055+00 1060+00 1065+00 1070+00 1075+00 1080+00

1510 1500 1490 1480 1470 1460 1450 1440 1430 1420 1410 1400 1390 1380 1370 1360 1350 1340 1330

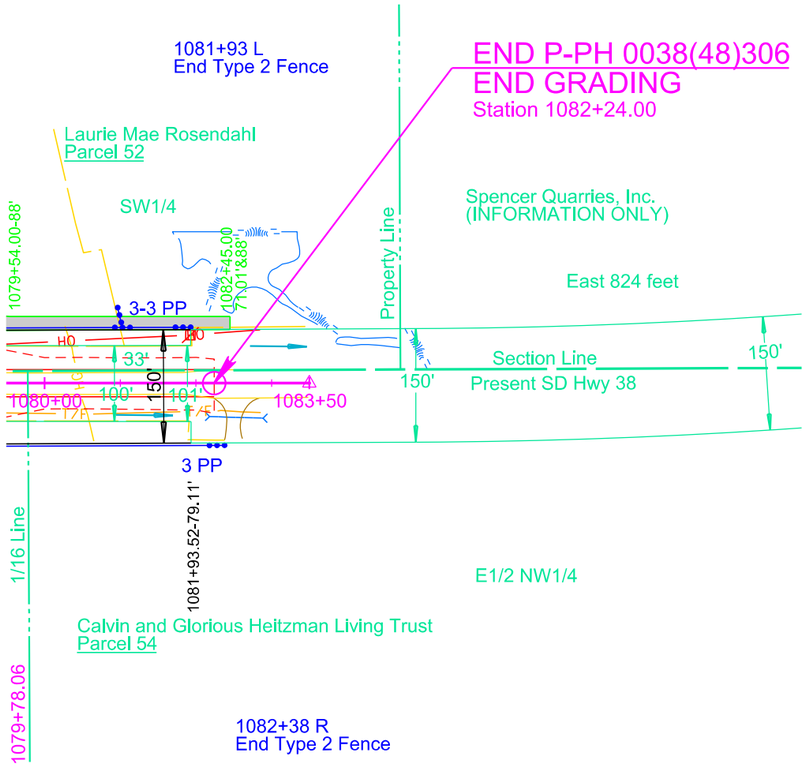
Plotted From - TRPR13522

File - U:\rdprj\hans\05FA1\1050v.dgn

1082+52-45' R
Retain 18"-71' CMP

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B64	B85

Plotting Date: 01/30/2026 Rev 01/29/2026 ZJA



Plot Scale - 1:200
Plotted From - TRPR13522
File - U:\rdp\hans05FA\1080.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B65	B85

Plotting Date: 02/04/2026 Rev 02/04/2026 ZJA

1500
1490
1480
1470
1460
1450
1440
1430
1420
1410
1400
1390
1380
1370
1360
1350
1340
1330
1320

1082+24.00
End Grading

PVI 1082+24
Elev 1370.95
-0.9141%

L 800.00ft
G1 -0.2625%
G2 -0.9141%
K 1228

CP 4
1082+37-73' R
5/8" Rebar & cap stamped
"SDDOT CONTROL POINT"
1369.54

1372.88
1372.06
1371.17

1080+00
1085+00

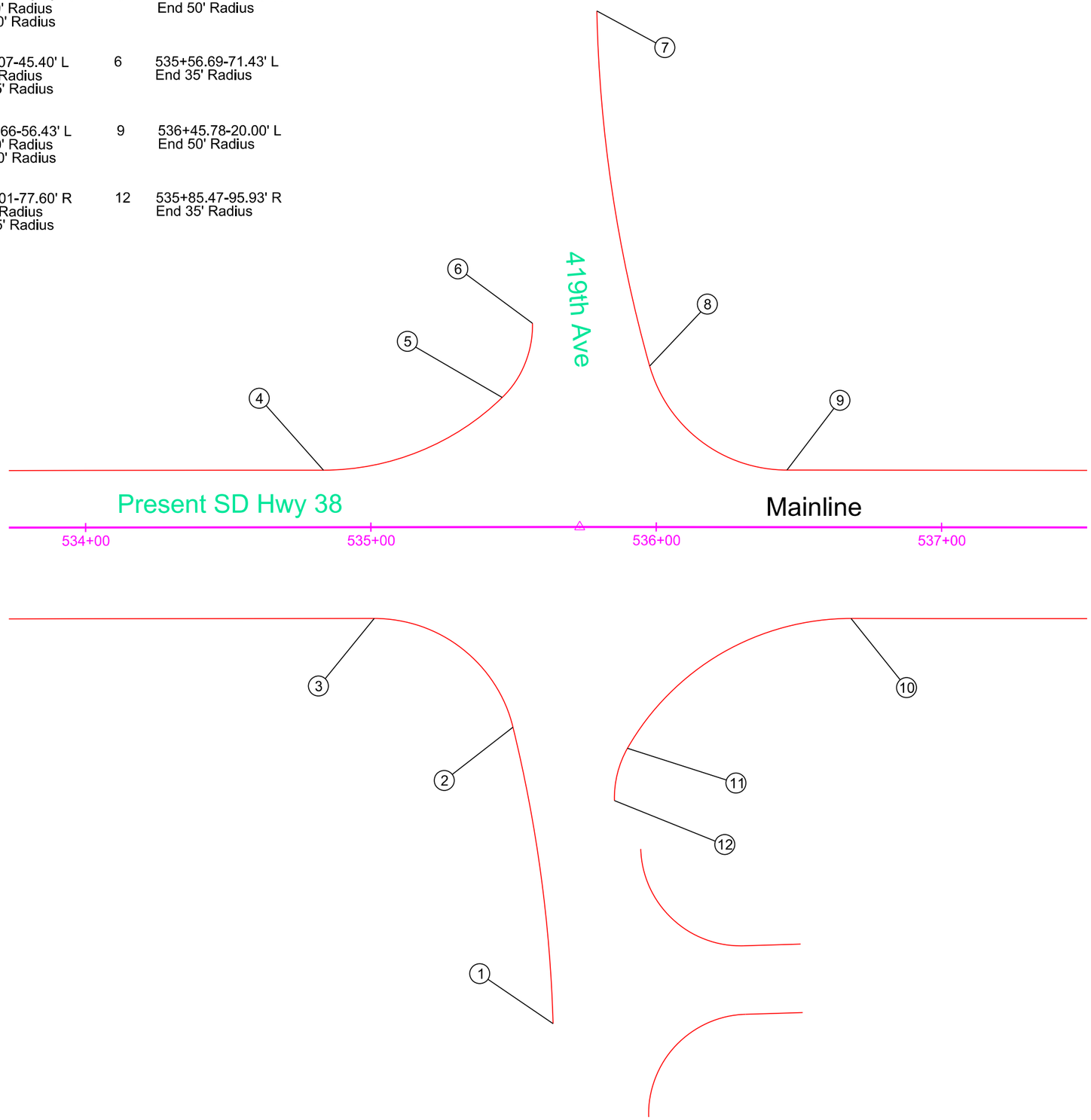
Plot Scale - 1:200
Plotted From - TRPR13522
File - U:\rdprj\hans\05FA1\1080v.dgn

INTERSECTION LAYOUT

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B66	B85

Plotting Date: 12/18/2025

1	535+63.66-174.09' R Begin 500' Radius	2	535+49.72-70.19' R End 500' Radius Begin 50' Radius	3	535+01.14-32.00' R End 50' Radius
4	534+83.40-20.00' L Begin 90' Radius	5	535+46.07-45.40' L End 90' Radius Begin 35' Radius	6	535+56.69-71.43' L End 35' Radius
7	535+79.01-180.86' L Begin 500' Radius	8	535+97.66-56.43' L End 500' Radius Begin 50' Radius	9	536+45.78-20.00' L End 50' Radius
10	536+68.29-32.00' R Begin 90' Radius	11	535+90.01-77.60' R End 90' Radius Begin 35' Radius	12	535+85.47-95.93' R End 35' Radius

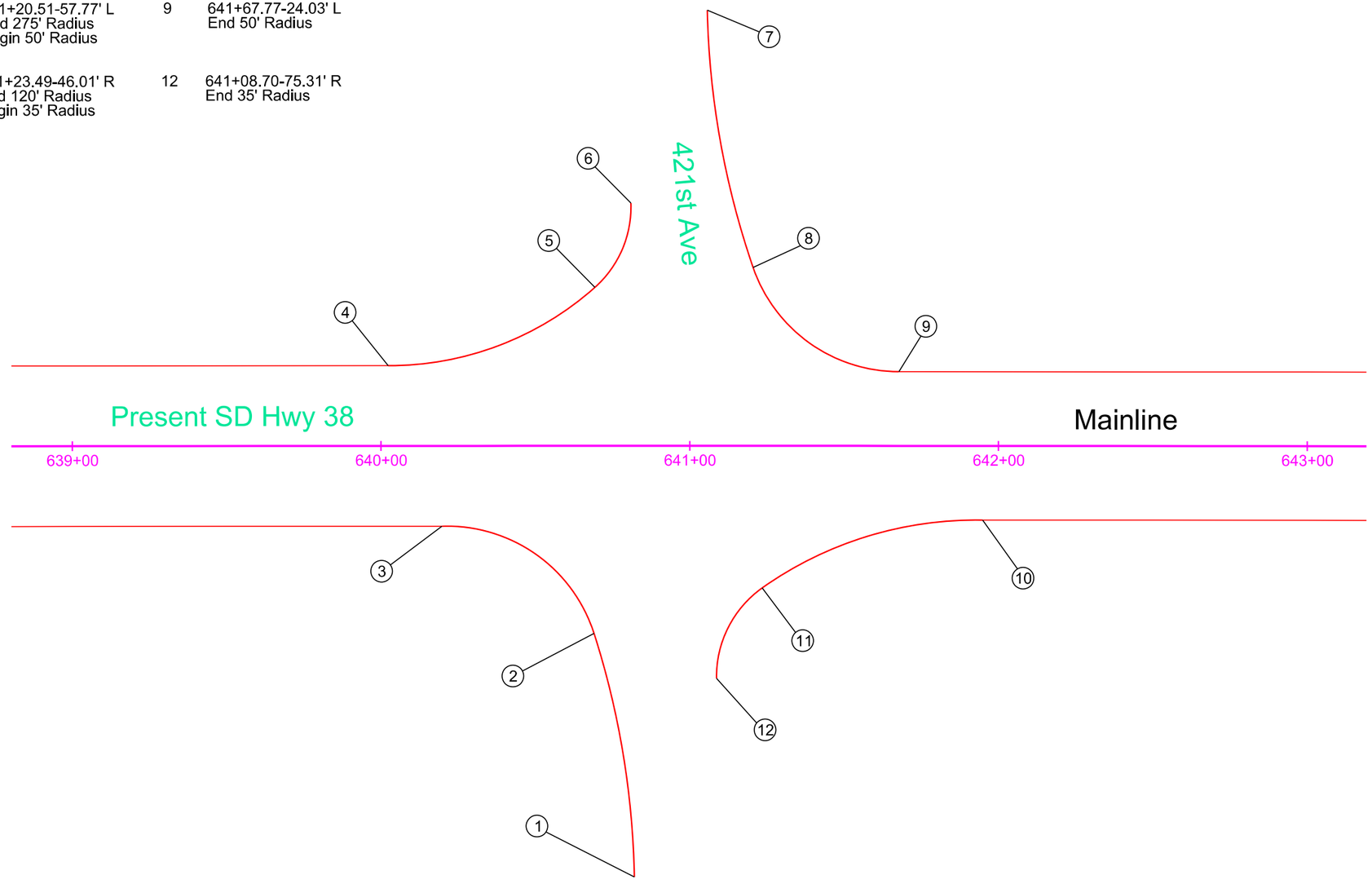


INTERSECTION LAYOUT

1	640+82.04-139.60' R Begin 275' Radius	2	640+68.98-60.74' R End 275' Radius Begin 50' Radius	3	640+19.72-26.00' R End 50' Radius
4	640+02.34-26.02' L Begin 100' Radius	5	640+69.27-51.30' L End 100' Radius Begin 35' Radius	6	640+80.98-78.61' L End 35' Radius
7	641+05.65-141.04' L Begin 275' Radius	8	641+20.51-57.77' L End 275' Radius Begin 50' Radius	9	641+67.77-24.03' L End 50' Radius
10	641+94.91-24.00' R Begin 120' Radius	11	641+23.49-46.01' R End 120' Radius Begin 35' Radius	12	641+08.70-75.31' R End 35' Radius

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B67	B85

Plotting Date: 12/18/2025



Plot Scale - 1:40

Plotted From - TRPR13522

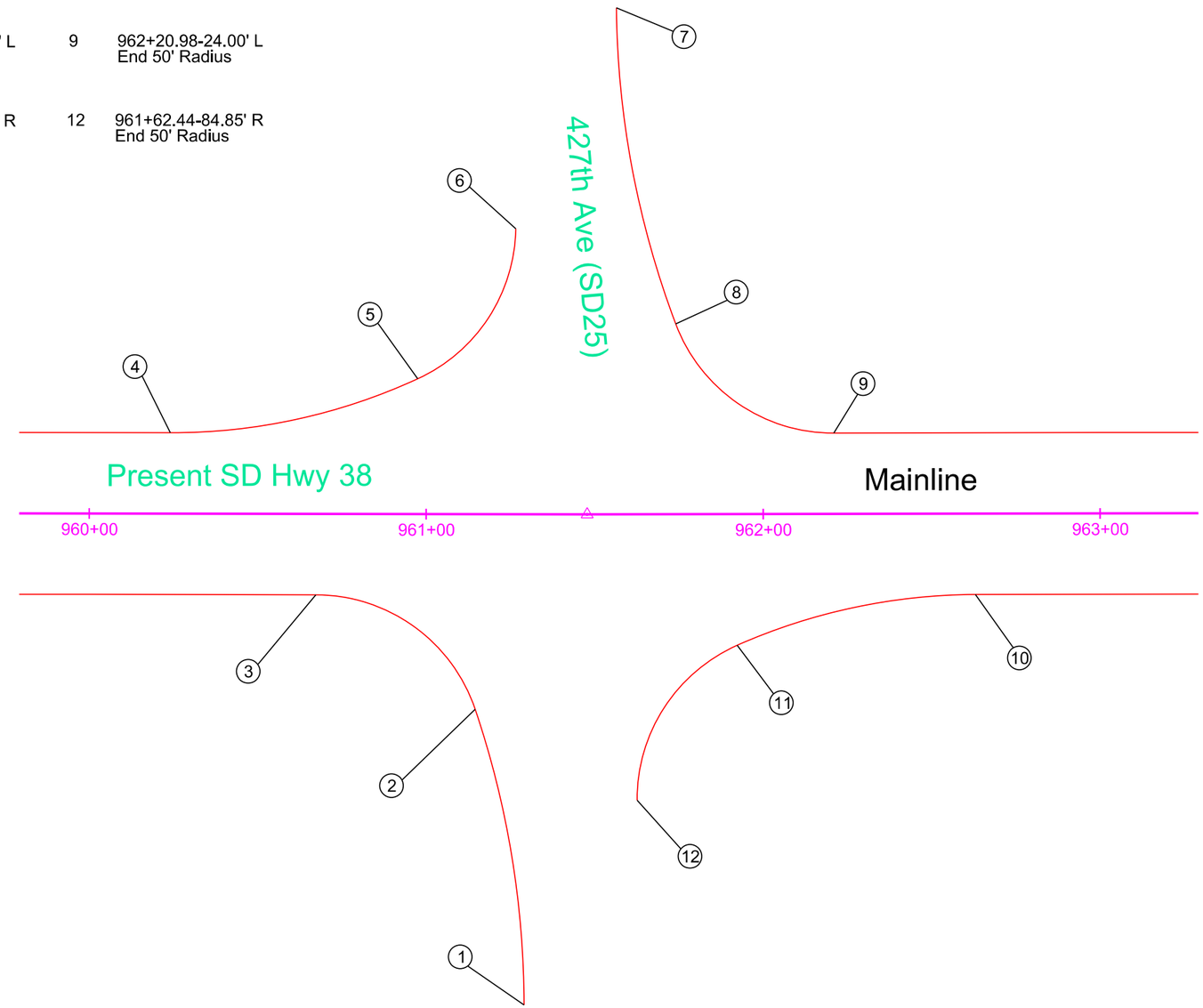
File - ...\hans05FA\640+95_int_layout.dgn

