

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0021(157)	1	43

Plotting Date: 11/20/2015

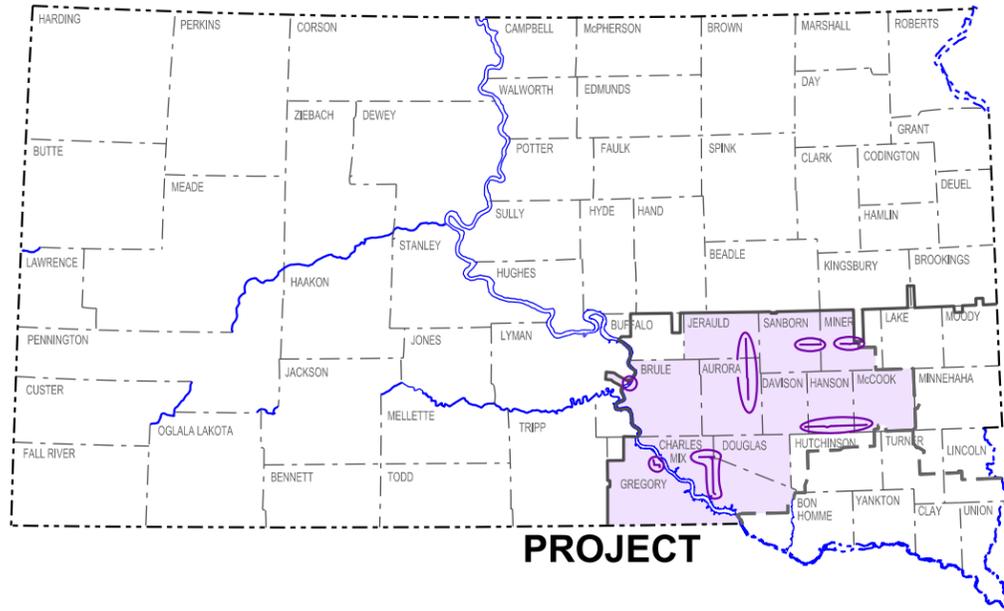
PLANS FOR PROPOSED

PROJECT NH-P 0021(157)
INTERSTATE 90 LOOP,
US HIGHWAY 281,
SD HIGHWAYS 34, 42, 44, 50 & 1806
AURORA, BRULE, CHARLES MIX, DAVISON,
DOUGLAS, GREGORY, HANSON, JERAULD, LYMAN,
McCOOK, MINER & SANBORN COUNTIES
MITCHELL AREA
ASPHALT SURFACE TREATMENT
PCN 053F

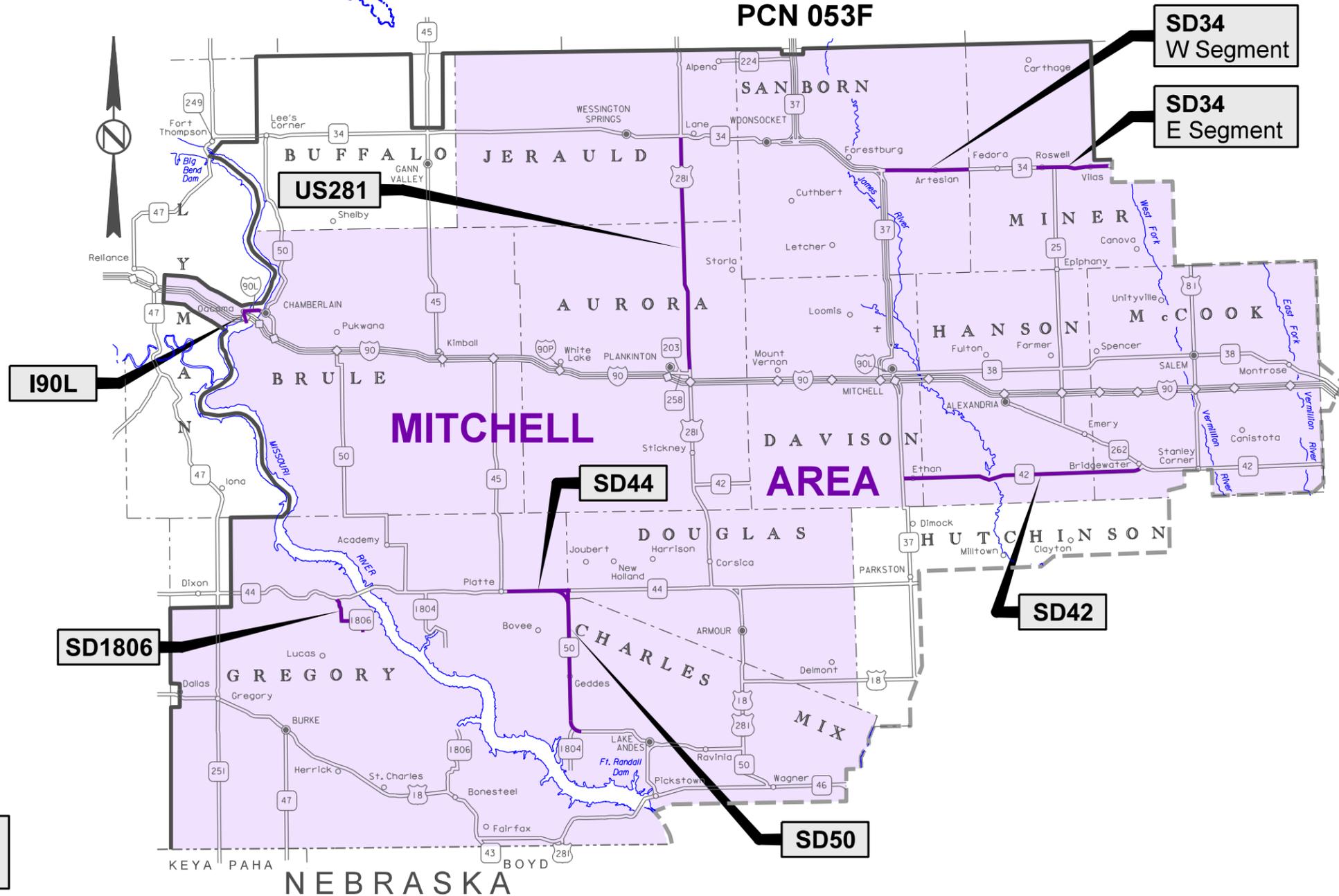
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Sheets 2 - 10	Layout Maps
Sheets 11 & 12	Estimate of Quantities
Sheet 13	Environmental Commitments
Sheets 14 & 15	Rates of Materials
Sheets 16 & 17	Table of Additional Quantities
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Sheets 22 - 30	Pavement Marking
Sheets 31 - 43	Traffic Control

Plot Scale - 1:7000



PROJECT



STORM WATER PERMIT
(None required)

10

Plotted From - frm1nt06

Plot Name - ...12016 Mitl-Area Chip Seal TT053F.dgn

**PROJECT NH-P 0021(157)
SD HIGHWAY 34 (WEST SEGMENT)
SANBORN COUNTY
MITCHELL AREA
ASPHALT SURFACE TREATMENT
LENGTH: 8.843 MILES
PCN 053F**

