STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	1	85

Plotting Date: 04/05/2024

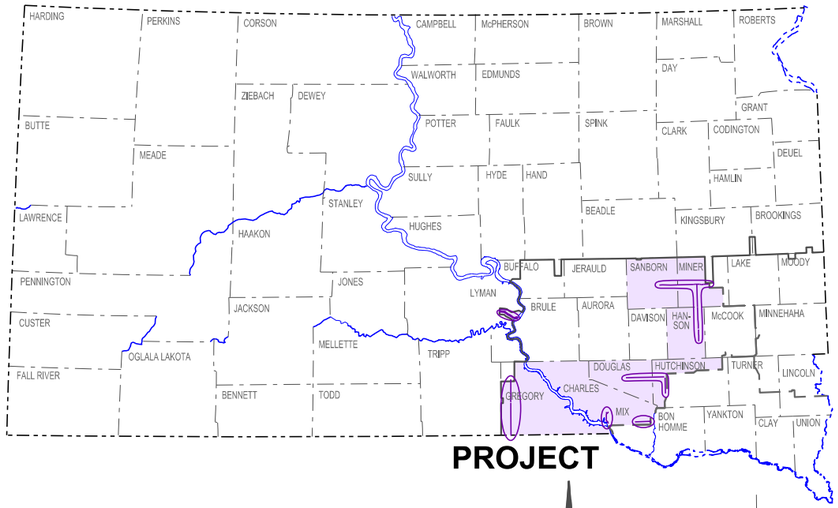
STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED

PROJECT IM-NH-P 0021(186)

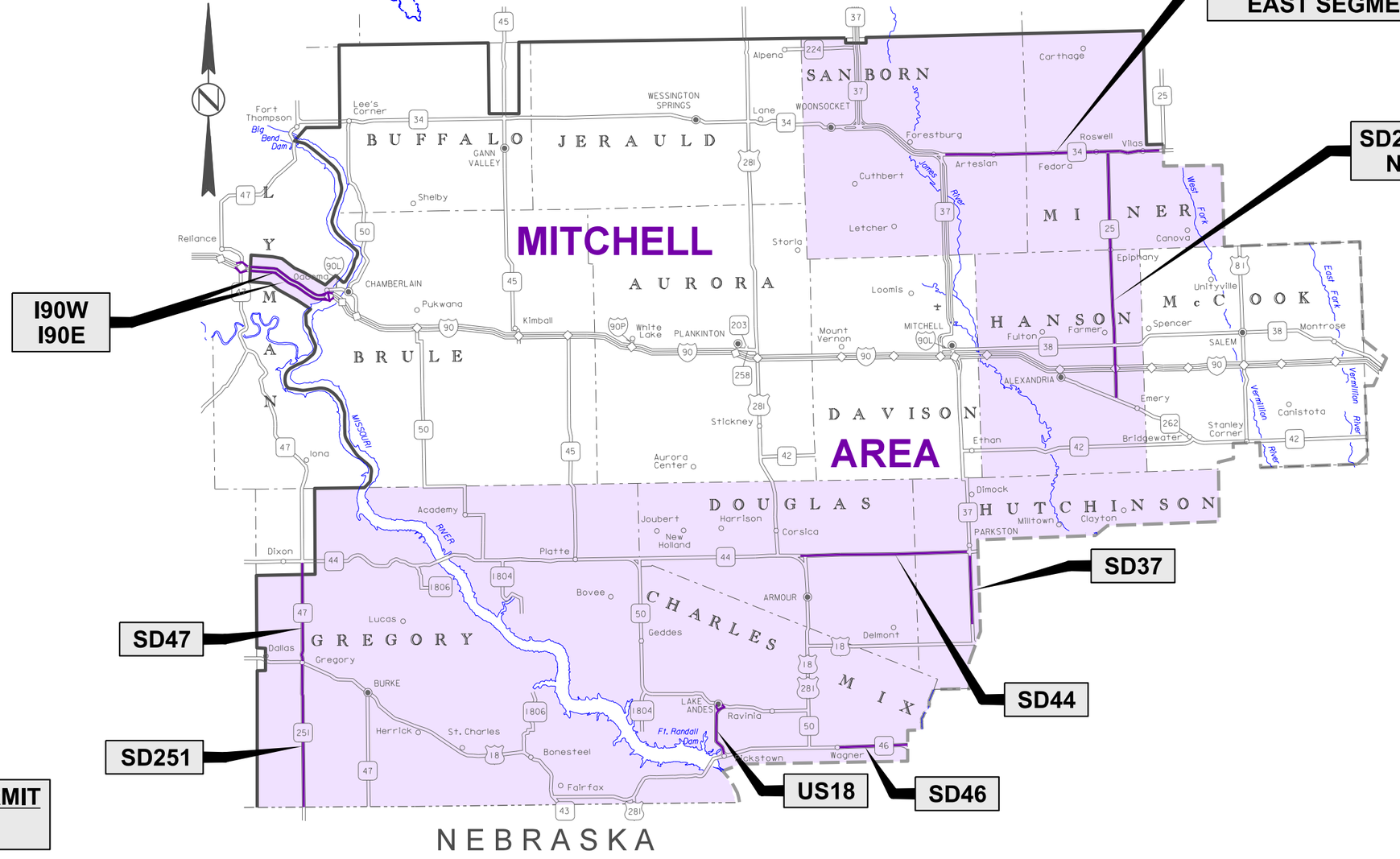
INTERSTATE 90, US HIGHWAY 18,
SD HIGHWAYS 25, 34, 37, 44, 46, 47 & 251
CHARLES MIX, DOUGLAS, GREGORY, HANSON,
HUTCHINSON, LYMAN, MINER & SANBORN COUNTIES
ASPHALT SURFACE TREATMENT,
ASPHALT SURFACE TREATMENT OF SHOULDERS
& CENTERLINE RUMBLE STRIPES
PCN 0971

INDEX OF SHEETS

Sheet 1	Title Sheet
Sheets 2 - 13	Layout Maps
Sheets 14 & 15	Estimate of Quantities
Sheet 16	Environmental Commitments
Sheets 17 - 31	Rates of Materials and Table of Additional Quantities
Sheets 32 - 37	Plan Notes
Sheets 38 - 60	Pavement Marking
Sheet 60	Rumble Stripe Detail
Sheets 61 - 85	Traffic Control



PROJECT



STORM WATER PERMIT
(None required)

8

June 5, 2024

PLOTTED FROM - TRM11NT06

PLOT SCALE - 1:70000

PLOT NAME - 1

FILE - ...\0971 - CHIP SEALS\TITL0971.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	2	85

Plotting Date: 04/05/2024

US HIGHWAY 18
CHARLES MIX COUNTY
ASPHALT SURFACE TREATMENT & CENTERLINE RUMBLE STRIPES
GROSS LENGTH: 6.102 MILES
BRIDGE & APPROACH/SLEEPER SLABS LENGTH: 0.051 MILE
NET LENGTH: 6.051 MILES

TERO
6.102 miles on US18 Yankton Sioux

US HIGHWAY 18 CONNECTORS
CHARLES MIX COUNTY
ASPHALT SURFACE TREATMENT
LENGTH: 0.436 MILE

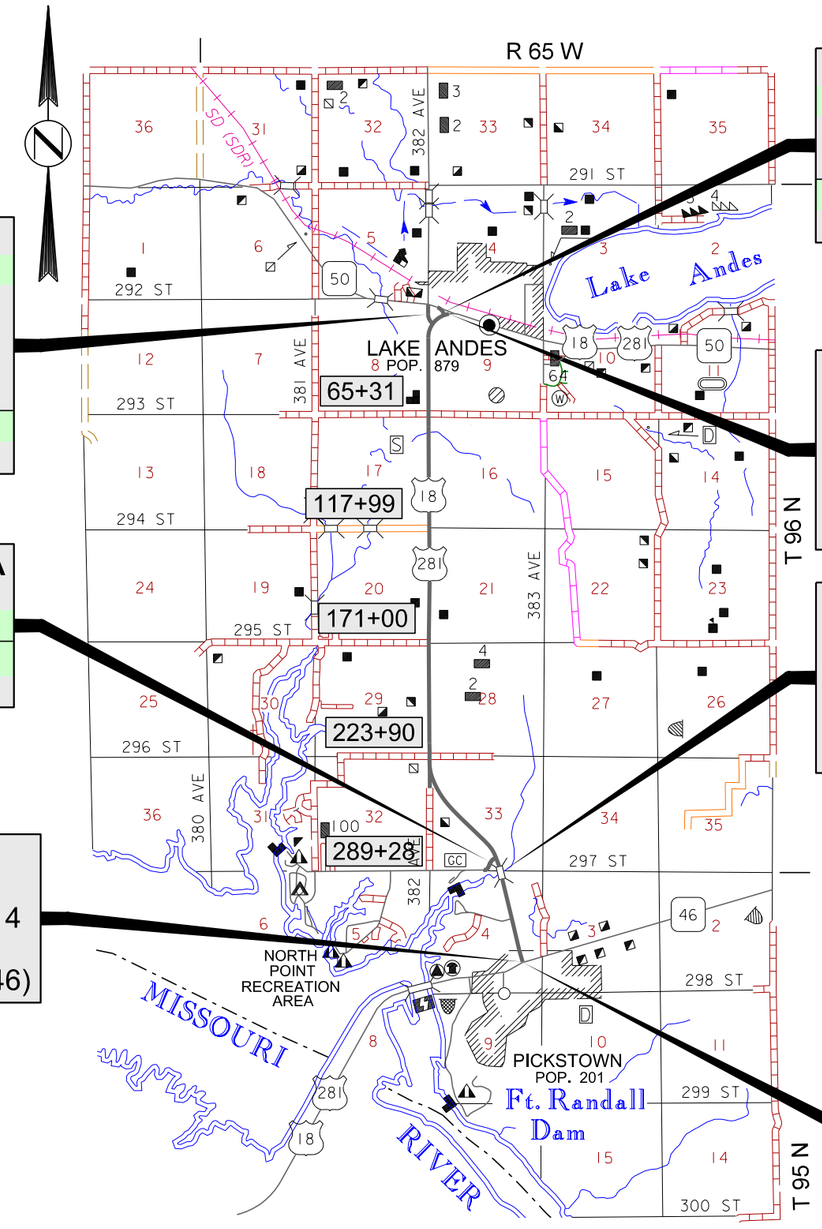
TERO
0.436 mile on US18 Connectors Yankton Sioux

STATIONING KEY:
US18 Stationing
Connectors Stationing

US18 CONNECTOR TO 382 AVE
STA. 0+00 to STA. 11+64
US18 Connector Segment
(382nd Ave from 75' S of ℄
Jct SD50, south and east
to 26' N of Jct ℄ US18)
STA. 11+90 (US18 Connector) =
STA. 24+53 (US18)

NORTH POINT RECREATION AREA ENTRANCE ROAD CONNECTOR
STA. 0+00 to STA. 10+14
STA. 10+40 (N Point Entrance Rd) =
STA. 281+80 (US18)

END US18
STA. 332+26
MRM 332.89 +0.014
MILEAGE 309.811
(26' N of Jct ℄ SD46)



US18 CONNECTOR TO SD50
STA. 0+00 to STA. 1+26
US18 Connector Segment (from
SD50, south and east to US18)
STA. 1+44 (US18 Connector) =
STA. 10+85 (US18)

BEGIN US18
STA. 10+10
MRM 339.00 +0.004
MILEAGE 315.913
(At new AC joint just
W of Jct SD50)

STR. NO. 12-387-289
287+99 to 290+68
Prestressed Girder Bridge
225'-0"=0.043 Mile
MRM 333.72
Two Approach/Sleeper Slabs
2@22'=44' = 0.008 Mile

JCT US18 & SD46 (Off Project)
US18 Sta. 332+52

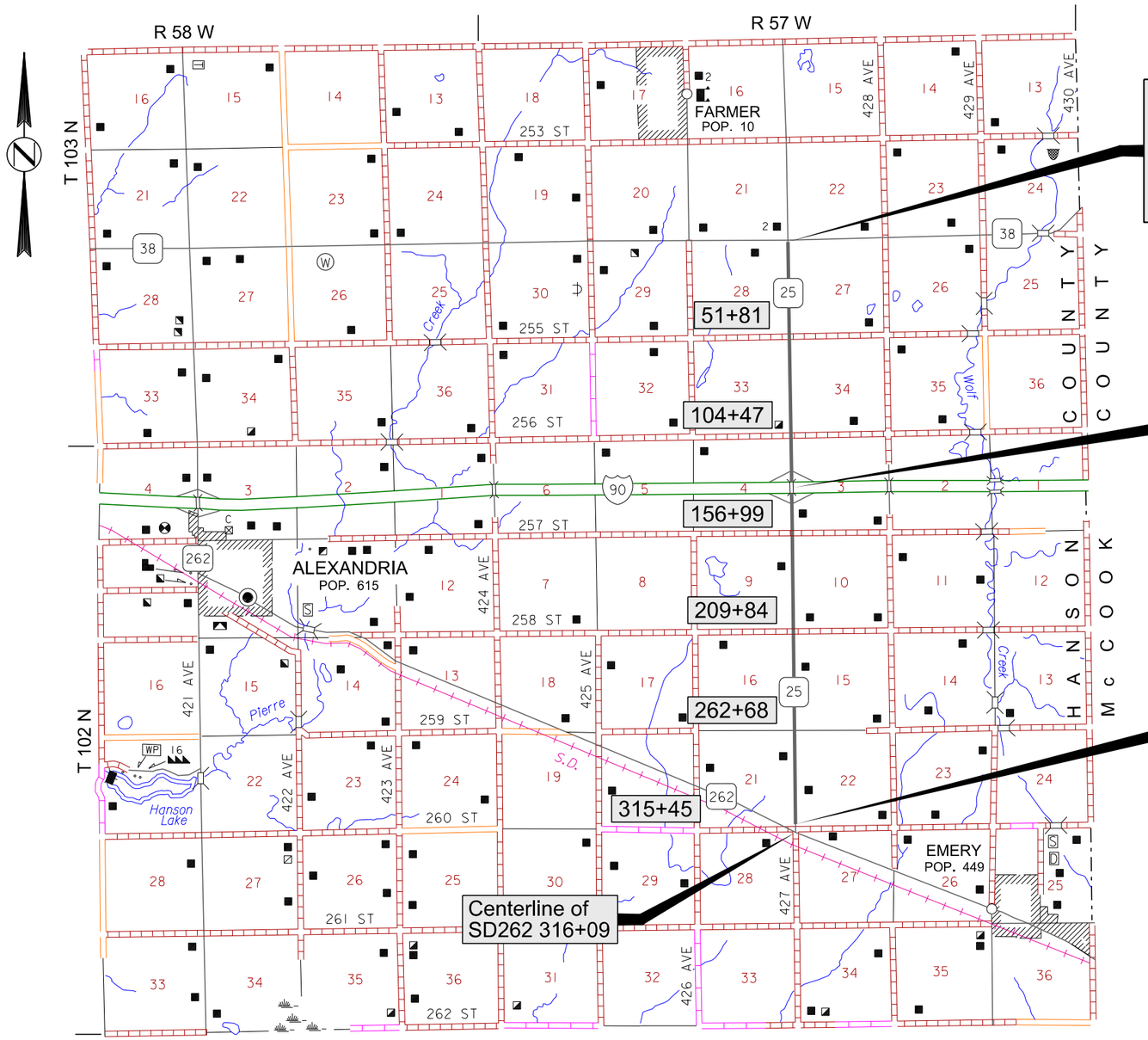
ADT (2022) 1,655

PLOT SCALE - 1:7000
PLOTTED FROM - TRM11NT06
PLOT NAME - 2
FILE - ...\0971 - CHIP SEALS\TTL0971.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	3	85

Plotting Date: 04/04/2024

SD HIGHWAY 25 SOUTH SEGMENT
HANSON COUNTY
ASPHALT SURFACE TREATMENT
GROSS LENGTH: 5.967 MILES
BRIDGE LENGTH: 0.048 MILE
NET LENGTH: 5.919 MILES



BEGIN SD25
STA. 0+00
MRM 61.00 +0.723
MILEAGE 25.514
87' S of ℄ SD38

STRUCTURE 31-150-125
Sta. 131+32 to Sta. 133+86
Cont. Comp. Girder Bridge
254'-0"=0.048 Mile
MRM 59.22

END SD25
STA. 315+04
MRM 55.73 +0.005
MILEAGE 19.554
105' N of ℄ SD262

ADT (2022) 412

SD HIGHWAY 25 MIDDLE SEGMENT
HANSON COUNTY
ASPHALT SURFACE TREATMENT
LENGTH: 10.158 MILES

SD HIGHWAY 25 NORTH SEGMENT
MINER COUNTY
ASPHALT SURFACE TREATMENT
GROSS LENGTH: 10.980 MILES
BRIDGE & APPROACH/SLEEPER SLABS LENGTH: 0.033 MILE
NET LENGTH: 10.947 MILES

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	4	85

Plotting Date: 04/04/2024

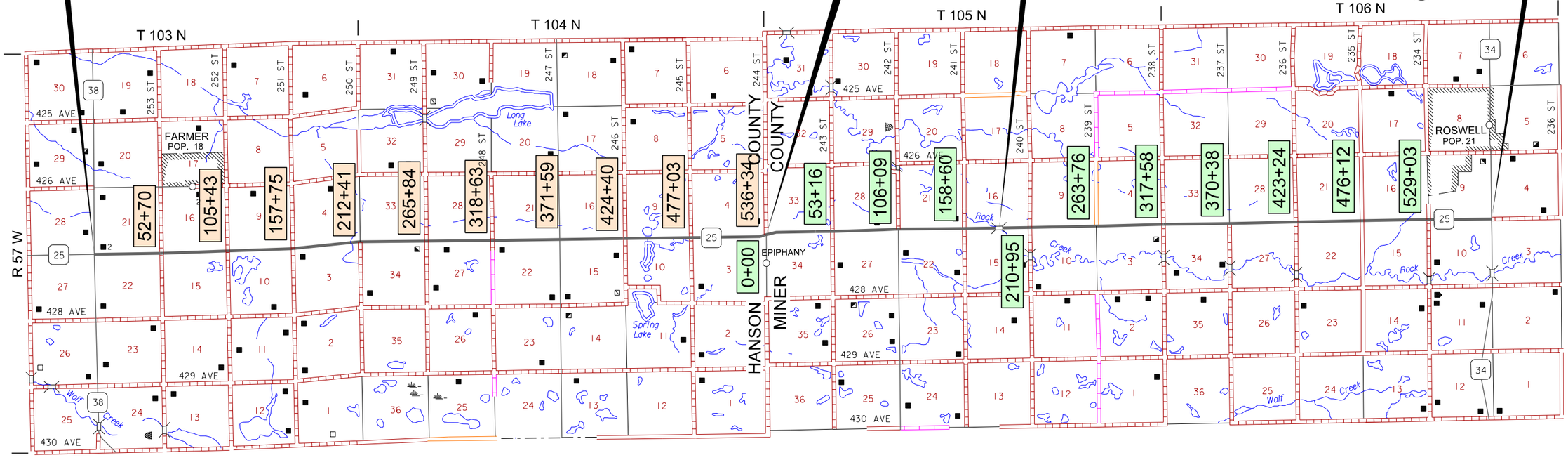
BEGIN SD25
MIDDLE SEGMENT
STA. 0+00
MRM 61.72 +0.005
MILEAGE 25.535
(26' N of Jct SD38)

END SD25
MIDDLE SEGMENT
STA. 536+34
MRM 71.89 +0.005
MILEAGE 35.693
(County Line)

BEGIN SD25
NORTH SEGMENT
STA. 0+00
MRM 71.89 +0.005
MILEAGE 35.693
(County Line)

STRUCTURE 49-089-205
Sta. 186+03 to Sta. 187+79
Continuous Concrete Bridge
106'-3 3/4" = 0.020 Mile
Approach Slabs
2@35'=70'= 0.013 Mile
MRM 75.45

END SD25
NORTH SEGMENT
STA. 579+74
MRM 82.00 +0.809
MILEAGE 46.673
(Just S of Jct SD34)



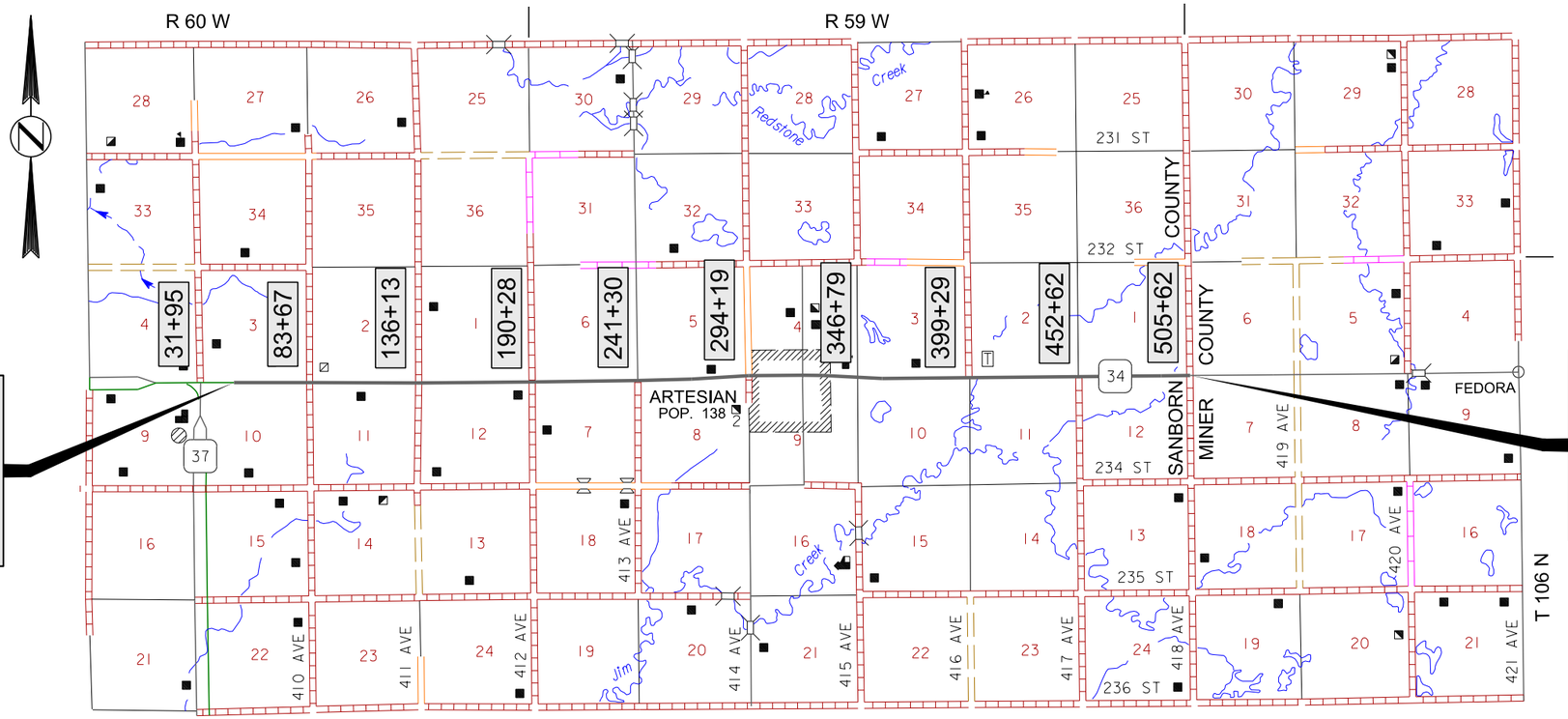
SD25 M Seg ADT (2022) 564
SD25 N Seg ADT (2022) 582

PLOT SCALE - 1:70000
PLOT NAME - 4
PLOTTED FROM - TRM1INT06
FILE - ...\0971 - CHIP SEALS\TIL0971.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	5	85

Plotting Date: 04/04/2024

SD HIGHWAY 34 WEST SEGMENT
SANBORN COUNTY
ASPHALT SURFACE TREATMENT
LENGTH: 8.855 MILES



BEGIN SD34
WEST SEGMENT
STA. 38+38
MRM 341.19 +0.169
MILEAGE 280.582
(At End Concrete)

END SD34
WEST SEGMENT
STA. 505+93
MRM 350.00 +0.015
MILEAGE 289.431
(At County Line)

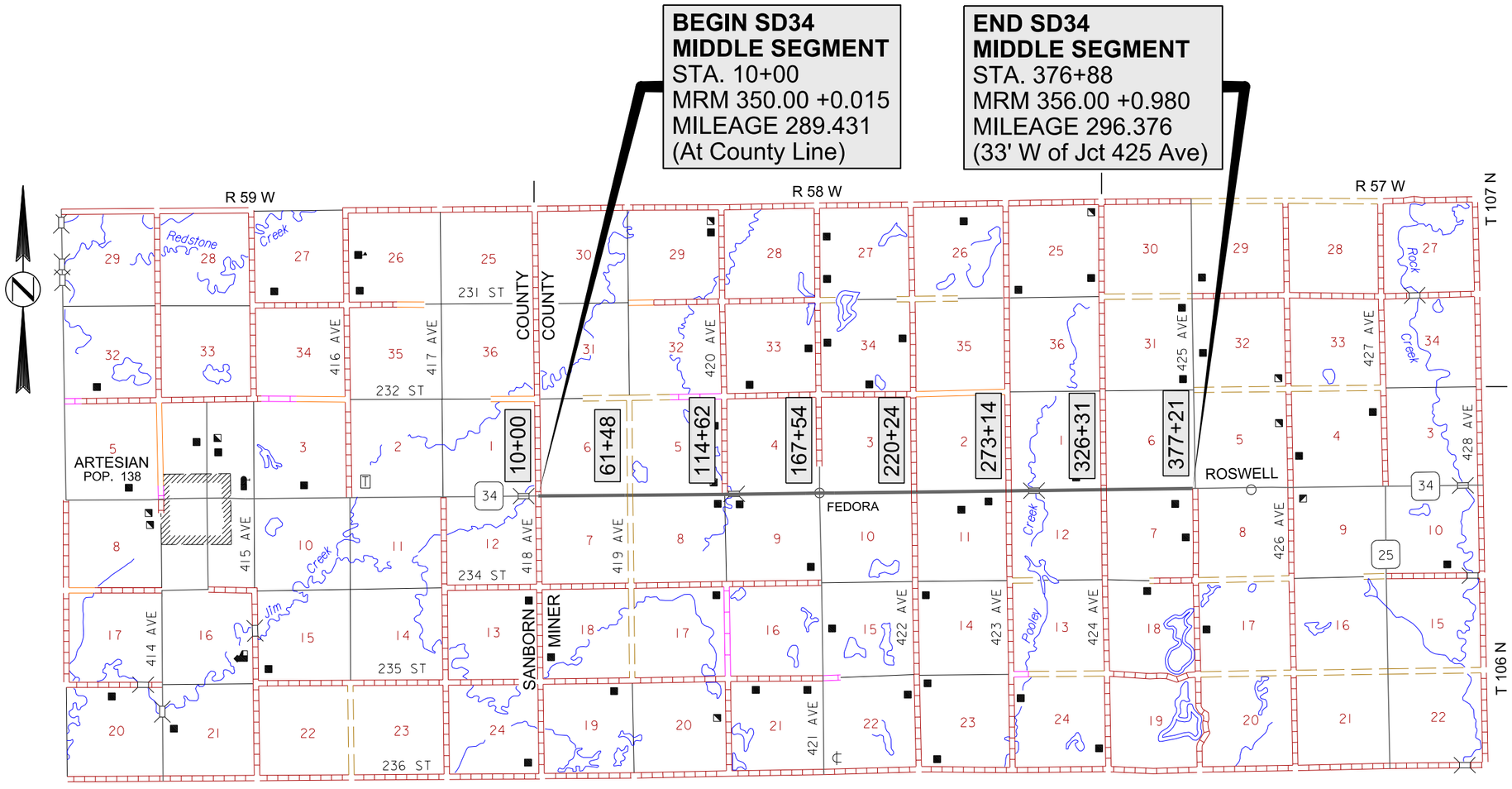
ADT (2022) 1,257

PLOT SCALE - 1:7000
PLOT NAME - 5
FILE - ...\0971 - CHIP SEALS\TTL0971.DGN
PLOTTED FROM - TRM1INT06

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	6	85

Plotting Date: 04/04/2024

SD HIGHWAY 34 MIDDLE SEGMENT
MINER COUNTY
ASPHALT SURFACE TREATMENT
LENGTH: 6.948 MILES



ADT (2022) 1,070

PLOT SCALE - 1:70000

PLOTTED FROM - TRMIINT06

PLOT NAME - 6

FILE - ...\0971 - CHIP SEALS\TITL0971.DGN

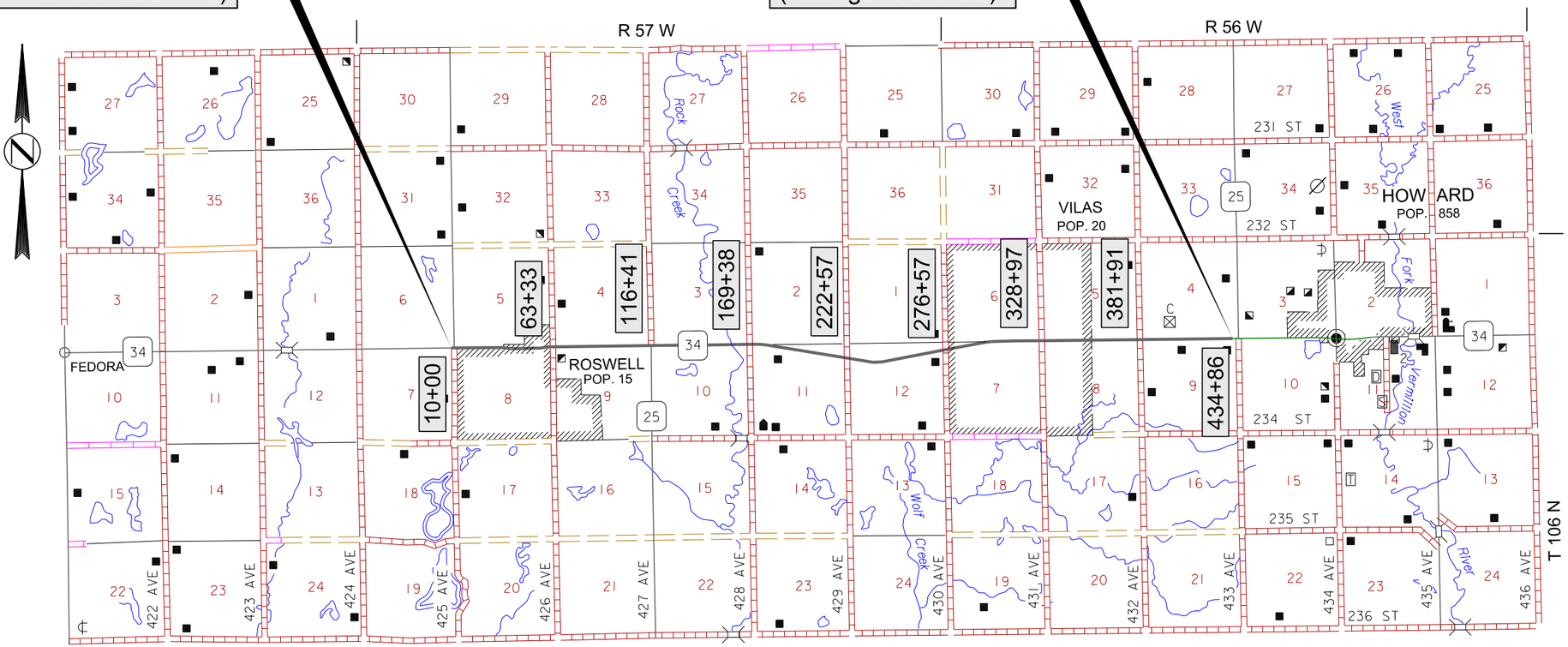
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	7	85

Plotting Date: 04/04/2024

SD HIGHWAY 34 EAST SEGMENT
MINER COUNTY
ASPHALT SURFACE TREATMENT
LENGTH: 8.027 MILES

BEGIN SD34
EAST SEGMENT
STA. 9+67
MRM 356.00 +0.980
MILEAGE 296.376
(33' W of Jct 425th Ave)

END SD34
EAST SEGMENT
STA. 433+50
MRM 364.00 +0.987
MILEAGE 304.403
(At Begin Concrete)

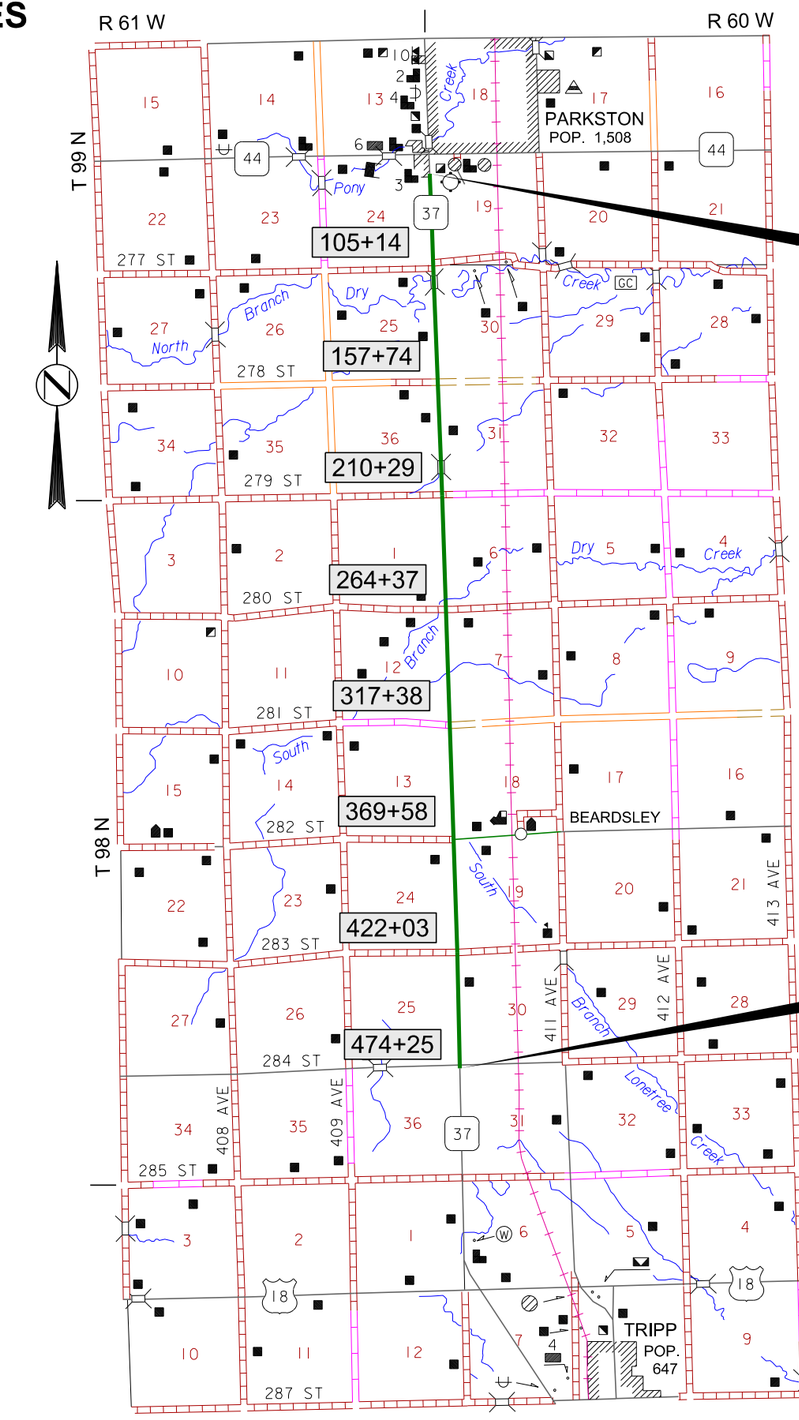


ADT (2022) 1,148

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	8	85

Plotting Date: 04/04/2024

SD HIGHWAY 37
HUTCHINSON COUNTY
ASPHALT SURFACE TREATMENT OF SHOULDERS
LENGTH: 7.825 MILES



BEGIN SD37
STA. 61+60
MRM 51.00 +0.404
MILEAGE 47.521
(At Begin Concrete
900' S of Jct SD44)

END SD37
STA. 474+75
MRM 43.00 +0.590
MILEAGE 39.696
(At End Concrete
50' S of Jct 284th St)

ADT (2022) 2,164

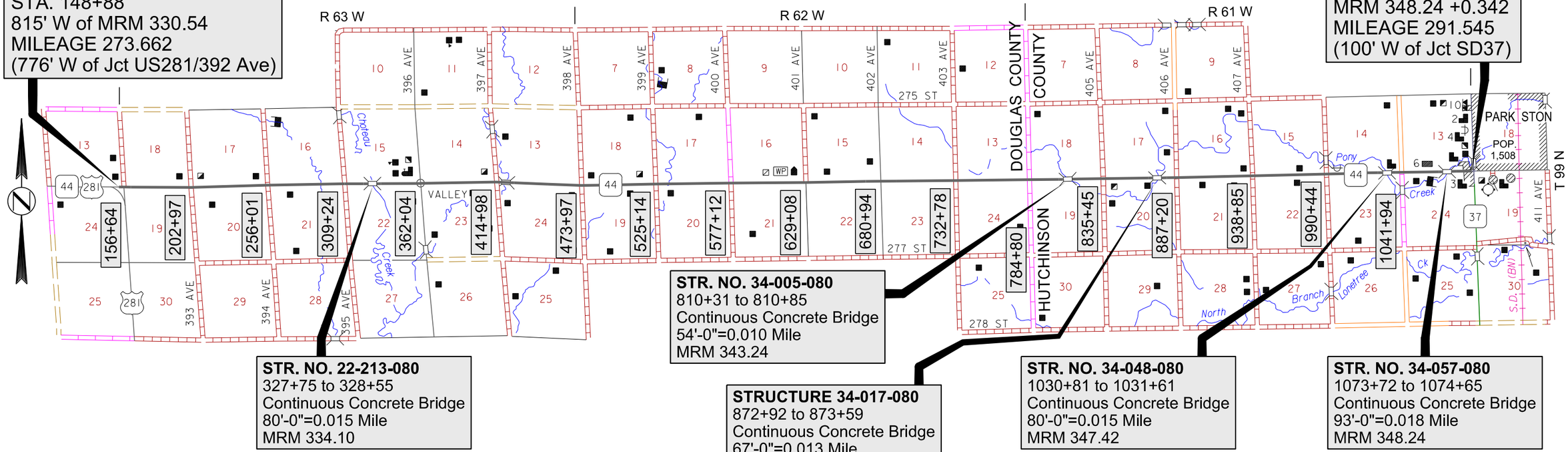
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	9	85

Plotting Date: 04/04/2024

SD HIGHWAY 44
DOUGLAS & HUTCHINSON COUNTIES
ASPHALT SURFACE TREATMENT
GROSS LENGTH: 17.874 MILES
BRIDGE LENGTH: 0.071 MILE
NET LENGTH: 17.803 MILES

BEGIN SD44
STA. 148+88
815' W of MRM 330.54
MILEAGE 273.662
(776' W of Jct US281/392 Ave)

END SD44
STA. 1092+65
MRM 348.24 +0.342
MILEAGE 291.545
(100' W of Jct SD37)



STR. NO. 22-213-080
327+75 to 328+55
Continuous Concrete Bridge
80'-0"=0.015 Mile
MRM 334.10

STR. NO. 34-005-080
810+31 to 810+85
Continuous Concrete Bridge
54'-0"=0.010 Mile
MRM 343.24

STRUCTURE 34-017-080
872+92 to 873+59
Continuous Concrete Bridge
67'-0"=0.013 Mile
MRM 344.43

STR. NO. 34-048-080
1030+81 to 1031+61
Continuous Concrete Bridge
80'-0"=0.015 Mile
MRM 347.42

STR. NO. 34-057-080
1073+72 to 1074+65
Continuous Concrete Bridge
93'-0"=0.018 Mile
MRM 348.24

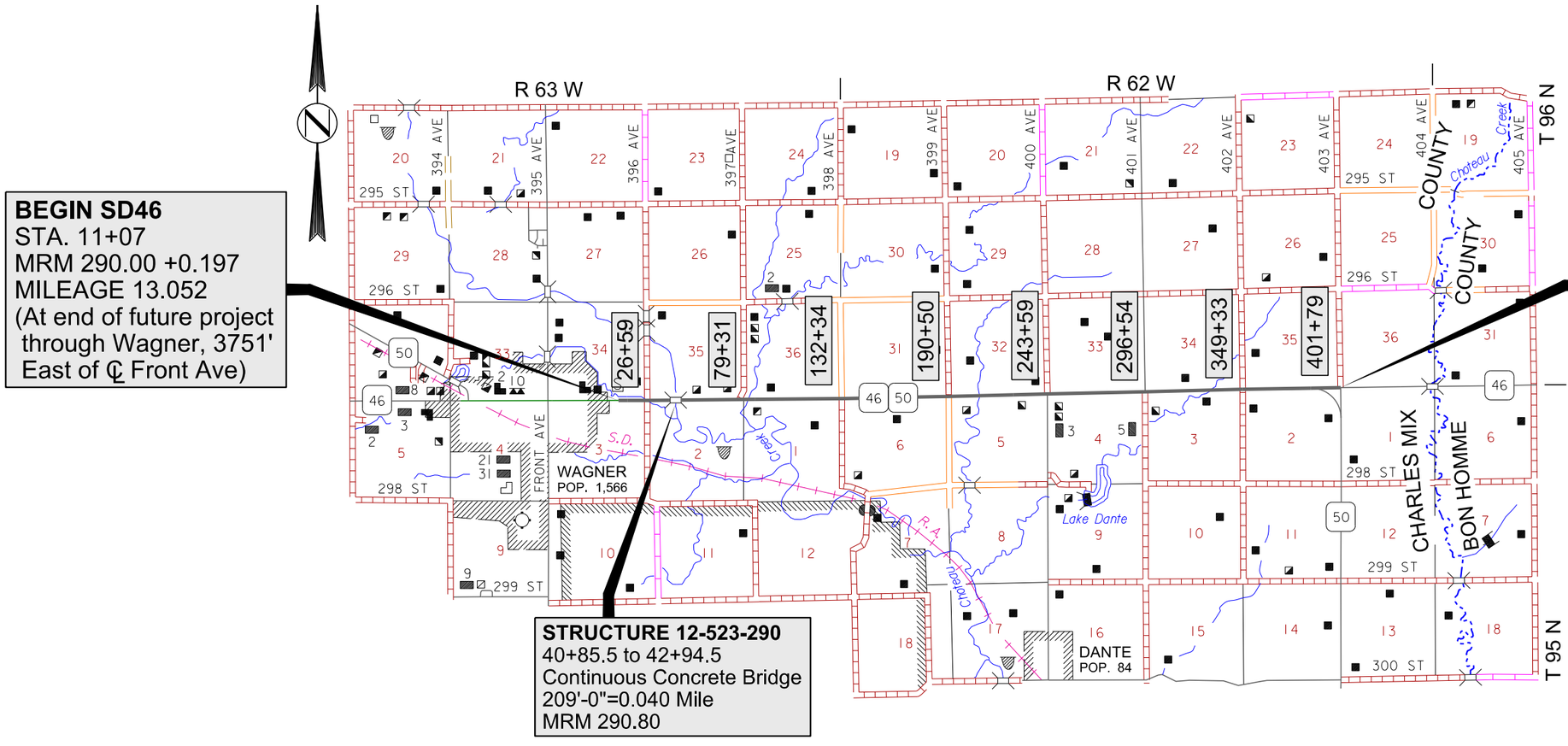
ADT (2022) 1,513

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	10	85

Plotting Date: 04/04/2024

SD HIGHWAY 46
CHARLES MIX COUNTY
ASPHALT SURFACE TREATMENT
GROSS LENGTH: 7.400 MILES
BRIDGE LENGTH: 0.040 MILE
NET LENGTH: 7.360 MILES

TERO
7.400 miles on US18 Yankton Sioux



BEGIN SD46
STA. 11+07
MRM 290.00 +0.197
MILEAGE 13.052
(At end of future project through Wagner, 3751' East of ℄ Front Ave)

END SD46
STA. 401+79
MRM 297.00 +0.567
MILEAGE 20.452
(At E Jct SD50)

STRUCTURE 12-523-290
40+85.5 to 42+94.5
Continuous Concrete Bridge
209'-0"=0.040 Mile
MRM 290.80

ADT (2022) 1,512

PLOT SCALE - 1:7000
PLOT NAME - 10
FILE - ...\0971 - CHIP SEALS\TTL0971.DGN
PLOTTED FROM - TRM11NT06

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	11	85

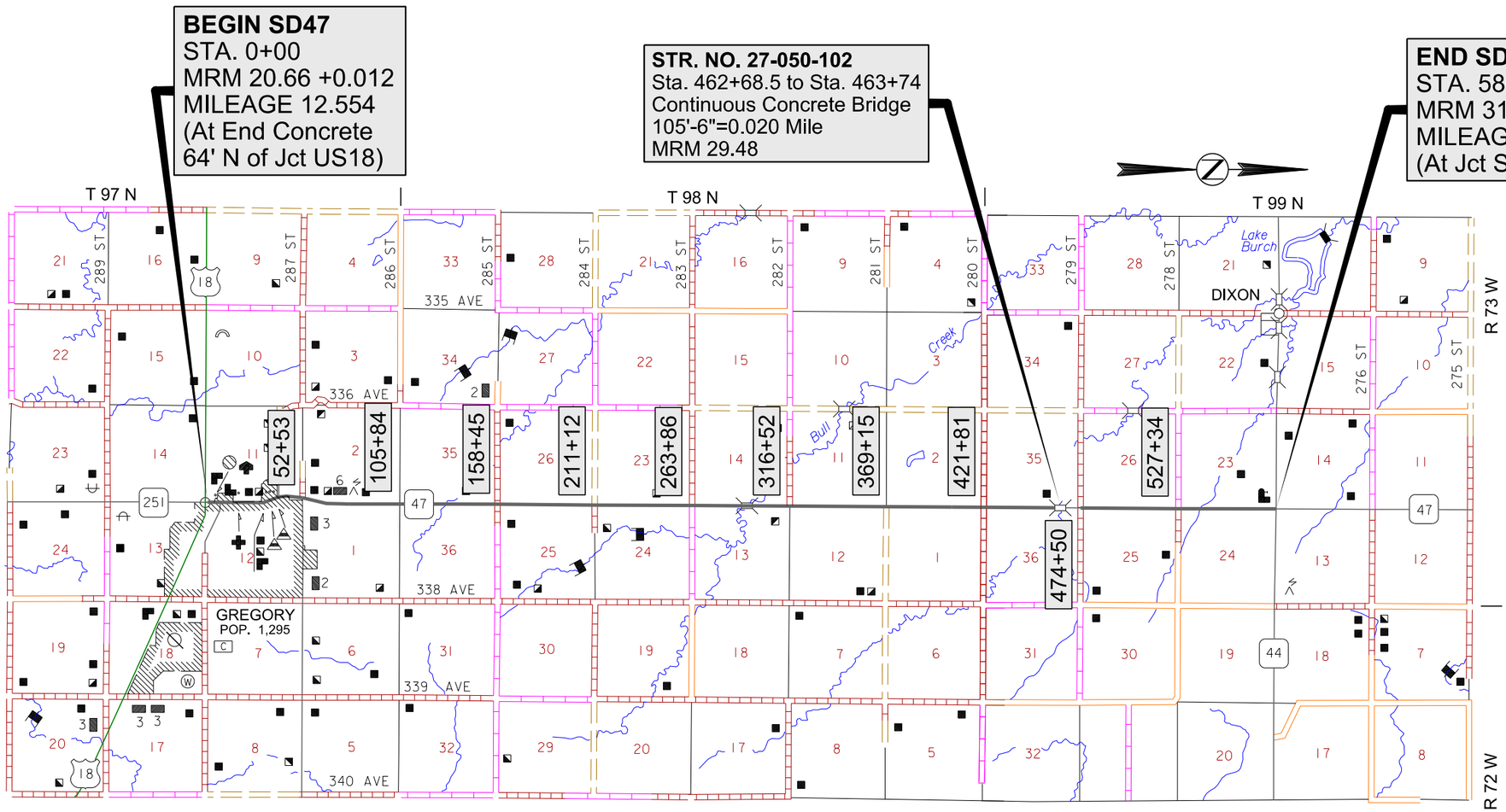
Plotting Date: 04/04/2024

SD HIGHWAY 47
GREGORY COUNTY
ASPHALT SURFACE TREATMENT
GROSS LENGTH: 10.985 MILES
BRIDGE LENGTH: 0.020 MILE
NET LENGTH: 10.965 MILES