INTERSECTION LAYOUT

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B68	B85

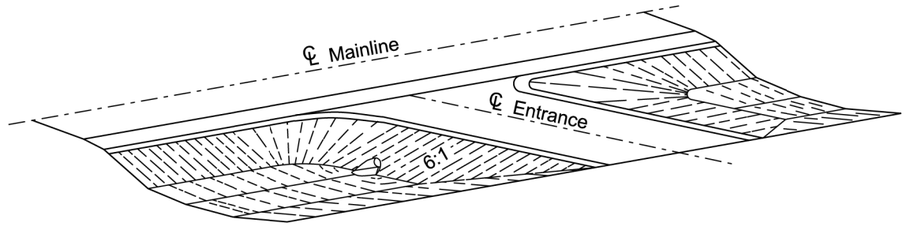
Plotting Date: 12/18/2025

1	961+29.33-145.61' R Begin 275' Radius	2	961+14.65-57.88' R End 275' Radius Begin 50' Radius	3	960+67.32-24.00' R End 50' Radius
4	960+24.01-24.00' L Begin 175' Radius	5	960+97.42-40.14' L End 175' Radius Begin 50' Radius	6	961+26.44-84.74' L End 50' Radius
7	961+56.71-150.35' L Begin 275' Radius	8	961+74.16-56.47' L End 275' Radius Begin 50' Radius	9	962+20.98-24.00' L End 50' Radius
10	962+62.94-24.00' R Begin 175' Radius	11	961+92.23-38.92' R End 175' Radius Begin 50' Radius	12	961+62.44-84.85' R End 50' Radius

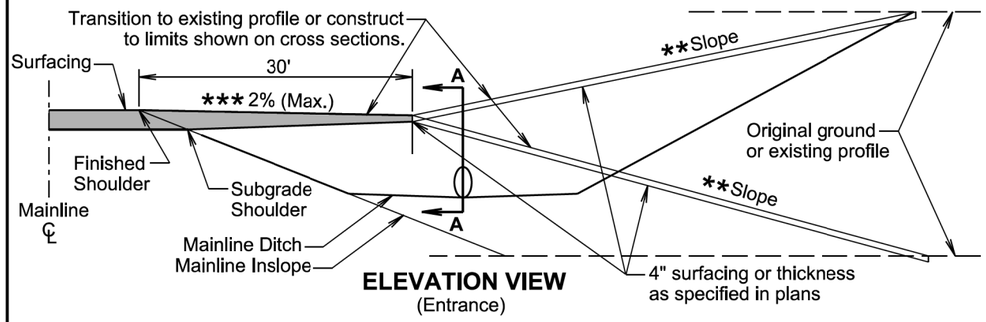


STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B69	B85

Plotting Date: 12/18/2025



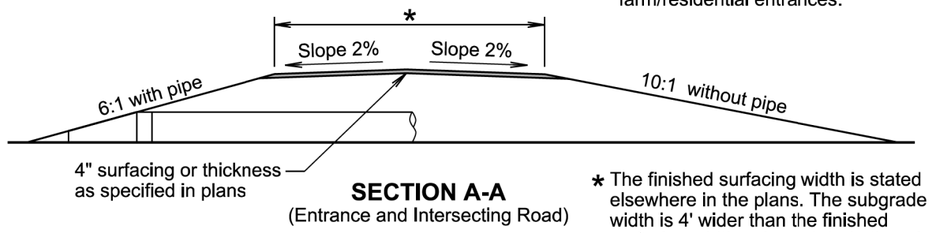
PERSPECTIVE OF ENTRANCE



ELEVATION VIEW
(Entrance)

*** 2% When on the inside of superelevation and 0% or flat when on outside of superelevation.

** Entrance maximum slope is typically 10:1 for field entrances and 15:1 for farm/residential entrances.



SECTION A-A
(Entrance and Intersecting Road)

* The finished surfacing width is stated elsewhere in the plans. The subgrade width is 4' wider than the finished surfacing width unless stated otherwise in the plans.

GENERAL NOTES:

The ditch section shown above in the perspective view is only for illustrative purpose.

The elevation view above is typical for either a ditch cut or fill section. Entrances that vary from above should be specified in the plans.

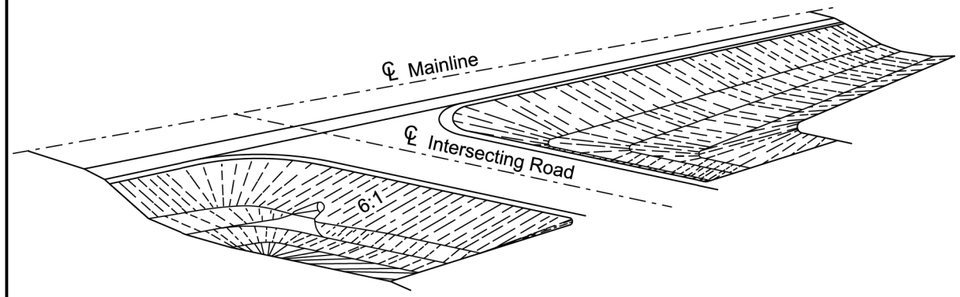
Pipe length will be adjusted if necessary during construction to obtain the 6:1 slope. For grading projects, the pipe length is estimated typically using a 4" thickness of surfacing directly over the subgrade above the pipe.

The transition area between the mainline inslope and the entrance or intersecting road inslope will be rounded to eliminate an abrupt transition.

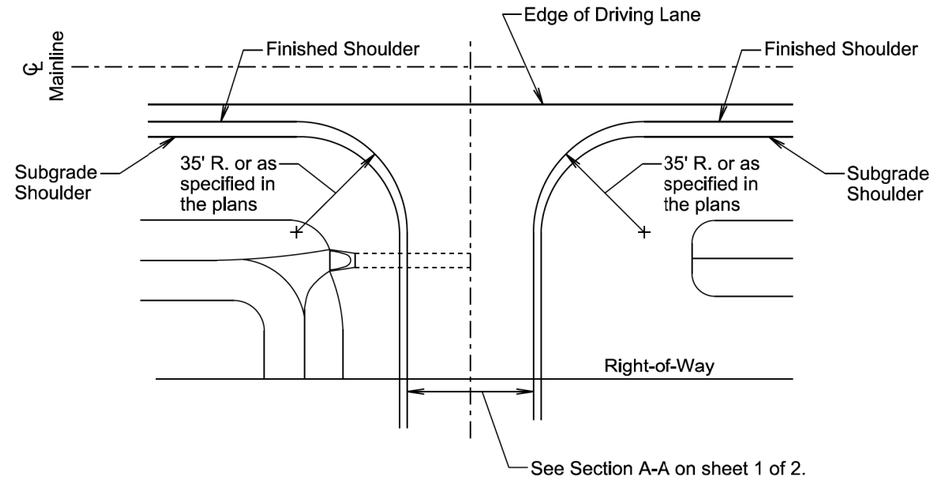
The turning radii will be 35' for intersecting roads and entrances unless stated otherwise in the plans.

November 19, 2021

Published Date: 2026	SDDOT	INTERSECTING ROADS AND ENTRANCES	PLATE NUMBER 120.01
			Sheet 1 of 2



PERSPECTIVE OF INTERSECTING ROAD



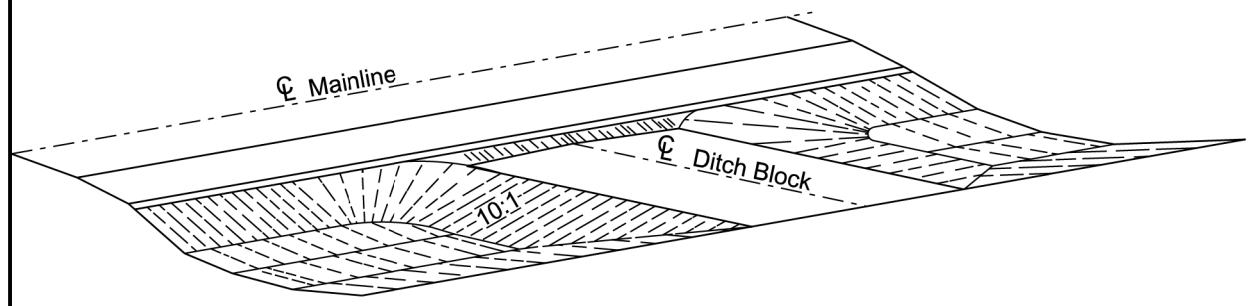
PLAN VIEW

GENERAL NOTES:

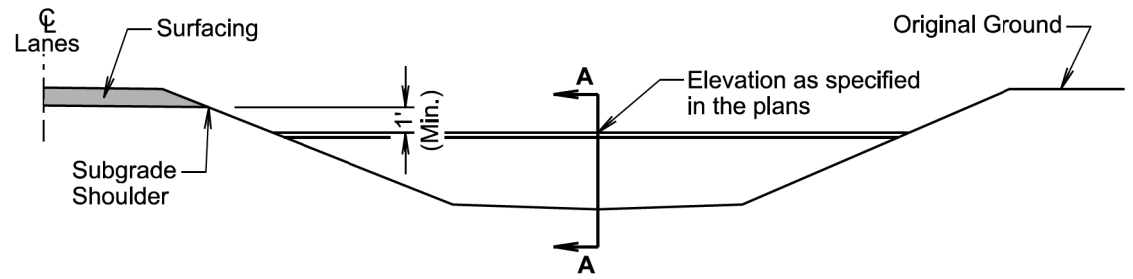
The 6:1 or 10:1 intersecting road inslope will transition to the existing intersecting road inslope near the right-of-way or at a location as determined by the Engineer.

November 19, 2021

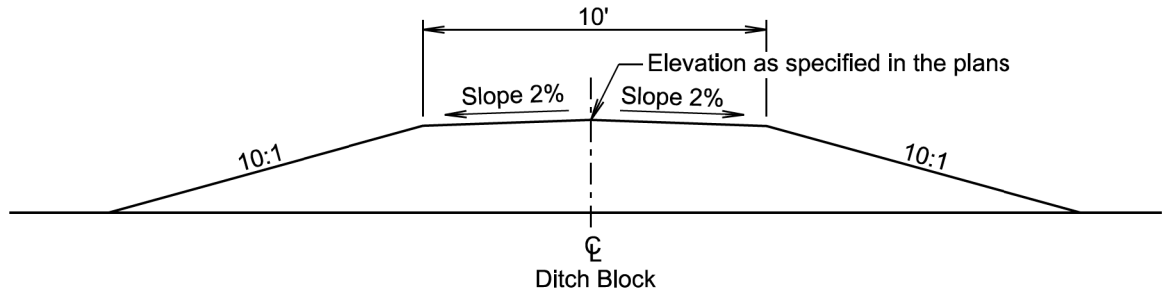
Published Date: 2026	SDDOT	INTERSECTING ROADS AND ENTRANCES	PLATE NUMBER 120.01
			Sheet 2 of 2



PERSPECTIVE OF DITCH BLOCK



ELEVATION VIEW



SECTION A-A

GENERAL NOTES:

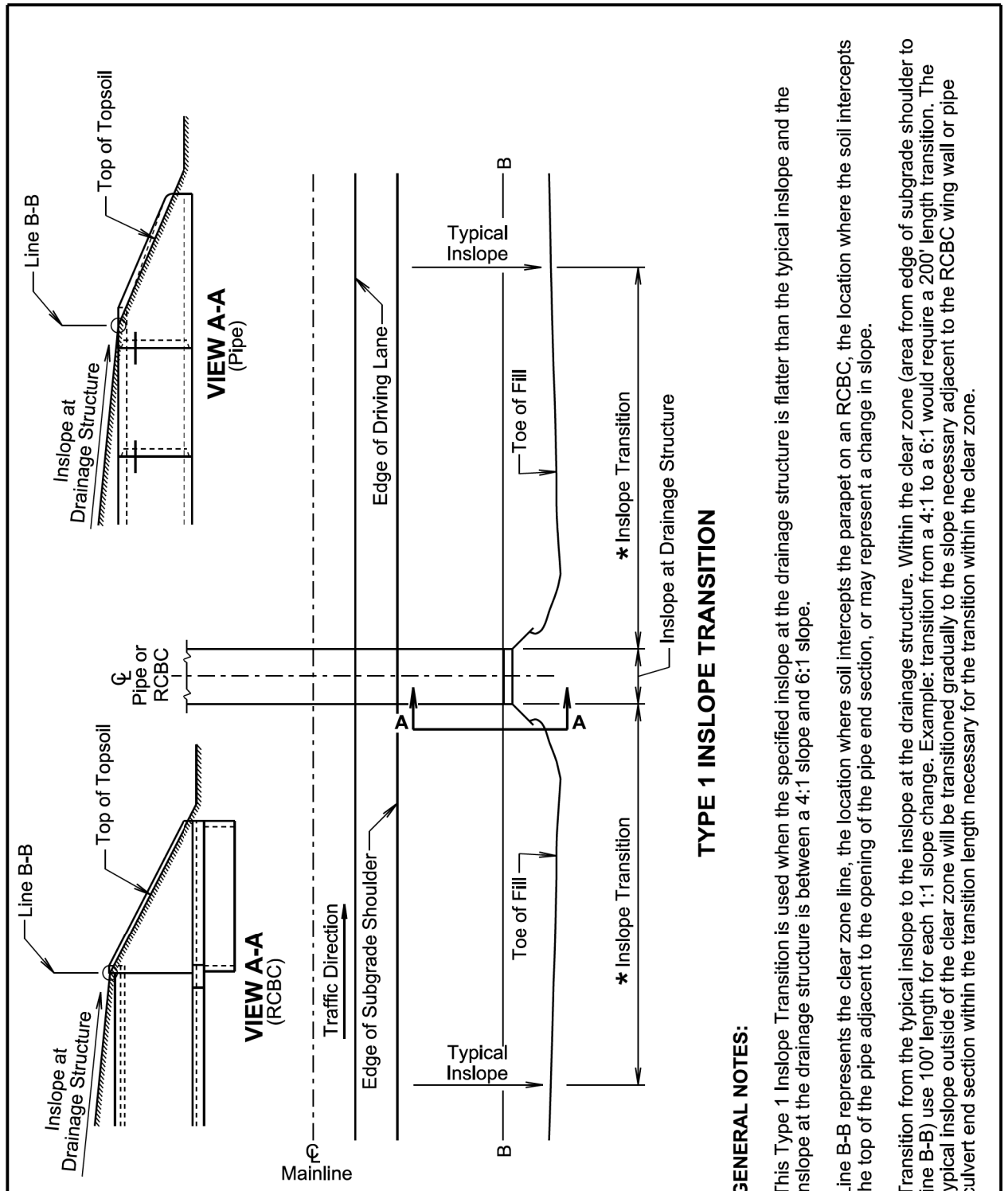
The ditch section shown above in the perspective and elevation view is only for illustrative purpose.

The inslopes of the ditch block will be 10:1 or as specified in the plans.

The transition area between the mainline inslope and the ditch block inslope will be rounded to eliminate an abrupt transition.