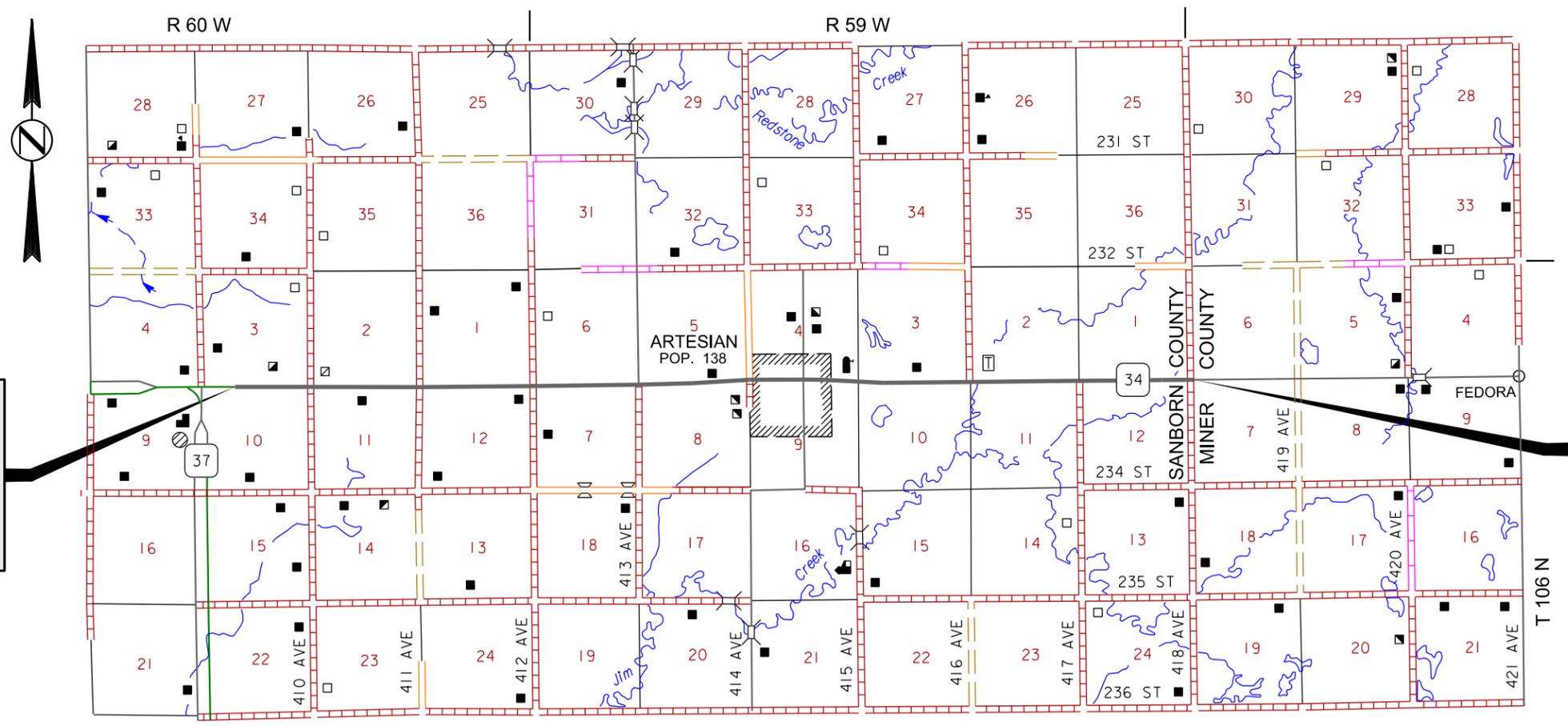
STATE OF SOUTH DAKOTA	PROJECT NH-P 0021(157)	SHEET 2	TOTAL SHEETS 43
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Plotting Date: 11/20/2015

PLOT SCALE - 1:7000

PLOT NAME - 10

FILE - ... \2016 MIT AREA CHIP SEAL TITL053F.DGN



**BEGIN SD34
WEST SEGMENT
STA. 0+00
MRM 341.20 +0.119
MILEAGE 280.762
(At End Concrete)**

**END SD34
WEST SEGMENT
STA. 466+91
MRM 350.00 +0.008
MILEAGE 289.605
(37' W of County Line)**

ADT (2014) 1,142

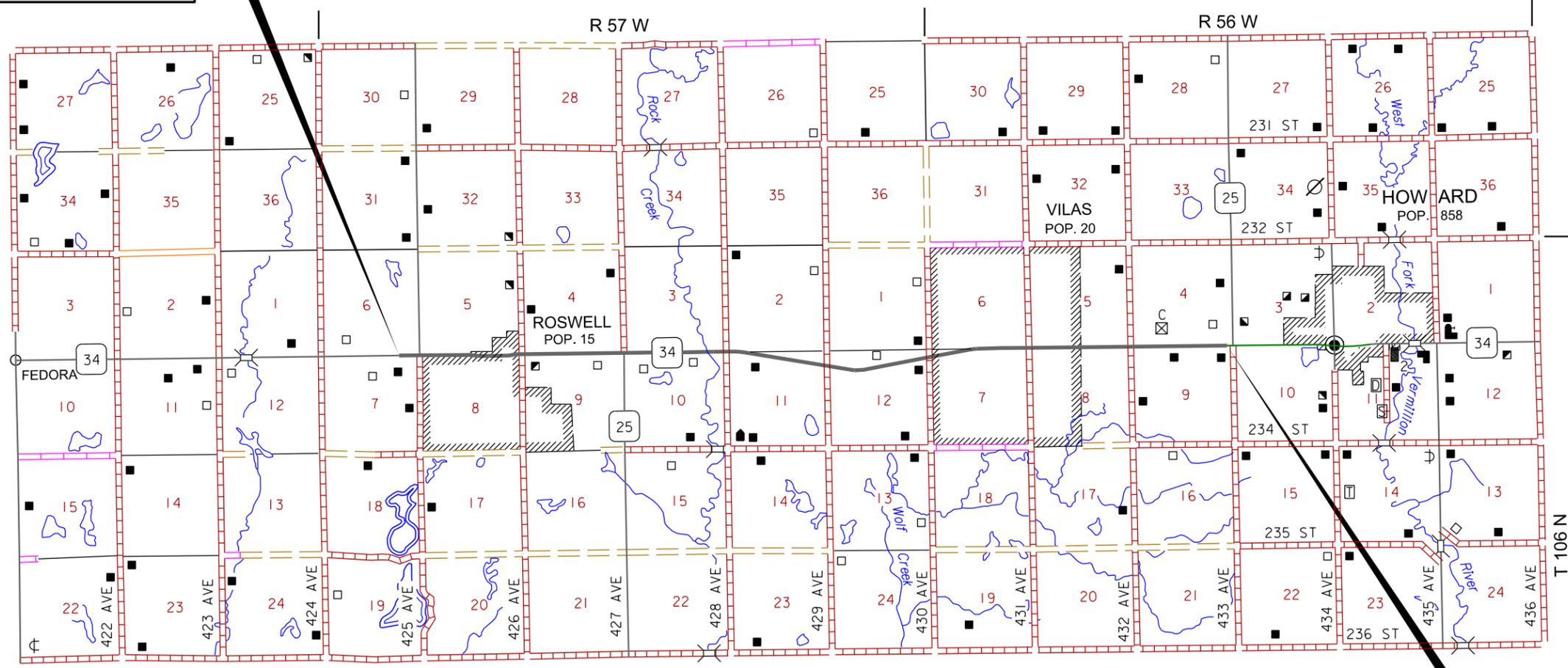
PLOTTED FROM - TRMLINT06

**PROJECT NH-P 0021(157)
SD HIGHWAY 34 (EAST SEGMENT)
MINER COUNTY
MITCHELL AREA
ASPHALT SURFACE TREATMENT
LENGTH: 8.113 MILES
PCN 053F**

STATE OF SOUTH DAKOTA	PROJECT NH-P 0021(157)	SHEET 3	TOTAL SHEETS 43
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Plotting Date: 11/20/2015

**BEGIN SD34
EAST SEGMENT**
STA. 0+00
MRM 356.00 +0.887
MILEAGE 296.467
(0.1 mi W of 425th Ave)



**END SD34
EAST SEGMENT**
STA. 428+37
MRM 364.00 +0.983
MILEAGE 304.580
(At Begin Concrete)

ADT (2014) 1,229

PLOT SCALE - 1:7000

PLOTTED FROM - TRMLINT06

PLOT NAME - 10
FILE - ... \2016 MIT AREA CHIP SEAL TITL053F.DGN

PROJECT NH-P 0021(157)
SD HIGHWAY 42
DAVISON, HANSON & MCCOOK COUNTIES
MITCHELL AREA
ASPHALT SURFACE TREATMENT
GROSS LENGTH: 25.918 MILES
BRIDGE LENGTH: 0.174 MILE
RAILROAD CROSSING LENGTH: 0.002 MILE
NET LENGTH: 25.742 MILES
PCN 053F

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0021(157)	4	43

Plotting Date: 11/20/2015

PLOT SCALE - 1:7000

PLOT NAME - 10

FILE - ... \2016 MIT AREA CHIP SEAL TITL053F.DGN

PLOTTED FROM - TRMLINT06

BEGIN SD42
 STA. 0+00
 MRM 301.85 +0.004
 MILEAGE 5.874
 (At Jct SD37 Concrete)