BEGIN SD47
STA. 0+00
MRM 20.66 +0.012
MILEAGE 12.554
(At End Concrete
64' N of Jct US18)

STR. NO. 27-050-102
Sta. 462+68.5 to Sta. 463+74
Continuous Concrete Bridge
105'-6"=0.020 Mile
MRM 29.48

END SD47
STA. 580+00
MRM 31.67 +0.000
MILEAGE 23.540
(At Jct SD44)



ADT (2022) 775

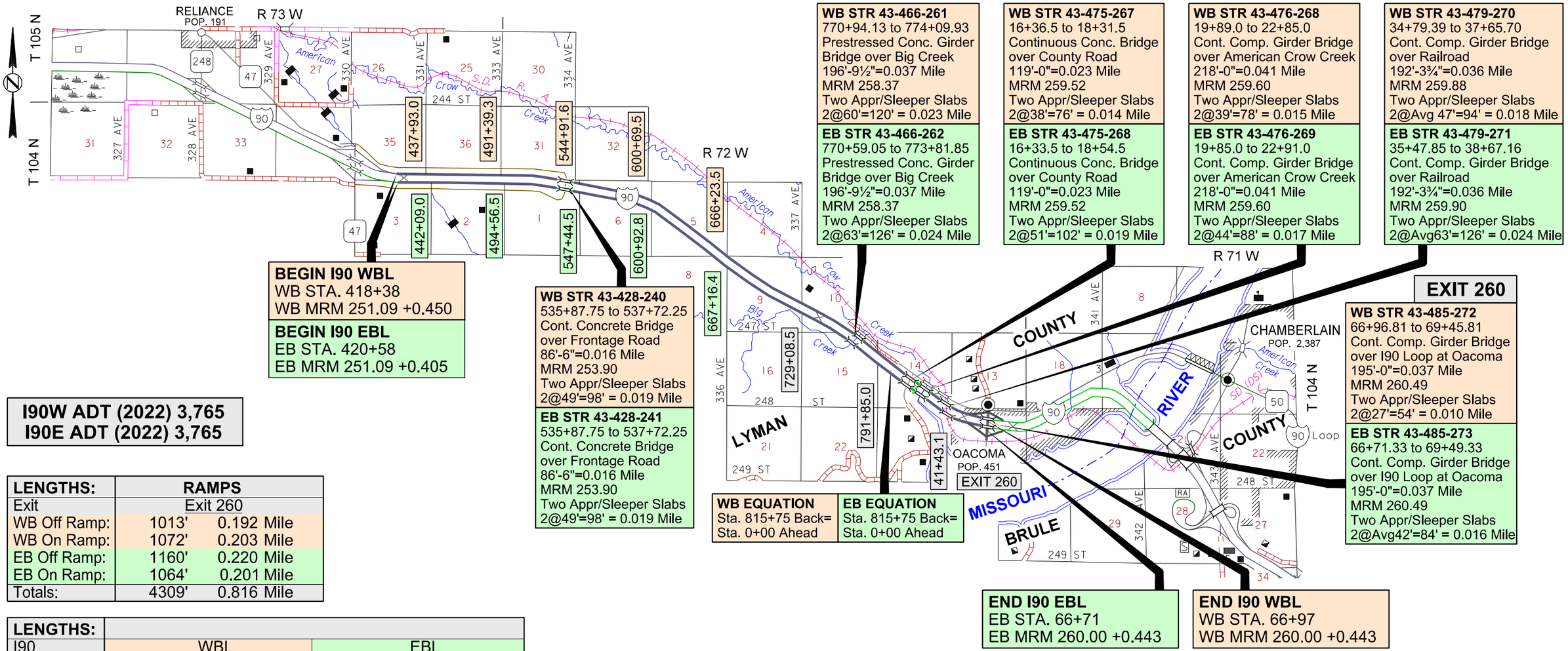
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	12	85

Plotting Date: 04/04/2024

INTERSTATE 90W
LYMAN COUNTY
ASPHALT SURFACE TREATMENT OF OUTSIDE SHOULDER
GROSS LENGTH: 8.794 MILES
BRIDGE, APPROACH/SLEEPER SLAB, PCCP &
EXCEPTION LENGTH: 0.475 MILE
NET LENGTH: 8.319 MILES

INTERSTATE 90E
LYMAN COUNTY
ASPHALT SURFACE TREATMENT OF OUTSIDE SHOULDER
GROSS LENGTH: 8.748 MILES
BRIDGE, APPROACH/SLEEPER SLAB, PCCP &
EXCEPTION LENGTH: 0.631 MILE
NET LENGTH: 8.117 MILES

ASPHALT SURFACE TREATMENT OF RAMPS LENGTH: 0.816 MILE



WB STR 43-466-261
770+94.13 to 774+09.93
Prestressed Conc. Girder Bridge over Big Creek
196'-9½"=0.037 Mile
MRM 258.37
Two Appr/Sleeper Slabs
2@60'=120' = 0.023 Mile

EB STR 43-466-262
770+59.05 to 773+81.85
Prestressed Conc. Girder Bridge over Big Creek
196'-9½"=0.037 Mile
MRM 258.37
Two Appr/Sleeper Slabs
2@63'=126' = 0.024 Mile

WB STR 43-475-267
16+36.5 to 18+31.5
Continuous Conc. Bridge over County Road
119'-0"=0.023 Mile
MRM 259.52
Two Appr/Sleeper Slabs
2@38'=76' = 0.014 Mile

EB STR 43-475-268
16+33.5 to 18+54.5
Continuous Conc. Bridge over County Road
119'-0"=0.023 Mile
MRM 259.52
Two Appr/Sleeper Slabs
2@51'=102' = 0.019 Mile

WB STR 43-476-268
19+89.0 to 22+85.0
Cont. Comp. Girder Bridge over American Crow Creek
218'-0"=0.041 Mile
MRM 259.60
Two Appr/Sleeper Slabs
2@39'=78' = 0.015 Mile

EB STR 43-476-269
19+85.0 to 22+91.0
Cont. Comp. Girder Bridge over American Crow Creek
218'-0"=0.041 Mile
MRM 259.60
Two Appr/Sleeper Slabs
2@44'=88' = 0.017 Mile

WB STR 43-479-270
34+79.39 to 37+65.70
Cont. Comp. Girder Bridge over Railroad
192'-3¾"=0.036 Mile
MRM 259.88
Two Appr/Sleeper Slabs
2@Avg 47'=94' = 0.018 Mile

EB STR 43-479-271
35+47.85 to 38+67.16
Cont. Comp. Girder Bridge over Railroad
192'-3¾"=0.036 Mile
MRM 259.90
Two Appr/Sleeper Slabs
2@Avg63'=126' = 0.024 Mile

BEGIN I90 WBL
WB STA. 418+38
WB MRM 251.09 +0.450

BEGIN I90 EBL
EB STA. 420+58
EB MRM 251.09 +0.405

WB STR 43-428-240
535+87.75 to 537+72.25
Cont. Concrete Bridge over Frontage Road
86'-6"=0.016 Mile
MRM 253.90
Two Appr/Sleeper Slabs
2@49'=98' = 0.019 Mile

EB STR 43-428-241
535+87.75 to 537+72.25
Cont. Concrete Bridge over Frontage Road
86'-6"=0.016 Mile
MRM 253.90
Two Appr/Sleeper Slabs
2@49'=98' = 0.019 Mile

WB EQUATION
Sta. 815+75 Back=
Sta. 0+00 Ahead

EB EQUATION
Sta. 815+75 Back=
Sta. 0+00 Ahead

EXIT 260

WB STR 43-485-272
66+96.81 to 69+45.81
Cont. Comp. Girder Bridge over I90 Loop at Oacoma
195'-0"=0.037 Mile
MRM 260.49
Two Appr/Sleeper Slabs
2@27'=54' = 0.010 Mile

EB STR 43-485-273
66+71.33 to 69+49.33
Cont. Comp. Girder Bridge over I90 Loop at Oacoma
195'-0"=0.037 Mile
MRM 260.49
Two Appr/Sleeper Slabs
2@Avg42'=84' = 0.016 Mile

END I90 EBL
EB STA. 66+71
EB MRM 260.00 +0.443

END I90 WBL
WB STA. 66+97
WB MRM 260.00 +0.443

I90W ADT (2022) 3,765
I90E ADT (2022) 3,765

LENGTHS:	RAMPS	
Exit	Exit 260	
WB Off Ramp:	1013'	0.192 Mile
WB On Ramp:	1072'	0.203 Mile
EB Off Ramp:	1160'	0.220 Mile
EB On Ramp:	1064'	0.201 Mile
Totals:	4309'	0.816 Mile

LENGTHS:				
I90	WBL		EBL	
Gross:	46,434'	8.794 Miles	46,188'	8.748 Miles
Bridges:	1275'	0.241 Mile	1352'	0.256 Mile
Exceptions:	1237'	0.234 Mile	1981'	0.375 Mile
Net:	43,922'	8.319 Miles	42,855'	8.117 Miles

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	13	85

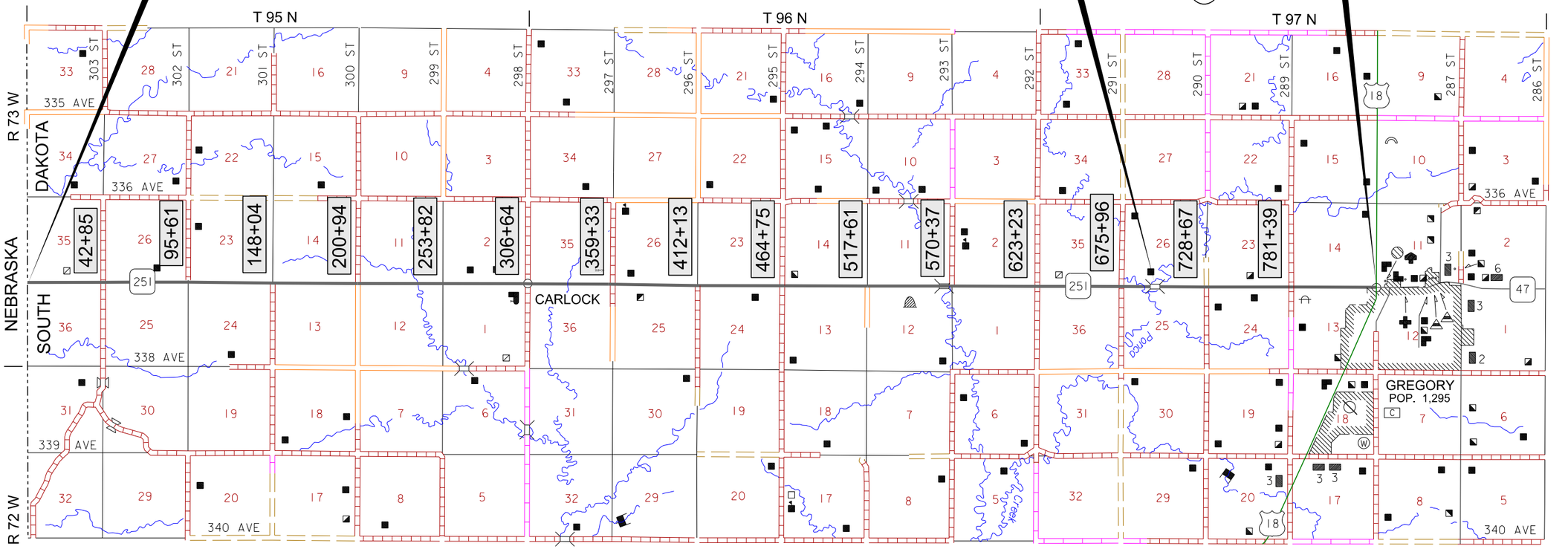
Plotting Date: 04/04/2024

SD HIGHWAY 251
GREGORY COUNTY
ASPHALT SURFACE TREATMENT
GROSS LENGTH: 15.794 MILES
BRIDGE LENGTH: 0.012 MILE
NET LENGTH: 15.782 MILES

BEGIN SD251
STA. 0+00
MRM 0.00 +0.000
MILEAGE 0.000
(At State Line)

STRUCTURE 27-050-216
Sta. 695+57 to Sta. 696+17.5
Continuous Concrete Bridge
60'-6"=0.012 Mile
MRM 13.29

END SD251
STA. 833+90
MRM 15.84 +0.000
MILEAGE 15.794
(At Begin Concrete
24' S of Jct US18)



ADT (2022) 388

PLOT SCALE - 1:70000
PLOTTED FROM - TRM1INT06
PLOT NAME - 13
FILE - ...\0971 - CHIP SEALS\TTL0971.DGN

ESTIMATE OF QUANTITIES

Revised 04/08/24 PEH

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	14	85

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
320E7030	Grind Sinusoidal Centerline Rumble Stripe in Asphalt Concrete	5.2	Mile
330E0300	SS-1h or CSS-1h Asphalt for Fog Seal	750.7	Ton
330E3000	Sand for Fog Seal	170.0	Ton
360E0042	CRS-2P Asphalt for Surface Treatment	3,631.6	Ton
360E1040	Type 2B Cover Aggregate	1,784.3	Ton
360E1040	Type 2B Cover Aggregate	1,119.2	Ton
360E1040	Type 2B Cover Aggregate	1,720.0	Ton
360E1040	Type 2B Cover Aggregate	1,986.9	Ton
360E1040	Type 2B Cover Aggregate	1,732.8	Ton
360E1040	Type 2B Cover Aggregate	1,831.1	Ton
360E1040	Type 2B Cover Aggregate	1,600.5	Ton
360E1040	Type 2B Cover Aggregate	865.3	Ton
360E1040	Type 2B Cover Aggregate	5,118.7	Ton
360E1040	Type 2B Cover Aggregate	2,244.5	Ton
360E1040	Type 2B Cover Aggregate	446.6	Ton
360E1040	Type 2B Cover Aggregate	2,136.2	Ton
360E1040	Type 2B Cover Aggregate	441.8	Ton
360E1040	Type 2B Cover Aggregate	2,873.3	Ton
633E1200	High Build Waterborne Pavement Marking Paint, White	7,776	Gal
633E1205	High Build Waterborne Pavement Marking Paint, Yellow	2,135	Gal
633E6005	Pavement Marking Masking, 5"	16,890	Ft
633E6015	Pavement Marking Masking, 13"	836	Ft
633E6020	Pavement Marking Masking, 25"	352	Ft
633E6030	Pavement Marking Masking, Arrow	220	Each
634E0010	Flagging	4,385.0	Hour
634E0020	Pilot Car	750.0	Hour
634E0110	Traffic Control Signs	5,129.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	2	Each
634E0420	Type C Advance Warning Arrow Board	2	Each
634E0630	Temporary Pavement Marking	337.0	Mile

SPECIFICATIONS

Standard Specifications for Roads and Bridges, 2015 Edition and Required Provisions, Supplemental Specifications and Special Provisions as included in the Proposal.

ESTIMATE OF QUANTITIES (FOR INFORMATION ONLY)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	15	85

Revised 04-08-24 PEH

BID ITEM NUMBER	ITEM	US18 Charles Mix	SD25 South Segment Hanson	SD25 Middle Segment Hanson	SD25 North Segment Miner	SD34 West Segment Sanborn	SD34 Middle Segment Miner	SD34 East Segment Miner	SD37 Hutchinson	SD44 Douglas & Charles Mix	SD46 Charles Mix	SD47 Gregory	I90W Lyman	I90E Lyman	SD251 Gregory	TOTAL QUANTITY
009E0010	Mobilization	◄ LUMP SUM ►														Lump Sum
320E7030	Grind Sinusoidal Centerline Rumble Stripe in Asphalt Concrete	5.2	----	----	----	----	----	----	----	----	----	----	----	----	----	5.2 Mile
330E0300	SS-1h or CSS-1h Asphalt for Fog Seal	51.7	32.4	49.8	57.6	50.2	53.1	46.4	25.1	148.4	61.9	65.1	12.9	12.8	83.3	750.7 Ton
330E3000	Sand for Fog Seal	20.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	20.0	10.0	20.0	10.0	10.0	10.0	170.0 Ton
360E0042	CRS-2P Asphalt for Surface Treatment	256.0	151.9	232.9	268.8	234.7	262.1	217.4	133.8	737.7	308.1	305.0	67.7	66.8	388.7	3,631.6 Ton
360E1040	Type 2B Cover Aggregate - *US18*	1,784.3	----	----	----	----	----	----	----	----	----	----	----	----	----	1,784.3 Ton
360E1040	Type 2B Cover Aggregate - *SD25 S Segment*	----	1,119.2	----	----	----	----	----	----	----	----	----	----	----	----	1,119.2 Ton
360E1040	Type 2B Cover Aggregate - *SD325 M Segment*	----	----	1,720.0	----	----	----	----	----	----	----	----	----	----	----	1,720.0 Ton
360E1040	Type 2B Cover Aggregate - *SD25 N Segment*	----	----	----	1,986.9	----	----	----	----	----	----	----	----	----	----	1,986.9 Ton
360E1040	Type 2B Cover Aggregate - *SD34 W Segment*	----	----	----	----	1,732.8	----	----	----	----	----	----	----	----	----	1,732.8 Ton
360E1040	Type 2B Cover Aggregate - *SD34 M Segment*	----	----	----	----	----	1,831.1	----	----	----	----	----	----	----	----	1,831.1 Ton
360E1040	Type 2B Cover Aggregate - *SD34 E Segment*	----	----	----	----	----	----	1,600.5	----	----	----	----	----	----	----	1,600.5 Ton
360E1040	Type 2B Cover Aggregate - *SD37*	----	----	----	----	----	----	----	865.3	----	----	----	----	----	----	865.3 Ton
360E1040	Type 2B Cover Aggregate - *SD44*	----	----	----	----	----	----	----	----	5,118.7	----	----	----	----	----	5,118.7 Ton
360E1040	Type 2B Cover Aggregate - *SD46*	----	----	----	----	----	----	----	----	----	2,136.2	----	----	----	----	2,136.2 Ton
360E1040	Type 2B Cover Aggregate - *SD47*	----	----	----	----	----	----	----	----	----	----	2,244.5	----	----	----	2,244.5 Ton
360E1040	Type 2B Cover Aggregate - *I90W*	----	----	----	----	----	----	----	----	----	----	----	446.6	----	----	446.6 Ton
360E1040	Type 2B Cover Aggregate - *I90E*	----	----	----	----	----	----	----	----	----	----	----	----	441.8	----	441.8 Ton
360E1040	Type 2B Cover Aggregate - *SD251*	----	----	----	----	----	----	----	----	----	----	----	----	----	2,873.3	2,873.3 Ton
633E1200	High Build Waterborne Pavement Marking Paint, White	372	653	1,122	606	486	381	436	----	990	417	576	----	----	1,737	7,776 Gal
633E1205	High Build Waterborne Pavement Marking Paint, Yellow	411	72	96	88	81	95	95	----	270	149	326	----	----	452	2,135 Gal
633E6005	Pavement Marking Masking, 5"	----	----	----	----	----	----	----	----	----	----	----	8,360	8,530	----	16,890 Ft
633E6015	Pavement Marking Masking, 13"	----	----	----	----	----	----	----	----	----	----	----	320	516	----	836 Ft
633E6020	Pavement Marking Masking, 25"	----	----	----	----	----	----	----	----	352	----	----	----	----	----	352 Ft
633E6030	Pavement Marking Masking, Arrow	----	----	----	----	----	----	----	----	22	----	----	----	----	---	22 Each
634E0010	Flagging	280	210	380	400	330	250	290	280	660	280	410	20	20	575	4,385 Hour
634E0020	Pilot Car	60	40	60	70	50	40	50	50	110	50	70	----	----	100	750 Hour
634E0110	Traffic Control Signs	320.3	311.3	310.4	375.5	279.3	265.8	314.9	343.6	424.6	290.8	346.9	582.8	582.8	380.0	5,129.0 SqFt
634E0120	Traffic Control, Miscellaneous	◄ LUMP SUM ►														Lump Sum
634E0275	Type 3 Barricade	----	----	----	----	----	----	----	----	----	----	----	1	1	----	2 Each
634E0420	Type C Advance Warning Arrow Board	----	----	----	----	----	----	----	----	----	----	----	1	1	----	2 Each
634E0630	Temporary Pavement Marking	28.7	17.8	30.6	32.7	26.5	20.7	24.0	----	53.4	22.2	33.0	----	----	47.4	337.0 Mile

ENVIRONMENTAL COMMITMENTS

ENVIRONMENTAL COMMITMENTS

The SDDOT is committed to protecting the environment and uses Environmental Commitments as a communication tool for the Engineer and Contractor to ensure that attention is given to avoid, minimize and/or mitigate an environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency with permitting authority can delay a project if identified environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor's primary contact regarding matters associated with these commitments will be the Project Engineer. During construction, the Project Engineer will verify that the Contractor has met Environmental Commitment requirements. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office.

Additional guidance on SDDOT's Environmental Commitments can be accessed through the Environmental Procedures Manual found at: <https://dot.sd.gov/media/documents/EnvironmentalProceduresManual.pdf >

For questions regarding change orders in the field that may have an effect on an Environmental Commitment, the Project Engineer will contact the Environmental Engineer at 605-773-3180 or 605-773-4336 to determine whether an environmental analysis and/or resource agency coordination is necessary.

Once construction is complete, the Project Engineer will review all environmental commitments for the project and document their completion.

COMMITMENT B: FEDERALLY THREATENED, ENDANGERED AND PROTECTED SPECIES

COMMITMENT B2: WHOOPING CRANE

The Whooping Crane is a spring and fall migratory bird in South Dakota that is about 5 feet tall and typically stops on wetlands, rivers and agricultural lands along their migration route. An adult Whooping Crane is white with a red crown and a long, dark, pointed bill. Immature Whooping Cranes are cinnamon brown. While in flight, their long necks are kept straight and their long dark legs trail behind. Adult Whooping Cranes' black wing tips are visible during flight.

Action Taken/Required:

Harassment or other measures to cause the Whooping Crane to leave the site is a violation of the Endangered Species Act. If a Whooping Crane is sighted roosting in the vicinity of the project, borrow pits or staging areas associated with the project, cease construction activities in the affected area until the Whooping Crane departs and immediately contact the Project Engineer. The Project Engineer will contact the Environmental Office so that the sighting can be reported to USFWS.

COMMITMENT B4: BALD EAGLE

Bald eagles are known to occur in this area.

Action Taken/Required:

If a nest is observed within one mile of the project site, notify the Project Engineer immediately so that he/she can consult with the Environmental Office for an appropriate course of action.

COMMITMENT C: WATER SOURCE

Action Taken/Required:

The Contractor will obtain the necessary permits from the regulatory agencies such as the South Dakota Department of Agriculture and Natural Resources (DANR) and the United States Army Corps of Engineers (USACE) prior to water extraction activities.

Additional information and mapping of water sources impacted by Aquatic Invasive Species in South Dakota can be accessed at:
< https://sdleastwanted.sd.gov/maps/default.aspx>

< South Dakota Administrative Rule 41:10:04 Aquatic Invasive Species:
https://sdlegislature.gov/rules/DisplayRule.aspx?Rule=41:10:04 >

COMMITMENT E: STORM WATER

Construction activities constitute less than 1 acre of disturbance.

Action Taken/Required:

At a minimum and regardless of project size, appropriate erosion and sediment control measures must be installed to control the discharge of pollutants from the construction site.

COMMITMENT H: WASTE DISPOSAL SITE

The Contractor will furnish a site(s) for the disposal of construction and/or demolition debris generated by this project.

Action Taken/Required:

Construction and/or demolition debris may not be disposed of within the Public ROW.

The waste disposal site(s) will be managed and reclaimed in accordance with the following from the General Permit for Construction/Demolition Debris Disposal Under the South Dakota Waste Management Program issued by the Department of Agriculture and Natural Resources.

The waste disposal site(s) will not be located in a wetland, within 200 feet of surface water or in an area that adversely affects wildlife, recreation, aesthetic value of an area or any threatened or endangered species, as approved by the Environmental Office and the Project Engineer.

If the waste disposal site(s) is located such that it is within view of any ROW, the following additional requirements will apply:

1. Construction and/or demolition debris consisting of concrete, asphalt concrete or other similar materials will be buried in a trench separate from wood debris. The final cover over the construction and/or demolition debris will consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the Public ROW will be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor will control the access to waste disposal sites not within the Public ROW with fences, gates and placement of a sign or signs at the entrance to the site stating, "No Dumping Allowed".
2. Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period not to exceed the duration of the project. Prior to project completion, the waste will be removed from view of the ROW or buried and the waste disposal site reclaimed as noted above.

Action Taken/Required: (CONTINUED)

The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06.

Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-1.31.

All costs associated with furnishing waste disposal site(s), disposing of waste, maintaining control of access (fence, gates and signs) and reclamation of the waste disposal site(s) will be incidental to the various contract items.

COMMITMENT I: HISTORIC PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historic Preservation Office (SHPO or THPO) for all work included within the project limits and all department designated sources and designated option material sources, stockpile sites, storage areas and waste sites provided within the plans.

Action Taken/Required:

All earth disturbing activities not designated within the plans require a cultural resource review prior to scheduling the pre-construction meeting. This work includes but is not limited to: Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites and waste areas.

The Contractor will arrange and pay for a record search and when necessary, a cultural resource survey. The Contractor has the option to contact the state Archaeological Research Center (ARC) at 605-394-1936 or another qualified archaeologist, to obtain either a records search or a cultural resources survey. A record search might be sufficient for review if the site was previously surveyed; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor will provide ARC with the following: a topographical map or aerial view in which the site is clearly outlined, site dimensions, project number and PCN. If applicable, provide evidence that the site has been previously disturbed by farming, mining or construction activities with a landowner statement that artifacts have not been found on the site.

The Contractor will submit the cultural resources survey report to SDDOT Environmental Office, 700 East Broadway Avenue, Pierre, SD 57501-2586. SDDOT will submit the information to the appropriate SHPO/THPO. Allow **30 Days** from the date this information is submitted to the Environmental Engineer for SHPO/THPO review.

In the event of an inadvertent discovery of human remains, funerary objects or if evidence of cultural resources is identified during project construction activities, then such activities within 100 feet of the inadvertent discovery will immediately cease and the Project Engineer will be immediately notified. The Project Engineer will contact the SDDOT Environmental Office, who will contact the appropriate SHPO/THPO within 48 hours of the discovery to determine an appropriate course of action.

SHPO/THPO review does not relieve the Contractor of the responsibility for obtaining any additional permits and clearances for Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites and waste areas that affect wetlands, threatened and endangered species or waterways. The Contractor will not utilize a site known or suspected of having contaminated soil or water. The Contractor will provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

RATES OF MATERIALS AND TABLE OF ADDITIONAL QUANTITIES

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	17	85

US18 RATES OF MATERIALS

Mainline

10+10 to 287+99	**5.263 miles**
290+68 to 332+26	**0.788 miles**
	6.051 miles

CRS-2P Asphalt for Surface Treatment at the rate of 20.94 tons/mile applied 24 feet wide (Rate = 0.35 gallon per square yard).

Type 2B Cover Aggregate at the rate of 154.88 tons/mile applied 24 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 4.49 tons/mile applied 24 feet wide (Rate = 0.075 gallons per square yard).

Shoulders

10+10 to 20+88	**0.204 miles**
31+03 to 251+77	**4.181 miles**
321+11 to 332+26	**0.211 miles**
	4.596 miles

CRS-2P Asphalt for Surface Treatment at the rate of 15.96 tons/mile applied 16 feet wide (8 feet each shoulder) (Rate = 0.40 gallon per square yard).

Type 2B Cover Aggregate at the rate of 103.25 tons/mile applied 16 feet wide (8 feet each shoulder) (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 2.99 tons/mile applied 16 feet wide (8 feet each shoulder) (Rate = 0.075 gallons per square yard).

Shoulders **20+88 to 31+03** **0.192 miles**

CRS-2P Asphalt for Surface Treatment at the rate of 20.94 tons/mile applied 21 feet wide (10.5 feet each shoulder) (Rate = 0.40 gallon per square yard).

Type 2B Cover Aggregate at the rate of 135.52 tons/mile applied 21 feet wide (10.5 feet each shoulder) (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 3.93 tons/mile applied 12 feet wide (10.5 feet each shoulder) (Rate = 0.075 gallons per square yard).

Shoulders

251+77 to 287+99	**0.686 miles**
290+68 to 321+11	**0.788 miles**
	1.474 miles

CRS-2P Asphalt for Surface Treatment at the rate of 19.95 tons/mile applied 20 feet wide (10 feet each shoulder) (Rate = 0.40 gallon per square yard).

Type 2B Cover Aggregate at the rate of 129.07 tons/mile applied 20 feet wide (10 feet each shoulder) (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 3.74 tons/mile applied 20 feet wide (10 feet each shoulder) (Rate = 0.075 gallons per square yard).

US18 TABLE OF ADDITIONAL QUANTITIES

LOCATION		CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPH. FOR FOG SEAL TON
US18				
Sta. 10+10 to 10+85 L Shoulder Transition – 75' x 8' to 6' Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	8 SqYd	0.01	0.09	0.003.
Sta. 10+10 to 10+85 R Shoulder Transition – 75' x 8' to 6' Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	8 SqYd	0.01	0.09	0.003
Sta. 10+85 R Mainline = Sta. 1+44 on US18 Connector to SD50				
Sta. 0+00 to 1+26 L – 126' x 12'	*168 SqYd*	*0.25*	*1.85*	*0.054*
Sta. 0+00 to 1+26 R – 126' x 12'	*168 SqYd*	*0.25*	*1.85*	*0.054*
Rates = 0.35 gal, 22 lb & 0.075 gal/SqYd				
Sta. 0+00 to 1+26 L Sh – 126' x 8'	*112 SqYd*	*0.19*	*1.23*	*0.036*
Sta. 0+00 to 1+26 R Sh – 126' x 8'	*112 SqYd*	*0.19*	*1.23*	*0.036*
East Radius	*19 SqYd*	*0.03*	*0.21*	*0.006*
West Radius	*53 SqYd*	*0.09*	*0.58*	*0.017*
Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd				
Additional portion on SD50 *Rates = 0.35 gal, 22 lb & 0.075 gal/SqYd*	*241 SqYd*	*0.36*	*2.65*	*0.077*
Sta. 12+95 L Intersecting Street & Radii – 6th Ave (Lake Andes) Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	316 SqYd	0.54	3.48	0.101
Sta. 12+95 R Commercial Entrance (Lake Andes) Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	149 SqYd	0.25	1.64	0.047
Sta. 14+12 R Intersecting Street & Radii – 3rd Ave (Lake Andes) Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	219 SqYd	0.37	2.41	0.070
Sta. 20+88 to 23+88 Mainline Transition – 300' x 0' to 12' Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	200 SqYd	0.34	2.20	0.064
Sta. 23+88 to 27+91 Turn Bay – 403' x 12' Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	537 SqYd	0.91	5.91	0.171
US18 Column 1 Additional Quantities		**3.79**	**25.42**	**0.739**

US18 TABLE OF ADDITIONAL QUANTITIES

LOCATION		CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPH. FOR FOG SEAL TON
US18				
Sta. 24+53 R Mainline = Sta. 11+90 on US18 Connector to 382 Ave				
Sta. 0+00 to 11+64 L – 1164 x 12	*1552 SqYd*	*2.31*	*17.07*	*0.495*
Sta. 0+00 to 11+64 R – 1164 x 12	*1552 SqYd*	*2.31*	*17.07*	*0.495*
Rates = 0.35 gal, 22 lb & 0.075 gal/SqYd				
Sta. 0+00 to 6+95 L Sh – 695' x 5'	*386 SqYd*	*0.66*	*4.25*	*0.123*
Sta. 0+00 to 6+95 R Sh – 695' x 5'	*386 SqYd*	*0.66*	*4.25*	*0.123*
Sta. 6+45 to 6+95 L Sh Transition 50' x 5' to 8'	*8 SqYd*	*0.01*	*0.09*	*0.003*
Sta. 6+45 to 6+95 R Sh Transition 50' x 5' to 8'	*8 SqYd*	*0.01*	*0.09*	*0.003*
Sta. 6+95 to 11+64 L Sh – 469' x 8'	*417 SqYd*	*0.71*	*4.59*	*0.133*
Sta. 6+95 to 11+64 R Sh – 469' x 8'	*417 SqYd*	*0.71*	*4.59*	*0.133*
East Radius	*55 SqYd*	*0.09*	*0.61*	*0.018*
West Radius	*55 SqYd*	*0.09*	*0.61*	*0.018*
Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd				
Sta. 27+91 to 31+03 Mainline Transition – 312' x 12' to 0' Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	208 SqYd	0.35	2.29	0.066
Sta. 250+77 to 251+77 L Shoulder Transition – 100' x 6' to 8' Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	11 SqYd	0.02	0.12	0.004
Sta. 250+77 to 251+77 R Shoulder Transition – 100' x 6' to 8' Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	11 SqYd	0.02	0.12	0.004
Sta. 273+42 to 274+62 R Mainline Transition for Right Turn Lane 120' x 0' to 12' Rates = 0.35 gal, 22 lb & 0.075 gal/SqYd	80 SqYd	0.14	0.88	0.026
Sta. 274+62 to 281+62 Right Turn Lane – 700' x 12' Rates = 0.35 gal, 22 lb & 0.075 gal/SqYd	933 SqYd	1.59	10.26	0.297
Sta. 277+72 to 281+62 L Mainline Transition – 390' x 0' to 6' Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	130 SqYd	0.22	1.43	0.041
Sta. 277+72 to 281+62 R Mainline Transition – 390' x 0' to 6' Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	130 SqYd	0.22	1.43	0.041
US18 Column 2 Additional Quantities		**10.12**	**69.75**	**2.023**

RATES OF MATERIALS AND TABLE OF ADDITIONAL QUANTITIES (CONTINUED)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	18	85

US18 TABLE OF ADDITIONAL QUANTITIES

LOCATION		CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPH. FOR FOG SEAL TON
US18				
Sta. 281+62 to 284+76 Turn Bay – 316' x 12'' Rates = 0.35 gal, 22 lb & 0.075 gal/SqYd	421 SqYd	0.72	4.63	0.134
Sta. 284+78 to 287+99 Mainline Transition – 321' x 12' to 0' Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	214 SqYd	0.36	2.35	0.068
Sta. 281+80 R Mainline = Sta. 10+40 on North Point Recreation Area Entrance Road				
Sta. 0+00 to 10+14 L – 1014' x 13.5'	*1521 SqYd*	*2.26*	*16.73*	*0.485*
Sta. 0+00 to 10+14 R – 1014' x 13.5'	*1521 SqYd*	*2.26*	*16.73*	*0.485*
Rates = 0.35 gal, 22 lb & 0.075 gal/SqYd				
Sta. 6+39 to 7+39 *Mainline Transition – 100' x 0' to 12'*	*67 SqYd*	*0.11*	*0.74*	*0.021*
Sta. 7+39 to 10+14 *Left Turn Lane – 275' x 12'*	*367 SqYd*	*0.62*	*4.04*	*0.117*
North Radius	*74 SqYd*	*0.13*	*0.81*	*0.024*
South Radius	*77 SqYd*	*0.13*	*0.85*	*0.025*
Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd				
Sta. 311+29 R Intersecting Road & Radii (St. Francis Swim Beach) Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	378 SqYd	0.64	4.16	0.120
Sta. 321+11 to 322+11 L Shoulder Transition – 100' x 8' to 6' Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	11 SqYd	0.02	0.12	0.004
Sta. 321+11 to 322+11 R Shoulder Transition – 100' x 8' to 6' Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	11 SqYd	0.02	0.12	0.004
Sta.329+47 to 332+26 L Radius & Extra Widening Rates = 0.35 gal, 22 lb & 0.075 gal/SqYd	522 SqYd	0.78	5.74	0.166
US18 Column 3 Additional Quantities		**8.05**	**57.02**	**1.65**

US18 TABLE OF ADDITIONAL QUANTITIES

LOCATION		CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPH. FOR FOG SEAL TON
US18				
Sta. 329+47 to 332+26 R Radius, Ramp & Extra Widening Rates = 0.35 gal, 22 lb & 0.075 gal/SqYd	374 SqYd	0.56	4.11	0.119
US18 Column 4 Additional Quantities		**0.56**	**4.11**	**0.119**
US18 Total Additional Quantities		**22.52**	**156.30**	**4.534**

US18
SUMMARY OF MATERIALS QUANTITIES

	Miles	CRS-2P	Type 2B	CSS-1h
Mainline	6.051	126.71	937.18	27.17
Shoulders	4.596	73.35	474.54	13.74
Shoulders	0.192	4.02	26.02	0.75
Shoulders	1.474	29.41	190.25	5.51
Additional Quantities		22.52	156.30	4.53
Total Tons US18		256.01	1784.29	51.70

The above quantities are included in the Estimate of Quantities.

RATES OF MATERIALS AND TABLE OF ADDITIONAL QUANTITIES (CONTINUED)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	19	85

SD25 South Segment RATES OF MATERIALS

Mainline &	**0+00 to 119+59**	**2.265 miles**
Shoulders	**144+59 to 315+04**	**3.228 miles**
		5.493 miles

CRS-2P Asphalt for Surface Treatment at the rate of 25.31 tons/mile applied 29 feet wide (Rate = 0.35 gallon per square yard).

Type 2B Cover Aggregate at the rate of 187.15 tons/mile applied 29 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 5.42 tons/mile applied 29 feet wide (Rate = 0.075 gallons per square yard).

Mainline	**119+59 to 131+32**	**0.222 miles**
	133+86 to 144+59	**0.203 miles**
		0.425 miles

CRS-2P Asphalt for Surface Treatment at the rate of 20.94 tons/mile applied 24 feet wide (Rate = 0.35 gallon per square yard).

Type 2B Cover Aggregate at the rate of 154.88 tons/mile applied 24 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 4.49 tons/mile applied 24 feet wide (Rate = 0.075 gallons per square yard).

Shoulders	**119+59 to 131+32**	**0.222 miles**
	133+86 to 144+59	**0.203 miles**
		0.425 miles

CRS-2P Asphalt for Surface Treatment at the rate of 8.98 tons/mile applied 9 feet wide (4.5 feet each shoulder) (Rate = 0.40 gallon per square yard).

Type 2B Cover Aggregate at the rate of 58.08 tons/mile applied 9 feet wide (4.5 feet each shoulder) (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 1.68 tons/mile applied 9 feet wide (4.5 feet each shoulder) (Rate = 0.075 gallons per square yard).

SD25 South Segment TABLE OF ADDITIONAL QUANTITIES

LOCATION		CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPH. FOR FOG SEAL TON
SD25 South Segment				
Sta. 640+00 R	66 SqYd	0.11	0.73	0.021
House Entrance				
Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd				
SD25 South Segment Total Additional Quantities		**0.11**	**0.73**	**0.021**

SD25 South Segment
SUMMARY OF MATERIALS QUANTITIES

	Miles	CRS-2P	Type 2B	CSS-1h
Mainline	5.493	139.03	1028.01	29.77
Mainline	0.425	8.90	65.82	1.91
Shoulders	0.425	3.82	24.68	0.71
Additional Quantities		0.11	0.73	0.02
Total Tons SD25 S Seg		151.86	1119.24	32.41

The above quantities are included in the Estimate of Quantities.

The above quantities are included in the Estimate of Quantities.

RATES OF MATERIALS AND TABLE OF ADDITIONAL QUANTITIES (CONTINUED)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	20	85

SD25 Middle Segment RATES OF MATERIALS

Mainline 0+00 to 5+33 0.101 miles

CRS-2P Asphalt for Surface Treatment at the rate of 21.82 tons/mile applied 25 feet wide (Rate = 0.35 gallon per square yard).

Type 2B Cover Aggregate at the rate of 161.33 tons/mile applied 25 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 4.68 tons/mile applied 25 feet wide (Rate = 0.075 gallons per square yard).

Mainline & Shoulders 5+33 to 535+34 10.036 miles

CRS-2P Asphalt for Surface Treatment at the rate of 22.69 tons/mile applied 26 feet wide (Rate = 0.35 gallon per square yard).

Type 2B Cover Aggregate at the rate of 167.79 tons/mile applied 26 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 4.86 tons/mile applied 26 feet wide (Rate = 0.075 gallons per square yard).

Mainline & Shoulders 535+24 to 535+45 0.004 miles

CRS-2P Asphalt for Surface Treatment at the rate of 23.56 tons/mile applied 27 feet wide (Rate = 0.35 gallon per square yard).

Type 2B Cover Aggregate at the rate of 174.24 tons/mile applied 27 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 5.05 tons/mile applied 27 feet wide (Rate = 0.075 gallons per square yard).

Mainline & Shoulders 535+45 to 536+34 0.017 miles

CRS-2P Asphalt for Surface Treatment at the rate of 24.43 tons/mile applied 28 feet wide (Rate = 0.35 gallon per square yard).

Type 2B Cover Aggregate at the rate of 180.69 tons/mile applied 28 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 5.24 tons/mile applied 28 feet wide (Rate = 0.075 gallons per square yard).

Shoulders 0+00 to 5+33 Lt 0.101 miles

CRS-2P Asphalt for Surface Treatment at the rate of 5.98 tons/mile applied 6 feet wide (Rate = 0.40 gallon per square yard).

Type 2B Cover Aggregate at the rate of 38.72 tons/mile applied 6 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 1.12 tons/mile applied 6 feet wide (Rate = 0.075 gallons per square yard).

SD25 Middle Segment TABLE OF ADDITIONAL QUANTITIES

LOCATION		CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPH. FOR FOG SEAL TON
SD25 Middle Segment				
Sta. 0+00 L Radius – Jct SD38 Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	155 SqYd	0.26	1.71	0.049
Sta. 0+00 R Radius – Jct SD38 Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	167 SqYd	0.28	1.84	0.053
Sta. 6+81 L Farm Entrance Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	247 SqYd	0.42	2.72	0.079
Sta. 371+19 L Intersecting Road & Radii – 247 St Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	224 SqYd	0.38	2.46	0.071
Sta. 371+19 R Intersecting Road & Radii – 247 St Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	156 SqYd	0.27	1.72	0.050
Sta. 536+15 R Intersecting Road & Radii – 244 St Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	148 SqYd	0.25	1.63	0.047
SD25 Middle Segment Total Additional Quantities		**1.86**	**12.08**	**0.349**

SD25 Middle Segment
SUMMARY OF MATERIALS QUANTITIES

	Miles	CRS-2P	Type 2B	CSS-1h
Mainline	0.101	2.20	16.29	0.47
Mainline	10.036	227.72	1683.94	48.77
Mainline	0.004	0.09	0.70	0.02
Mainline	0.017	0.42	3.07	0.09
Shoulders	0.101	0.60	3.91	0.11
Additional Quantities		1.86	12.08	0.35
Total Tons SD25 Middle Seg		232.89	1719.99	49.81

The above quantities are included in the Estimate of Quantities.

RATES OF MATERIALS AND TABLE OF ADDITIONAL QUANTITIES (CONTINUED)

SD25 North Segment RATES OF MATERIALS

Mainline &	**0+00 to 186+03**	**3.526 miles**
Shoulders	**187+79 to 579+74**	**7.423 miles**
		10.946 miles

CRS-2P Asphalt for Surface Treatment at the rate of 24.43 tons/mile applied 28 feet wide (Rate = 0.35 gallon per square yard).

Type 2B Cover Aggregate at the rate of 180.69 tons/mile applied 28 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 5.24 tons/mile applied 28 feet wide (Rate = 0.075 gallons per square yard).

SD25 North Segment TABLE OF ADDITIONAL QUANTITIES

LOCATION		CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPH. FOR FOG SEAL TON
SD25 North Segment				
Sta. 105+60 R Intersecting Road & Radii – 242 St (Canova Road) Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	184 SqYd	0.31	2.02	0.059
Sta. 578+39 to 579+74 L Extra Widening Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	136 SqYd	0.23	1.50	0.043
Sta. 578+34 to 579+74 R Extra Widening Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	187 SqYd	0.32	2.06	0.060
Sta. 579+74 L Radius – Jct SD34 Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	200 SqYd	0.34	2.20	0.064
Sta. 579+74 R Radius – Jct SD34 Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	118 SqYd	0.20	1.31	0.038
SD25 North Segment Total Additional Quantities		**1.40**	**9.09**	**0.264**

SD25 North Segment
SUMMARY OF MATERIALS QUANTITIES

	Miles	CRS-2P	Type 2B	CSS-1h
Mainline	10.946	267.41	1977.83	57.36
Additional Quantities		1.40	9.09	0.26
Total Tons SD25 N Seg		268.81	1986.92	57.62

The above quantities are included in the Estimate of Quantities.

SD34 West Segment **RATES OF MATERIALS**

Mainline & Shoulders **38+38 to 505+93** **8.855 miles**

CRS-2P Asphalt for Surface Treatment at the rate of 26.18 tons/mile applied 30 feet wide (Rate = 0.35 gallon per square yard).

Type 2B Cover Aggregate at the rate of 193.60 tons/mile applied 30 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 5.61 tons/mile applied 30 feet wide (Rate = 0.075 gallons per square yard).

SD34 West Segment TABLE OF ADDITIONAL QUANTITIES

LOCATION		CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPH. FOR FOG SEAL TON
SD34 West Segment				
Sta. 38+38 to 42+19 Gore Area – 5.9' to 0' Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	123 SqYd	0.21	1.35	0.039
Sta. 38+38 to 42+19 Transition from 4-Lane to 2-Lane Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	95 SqYd	0.16	1.05	0.030
Sta. 240+84 L Intersecting Road & Radii – 413 Ave Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	247 SqYd	0.42	2.72	0.079
Sta. 312+15 L Intersecting Road & Radii – 2nd St (Artesian) Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	253 SqYd	0.43	2.78	0.081
Sta. 312+15 R Intersecting Road & Radii – 2nd St (Artesian) Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	256 SqYd	0.44	2.82	0.082
Sta. 319+55 L Intersecting Road & Radii – Main St Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	269 SqYd	0.46	2.96	0.086
Sta. 319+55 R Intersecting Road & Radii – Main St Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	433 SqYd	0.74	4.76	0.138
SD34 West Segment Total Additional Quantities		**2.86**	**18.44**	**0.535**

SD34 West Segment
SUMMARY OF MATERIALS QUANTITIES

	Miles	CRS-2P	Type 2B	CSS-1h
Mainline	8.855	231.82	1714.33	49.68
Additional Quantities		2.86	18.44	0.54
Total Tons SD34 W Seg		234.68	1732.77	50.22

The above quantities are included in the Estimate of Quantities.