September 14, 2018

Published Date: 2026	SDDOT	DITCH BLOCK	PLATE NUMBER 120.02
			Sheet 1 of 1



TYPE 1 INSLOPE TRANSITION

GENERAL NOTES:

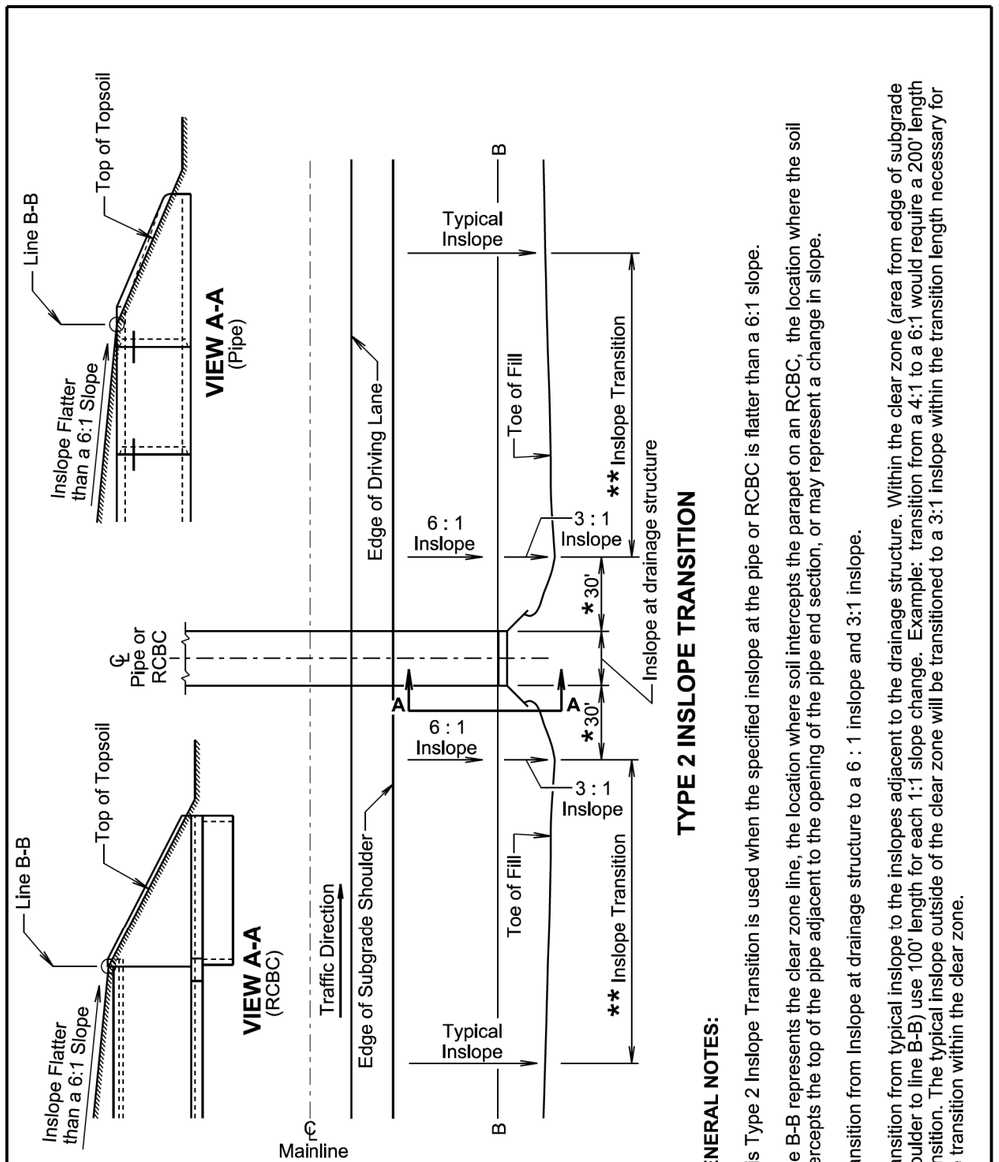
This Type 1 Inslope Transition is used when the specified inslope at the drainage structure is flatter than the typical inslope and the inslope at the drainage structure is between a 4:1 slope and 6:1 slope.

Line B-B represents the clear zone line, the location where soil intercepts the parapet on an RCBC, the location where the soil intercepts the top of the pipe adjacent to the opening of the pipe end section, or may represent a change in slope.

* Transition from the typical inslope to the inslope at the drainage structure. Within the clear zone (area from edge of subgrade shoulder to line B-B) use 100' length for each 1:1 slope change. Example: transition from a 4:1 to a 6:1 would require a 200' length transition. The typical inslope outside of the clear zone will be transitioned gradually to the slope necessary adjacent to the RCBC wing wall or pipe culvert end section within the transition length necessary for the transition within the clear zone.

September 14, 2018

Published Date: 2026	SDDOT	INSLOPE TRANSITIONS AT PIPE CULVERTS OR REINFORCED CONCRETE BOX CULVERTS	PLATE NUMBER 120.05
			Sheet 1 of 2



TYPE 2 INSLOPE TRANSITION

GENERAL NOTES:

This Type 2 Inslope Transition is used when the specified inslope at the pipe or RCBC is flatter than a 6:1 slope.

Line B-B represents the clear zone line, the location where soil intercepts the parapet on an RCBC, the location where the soil intercepts the top of the pipe adjacent to the opening of the pipe end section, or may represent a change in slope.

* Transition from Inslope at drainage structure to a 6 : 1 inslope and 3:1 inslope.

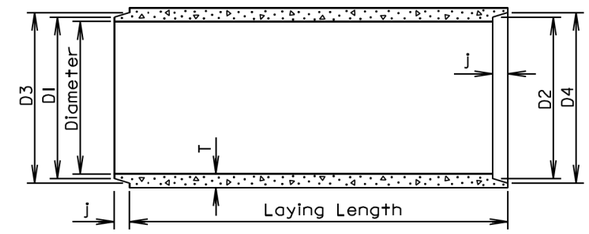
** Transition from typical inslope to the inslopes adjacent to the drainage structure. Within the clear zone (area from edge of subgrade shoulder to line B-B) use 100' length for each 1:1 slope change. Example: transition from a 4:1 to a 6:1 would require a 200' length transition. The typical inslope outside of the clear zone will be transitioned to a 3:1 inslope within the transition length necessary for the transition within the clear zone.

September 14, 2018

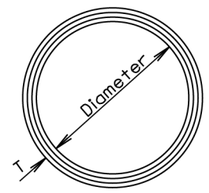
Published Date: 2026	SDDOT	INSLOPE TRANSITIONS AT PIPE CULVERTS OR REINFORCED CONCRETE BOX CULVERTS	PLATE NUMBER 120.05
			Sheet 2 of 2

TOLERANCES IN DIMENSIONS

Diameter: ±1.5% for 24" Dia. or less and ±1% or 3/8" whichever is more for 27" Dia. or greater.
Diameters at joints: ± 3/16" for 30" Dia. or less and ± 1/4" for 36" or greater.
Length of joint (j): ± 1/4".
Wall thickness (T): not less than design T by more than 5% or 3/16", whichever is greater.
Laying length: shall not underrun by more than 1/2".



LONGITUDINAL SECTION



END VIEW

GENERAL NOTES:

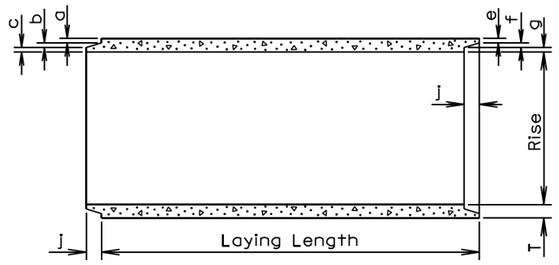
Construction of R. C. P. shall conform to the requirements of Section 990 of the Specifications.

Not more than 2 four-foot sections shall be permitted near the ends of any culvert. Four-foot lengths shall be used only to secure the required length of culvert.

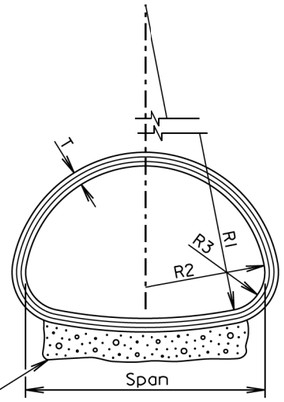
Diam. (in.)	Approx. Wt. /Ft. (lb.)	T (in.)	J (in.)	D1 (in.)	D2 (in.)	D3 (in.)	D4 (in.)
12	92	2	1 3/4	13 1/4	13 5/8	13 7/8	14 1/4
15	127	2 1/4	2	16 1/2	16 7/8	17 1/4	17 5/8
18	168	2 1/2	2 1/4	19 5/8	20	20 3/8	20 3/4
21	214	2 3/4	2 1/2	22 7/8	23 1/4	23 3/4	24 1/8
24	265	3	2 3/4	26	26 3/8	27	27 3/8
27	322	3 1/4	3	29 1/4	29 5/8	30 1/4	30 5/8
30	384	3 1/2	3 1/4	32 3/8	32 3/4	33 1/2	33 7/8
36	524	4	3 3/4	38 3/4	39 1/4	40	40 1/2
42	685	4 1/2	4	45 1/8	45 5/8	46 1/2	47
48	867	5	4 1/2	51 1/2	52	53	53 1/2
54	1070	5 1/2	4 1/2	57 7/8	58 3/8	59 3/8	59 7/8
60	1296	6	5	64 1/4	64 3/4	66	66 1/2
66	1542	6 1/2	5 1/2	70 5/8	71 1/8	72 1/2	73
72	1810	7	6	77	77 1/2	79	79 1/2
78	2098	7 1/2	6 1/2	83 3/8	83 7/8	85 5/8	86 1/8
84	2410	8	7	89 3/4	90 1/4	92 1/8	92 5/8
90	2740	8 1/2	7	95 3/4	96 1/4	98 1/8	98 5/8
96	2950	9	7	102 1/8	102 5/8	104 1/2	105
102	3075	9 1/2	7 1/2	109	109 1/2	111 1/2	112
108	3870	10	7 1/2	115 1/2	116	118	118 1/2

June 26, 2015

Published Date: 2026	SDDOT	REINFORCED CONCRETE PIPE	PLATE NUMBER 450.01
			Sheet 1 of 1



LONGITUDINAL SECTION



END VIEW

TOLERANCES IN DIMENSIONS

Radial dimensions at joints: ± 1/8" for 65" span or less and ± 1/4" for longer spans.
Rise and Span: ±2% of tabular values.
Length of Joint (J): ± 1/4".
Wall thickness (T): not less than design T by more than 5% or 3/16", whichever is greater.
Laying length: shall not underrun by more than 1/2".

Gravel Bedding Material shall be supplied for 102" to 169" spans. It shall be placed to a thickness of 6" (Min.) x 85% of the Span x Length of culvert and shall conform to the gradation requirements for gravel surfacing except material may be screened or may be plan provided material.

* Size (in.)	Approx. Wt./Ft. (lb.)	Rise (in.)	Span (in.)	T (in.)	a (in.)	b (in.)	c (in.)	j (in.)	e (in.)	f (in.)	g (in.)	R1 (in.)	R2 (in.)	R3 (in.)
18	170	13 1/2	22	2 1/2	1 3/8	3/8	3/4	2	1 1/8	3/8	1	27 1/2	13 3/4	5 1/4
24	320	18	28 1/2	3 1/2	1 5/8	1/2	1 3/8	3	1 3/8	1/2	1 5/8	40 11/16	14 3/4	4 5/8
30	450	22 1/2	36 1/4	4	1 13/16	5/8	1 9/16	3 1/2	1 9/16	5/8	1 13/16	51	18 3/4	6 1/8
36	600	26 5/8	43 3/4	4 1/2	2	3/4	1 3/4	4	1 3/4	3/4	2	62	22 1/2	6 1/2
42	740	31 5/16	51 1/8	4 1/2	2	3/4	1 3/4	4	1 3/4	3/4	2	73	26 1/4	7 3/4
48	890	36	58 1/2	5	2 1/4	3/4	2	5	2	3/4	2 1/4	84	30	8 7/8
54	1100	40	65	5 1/2	2 1/2	3/4	2 1/4	5	2 1/4	3/4	2 1/2	92 1/2	33 3/8	10
60	1400	45	73 1/2	6	3 5/16	3/4	1 15/16	5	2 3/4	3/4	2 1/2	105	37 1/2	11
72	1900	54	88	7	3 13/16	1	2 3/16	6	3 1/4	1	2 3/4	126	45	13 5/16
84	2500	62	102	8	4 1/8	1	2 7/8	6	3 1/2	1	3 1/2	162 1/2	52	14 1/2
96	3300	78	122 3/8	9	4 1/2	1	3 1/2	7	4	1	4	218	62	20
108	4200	88	138 1/2	10	5	1	4	7	4 1/2	1	4 1/2	269	70	22
120	5100	96 7/8	154	11	5 1/2	1	4 1/2	7	5	1	5	301 3/8	78	24
132	5100	106 1/2	168 3/4	10		1	4	7	4 1/2	1	4 1/2	329	85 5/8	26 7/8

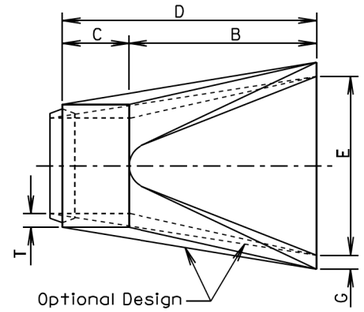
* Equivalent Diameter of Circular R. C. P.

GENERAL NOTES:

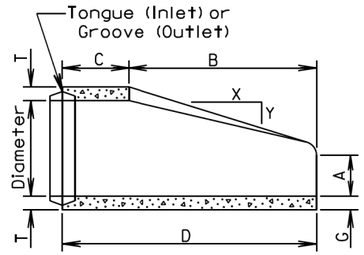
Construction of R.C.P. Arch shall conform to the requirements of Section 990 of the Specifications. Not more than 2 four-foot sections shall be permitted near the ends of any culvert. Four-foot lengths shall be used only to secure the required length of culvert.

June 26, 2015

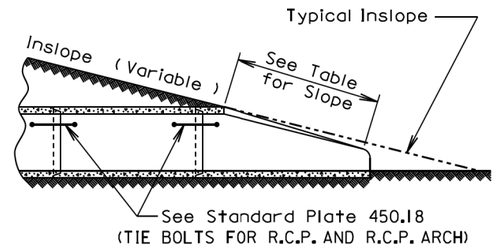
Published Date: 2026	SDDOT	REINFORCED CONCRETE PIPE ARCH	PLATE NUMBER 450.02
			Sheet 1 of 1



TOP VIEW



LONGITUDINAL SECTION

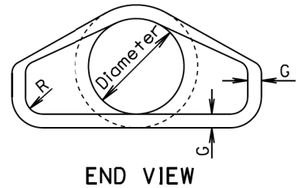


SLOPE DETAIL

GENERAL NOTES:

Lengths of concrete pipe shown on plan sheets are between flared ends only.

Construction of R.C.P. Flared End shall conform to the requirements of Section 990 of the Specifications.