SD42 continues
 on next sheet

RR CROSSING
 Sta. 44+93
 MRM 302.70
 10'=0.002 Mile

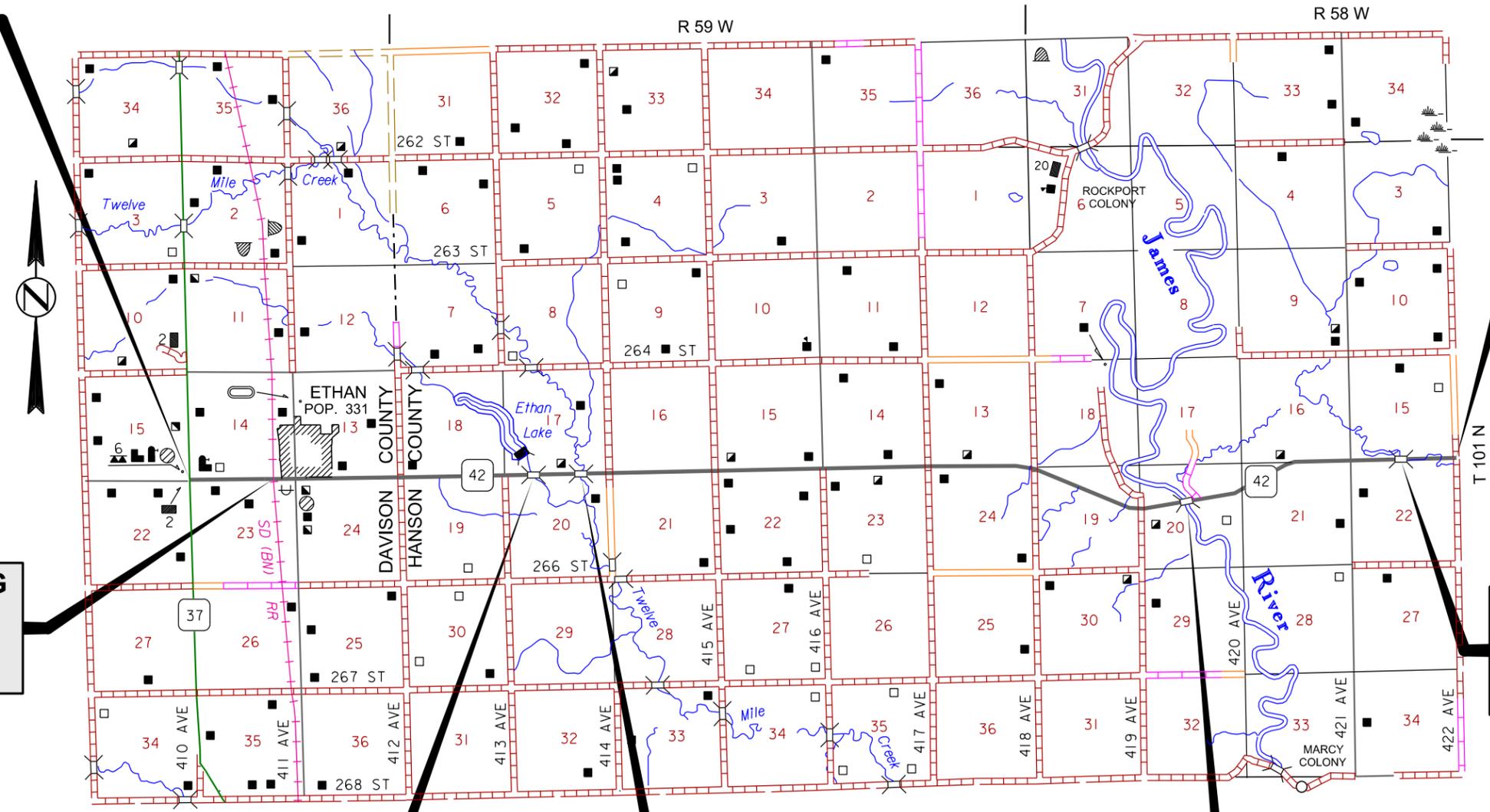
STR. NO. 31-094-210
 Sta. 613+26 to Sta. 614+06
 Continuous Concrete Bridge
 80'-0"=0.015 Mile
 MRM 313.47

STR. NO. 31-013-210
 Sta. 171+17 to Sta. 172+34
 Continuous Concrete Bridge
 117'-0"=0.022 Mile
 MRM 305.12

STR. NO. 31-017-210
 Sta. 195+05 to Sta. 196+10
 Continuous Concrete Bridge
 105'-6"=0.020 Mile
 MRM 305.57

STR. NO. 31-074-214
 Sta. 501+47 to Sta. 504+98
 I Beam Bridge
 351'-6"=0.067 Mile
 MRM 311.40

ADT (2014) 493



**PROJECT NH-P 0021(157)
SD HIGHWAY 42
(CONTINUED FROM PREVIOUS SHEET)
DAVISON, HANSON & McCOOK COUNTIES
MITCHELL AREA
ASPHALT SURFACE TREATMENT
PCN 053F**

STATE OF SOUTH DAKOTA	PROJECT NH-P 0021(157)	SHEET 5	TOTAL SHEETS 43
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Plotting Date: 11/20/2015

PLOT SCALE - 1:7000

PLOT NAME - 10

FILE - ... \2016 MIT AREA CHIP SEAL TITL053F.DGN

PLOTTED FROM - TRMLINT06

END SD42
Sta. 1368+47
MRM 327.50 +0.255
MILEAGE 31.792
(At RR near Jct SD262)