RATES OF MATERIALS AND TABLE OF ADDITIONAL QUANTITIES (CONTINUED)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	23	85

SD34 Middle Segment RATES OF MATERIALS

Mainline **10+00 to 376+88** **6.948 miles**

CRS-2P Asphalt for Surface Treatment at the rate of 20.94 tons/mile applied 24 feet wide (Rate = 0.35 gallon per square yard).

Type 2B Cover Aggregate at the rate of 154.88 tons/mile applied 24 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 4.49 tons/mile applied 24 feet wide (Rate = 0.075 gallons per square yard).

Shoulders	**10+00 to 158+68**	**2.816 miles**
	172+65 to 376+88	**3.868 miles**
		6.684 miles

CRS-2P Asphalt for Surface Treatment at the rate of 16.95 tons/mile applied 17 feet wide (8.5 feet each shoulder) (Rate = 0.40 gallon per square yard).

Type 2B Cover Aggregate at the rate of 109.71 tons/mile applied 17 feet wide (8.5 feet each shoulder) (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 3.18 tons/mile applied 17 feet wide (8.5 feet each shoulder) (Rate = 0.075 gallons per square yard).

Shoulders **158+68 to 172+65** **0.265 miles**

CRS-2P Asphalt for Surface Treatment at the rate of 8.98 tons/mile applied 9 feet wide (4.5 feet each shoulder) (Rate = 0.40 gallon per square yard).

Type 2B Cover Aggregate at the rate of 58.08 tons/mile applied 9 feet wide (4.5 feet each shoulder) (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 1.68 tons/mile applied 9 feet wide (4.5 feet each shoulder) (Rate = 0.075 gallons per square yard).

SD34 Middle Segment TABLE OF ADDITIONAL QUANTITIES

LOCATION		CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPH. FOR FOG SEAL TON
SD34 Middle Segment				
Sta. 158+68 to 159+68 L 2' Shoulder & Shoulder Transition – 6' to 2' Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	22 SqYd	0.04	0.24	0.07
Sta. 158+68 to 159+68 R 2' Shoulder & Shoulder Transition – 6' to 2' Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	22 SqYd	0.04	0.24	0.07
Sta. 167+54 L Intersecting Street & Radii – 421 Ave (Fedora) Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	144 SqYd	0.24	1.58	0.046
Sta. 167+54 R Intersecting Street & Radii – 421 Ave (Fedora) Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	341 SqYd	0.58	3.75	0.109
Sta. 171+65 to 172+65 L 2' Shoulder & Shoulder Transition – 2' to 6' Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	22 SqYd	0.04	0.24	0.07
Sta. 171+65 to 172+65 R 2' Shoulder & Shoulder Transition – 2' to 6' Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	22 SqYd	0.04	0.24	0.007
SD34 Middle Segment Total Additional Quantities		**0.98**	**6.29**	**0.183**

SD34 Middle Segment
SUMMARY OF MATERIALS QUANTITIES

	Miles	CRS-2P	Type 2B	CSS-1h
Mainline	6.948	145.49	1076.11	31.20
Shoulders	6.684	113.29	733.30	21.26
Shoulders	0.265	2.38	15.39	0.45
Additional Quantities		0.98	6.29	0.18
Total Tons SD34 Middle Seg		262.14	1831.09	53.09

The above quantities are included in the Estimate of Quantities.

RATES OF MATERIALS AND TABLE OF ADDITIONAL QUANTITIES (CONTINUED)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	24	85

SD34 East Segment RATES OF MATERIALS

Mainline **9+67 to 433+50** **8.027 miles**

CRS-2P Asphalt for Surface Treatment at the rate of 26.18 tons/mile applied 30 feet wide (Rate = 0.35 gallon per square yard).

Type 2B Cover Aggregate at the rate of 193.60 tons/mile applied 30 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 5.61 tons/mile applied 30 feet wide (Rate = 0.075 gallons per square yard).

Shoulders **172+02 to 184+30** **0.233 miles**
231+37 to 245+24 **0.263 miles**
0.496 miles

CRS-2P Asphalt for Surface Treatment at the rate of 7.98 tons/mile applied 8 feet wide (4 feet each shoulder) (Rate = 0.40 gallon per square yard).

Type 2B Cover Aggregate at the rate of 51.63 tons/mile applied 8 feet wide (4 feet each shoulder) (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 1.50 tons/mile applied 8 feet wide (4 feet each shoulder) (Rate = 0.075 gallons per square yard).

Shoulders **293+37 to 308+02 L** **0.277 miles**
293+37 to 309+52 R **0.306 miles**
0.583 miles

CRS-2P Asphalt for Surface Treatment at the rate of 3.99 tons/mile applied 4 feet wide (Rate = 0.40 gallon per square yard).

Type 2B Cover Aggregate at the rate of 25.81 tons/mile applied 4 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 0.75 tons/mile applied 4 feet wide (Rate = 0.075 gallons per square yard).

Shoulders **432+87 to 433+50** **0.012 miles**

CRS-2P Asphalt for Surface Treatment at the rate of 9.97 tons/mile applied 10 feet wide (5 feet each shoulder) (Rate = 0.40 gallon per square yard).

Type 2B Cover Aggregate at the rate of 64.53 tons/mile applied 10 feet wide (5 feet each shoulder) (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 1.87 tons/mile applied 10 feet wide (5 feet each shoulder) (Rate = 0.075 gallons per square yard).

SD34 East Segment TABLE OF ADDITIONAL QUANTITIES

LOCATION		CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPH. FOR FOG SEAL TON
SD34 East Segment				
Sta. 9+67 L	462 SqYd	0.79	5.08	0.147
Intersecting Road & Radii – 425 Ave				
Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd				
SD34 East Segment Total Additional Quantities		**0.79**	**5.08**	**0.147**

SD34 East Segment
SUMMARY OF MATERIALS QUANTITIES

	Miles	CRS-2P	Type 2B	CSS-1h
Mainline	8.027	210.15	1554.03	45.03
Shoulders	0.496	3.96	25.61	0.74
Shoulders	0.583	2.33	15.05	0.44
Shoulders	0.012	0.12	0.77	0.02
Additional Quantities		0.79	5.08	0.15
Total Tons SD34 East Seg		217.35	1600.54	46.38

The above quantities are included in the Estimate of Quantities.

RATES OF MATERIALS AND TABLE OF ADDITIONAL QUANTITIES (CONTINUED)

SD37 **RATES OF MATERIALS**

Shoulders	**61+00 to 368+56 Lt**	**5.825 miles**
	373+76 to 474+75 Lt	**1.913 miles**
	61+00 to 474+76 Rt	**7.836 miles**
		15.574 miles

CRS-2P Asphalt for Surface Treatment at the rate of 8.48 tons/mile applied 8.5 feet wide (Rate = 0.40 gallon per square yard).

Type 2B Cover Aggregate at the rate of 54.85 tons/mile applied 8.5 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 1.59 tons/mile applied 8.5 feet wide (Rate = 0.075 gallons per square yard).

Shoulders	**370+36 to 373+76 Lt**	**0.064 miles**

CRS-2P Asphalt for Surface Treatment at the rate of 6.48 tons/mile applied 6.5 feet wide (Rate = 0.40 gallon per square yard).

Type 2B Cover Aggregate at the rate of 41.95 tons/mile applied 6.5 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 1.22 tons/mile applied 6.5 feet wide (Rate = 0.075 gallons per square yard).

SD37 TABLE OF ADDITIONAL QUANTITIES

LOCATION		CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPH. FOR FOG SEAL TON
SD37				
Sta. 474+25 L	407 SqYd	0.69	4.48	0.013
Intersecting Road & Radii – 284 St8				
Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd				
Sta. 474+25 R	355 SqYd	0.60	3.91	0.113
Intersecting Road & Radii – 284 St				
Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd				
SD37 Total Additional Quantities		**1.29**	**8.39**	**0.243**

SD37
SUMMARY OF MATERIALS QUANTITIES

	Miles	CRS-2P	Type 2B	CSS-1h
Shoulder	15.574	132.07	854.23	24.76
Shoulder	0.064	0.41	2.68	0.08
Additional Quantities		1.29	8.39	0.24
Total Tons SD37		133.77	865.30	25.08

The above quantities are included in the Estimate of Quantities.

RATES OF MATERIALS AND TABLE OF ADDITIONAL QUANTITIES (CONTINUED)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	26	85

SD44 RATES OF MATERIALS

Mainline	**148+88 to 327+75**	**3.388 miles**
	328+55 to 810+31	**9.124 miles**
	810+35 to 872+92	**1.176 miles**
	873+59 to 1030+81	**2.978 miles**
	1031+61 to 1073+72	**0.798 miles**
	1074+65 to 1092+65	**0.341 miles**
		17.805 miles

CRS-2P Asphalt for Surface Treatment at the rate of 20.94 tons/mile applied 24 feet wide (Rate = 0.35 gallon per square yard).

Type 2B Cover Aggregate at the rate of 154.88 tons/mile applied 24 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 4.49 tons/mile applied 24 feet wide (Rate = 0.075 gallons per square yard).

Shoulders	**148+88 to 201+83**	**1.003 miles**
	202+25 to 327+75	**2.377 miles**
	328+55 to 414+00	**1.618 miles**
	425+45 to 594+77	**3.207 miles**
	595+13 to 810+31	**4.075 miles**
	810+85 to 872+92	**1.176 miles**
	873+59 to 1030+81	**2.978 miles**
	1031+61 to 1073+72	**0.798 miles**
	1074+65 to 1092+65	**0.341 miles**
		17.573 miles

CRS-2P Asphalt for Surface Treatment at the rate of 19.95 tons/mile applied 20 feet wide (10 feet each shoulder) (Rate = 0.40 gallon per square yard).

Type 2B Cover Aggregate at the rate of 129.07 tons/mile applied 20 feet wide (10 feet each shoulder) (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 3.74 tons/mile applied 20 feet wide (10 feet each shoulder) (Rate = 0.075 gallons per square yard).

Shoulders	**201+83 to 202+25**	**0.008 miles**
	414+00 to 425+45	**0.217 miles**
	594+77 to 595+13	**0.007 miles**
		0.232 miles

CRS-2P Asphalt for Surface Treatment at the rate of 21.94 tons/mile applied 22 feet wide (11 feet each shoulder) (Rate = 0.40 gallon per square yard).

Type 2B Cover Aggregate at the rate of 141.97 tons/mile applied 22 feet wide (11 feet each shoulder) (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 4.11 tons/mile applied 22 feet wide (11 feet each shoulder) (Rate = 0.075 gallons per square yard).

SD44 TABLE OF ADDITIONAL QUANTITIES

LOCATION		CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPH. FOR FOG SEAL TON
SD44				
Sta.150+30 to 154+20 Mainline Transition – 390' x 0' to 12' Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	260 SqYd	0.44	2.86	0.083
Sta. 154+20 to 163+65 Turn Bay – 945' x 12' Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	1260 SqYd	2.14	13.86	0.402
Sta. 156+64 R Intersecting Road & Radii – Jct US281 Rates = 0.35 gal, 22 lb & 0.075 gal/SqYd	523 SqYd	0.78	5.75	0.167
Sta. 163+65 to 167+55 Mainline Transition – 390' x 12' to 0' Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	260 SqYd	0.44	2.86	0.083
Sta. 362+04 L Intersecting Road & Radii – 396 Ave (Mt. Vernon Road) Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	226 SqYd	0.38	2.49	0.072
Sta. 362+04 R Intersecting Road & Radii – 396 Ave (Armour Road) Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	224 SqYd	0.38	2.46	0.071
Sta. 670+44 to 674+34 Mainline Transition – 390' x 0' to 12' Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	260 SqYd	0.44	2.86	0.083
Sta. 674+34 to 687+54 Turn Bay – 1320' x 12' Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	1760 SqYd	2.99	19.36	0.561
Sta. 680+94 L Intersecting Road & Radii – 402 Ave (Betts Road) Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	244 SqYd	0.41	2.68	0.078
Sta. 680+94 R Intersecting Road & Radii – 244 St (Delmont Road) Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	179 SqYd	0.30	1.97	0.057
SD44 Column 1 Additional Quantities		**1.86**	**12.08**	**0.349**

SD44 TABLE OF ADDITIONAL QUANTITIES

LOCATION		CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPH. FOR FOG SEAL TON
SD44				
Sta. 687+54 to 694+44 Mainline Transition – 390' x 12' to 0' Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	260 SqYd	0.44	2.86	0.083
SD44 Column 2 Additional Quantities		**0.44**	**2.86**	**0.083**
SD44 Total Additional Quantities		**9.14**	**60.01**	**1.740**

SD44
SUMMARY OF MATERIALS QUANTITIES

	Miles	CRS-2P	Type 2B	CSS-1h
Mainline	17.805	372.84	2757.64	79.94
Shoulders	17.573	350.58	2268.15	65.72
Shoulders	0.232	5.09	32.94	0.95
Additional Quantities		9.14	60.01	1.74
Total Tons SD44		737.65	5118.74	148.35

The above quantities are included in the Estimate of Quantities.

RATES OF MATERIALS AND TABLE OF ADDITIONAL QUANTITIES (CONTINUED)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	27	85

SD46 RATES OF MATERIALS

Mainline	**11+07 to 40+86**	**0.564 miles**
	42+95 to 401+79	**6.796 miles**
		7.360 miles

CRS-2P Asphalt for Surface Treatment at the rate of 20.94 tons/mile applied 24 feet wide (Rate = 0.35 gallon per square yard).

Type 2B Cover Aggregate at the rate of 154.88 tons/mile applied 24 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 4.49 tons/mile applied 24 feet wide (Rate = 0.075 gallons per square yard).

Shoulders	**11+07 to 40+86**	**0.564 miles**
	42+95 to 255+19	**4.020 miles**
	284+94 to 303+44	**0.350 miles**
	394+85 to 401+79	**0.131 miles**
		5.065 miles

CRS-2P Asphalt for Surface Treatment at the rate of 20.94 tons/mile applied 21 feet wide (10.5 feet each shoulder) (Rate = 0.40 gallon per square yard).

Type 2B Cover Aggregate at the rate of 135.52 tons/mile applied 21 feet wide (10.5 feet each shoulder) (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 3.93 tons/mile applied 21 feet wide (10.5 feet each shoulder) (Rate = 0.075 gallons per square yard).

Shoulders	**255+19 to 284+94**	**0.563 miles**
	303+44 to 384+78	**1.541 miles**
		2.104 miles

CRS-2P Asphalt for Surface Treatment at the rate of 16.95 tons/mile applied 17 feet wide (8.5 feet each shoulder) (Rate = 0.40 gallon per square yard).

Type 2B Cover Aggregate at the rate of 109.71 tons/mile applied 17 feet wide (8.5 feet each shoulder) (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 3.18 tons/mile applied 17 feet wide (8.5 feet each shoulder) (Rate = 0.075 gallons per square yard).

Shoulders	**384+78 to 394+85**	**0.191 miles**

CRS-2P Asphalt for Surface Treatment at the rate of 11.97 tons/mile applied 12 feet wide (6 feet each shoulder) (Rate = 0.40 gallon per square yard).

Type 2B Cover Aggregate at the rate of 77.44 tons/mile applied 12 feet wide (6 feet each shoulder) (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 2.24 tons/mile applied 12 feet wide (6 feet each shoulder) (Rate = 0.075 gallons per square yard).

SD46 TABLE OF ADDITIONAL QUANTITIES

LOCATION		CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPH. FOR FOG SEAL TON
SD46				
Sta. 83+69 R Home Entrance Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	232 SqYd	0.39	2.55	0.074
Sta. 236+69 to 240+89 Mainline Transition – 420’ x 0’ to 12’ Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	280 SqYd	0.48	3.08	0.089
Sta. 240+89 to 250+99 Turn Bay – 1010’ x 12’ Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	1347 SqYd	2.29	14.82	0.429
Sta. 243+59 R Intersecting Road & Radii – 400 Ave (Dante Road) Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	498 SqYd	0.85	5.48	0.159
Sta. 250+99 to 255+19 Mainline Transition – 420’ x 12’ to 0’ Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	280 SqYd	0.48	3.08	0.089
Sta. 255+19 to 256+59 L Shoulder Transition – 140’ x 8’ to 6’ Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	16 SqYd	0.03	0.18	0.005
Sta. 255+19 to 256+59 R Shoulder Transition – 140’ x 8’ to 6’ Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	16 SqYd	0.03	0.18	0.005
Sta. 283+54 to 284+94 L Shoulder Transition – 140’ x 6’ to 8’ Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	16 SqYd	0.03	0.18	0.005
Sta. 283+54 to 284+94 R Shoulder Transition – 140’ x 6’ to 8’ Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	16 SqYd	0.03	0.18	0.005
Sta. 284+94 to 289+14 Mainline Transition – 420’ x 0’ to 12’ Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	280 SqYd	0.48	3.08	0.089
Sta. 289+14 to 299+24 Turn Bay – 1010’ x 12’ Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	1347 SqYd	2.29	14.82	0.429
SD46 Column 1 Additional Quantities		**7.38**	**47.63**	**1.378**

SD46 TABLE OF ADDITIONAL QUANTITIES

LOCATION		CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPH. FOR FOG SEAL TON
SD46				
Sta. 298+54 L Intersecting Road & Radii – 401 Ave (Delmont Road) Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	432 SqYd	0.73	4.75	0.138
Sta. 299+24 to 303+44 Mainline Transition – 420’ x 0’ to 12’ Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	280 SqYd	0.48	3.08	0.089
Sta. 391+74 to 394+85 L Shoulder Transition – 315’ x 3.5’ to 8’ Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	79 SqYd	0.13	0.87	0.025
Sta. 391+74 to 394+85 R Shoulder Transition – 315’ x 3.5’ to 8’ Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	79 SqYd	0.13	0.87	0.025
Sta. 394+85 to 399+05 Mainline Transition – 420’ x 0’ to 12’ Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	280 SqYd	0.48	3.08	0.089
Sta. 399+05 to 401+79 Turn Bay – 270’ x 12’ Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	360 SqYd	0.61	3.96	0.115
SD46 Column 2 Additional Quantities		**2.56**	**16.61**	**0.481**
SD46 Total Additional Quantities		**9.94**	**64.24**	**1.859**

SD46
SUMMARY OF MATERIALS QUANTITIES

	Miles	CRS-2P	Type 2B	CSS-1h
Mainline	7.360	154.12	1139.92	33.05
Shoulders	5.065	106.06	686.41	19.91
Shoulders	2.104	35.66	230.83	6.69
Shoulders	0.191	2.29	14.79	0.43
Additional Quantities		9.94	64.24	1.86
Total Tons SD46		308.07	2136.19	61.94

The above quantities are included in the Estimate of Quantities.

RATES OF MATERIALS AND TABLE OF ADDITIONAL QUANTITIES (CONTINUED)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	28	85

SD47 RATES OF MATERIALS

Mainline	**0+00 to 29+81**	**0.565 miles**
	573+08 to 576+58	**0.066 miles**
		0.631 miles

CRS-2P Asphalt for Surface Treatment at the rate of 20.94 tons/mile applied 24 feet wide (Rate = 0.35 gallon per square yard).

Type 2B Cover Aggregate at the rate of 154.88 tons/mile applied 24 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 4.49 tons/mile applied 24 feet wide (Rate = 0.075 gallons per square yard).

Mainline & Shoulders	**29+81 to 462+68**	**8.198 miles**
	463+74 to 570+40	**2.020 miles**
		10.218 miles

CRS-2P Asphalt for Surface Treatment at the rate of 27.05 tons/mile applied 31 feet wide (Rate = 0.35 gallon per square yard).

Type 2B Cover Aggregate at the rate of 200.05 tons/mile applied 31 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 5.80 tons/mile applied 31 feet wide (Rate = 0.075 gallons per square yard).

Mainline & Shoulder	**570+40 to 573+08**	**0.051 miles**

CRS-2P Asphalt for Surface Treatment at the rate of 24.00 tons/mile applied 27.5 feet wide (24 feet mainline and 3.5 feet Rt Shoulder) (Rate = 0.35 gallon per square yard).

Type 2B Cover Aggregate at the rate of 177.47 tons/mile applied 27.5 feet wide (24 feet mainline and 3.5 feet Rt Shoulder) (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 5.14 tons/mile applied 27.5 feet wide (24 feet mainline and 3.5 feet Rt Shoulder) (Rate = 0.075 gallons per square yard).

Mainline & Shoulder	**576+58 to 580+00**	**0.065 miles**

CRS-2P Asphalt for Surface Treatment at the rate of 33.16 tons/mile applied 38 feet wide (36 feet mainline and 2 feet Rt Shoulder) (Rate = 0.35 gallon per square yard).

Type 2B Cover Aggregate at the rate of 245.23 tons/mile applied 38 feet wide (36 feet mainline and 2 feet Rt Shoulder) (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 7.11 tons/mile applied 38 feet wide (36 feet mainline and 2 feet Rt Shoulder) (Rate = 0.075 gallons per square yard).

SD47 RATES OF MATERIALS

Shoulders	**0+00 to 28+18 R**	**0.534 miles**
	0+00 to 29+12 L	**0.552 miles**
		1.086 miles

CRS-2P Asphalt for Surface Treatment at the rate of 7.98 tons/mile applied 8 feet wide (Rate = 0.40 gallon per square yard).

Type 2B Cover Aggregate at the rate of 51.63 tons/mile applied 8 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 1.50 tons/mile applied 8 feet wide (Rate = 0.075 gallons per square yard).

Shoulder	**28+18 to 29+81 R**	**0.031 miles**

CRS-2P Asphalt for Surface Treatment at the rate of 4.99 tons/mile applied 5 feet wide (Rate = 0.40 gallon per square yard).

Type 2B Cover Aggregate at the rate of 32.27 tons/mile applied 5 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 0.94 tons/mile applied 5 feet wide (Rate = 0.075 gallons per square yard).

Shoulder	**573+08 to 574+48 R**	**0.027 miles**

CRS-2P Asphalt for Surface Treatment at the rate of 6.98 tons/mile applied 7 feet wide (Rate = 0.40 gallon per square yard).

Type 2B Cover Aggregate at the rate of 45.17 tons/mile applied 7 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 1.31 tons/mile applied 7 feet wide (Rate = 0.075 gallons per square yard).

Shoulders	**573+74 to 580+00 L**	**0.119 miles**

CRS-2P Asphalt for Surface Treatment at the rate of 13.96 tons/mile applied 14 feet wide (Rate = 0.40 gallon per square yard).

Type 2B Cover Aggregate at the rate of 90.35 tons/mile applied 14 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 2.62 tons/mile applied 14 feet wide (Rate = 0.075 gallons per square yard).

SD47 TABLE OF ADDITIONAL QUANTITIES

LOCATION		CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPH. FOR FOG SEAL TON
SD47				
Sta. 28+19 to 29+01 R Shoulder Transition – 83’ x 8’ to 5’ Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	14 SqYd	0.02	0.15	0.004
Sta. 29+12 to 29+81 L 3.5’ Shoulder & Shld Transition – 8’ to 3.5’ Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	44 SqYd	0.07	0.48	0.014
Sta. 570+40 to 573+74 L 3.5’ Shoulder & Shld Transition – 3.5’ to 14’ Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	324 SqYd	0.55	3.56	0.103
Sta. 574+48 to 576+58 R 2’ Shoulder & Shld Transition – 7’ to 2’ Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	105 SqYd	0.18	1.16	0.033
Sta. 574+48 to 576+58 R Mainline Transition – 210’ x 0’ to 12’ Rates = 0.35 gal, 22 lb & 0.075 gal/SqYd	140 SqYd	0.21	1.54	0.045
Sta. 580+00 L Radius – Jct SD44 Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	93 SqYd	0.16	1.02	0.20
Sta. 580+00 R Radius – Jct SD44 Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	64 SqYd	0.11	0.70	0.020
SD47 Total Additional Quantities		**1.30**	**8.61**	**0.249**

SD47
SUMMARY OF MATERIALS QUANTITIES

	Miles	CRS-2P	Type 2B	CSS-1h
Mainline	0.631	13.21	97.73	2.83
Mainlne	10.218	276.40	2044.11	59.26
Mainline	0.051	1.22	9.05	0.26
Mainline	0.065	2.16	15.94	0.46
Shoulders	1.086	8.67	56.07	1.63
Shoulders	0.031	0.15	1.00	0.03
Shoulders	0.027	0.19	1.22	0.04
Shoulders	0.119	1.66	10.75	0.31
Additional Quantities		1.30	8.61	0.25
Total Tons SD47		304.96	2244.48	65.07

The above quantities are included in the Estimate of Quantities.

RATES OF MATERIALS AND TABLE OF ADDITIONAL QUANTITIES (CONTINUED)

I90W **RATES OF MATERIALS**

Westbound	**418+38 to 535+88**	**2.225 miles**
Outside Shoulder	**537+72 to 770+94**	**4.417 miles**
	774+10 to 815+75 Back	**0.789 miles**
	0+00 Ahead to 16+36	**0.310 miles**
	22+85 to 34+79	**0.226 miles**
	37+62 to 45+91	**0.157 miles**
	58+28 to 66+97	**0.165 miles**
		8.289 miles

CRS-2P Asphalt for Surface Treatment at the rate of 6.98 tons/mile applied 7 feet wide (Rate = 0.40 gallon per square yard).

Type 2B Cover Aggregate at the rate of 45.17 tons/mile applied 7 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 1.31 tons/mile applied 7 feet wide (Rate = 0.075 gallons per square yard).

Westbound	**18+32 to 19+89**	**0.030 miles**
Outside Shoulder		

CRS-2P Asphalt for Surface Treatment at the rate of 11.47 tons/mile applied 11.5 feet wide (Rate = 0.40 gallon per square yard).

Type 2B Cover Aggregate at the rate of 74.21 tons/mile applied 11.5 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 2.15 tons/mile applied 11.5 feet wide (Rate = 0.075 gallons per square yard).

Exit 260	**11+85 to 21+98**	**0.192 miles**
WB On Ramp		

CRS-2P Asphalt for Surface Treatment at the rate of 22.69 tons/mile applied 26 feet wide (Rate = 0.35 gallon per square yard).

Type 2B Cover Aggregate at the rate of 167.79 tons/mile applied 26 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 4.86 tons/mile applied 26 feet wide (Rate = 0.075 gallons per square yard).

Exit 260	**0+24 to 10+96**	**0.203 miles**
WB Off Ramp		

CRS-2P Asphalt for Surface Treatment at the rate of 22.69 tons/mile applied 26 feet wide (Rate = 0.35 gallon per square yard).

Type 2B Cover Aggregate at the rate of 167.79 tons/mile applied 26 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 4.86 tons/mile applied 26 feet wide (Rate = 0.075 gallons per square yard).

I90W West Segment TABLE OF ADDITIONAL QUANTITIES

LOCATION		CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPH. FOR FOG SEAL TON
I90W				
Exit 260 Sta. 21+98 WB On Ramp – North Radius Rates = 0.35 gal, 22 lb & 0.075 gal/SqYd	56 SqYd	0.08	0.62	0.02
Exit 260 Sta. 21+98 WB On Ramp – South Radius Rates = 0.35 gal, 22 lb & 0.075 gal/SqYd	101 SqYd	0.15	1.11	0.03
Exit 260 Sta. 0+24 WB Off Ramp – North Radius Rates = 0.35 gal, 22 lb & 0.075 gal/SqYd	39 SqYd	0.06	0.43	0.01
Exit 260 Sta. 0+24 WB Off Ramp – South Radius Rates = 0.35 gal, 22 lb & 0.075 gal/SqYd	139 SqYd	0.21	1.53	0.04
I90W Total Additional Quantities		**0.50**	**3.69**	**0.10**

I90W
SUMMARY OF MATERIALS QUANTITIES

	Miles	CRS-2P	Type 2B	CSS-1h
Outside Shoulder	8.289	57.86	374.41	10.86
Outside Shoulder	0.030	0.34	2.23	0.06
Exit 260 On Ramp	0.192	4.36	32.22	0.93
Exit 260 Off Ramp	0.203	4.61	34.06	0.99
Additional Quantities		0.50	3.69	0.10
Total Tons I90W		67.67	446.61	12.94

The above quantities are included in the Estimate of Quantities.

RATES OF MATERIALS AND TABLE OF ADDITIONAL QUANTITIES (CONTINUED)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	30	85

I90E **RATES OF MATERIALS**

Eastbound	**420+58 to 535+88**	**2.184 miles**
Outside Shoulder	**537+72 to 770+59**	**4.410 miles**
	773+81 to 815+75 Back	**0.794 miles**
	0+00 Ahead to 16+33	**0.309 miles**
	22+91 to 35+48	**0.238 miles**
	58+48 to 66+71	**0.156 miles**
		8.091 miles

CRS-2P Asphalt for Surface Treatment at the rate of 6.98 tons/mile applied 7 feet wide (Rate = 0.40 gallon per square yard).

Type 2B Cover Aggregate at the rate of 45.17 tons/mile applied 7 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 1.31 tons/mile applied 7 feet wide (Rate = 0.075 gallons per square yard).

Eastbound **18+54 to 19+85** **0.025 miles**
Outside Shoulder

CRS-2P Asphalt for Surface Treatment at the rate of 11.47 tons/mile applied 11.5 feet wide (Rate = 0.40 gallon per square yard).

Type 2B Cover Aggregate at the rate of 74.21 tons/mile applied 11.5 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 2.15 tons/mile applied 11.5 feet wide (Rate = 0.075 gallons per square yard).

Exit 260 **6+55 to 18+15** **0.220 miles**
EB Off Ramp

CRS-2P Asphalt for Surface Treatment at the rate of 22.69 tons/mile applied 26 feet wide (Rate = 0.35 gallon per square yard).

Type 2B Cover Aggregate at the rate of 167.79 tons/mile applied 26 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 4.86 tons/mile applied 26 feet wide (Rate = 0.075 gallons per square yard).

Exit 260 **0+24 to 10+88** **0.202 miles**
EB On Ramp

CRS-2P Asphalt for Surface Treatment at the rate of 22.69 tons/mile applied 26 feet wide (Rate = 0.35 gallon per square yard).

Type 2B Cover Aggregate at the rate of 167.79 tons/mile applied 26 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 4.86 tons/mile applied 26 feet wide (Rate = 0.075 gallons per square yard).

I90E West Segment TABLE OF ADDITIONAL QUANTITIES

LOCATION		CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPH. FOR FOG SEAL TON
I90E				
Exit 260 Sta. 18+15 EB Off Ramp – North Radius Rates = 0.35 gal, 22 lb & 0.075 gal/SqYd	144 SqYd	0.21	1.58	0.05
Exit 260 Sta. 18+15 EB Off Ramp – South Radius Rates = 0.35 gal, 22 lb & 0.075 gal/SqYd	36 SqYd	0.05	0.40	0.01
Exit 260 Sta. 0+24 EB On Ramp – North Radius Rates = 0.35 gal, 22 lb & 0.075 gal/SqYd	96 SqYd	0.14	1.06	0.03
Exit 260 Sta. 0+24 EB On Ramp – South Radius Rates = 0.35 gal, 22 lb & 0.075 gal/SqYd	60 SqYd	0.09	0.66	0.02
I90E Total Additional Quantities		**0.49**	**3.70**	**0.11**

I90E
SUMMARY OF MATERIALS QUANTITIES

	Miles	CRS-2P	Type 2B	CSS-1h
Outside Shoulder	8.091	56.48	365.47	10.60
Outside Shoulder	0.025	0.29	1.86	0.05
Exit 260 Off Ramp	0.220	4.99	36.91	1.07
Exit 260 On Ramp	0.202	4.58	33.89	0.98
Additional Quantities		0.49	3.70	0.11
Total Tons I90E		66.83	441.83	12.81

The above quantities are included in the Estimate of Quantities.

RATES OF MATERIALS AND TABLE OF ADDITIONAL QUANTITIES (CONTINUED)

SD251 RATES OF MATERIALS

Mainline & Shoulders	**0+00 to 555+84**	**10.527 miles**
	581+19 to 695+57	**2.166 miles**
	696++17 to 833+90	**2.609 miles**
		15.302 miles

CRS-2P Asphalt for Surface Treatment at the rate of 24.43 tons/mile applied 28 feet wide (Rate = 0.35 gallon per square yard).

Type 2B Cover Aggregate at the rate of 180.69 tons/mile applied 28 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 5.24 tons/mile applied 28 feet wide (Rate = 0.075 gallons per square yard).

Mainline & Shoulders **555+84 to 581+19** **0.480 miles**

CRS-2P Asphalt for Surface Treatment at the rate of 27.05 tons/mile applied 31 feet wide (Rate = 0.35 gallon per square yard).

Type 2B Cover Aggregate at the rate of 200.05 tons/mile applied 31 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 5.80 tons/mile applied 31 feet wide (Rate = 0.075 gallons per square yard).

SD251 TABLE OF ADDITIONAL QUANTITIES

LOCATION		CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPH. FOR FOG SEAL TON
SD251				
Sta. 761+93 R Home Entrance Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	135 SqYd	0.23	1.49	0.043
Sta. 808+38 to 813+38 Cemetery Parking – 500’ x 9’ Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	500 SqYd	0.85	5.50	0.159
Sta. 832+40 to 833+50 L Extra Widening – 110’ x 8’ Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	98 SqYd	0.17	1.08	0.031
Sta. 833+50 to 833+90 L Extra Widening – 40’ x 6’ Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	27 SqYd	0.05	0.30	0.009
Sta. 833+08 R Commercial Entrance Rates = 0.40 gal, 22 lb & 0.075 gal/SqYd	358 SqYd	0.61	3.94	0.114
SD46 Total Additional Quantities		**1.91**	**12.31**	**0.356**

SD251
SUMMARY OF MATERIALS QUANTITIES

	Miles	CRS-2P	Type 2B	CSS-1h
Mainline	15.302	373.83	2764.92	80.18
Mainline	0.480	12.98	96.02	2.78
Additional Quantities		1.91	12.31	0.36
Total Tons SD251		388.72	2873.25	83.32

The above quantities are included in the Estimate of Quantities.

RIDE ACROSS SOUTH DAKOTA BIKE TOUR

The Ride Across South Dakota bike tour may be on routes that are in this contract to have an asphalt surface treatment applied to them. The routes of the tour can be found at www.RASDAK.com. The Contractor will schedule work to complete the affected routes after the bike tour is completed.

COORDINATION BETWEEN CONTRACTORS

A separate contract for Project NH-P 0021(184) - PCN 08QW has been awarded to another Contractor for asphalt concrete crack sealing on SD25 Middle Segment, SD25 North Segment, SD47 and SD251.

The Contractor will schedule work to complete the asphalt surface treatment on SD25 Middle Segment, SD25 North Segment, SD47 and SD251 after completion of the above asphalt concrete crack sealing project.

SHOULDER WORK

Prior to construction, Department of Transportation Maintenance Forces will spray the shoulders to kill existing vegetation. It will be the Contractor's responsibility to notify the State a minimum of 30 days prior to starting work on the shoulders of the highway. The State assumes no responsibility for the effectiveness of the herbicide applied.

Vegetation and accumulated material on or adjacent to the existing roadway edge will be removed to the satisfaction of the Engineer prior to asphalt surface treatment.

Shoulder work will be incidental to other contract items. Separate measurement and payment will not be made.

BRIDGES, APPROACH SLABS, BRIDGE JOINTS, SLEEPER SLABS, APPROACH JOINTS, RAILROAD CROSSINGS, MANHOLES, WATER VALVES AND CONCRETE

Asphalt Surface Treatment will not be placed on any of the bridges, approach slabs, bridge joints, sleeper slabs, approach joints, railroad crossings, manholes, water valves or any type of concrete.

Material used to cover and protect these areas will be removed and disposed of properly after the application of the asphalt surface treatment. When the material is removed, the asphalt surface treatment that does not stay adhered to the material will be removed from the road surface.

ESTIMATED QUANTITIES FOR ASPHALT SURFACE TREATMENT

The quantities of asphalt for surface treatment and cover aggregate are based on the rates shown in the Rates of Materials. This is only an estimate. The actual application rates of materials will be determined by mix design as stated in the Special Provision for Asphalt Surface Treatment Design. The mix design rates may vary from the estimated rates stated in the Rates of Materials depending on the aggregate source and the variation in gradation and flakiness index. The application rates may also be adjusted in the field due to results of gradation, flakiness index, sweep tests and differing surface conditions as encountered. Pay quantities will be based on the actual target rates the inspectors use even though they may vary significantly from plans estimates.

ASPHALT FOR SURFACE TREATMENT

The asphalt for surface treatment that is delivered for use on this contract will be used in the order it is received. Storage of asphalt for surface treatment will only be allowed at the end of the workday. The material that is placed in storage will be the first material used the following day.

COVER AGGREGATE

At least 50% of the aggregate will be stockpiled at each stockpile site, adjacent to or near the routes on this contract, at least one week prior to work beginning on the project. This is to allow the Area Office time to run tests on the material and enter the results into the mix design spreadsheets.

BROOMING

Material will be broomed off bridges and curb & gutter areas adjacent to the bridges. No material will be broomed under the guardrail, including the 3-cable guardrail or into the drop inlets. Material from the curb & gutter areas of the bridges, from guardrail areas of the bridges and from drop inlets will be disposed of in a manner satisfactory to the Engineer.

No material will be broomed into the ditches or on the boulevards in residential and commercial areas where the adjacent landowner conducts the mowing of the right-of-way. This material will be disposed of in a manner satisfactory to the Engineer.

Material that is broomed onto the roadway inslopes will not be left in piles or windrows. The material will be evenly distributed at a height that will not hinder mowing operations or cause dispersion of the material into the traveled roadway when passed over with a mower.

Anticipated areas, other than the bridge areas stated above, that will require either removal of the chips with a pickup sweeper or additional dispersal of the chips with the rotary powered broom are:

ROUTE	LOCATION
US18	Residential and commercial areas in the City of Lake Andes
US18	North Point Recreation Area Intersection
US18	Jct SD46
SD34 Middle Segment	Residential and commercial areas in the City of Fedora
SD44	Residential and commercial areas in the City of Parkston
SD46	Residential and commercial areas in the City of Wagner
SD47	Curb & gutter areas in the City of Gregory
SD251	Cemetery area and commercial area in the City of Gregory

This list may not be complete. Additional areas may need attention as directed by the Engineer.

FOG SEAL

Fog Seal will be placed on all the routes on this contract.

The fog seal will be placed following the completion of the asphalt surface treatment and prior to the placement of the permanent pavement marking.

Application of the fog seal will begin no earlier than the morning following application of the chip seal but no later than four days after the application of each day's chip seal.

Immediately prior to the applications of the fog seal the Contractor will be required to broom the entire width of the chip seal. An SS-1h or CSS-1h emulsion will be used for the fog seal application. An emulsion-to-water ratio of 3:1 should be used for the binder application.

Sand for Fog Seal will conform to Section 879.1 B of the specifications except for the following requirements:

> The shale content or other particles of low specific gravity (less than 1.95) passing the No. 4 sieve will not exceed 4.5%. Prior to hauling, sand will be screened to minimize segregation, eliminate oversize and effectively breakup or discard material bonded into chunks.

Sand for Fog Seal will be furnished by the Contractor. A rate of application for the sand will not be given. A small quantity of Sand for Fog Seal is set up for each respective route to be Fog Sealed, to be used as directed by the Engineer at locations of high traffic volumes, such as intersecting state or county highways, that traffic cannot be stopped from crossing. The Contractor will be required to keep traffic off other areas until the Fog Seal has cured sufficiently as to not stick to tires.

APPLICATION OF EMULSION DURING THE CHIP SEAL AND THE FOG SEAL ON SD37

On SD37, end nozzles that apply the correct rate of emulsion throughout the full one-foot width will be used on the nozzle adjacent to the mainline concrete and the nozzle next to the end nozzle will also apply the correct rate of emulsion throughout the entire one-foot width. The normal end nozzle will not be allowed to be turned perpendicular to the spray bar in lieu of using the required end nozzles as this does not achieve a uniform rate of application for the full one-foot width.

TRANSVERSE RUMBLE STRIPS

The Contractor will ensure that transverse rumble strips, in the mainline driving lane in advance of a Stop sign, are not damaged or otherwise modified to lose their functionality during the application of the surface treatment. The Contractor will only apply a fog seal to the rumble strips. The Contractor will repair any damage or loss of functionality of rumble strips to the satisfaction of the Engineer at no additional cost to the State.

GRIND SINUSOIDAL CENTERLINE RUMBLE STRIPE IN ASPHALT CONCRETE ON US18

Sinusoidal rumble stripes will be constructed on the centerline of US18 according to the details of Standard Plate 320.40. Sinusoidal centerline rumble stripes will be installed in rural areas with posted speeds greater than 50 MPH and are not required in urban areas. The rumble stripes will begin at the location of the Speed Limit 65 sign as traffic is departing the built-up area of a community (Sta. 53+26 to Sta. 328+40). The Engineer will mark the exact start and stop locations.

The sinusoidal rumble stripe installation will be completed eight weeks or more after the application of the asphalt surface treatment.

The Contractor will be required to remove loose material from the driving surface and the asphalt shoulders of the roadway. Loose material may be broomed to the outside edge of the shoulders. It will be the Contractor's responsibility to ensure the loose material does not enter any vegetated areas, waterways or lawns.

A flush seal of CSS-1h will be applied to the newly installed sinusoidal rumble stripes at a width of 24" and a rate of 0.10 Gal./SqYd. Prior to the application of the flush seal, cleaning will be accomplished with an air compressor producing a minimum of 125 cubic feet per minute output and equipped with a maximum 3/4-inch nozzle. The air compressors will be equipped with traps capable of removing free water and oil from the compressed air.

Rumble stripes will be thoroughly cleaned of dust, dirt and loose material so the rumble stripes are clean and dry at the time the flush seal is applied. If rumble stripes are left overnight, the area will be re-cleaned immediately before the flush seal.

Loose material resulting from the sinusoidal centerline rumble stripe flush seal preparation will be removed from the roadway surface before an area is opened to traffic.

It is estimated that 5.2 miles of sinusoidal rumble stripes and 2.6 tons of CSS-1h will be required.

All costs associated with grinding the sinusoidal rumble stripes and flush sealing the rumble stripes will be incidental to the contract unit price per mile for Grind Sinusoidal Centerline Rumble Stripe in Asphalt Concrete.

Temporary flexible vertical markers (tabs with one cover) will be applied to the ground centerline prior to nightfall.

The flush seal will be applied within two days of the grinding of the rumble stripes. After completion of the flush seal, the covers of the vertical markers (tabs) will be removed prior to nightfall.

The application of the High Build Waterborne Pavement Marking Paint, Yellow will not begin until 7 calendar days following completion of the flush seal and will be completed within 14 calendar days following completion of the flush seal.

The Contractor will remove and dispose of temporary flexible vertical markers (tabs) after Permanent Pavement Marking is applied. Removal will be accomplished within one week of completion of the Permanent Pavement Marking.

The grinding of the sinusoidal rumble stripes, flushing of the rumble stripes, striping of the second application of the permanent pavement marking on centerline and removal of the temporary flexible vertical markers (tabs) will all be completed by November 22, 2024.

TEMPORARY PAVEMENT MARKING

Paint will not be allowed for Temporary Pavement Marking.

The total length of no passing zones on this contract is estimated to be 36.0 miles.

For locations where the annual average daily traffic (ADT) is 2500 or less, it is estimated that 190 DO NOT PASS and 171 PASS WITH CARE signs will be required to mark the no passing zones, should the Contractor elect to use these signs.

TABLES OF DO NOT PASS AND PASS WITH CARE SIGNS (ADT LESS THAN OR EQUAL TO 2500)

ROUTE	DO NOT PASS	PASS WITH CARE
US18	25	19
SD25 South Segment	4	2
SD25 Middle Segment	5	4
SD25 North Segment	1	0
SD34 West Segment	1	0
SD34 Middle Segment	10	10
SD34 East Segment	10	9
SD44	23	21
SD46	5	4
SD47	47	45
US251	59	57
TOTAL	**190**	**171**

Prior to asphalt surface treatment the Contractor will mark, with appropriately colored temporary flexible vertical markers (tabs), the location of existing pavement marking, except edgelines. However, the Contractor will place temporary flexible vertical markers (tabs) on the edgeline of transition areas such as turn lanes and climbing lanes and on dashed edgelines. Prior to installation of the permanent pavement marking, the Engineer is to be notified. The Contractor will give the Engineer ample notification to verify and check the placement of the temporary flexible vertical markers (tabs) that are to be used for placement of the permanent pavement marking.

If the Contractor uses the DO NOT PASS and PASS WITH CARE signs, the beginning and ending of no passing zones will be marked with temporary flexible vertical markers (tabs).

The Contractor will remove and dispose of temporary flexible vertical markers (tabs) after Permanent Pavement Marking is applied. Removal will be accomplished within one week of completion of the Permanent Pavement Marking.

In the absence of a signed lane closure or pilot car operation, Flagger symbol signs (W20-7) and flaggers, or a shadow vehicle with rotating yellow lights or strobe lights will be positioned on the shoulder in advance of workers for both directions of traffic during the installation and removal of temporary flexible vertical markers (tabs). The traffic control device used will be moved intermittently to provide proper warning of the work operation. A ROAD WORK AHEAD (W20-1), a Workers symbol sign (W21-1) or a BE PREPARED TO STOP (W3-4) warning sign will be mounted on the rear of the shadow vehicle. The method of traffic control used by the Contractor for this work will be approved by the Engineer.

PAVEMENT MARKING MASKING

Any existing pavement marking that is to be salvaged on this contract will be covered with an approved pavement marking masking immediately prior to sealing to preserve the various marking. The masking material will be sturdy enough to eliminate being punctured by the cover aggregate when traffic drives over it.

Pavement marking to be masked will be cleaned with a high-pressure air blast device immediately prior to the application of the Pavement Marking Masking. The width of this masking will be one inch wider than the existing marking. The various items for Pavement Marking Masking will include material, labor and equipment to satisfactorily install the masking prior to sealing and remove and dispose of the masking after the completion of the work and will be incidental to the contract unit price for Pavement Marking Masking.

If the pavement marking is damaged due to improper masking, it will be replaced or repaired at the Contractor's expense.

When the masking is removed, the asphalt surface treatment that does not stay adhered to the masking will be removed from the road surface.