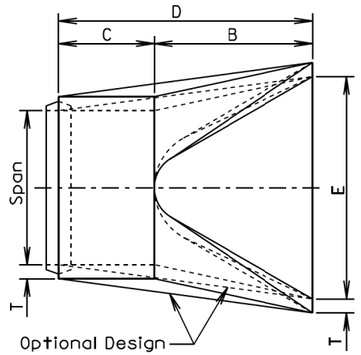


END VIEW

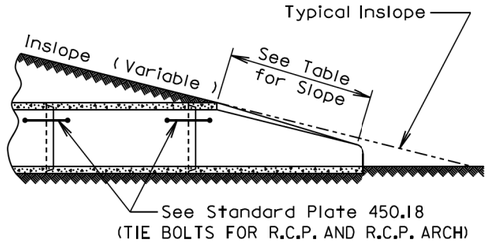
Dia. (in.)	Approx. Wt. of Section (lbs.)	Approx. Slope (X to Y)	T (in.)	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	G (in.)	R (in.)
12	530	2.4: 1	2	4	24	48 7/8	72 7/8	24	2	1 1/2
15	740	2.4: 1	2 1/4	6	27	46	73	30	2 1/4	1 1/2
18	990	2.3: 1	2 1/2	9	27	46	73	36	2 1/2	1 1/2
21	1280	2.4: 1	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	1 1/2
24	1520	2.5: 1	3	9 1/2	43 1/2	30	73 1/2	48	3	1 1/2
27	1930	2.5: 1	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	1 1/2
30	2190	2.5: 1	3 1/2	12	54	19 3/4	73 3/4	60	3 1/2	1 1/2
36	4100	2.5: 1	4	15	63	34 3/4	97 3/4	72	4	1 1/2
42	5380	2.5: 1	4 1/2	21	63	35	98	78	4 1/2	1 1/2
48	6550	2.5: 1	5	24	72	26	98	84	5	1 1/2
54	8240	2: 1	5 1/2	27	65	33 1/4	98 1/4	90	5 1/2	1 1/2
60	8730	1.9: 1	6	35	60	39	99	96	5	1 1/2
66	10710	1.7: 1	6 1/2	30	72	27	99	102	5 1/2	1 1/2
72	12520	1.8: 1	7	36	78	21	99	108	6	1 1/2
78	14770	1.8: 1	7 1/2	36	90	21	111	114	6 1/2	1 1/2
84	18160	1.6: 1	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2
90	20900	1.5: 1	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	6

June 26, 2015

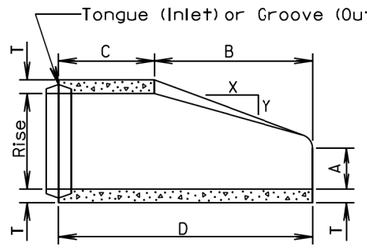
Published Date: 2026	SDDOT	R. C. P. FLARED ENDS	PLATE NUMBER 450.10
			Sheet 1 of 1



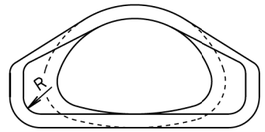
TOP VIEW



SLOPE DETAIL



LONGITUDINAL SECTION



END VIEW

GENERAL NOTES:

Lengths of concrete pipe shown on plan sheets are between flared ends only.

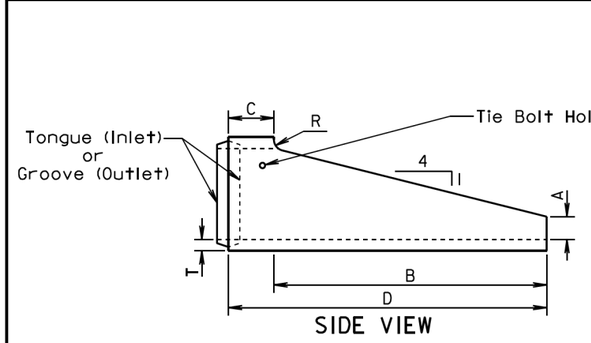
Construction of R. C. P. Arch Flared End shall conform to the requirements of Section 990 of the Specifications.

* Size (in.)	Approximate Weight of Section (lbs.)	Rise (in.)	Span (in.)	Slope (X:Y)	T (in.)	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	R (in.)
18	1100	13 1/2	22	3:1	2 1/2	7	27	45	72	36	2
24	1750	18	28 1/2	3:1	3 1/2	8 1/2	39	33	72	48	3
30	3300	22 1/2	36 1/4	3:1	4	9 1/2	50	46	96	60	3
36	4350	26 5/8	43 3/4	3:1	4 1/2	1 1 1/8	60	36	96	72	6
42	5250	31 5/16	51 1/8	3:1	4 1/2	15 13/16	60	36	96	78	6
48	6400	36	58 1/2	3:1	5	21	60	36	96	84	6
54	7850	40	65	3:1	5 1/2	25 1/2	60	36	96	90	6
60	9500	45	73 1/2	3:1	6	31	60	36	96	96	6
72	13550	54	88	2:1	7	31	60	39	99	120	6
84	17950	62	102	2:1	8	28 1/2	83	19	102	144	6

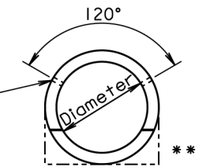
*Equivalent Diameter of Circular R. C. P.

June 26, 2015

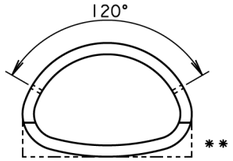
Published Date: 2026	SDDOT	R. C. P. ARCH FLARED ENDS	PLATE NUMBER 450.11
			Sheet 1 of 1



SIDE VIEW



END VIEW
"CIRCULAR"



END VIEW
"ARCH"

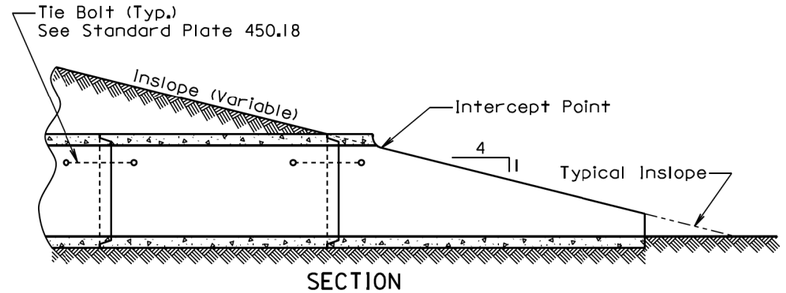
Dia. (in.)	T (in.)	A (in.)	B (in.)	C (in.)	D (in.)	R (in.)
FOR CIRCULAR PIPE						
24	3	6	72	12	84	3
30	3 1/2	7 1/2	90	12	102	3 1/2
FOR ARCH PIPE						
* 24	3	6	48	12	60	3
* 30	3 1/2	7 1/2	60	12	72	3 1/2
* 36	4 1/2	8 5/8	66	30	96	0
* 42	4 1/2	10	77 1/4	18 3/4	96	0

ALTERNATE

Dia. (in.)	T (in.)	A (in.)	B (in.)	C (in.)	D (in.)	R (in.)
FOR CIRCULAR PIPE						
24	3	9	72	12	84	0
30	3 1/2	11	90	12	102	0
FOR ARCH PIPE						
* 24	3	9	48	12	60	0
* 30	3 1/2	11	60	12	72	0

* Equivalent Diameter of Circular R.C.P.

** Acceptable Flat Bottom Alternate.



SECTION
(Along Centerline of Pipe)

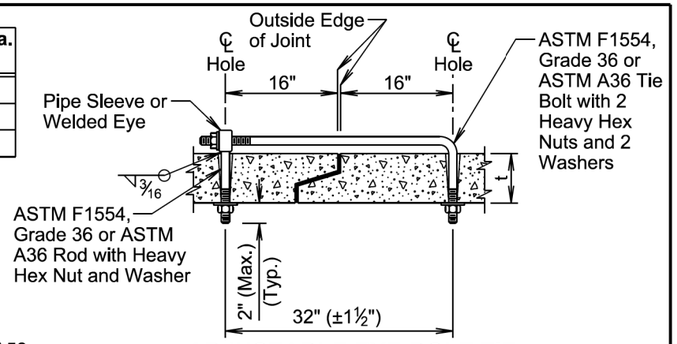
GENERAL NOTE:

The length of concrete pipe shown in the construction plans is between sloped ends.

September 22, 2006

Published Date: 2026	SDDOT	R. C. P. SLOPED ENDS	PLATE NUMBER 450.13
			Sheet 1 of 1

Wall "t" (in.)	Rod Dia. (in.)	Pipe Sleeve Dia. (nominal)
≤ 3¼	⅝	¾
3½-6½	¾	1
≥ 7	1	1¼



ADJUSTABLE EYE BOLT TIE

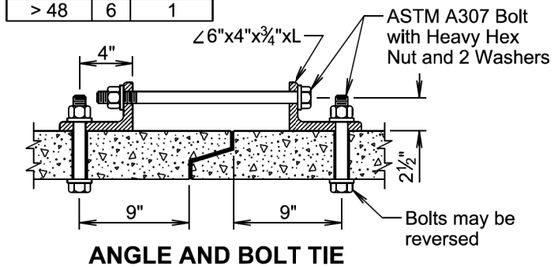
GENERAL NOTES:

Tie bolts will conform to ASTM F1554, Grade 36 or ASTM A36. Nuts will be heavy hex conforming to ASTM A563. Washers will conform to ASTM F436.

Pipe Sleeve will conform to ASTM A53, Grade B or ASTM A500, Grade B or C.

Galvanize adjustable eye bolt tie assembly in accordance with ASTM A153.

Pipe Dia. (in.)	"L" (in.)	Bolt Dia. (in.)
≤ 48	4	¾
> 48	6	1



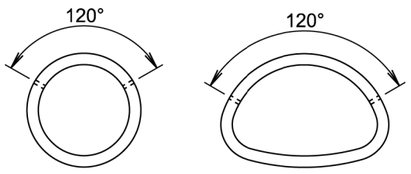
ANGLE AND BOLT TIE

GENERAL NOTES:

Angles will conform to ASTM A36.

Bolts will conform to ASTM A307. Nuts will be heavy hex conforming to ASTM A563. Washers will conform to ASTM F436.

Galvanize angles, bolts, nuts, and washers in accordance with ASTM A153.



END VIEW (Circular)

END VIEW (Arch)

GENERAL NOTES:

In lieu of the tie bolts detailed above other types of tie bolt connections may be installed as approved by the Office of Bridge Design.

All pipe sections of R.C.P. and R.C.P. Arch will be tied with tie bolts except for pipe located between drop inlets, manholes, and junction boxes. All pipe sections of pipes that only enter or exit drop inlets, manholes, and junction boxes will be tied with tie bolts.

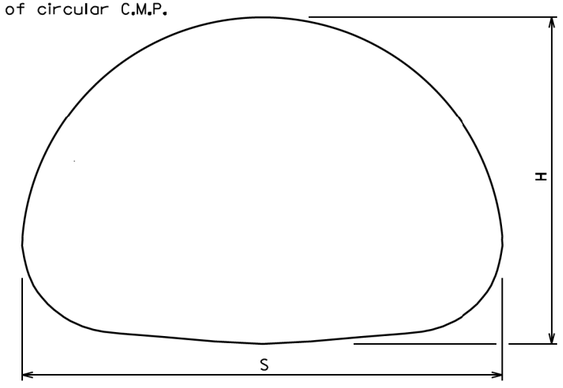
There will be no separate measurement or payment for the tie bolts. The cost for furnishing and installing the tie bolts will be incidental to the contract unit price per foot for the corresponding bid item for R.C.P. or R.C.P. Arch.

April 8, 2025

Published Date: 2026	SDDOT	TIE BOLTS FOR R.C.P. AND R.C.P. ARCH	PLATE NUMBER 450.18
			Sheet 1 of 1

	2⅔" x ½" CORRUGATIONS			3" X 1" CORRUGATIONS		
* Dia. (in.)	S Span (in.)	H Rise (in.)	Area (Sq. Ft.)	S Span (in.)	H Rise (in.)	Area (Sq. Ft.)
15	17	13	1.1			
18	21	15	1.6			
21	24	18	2.2			
24	28	20	2.8			
30	35	24	4.4			
36	42	29	6.4	40	31	7.0
42	49	33	8.7	46	36	9.4
48	57	38	11.4	53	41	12.3
54	64	43	14.3	60	46	15.6
60	71	47	17.6	66	51	19.3
66	77	52	21.3	73	55	23.2
72	83	57	25.3	81	59	27.4
78				87	63	32.1
84				95	67	37.0
90				103	71	42.4
96				112	75	48.0
102				117	79	54.2
108				128	83	60.8
114				137	87	67.4
120				142	91	74.5

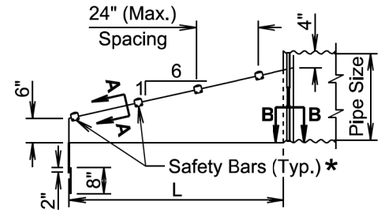
* Equivalent diameter of circular C.M.P.



GENERAL NOTE:
All dimensions measured from inside crest.

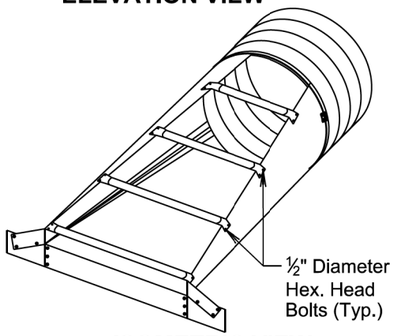
March 31, 2000

Published Date: 2026	SDDOT	CORRUGATED METAL PIPE ARCH CULVERT	PLATE NUMBER 450.30
			Sheet 1 of 1

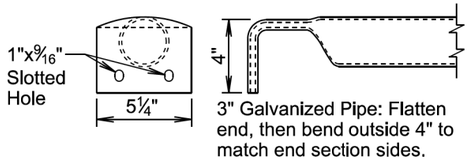


*Number of bars required will vary depending on the length of the end section.

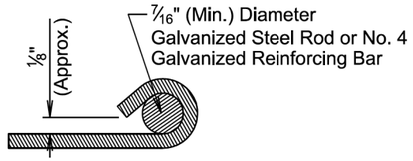
ELEVATION VIEW



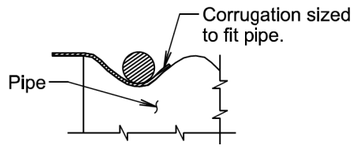
ISOMETRIC VIEW



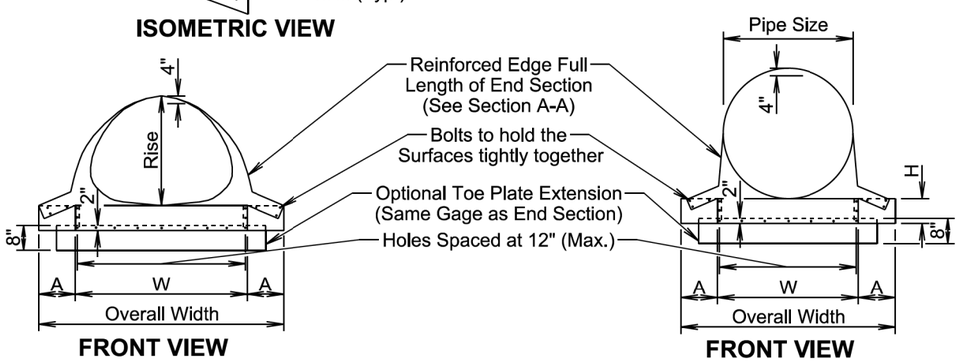
DETAIL OF SAFETY BARS



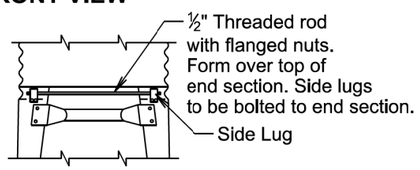
SECTION A-A



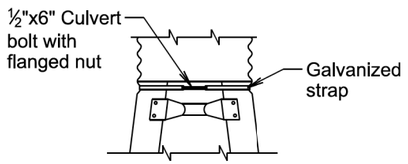
SECTION B-B



FRONT VIEW **FRONT VIEW**



TYPE #2 CONNECTOR DETAIL
(For 30" and Larger)
(For 21"x15" and Larger)



TYPE #1 CONNECTOR DETAIL
(For 15" Through 24")

April 8, 2025

Published Date: 2026	SDDOT	C.M.P. SAFETY ENDS	PLATE NUMBER 450.38
			Sheet 1 of 2

ARCH C.M.P. SAFETY ENDS

Equlv. Dia. (Inch)	(Inches) Span	Rise	(Min.) Thick. Inch	Gage	Dimensions (Inches) A	H	W	L Dimensions Overall Width	Slope	Length (Inch)
18	21	15	.064	16	8	6	27	43	6:1	30
21	24	18	.064	16	8	6	30	46	6:1	48
24	28	20	.064	16	8	6	34	50	6:1	60
30	35	24	.079	14	12	9	41	65	6:1	84
36	42	29	.109	12	12	9	48	72	6:1	114
42	49	33	.109	12	16	12	55	87	6:1	138
48	57	38	.109	12	16	12	63	95	6:1	168
54	64	43	.109	12	16	12	70	102	6:1	198
60	71	47	.109	12	16	12	77	109	6:1	222
72	83	57	.109	12	16	12	89	121	6:1	282

CIRCULAR C.M.P. SAFETY ENDS

Pipe Dia. (Inch)	(Min.) Thick. Inch	Gage	Dimensions (Inches) A	H	W	Overall Width	L Dimensions Slope	Length (Inch)
15	.064	16	8	6	21	37	6:1	30
18	.064	16	8	6	24	40	6:1	48
21	.064	16	8	6	27	43	6:1	66
24	.064	16	8	6	30	46	6:1	84
30	.109	12	12	9	36	60	6:1	120
36	.109	12	12	9	42	66	6:1	156
42	.109	12	16	12	48	80	6:1	192
48	.109	12	16	12	54	86	6:1	228
54	.109	12	16	12	60	92	6:1	264
60	.109	12	16	12	66	98	6:1	300

GENERAL NOTES:

Safety bars will be provided when specified in the plans.