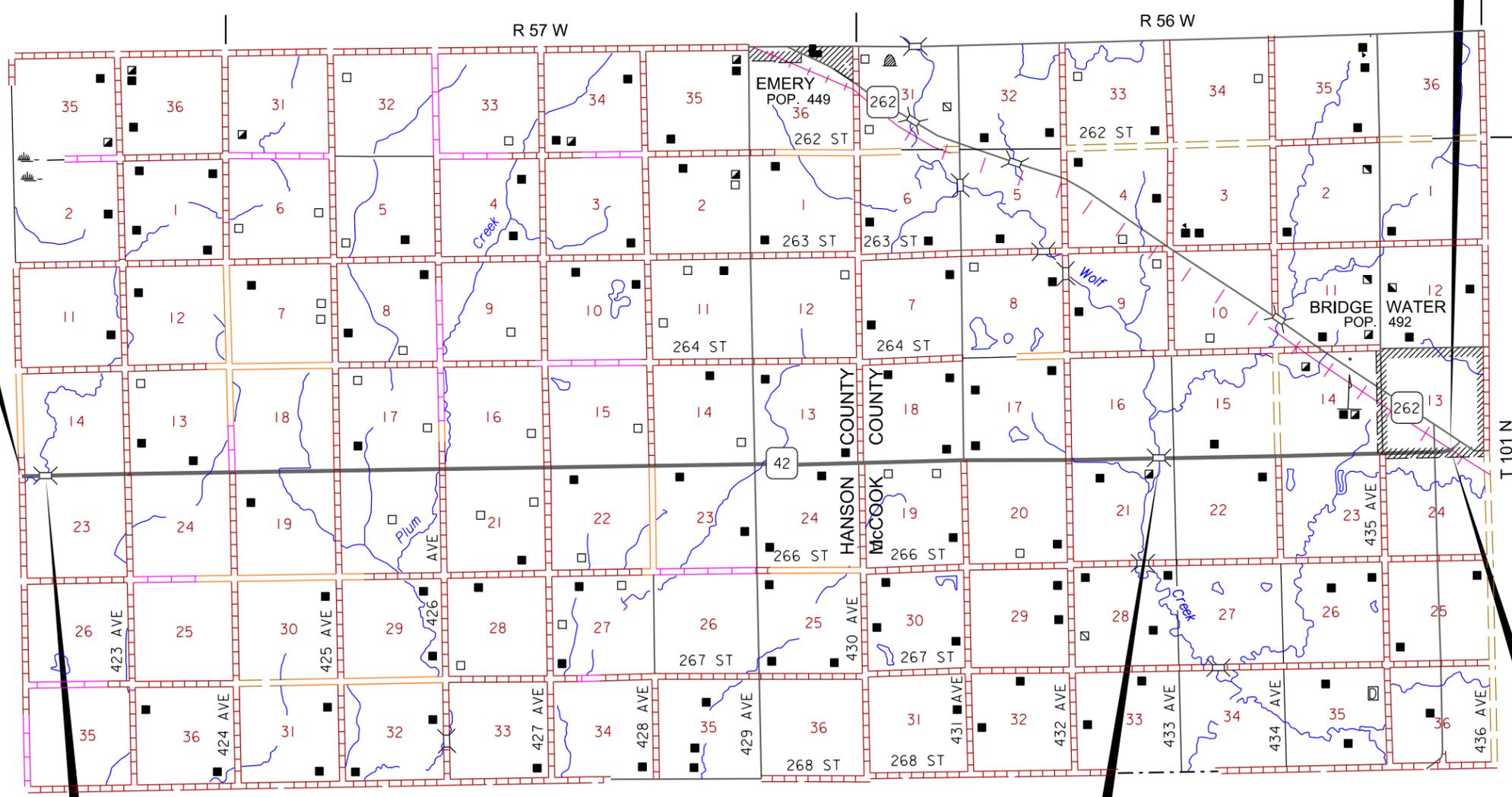
SD42 continues from previous sheet

RR CROSSING
Sta. 1368+52
MRM 327.75

STR. NO. 31-103-210
Sta. 652+44 to Sta. 653+24
Continuous Concrete Bridge
80'-0"=0.015 Mile
MRM 314.21

STR. NO. 44-030-210
Sta. 1214+60 to Sta. 1216+46
Continuous Concrete Bridge
186'-0"=0.035 Mile
MRM 324.88

ADT (2014) 493



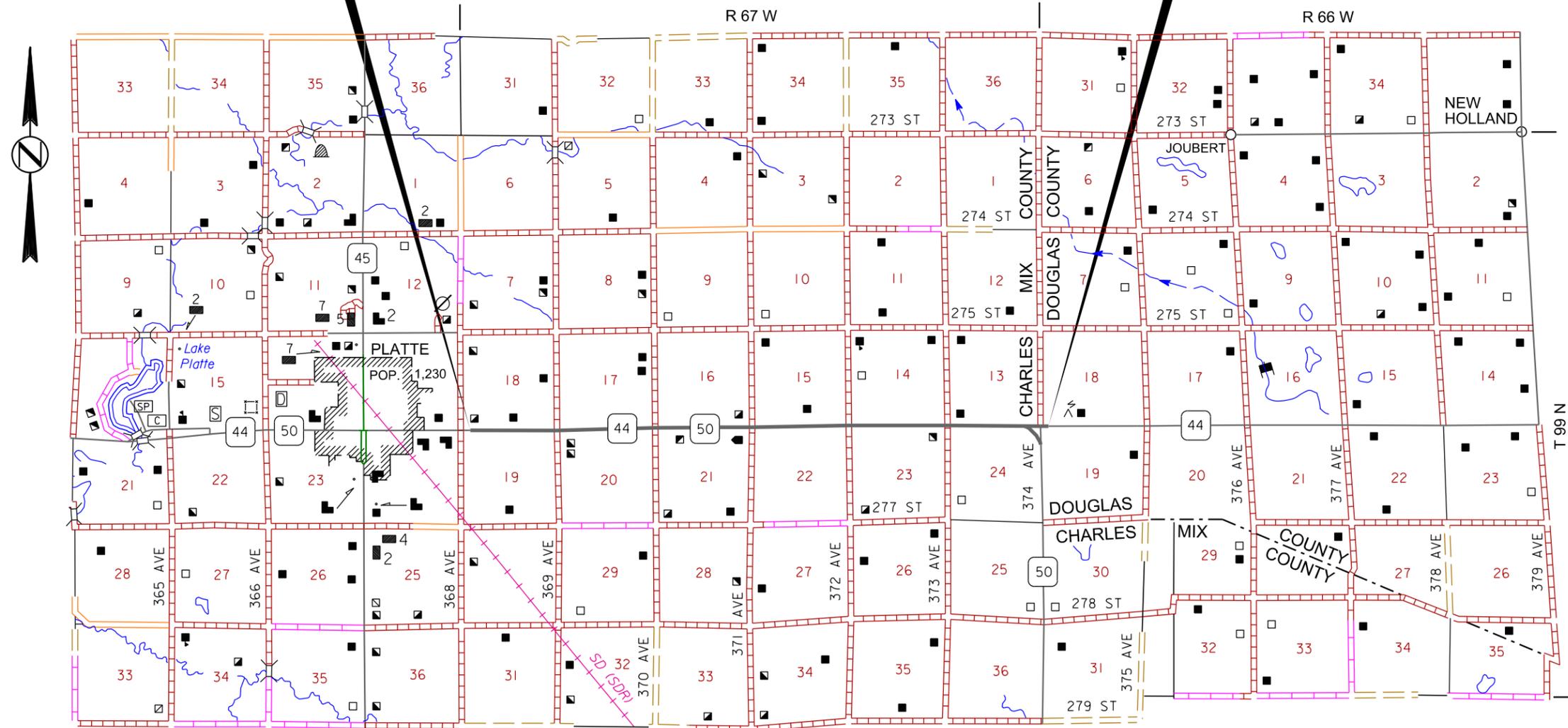
**PROJECT NH-P 0021(157)
SD HIGHWAY 44
CHARLES MIX & DOUGLAS COUNTIES
MITCHELL AREA
ASPHALT SURFACE TREATMENT
LENGTH: 5.899 MILES
PCN 053F**

STATE OF SOUTH DAKOTA	PROJECT NH-P 0021(157)	SHEET 6	TOTAL SHEETS 43
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Plotting Date: 11/20/2015

BEGIN SD44
STA. 0+00
MRM 306.00 +0.917
MILEAGE 253.585
(494' E of Jct 368th Ave)

END SD44
STA. 311+47
MRM 312.00 +0.798
MILEAGE 259.484
(218' E of County Line)