TABLE OF PAVEMENT MARKING MASKING

ROUTE	LOCATION	DESCRIPTION
*SD44	Turn Bay (Jct US281)	Arrows (5 Each - *Left*)
*SD44	Turn Bay (Jct US281)	24" Hatches – 77'
*SD44	US 281 Intersection – NB	Stop Line – 22'
*SD44	Turn Bay (Betts Road)	Arrows (6 Each - *Left*)
*SD44	Turn Bay (Betts Road)	24" Hatches – 77"
*I90W	WB 18+31 to 19+90	White Edgeline – 159'
*I90W	WB On Ramp	White Edgeline – 1020'
*I90W	WB On Ramp	Yellow Edgeline – 911'
*I90W	WB On Ramp	12" White Gore Line – 89'
*I90W	WB Off Ramp	White Edgeline – 1085'
*I90W	WB Off Ramp	Yellow Edgeline – 1006'
*I90W	WB Off Ramp	12" White Gore Line – 71'
*I90E	EB 18+54 to 19+85	White Edgeline – 131'
*I90E	EB Off Ramp	White Edgeline – 1130'
*I90E	EB Off Ramp	Yellow Edgeline – 993
*I90E	EB Off Ramp	12" White Gore Line – 122'
*I90E	EB On Ramp	White Edgeline – 1085'
*I90E	EB ON Ramp	Yellow Edgeline - 926
*I90E	EB On Ramp	12" White Gore Line – 258'

* Masking of the required areas on these routes may need to be done twice due to the required placement of the Fog Seal on these routes. Once prior to the placement of the chip seal and once prior to the fog seal application. Each masking application will be paid for separately. If the Contractor can achieve satisfactory results by leaving the masking in place for both the chip seal and the fog seal applications, this procedure will be allowed. In this case, the masking will be paid for once.

PROTECTION OF PAVEMENT MARKING DURING THE APPLICATION OF EMULUSION ON SD37, I90W & I90E

The existing pavement marking on SD37 is grooved in epoxy paint. There is a two-foot concrete shoulder between the white edgeline and the asphalt concrete shoulder. The Contractor will need to take precautions so that the markings on these routes are not damaged. Any marking damaged due to the Contractor's work will be replaced with grooved in epoxy paint at the Contractor's expense.

The existing pavement marking on I90W & I90E is grooved in epoxy paint on the mainline and the ramps. There are four and a half feet of Class S asphalt concrete between the white edgeline and the area of the asphalt concrete outside shoulder that will have the surface treatment applied to it. There is a requirement that the edgelines on Interstate highways have full reflectivity prior to nightfall. So, if the markings are damaged, the Contractor will need to apply temporary pavement marking to the areas that are damaged prior to nightfall at the Contractor's expense. Once these routes are completed, any marking damaged due to the Contractor's work, will be replaced with grooved in epoxy paint at the Contractor's expense.

The edgelines and gore areas of the Exit 260 ramps will be masked to protect them from having emulsion sprayed on them. If emulsion seeps under the masking, any damaged areas will be replaced with grooved in epoxy paint at the Contractor's expense.

HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

All materials will be applied as per manufacturer's recommendations. High build waterborne pavement marking paint will conform to the supplemental specifications for Section 980.1 B.

Reflective media will consist of glass beads

RATES OF MATERIALS FOR HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

Solid 4" line = 27.8 Gals/Mile
Dashed 4" line = 7.6 Gal/Mile
Glass Beads = 8 Lbs/Gal.

All cost for materials, labor and equipment necessary to furnish and install the pavement markings will be incidental to the contract unit price for the respective High Build Waterborne Pavement Marking Paint items.

PERMANENT PAVEMENT MARKING

No pavement marking will be applied on SD37 or on I90W & I90E unless the Contractor damages the existing epoxy paint. If the epoxy paint is damaged on these routes, the Contractor will regroove and repaint with epoxy paint all the damaged areas at the Contractor's expense.

On US18, the island at the junction of SD46 will be eliminated. The junction will be painted as per the detail in these plans.

Due to the grinding of centerline sinusoidal rumble stripes on US18 after the completion of the fog seal, a portion of this route will require a second application of permanent pavement marking. The location of this second application is from Sta. 53+26 to Sta.328+40. (See note on GRIND SINUSOIDAL CENTERLINE RUMBLE STRIPE IN ASPHALT CONCRETE ON US18.)

The application of permanent pavement marking will not begin until 7 calendar days following completion of the fog seal and will be completed within 14 calendar days following completion of the fog seal.

Marking eight-inch edgelines and gore areas will require the use of two spray nozzles to achieve the required width. Marking twelve-inch gore lines will require the use of three spray nozzles to achieve the required width.

PERMANENT PAVEMENT MARKING (CONTINUED)

The Contractor will be required to repaint existing pavement marking including centerline, edgeline, dashed edgelines, dashed lane lines, lane lines, turn lanes, gore areas, etc.

Stop lines are to be located a minimum of 10' and a maximum of 30' back from the edge of the intersecting roadway. The stop line is to be located to provide the best sight distance for a stopped motorist to view intersecting traffic. The Project Engineer is to be notified prior to the installation of the stop lines to verify their location. Adjustments of the location of the existing stop lines, if needed, will be made prior to the placement of the new stop lines.

Flush sealing will not be allowed as an option for correction of pavement marking not within tolerance due to the occurrence of shadow through.

The following table contains locations of existing pavement marking to be painted by hand.

TABLE OF HAND WORK FOR PAVEMENT MARKING

ROUTE	LOCATION
US18	Stop Line on East Connector to Jct SD50 – SB
US18	24" Hatches in Turn Bays at Jct 382 Ave
US18	Arrows in Turn Bays at Jct 382 Ave
US18	Stop Line on West Connector to Jct SD50 – SB
US18	24" Hatches in Turn Bays at North Point Road
US18	Arrows in Turn Bays at North Point Road
US18	Stop Line on North Point Road – EB
US18	STOP Messages at Jct SD46 – SB
US18	AHEAD Message at Jct SD46 – SB
US18	Stop Line at Jct SD46 – SB
SD25 M Segment	STOP Messages at Jct SD38 – SB
SD25 M Segment	AHEAD Message at Jct SD38 – SB
SD25 M Segment	Stop Line at Jct SD38 – SB
SD25 N Segment	STOP Messages at Jct SD34 – NB
SD25 N Segment	AHEAD Message at Jct SD34 – NB
SD25 N Segment	Stop Line at Jct SD34 – NB
SD34 W Segment	24" Hatches in Gore Area at Begin Project
SD34 W Segment	Solid Areas in Gore Area at Begin Project
SD46	24" Hatches in Turn Bays at Dante Road
SD46	Arrows in Turn Bays at Dante Road
SD46	24" Hatches in Turn Bays at Delmont Road
SD46	Arrows in Turn Bays at Delmont Road
SD46	24" Hatches in Turn Bays at Jct SD50
SD46	Arrows in Turn Bay at Jct SD50
SD47	Stop Line at Jct US18 – SB
SD47	STOP Messages at Jct SD44 – NB
SD47	AHEAD Message at Jct SD44 – NB
SD47	Stop Line at Jct SD44 – NB
SD251	Stop Line at Jct US18 – NB

PERMANENT PAVEMENT MARKING (CONTINUED)

TABLES OF PERMANENT PAVEMENT MARKING

US18 First Application	White	Yellow
4" Yellow Centerline Dashes = 4.453 miles @ 7.6 Gal/Mile		33.8
4" Solid Yellow Centerline = 5.916 miles @ 27.8 Gal/Mile		164.5
Double Yellow for Turn Bays = 2 (4" line) x 0.685 miles @ 27.8 Gal/Mile		38.1
24" Yellow Hatches for Turn Bays= 0.056 miles @ 166.8 Gal/Mile		9.3
Solid Yellow Areas for Turn Bays = 421 SqFt = 0.239 miles @ 27.8 Gal/Mile		6.6
8" Yellow for Gore Areas = 0.007 miles @ 55.6 Gal/Mile		0.4
4" Solid Yellow Edgeline = 0.031 miles @ 27.8 Gal/Mile		0.9
4" Solid White Edgeline = 12.871 miles @ 27.8 Gal/Mile	357.8	
4" White Edgeline Dashes = 0.057 miles @ 7.6 Gal/Mile	0.4	
4" Solid White Lane Lines = 0.210 miles @ 27.8 Gal/Mile	5.8	
8" Solid White for Gore Areas = 0.012 miles @ 55.6 Gal/Mile	0.7	
24" White Stop Line = 0.014 miles @ 166.8 Gal/Mile	2.3	
White STOP Messages = 3 each @ 0.42 Gal/Each	1.3	
White AHEAD Message = 1 each @ 0.53 Gal/Each	0.5	
White Arrows = 13 each @ 0.24 Gal/Each	3.1	
TOTAL GALLONS	**372**	**254**
US18 Second Application	**White**	**Yellow**
4" Yellow Centerline Dashes = 4.188 miles @ 7.6 Gal/Mile		31.8
4" Solid Yellow Centerline = 4.162 miles @ 27.8 Gal/Mile		115.7
Double Yellow for Turn Bays = 2 (4" line) x 0.165 miles @ 27.8 Gal/Mile		9.2
TOTAL GALLONS	**0**	**157**
US18 GRAND TOTAL GALLONS	**372**	**411**

SD25 South Segment	White	Yellow
4" Yellow Centerline Dashes = 5.788 miles @ 7.6 Gal/Mile		44.0
4" Solid Yellow Centerline = 1.023 miles @ 27.8 Gal/Mile		28.4
8" Solid White Edgeline = 11.737 miles @ 55.6 Gal/Mile	652.6	
TOTAL GALLONS	**653**	**72**

SD25 Middle Segment	White	Yellow
4" Yellow Centerline Dashes = 10.149 miles @ 7.6 Gal/Mile		77.1
4" Solid Yellow Centerline = 0.673 miles @ 27.8 Gal/Mile		18.7
8" Solid White Edgeline = 20.135 miles @ 55.6 Gal/Mile	1119.5	
White STOP Messages = 2 each @ 0.42 Gal/Each	0.8	
White AHEAD Message = 1 each @ 0.53 Gal/Each	0.5	
24" White Stop Line = 0.005 miles @ 166.8 Gal/Mile	0.8	
TOTAL GALLONS	**1122**	**96**

PERMANENT PAVEMENT MARKING (CONTINUED)

TABLES OF PERMANENT PAVEMENT MARKING

SD25 North Segment	White	Yellow
4” Yellow Centerline Dashes = 10.981 miles @ 7.6 Gal/Mile		83.5
4” Solid Yellow Centerline = 0.164 miles @ 27.8 Gal/Mile		4.6
4” Solid White Edgeline = 21.712 miles @ 27.8 Gal/Mile	603.6	
White STOP Messages = 2 each @ 0.42 Gal/Each	0.8	
White AHEAD Message = 1 each @ 0.53 Gal/Each	0.5	
24” White Stop Line = 0.006 miles @ 166.8 Gal/Mile	1.0	
TOTAL GALLONS	**606**	**88**

SD34 West Segment	White	Yellow
4” Yellow Centerline Dashes = 8.732 miles @ 7.6 Gal/Mile		66.4
4” Solid Yellow Centerline = 0.159 miles @ 27.8 Gal/Mile		4.4
8” Yellow for Gore Area = 0.146 miles @ 55.6 Gal/Mile		8.1
24” Yellow Hatches in Gore Area = 0.010 miles @ 166.8 Gal/Mile		1.7
Solid Yellow Area in Gore Area = 32.5 SqFt = 0.018 miles @ 27.6 Gal/Mile		0.5
4” White Edgeline White = 17.463 miles @ 27.8 Gal/Mile	485.5	
TOTAL GALLONS	**486**	**81**

SD34 Middle Segment	White	Yellow
4” Yellow Centerline Dashes = 6.916 miles @ 7.6 Gal/Mile		52.6
4” Solid Yellow Centerline = 1.540 miles @ 27.8 Gal/Mile		42.8
4” Solid White Edgeline = 13.701 miles @ 27.6 Gal/Mile	380.9	
TOTAL GALLONS	**381**	**95**

SD34 East Segment	White	Yellow
4” Yellow Centerline Dashes = 8.001 miles @ 7.6 Gal/Mile		60.8
4” Solid Yellow Centerline = 1.226 miles @ 27.8 Gal/Mile		34.1
4” Solid White Edgeline = 15.675 miles @ 27.6 Gal/Mile	435.8	
TOTAL GALLONS	**436**	**95**

SD44	White	Yellow
Yellow Centerline Dashes = 16.852 miles @ 7.6 Gal/Mile		128.1
Solid Yellow Centerline = 3.139 miles @ 27.8 Gal/Mile		87.3
Double Yellow for Turn Bays = 2 (4” line) x 0.988 miles @ 27.8 Gal/Mile		54.9
4” Solid White Edgeline = 32.231 miles @ 27.8 Gal/Mile	979.4	
4” Solid White Lane Lines = 0.369 miles @ 27.8 Gal/Mile	10.3	
TOTAL GALLONS	**990**	**270**

PERMANENT PAVEMENT MARKING (CONTINUED)

TABLES OF PERMANENT PAVEMENT MARKING

SD46	White	Yellow
4” Yellow Centerline Dashes = 6.435 miles @ 7.6 Gal/Mile		48.9
4” Solid Yellow Centerline = 0.611 miles @ 27.8 Gal/Mile		17.0
Double Yellow for Turn Bays = 2 (4” line) x 1.264 miles @ 27.8 Gal/Mile		70.3
24” Yellow Hatches for Turn Bays= 0.077 miles @ 166.8 Gal/Mile		12.8
4” Solid White Edgeline = 14.539 miles @ 27.8 Gal/Mile	404.2	
4” White Edgeline Dashes = 0.007 miles @ 7.6 Gal/Mile	0.1	
4” Solid White Lane Lines = 0.278 miles @ 27.8 Gal/Mile	7.7	
8” Solid White for Gore Areas = 0.026 miles @ 55.6 Gal/Mile	1.4	
White Arrows = 14 each @ 0.24 Gal/Each	3.4	
TOTAL GALLONS	**417**	**149**

SD47	White	Yellow
4” Yellow Centerline Dashes = 9.696 miles @ 7.6 Gal/Mile		73.7
4” Solid Yellow Centerline = 9.083 miles @ 27.8 Gal/Mile		252.5
4” Solid White Edgeline = 20.591 miles @ 27.8 Gal/Mile	572.4	
White STOP Messages = 2 each @ 0.42 Gal/Each	0.8	
White AHEAD Message = 1 each @ 0.53 Gal/Each	0.5	
24” White Stop Line = 0.011 miles @ 166.8 Gal/Mile	1.8	
TOTAL GALLONS	**576**	**326**

SD251	White	Yellow
4” Yellow Centerline Dashes = 13.927 miles @ 7.6 Gal/Mile		105.8
4” Solid Yellow Centerline = 12.463 miles @ 27.8 Gal/Mile		346.5
8” Solid White Edgeline = 31.217 miles @ 55.6 Gal/Mile	1735.7	
24” White Stop Line = 0.005 miles @ 166.8 Gal/Mile	0.8	
TOTAL GALLONS	**1737**	**452**

SEQUENCE OF OPERATIONS

The below sequence is per route:

1. US18 will be the first route the asphalt surface treatment is applied to. This is to be able to obtain the minimum eight-week cure time prior to the grinding of the centerline rumble stripes.
2. Install fixed location ground mounted traffic control devices.
3. Install and remove temporary traffic control devices as needed for each type of work.
4. Place temporary pavement marking not more than 24 hours prior to chip seal.
5. Place pavement marking masking immediately prior to chip seal. See Pavement Marking Masking note for alternate sequence.
6. Apply chip seal.

   The brooming operation will be immediately in front of the asphalt distributor.

   The Contractor will begin sealing operations at the farthest point from the stockpile site and work towards the stockpile site to eliminate unnecessary driving and turning on the fresh seal.

   Only one distributor will be allowed to apply the chip seal oil at a time for each chip seal crew.

   The application of the asphalt and aggregate will cease at least one hour prior to sunset each day.
7. Remove pavement marking masking immediately after chip seal.
8. Remove plastic covers from temporary flexible vertical markers (tabs) after application of the chip seal and prior to nightfall.
9. Broom chip sealed areas the next morning following the chip seal application.
10. Place pavement marking masking immediately prior to fog seal. See Pavement Marking Masking note for alternate sequence.
11. Pick up cover aggregate in curb & gutter areas and other areas as stated in the plans and directed by the Engineer.
12. Apply fog seal.

    Only one distributor will be allowed to apply the fog seal oil at a time for each fog seal crew.
13. Remove pavement marking masking immediately after fog seal.
14. Remove plastic covers from temporary flexible vertical markers (tabs) after application of the fog seal and prior to nightfall.
15. Immediately prior to application of the permanent pavement marking, the areas to be painted will be broomed or blown off with high pressure compressed air. If a high-pressure air device is used to clean the pavement surface, it will be capable of sustaining continuous high pressure for the duration of the pavement marking process.
16. Complete the permanent pavement marking.
17. Complete required hand painted pavement marking areas within the 14-day period specified elsewhere in the plans.
18. Remove temporary flexible vertical markers (tabs) within the seven-day period specified elsewhere in the plans.
19. Remove traffic control devices.

SEQUENCE OF OPERATIONS FOR US18

For US18, the sequence of operations will continue as follows after number 18 in the previous sequence of operations:

19. Remove traffic control devices except for the Road Work Next # Miles and End Road Work signs.
20. A minimum of eight weeks after the application of the CRS-2P, grind sinusoidal rumble stripes on centerline.
21. Place temporary vertical road markers (tabs) prior to nightfall for each day of grinding.
22. Within two days of completing the grinding of the rumble stripes, apply the flush seal to the rumble stripes.
23. Remove the covers from the tabs on centerline prior to nightfall.
24. Apply the second application of the permanent pavement marking between 7 and 14 days after the application of the flush seal.
25. Within seven days of completing the permanent pavement marking, remove the tabs from the road surface.
26. Within seven days of completing the permanent pavement marking, remove all the traffic control devices.

SEQUENCE OF OPERATIONS FOR I90W & I90E

In addition to the previous sequence of operations for all routes, the following sequence of operations will be followed for I90W & I90E ramps.

1. Work activities will be conducted to maintain a single lane of one-way traffic on ramps, 12’ minimum. Ramp traffic will be controlled by flaggers, as shown in the details. Any ramp sealing started during a day will be completed in that same day.

TRAFFIC CONTROL FOR ASPHALT SURFACE TREATMENT

Existing guide, route, informational logo, regulatory and warning signs may need to be temporarily reset and maintained during construction. Removing, relocating, covering, salvaging and resetting of existing traffic control devices, including delineation, will be the responsibility of the Contractor. Cost for this work will be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any delineators and signs damaged or lost will be replaced by the Contractor at no cost to the State.

All temporary traffic control sign locations will be set in the field by the Contractor and verified by the Engineer prior to installation.

All temporary Speed Limit, Yield and Exit ↗ gore signs will have a minimum mounting height of 5 feet in rural locations, even when mounted on portable supports.

Portable sign supports will not be located on sidewalks, bicycle facilities or other areas designated for pedestrian or bicycle traffic.

All construction operations will be conducted in the general direction of traffic movement.

If there is a discrepancy between the traffic control plans, standard plates and the MUTCD, whichever is more stringent will be used, as determined by the Engineer.

Unless otherwise stated in these plans, work will not be allowed during hours of darkness.

TRAFFIC CONTROL FOR ASPHALT SURFACE TREATMENT (CONTINUED)

Fixed location signing placed more than 4 calendar days prior to the start of construction will be covered or laid down until the time of construction. The covers must be approved by the Engineer prior to installation. The cost of materials, labor and equipment necessary to complete this work will be incidental to other contract items. No separate payment will be made.

All fixed location signs, signposts and breakaway bases will be removed within 7 calendar days following pavement marking.

Traffic will be maintained on the driving lanes. Use of the shoulder as a driving lane will not be permitted. Any damage to the shoulder due to rerouted traffic or Contractor’s equipment will be repaired at no expense to the Department.

The Contractor will furnish, install, maintain and remove TRUCK CROSSING (W8-6) signs daily. The TRUCK CROSSING signs will be displayed always when haul vehicles are hauling material. When hauling conditions no longer exist, the signs will be covered or removed from view. The exact number and location will be determined during construction. Payment for additional signs will be based on the contract unit price per square foot for “Traffic Control Signs”.

A mobile work operation will be allowed for the fog sealing of the shoulders on SD37 provided the fog sealing can be completed satisfactorily by a continuously moving work operation. The mobile work operation will be as shown in the detail for Fog Seal Operations on Shoulders of Two-Lane. All costs associated with the traffic control for mobile operations including signs, arrow boards, vehicles and attenuators will be incidental to the contract lump sum price for “Traffic Control, Miscellaneous”.

A mobile work operation will be allowed for the fog sealing of the shoulders on I90W & I90E provided the fog sealing can be completed satisfactorily by a continuously moving work operation. The mobile work operation will be as shown in the detail for Fog Seal Operations on Shoulders of Multi-Lane Road. All costs associated with the traffic control for mobile operations including signs, arrow boards, vehicles and attenuators will be incidental to the contract lump sum price for “Traffic Control, Miscellaneous”.

Construction vehicles will exit or enter the construction work zone at locations identified by the Engineer. At no time will construction vehicles utilize the maintenance crossovers or the Interstate median to exit or enter Interstate traffic.

The Contractor will furnish, install and maintain LOOSE GRAVEL (W8-7) signs with 40 MPH (W13-1P) advisory speed plaques upon start of surface treatment operations at each end of the segment and on either side of intersecting asphalt roads and major intersections as determined by the Engineer. In addition, LOOSE GRAVEL signs with 40 MPH advisory speed plaques will be installed at no more than 4-mile intervals throughout each segment. The 40 MPH advisory speed plaque should not be installed with LOOSE GRAVEL signs in areas where the posted speed limit is less than 40 MPH. LOOSE GRAVEL signs and 40 MPH advisory speed plaques will be covered or removed from view when they are not applicable.

ROAD WORK NEXT XX MILES (G20-1), LOOSE GRAVEL (W8-7) and END ROAD WORK (G20-2) signs are the only signs that need to be mounted on fixed location breakaway sign supports, as shown on the plan layout. ROAD WORK AHEAD (W20-1), FLAGGER (W20-7), ONE LANE ROAD AHEAD (W20-4), TRUCK CROSSING (W8-6) and WAIT FOLLOW PILOT CAR (Special) signs may be mounted on portable supports. Signs mounted on portable supports will be moved as necessary to keep current with the work activities.

TRAFFIC CONTROL FOR ASPHALT SURFACE TREATMENT (CONTINUED)

Until the end of each day’s chip seal operations, at the discretion of the Contractor, additional flaggers and FLAGGER (W20-7) symbol signs will be provided to alert the traveling public entering completed portions of the project to the potential of airborne chips.

The flaggers will provide each motorist with a printed notice on the Contractor’s letterhead similar to the one shown below. Cost of the notice will be incidental to other contract items.

“CONTRACTOR’S LETTERHEAD”

THIS HIGHWAY IS BEING RESURFACED WITH A ROCK CHIP SEAL COAT.

THIS TYPE OF CONSTRUCTION HAS THE POTENTIAL OF CAUSING VEHICLE DAMAGE SUCH AS CHIPPED WINDSHIELDS AND BROKEN HEADLIGHTS DUE TO ROCKS BEING THROWN BY HIGH-SPEED ONCOMING OR PASSING TRAFFIC.

YOU MAY WISH TO CONSIDER TAKING AN ALTERNATE ROUTE. IF YOU PROCEED, KEEP TO THE RIGHT AND DRIVE 40 MPH OR LESS. ANOTHER FLAGGER AND A PILOT CAR WILL BE ESCORTING YOU AROUND THE OIL SEAL COAT APPLICATION AREA.

THANK YOU.

LANE CLOSURES ON I90W & I90E

Lane closures on I90W & I90E will be limited to 4.4 miles in length. The distance between the closest points of any two separate lane closures, in the same direction of traffic, will be at least 3 miles, excluding tapers.

A Type 3 Barricade will be installed at the end of a lane closure taper as detailed in these plans on I90E & I90W.

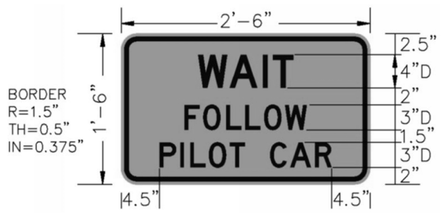
Lane closures will be removed at the end of each day.

FLAGGING

Operations will be conducted so that the traveling public will not have to wait longer than 15 minutes at the flagger station.

The actual workspace for the chip seal will be limited to two-mile segments. A sufficient buffer space will be installed so as not to cause congestion at the workspace. The pilot car shall travel no faster than 20 mph on the fresh seal.

Additional flagger warning signs and flagger hours have been included in the Estimate of Quantities for use on intersecting roads. These flaggers will be used as directed by the Engineer and will be used primarily during daytime hours. Also included in the Estimate of Quantities are WAIT FOLLOW PILOT CAR signs for use on low volume intersecting roads as determined by the Engineer. WAIT FOLLOW PILOT CAR signs will not block the view of the stop sign.



It is required that the flaggers and pilot car operators be able to communicate with one another. If an emergency vehicle needs to pass through the project, the Contractor will be required to expedite traffic movement. All costs associated with this will be incidental to the contract unit price per hour for “Flagging”.

WORK ZONE SPEED REDUCTION

The Department is required to obtain a speed reduction resolution prior to the installation of any SPEED LIMIT (R2-1) signs shown on standard plate 634.63. To provide adequate time for the resolution to be enacted, the Contractor will inform the Engineer a minimum of 3 weeks prior to the scheduled installation of any work zone speed reduction signs on the project. The information provided by the Contractor will include the anticipated date of sign installation, the newly reduced speed limit, the location of the work zone and the anticipated completion date of work requiring the speed reduction.

TRAFFIC CONTROL SIGNS

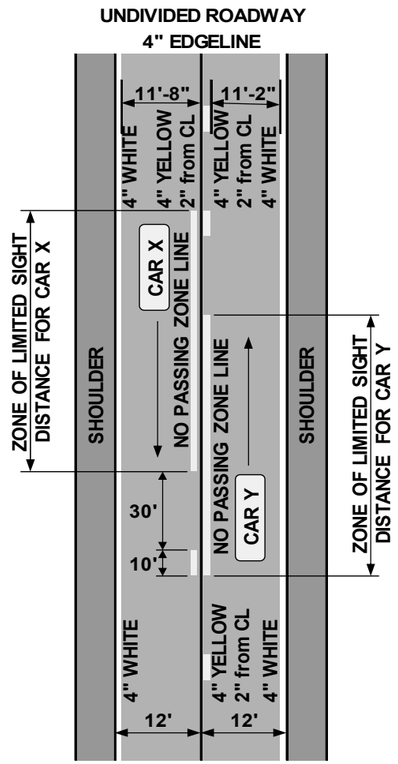
Traffic control signs have been included in a table for each route. Payment will only be for those signs used on each route.

STOCKPILE SITE RELEASES

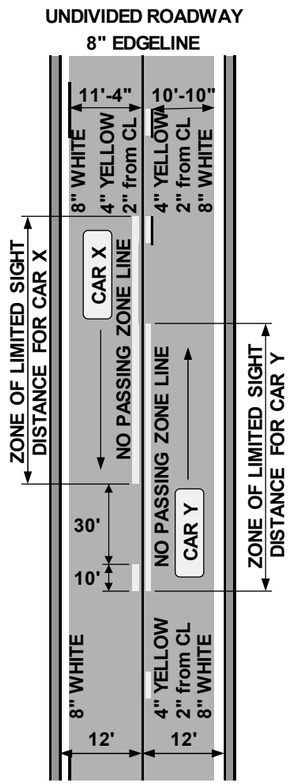
Upon completion of the contract, the Contractor will supply the Engineer a copy of the stockpile site releases to place in the Department's file.

FURNISHING AND APPLYING PAVEMENT MARKING PAINT

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	38	85



US18
SD25 South Segment
SD25 North Segment
SD34 West Segment
SD34 Middle Segment
SD34 East Segment
SD44
SD46
SD47



SD25 Middle Segment
SD251

NOTE: All pavement marking dimensions are based on 12' driving lanes.

Application rates will be as follows:

UNDIVIDED ROADWAY	
ROUTES **US18** **SD25 South Segment** **SD25 North Segment** **SD34 West Segment** **SD34 Middle Segment** **SD34 East Segment** **SD44** **SD46** **SD47**	**ROUTES** **SD25 Middle Segment** **SD251**
TWO LANE ROADWAY	
(Rate for one line)	
Solid Yellow Centerline Rate = 27.8 Gal/Pass-Mile	
Dashed Yellow Centerline Rate = 7.6 Gal/Pass-Mile	
Solid White Edgeline – 4" Rate = 27.8 Gal/Pass-Mile	Solid White Edgeline – 8" Rate = 55.6 Gal/Pass-Mile

Typical pavement marking as shown on the previous sheet and the following sheets will be applied throughout the entire length of applicable sections of roadway.

Traffic Control will be incidental to the cost of application. The striper and advance or trailing warning vehicle will be equipped with flashing amber lights and advance warning arrow board. The trailing warning vehicle will also be equipped with a truck mounted attenuator. This mobile work operation will be as per Standard Plate 634.06.

4" Yellow Skip Centerline (when not adjacent to a 4" Yellow No Passing Zone) will be placed consistently to the south or east of centerline.

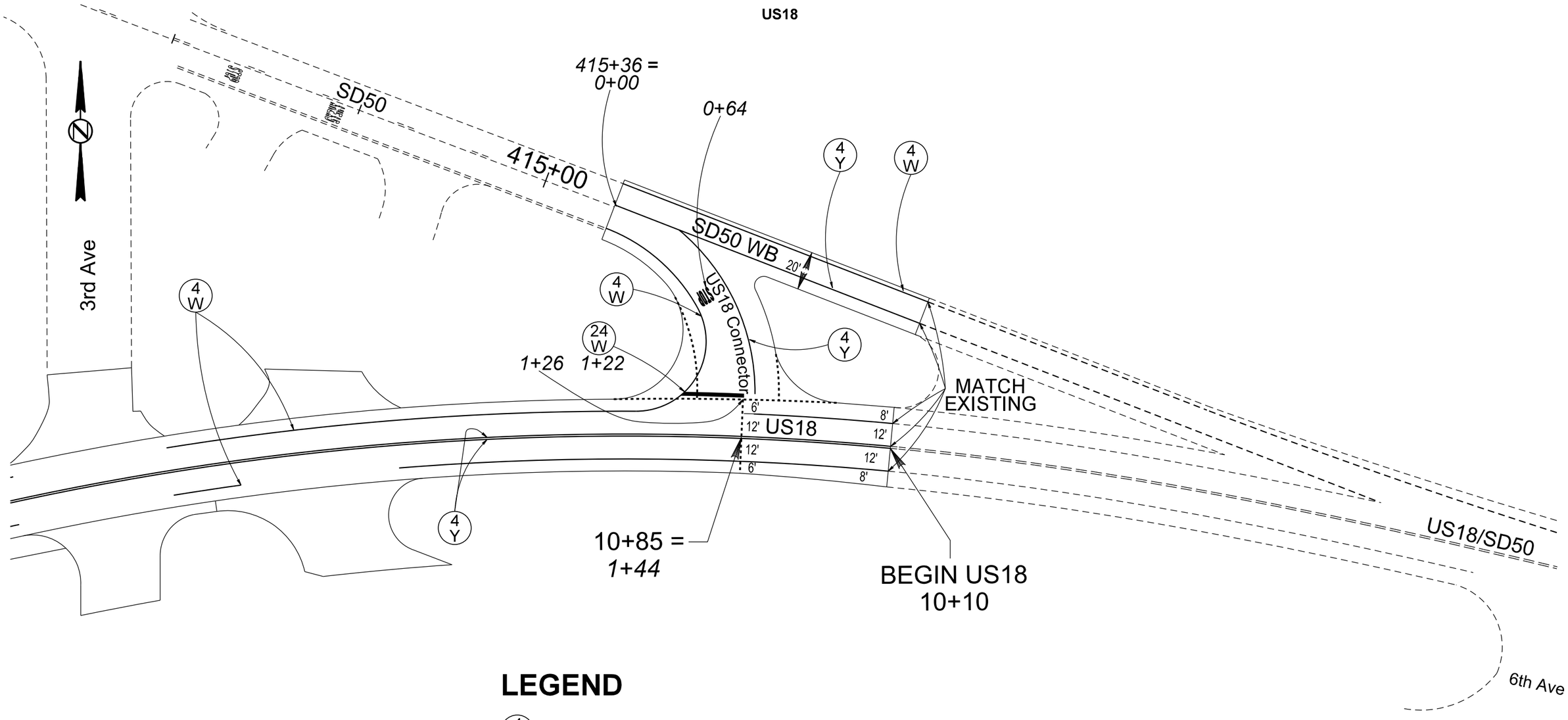
ESTIMATED QUANTITIES		
ROUTES	**PAVEMENT MARKING PAINT**	
	WHITE	**YELLOW**
US18	**372**	**411**
SD25 South Segment	**653**	**72**
SD25 Middle Segment	**1122**	**96**
SD25 North Segment	**606**	**88**
SD34 West Segment	**486**	**81**
SD34 Middle Segment	**381**	**95**
SD34 East Segment	**436**	**95**
SD44	**990**	**270**
SD46	**417**	**149**
SD47	**576**	**326**
SD251	**1737**	**452**
TOTAL GALLONS	**7776**	**2135**

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	39	85

PAVEMENT MARKING

BEGIN PROJECT

US18



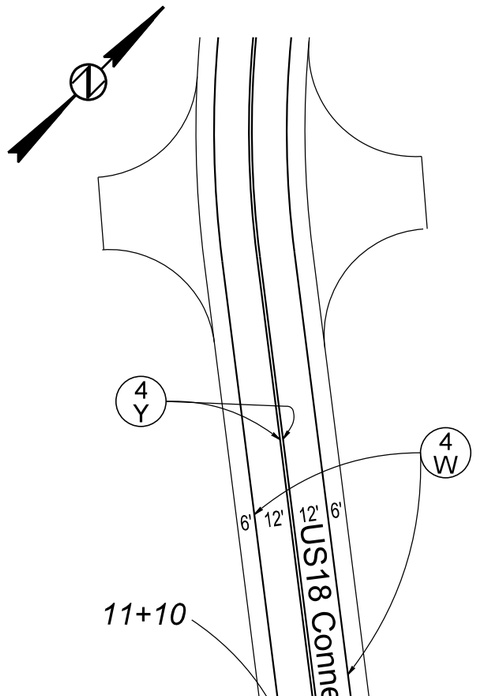
LEGEND

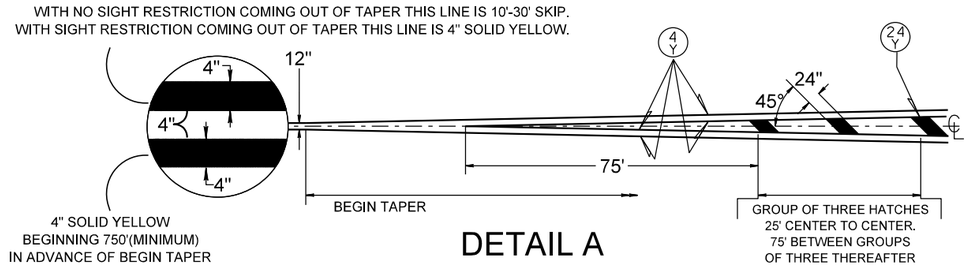
- (4 Y) High Build Pavement Marking, 4" Yellow
- (4 W) High Build Pavement Marking, 4" White
- (24 W) High Build Pavement Marking, 24" White

PAVEMENT MARKING

382 AVE & TURN BAY

US18





DETAIL A

LEGEND

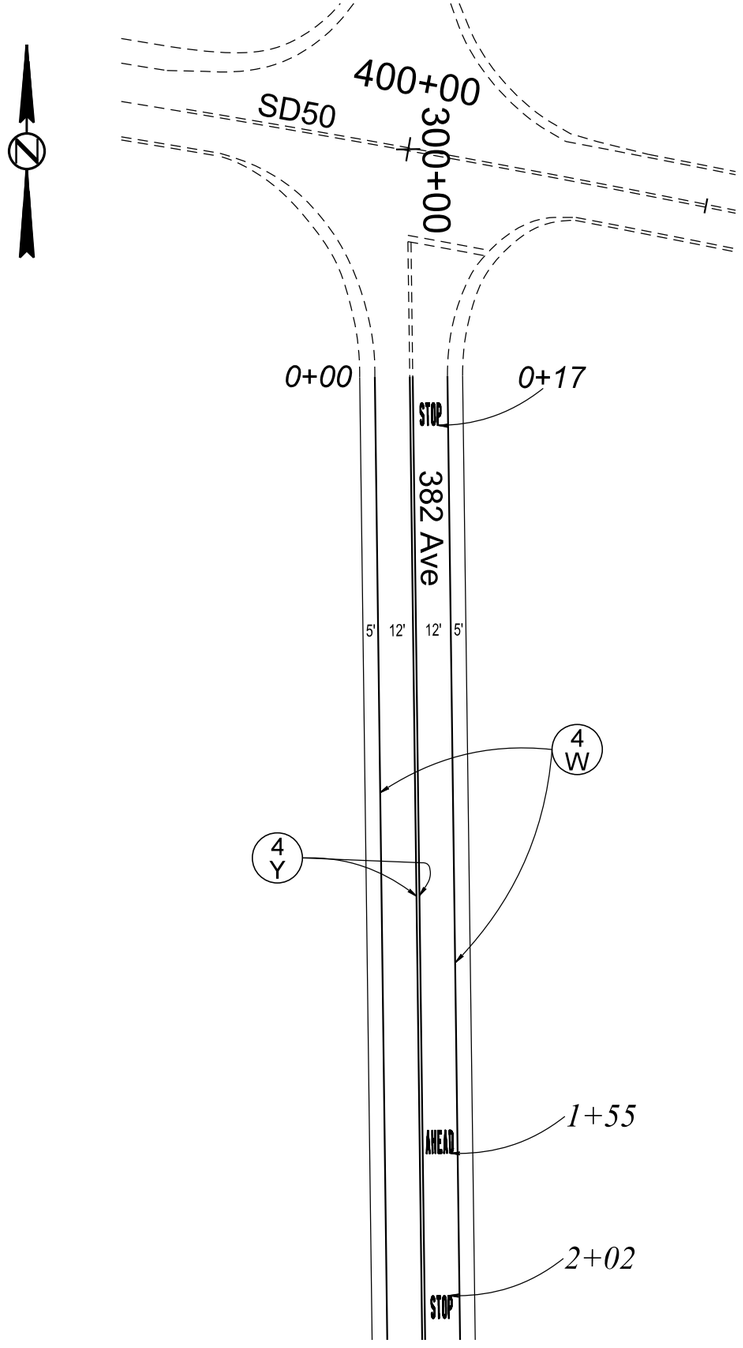
- (4 Y) High Build Pavement Marking, 4" Yellow
- (4 W) High Build Pavement Marking, 4" White
- (24 W) High Build Pavement Marking, 24" White
- (24 Y) High Build Pavement Marking, 24" Yellow
- STOP High Build Pavement Marking, Word Messages

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	41	85

PAVEMENT MARKING

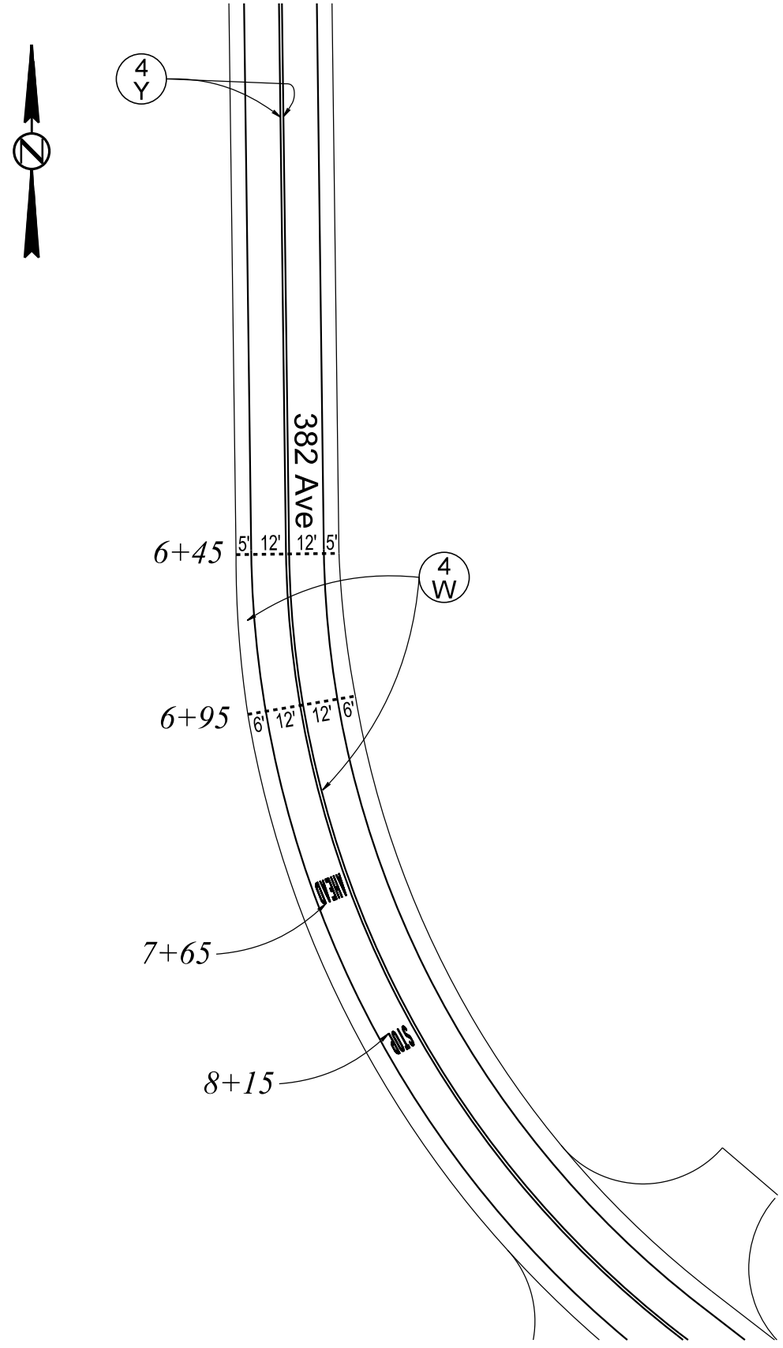
382 AVE

US18



LEGEND

- (4 Y) High Build Pavement Marking, 4" Yellow
- (4 W) High Build Pavement Marking, 4" White
- STOP High Build Pavement Marking, Word Message
- AHEAD High Build Pavement Marking, Word Message



STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	42	85

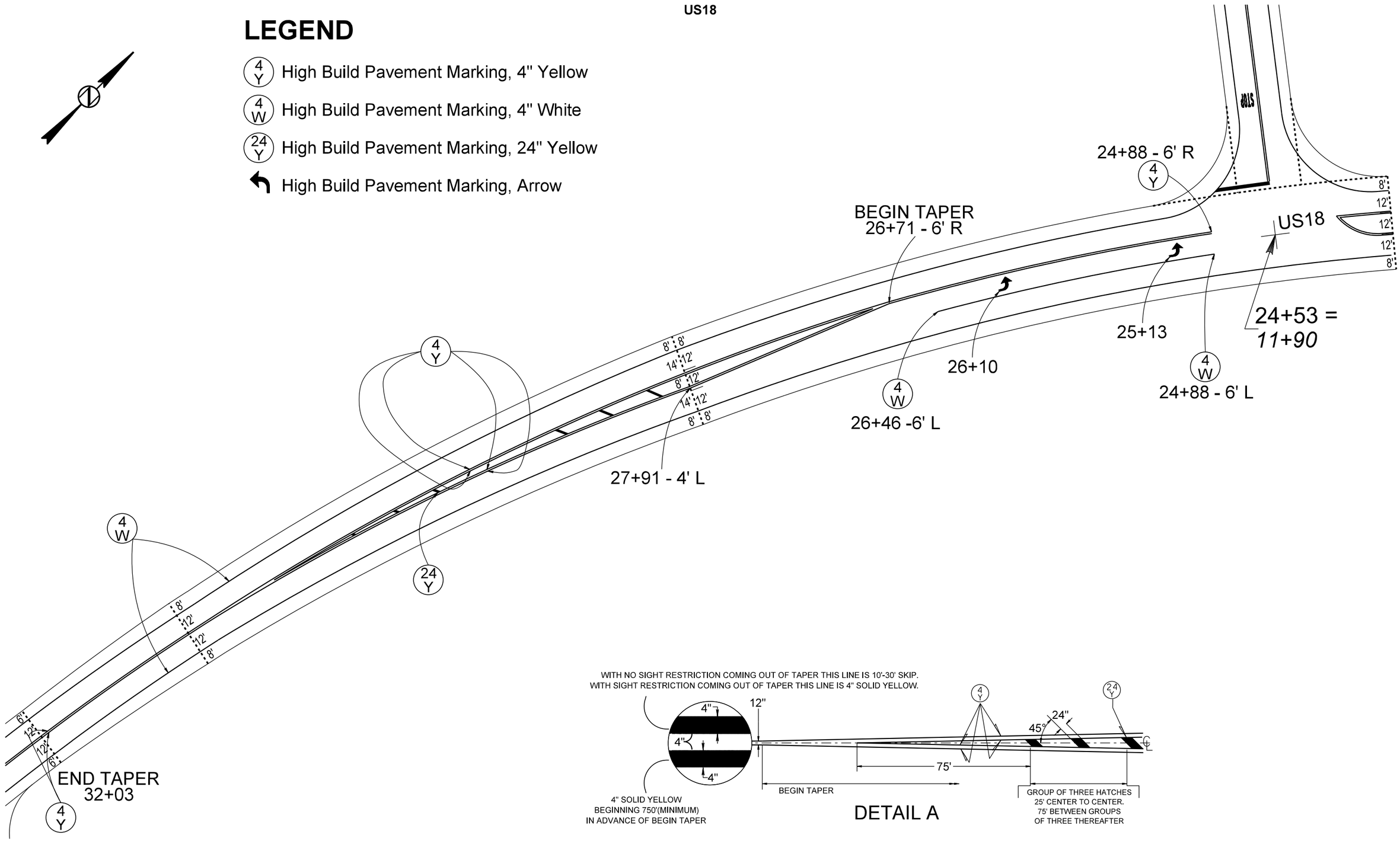
PAVEMENT MARKING

TURN BAY AT 382 AVE

US18

LEGEND

- (4 Y) High Build Pavement Marking, 4" Yellow
- (4 W) High Build Pavement Marking, 4" White
- (24 Y) High Build Pavement Marking, 24" Yellow
- High Build Pavement Marking, Arrow