Safety ends will be fabricated from galvanized steel conforming to the requirements of the Specifications.

Safety bars will be fabricated from steel schedule 40 pipe in conformance with ASTM A53, grade B or HSS 3.5x.216 in conformance with ASTM A500, grade B or C.

Slotted holes for safety bar attachment will be provided for all end sections.

Attachment to circular pipes 15" through 24" diameter will be made with Type #1 straps. All other sizes will be attached with Type #2 rods and lugs.

When stated in the plans, optional toe plate extension will be punched and bolted to end section apron lip with ⅜" diameter galvanized bolts. Steel for toe plate extension will be same gauge as end section. Dimensions will be overall width less 6" by 8" high.

Installation will be performed in accordance with the Specifications.

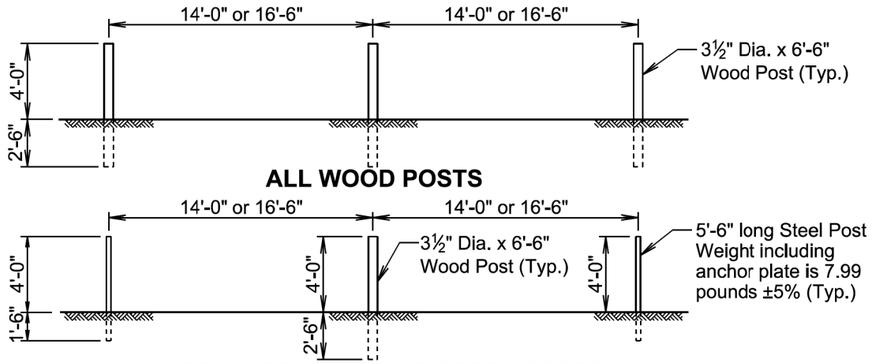
Cost of all work and materials required for fabrication and installation of safety ends will be incidental to the bid items for the various sizes of safety ends.

April 8, 2025

Published Date: 2026	SDDOT	C.M.P. SAFETY ENDS	PLATE NUMBER 450.38
			Sheet 2 of 2

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B76	B85

Plotting Date: 12/18/2025



TYPE OF FENCE		LINE POST SPACING	BARBED WIRE		WOVEN WIRE
TYPE	DESCRIPTION		WIRE GAGE	NUMBER AND SHAPE OF BARBS	STYLE OR DESIGN NO.
1	3 Barbed Wires	16'-6"	12½	2 Point Round	—
2	4 Barbed Wires	16'-6"	12½	2 Point Round	—
3	5 Barbed Wires	16'-6"	12½	2 Point Round	—
4	26" Woven Wire with 2 Barbed Wires	14'-0"	12½	2 Point Round	726-6-12½
5	26" Woven Wire with 4 Barbed Wires	14'-0"	12½	2 wires with 2 Pt. Rd. 2 wires with 4 Pt. Rd.	726-6-12½
6	32" Woven Wire with 3 Barbed Wires	14'-0"	12½	2 wires with 2 Pt. Rd. 1 wire with 4 Pt. Rd.	832-6-12½

GENERAL NOTES:

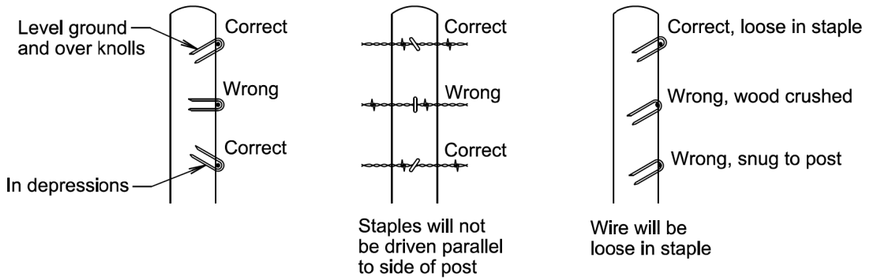
Fence types designated on the plans that are followed by the letter S will have smooth (barbless) wires.

When type 5S or 6S is designated the bottom wire may be barbed, smooth, or left off.

All radius of curvature stated for fence are at centerline of roadway.

April 8, 2025

Published Date: 2026	SDDOT	RIGHT-OF-WAY FENCE	PLATE NUMBER 620.01
			Sheet 1 of 1



STAPLE INSTALLATION

GENERAL NOTES:

The Right-of-Way fence will consist of barbed wire or a combination of woven wire and barbed wire. The barbed wire and/or woven wire will be fastened to all wood posts or fastened to alternating wood and steel posts. Only wood posts will be used for brace panels. Gates will be of the type designated in the plans or as otherwise directed by the Engineer. Fence will be constructed conforming to the details on the standard plates and in the plans unless otherwise directed by the Engineer.

Right-of-Way fence on Interstate Projects will be constructed one foot within the Interstate Right-of-Way lines except at bridge openings, cattle passes, and as otherwise directed by the Engineer.

Right-of-Way fence other than on Interstate Projects will be constructed within one foot of the Right-of-Way on the Landowner's side except at bridge openings, cattle passes, and as otherwise directed by the Engineer.

Barbs will be fabricated from zinc coated 14 ga. wire. Two point barbs will be wrapped twice around one main strand at four-inch spacings and the four point barbs will be interlocked and wrapped around both main strands at five-inch spacings.

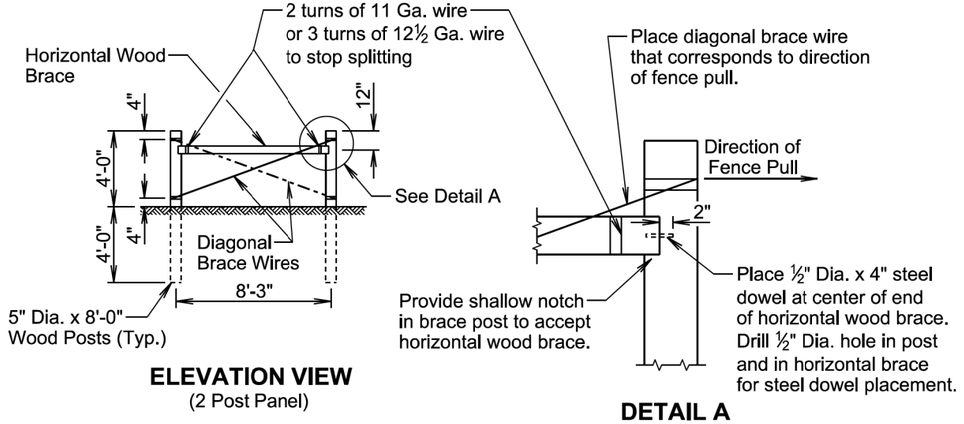
The gages of wire and wood post lengths and sizes are the minimum acceptable unless otherwise specified in the plans. The tolerances for steel posts will be as stated in AASHTO M281. Woven wire will conform to design and specifications of ASTM A116 and barbed wire will conform to ASTM A121.

June 26, 2019

Published Date: 2026	SDDOT	STAPLE INSTALLATION AND GENERAL RIGHT-OF-WAY FENCE NOTES	PLATE NUMBER 620.02
			Sheet 1 of 1

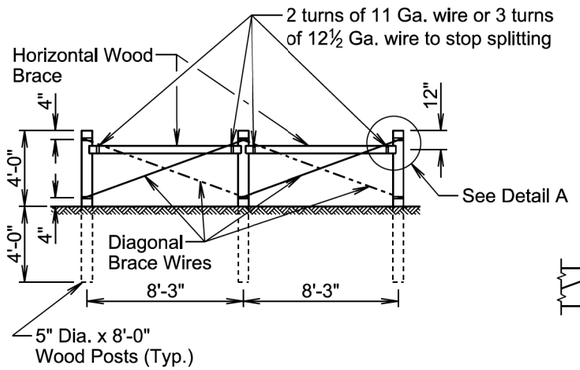
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B77	B85

Plotting Date: 12/18/2025

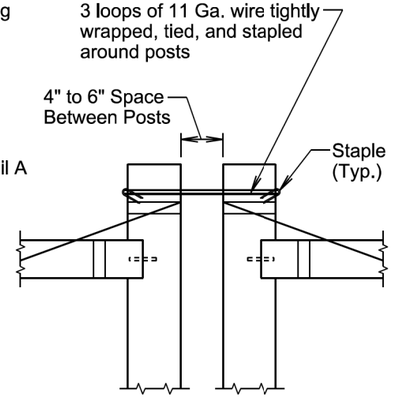


ELEVATION VIEW
(2 Post Panel)

DETAIL A



ELEVATION VIEW
(3 Post Panel)



DETAIL B

GENERAL NOTES:

Two Post Panels will be installed at least every 1320' between corners.

Two Post Panels will be installed at any sharp vertical angle crest points and as directed by the Engineer.

Horizontal wood braces will consist of 4" dia. x 8' wood posts or rough 4" x 4" x 8' timbers.

Diagonal brace wires will be fabricated with 4 strands of 9 Ga. galvanized wire twisted tight. The diagonal brace wires will be installed in accordance with the direction of the fence pull. Two diagonal brace wires are required if fence pull is in both directions.

March 31, 2024

Published Date: 2026	SDDOT	*BRACE PANELS AND APPLICATIONS OF BRACE PANELS*	*PLATE NUMBER* 620.03 *Sheet 1 of 3*

SPACING OF 2 POST PANELS WITHIN CURVES	
RADIUS OF CURVE	SPACING OF 2 POST PANEL
Greater than 1800 Ft.	** 1320'
Less than 1800 Ft.	** At P.C., P.T., and at every 1320' between P.C. and P.T.

** Fence lengths greater than 1320' and less than 2640' place 2 Post Panel approximately at midpoint.

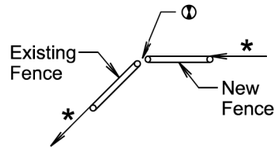
① See Detail B on Sheet 1 of 3.

GENERAL NOTE:

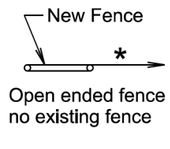
All radius of curvature stated for fence are at centerline of roadway.

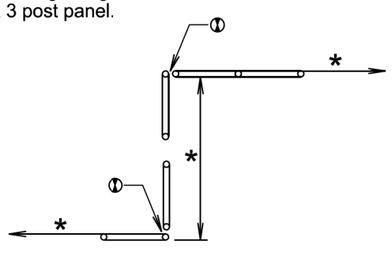
If fence length is less than 600' to next corner use a 2 post panel.

* If fence length is greater than 600' to next corner use a 3 post panel.

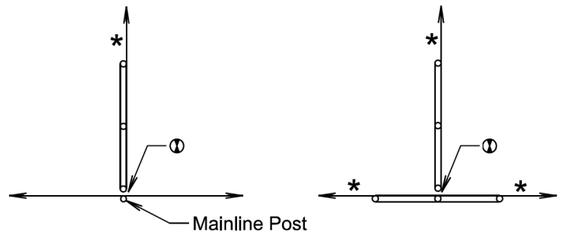


BEGIN OR END FENCE
(Where new fence ties into existing fence)

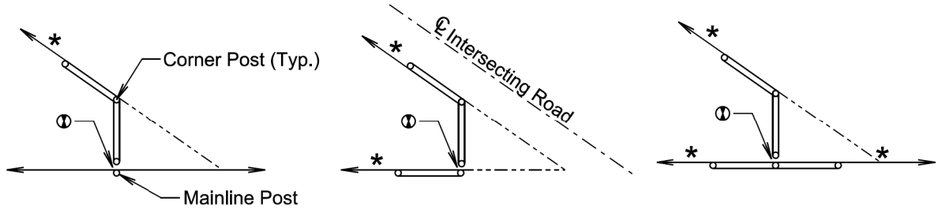




SHORT JOGS IN FENCE



CROSS FENCE



SHARP ANGLES IN CROSS FENCE

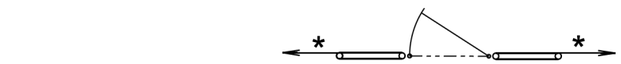
Additional fence panel is NOT required when an angle in the mainline fence is 10° and less.

Additional fence panel is required when an angle in the mainline fence is greater than 10°.

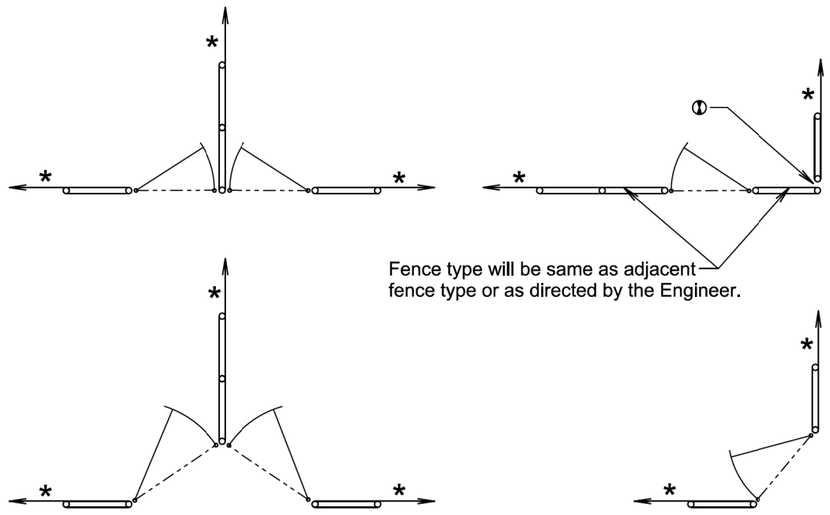
ANGLES IN MAINLINE FENCE

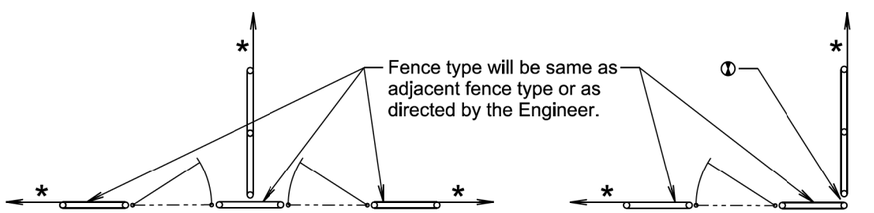
March 31, 2024

Published Date: 2026	SDDOT	*BRACE PANELS AND APPLICATIONS OF BRACE PANELS*	*PLATE NUMBER* 620.03 *Sheet 2 of 3*



ENTRANCE
(Not on corner)





DOUBLE ENTRANCES **ENTRANCES AT CORNERS**

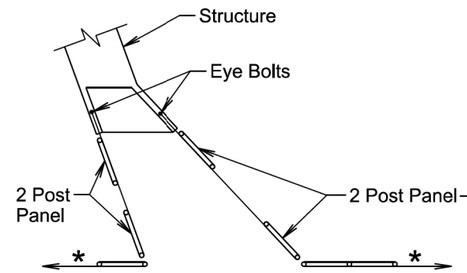
GATES

* If fence length is less than 600' to next corner use a 2 post panel.
If fence length is greater than 600' to next corner use a 3 post panel.