PLOT SCALE - 1:7000

PLOT NAME - 10

FILE - ... \2016 MIT AREA CHIP SEAL TITL053F.DGN

PLOTTED FROM - TRMLINT06

ADT (2014) 1,670

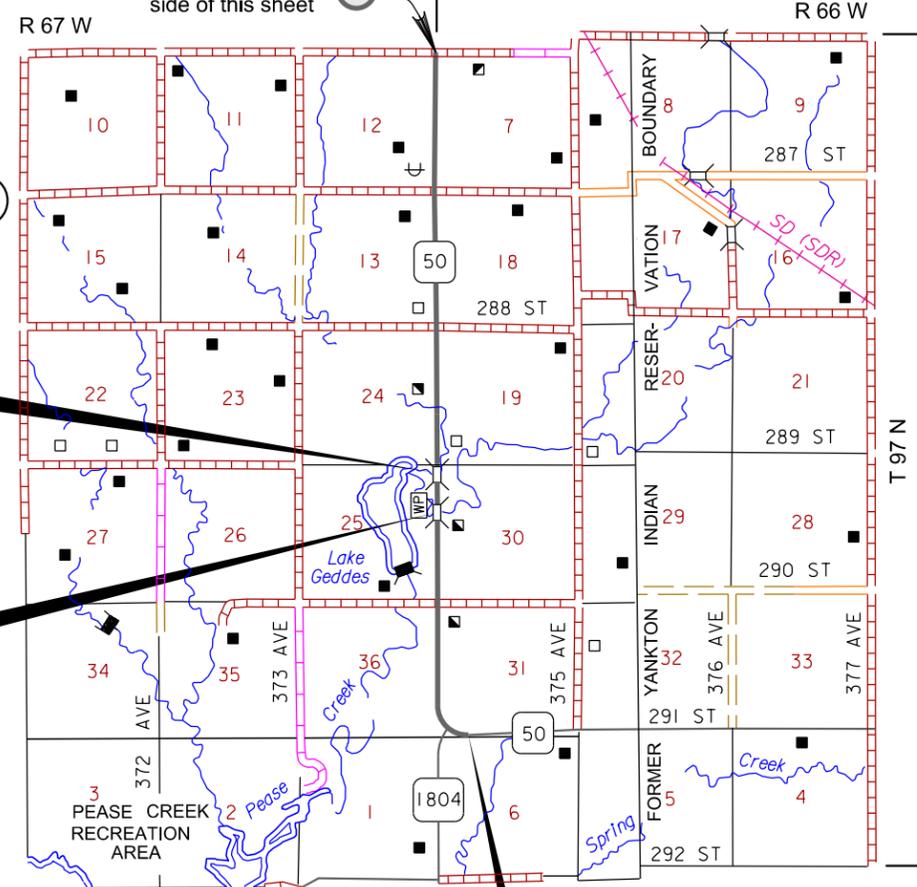
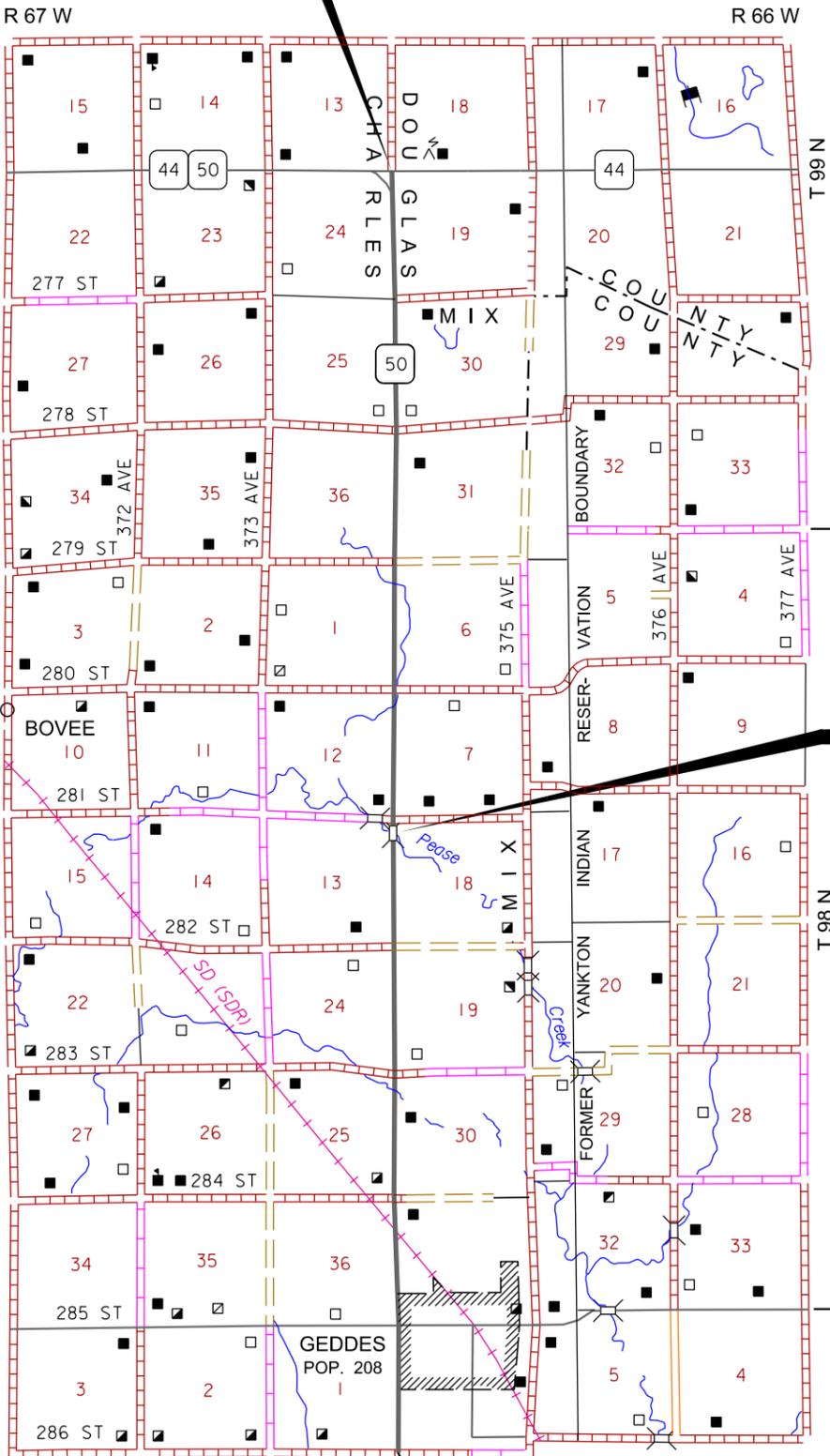
STATE OF SOUTH DAKOTA	PROJECT NH-P 0021(157)	SHEET 7	TOTAL SHEETS 43
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Plotting Date: 11/20/2015

PROJECT NH-P 0021(157)
SD HIGHWAY 50
CHARLES MIX COUNTY
MITCHELL AREA
ASPHALT SURFACE TREATMENT
OF SHOULDERS (FOG SEAL)
GROSS LENGTH: 15.050 MILES
BRIDGE LENGTH: 0.058 MILE
NET LENGTH: 14.992 MILES
PCN 053F

BEGIN SD50
 STA. 0+00
 MRM 290.12 +0.000
 MILEAGE 55.264
 (At E Jct SD44)

See MATCH POINT
 on lower left-hand
 side of this sheet



STR. NO. 12-300-211
 Sta. 683+63 to Sta. 684+30
 Continuous Concrete Bridge
 67'-0"=0.013 Mile
 MRM 303.34

STR. NO. 12-300-132
 Sta. 269+85 to Sta. 270+39
 Continuous Concrete Bridge
 54'-0"=0.010 Mile
 MRM 295.46

STR. NO. 12-300-213
 Sta. 696+54 to Sta. 698+40
 Continuous Concrete Bridge
 186'-0"=0.035 Mile
 MRM 303.58

END SD50
 STA. 794+65
 MRM 305.00 +0.441
 MILEAGE 70.314
 (At End Curve)

ADT (2014) 628

See MATCH POINT
 on upper right-hand
 side of this sheet

PLOT SCALE - 1"=7000'

PLOTTED FROM - TRMLINT06

PLOT NAME - 10

FILE - ... \2016 MIT AREA CHIP SEAL TITL053F.DGN

**PROJECT NH-P 0021(157)
 INTERSTATE 90 LOOP
 LYMAN & BRULE COUNTIES
 MITCHELL AREA
 ASPHALT SURFACE TREATMENT
 LENGTH: 3.231 MILES
 PCN 053F**

STATE OF SOUTH DAKOTA	PROJECT NH-P 0021(157)	SHEET 8	TOTAL SHEETS 43
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Plotting Date: 11/20/2015