DETAIL A

PLOT SCALE - 1:50

PLOTTED FROM - TRM1INT06

PLOT NAME - 4

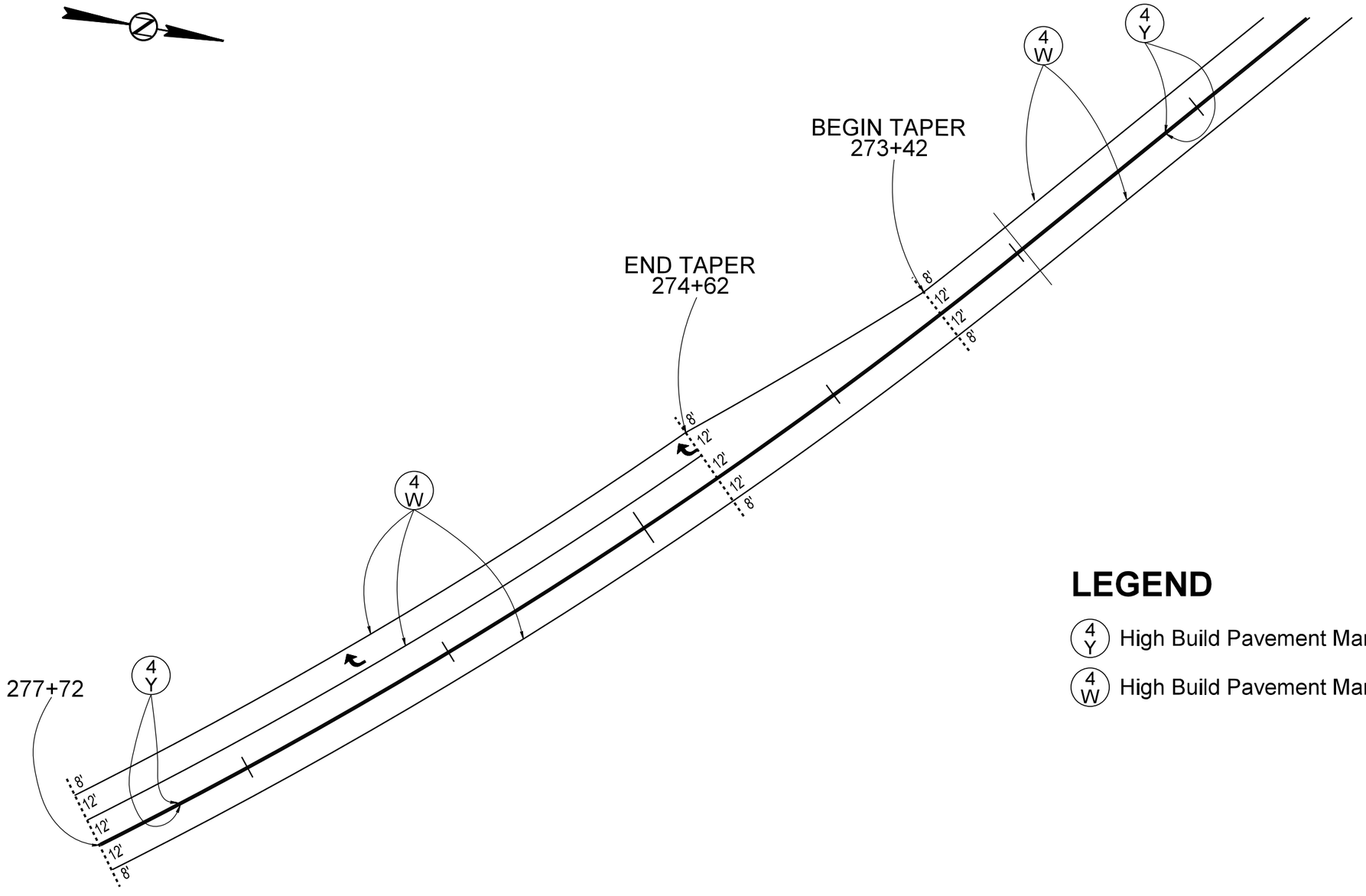
FILE - ...\18 PAV MARK 24 0971.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	43	85

PAVEMENT MARKING

TURN LANE AT NORTH POINT ROAD

US18



LEGEND

- (4 Y) High Build Pavement Marking, 4" Yellow
- (4 W) High Build Pavement Marking, 4" White

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	44	85

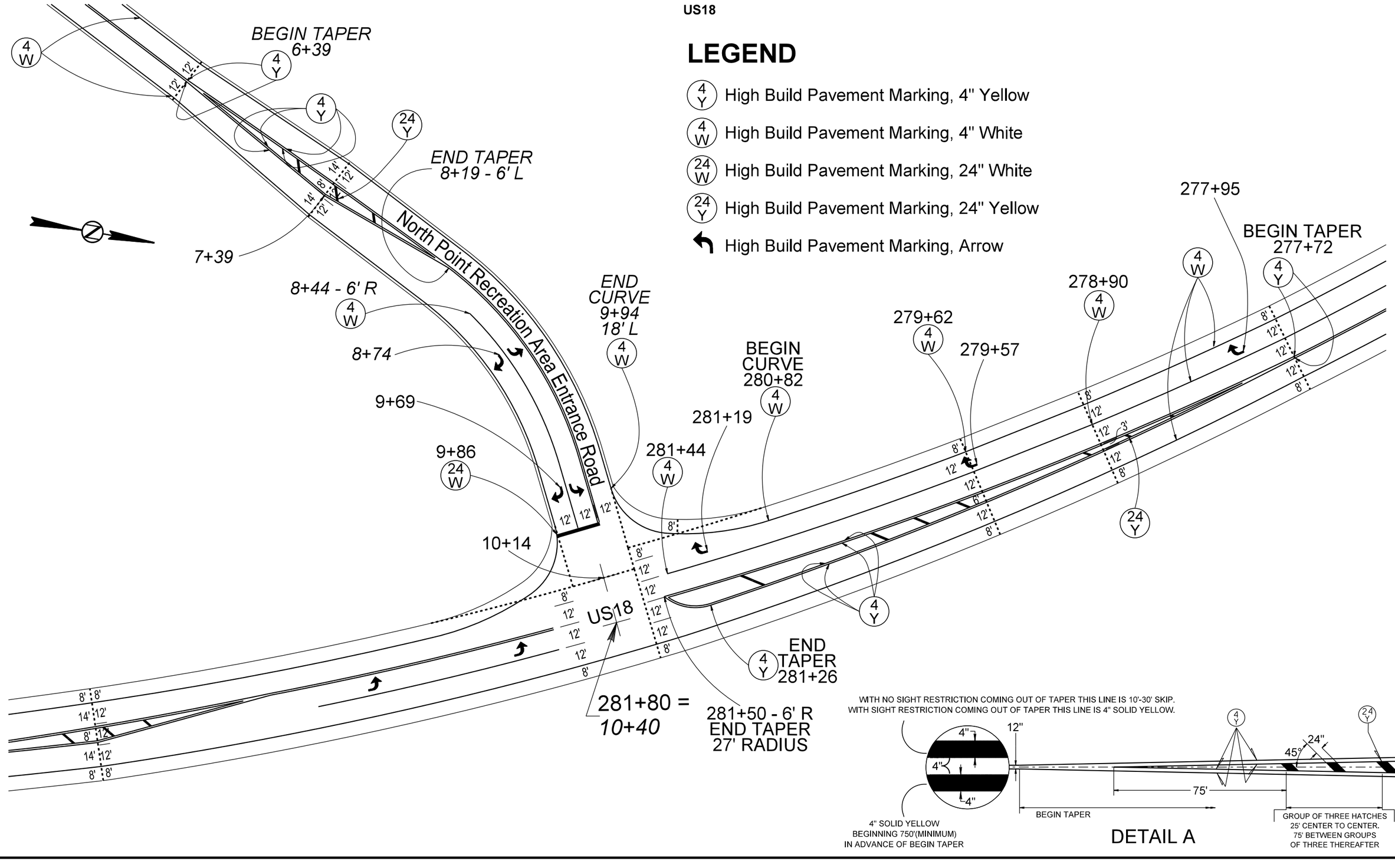
PAVEMENT MARKING

NORTH POINT ROAD & TURN LANE

US18

LEGEND

- (4 Y) High Build Pavement Marking, 4" Yellow
- (4 W) High Build Pavement Marking, 4" White
- (24 W) High Build Pavement Marking, 24" White
- (24 Y) High Build Pavement Marking, 24" Yellow
- High Build Pavement Marking, Arrow



DETAIL A

PLOT SCALE - 1:50

PLOTTED FROM - TRM1INT06

PLOT NAME - 6

FILE - ...\18 PAV MARK 24 0971.DGN

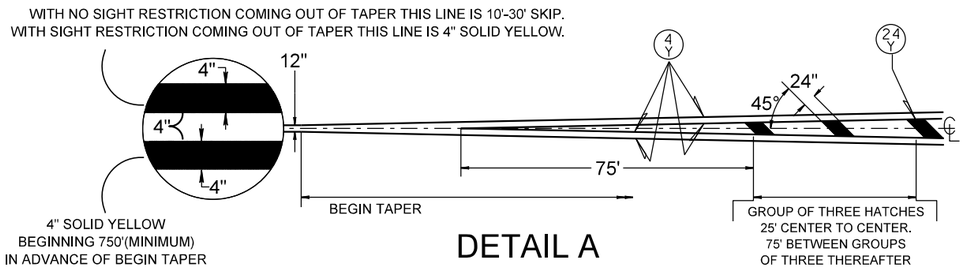
PAVEMENT MARKING

TURN BAY AT NORTH POINT ROAD

US18

LEGEND

- (4 Y) High Build Pavement Marking, 4" Yellow
- (4 W) High Build Pavement Marking, 4" White
- (24 Y) High Build Pavement Marking, 24" Yellow
- High Build Pavement Marking, Arrow



DETAIL A

PLOT SCALE - 1:50

PLOT NAME - 7

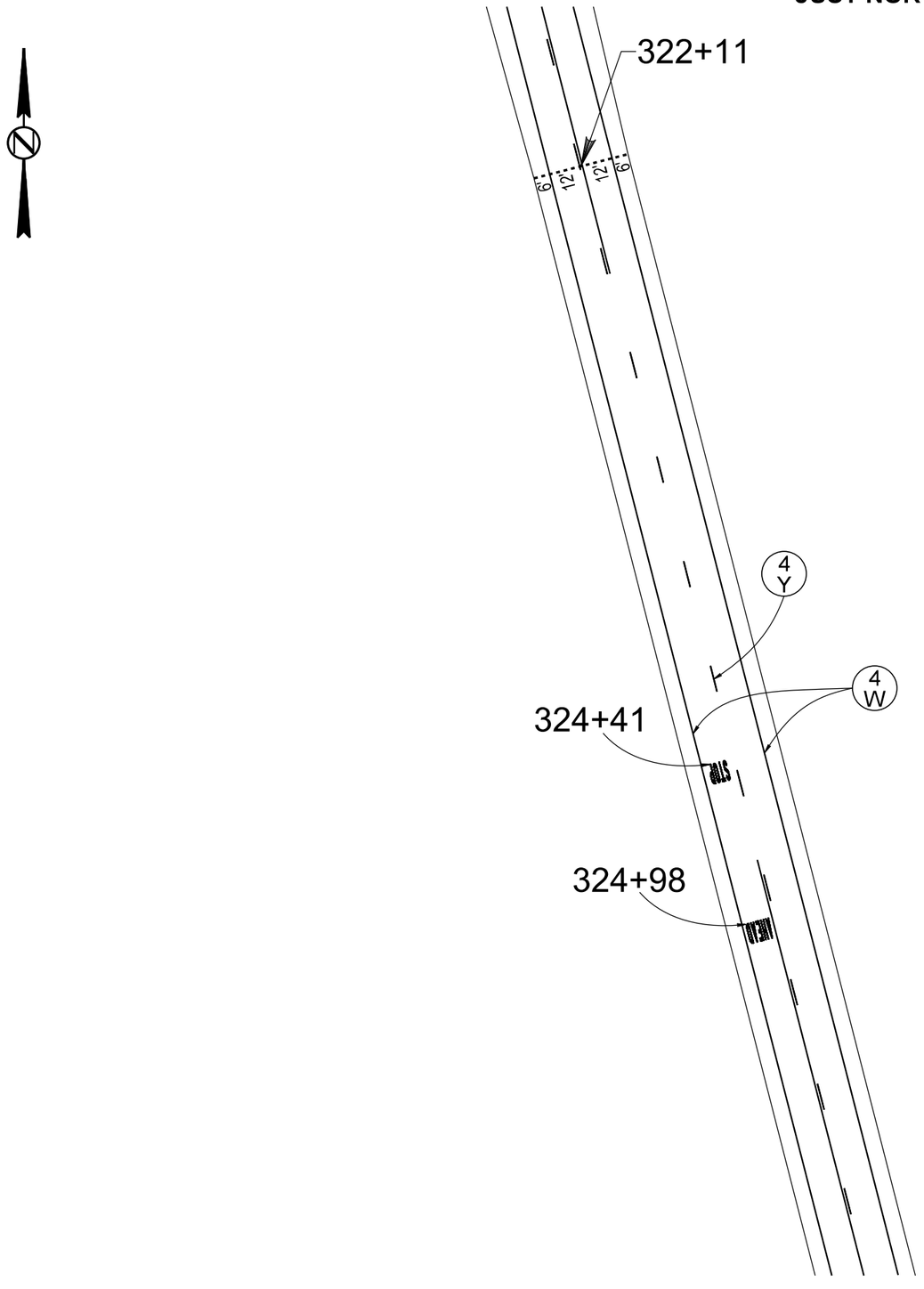
PLOTTED FROM - TRM11NT06

FILE - ...\18 PAV MARK 24 0971.DGN

PAVEMENT MARKING

JUST NORTH OF END PROJECT

US18



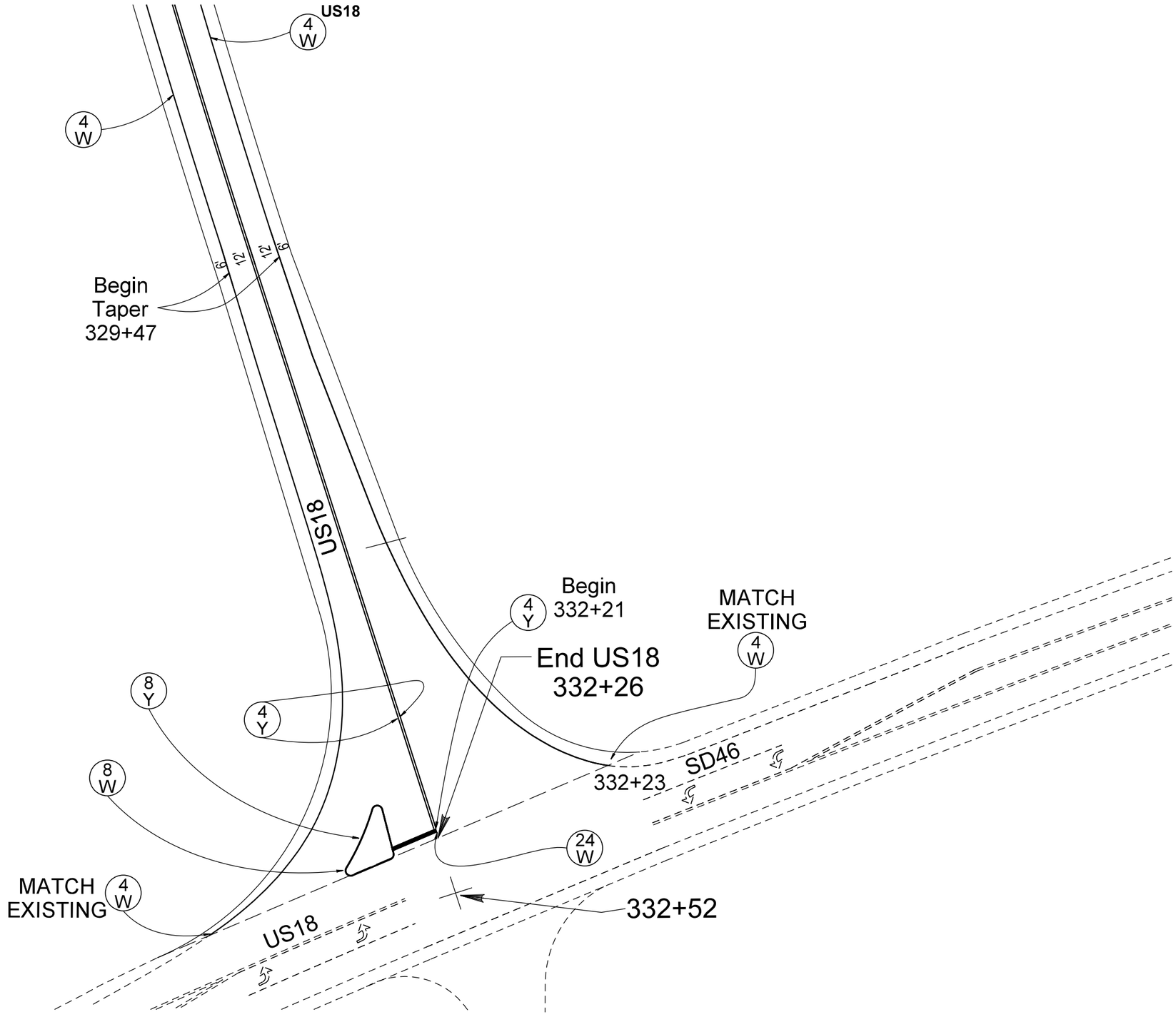
LEGEND

- (4 Y) High Build Pavement Marking, 4" Yellow
- (4 W) High Build Pavement Marking, 4" White
- STOP High Build Pavement Marking, Word Message
- AHEAD High Build Pavement Marking, Word Message

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	47	85

PAVEMENT MARKING

END PROJECT



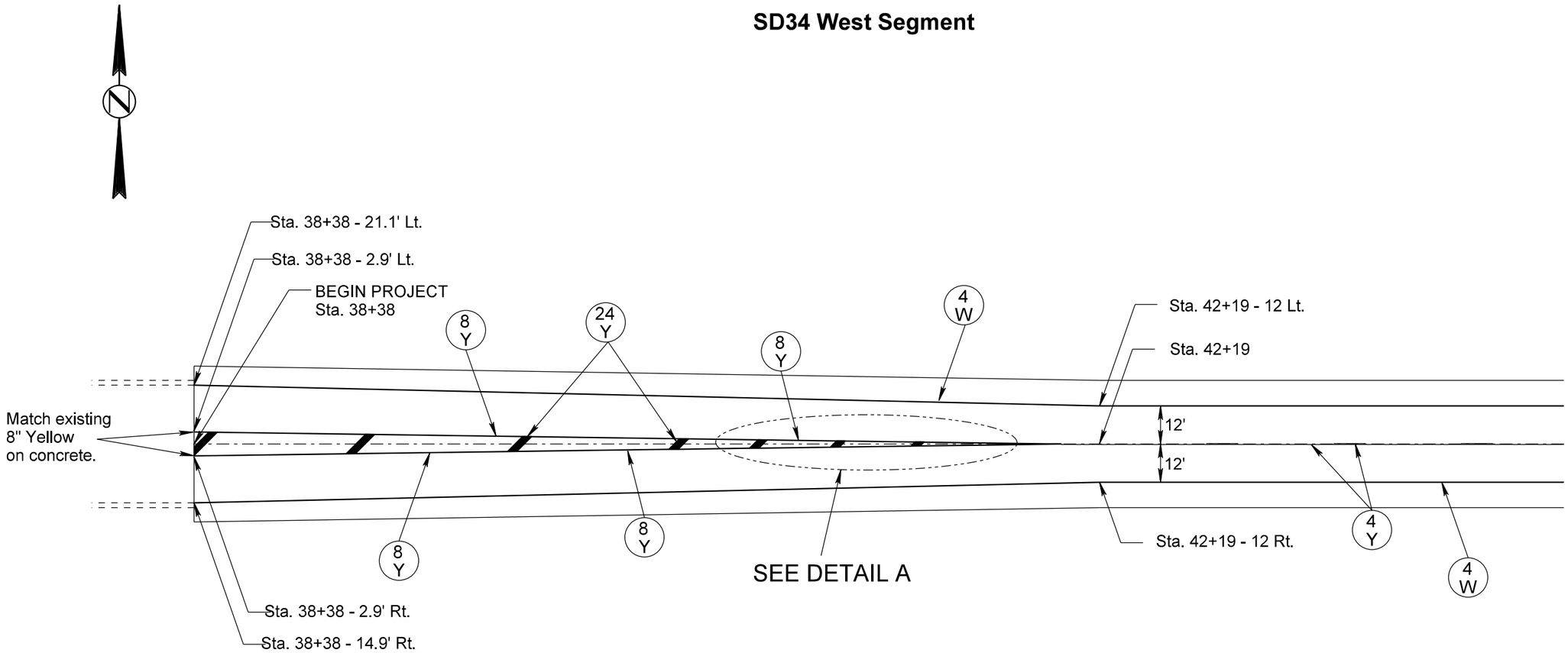
LEGEND

- (4 Y) High Build Pavement Marking, 4" Yellow
- (4 W) High Build Pavement Marking, 4" White
- (8 Y) High Build Pavement Marking, 8" Yellow
- (8 W) High Build Pavement Marking, 8" White
- (24 W) High Build Pavement Marking, 24" White

PAVEMENT MARKING

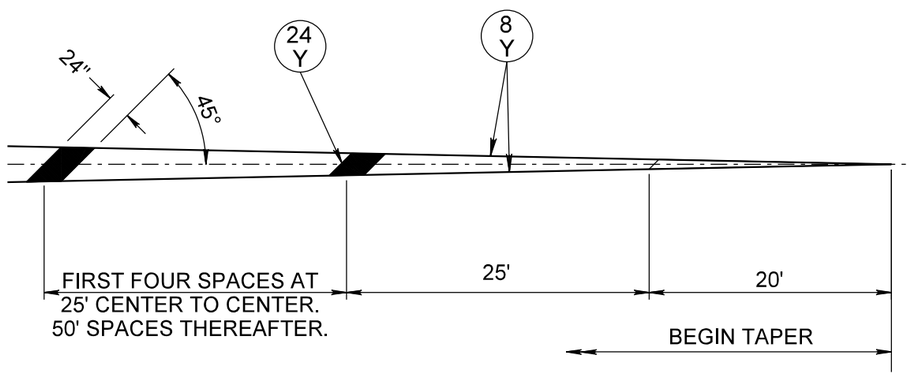
GORE AREA AT BEGIN PROJECT

SD34 West Segment



LEGEND

- (4 W) - 4" WHITE PAINTED PAVEMENT MARKING
- (4 Y) - 4" YELLOW PAINTED PAVEMENT MARKING
- (8 Y) - 8" YELLOW PAINTED PAVEMENT MARKING
- (24 Y) - 24" YELLOW PAINTED PAVEMENT MARKING

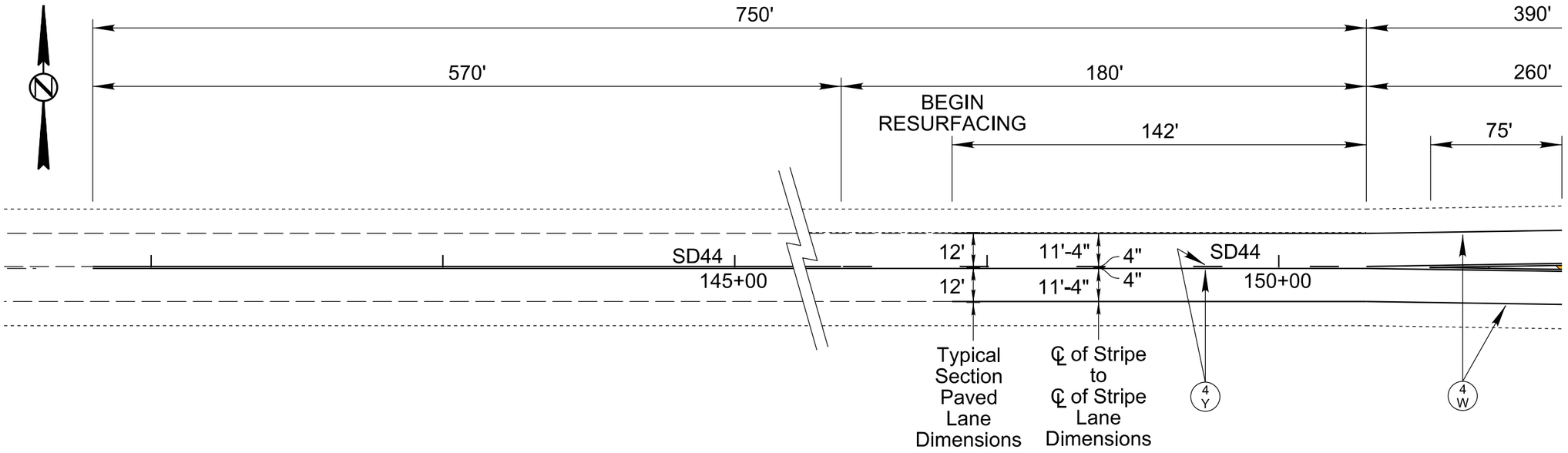


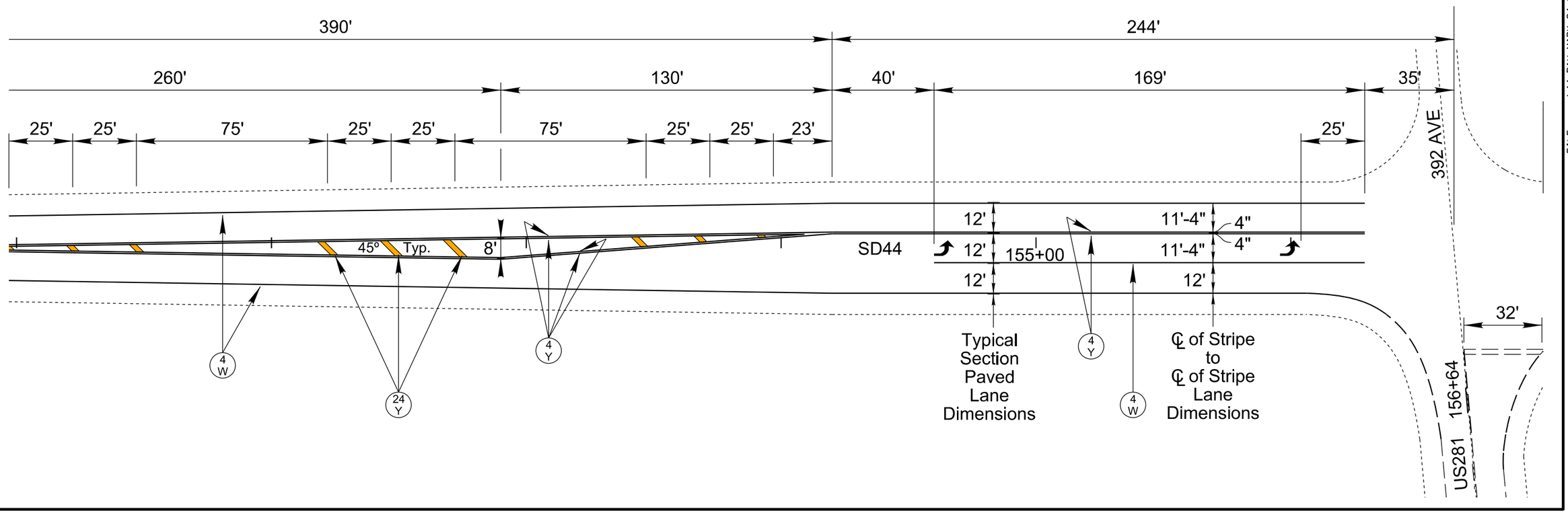
DETAIL A

PAVEMENT MARKING LAYOUT

SD44 - Approaches to East Jct US281 (1 of 3)

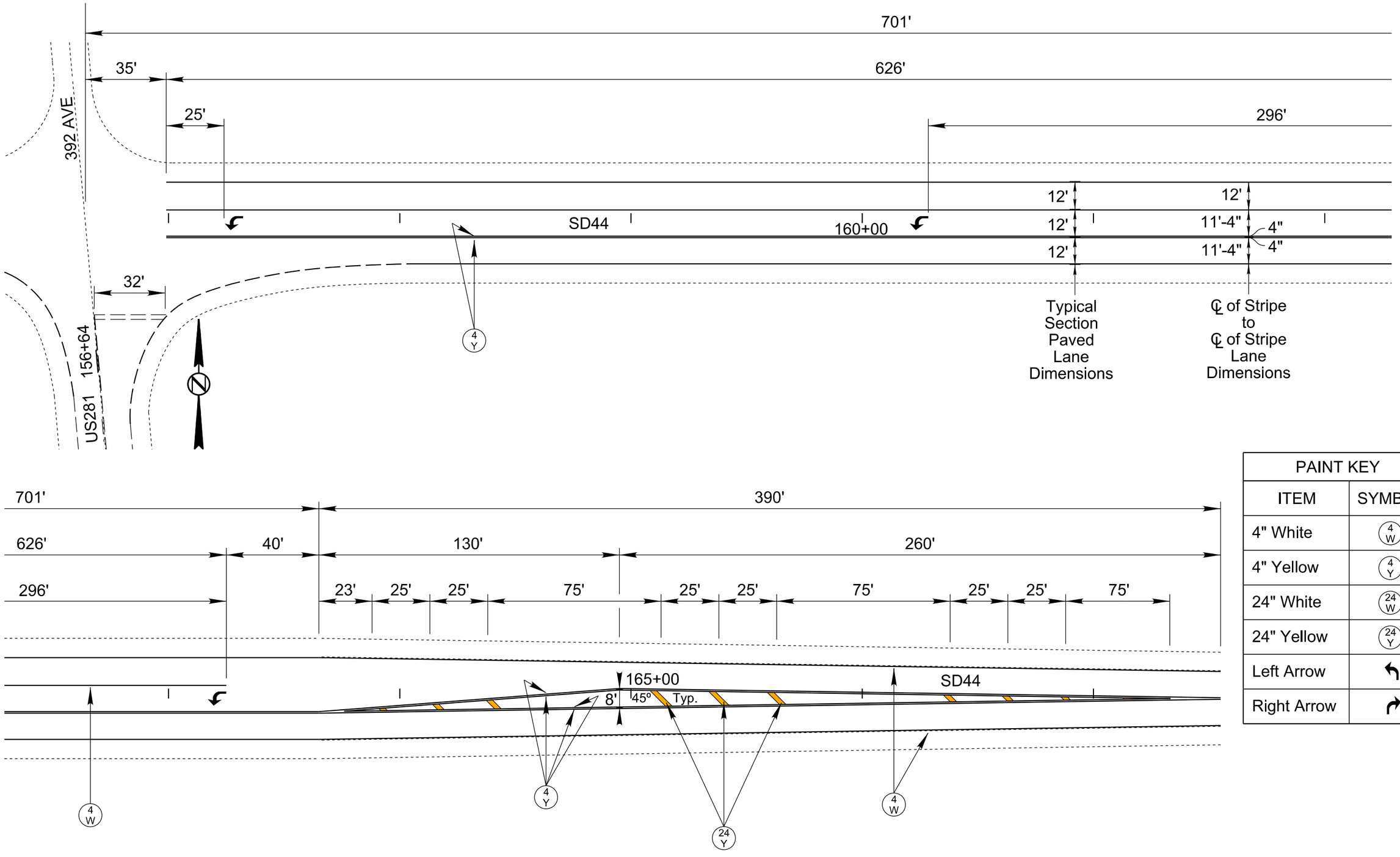
PAINT KEY	
ITEM	SYMBOL
4" White	4 W
4" Yellow	4 Y
24" White	24 W
24" Yellow	24 Y
Left Arrow	↰
Right Arrow	↱





PAVEMENT MARKING LAYOUT

SD44 - Approaches to East Jct US281 (2 of 3)



PAINT KEY	
ITEM	SYMBOL
4" White	4 W
4" Yellow	4 Y
24" White	24 W
24" Yellow	24 Y
Left Arrow	↰
Right Arrow	↱

PLOT SCALE - 1:39.9999

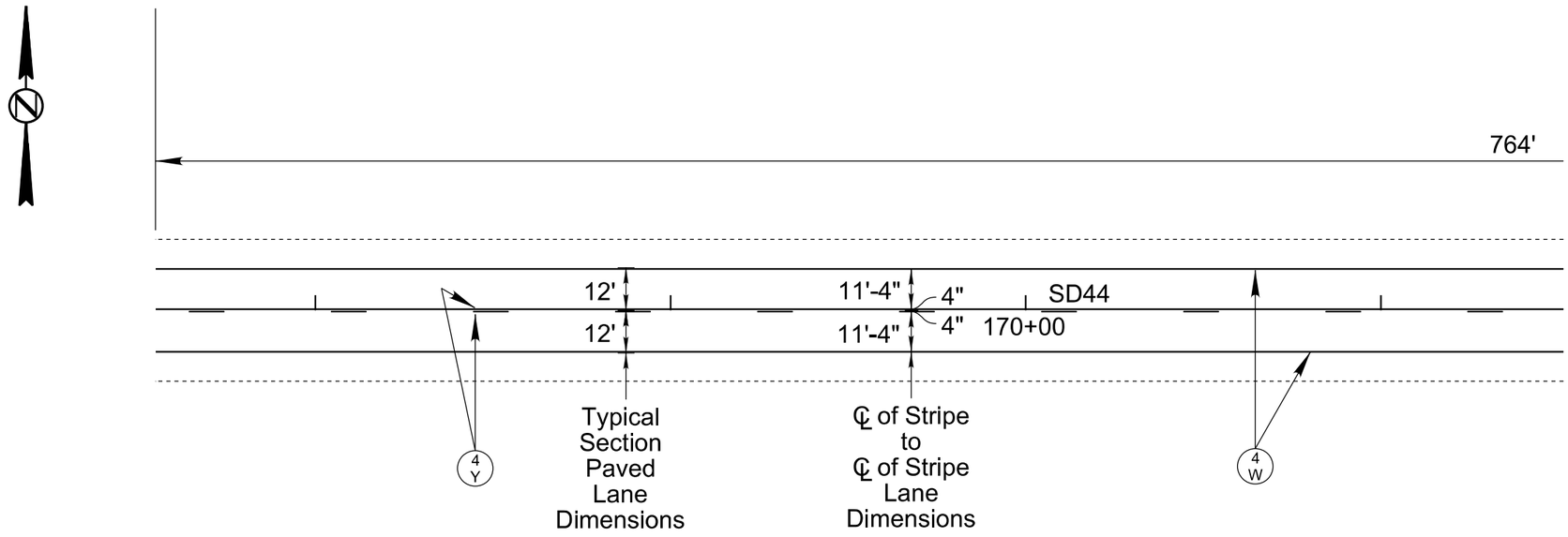
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	51	85

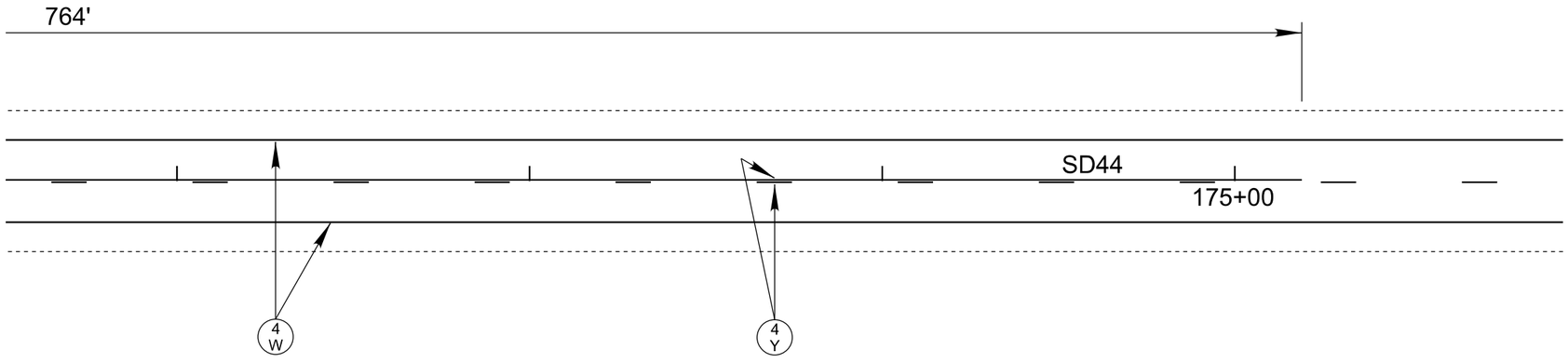
Plotting Date: 04/04/2024

PAVEMENT MARKING LAYOUT

SD44 - Approaches to East Jct US281 (3 of 3)

PAINT KEY	
ITEM	SYMBOL
4" White	4 W
4" Yellow	4 Y
24" White	24 W
24" Yellow	24 Y
Left Arrow	↰
Right Arrow	↱





PLOTTED FROM - TRMI1NT06

PLOT NAME - 3

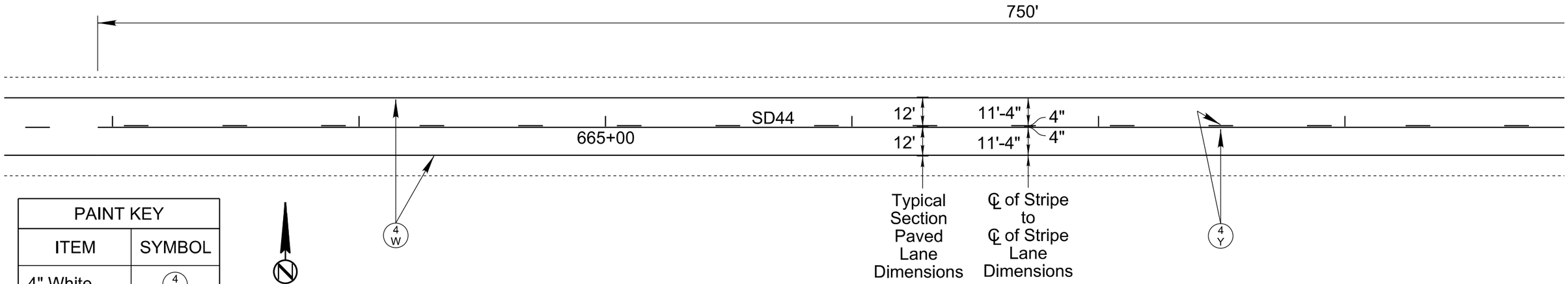
FILE - ...\44 PAV MARK 24 0971.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	52	85

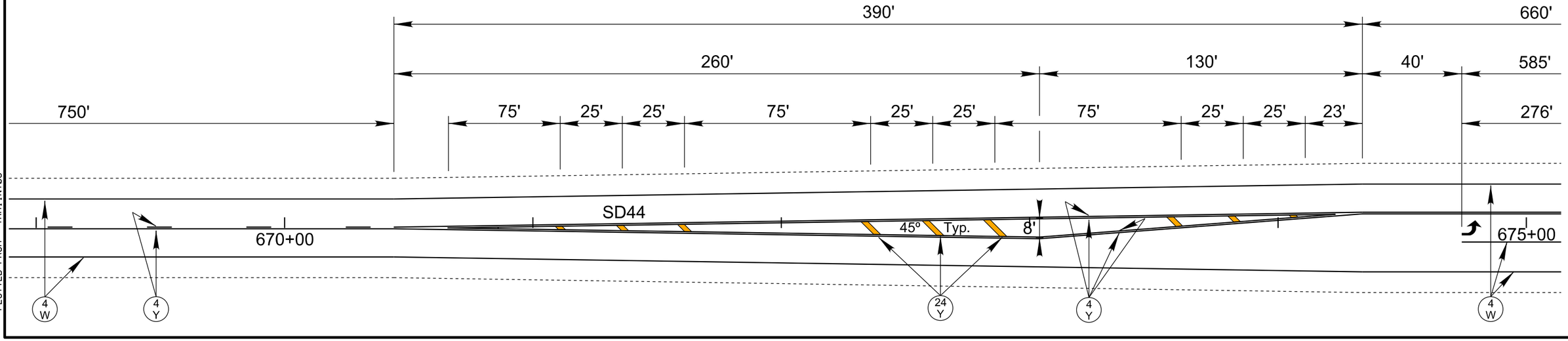
Plotting Date: 04/04/2024

PAVEMENT MARKING LAYOUT

SD44 - Approaches to Jct Betts Road (1 of 3)



PAINT KEY	
ITEM	SYMBOL
4" White	4 W
4" Yellow	4 Y
24" White	24 W
24" Yellow	24 Y
Left Arrow	
Right Arrow	



PLOT SCALE - 1:39.9999

PLOT NAME - 4

FILE - ...\44 PAV MARK 24 0971.DGN

PLOTTED FROM - TRMI1NT06

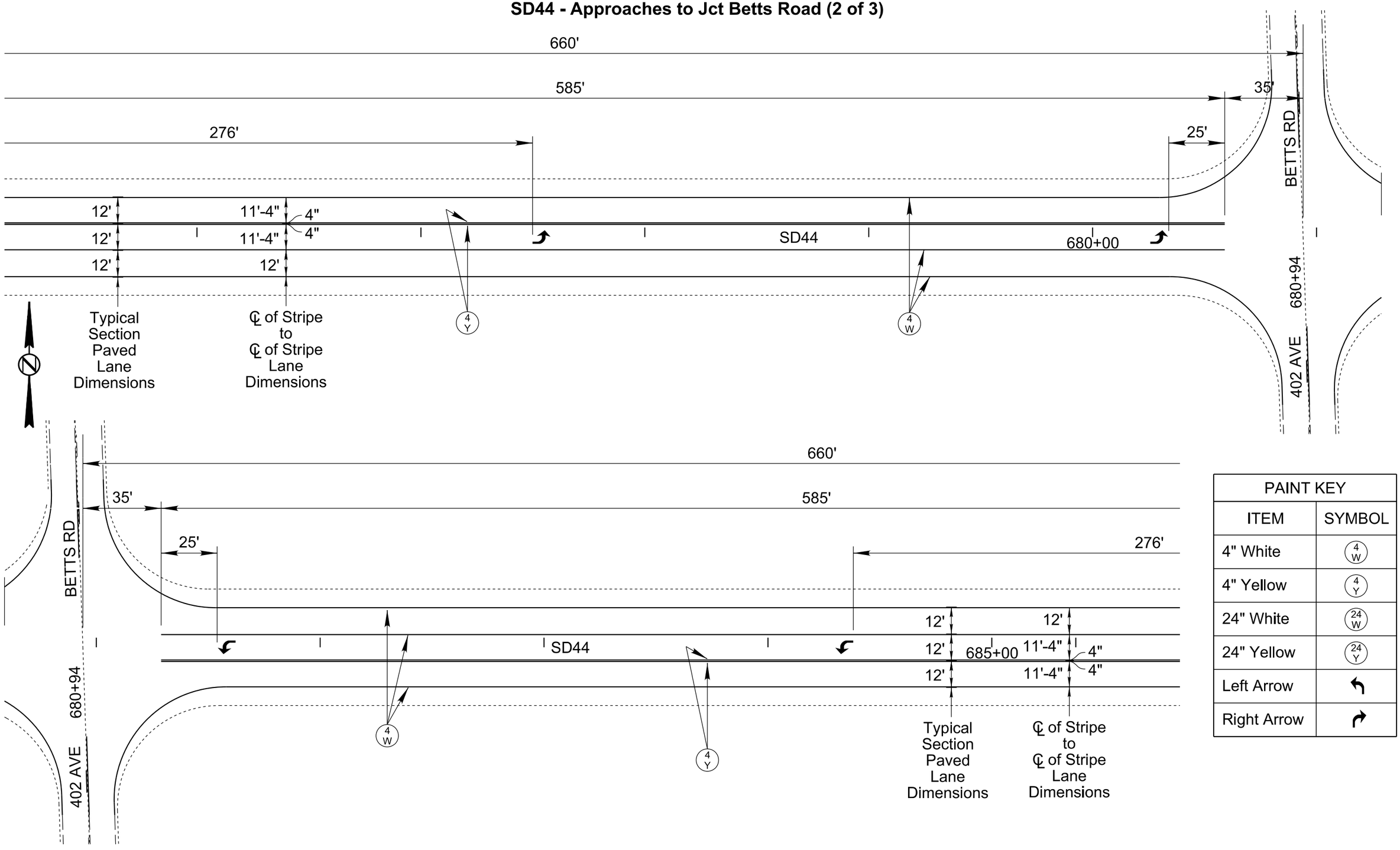
PLOT SCALE - 1:39.9999

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	53	85

Plotting Date: 04/04/2024

PAVEMENT MARKING LAYOUT

SD44 - Approaches to Jct Betts Road (2 of 3)



PAINT KEY	
ITEM	SYMBOL
4" White	4 W
4" Yellow	4 Y
24" White	24 W
24" Yellow	24 Y
Left Arrow	↰
Right Arrow	↱

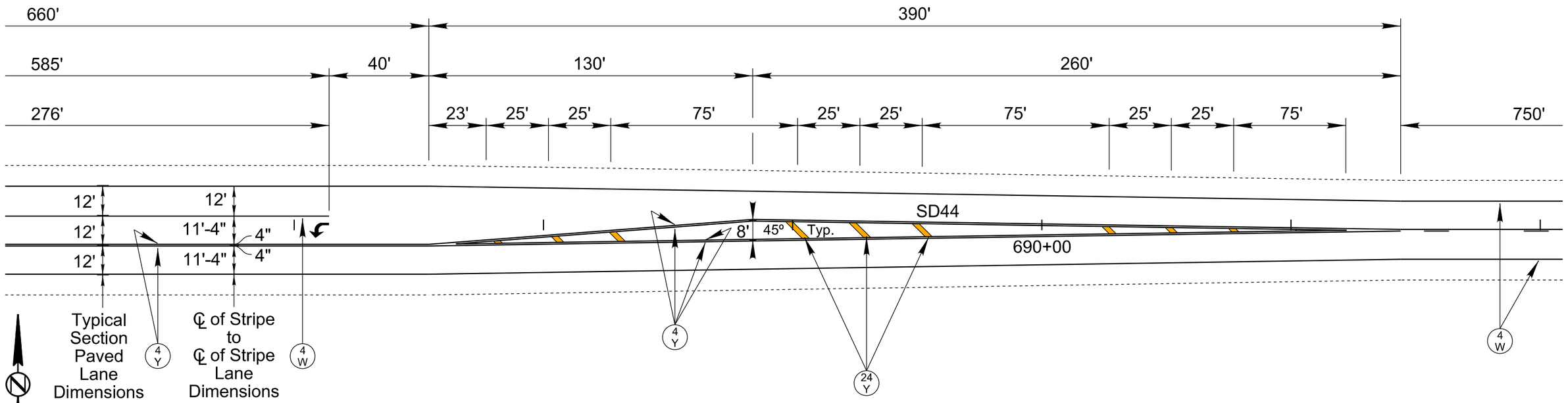
PLOTTED FROM - TRMIINT06

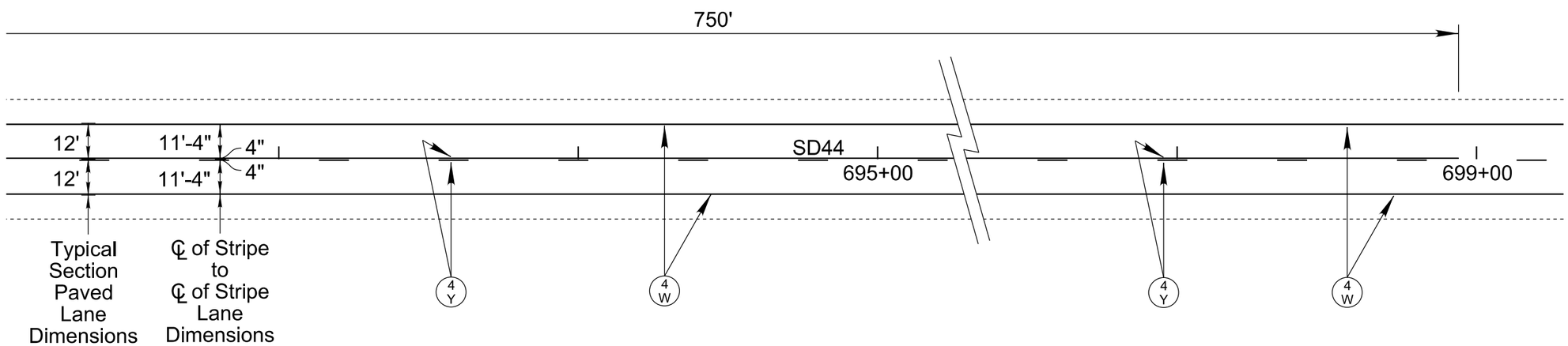
PLOT NAME - 5

FILE - ...\44 PAV MARK 24 0971.DGN

PAVEMENT MARKING LAYOUT

SD44 - Approaches to Jct Betts Road (3 of 3)