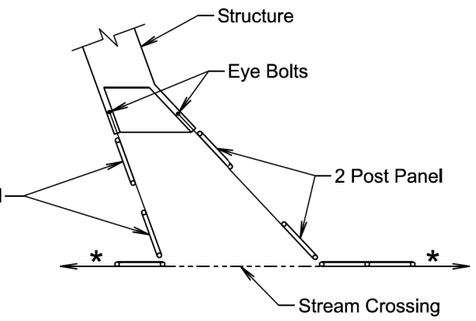
① See Detail B on Sheet 1 of 3.

March 31, 2024

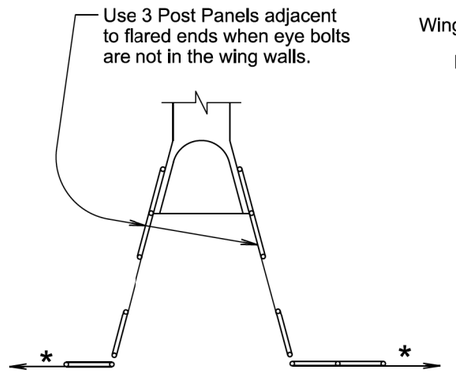
Published Date: 2026	SDDOT	BRACE PANELS AND APPLICATIONS OF BRACE PANELS	PLATE NUMBER 620.03
			Sheet 3 of 3



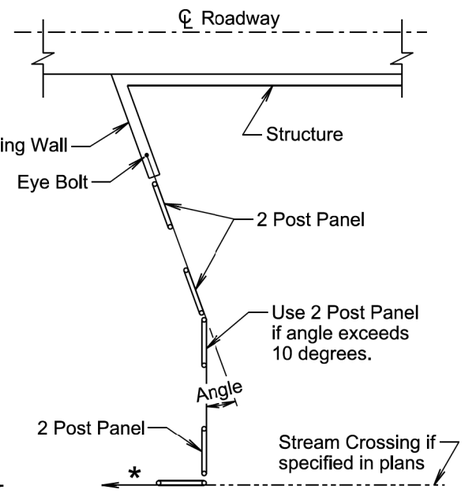
R.C. BOX CULVERT OR CATTLE PASS



STRUCTURE WITH STREAM CROSSING FENCE



R.C. BOX CULVERT OR CATTLE PASS

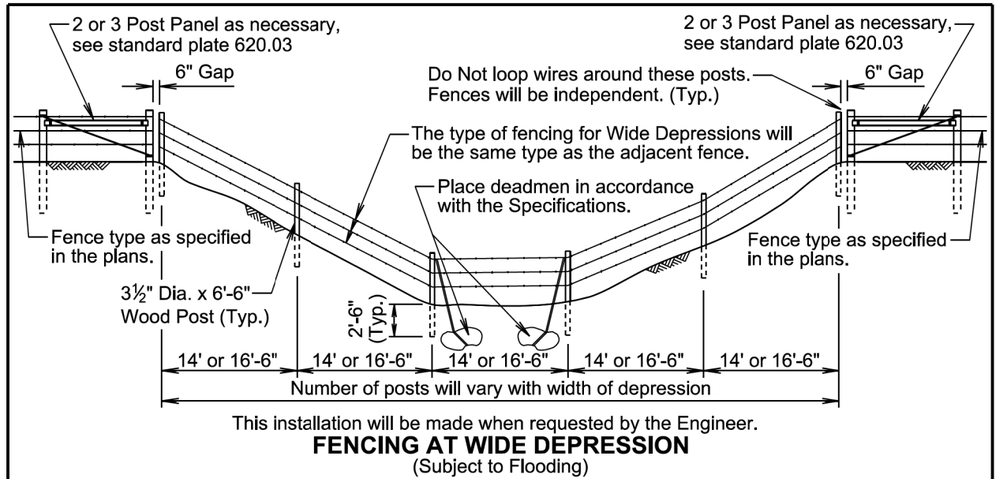


BRIDGE

* If fence length is less than 600' to next corner use a 2 post panel.
If fence length is greater than 600' use a 3 post panel.

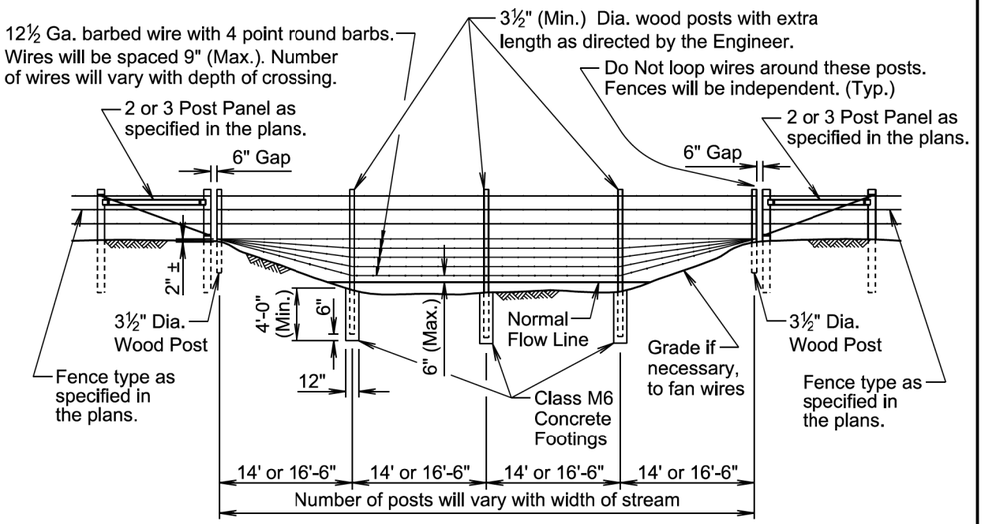
June 26, 2019

Published Date: 2026	SDDOT	BRACE PANEL APPLICATIONS AT STRUCTURES	PLATE NUMBER 620.04
			Sheet 1 of 1



This installation will be made when requested by the Engineer.

FENCING AT WIDE DEPRESSION
(Subject to Flooding)



This installation will be made only when stated in the plans.

FENCING AT STREAM CROSSING

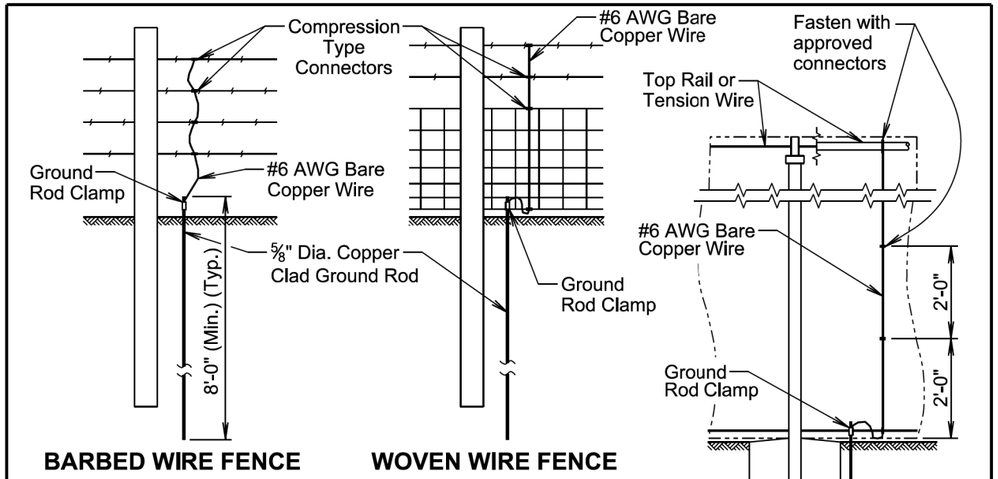
GENERAL NOTES:

There will be no extra payment for the additional work and materials required to construct the fencing at the wide depression(s) and/or the fencing at the stream crossing(s). The deadmen will be paid for in accordance with 620.5 A of the Specifications.

Measurement and payment for the fencing at the wide depression(s) and/or the fencing at the stream crossing(s) will be at the contract unit price per foot for the corresponding Right-of-Way fence contract item.

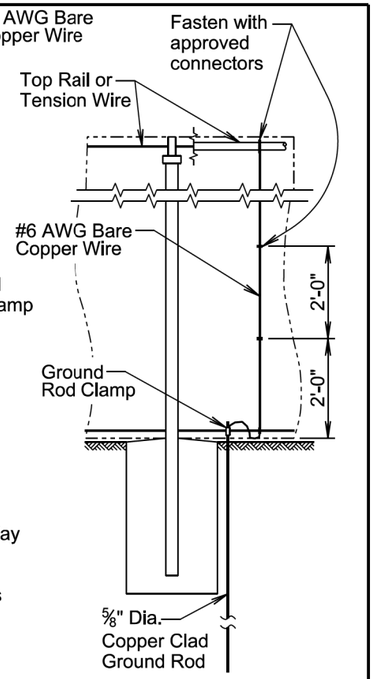
June 26, 2019

Published Date: 2026	SDDOT	FENCING AT WIDE DEPRESSION(S) AND STREAM CROSSING(S)	PLATE NUMBER 620.10 Sheet 1 of 1



BARBED WIRE FENCE

WOVEN WIRE FENCE



CHAIN LINK FENCE

GENERAL NOTES:

Details shown on this standard plate will apply to all types of Right-of-Way fence constructed with all wood posts or chain link fence.

Continuous fence in urban areas will be grounded at maximum intervals of 500 feet. Continuous fence in rural areas will be grounded at maximum intervals of 1000 feet. There will be a ground at a maximum of 100 feet from a gate in each adjacent section of fence.

Fence placed under a power line will be grounded with three grounds. One ground will be placed directly below the crossing and the other two will be placed 25 feet to 50 feet away, one on each side.

One ground will be placed directly below each telephone or cable crossing.

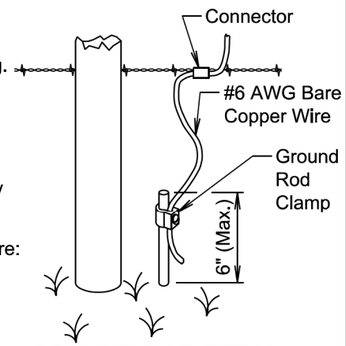
Ground rods will be located on the post side of the fence and will be as close as possible to the post and fence.

The cost of furnishing and placing all materials for grounding will be incidental to the contract unit price per foot for the respective Right-of-Way fence or chain link fence contract item.

The approximate quantites of materials per each installation of a ground are:

1 ground rod clamp.
1 ⅝" diameter x 8' long copper clad ground rod
1 #6 AWG bare copper wire; 7' long for Right-of-Way fence or 10' long for chain link fence.

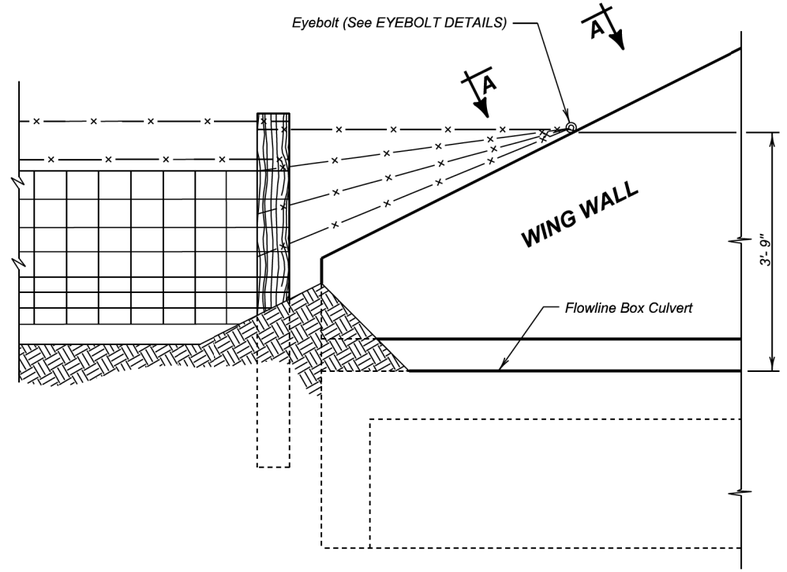
Compression type or other type of connectors:
26" woven wire will have a total of two connectors, one secured to the top and one secured to the bottom.
32" woven wire will have a total of three connectors, one secured to the top, one secured to the middle, and one secured to the bottom.
One connector will be used for each strand of barbed wire.
A minimum of 3 connectors will be installed on chain link fence, the connectors will be placed vertically at every 2-foot increment and connectors will be placed on the top and bottom tension wires or top rail.



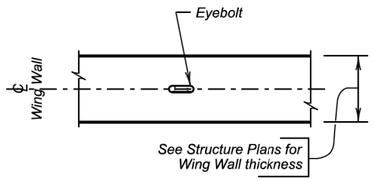
GROUND ROD DETAIL

June 26, 2019

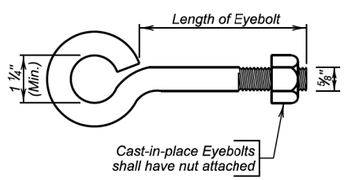
Published Date: 2026	SDDOT	FENCE GROUNDING	PLATE NUMBER 620.11 Sheet 1 of 1



DETAIL FOR FENCE ANCHORS



VIEW A - A



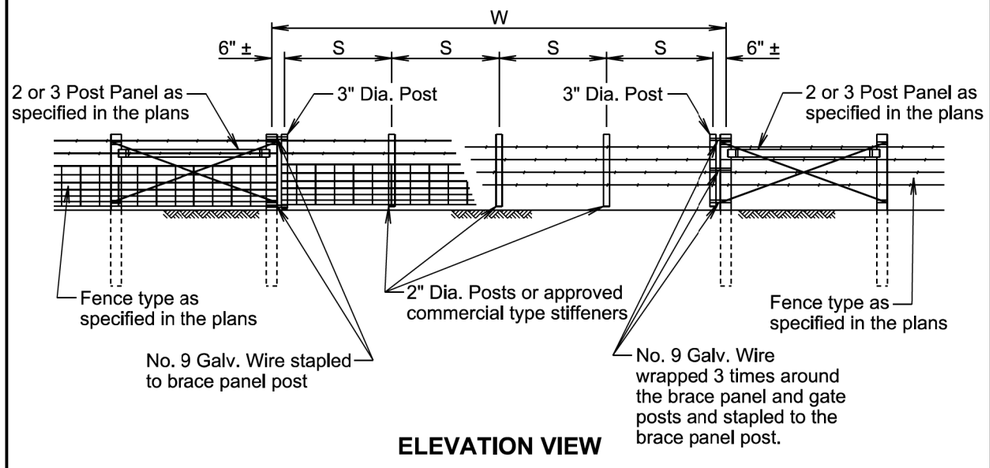
EYEBOLT DETAILS

GENERAL NOTES:

1. The fence and post details shown are for illustrative purpose only. The fence shall be as specified elsewhere in the plans.
2. Eyebolts shall be placed on all of the box culvert wing walls.
3. Eyebolts shall be ⅝ inch diameter and shall conform to ASTM A307.
4. Eyebolts, nuts, and concrete inserts shall be galvanized in accordance with AASHTO M232 (ASTM A153). Concrete inserts of corrosion resistant material need not be galvanized.
5. Cast-in-place eyebolts shall have a nut attached, be 4 ½ inches (Min.) in length and shall be embedded such that the eye of the bolt is flush with the concrete surface. (See Eyebolt Details) As an alternate, cast-in-place concrete inserts, capable of developing the full strength of the ⅝ inch diameter threaded eyebolt, may be used and shall be set in the concrete in accordance with the manufacturer's recommendations. The eyebolt shall be of sufficient length to develop its full strength. The eye of the eyebolt shall be flush with the concrete surface.
6. The cost for furnishing and installing eyebolts and/or concrete inserts shall be incidental to various contract items.