PLOT SCALE - 1:7000

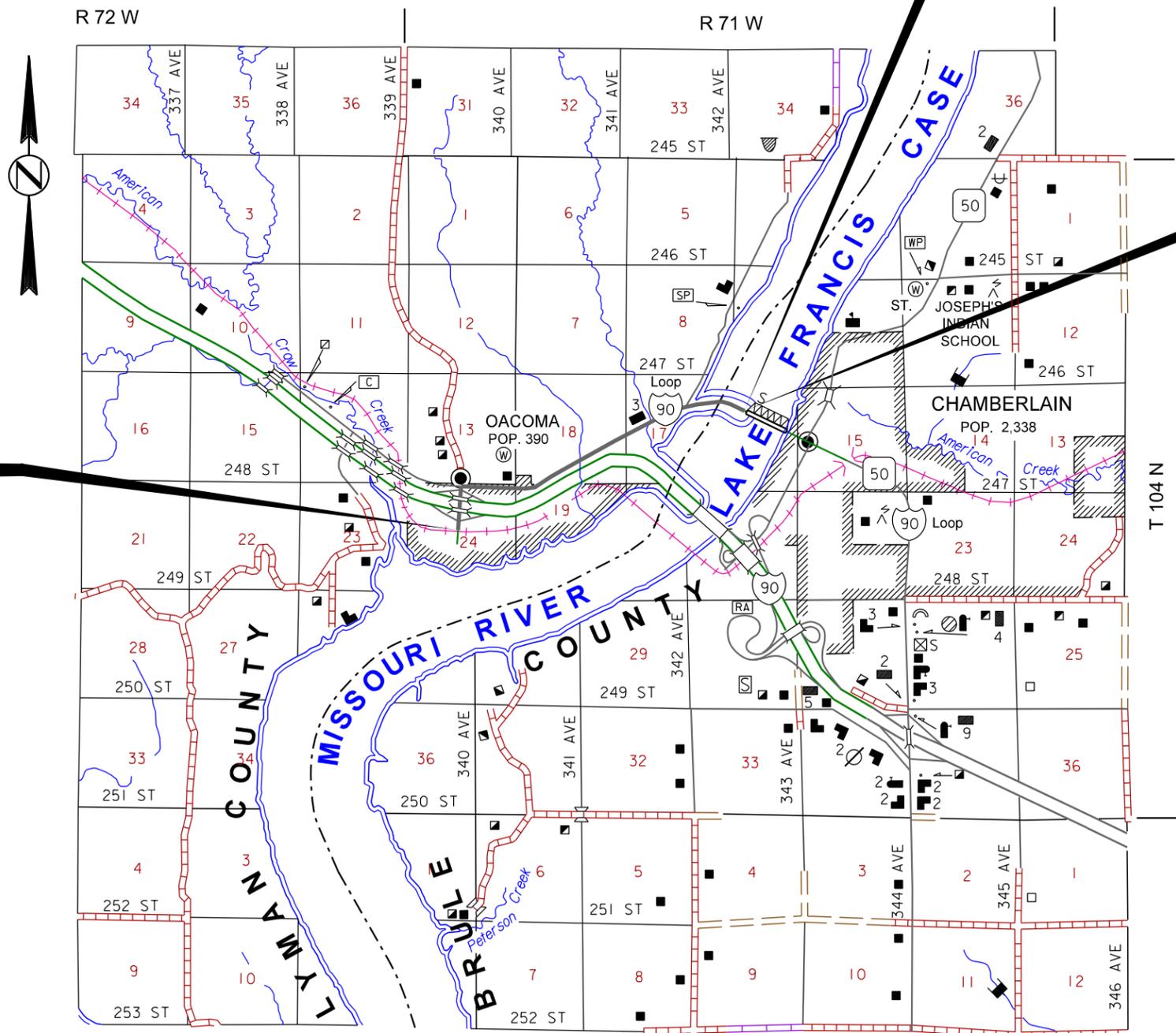
PLOT NAME - 10

FILE - ... \2016 MIT AREA CHIP SEAL TITL053F.DGN

BEGIN I90 LOOP
 STA. 0+00
 1014 Ft South of MRM 260.43
 MILEAGE -0.146
 (At End Concrete just N of
 W 2nd St in Oacoma)

END I90 L
 STA. 167+59
 MRM 263.50 +0.000
 MILEAGE 3.028
BEGIN I90 EL & I90 WL
 MILEAGE 0.000

END I90 EL & I90 WL
 STA. 170+60
 MRM 263.50 +0.057
 MILEAGE 0.057
 (At Concrete Approach
 to Missouri River Bridge)



ADT (2014) 3,278

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0021(157)	9	43

Plotting Date: 11/20/2015

PROJECT NH-P 0021(157)
US HIGHWAY 281
AURORA & JERAULD COUNTIES
MITCHELL AREA
ASPHALT SURFACE TREATMENT
OF SHOULDERS (FOG SEAL)
GROSS LENGTH: 24.669 MILES
BRIDGE LENGTH: 0.051 MILE
NET LENGTH: 24.618 MILES
PCN 053F

END US281
 STA. 1302+50
 MRM 96.16 +0.000
 MILEAGE 61.143
 (At Jct SD34)

STR. NO. 02-180-013
 Sta. 761+23 to Sta. 762+74.5
 Continuous Concrete Bridge
 151'-6"=0.029 Mile
 MRM 85.89

STR. NO. 02-180-06B
 Sta. 446+61 to Sta. 447+79.5
 Steel Girder Bridge
 118'-6"=0.022 Mile
 MRM 79.94

BEGIN US281
 STA. 0+00
 MRM 71.47 +0.035
 MILEAGE 36.474
 (86' N of Jct SD258)