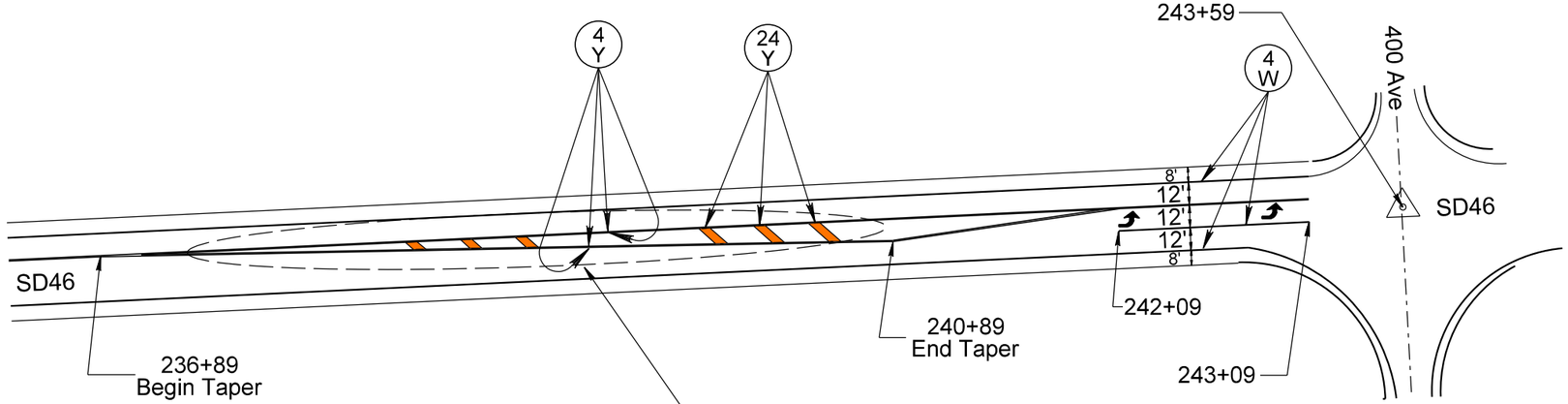


PAINT KEY	
ITEM	SYMBOL
4" White	4 W
4" Yellow	4 Y
24" White	24 W
24" Yellow	24 Y
Left Arrow	↰
Right Arrow	↱

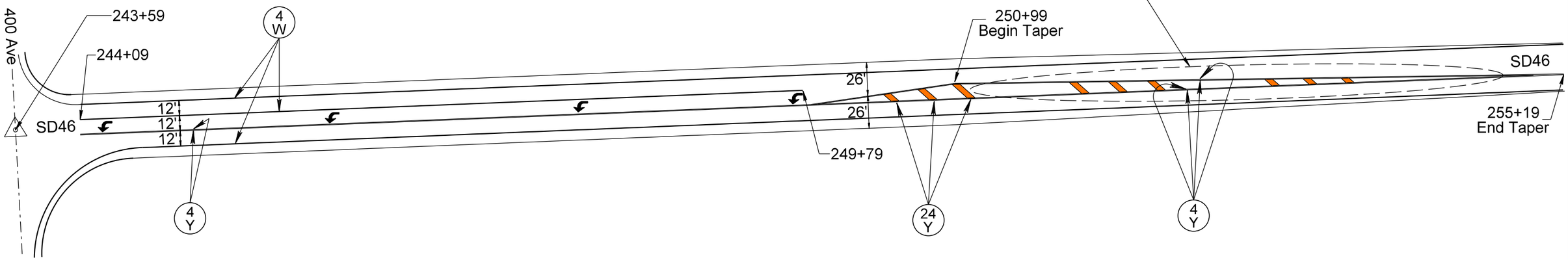
PAVEMENT MARKING

TURN LANE 400 AVE (DANTE ROAD)

SD46

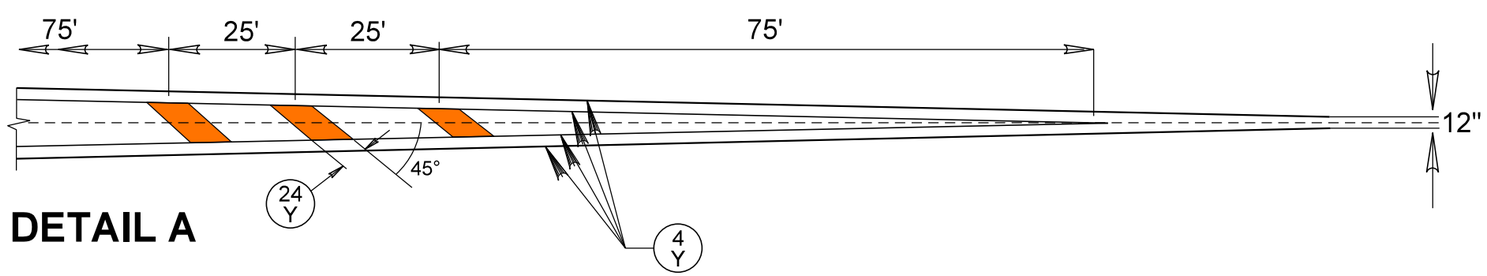


SEE DETAIL A



LEGEND

- 4 W - 4" WHITE PAINTED PAVEMENT MARKING
- 4 Y - 4" YELLOW PAINTED PAVEMENT MARKING
- 24 Y - 24" YELLOW PAINTED PAVEMENT MARKING
- ↰ - WHITE PAINTED PAVEMENT MARKING, ARROW

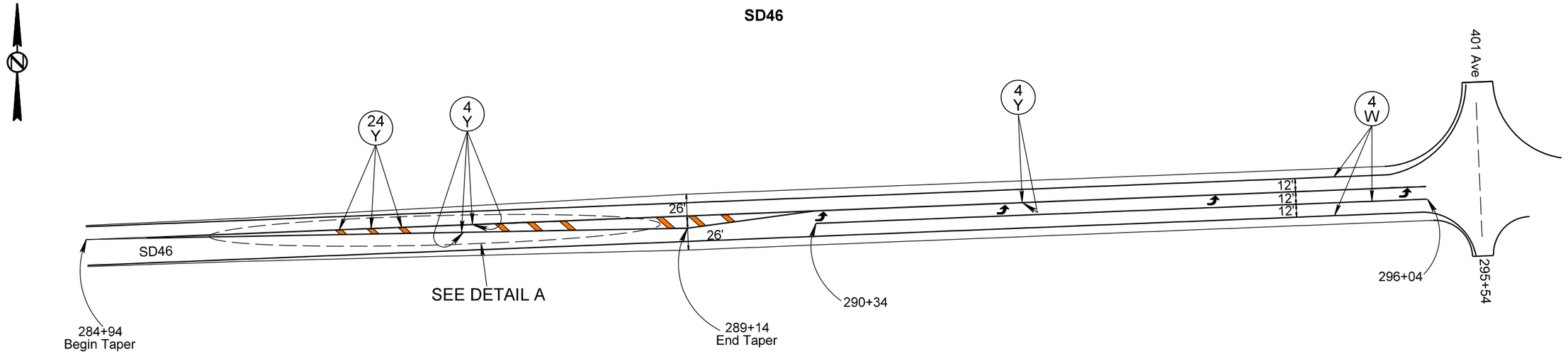


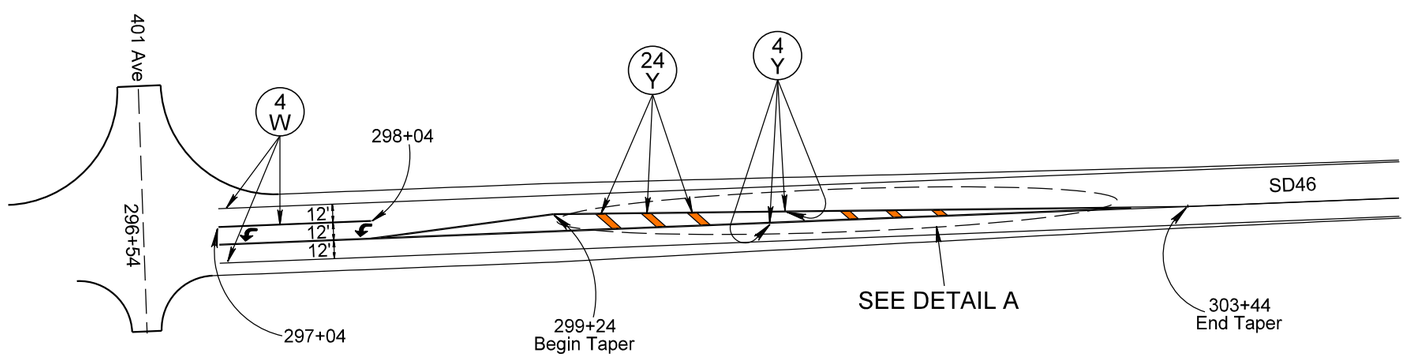
DETAIL A

PAVEMENT MARKING

TURN LANE 401 AVE (DELMONT ROAD)

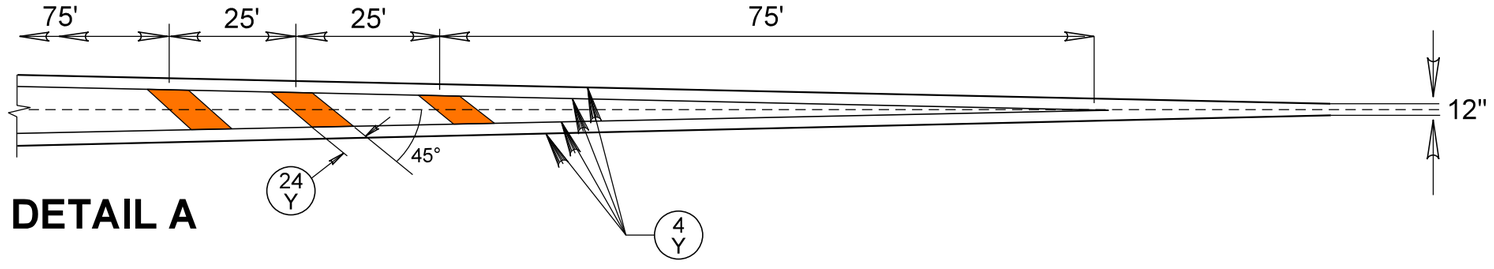
SD46





LEGEND

- (4 W) - 4" WHITE PAINTED PAVEMENT MARKING
- (4 Y) - 4" YELLOW PAINTED PAVEMENT MARKING
- (24 Y) - 24" YELLOW PAINTED PAVEMENT MARKING
- ↰ - WHITE PAINTED PAVEMENT MARKING, ARROW

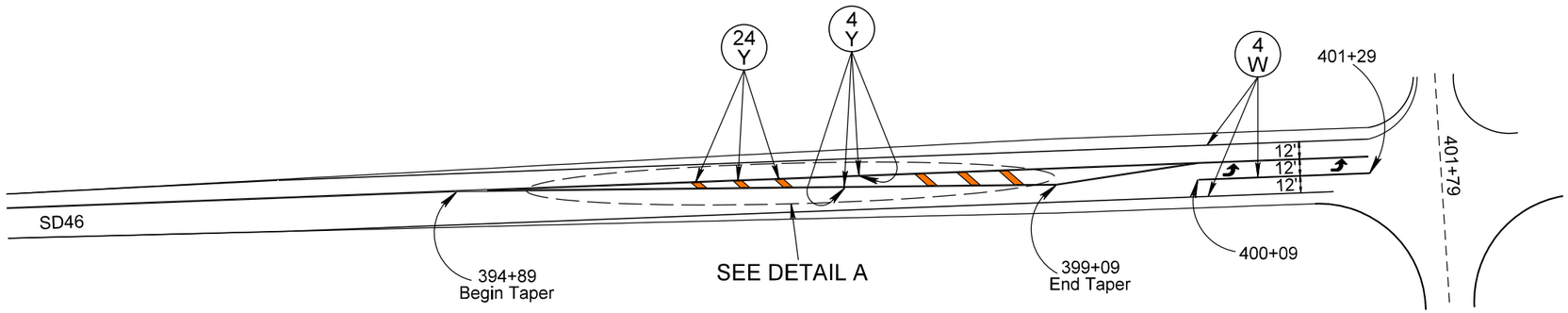


DETAIL A

PAVEMENT MARKING

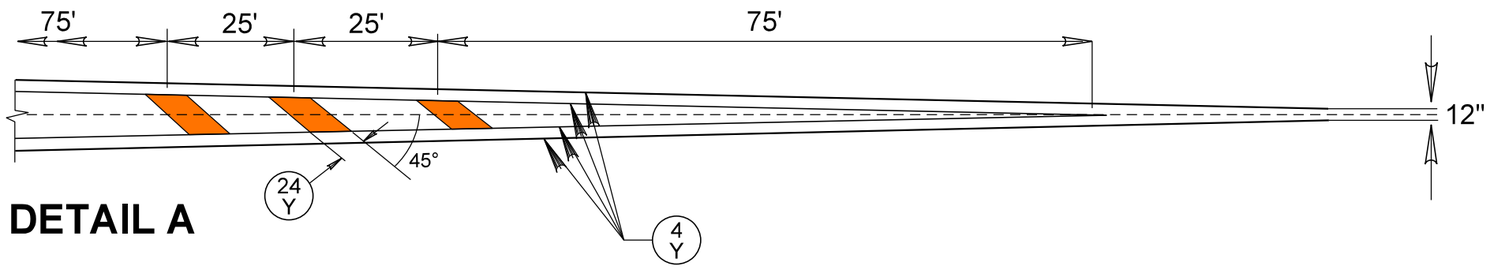
TURN LANE 403 AVE (SD50)

SD46



LEGEND

- (4 W) - 4" WHITE PAINTED PAVEMENT MARKING
- (4 Y) - 4" YELLOW PAINTED PAVEMENT MARKING
- (24 Y) - 24" YELLOW PAINTED PAVEMENT MARKING
- ↰ - WHITE PAINTED PAVEMENT MARKING, ARROW

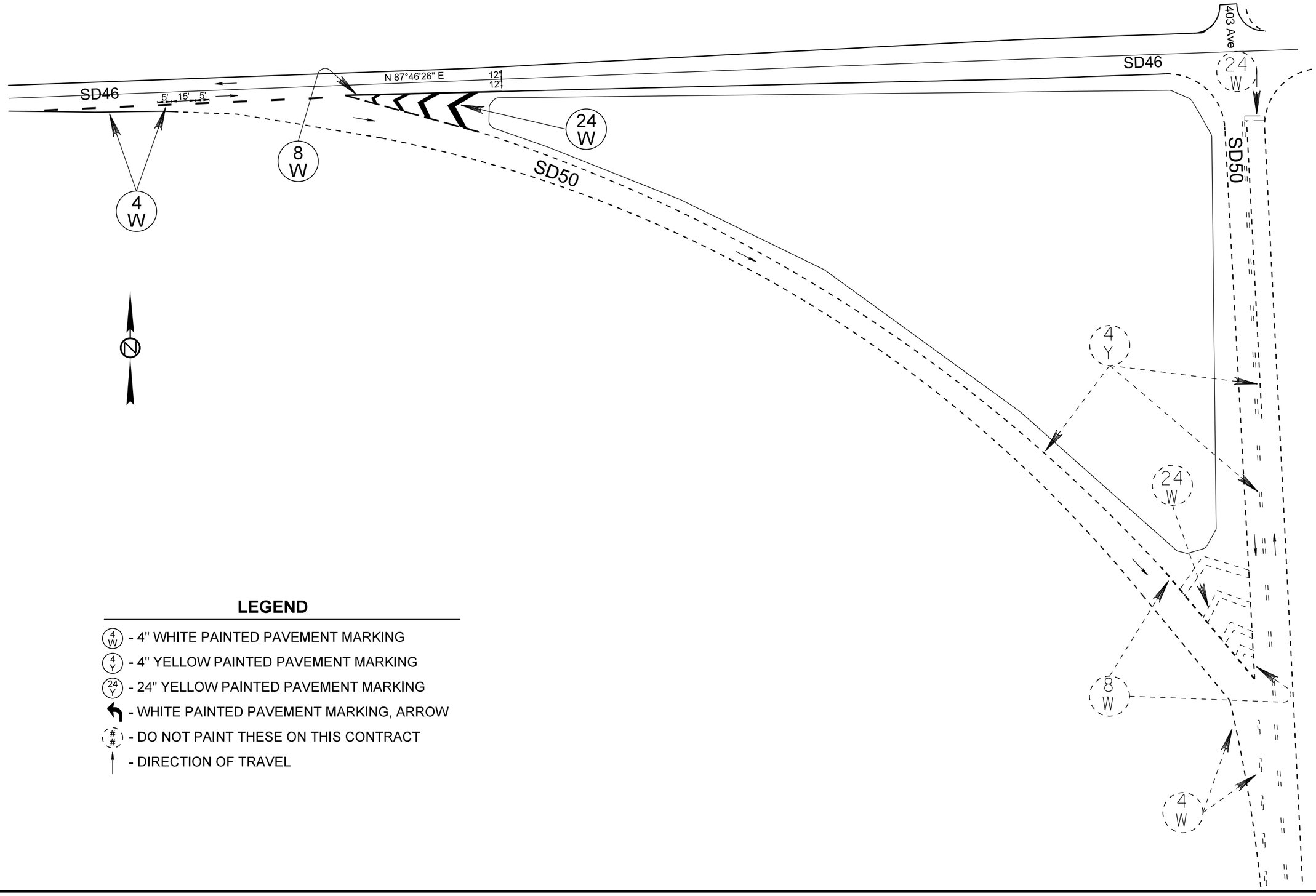


DETAIL A

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	58	85

Plotting Date: 04/04/2024

PAVEMENT MARKING LAYOUT FOR SD50 RAMP



LEGEND

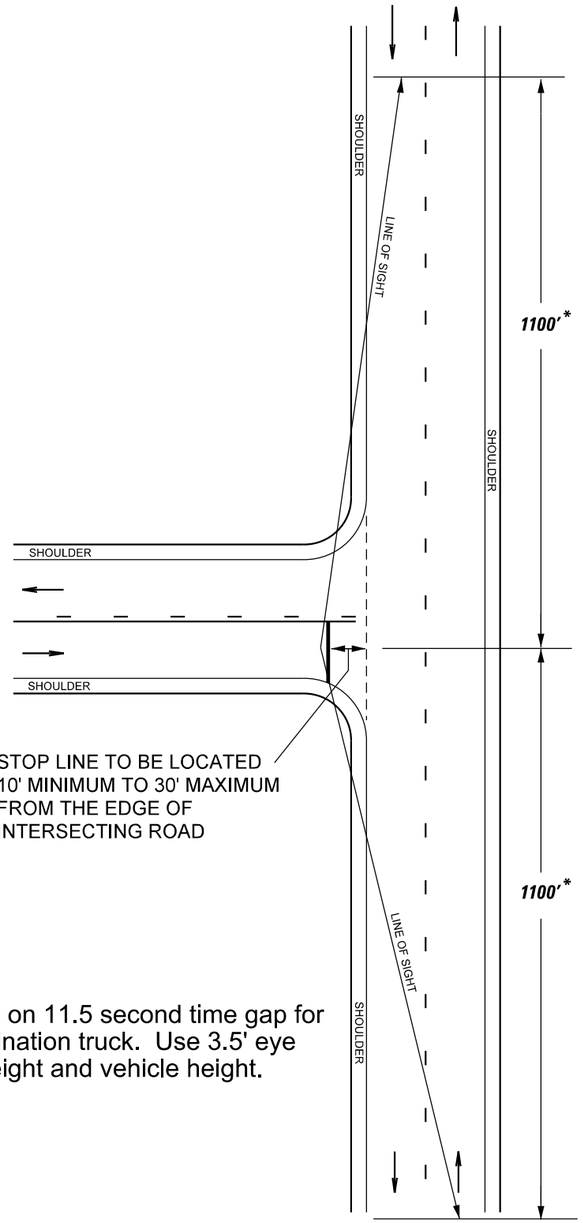
- (4 W) - 4" WHITE PAINTED PAVEMENT MARKING
- (4 Y) - 4" YELLOW PAINTED PAVEMENT MARKING
- (24 Y) - 24" YELLOW PAINTED PAVEMENT MARKING
- - WHITE PAINTED PAVEMENT MARKING, ARROW
- (##) - DO NOT PAINT THESE ON THIS CONTRACT
- - DIRECTION OF TRAVEL

PLOT SCALE - 1:122.325

PLOTTED FROM - TRMIINT06

PLOT NAME - 4

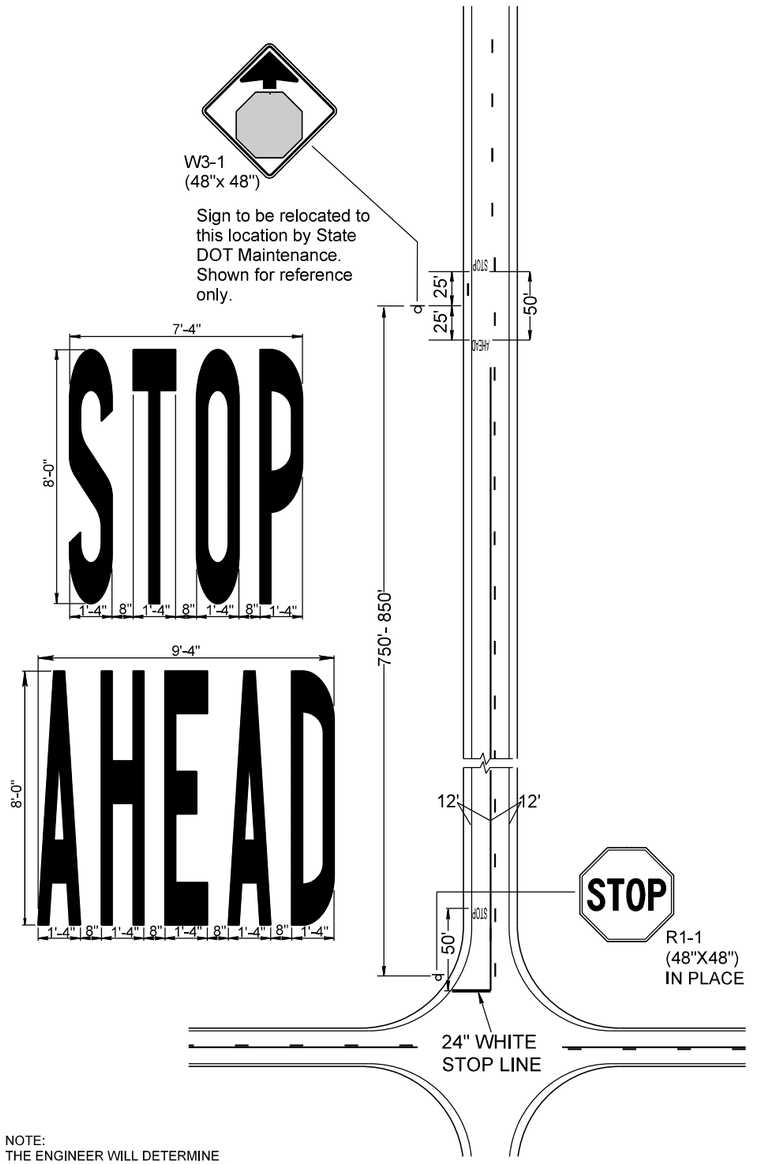
FILE - ...\46 PAV MARK 2D 24 0971.DGN



* - Based on 11.5 second time gap for combination truck. Use 3.5' eye height and vehicle height.

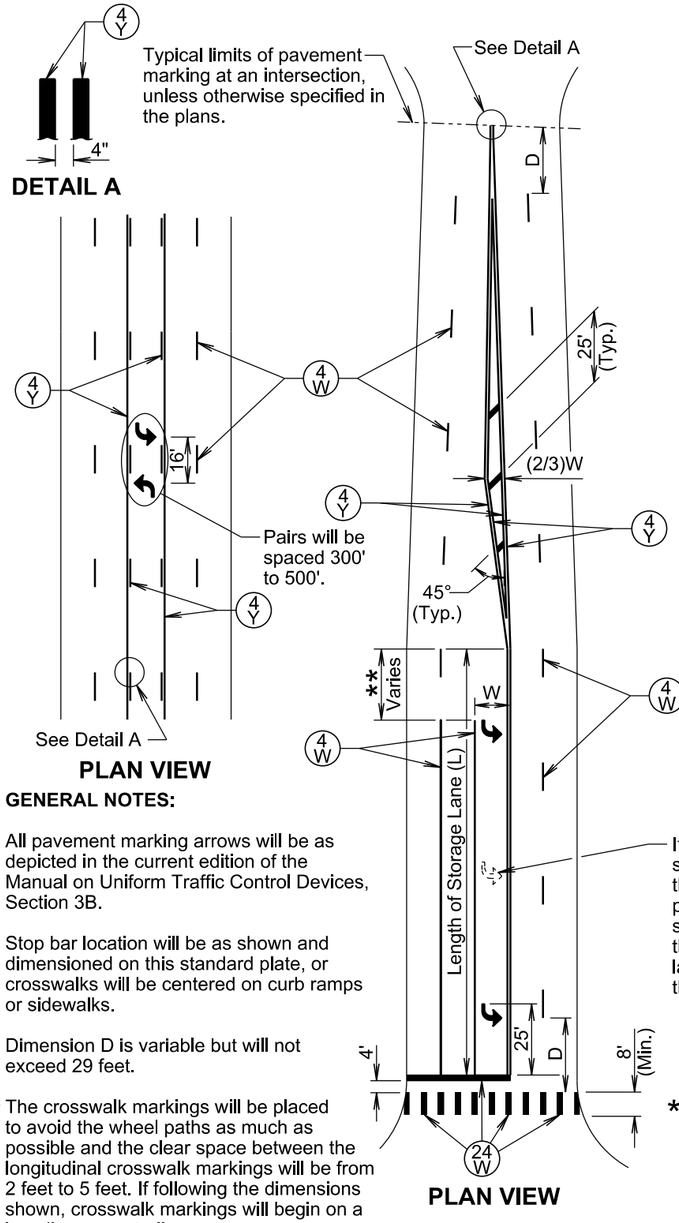
STOP LINE PAVEMENT MARKING INSTALLATION

INTERSECTION APPROACH PAVEMENT MARKING (Typical)

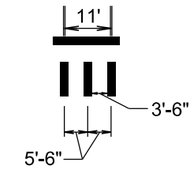


NOTE:
THE ENGINEER WILL DETERMINE THE LOCATION OF THE STOP LINE.

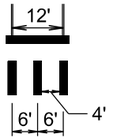
Revised 12-28-20, PEH



KEY	ITEM
4W	4" White
4Y	4" Yellow
12W	12" White
24W	24" White
24Y	24" Yellow
	Arrow



***CROSSWALK MARKING**
(11' Lane Width)



***CROSSWALK MARKING**
(12' Lane Width)

GENERAL NOTES:

All pavement marking arrows will be as depicted in the current edition of the Manual on Uniform Traffic Control Devices, Section 3B.

Stop bar location will be as shown and dimensioned on this standard plate, or crosswalks will be centered on curb ramps or sidewalks.

Dimension D is variable but will not exceed 29 feet.

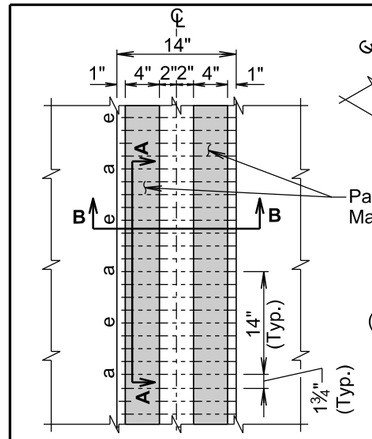
* The crosswalk markings will be placed to avoid the wheel paths as much as possible and the clear space between the longitudinal crosswalk markings will be from 2 feet to 5 feet. If following the dimensions shown, crosswalk markings will begin on a lane line or centerline.

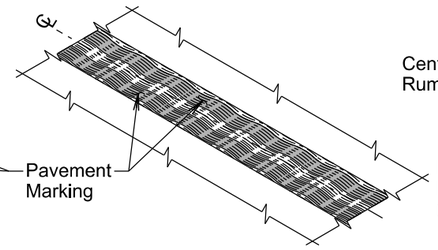
If more than 2 arrows per storage lane are shown, then the additional arrows will be placed at approximately equal spaces between the arrow at the beginning of the storage lane and the arrow nearest the stop bar.

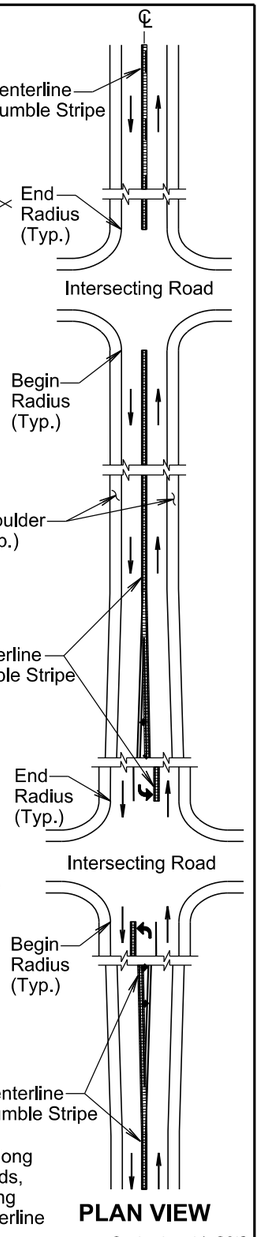
** The length of the gap will be as shown elsewhere in the plans.

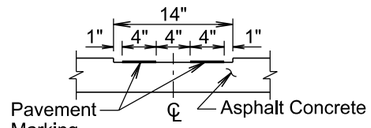
September 22, 2021

Published Date: 2024	SDDOT	PAVEMENT MARKINGS FOR ADJACENT INTERSECTIONS AND CENTER TURN LANE	PLATE NUMBER 633.01
			Sheet 1 of 1

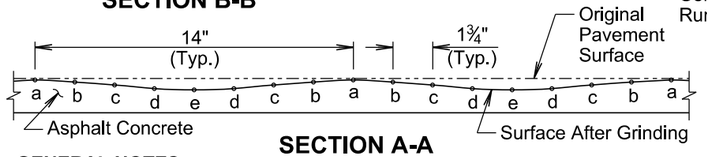








SINUSOIDAL GRINDING	
Location	* Depth (In.)
a	1/16
b	5/32
c	9/32
d	7/16
e	1/2



GENERAL NOTES:

A rumble stripe will be constructed by grinding continuous sinusoidal indentations in the asphalt concrete. The rumble stripe will receive a flush seal or asphalt surface treatment as specified in the plans.

A rumble stripe will not be constructed through intersecting roads, bridge decks, bridge approach slabs, and railroad crossings. The beginning and ending locations of the rumble stripe at intersecting roads, bridge decks, bridge approach slabs, and railroad crossings will be adjusted as approved by the Engineer.

Prior to constructing the rumble stripe the Contractor will submit to the Engineer, for approval, the proposed method of constructing the rumble stripe.

* The sinusoidal rumble stripe construction grinding tolerance will be ± 1/16 inch.

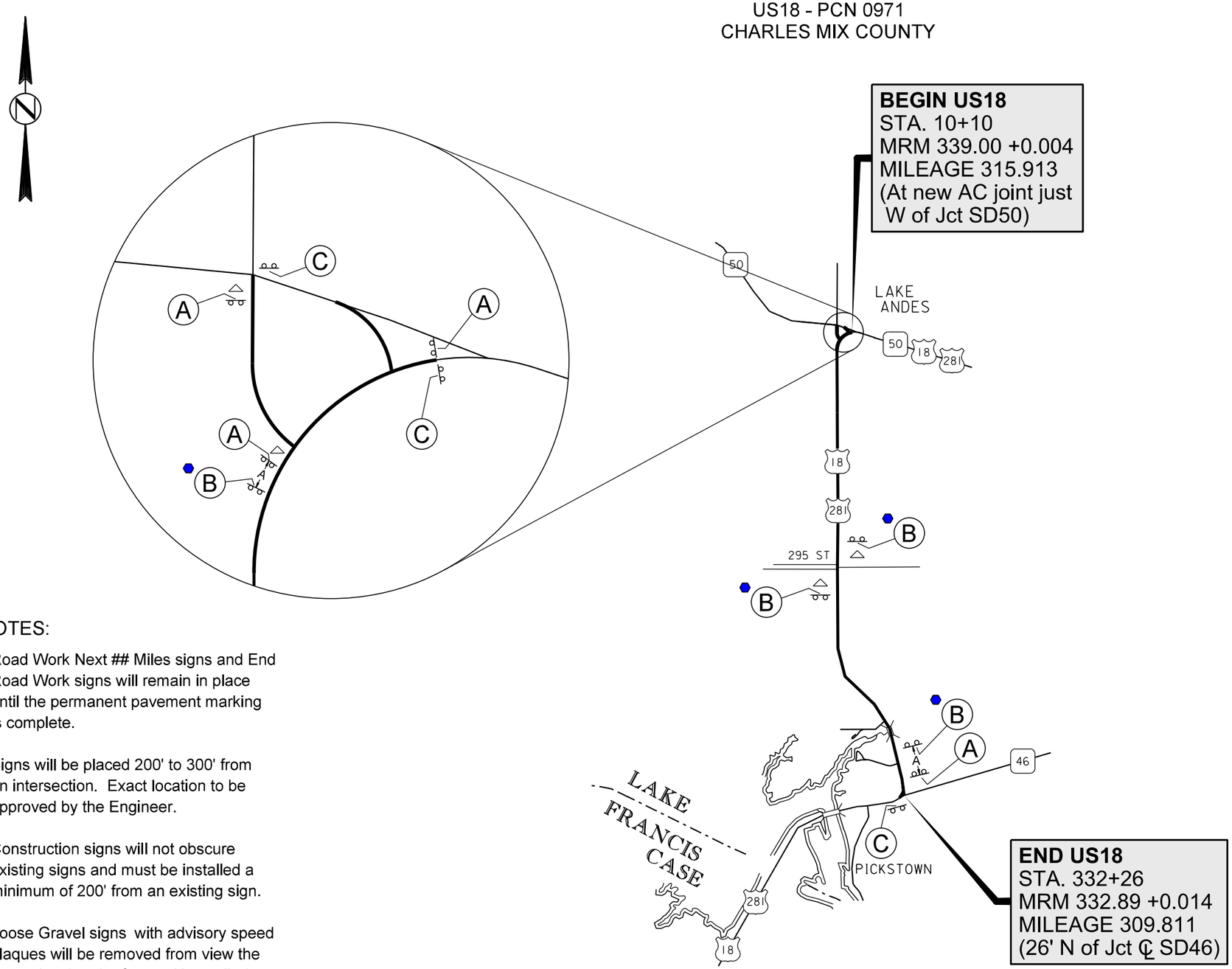
Measurement and payment of the rumble stripe will be to the nearest 0.1 of a mile along the centerline and will include segments without the rumble stripe at intersecting roads, bridge decks, bridge approach slabs, and railroad crossings. Payment for constructing the rumble stripe will be at the contract unit price per mile for "Grind Sinusoidal Centerline Rumble Stripe in Asphalt Concrete".

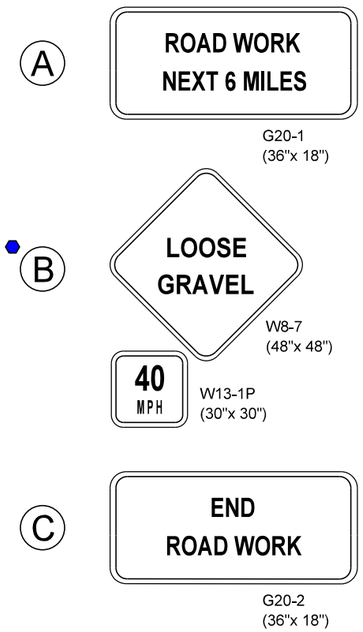
September 14, 2019

Published Date: 2024	SDDOT	SINUSOIDAL CENTERLINE RUMBLE STRIPE IN ASPHALT CONCRETE	PLATE NUMBER 320.40
			Sheet 1 of 1

TRAFFIC CONTROL

FIXED LOCATION SIGNS
(GROUND MOUNTED SUPPORTS)
US18 - PCN 0971
CHARLES MIX COUNTY





NOTES:

Road Work Next ## Miles signs and End Road Work signs will remain in place until the permanent pavement marking is complete.

△ Signs will be placed 200' to 300' from an intersection. Exact location to be approved by the Engineer.

Construction signs will not obscure existing signs and must be installed a minimum of 200' from an existing sign.

⬢ Loose Gravel signs with advisory speed plaques will be removed from view the same day that the fog seal is applied in the area that they represent.

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (FEET) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 80	1000

TRAFFIC CONTROL
FIXED LOCATION SIGNS
(GROUND MOUNTED SUPPORTS)
SD25 South Segment - PCN 0971
HANSON COUNTY

NOTES:

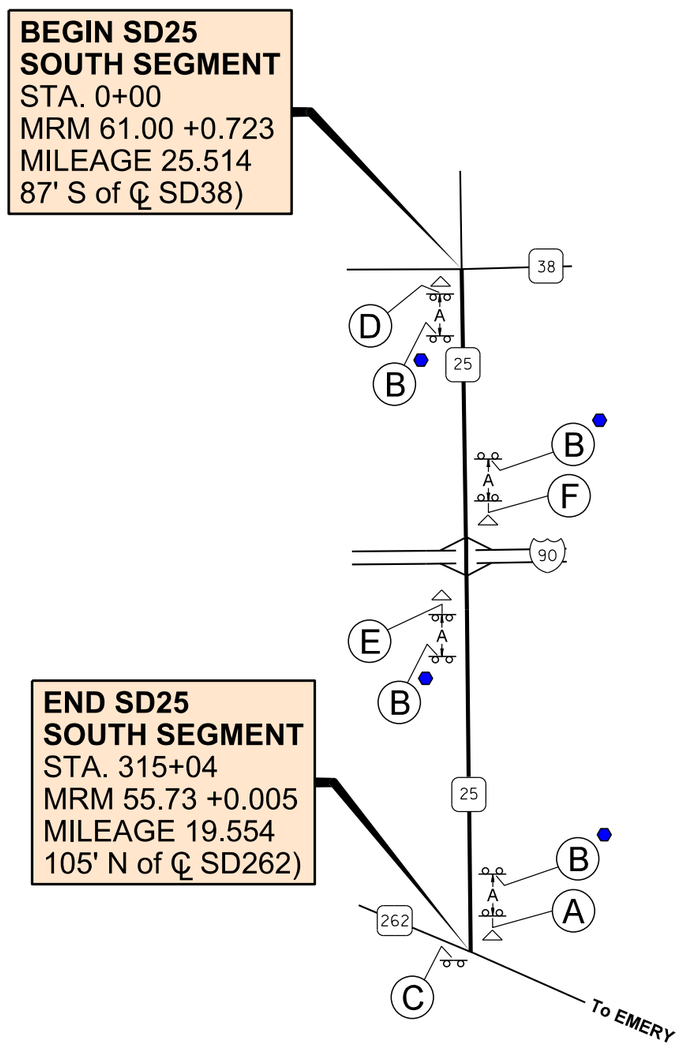
Road Work Next ## Miles signs and End Road Work signs will remain in place until the permanent pavement marking is complete.

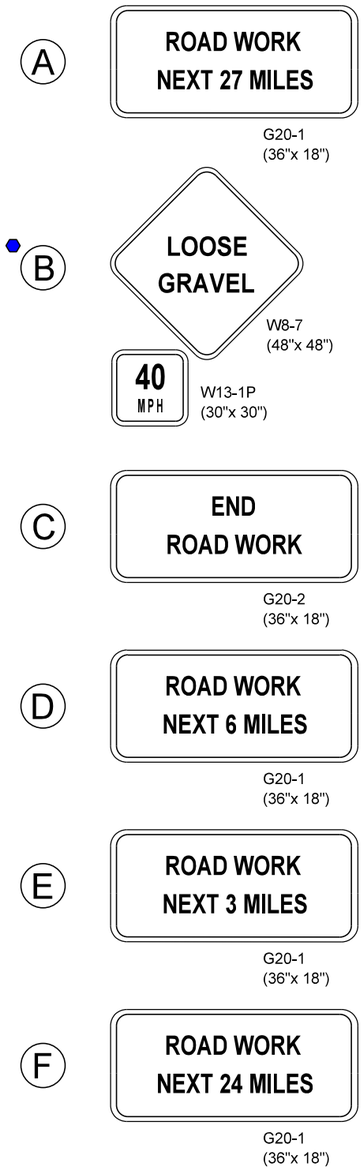
△ Signs will be placed 200' to 300' from an intersection. Exact location to be approved by the Engineer.

Construction signs will not obscure existing signs and must be installed a minimum of 200' from an existing sign.

● Loose Gravel signs with advisory speed plaques will be removed from view the same day that the fog seal is applied in the area that they represent.

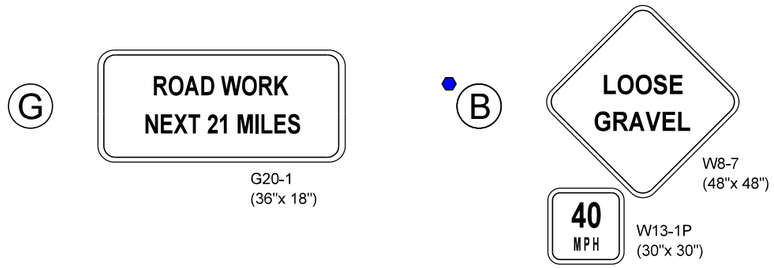
Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (FEET) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 80	1000

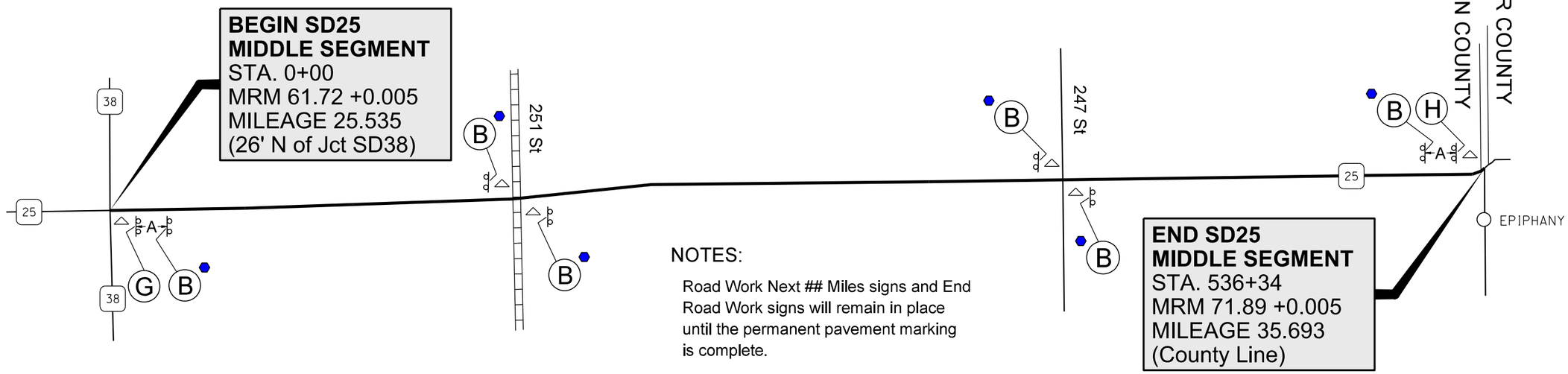




TRAFFIC CONTROL

FIXED LOCATION SIGNS
(GROUND MOUNTED SUPPORTS)
SD25 Middle Segment - PCN 0971
HANSON COUNTY





Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (FEET) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 80	1000

NOTES:

Road Work Next ## Miles signs and End Road Work signs will remain in place until the permanent pavement marking is complete.

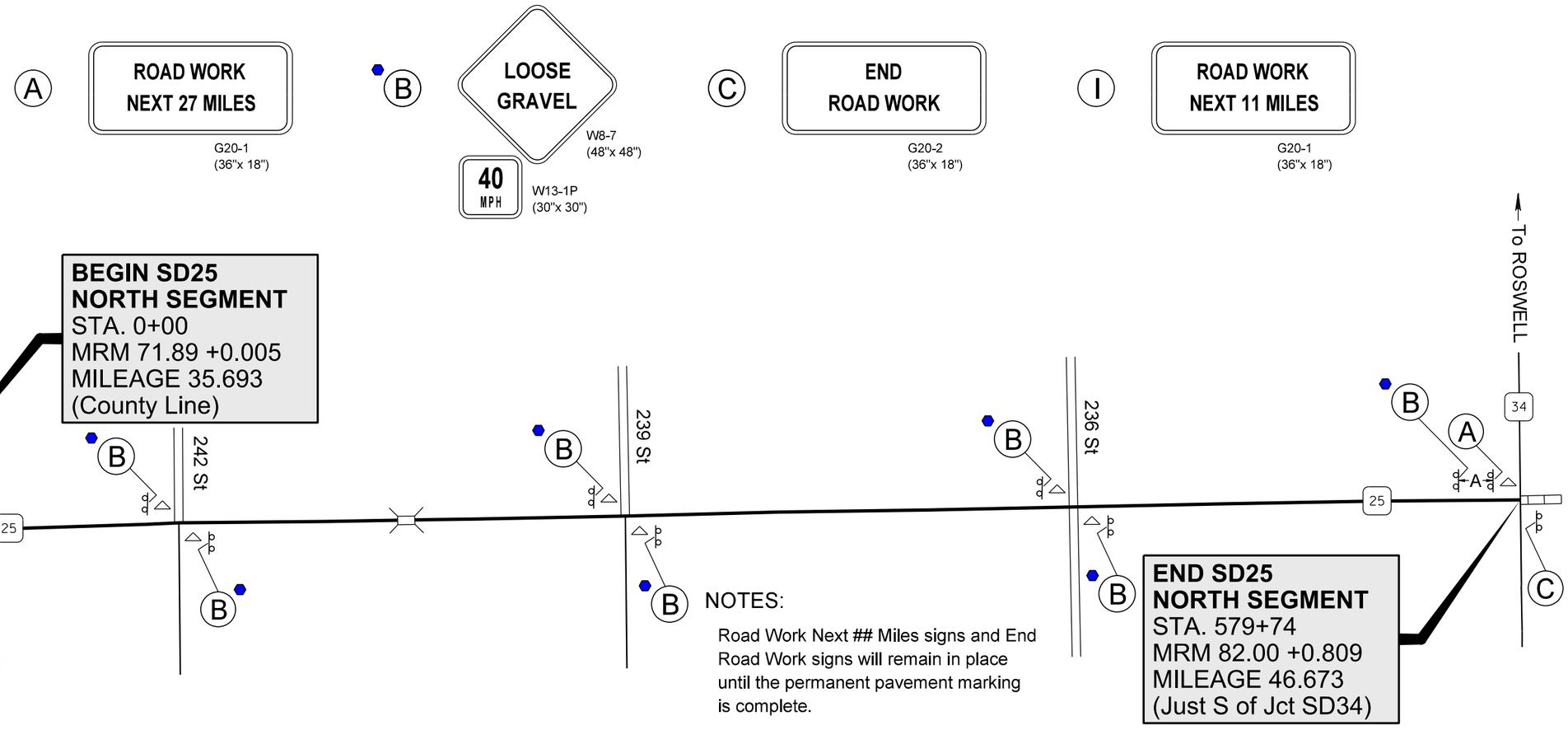
△ Signs will be placed 200' to 300' from an intersection. Exact location to be approved by the Engineer.