December 23, 2012

Published Date: 2026	SDDOT	FENCE ANCHORS FOR BOX CULVERT WING WALLS	PLATE NUMBER 620.16
			Sheet 1 of 1



ELEVATION VIEW

W Gate Width (Ft.)	S Post Spacing
16	3 @ 5'-0" ±
20	4 @ 4'-9" ±
24	4 @ 5'-9" ±
30	5 @ 5'-10" ±
40	6 @ 6'-6" ±

GENERAL NOTES:

Creosote treatment of the gate posts will not be accepted.

The type of fencing in the gate will be of the same type as specified for the adjacent Right-of-Way fence.

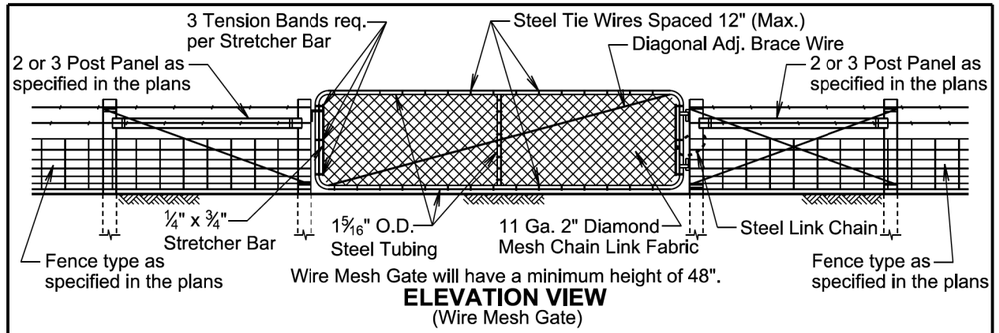
All costs for furnishing and constructing the wire gate(s) will be incidental to the contract unit price per foot for the respective Right-of-Way fence contract item.

June 26, 2019

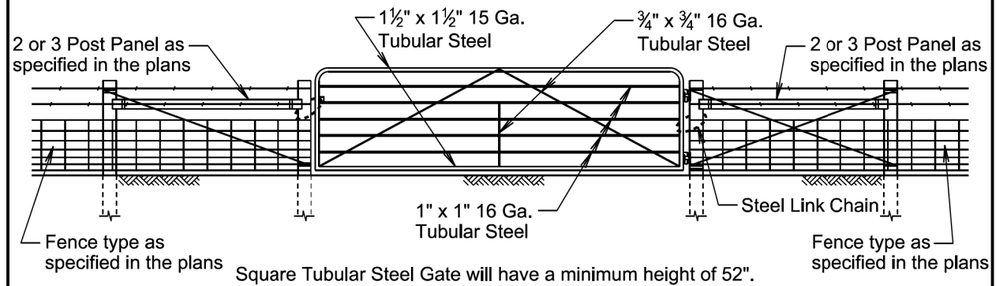
Published Date: 2026	SDDOT	WIRE GATES	PLATE NUMBER 620.20
			Sheet 1 of 1

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B81	B85

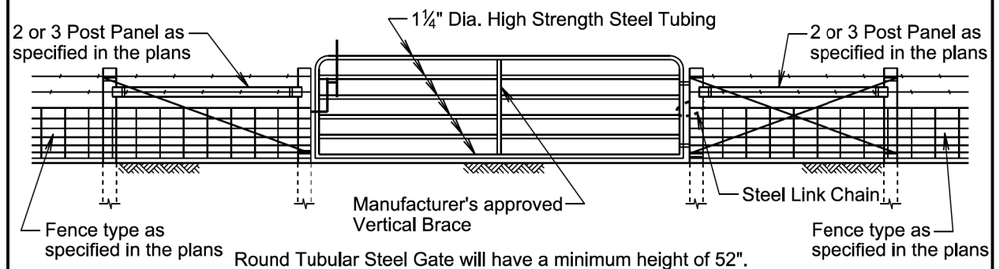
Plotting Date: 12/18/2025



ELEVATION VIEW
(Wire Mesh Gate)



ELEVATION VIEW
(Square Tubular Steel Gate)



ELEVATION VIEW
(Round Tubular Steel Gate)

GENERAL NOTES:

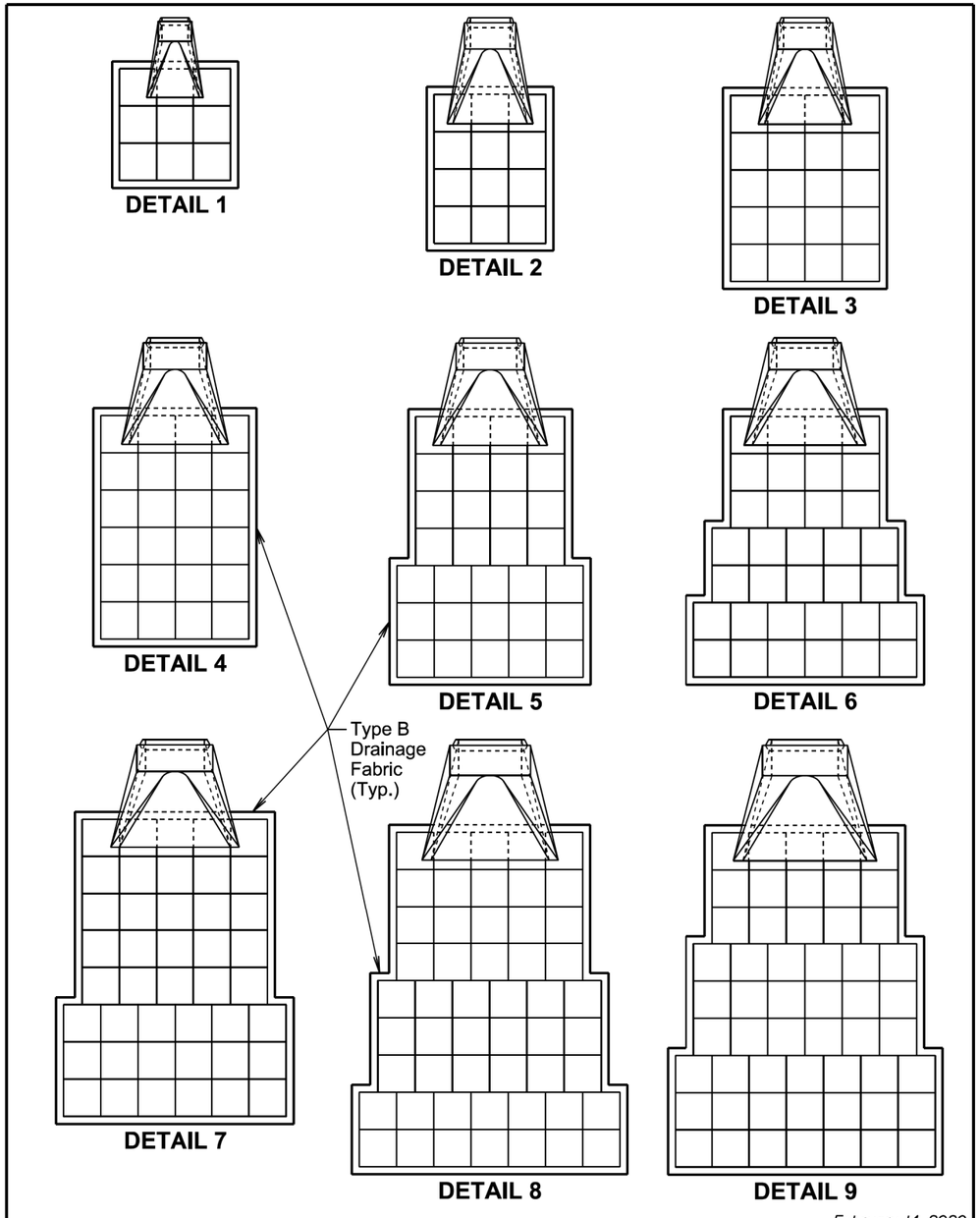
Only single tubular frame gates are shown on this standard plate. If double tubular frame gates are specified, the gates will be of the same type and materials as shown above. Double tubular gates will swing toward the middle of the opening and will be secured by a chain, latch, or other suitable hardware.

Gate hardware will conform to the specific type of gate installed. The gate and gate hardware will either be painted or galvanized. The paint on the gates and hardware will be subject to approval by the Engineer.

The Steel Link Chain will be a minimum of ¼", 4' long, rust resistant, and have electrically welded links. The chain will be wrapped around the gate hinge post and gate frame and the ends of the chain will be welded together with enough slack in the chain to provide free operation of the gate.

June 26, 2019

Published Date: 2026	SDDOT	***TUBULAR FRAME GATES***	*PLATE NUMBER* 620.21 *Sheet 1 of 1*



February 14, 2020

Published Date: 2026	SDDOT	***BANK AND CHANNEL PROTECTION GABION PLACEMENT UNDER PIPE END SECTIONS***	*PLATE NUMBER* 720.03 *Sheet 1 of 2*

Plot Scale - 1:200

Plotted From - TRPR13522

File - ...\StdPlateSection_05FA.dgn

	* ESTIMATED QUANTITIES			
	Detail	Pipe Diameter (Inches)	Gabion (Cu. Yd.)	Type B Drainage Fabric (Sq. Yd.)
RCP, RCP Arch, CMP, and CMP Arch	1	12, 18, and 24	4.5	15
	2	30 and 36	6.0	19
	3	42	10.0	29
	4	48 and 54	12.0	34
	5	60	15.5	43
	6	66	17.0	47
	7	72	21.5	57
	8	78	26.0	68
	9	84	27.0	70

GENERAL NOTES:

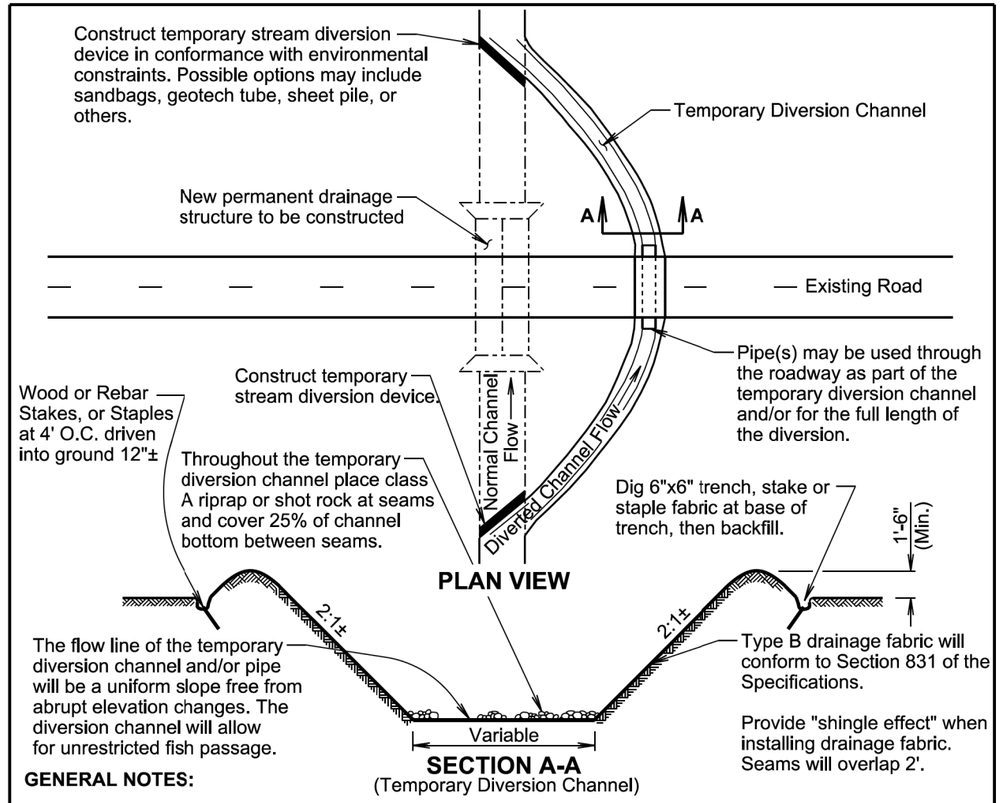
Gabions at outlets of CMP and RCP will be placed under the end section a distance of 2 feet from the outlet end. For CMP end section installations, the upper fabric of the gabions will be modified to accommodate the metal end section as approved by the Engineer.

* Gabion and type B drainage fabric quantities on this standard plate are based on standard gabion sizes D, E, and F as depicted on standard plate 720.01.

Type B drainage fabric will be placed under the gabions and around the exterior sides (perimeter) of the gabions as approved by the Engineer. The type B drainage fabric will be in conformance with Section 831 of the Specifications. Measurement and payment of the type B drainage fabric will be in conformance with Section 720 of the Specifications.

February 14, 2020

Published Date: 2026	SDDOT	***BANK AND CHANNEL PROTECTION GABION PLACEMENT UNDER PIPE END SECTIONS***	***PLATE NUMBER 720.03*** *Sheet 2 of 2*



GENERAL NOTES:

A temporary diversion channel and/or pipe(s) will be used to divert stream or drainage away from a construction area to provide a dry work area for construction. The diversion of streams and waterways is intended to protect the streams and waterways from various construction contaminants and sediment. Disturbing the existing stream channel and riparian zone should be minimized. Equipment will not cross through the stream outside of the work area.

Sizing of the temporary diversion channel and/or pipe(s) will be the Contractor's responsibility.

The method and materials used to construct the stream diversion device will be the Contractor's responsibility, however, earthen berms are not acceptable since their removal causes siltation problems.

The Contractor will restore the original channel bottom to its original condition prior to returning any flows. Upon completion of the new permanent drainage structure, the temporary stream diversion block or device will be removed in a manner that will not cause violation of water quality standards. The temporary diversion channel will then be backfilled and any pipe(s) (if used) will be removed. The entire work area will be cleaned and restored to smooth/even contours.