RR CROSSING
 Sta. 0+29
 MRM 71.50

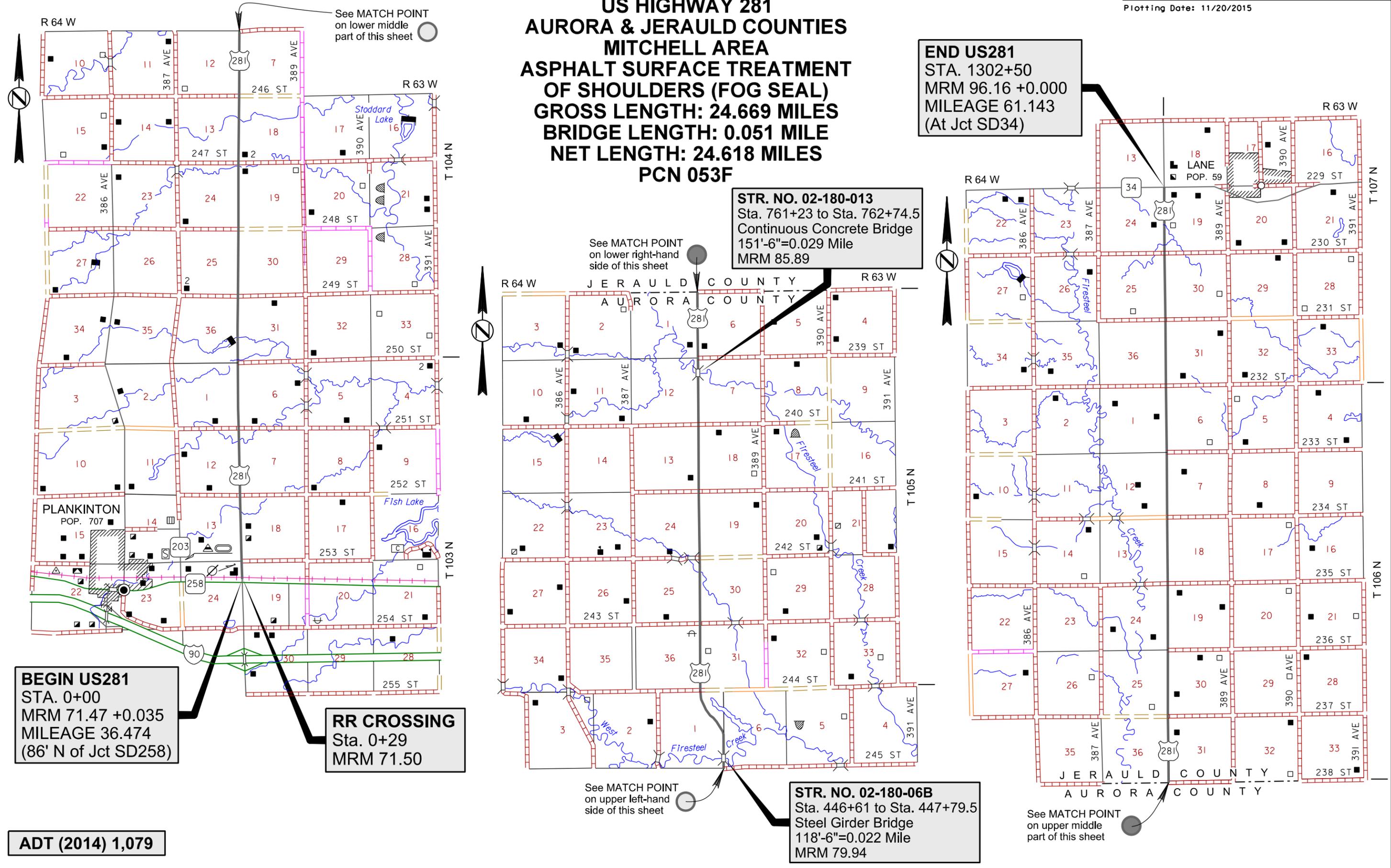
ADT (2014) 1,079

PLOT SCALE - 1:7000

PLOTTED FROM - TRMLINT06

PLOT NAME - 10

FILE - ... \2016 MIT AREA CHIP SEAL TITL053F.DGN



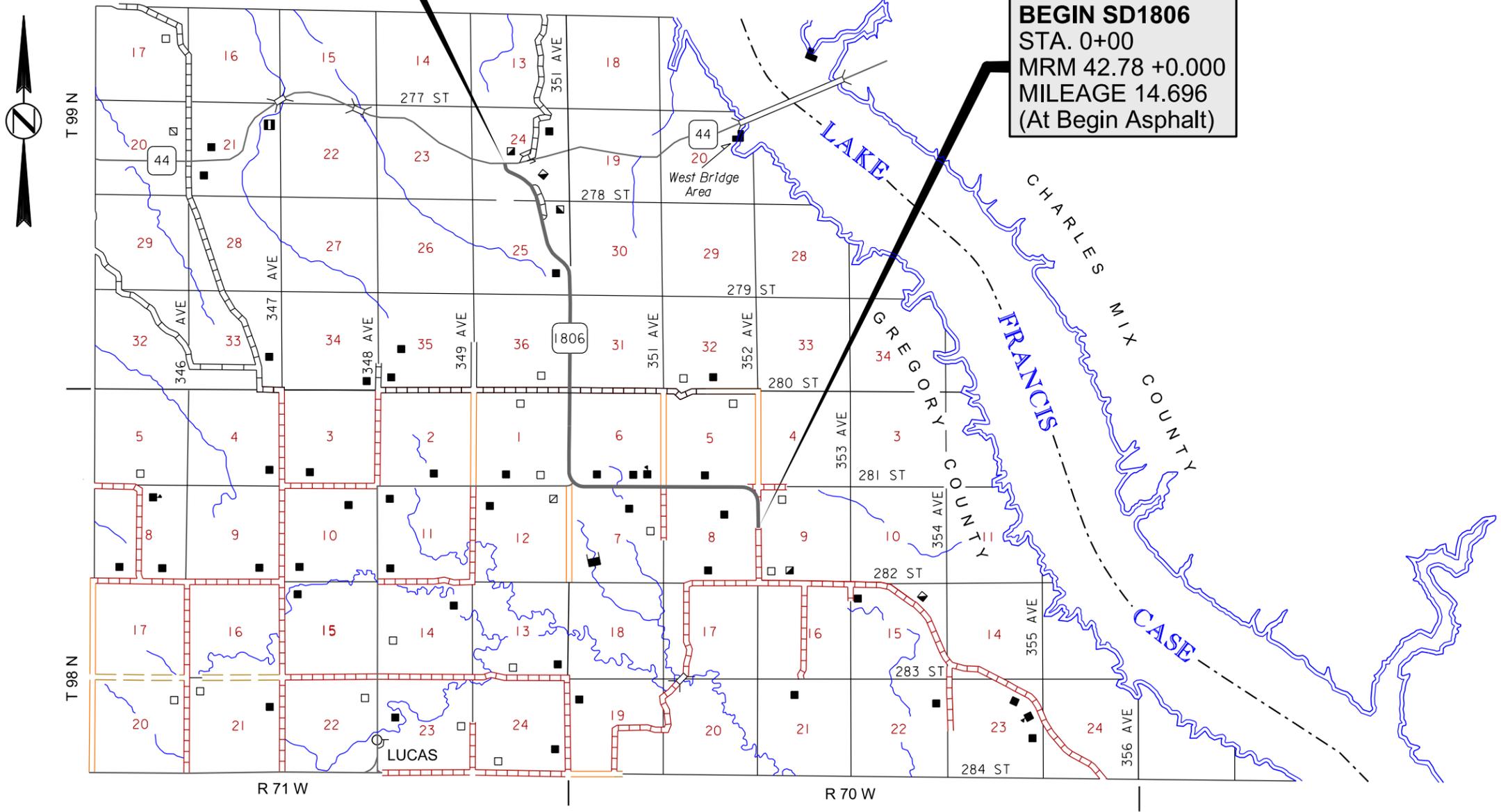
**PROJECT NH-P 0021(157)
SD HIGHWAY 1806
GREGORY COUNTY
MITCHELL AREA
ASPHALT SURFACE TREATMENT
LENGTH: 5.910 MILES
PCN 053F**

STATE OF SOUTH DAKOTA	PROJECT NH-P 0021(157)	SHEET 10	TOTAL SHEETS 43
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Plotting Date: 11/20/2015

END SD1806
STA. 312+05
MRM 48.55 +0.000
MILEAGE 20.606

BEGIN SD1806
STA. 0+00
MRM 42.78 +0.000
MILEAGE 14.696
(At Begin Asphalt)



PLOT SCALE - 1:7000

PLOTTED FROM - TRMLINT06

PLOT NAME - 10
FILE - ... \2016 MIT AREA CHIP SEAL TITL053F.DGN

ADT (2014) 195

ESTIMATE OF QUANTITIES

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0021(157)	11	43

NH-P 0021(157)
(SD 34 W Segment, SD 34 E Segment, SD 42, SD 44, SD 50, I90L, US 281 & SD 1806)
AURORA, BRULE, CHARLES MIX, DAVISON, DOUGLAS, GREGORY, HANSON,
JERAULD, LYMAN, McCOOK, MINER & SANBORN COUNTIES
PCN 053F

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
330E0300	SS-1h or CSS-1h Asphalt for Fog Seal	421.6	Ton
330E3000	Sand for Fog Seal	90.0	Ton
360E0042	CRS-2P Asphalt for Surface Treatment	1,729.2	Ton
360E1040	Type 2B Cover Aggregate	1,650.2	Ton
360E1040	Type 2B Cover Aggregate	1,545.1	Ton
360E1040	Type 2B Cover Aggregate	5,055.7	Ton
360E1040	Type 2B Cover Aggregate	1,426.5	Ton
360E1040	Type 2B Cover Aggregate	894.6	Ton
360E1040	Type 2B Cover Aggregate	987.0	Ton
633E1300	Pavement Marking Paint, White	4,201	Gal
633E1305	Pavement Marking Paint, Yellow	1,110	Gal
633E6040	Pavement Marking Masking, Message	4	Word
633E6045	Pavement Marking Masking, Railroad Crossing	6	Each
634E0010	Flagging	2,885.0	Hour
634E0020	Pilot Car	535.0	Hour
634E0110	Traffic Control Signs	2,955	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0630	Temporary Pavement Marking	115.2	Mile
998E0100	Railroad Protective Insurance	Lump Sum	LS

ESTIMATE OF QUANTITIES (CONTINUED)

BID ITEM	ITEM	SD 34 West Segment Sanborn	SD 34 East Segment Miner	SD 42 Davison, Hutchinson & McCook	SD 44 Charles Mix & Douglas	SD 50 Charles Mix	I 90 L Lyman	US 281 Aurora & Jerauld	SD 1806 Gregory	TOTAL QUANTITY
009E0010	Mobilization	←————— LUMP SUM —————→								Lump Sum
330E0300	SS-1h or CSS-1h Asphalt for Fog Seal	50.1	46.9	153.6	43.4	33.6	27.2	36.9	30.0	421.6 Ton
330E3000	Sand for Fog Seal	10.0	10.0	20.0	10.0	----	30.0	----	10.0	90.0 Ton
360E0042	CRS-2P Asphalt for Surface Treatment	233.8	220.0	777.4	215.3	----	134.9	----	147.8	1,729.2 Ton
360E1040	Type 2B Cover Aggregate SD 34 W	1,650.2	----	----	----	----	----	----	----	1,650.2 Ton
360E1040	Type 2B Cover Aggregate SD 34 E	----	1,545.1	----	----	----	----	----	----	1,545.1 Ton
360E1040	Type 2B Cover Aggregate SD 42	----	----	5,055.7	----	----	----	----	----	5,055.7 Ton
360E1040	Type 2B Cover Aggregate SD 44	----	----	----	1,426.5	----	----	----	----	1,426.5 Ton
360E1040	Type 2B Cover Aggregate I 90 L	----	----	----	----	----	894.6	----	----	894.6 Ton
360E1040	Type 2B Cover Aggregate SD 1806	----	----	----	----	----	----	----	987.0	987.0 Ton
633E1300	Pavement Marking Paint, White	393	358	1,201	263	506	130	823	527	4,201 Gal
633E1305	Pavement Marking Paint, Yellow	66	79	355	61	152	138	174	85	1,110 Gal
633E6040	Pavement Marking Masking, Message	----	----	4	----	---	----	----	----	4 Word
633E6045	Pavement Marking Masking, Railroad Crossing	----	----	6	----	---	----	----	----	6 Each
634E0010	Flagging	340	310	950	220	180	360	295	230	2,885 Hour
634E0020	Pilot Car	65	55	155	40	45	60	75	40	535 Hour
634E0110	Traffic Control Signs	310	344	574	300	334	373	420	300	2,955 SqFt
634E0120	Traffic Control, Miscellaneous	←————— LUMP SUM —————→								Lump Sum
634E0630	Temporary Pavement Marking	17.6	16.2	51.4	11.8	----	6.4	----	11.8	115.2 Mile
998E0100	Railroad Protective Insurance	----	----	Lump Sum	----	----	----	Lump Sum	----	Lump Sum

ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0021(157)	13	43

ENVIRONMENTAL COMMITMENTS

An Environmental Commitment is a measure that SDDOT commits to implement in order to avoid, minimize, and/or mitigate a real or potential environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency mentioned below with permitting authority can influence a project if perceived 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. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office. The environmental commitments associated with this project are as follows:

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 pit, or staging site associated with the project, cease construction activities in the affected area until the Whooping Crane departs and contact the Project Engineer. The Project Engineer will contact the Environmental Office so that the sighting can be reported to USFWS.