Construction signs will not obscure existing signs and must be installed a minimum of 200' from an existing sign.

⬢ Loose Gravel signs with advisory speed plaques will be removed from view the same day that the fog seal is applied in the area that they represent.

TRAFFIC CONTROL

FIXED LOCATION SIGNS
(GROUND MOUNTED SUPPORTS)
SD25 North Segment - PCN 0971
MINER COUNTY



Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (FEET) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 80	1000

NOTES:

Road Work Next ## Miles signs and End Road Work signs will remain in place until the permanent pavement marking is complete.

△ Signs will be placed 200' to 300' from an intersection. Exact location to be approved by the Engineer.

Construction signs will not obscure existing signs and must be installed a minimum of 200' from an existing sign.

● Loose Gravel signs with advisory speed plaques will be removed from view the same day that the fog seal is applied in the area that they represent.

TRAFFIC CONTROL

FIXED LOCATION SIGNS
(GROUND MOUNTED SUPPORTS)
SD34 West Segment - PCN 0971
SANBORN COUNTY

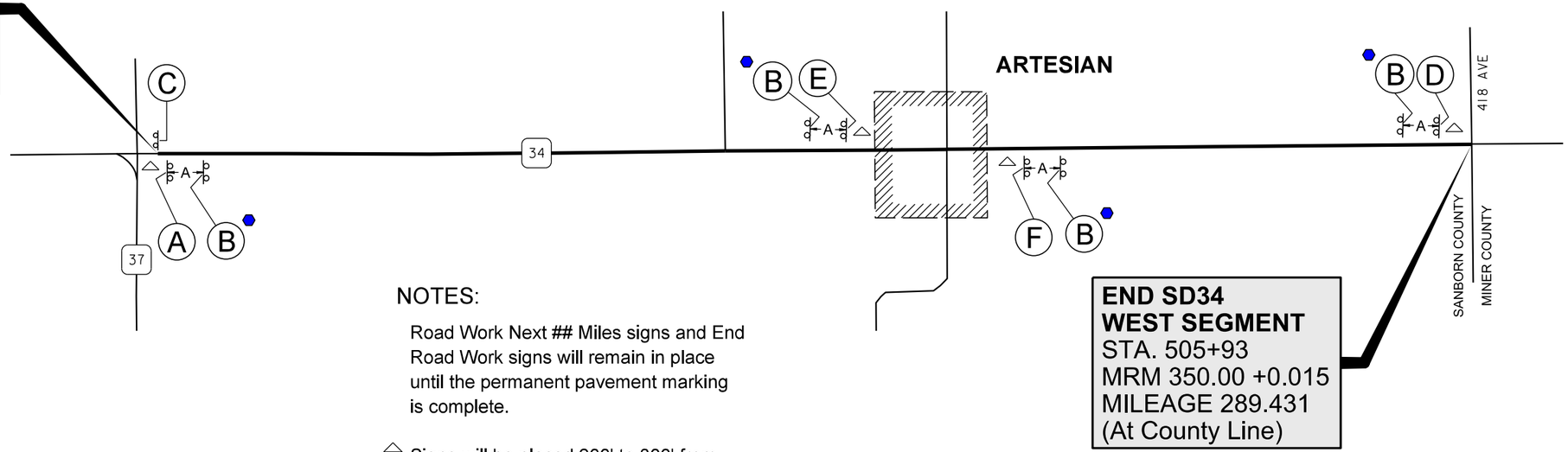
A — ROAD WORK NEXT 24 MILES — G20-1 (36"x 18")

B — LOOSE GRAVEL — W8-7 (48"x 48")
40 MPH — W13-1P (30"x 30")

C — END ROAD WORK — G20-2 (36"x 18")

D — ROAD WORK NEXT 9 MILES — G20-1 (36"x 18")

BEGIN SD34 WEST SEGMENT
STA. 38+38
MRM 341.19 +0.169
MILEAGE 280.582
(At End Concrete)



END SD34 WEST SEGMENT
STA. 505+93
MRM 350.00 +0.015
MILEAGE 289.431
(At County Line)

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (FEET) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 80	1000

NOTES:

Road Work Next ## Miles signs and End Road Work signs will remain in place until the permanent pavement marking is complete.

△ Signs will be placed 200' to 300' from an intersection. Exact location to be approved by the Engineer.

Construction signs will not obscure existing signs and must be installed a minimum of 200' from an existing sign.

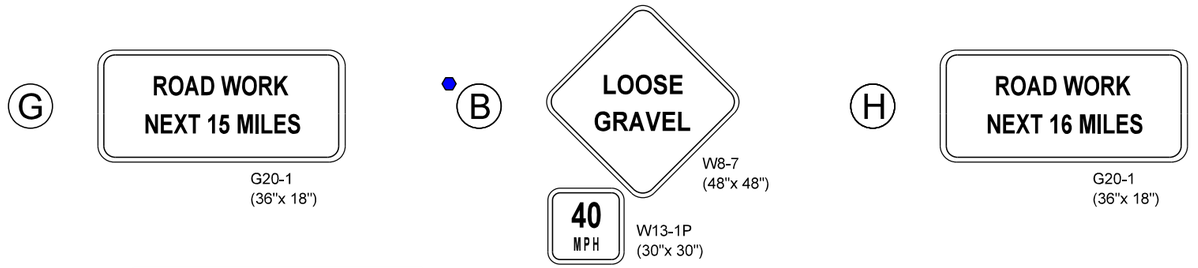
⬢ Loose Gravel signs with advisory speed plaques will be removed from view the same day that the fog seal is applied in the area that they represent.

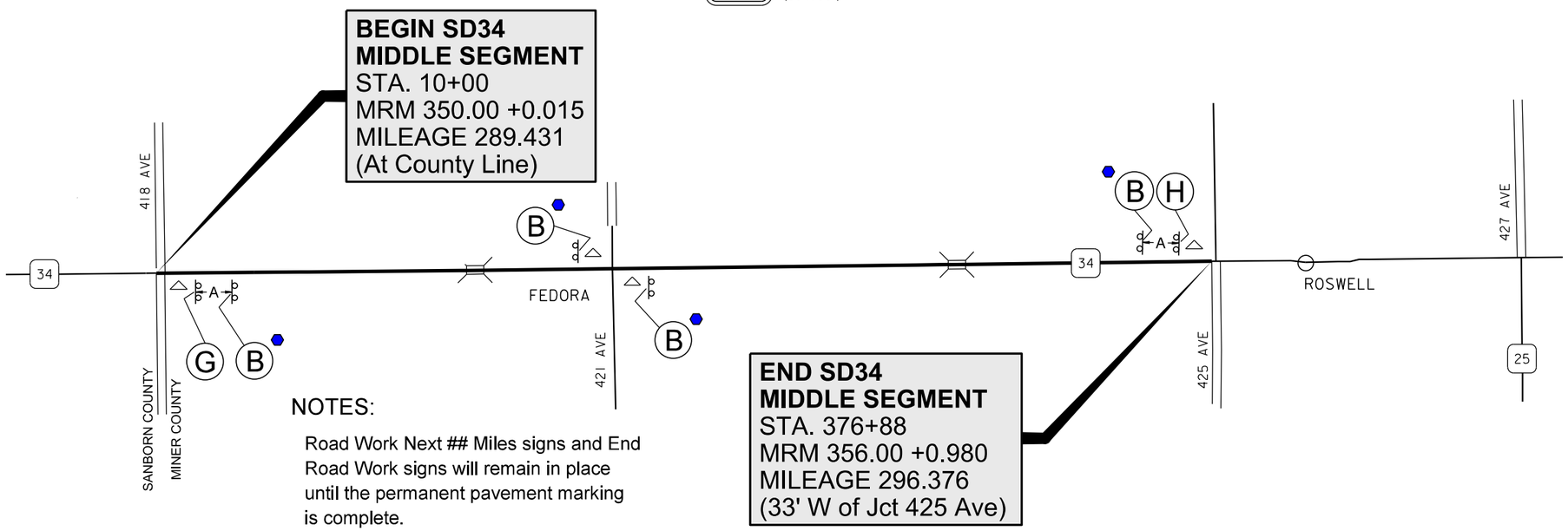
E — ROAD WORK NEXT 5 MILES — G20-1 (36"x 18")

F — ROAD WORK NEXT 3 MILES — G20-1 (36"x 18")

TRAFFIC CONTROL

FIXED LOCATION SIGNS
(GROUND MOUNTED SUPPORTS)
SD34 Middle Segment - PCN 0971
MINER COUNTY





NOTES:

Road Work Next ## Miles signs and End Road Work signs will remain in place until the permanent pavement marking is complete.

△ Signs will be placed 200' to 300' from an intersection. Exact location to be approved by the Engineer.

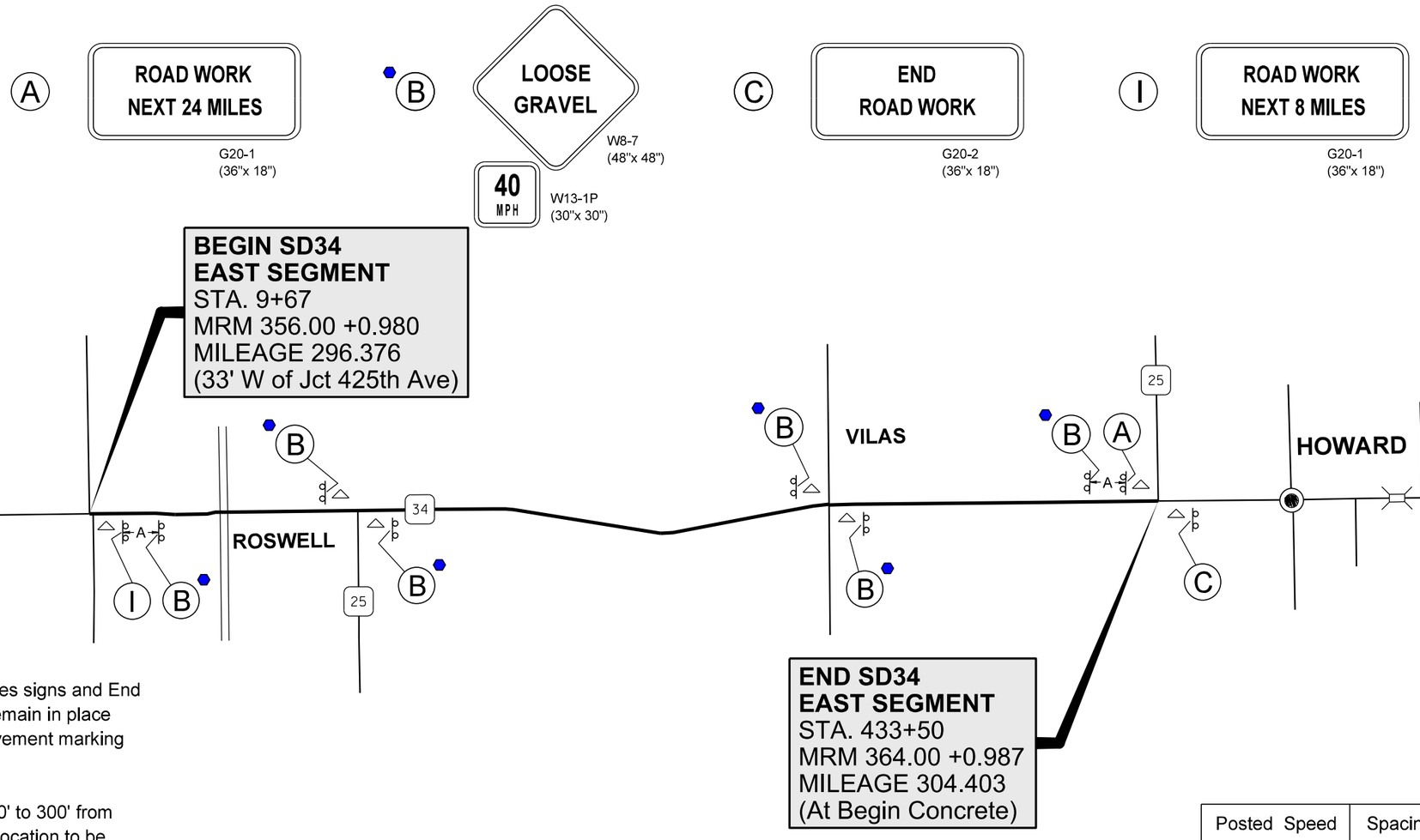
Construction signs will not obscure existing signs and must be installed a minimum of 200' from an existing sign.

⬢ Loose Gravel signs with advisory speed plaques will be removed from view the same day that the fog seal is applied in the area that they represent.

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (FEET) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 80	1000

TRAFFIC CONTROL

FIXED LOCATION SIGNS
(GROUND MOUNTED SUPPORTS)
SD34 East Segment - PCN 0971
MINER COUNTY



NOTES:

Road Work Next ## Miles signs and End Road Work signs will remain in place until the permanent pavement marking is complete.

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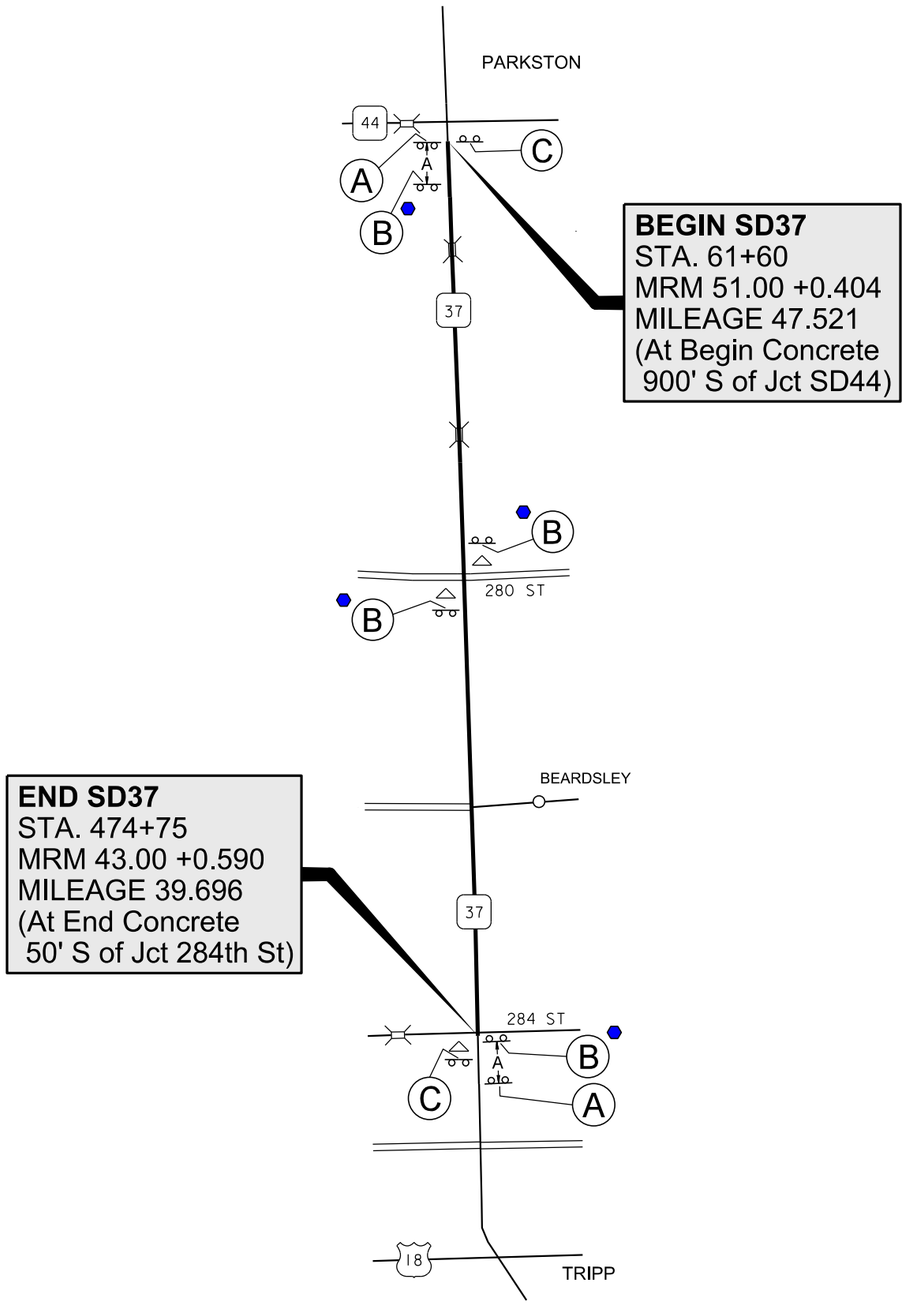
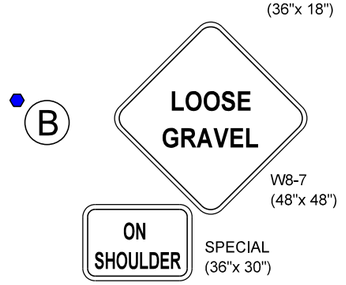
⬢ Loose Gravel signs with advisory speed plaques will be removed from view the same day that the fog seal is applied in the area that they represent.

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (FEET) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 80	1000

TRAFFIC CONTROL
FIXED LOCATION SIGNS
(GROUND MOUNTED SUPPORTS)
SD37 - PCN 0971
HUTCHINSON COUNTY



G20-1
(36"x 18")



W8-7
(48"x 48")

SPECIAL
(36"x 30")

G20-2
(36"x 18")

NOTES:

Road Work Next ## Miles signs and End Road Work signs will remain in place until the permanent pavement marking is complete.

△ Signs will be placed 200' to 300' from an intersection. Exact location to be approved by the Engineer.

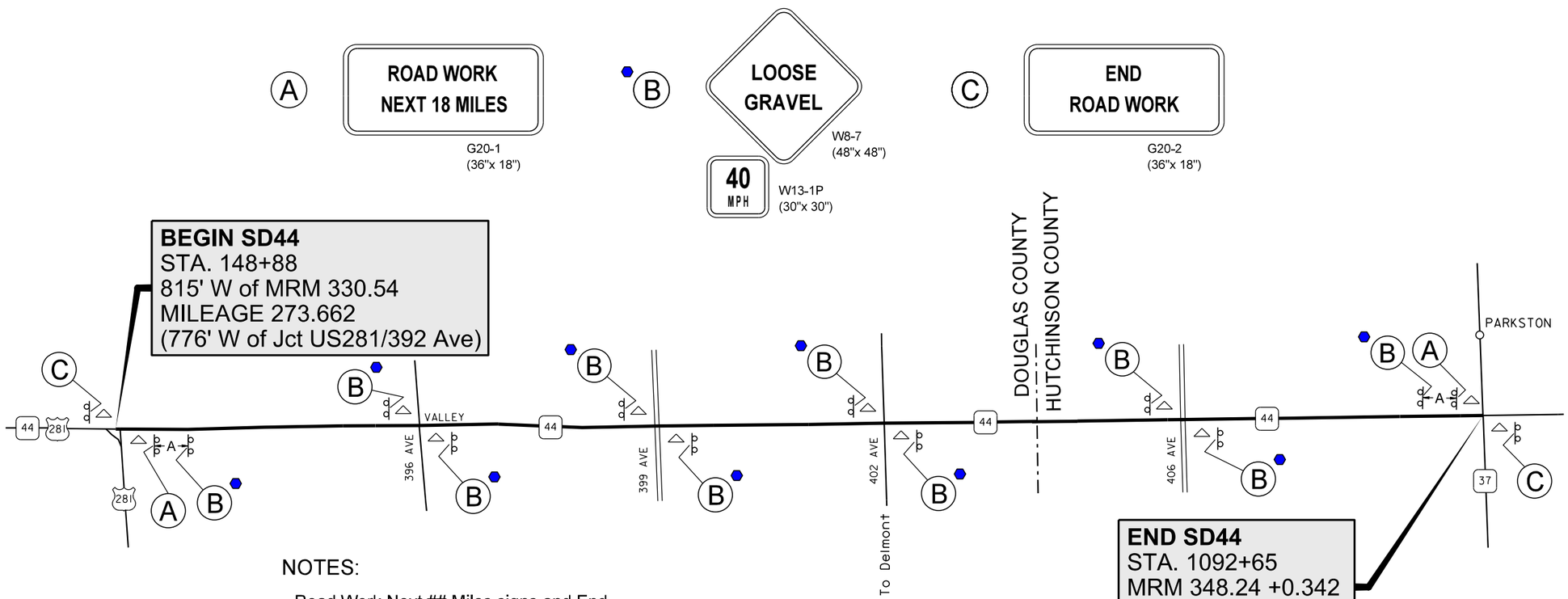
Construction signs will not obscure existing signs and must be installed a minimum of 200' from an existing sign.

● Loose Gravel signs with advisory speed plaques will be removed from view the same day that the fog seal is applied in the area that they represent.

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (FEET) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 80	1000

TRAFFIC CONTROL

FIXED LOCATION SIGNS
(GROUND MOUNTED SUPPORTS)
SD44 - PCN 0971
DOUGLAS & HUTCHINSON COUNTIES



NOTES:

Road Work Next ## Miles signs and End Road Work signs will remain in place until the permanent pavement marking is complete.

△ Signs will be placed 200' to 300' from an intersection. Exact location to be approved by the Engineer.

Construction signs will not obscure existing signs and must be installed a minimum of 200' from an existing sign.

⬢ Loose Gravel signs with advisory speed plaques will be removed from view the same day that the fog seal is applied in the area that they represent.

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (FEET) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 80	1000

TRAFFIC CONTROL

FIXED LOCATION SIGNS
(GROUND MOUNTED SUPPORTS)
SD46 - PCN 0971
CHARLES MIX COUNTY

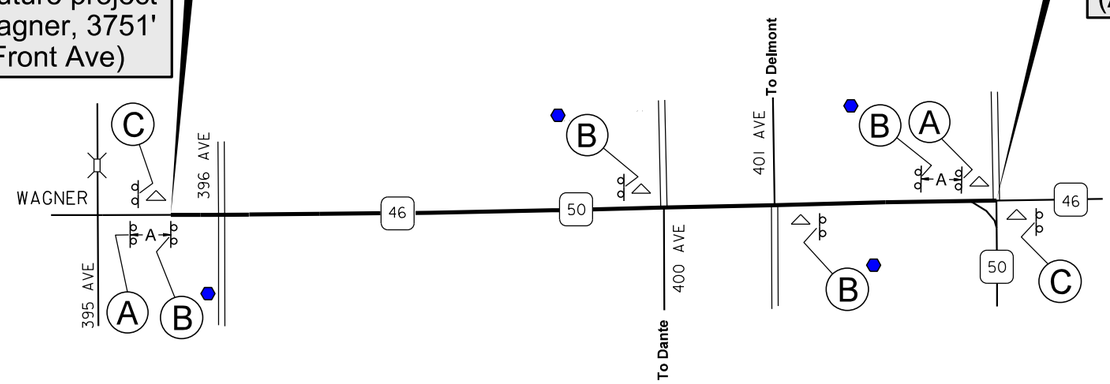
A — ROAD WORK NEXT 7 MILES — G20-1 (36"x 18")

B — LOOSE GRAVEL — W8-7 (48"x 48")
40 MPH — W13-1P (30"x 30")

C — END ROAD WORK — G20-2 (36"x 18")

BEGIN SD46
STA. 11+07
MRM 290.00 +0.197
MILEAGE 13.052
(At end of future project through Wagner, 3751' East of ℄ Front Ave)

END SD46
STA. 401+79
MRM 297.00 +0.567
MILEAGE 20.452
(At E Jct SD50)



NOTES:

Road Work Next ## Miles signs and End Road Work signs will remain in place until the permanent pavement marking is complete.

△ Signs will be placed 200' to 300' from an intersection. Exact location to be approved by the Engineer.

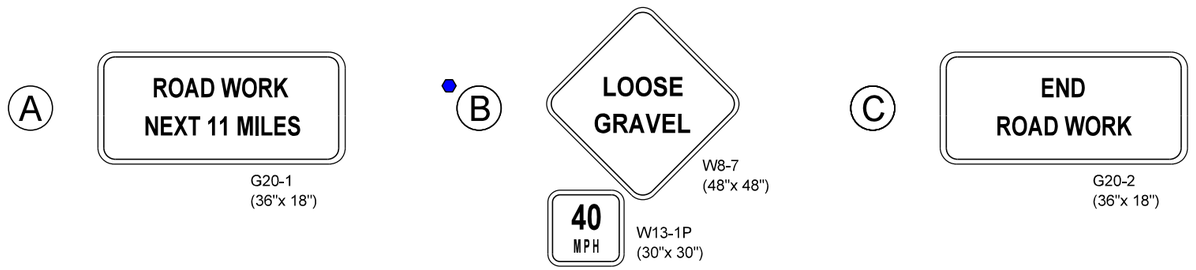
Construction signs will not obscure existing signs and must be installed a minimum of 200' from an existing sign.

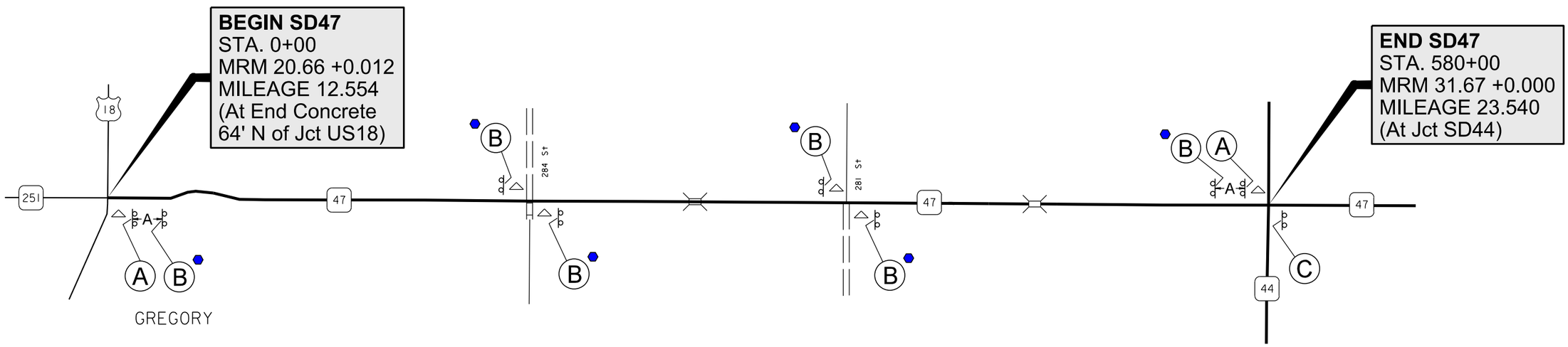
⬢ Loose Gravel signs with advisory speed plaques will be removed from view the same day that the fog seal is applied in the area that they represent.

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (FEET) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 80	1000

TRAFFIC CONTROL

FIXED LOCATION SIGNS
(GROUND MOUNTED SUPPORTS)
SD47 - PCN 0971
GREGORY COUNTY





NOTES:

All Fixed Location signs shall remain in place until the permanent pavement marking is complete.

△ Signs shall be placed 200' to 300' from intersection. Exact location to be approved by the Engineer.

Construction signs shall not obscure existing signs and must be installed a minimum of 200' from an existing sign.

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (FEET) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 65	1000
75	1000

TRAFFIC CONTROL

FIXED LOCATION SIGNS
(GROUND MOUNTED SUPPORTS)
I90W & I90E - PCN 0971
LYMAN COUNTY

BEGIN I90 WBL
WB STA. 418+38
WB MRM 251.09 +0.450

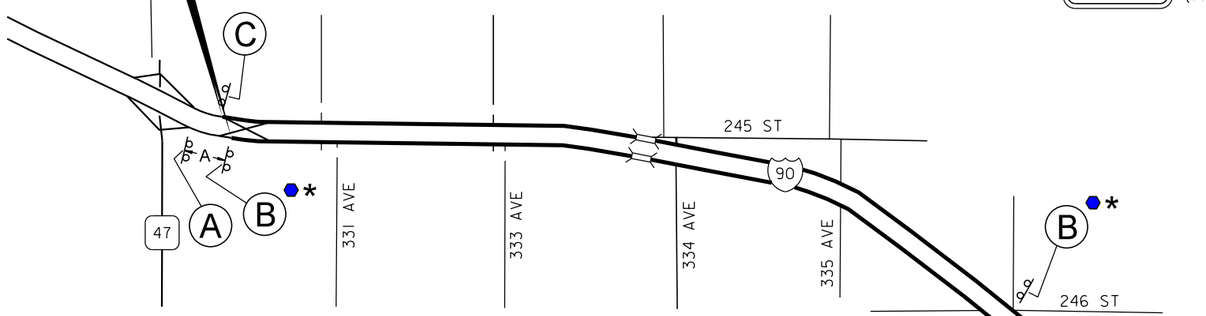
BEGIN I90 EBL
EB STA. 420+58
EB MRM 251.09 +0.405

A — **ROAD WORK NEXT 11 MILES**
G20-1
(48"x 24")

B — **LOOSE GRAVEL**
W8-7
(48"x 48")

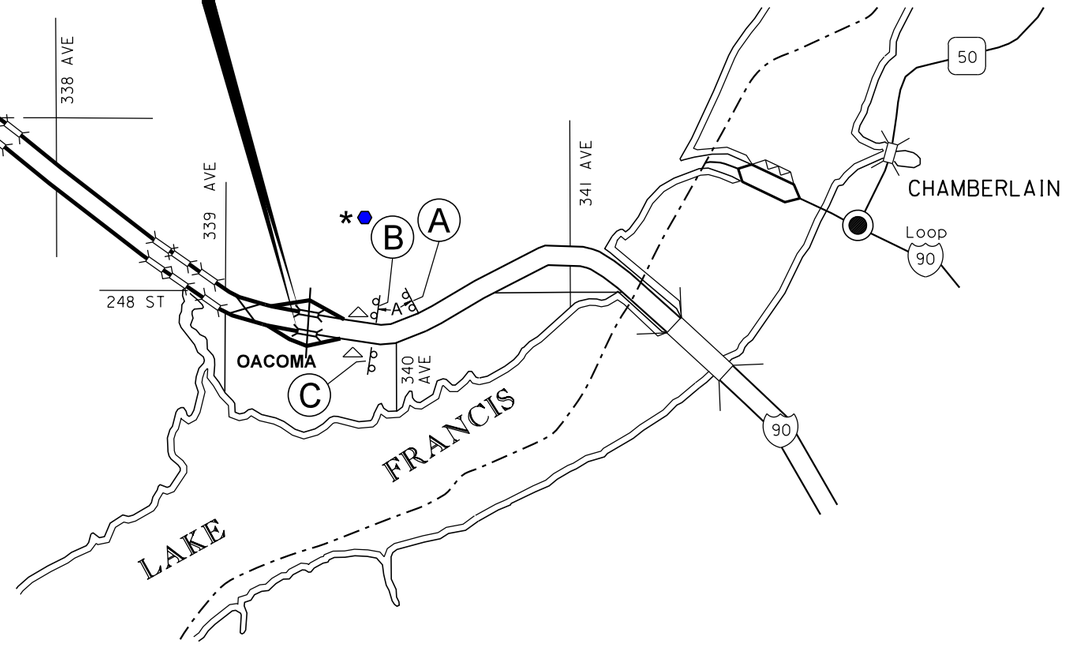
ON SHOULDER
SPECIAL
(36"x 30")

C — **END ROAD WORK**
G20-2
(48"x 24")



END I90 WBL
WB STA. 66+97
WB MRM 260.00 +0.443

END I90 EBL
EB STA. 66+71
EB MRM 260.00 +0.443



NOTES:

Road Work Next ## Miles signs and End Road Work signs will remain in place until the permanent pavement marking is complete.

△ Signs will be placed 200' to 300' from an intersection. Exact location to be approved by the Engineer.

Construction signs will not obscure existing signs and must be installed a minimum of 200' from an existing sign.

⬢ Loose Gravel signs with advisory speed plaques will be removed from view the same day that the fog seal is applied in the area that they represent.

* Signs will be left mounted and right mounted on divided highways.

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (FEET) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 80	1000

PLOT SCALE - 1:7000
PLOT NAME - 12
PLOTTED FROM - TRM1INT06
FILE - ...\TC 24 0971.DGN

TRAFFIC CONTROL

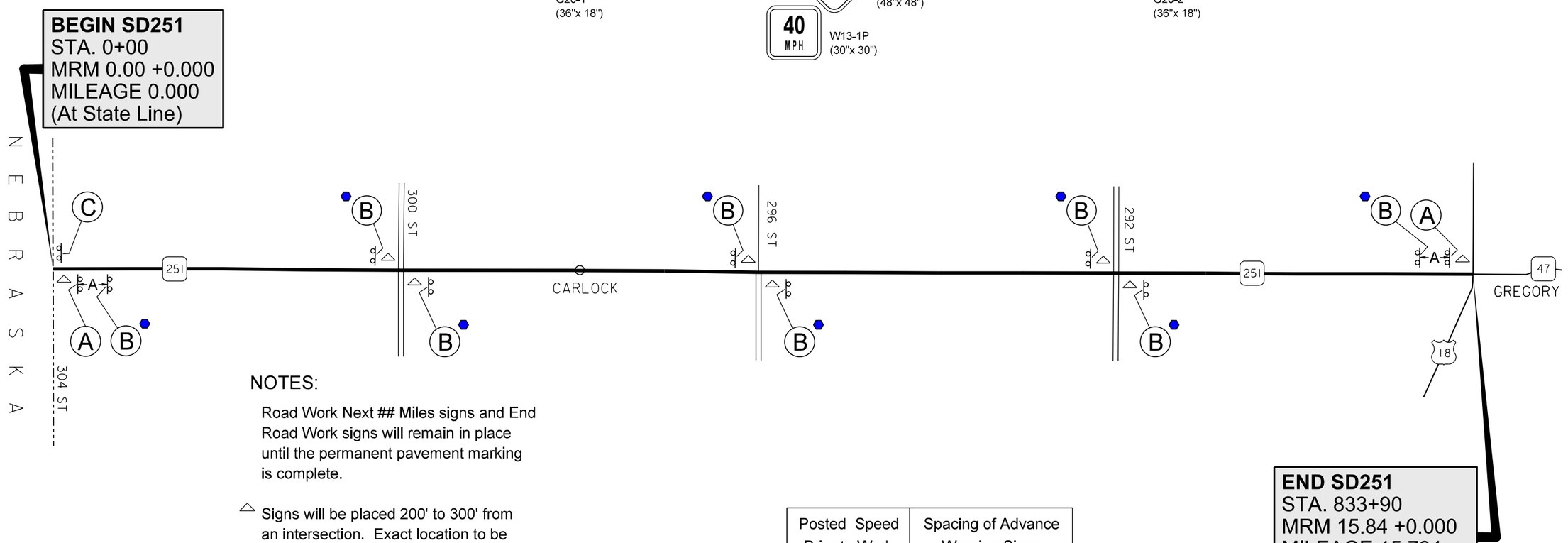
FIXED LOCATION SIGNS
(GROUND MOUNTED SUPPORTS)
SD251 - PCN 0971
GREGORY COUNTY

A — ROAD WORK NEXT 16 MILES — G20-1 (36"x 18")

B — LOOSE GRAVEL — W8-7 (48"x 48")

40 MPH — W13-1P (30"x 30")

C — END ROAD WORK — G20-2 (36"x 18")



NOTES:

Road Work Next ## Miles signs and End Road Work signs will remain in place until the permanent pavement marking is complete.

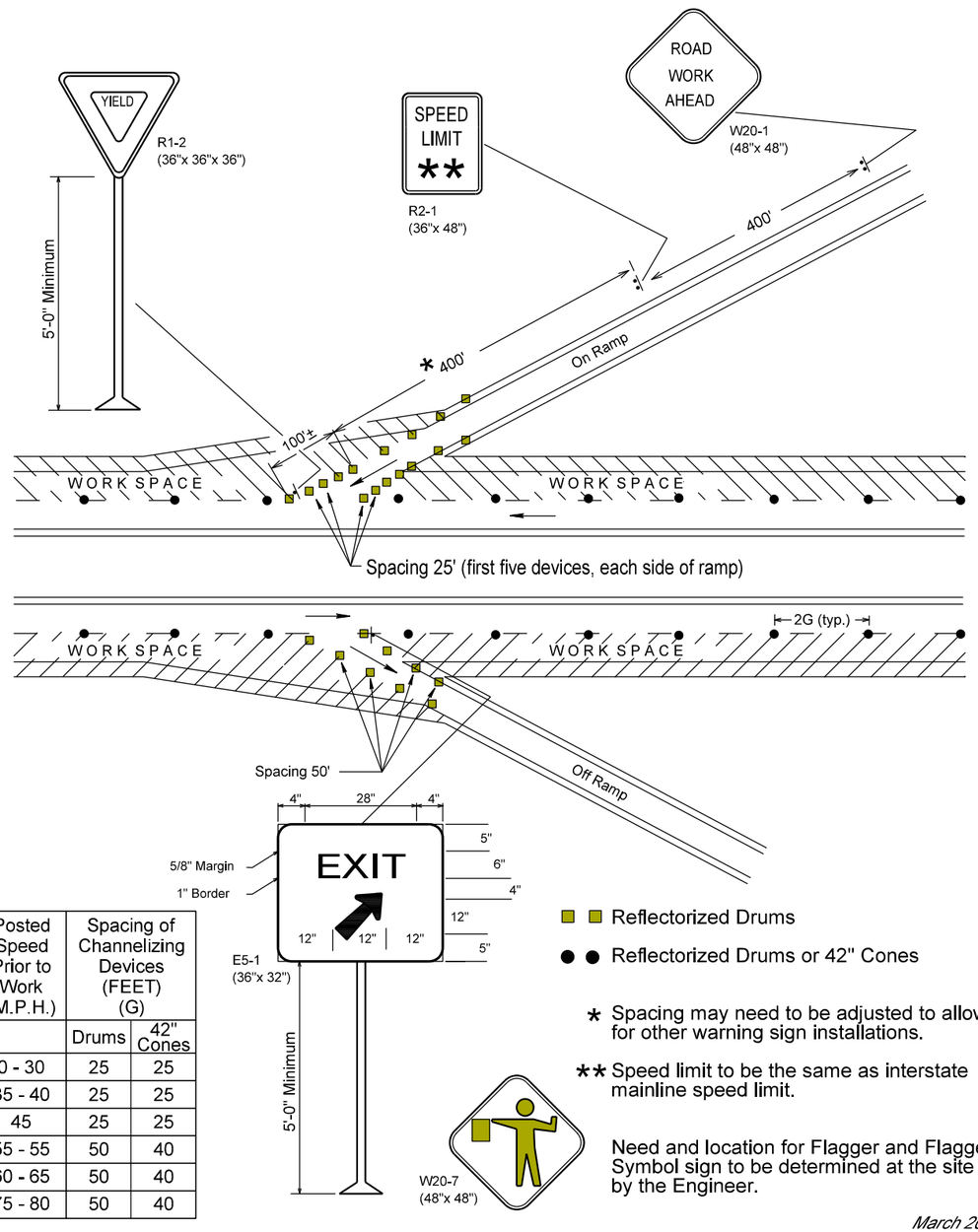
△ Signs will be placed 200' to 300' from an intersection. Exact location to be approved by the Engineer.

Construction signs will not obscure existing signs and must be installed a minimum of 200' from an existing sign.

⬢ Loose Gravel signs with advisory speed plaques will be removed from view the same day that the fog seal is applied in the area that they represent.

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (FEET) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 80	1000

TRAFFIC CONTROL
ENTRANCE RAMP AND EXIT RAMP DETAILS



Posted Speed Prior to Work (M.P.H.)	Spacing of Channelizing Devices (FEET) (G)	
	Drums	42" Cones
0 - 30	25	25
35 - 40	25	25
45	25	25
55 - 55	50	40
60 - 65	50	40
75 - 80	50	40

■ ■ Reflectorized Drums

● ● Reflectorized Drums or 42" Cones

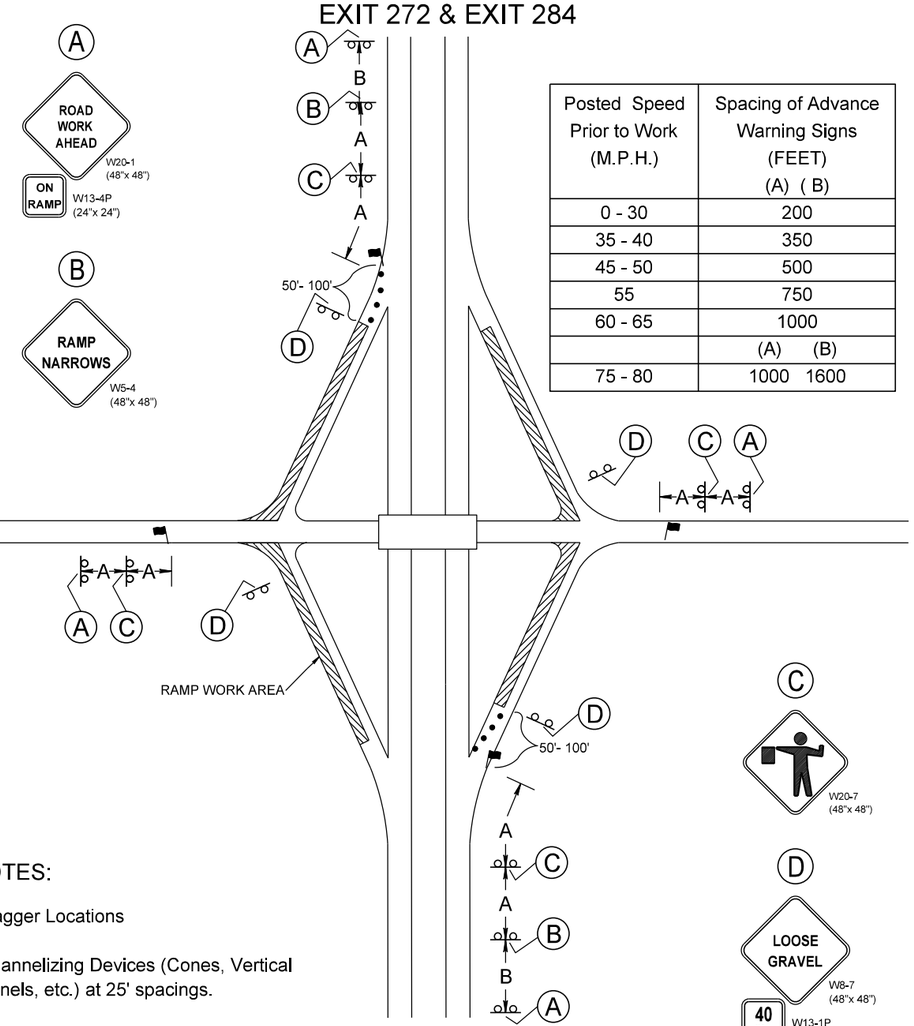
* Spacing may need to be adjusted to allow for other warning sign installations.

** Speed limit to be the same as interstate mainline speed limit.

Need and location for Flagger and Flagger Symbol sign to be determined at the site by the Engineer.

March 2024

TRAFFIC CONTROL
ENTRANCE RAMP AND EXIT RAMP DETAILS
I 90 - 047L
BRULE COUNTY
EXIT 272 & EXIT 284



Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (FEET) (A) (B)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 65	1000
	(A) (B)
75 - 80	1000 1600

NOTES:

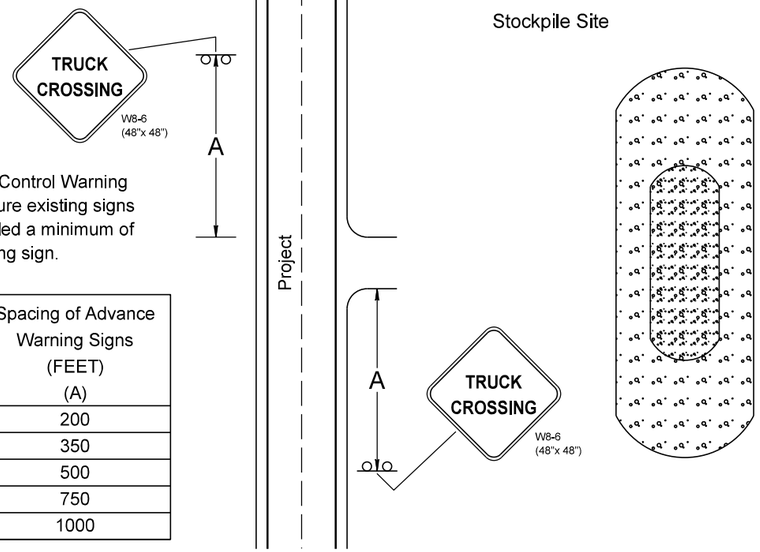
Flagger Locations

● ● ● Channelizing Devices (Cones, Vertical Panels, etc.) at 25' spacings.

All signs for this project may be portable and may be removed as soon as final brooming has been completed.

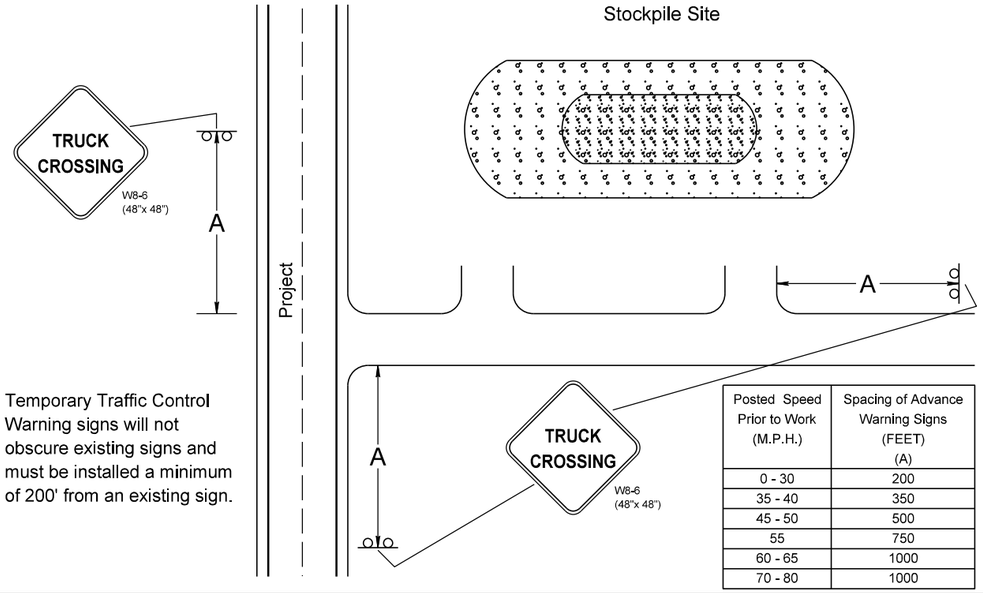
Construction signs shall not obscure existing signs and must be installed a minimum of 100' from an existing sign.