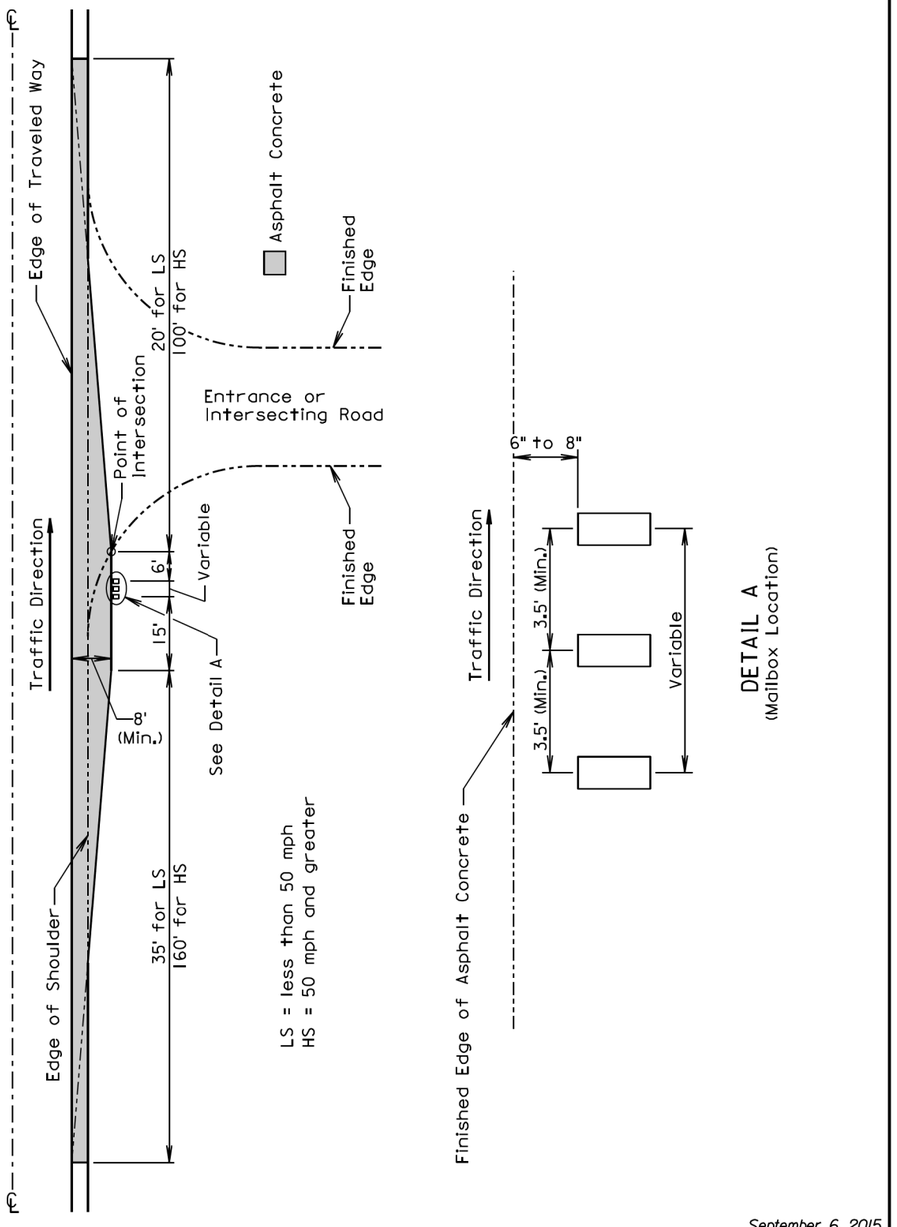
All costs for labor, equipment, materials, and incidentals as indicated on this sheet to complete a satisfactory temporary diversion channel and/or pipe(s) will be incidental to the contract unit price per each for "Temporary Diversion Channel For Fish Passage". "Temporary Diversion Channel For Fish Passage" will be paid for once per structure site regardless of the number of times water is diverted at the individual site.

February 14, 2020

Published Date: 2026	SDDOT	***TEMPORARY DIVERSION CHANNEL FOR FISH PASSAGE***	***PLATE NUMBER 734.30*** *Sheet 1 of 1*

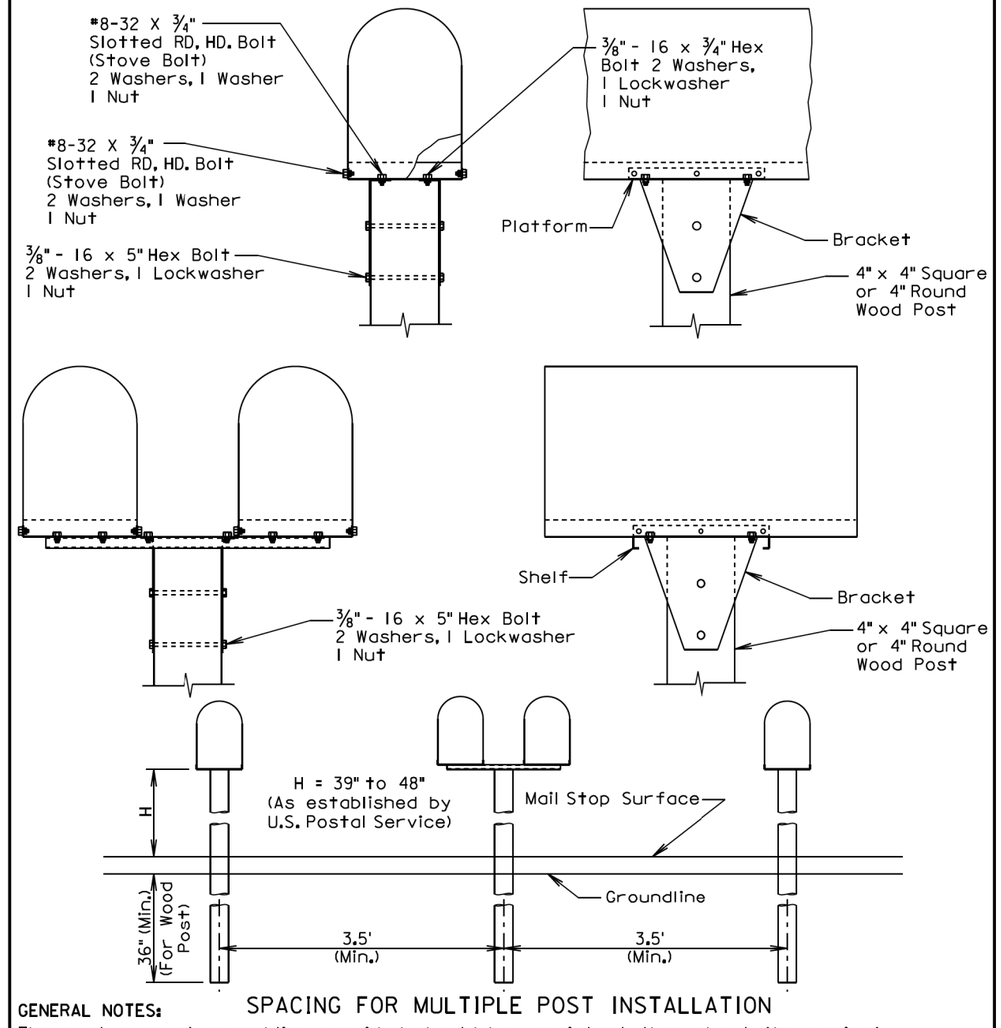
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B83	B85

Plotting Date: 12/18/2025



September 6, 2015

Published Date: 2026	SDDOT	MAILBOX TURNOUT	PLATE NUMBER 900.01
			Sheet 1 of 1



SPACING FOR MULTIPLE POST INSTALLATION

GENERAL NOTES:

The post support assemblies provided should be consistant throughout the project.

Single and double mailboxes may be in any sequence.

Post support assemblies shall be one from the approved products list, a 4"x4" or 4" round wood post, or an alternate post support assembly that meets the test level 3 crash testing requirements of NCHRP 350 or MASH.

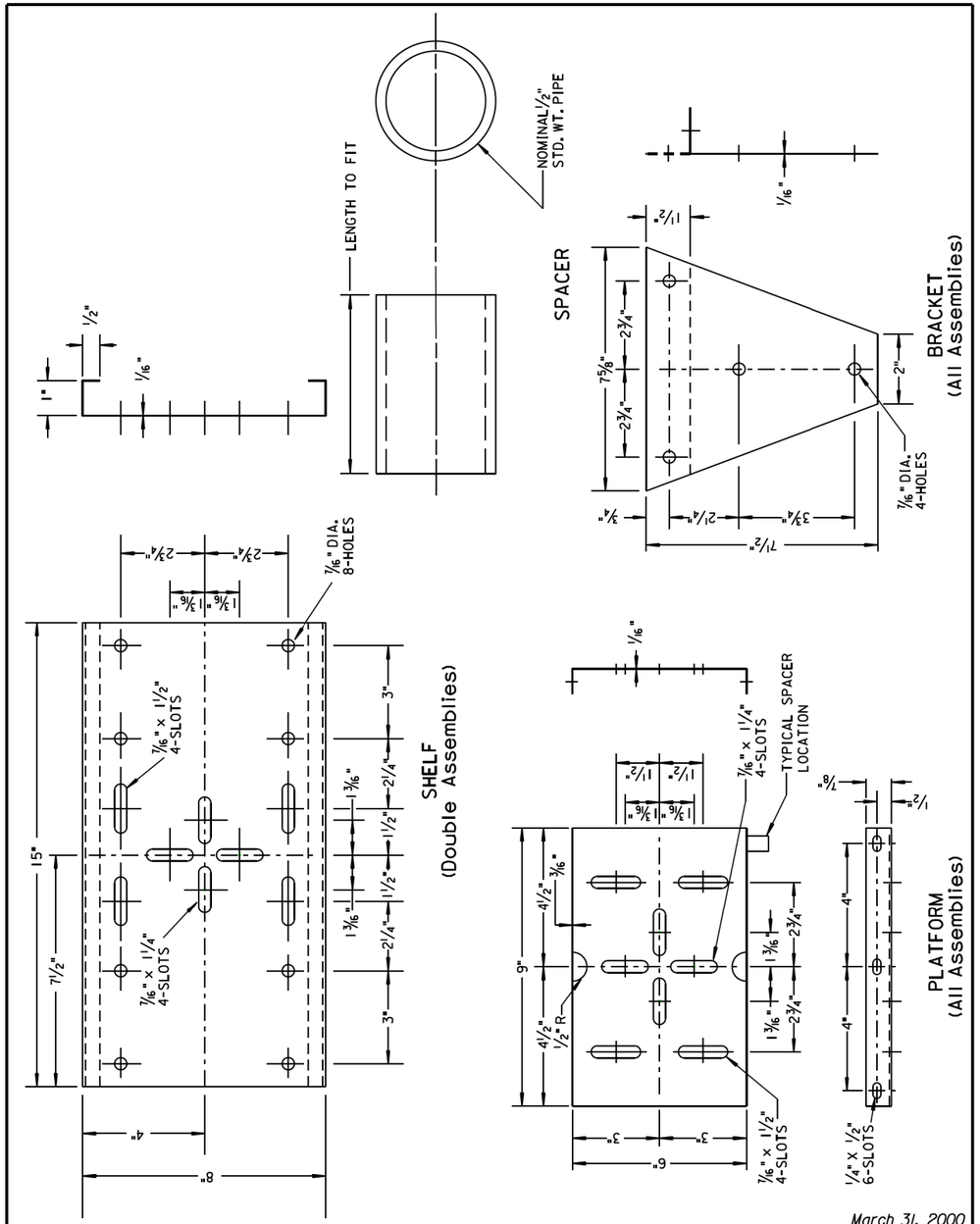
Alternate mailbox support assemblies shall be approved by the Engineer prior to installation. The Contractor shall provide the Engineer written certification that the mailbox support assembly has met the crash testing requirements and will be installed in accordance with the manufacturer's installation instructions.

September 6, 2013

Published Date: 2026	SDDOT	SINGLE AND DOUBLE MAILBOX ASSEMBLIES	PLATE NUMBER 900.02
			Sheet 1 of 1

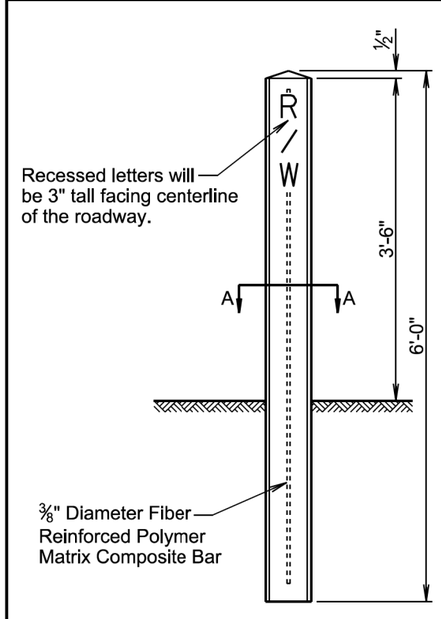
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH 0038(48)306	B84	B85

Plotting Date: 12/18/2025

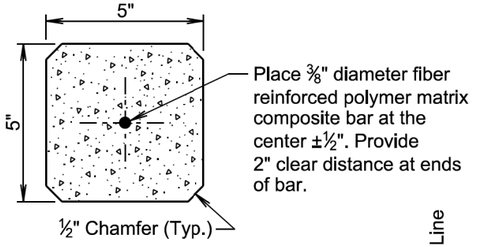


March 31, 2000

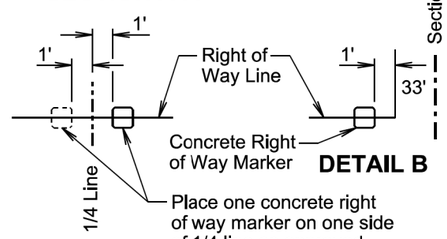
Published Date: 2026	SDDOT	MAILBOX SUPPORT HARDWARE	PLATE NUMBER 900.03
			Sheet 1 of 1



ELEVATION VIEW

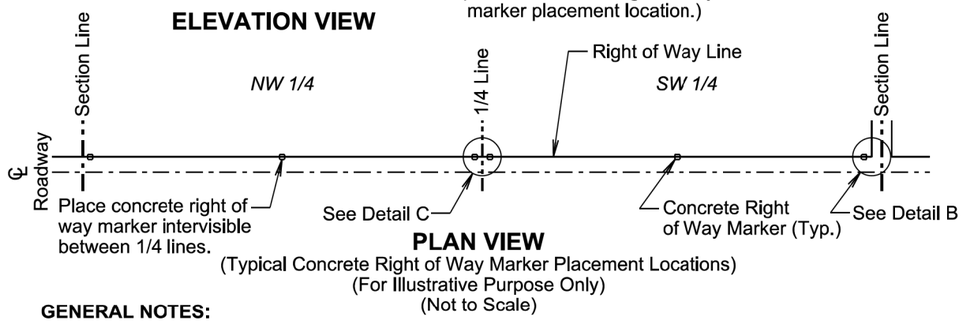


SECTION A-A



DETAIL B

DETAIL C
(Drawing illustrates both options of concrete right of way marker placement location.)



PLAN VIEW
(Typical Concrete Right of Way Marker Placement Locations)
(For Illustrative Purpose Only)
(Not to Scale)

GENERAL NOTES:

The concrete right of way markers will be set plumb and backfilled as approved by the Engineer.

Additional concrete right of way markers may need to be installed due to the terrain. Placement of additional concrete right of way markers must be approved by the Engineer prior to installation.

The concrete will be Class M6 in accordance with specifications Section 462.

The fiber reinforced polymer matrix composite bar will have a minimum of 130 ksi tensile strength, a minimum ultimate tensile load of 19,675 lbs, and a minimum tensile modulus of elasticity of 6.7×10^6 psi in accordance with ASTM D7205. Bond strength will be a minimum of 2,047 psi in accordance with ACI 440.3R Part 2 B3. Minimum shear capacity will be 25.1 ksi in accordance with ASTM D7617.

All costs for furnishing and installing the concrete right of way marker including materials, labor, and equipment will be incidental to the contract unit price per each for "Concrete Right of Way Marker".

April 8, 2025

Published Date: 2026	SDDOT	CONCRETE RIGHT OF WAY MARKER	PLATE NUMBER 900.15
			Sheet 1 of 1

Plot Scale - 1:200

Plotted From - TRPR13522

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