March 2024



Temporary Traffic Control Warning signs will not obscure existing signs and must be installed a minimum of 200' from an existing sign.

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (FEET) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 80	1000



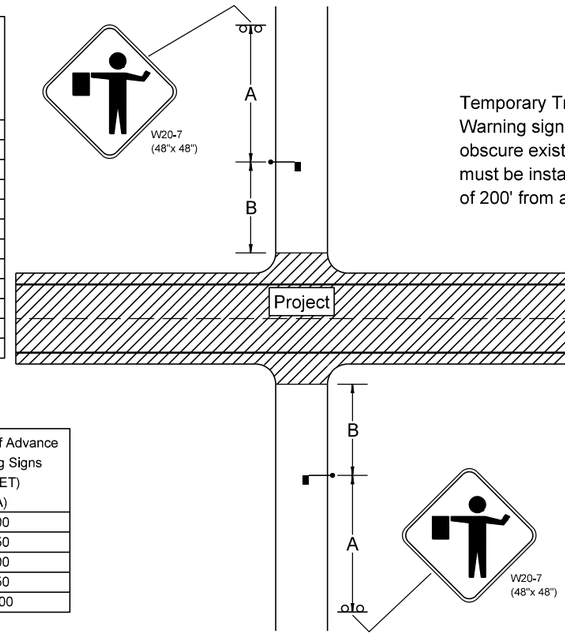
Temporary Traffic Control Warning signs will not obscure existing signs and must be installed a minimum of 200' from an existing sign.

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (FEET) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 65	1000
70 - 80	1000

GUIDES FOR TRAFFIC CONTROL DEVICES TRUCK CROSSING SIGN INSTALLATION

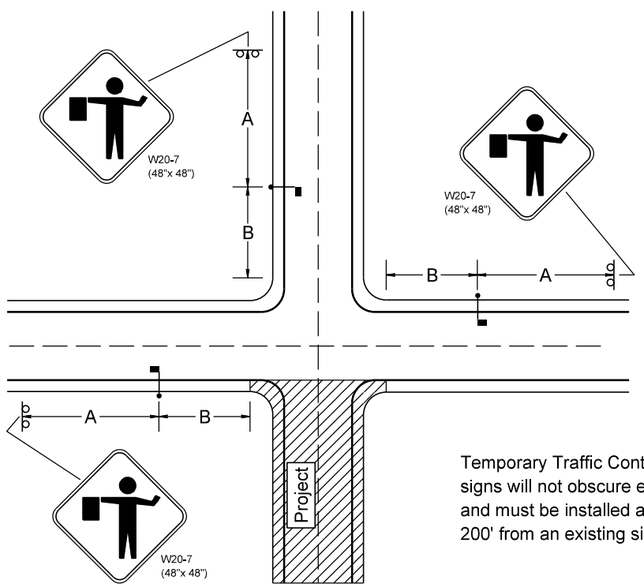
April 2023

Posted Speed Prior to Work (M.P.H.)	Length of Longitudinal Buffer Space (FEET) (B)
20	35
25	55
30	85
35	120
40	170
45	220
50	280
55	335
60	415
65	485
70	535
75	585



Temporary Traffic Control Warning signs will not obscure existing signs and must be installed a minimum of 200' from an existing sign.

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (FEET) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 80	1000



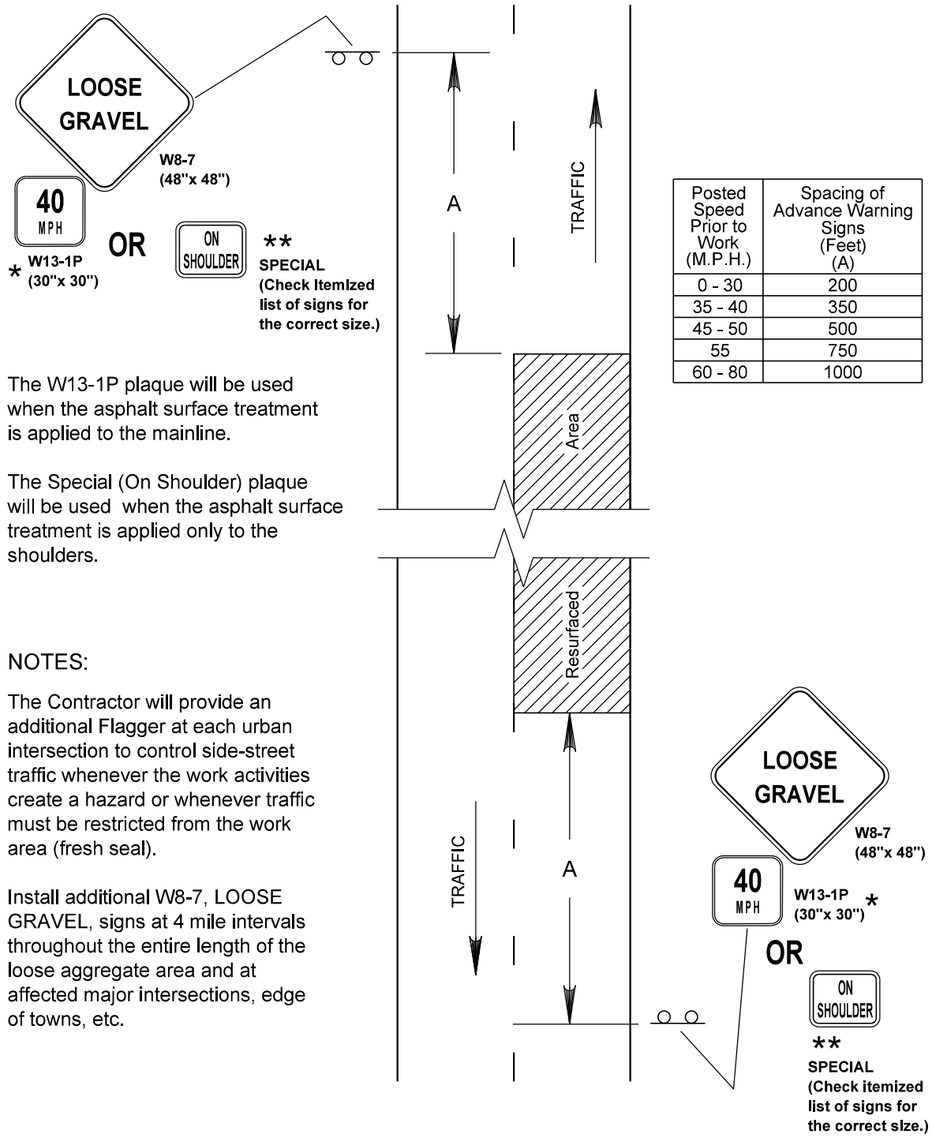
Temporary Traffic Control Warning signs will not obscure existing signs and must be installed a minimum of 200' from an existing sign.

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (FEET) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 80	1000

Posted Speed Prior to Work (M.P.H.)	Length of Longitudinal Buffer Space (FEET) (B)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730
75	820

GUIDES FOR TRAFFIC CONTROL DEVICES FLAGGER SIGN INSTALLATION AT INTERSECTING ROADS

April 2023



Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 80	1000

* The W13-1P plaque will be used when the asphalt surface treatment is applied to the mainline.

** The Special (On Shoulder) plaque will be used when the asphalt surface treatment is applied only to the shoulders.

NOTES:

The Contractor will provide an additional Flagger at each urban intersection to control side-street traffic whenever the work activities create a hazard or whenever traffic must be restricted from the work area (fresh seal).

Install additional W8-7, LOOSE GRAVEL, signs at 4 mile intervals throughout the entire length of the loose aggregate area and at affected major intersections, edge of towns, etc.

GUIDES FOR TRAFFIC CONTROL DEVICES

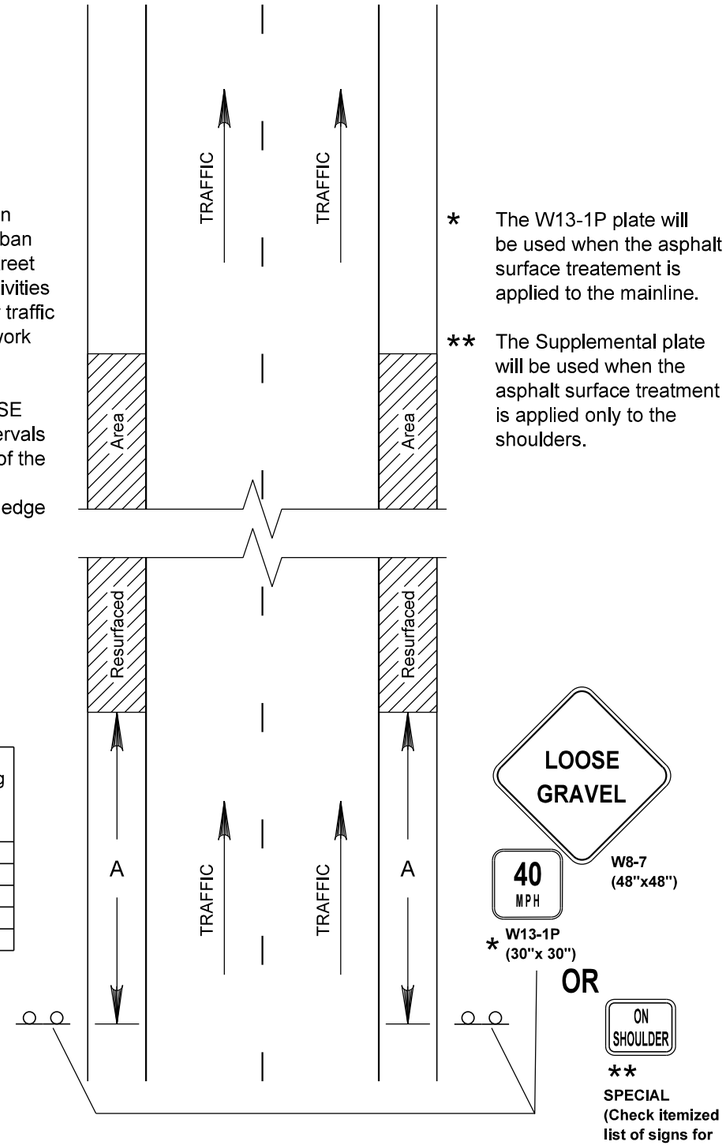
Typical Application - Traffic Control Devices to be used on an undivided highway, Asphalt Surface Treatment, when operations have created a driving surface or shoulder with loose aggregate.

April 2023

NOTES:

The Contractor will provide an additional Flagger at each urban intersection to control side-street traffic whenever the work activities create a hazard or whenever traffic must be restricted from the work area (fresh seal).

Install additional W8-7, LOOSE GRAVEL, signs at 4 mile intervals throughout the entire length of the loose aggregate area and at affected major intersections, edge of towns, etc.



Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 80	1000

* The W13-1P plate will be used when the asphalt surface treatement is applied to the mainline.

** The Supplemental plate will be used when the asphalt surface treatment is applied only to the shoulders.

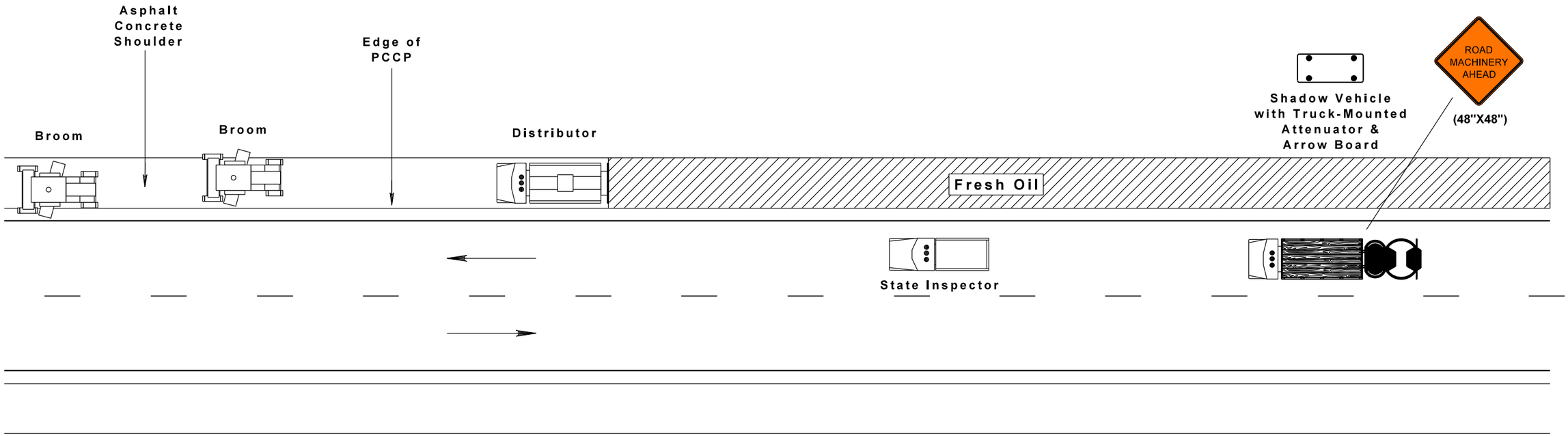
GUIDES FOR TRAFFIC CONTROL DEVICES

Typical Application - Traffic Control Devices to be used on a multi-lane divided or undivided highway, Asphalt Surface Treatment when operations have created a driving surface or shoulder with loose aggregate.

April 2023

GUIDES FOR TRAFFIC CONTROL DEVICES

FOG SEAL OPERATION ON SHOULDERS OF TWO-LANE ROAD



Vehicle-mounted signs will be mounted in a manner such that they are not obscured by equipment or supplies. Sign legends on vehicle-mounted signs will be covered or turned from view when work is not in progress.

Shadow and work vechicles will display high-intensity rotating, flashing, oscillating or strobe lights. Vehicle hazard warning signals will not be used instead of the vehicle's high-intensity rotating, flashing, oscillating or strobe lights.

The arrow board will be used in the caution mode. Marching diamonds are acceptable.

Arrow boards will, as a minimum, be Type B with a size of 60" x 30".

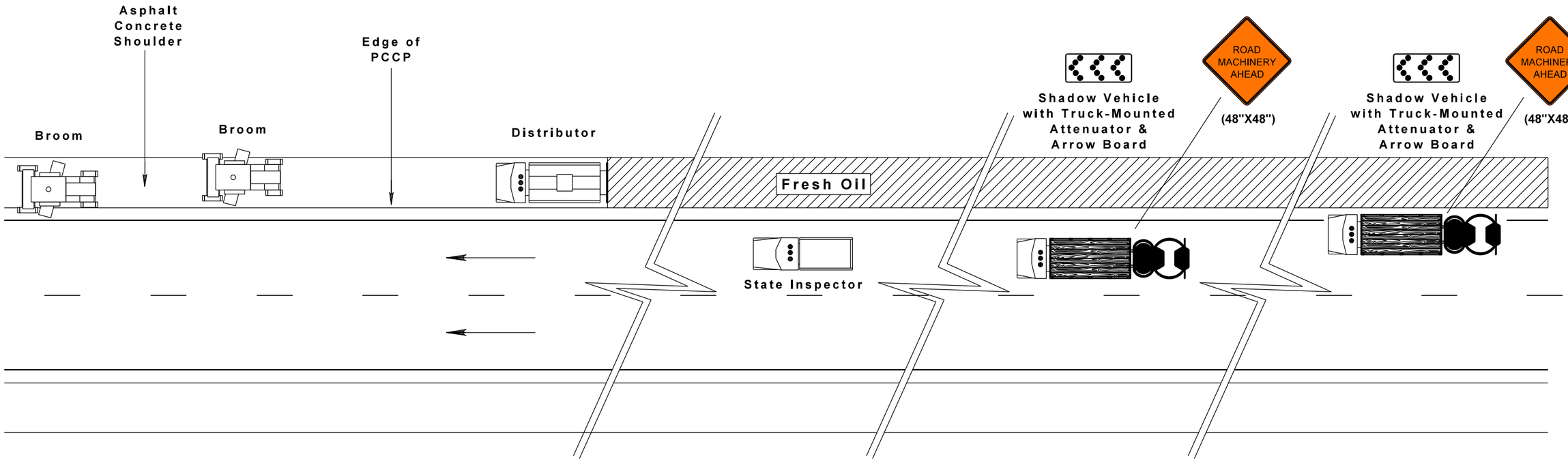
FRESH OIL (W21-2 48" x 48") signs will be placed a minimum of every four miles.

All costs associated with the traffic control for mobile operations including the signs, arrow boards, vehicles and attenuators will be incidental to the contract lump sum price for "Traffic Control, Miscellaneous".

(48"X48")

GUIDES FOR TRAFFIC CONTROL DEVICES

FOG SEAL OPERATION ON SHOULDERS OF MULTI-LANE ROAD



Vehicle-mounted signs will be mounted in a manner such that they are not obscured by equipment or supplies. Sign legends on vehicle-mounted signs will be covered or turned from view when work is not in progress.

Shadow and work vechicles will display high-intensity rotating, flashing, oscillating or strobe lights. Vehicle hazard warning signals will not be used instead of the vehicle's high-intensity rotating, flashing, oscillating or strobe lights.

The arrow board will be used in the chevron mode.

Arrow boards will, as a minimum, be Type B with a size of 60" x 30".

FRESH OIL (W21-2 48" x 48") signs will be placed a minimum of every four miles.

All costs associated with the traffic control for mobile operations including the signs, arrow boards, vehicles and attenuators will be incidental to the contract lump sum price for "Traffic Control, Miscellaneous".

(48"X48")

* Messages on signs will vary depending on the operation being conducted.

Vehicle-mounted signs will be mounted in a manner such that they are not obscured by equipment or supplies. Sign legends on vehicle-mounted signs will be covered or turned from view when work is not in progress.

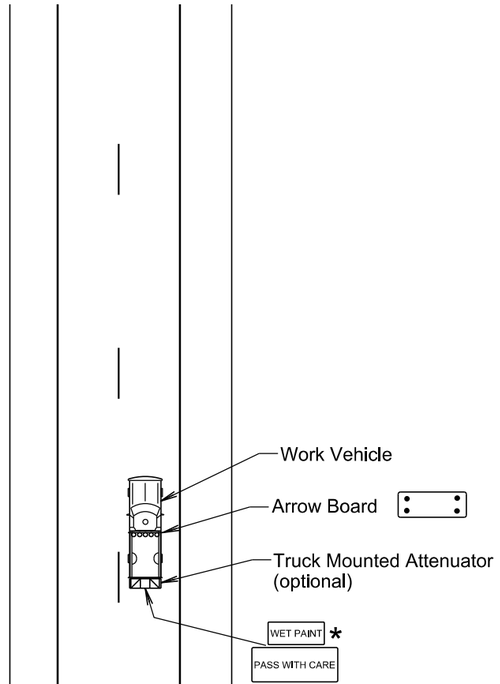
Shadow and Work vehicles will display high-intensity rotating, flashing, oscillating, or strobe lights, flags, signs, or arrow boards.

Vehicle hazard warning signals will not be used instead of the vehicle's high-intensity rotating, flashing, oscillating, or strobe lights.

When an arrow board is used, it will be used in the caution mode. Marching Diamonds are acceptable.

Arrow boards will, as a minimum, be Type B, with a size of 60" x 30".

All costs associated with the traffic control for mobile operation including signs, arrow boards and equipment will be incidental to the contract lump sum price for "Traffic Control, Miscellaneous".



January 22, 2021

Published Date: 2024	SDDOT	MOBILE OPERATIONS ON 2-LANE ROAD	PLATE NUMBER 634.06
			Sheet 1 of 1

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	25
35 - 40	350	25
45	500	25
50	500	50
55	750	50
60 - 65	1000	50

Flagger

Channelizing Device

For low-volume traffic situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger may be used.

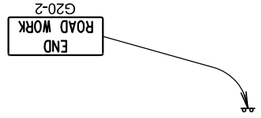
The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

For tack and/or flush seal operations, when flaggers are not being used, the FRESH OIL sign (W21-2) will be displayed in advance of the liquid asphalt areas.

Flashing warning lights and/or flags may be used to call attention to the advance warning signs.

The channelizing devices will be drums or 42" cones.

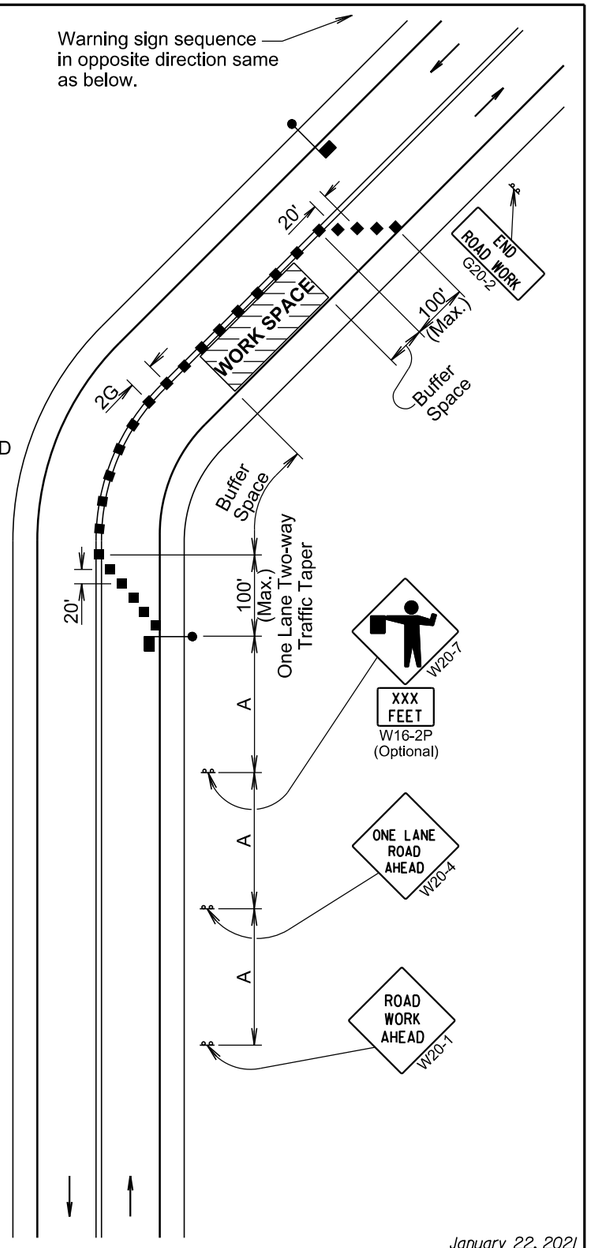
Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.



Channelizing devices and flaggers will be used at intersecting roads to control intersecting road traffic as required.

The buffer space should be extended so that the two-way traffic taper is placed before a horizontal or vertical curve to provide adequate sight distance for the flagger and queue of stopped vehicles.

The length of A may be adjusted to fit field conditions.



January 22, 2021

Published Date: 2024	SDDOT	LANE CLOSURE WITH FLAGGER PROVIDED	PLATE NUMBER 634.23
			Sheet 1 of 1

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A) (B) (C)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 65	1000
	(A) (B) (C)
70 - 80	1000 1500 2640

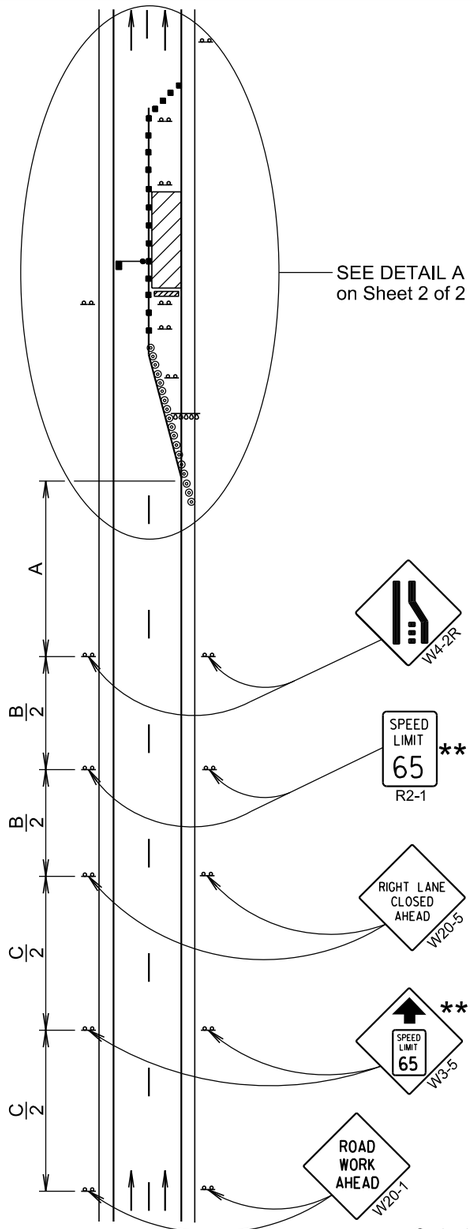
** Speed appropriate for location.

◎ Reflectorized Drum

▪ Channelizing Device

ROAD WORK AHEAD sign is only required in advance of the first lane closure.

High speed is defined as having a posted speed limit greater than 45 mph.



September 22, 2021

Published Date: 2024	SDDOT	WORK ZONE SPEED REDUCTION FOR INTERSTATE AND HIGH SPEED MULTI-LANE HIGHWAYS	PLATE NUMBER 634.63 Sheet 1 of 2

Posted Speed Prior to Work (M.P.H.)	Spacing of Channelizing Devices (Feet) (G)	Taper Length (Feet) (L)
0 -30	25	180
35 - 40	25	320
45	25	600
50	50 *	600
55	50 *	660
60 - 65	50 *	780
70 - 80	50 *	960

* Spacing is 40' for 42" cones.

** Speed appropriate for location.

*** Use speed limit designated for the condition when workers are present in the work space. Signs will be covered or removed when workers are not present.

▪—● Flagger (As Necessary)

◎ Reflectorized Drum

▪ Channelizing Device

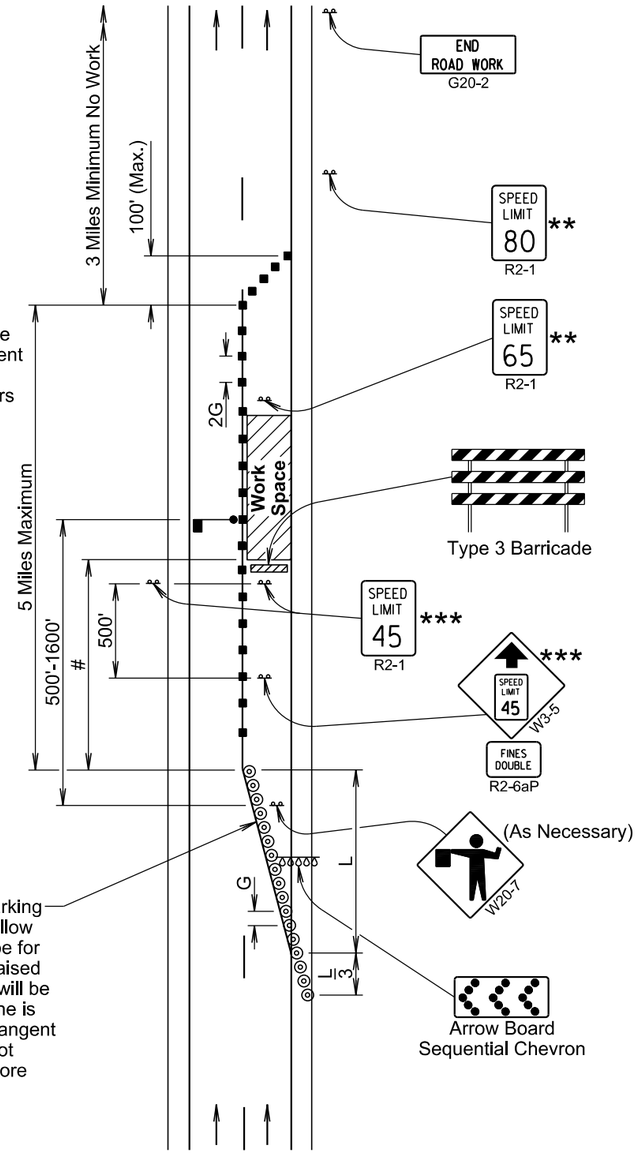
The Work Space will be a minimum of 500' from the end of the taper.

The FLAGGER sign will be used whenever there is a Flagger present.

The channelizing devices will be 42" cones or drums.

42" cones may be used in place of the drums shown in the taper if setup will not be used during night time hours.

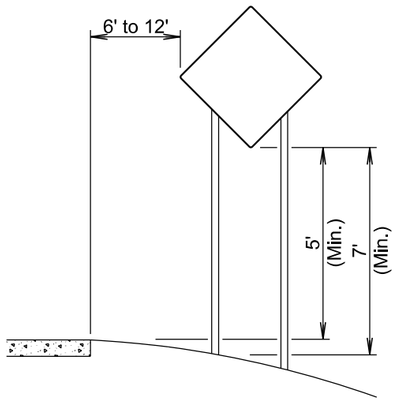
4" white temporary pavement marking tape for right lane closures, 4" yellow temporary pavement marking tape for left lane closures, or temporary raised pavement markers at 5' spacing will be installed in the taper when the lane is closed overnight, and along the tangent section where the skip lines do not exist and the lane is closed for more than 3 days.



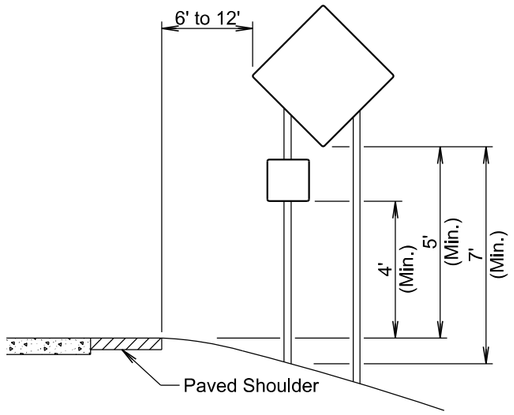
DETAIL A

September 22, 2021

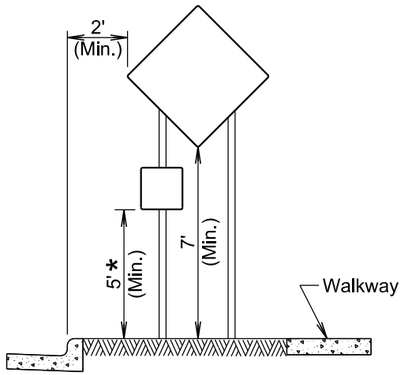
Published Date: 2024	SDDOT	WORK ZONE SPEED REDUCTION FOR INTERSTATE AND HIGH SPEED MULTI-LANE HIGHWAYS	PLATE NUMBER 634.63 Sheet 2 of 2



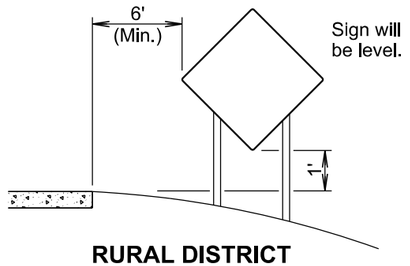
RURAL DISTRICT



RURAL DISTRICT WITH SUPPLEMENTAL PLATE



URBAN DISTRICT

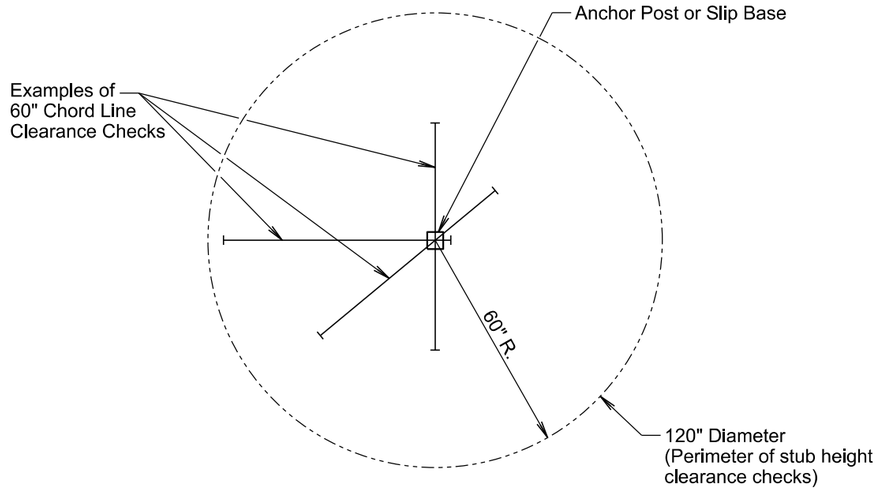


RURAL DISTRICT
3 DAY MAXIMUM
(Not applicable to regulatory signs)

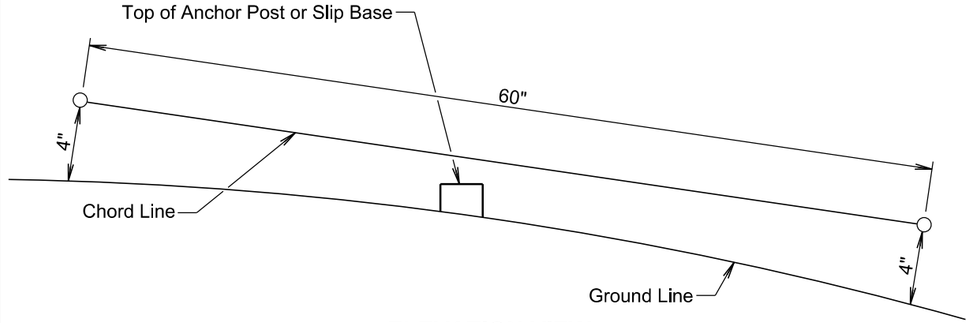
* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

January 22, 2021

Published Date: 2024	SDDOT	CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
			Sheet 1 of 1



PLAN VIEW
(Examples of stub height clearance checks)



ELEVATION VIEW

GENERAL NOTES:

The top of anchor posts and slip bases WILL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.

At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height will be a maximum of 4" above the ground line at the localized area adjacent to the breakaway support stub.

The 4" stub height clearance is not necessary for U-channel lap splices where the support is designed to yield (bend) at the base.

January 22, 2021

Published Date: 2024	SDDOT	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
			Sheet 1 of 1

CHANNELIZING DEVICES CHARTS

MINIMUM NUMBER OF CHANNELIZING DEVICES NEEDED IN A TAPER

DRUMS

Posted Speed Prior to Work (MPH)	Spacing of Channelizing Drums (Feet) Tangent	Taper	Taper Length (Mainline) (Feet) (L)	Taper Length (Shoulder) (Feet) (L/3)	Number of Drums in Taper (Mainline)	Number of Drums in Taper (Shoulder)	Total Number of Drums in Taper
0-30	50	25	180	60	9	3	12
35-40	50	25	320	107	14	5	19
45	50	25	600	200	25	8	33
50	100	50	600	200	13	4	17
55	100	50	660	220	15	5	20
60-65	100	50	780	260	17	6	23
70-80	100	50	960	320	21	7	28

42" CONES

Posted Speed Prior to Work (MPH)	Spacing of Channelizing 42" Cones (Feet) Tangent	Taper	Taper Length (Mainline) (Feet) (L)	Taper Length (Shoulder) (Feet) (L/3)	Number of Cones in Taper (Mainline)	Number of Cones in Taper (Shoulder)	Total Number of Cones in Taper
0-30	50	25	180	60	9	3	12
35-40	50	25	320	107	14	5	19
45	50	25	600	200	25	8	33
50	80	40	600	200	16	5	21
55	80	40	660	220	18	6	24
60-65	80	40	780	260	21	7	28
70-80	80	40	960	320	25	8	33

ITEMIZED LIST FOR TRAFFIC CONTROL

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	83	85

US18 – CHARLES MIX COUNTY

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-6	TRUCK CROSSING	2	48" x 48"	16.0	32.0
W8-7	LOOSE GRAVEL	4	48" x 48"	16.0	64.0
W13-1P	ADVISORY SPEED (plaque)	4	30" x 30"	6.3	25.2
W20-1	ROAD WORK AHEAD	4	48" x 48"	16.0	64.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.0
SPECIAL	WAIT FOLLOW PILOT CAR	2	30" x 18"	3.8	7.6
G20-1	ROAD WORK NEXT 6 MILES	4	36" x 18"	4.5	18.0
G20-2	END ROAD WORK	3	36" x 18"	4.5	13.5
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			320.3

SD25 NORTH SEGMENT – MINER COUNTY

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-6	TRUCK CROSSING	2	48" x 48"	16.0	32.0
W8-7	LOOSE GRAVEL	8	48" x 48"	16.0	128.0
W13-1P	ADVISORY SPEED (plaque)	8	30" x 30"	6.3	50.4
W20-1	ROAD WORK AHEAD	3	48" x 48"	16.0	48.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.0
SPECIAL	WAIT FOLLOW PILOT CAR	2	30" x 18"	3.8	7.6
G20-1	ROAD WORK NEXT 11 MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT 27 MILES	1	36" x 18"	4.5	4.5
G20-2	END ROAD WORK	1	36" x 18"	4.5	4.5
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			375.5

SD25 SOUTH SEGMENT – HANSON COUNTY

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-6	TRUCK CROSSING	2	48" x 48"	16.0	32.0
W8-7	LOOSE GRAVEL	4	48" x 48"	16.0	64.0
W13-1P	ADVISORY SPEED (plaque)	4	30" x 30"	6.3	25.2
W20-1	ROAD WORK AHEAD	4	48" x 48"	16.0	64.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.0
SPECIAL	WAIT FOLLOW PILOT CAR	2	30" x 18"	3.8	7.6
G20-1	ROAD WORK NEXT 27 MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT 6 MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT 3 MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT 24 MILES	1	36" x 18"	4.5	4.5
G20-2	END ROAD WORK	1	36" x 18"	4.5	4.5
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			311.3

SD34 WEST SEGMENT – SANBORN COUNTY

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-6	TRUCK CROSSING	2	48" x 48"	16.0	32.0
W8-7	LOOSE GRAVEL	4	48" x 48"	16.0	64.0
W13-1P	ADVISORY SPEED (plaque)	4	30" x 30"	6.3	25.2
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.0
SPECIAL	WAIT FOLLOW PILOT CAR	2	30" x 18"	3.8	7.6
G20-1	ROAD WORK NEXT 24 MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT 9 MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT 5 MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT 3 MILES	1	36" x 18"	4.5	4.5
G20-2	END ROAD WORK	1	36" x 18"	4.5	4.5
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			279.3

SD25 MIDDLE SEGMENT – HANSON COUNTY

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-6	TRUCK CROSSING	2	48" x 48"	16.0	32.0
W8-7	LOOSE GRAVEL	6	48" x 48"	16.0	96.0
W13-1P	ADVISORY SPEED (plaque)	6	30" x 30"	6.3	37.8
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.0
SPECIAL	WAIT FOLLOW PILOT CAR	2	30" x 18"	3.8	7.6
G20-1	ROAD WORK NEXT 21 MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT 16 MILES	1	36" x 18"	4.5	4.5
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			310.4

SD34 MIDDLE SEGMENT – MINER COUNTY

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-6	TRUCK CROSSING	2	48" x 48"	16.0	32.0
W8-7	LOOSE GRAVEL	4	48" x 48"	16.0	64.0
W13-1P	ADVISORY SPEED (plaque)	4	30" x 30"	6.3	25.2
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.0
SPECIAL	WAIT FOLLOW PILOT CAR	2	30" x 18"	3.8	7.6
G20-1	ROAD WORK NEXT 15 MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT 16 MILES	1	36" x 18"	4.5	4.5
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			265.8

ITEMIZED LIST FOR TRAFFIC CONTROL (CONTINUED)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	84	85

SD 34 EAST SEGMENT – MINER COUNTY

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-6	TRUCK CROSSING	2	48" x 48"	16.0	32.0
W8-7	LOOSE GRAVEL	6	48" x 48"	16.0	96.0
W13-1P	ADVISORY SPEED (plaque)	6	30" x 30"	6.3	37.8
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.0
SPECIAL	WAIT FOLLOW PILOT CAR	2	30" x 18"	3.8	7.6
G20-1	ROAD WORK NEXT 8 MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT 24 MILES	1	36" x 18"	4.5	4.5
G20-2	END ROAD WORK	1	36" x 18"	4.5	4.5
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			314.9

SD37 – HUTCHINSON COUNTY

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-6	TRUCK CROSSING	2	48" x 48"	16.0	32.0
W8-7	LOOSE GRAVEL	4	48" x 48"	16.0	64.0
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.0
W21-2	FRESH OIL	4	48" x 48"	16.0	64.0
SPECIAL	WAIT FOLLOW PILOT CAR	2	30" x 18"	3.8	7.6
G20-1	ROAD WORK NEXT 8 MILES	2	36" x 18"	4.5	9.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
SPECIAL	ON SHOULDER	4	36" x 30"	7.5	30.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			343.6

SD44 – DOUGLAS & HUTCHINSON COUNTIES

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-6	TRUCK CROSSING	2	48" x 48"	16.0	32.0
W8-7	LOOSE GRAVEL	10	48" x 48"	16.0	160.0
W13-1P	ADVISORY SPEED (plaque)	10	30" x 30"	6.3	63.0
W20-1	ROAD WORK AHEAD	3	48" x 48"	16.0	48.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.0
SPECIAL	WAIT FOLLOW PILOT CAR	2	30" x 18"	3.8	7.6
G20-1	ROAD WORK NEXT 18 MILES	2	36" x 18"	4.5	9.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			424.6

SD46 – CHARLES MIX COUNTY

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-6	TRUCK CROSSING	2	48" x 48"	16.0	32.0
W8-7	LOOSE GRAVEL	4	48" x 48"	16.0	64.0
W13-1P	ADVISORY SPEED (plaque)	4	30" x 30"	6.3	25.2
W20-1	ROAD WORK AHEAD	3	48" x 48"	16.0	48.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.0
SPECIAL	WAIT FOLLOW PILOT CAR	2	30" x 18"	3.8	7.6
G20-1	ROAD WORK NEXT 7 MILES	2	36" x 18"	4.5	9.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			290.8

SD47 – GREGORY COUNTY

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-6	TRUCK CROSSING	2	48" x 48"	16.0	32.0
W8-7	LOOSE GRAVEL	6	48" x 48"	16.0	96.0
W13-1P	ADVISORY SPEED (plaque)	6	30" x 30"	6.3	37.8
W20-1	ROAD WORK AHEAD	4	48" x 48"	16.0	64.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.0
SPECIAL	WAIT FOLLOW PILOT CAR	2	30" x 18"	3.8	7.6
G20-1	ROAD WORK NEXT 11 MILES	2	36" x 18"	4.5	9.0
G20-2	END ROAD WORK	1	36" x 18"	4.5	4.5
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			346.9

ITEMIZED LIST FOR TRAFFIC CONTROL (CONTINUED)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-NH-P 0021(186)	85	85

I90W – LYMAN COUNTY

		EXPRESSWAY / INTERSTATE			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-2	YIELD	1	36"	3.9	3.9
R2-1	SPEED LIMIT 65	3	36" x 48"	12.0	36.0
R2-1	SPEED LIMIT 45	2	36" x 48"	12.0	24.0
R2-1	SPEED LIMIT 80	1	36" x 48"	12.0	12.0
R2-1	SPEED LIMIT ##	1	36" x 48"	12.0	12.0
R2-6aP	FINES DOUBLE (plaque)	1	36" x 24"	6.0	6.0
W3-5	SPEED REDUCTION AHEAD (65 MPH)	2	48" x 48"	16.0	32.0
W3-5	SPEED REDUCTION AHEAD (45 MPH)	1	48" x 48"	16.0	16.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16.0	32.0
W5-4	RAMP NARROWS	1	48" x 48"	16.0	16.0
W8-6	TRUCK CROSSING	1	48" x 48"	16.0	16.0
W8-7	LOOSE GRAVEL	6	48" x 48"	16.0	96.0
W13-1P	ADVISORY SPEED (plaque)	2	30" x 30"	6.3	12.6
W13-4P	ON RAMP (plaque)	1	30" x 30"	6.3	6.3
W20-1	ROAD WORK AHEAD	5	48" x 48"	16.0	80.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
W21-2	FRESH OIL	4	48" x 48"	16.0	64.0
E5-1	EXIT GORE	1	36" x 32"	8.0	8.0
G20-1	ROAD WORK NEXT 9 MILES	1	48" x 24"	8.0	8.0
G20-2	END ROAD WORK	1	48" x 24"	8.0	8.0
SPECIAL	ON SHOULDER (plaque)	4	36" x 30"	7.5	30.0
		EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT			582.8

SD251 – GREGORY COUNTY

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-6	TRUCK CROSSING	2	48" x 48"	16.0	32.0
W8-7	LOOSE GRAVEL	8	48" x 48"	16.0	128.0
W13-1P	ADVISORY SPEED (plaque)	8	30" x 30"	6.3	50.4
W20-1	ROAD WORK AHEAD	3	48" x 48"	16.0	48.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.0
SPECIAL	WAIT FOLLOW PILOT CAR	2	30" x 18"	3.8	7.6
G20-1	ROAD WORK NEXT 16 MILES	2	36" x 18"	4.5	9.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			380.0

I90E – LYMAN COUNTY

		EXPRESSWAY / INTERSTATE			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-2	YIELD	1	36"	3.9	3.9
R2-1	SPEED LIMIT 65	3	36" x 48"	12.0	36.0
R2-1	SPEED LIMIT 45	2	36" x 48"	12.0	24.0
R2-1	SPEED LIMIT 80	1	36" x 48"	12.0	12.0
R2-1	SPEED LIMIT ##	1	36" x 48"	12.0	12.0
R2-6aP	FINES DOUBLE (plaque)	1	36" x 24"	6.0	6.0
W3-5	SPEED REDUCTION AHEAD (65 MPH)	2	48" x 48"	16.0	32.0
W3-5	SPEED REDUCTION AHEAD (45 MPH)	1	48" x 48"	16.0	16.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16.0	32.0
W5-4	RAMP NARROWS	1	48" x 48"	16.0	16.0
W8-6	TRUCK CROSSING	1	48" x 48"	16.0	16.0
W8-7	LOOSE GRAVEL	6	48" x 48"	16.0	96.0
W13-1P	ADVISORY SPEED (plaque)	2	30" x 30"	6.3	12.6
W13-4P	ON RAMP (plaque)	1	30" x 30"	6.3	6.3
W20-1	ROAD WORK AHEAD	5	48" x 48"	16.0	80.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
W21-2	FRESH OIL	4	48" x 48"	16.0	64.0
E5-1	EXIT GORE	1	36" x 32"	8.0	8.0
G20-1	ROAD WORK NEXT 9 MILES	1	48" x 24"	8.0	8.0
G20-2	END ROAD WORK	1	48" x 24"	8.0	8.0
SPECIAL	ON SHOULDER (plaque)	4	36" x 30"	7.5	30.0
		EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT			582.8