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 shall 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 State ROW.

The waste disposal site(s) shall 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 Environment and Natural Resources.

The waste disposal site(s) shall 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 Project Engineer.

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

1. Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials shall be buried in a trench completely separate from wood debris. The final cover over the construction and/or demolition debris shall consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the State ROW shall be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor shall control the access to waste disposal sites not within the State ROW through the use of 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 of time not to exceed the duration of the project. Prior to project completion, the waste shall be removed from view of the ROW or buried and the waste disposal site reclaimed as noted above.

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) shall be incidental to the various contract items.

COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historical 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 review of cultural resources impacts. 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 shall arrange and pay for a cultural resource survey and/or records search. 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; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor shall provide ARC with the following: a topographical map or aerial view on which the proposed 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 shall submit the records search or cultural resources survey report and if the location of the site is within the current geographical or historic boundaries of any South Dakota reservation to SDDOT Environmental Engineer, 700 East Broadway Avenue, Pierre, SD 57501-2586 (605-773-3180). 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.

If evidence for historic or cultural resources is uncovered during project construction activities, then such activities shall cease and the Project Engineer shall be immediately notified. The Project Engineer will contact the SDDOT Environmental Engineer in order 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 shall provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

RATES OF MATERIALS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0021(157)	14	43

The Estimate of Quantities is based on the following quantities of materials per mile.

SD34 West Segment	0+00 to 466+91	8.843 miles
CRS-2P Asphalt for Surface Treatment at the rate of 26.18 tons applied 30 feet wide (Rate = 0.35 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 184.80 tons applied 30 feet wide (Rate = 21 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 5.61 tons applied 30 feet wide (Rate = 0.075 gallon per square yard).		

SD34 East Segment	0+00 to 428+37	8.113 miles
Mainline		
CRS-2P Asphalt for Surface Treatment at the rate of 26.18 tons applied 30 feet wide (Rate = 0.35 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 184.80 tons applied 30 feet wide (Rate = 21 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 5.61 tons applied 30 feet wide (Rate = 0.075 gallon per square yard).		
Shoulders	167+19 to 179+40	0.231 miles
	226+48 to 240+49	<u>0.265 miles</u>
		0.496 miles
CRS-2P Asphalt for Surface Treatment at the rate of 8.18 tons applied 8 feet wide (4 feet each shoulder) (Rate = 0.41 gallon per square yard).		
Type B Cover Aggregate at the rate of 49.28 tons applied 8 feet wide (4 feet each shoulder) (Rate = 21 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 1.50 tons applied 8 feet wide (4 feet each shoulder) (Rate = 0.075 gallon per square yard).		
Shoulders	288+42 Lt to 303+01 Lt	0.276 miles
	288+42 Rt to 304+52 Rt	<u>0.305 miles</u>
		0.581 miles
CRS-2P Asphalt for Surface Treatment at the rate of 4.09 tons applied 4 feet wide (Rate = 0.41 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 24.64 tons applied 4 feet wide (Rate = 21 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 0.75 tons applied 4 feet wide (Rate = 0.075 gallon per square yard).		

SD34 East Segment (Continued)	427+67 to 428+37	0.013 miles
Shoulders		
CRS-2P Asphalt for Surface Treatment at the rate of 10.22 tons applied 10 feet wide (5 feet each shoulder) (Rate = 0.41 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 61.60 tons applied 10 feet wide (5 feet each shoulder) (Rate = 21 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 1.87 tons applied 10 feet wide (5 feet each shoulder) (Rate = 0.075 gallons per square yard).		

SD42	0+00 to 44+88	0.850 miles
Mainline	44+98 to 171+17	2.390 miles
	172+34 to 195+05	0.430 miles
	196+10 to 501+47	5.783 miles
	504+98 to 613+26	2.051 miles
	614+06 to 652+44	0.727 miles
	653+24 to 1214+60	10.632 miles
	1216+46 to 1368+47	<u>2.879 miles</u>
		25.742 miles
CRS-2P Asphalt for Surface Treatment at the rate of 22.14 tons applied 24 feet wide (Rate = 0.37 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 147.84 tons applied 24 feet wide (Rate = 21 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 4.49 tons applied 24 feet wide (Rate = 0.075 gallons per square yard).		
Shoulders	53+00 to 54+90 Lt	0.036 miles
CRS-2P Asphalt for Surface Treatment at the rate of 8.18 tons applied 8 feet wide (left shoulder) (Rate = 0.41 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 49.28 tons applied 8 feet wide (left shoulder) (Rate = 21 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 1.50 tons applied 8 feet wide (left shoulder) (Rate = 0.075 gallons per square yard).		
Shoulders	54+90 to 58+37	0.066 miles
CRS-2P Asphalt for Surface Treatment at the rate of 12.27 tons applied 12 feet wide (8 feet left shoulder and 4 feet right shoulder) (Rate = 0.41 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 73.92 tons applied 12 feet wide (8 feet left shoulder and 4 feet right shoulder) (Rate = 21 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 2.24 tons applied 12 feet wide (8 feet left shoulder and 4 feet right shoulder) (Rate = 0.075 gallons per square yard).		

SD42 (Continued)	58+37 to 171+17	2.136 miles
Shoulders	172+34 to 195+05	0.430 miles
	196+10 to 501+47	5.783 miles
	504+98 to 613+26	2.051 miles
	614+06 to 652+44	0.727 miles
	653+24 to 1214+60	10.632 miles
	1216+46 to 1361+50	<u>2.747 miles</u>
		24.506 miles
CRS-2P Asphalt for Surface Treatment at the rate of 8.18 tons applied 8 feet wide (4 feet each shoulder) (Rate = 0.41 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 49.28 tons applied 8 feet wide (4 feet each shoulder) (Rate = 21 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 1.50 tons applied 8 feet wide (4 feet each shoulder) (Rate = 0.075 gallons per square yard).		
Shoulders	1361+50 to 1368+47	0.132 miles
CRS-2P Asphalt for Surface Treatment at the rate of 10.22 tons applied 10 feet wide (5 feet each shoulder) (Rate = 0.41 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 61.60 tons applied 10 feet wide (5 feet each shoulder) (Rate = 21 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 1.87 tons applied 10 feet wide (5 feet each shoulder) (Rate = 0.075 gallons per square yard).		

SD44	0+00 to 311+47	5.899 miles
Mainline		
CRS-2P Asphalt for Surface Treatment at the rate of 20.94 tons applied 24 feet wide (Rate = 0.35 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 147.84 tons applied 24 feet wide (Rate = 21 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 4.49 tons applied 24 feet wide (Rate = 0.075 gallons per square yard).		
Shoulders	0+00 to 311+47	5.899 miles
CRS-2P Asphalt for Surface Treatment at the rate of 15.33 tons applied 15 feet wide (7.5 feet each shoulder) (Rate = 0.41 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 92.40 tons applied 15 feet wide (7.5 feet each shoulder) (Rate = 21 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 2.81 tons applied 15 feet wide (7.5 feet each shoulder) (Rate = 0.075 gallons per square yard).		

RATES OF MATERIALS (CONTINUED)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0021(157)	15	43

SD50		
Shoulders	0+00 to 269+85	5.111 miles
	270+39 to 683+63	7.826 miles
	684+30 to 696+54	0.232 miles
	698+40 to 794+65	<u>1.823 miles</u>
		14.992 miles
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 2.24 tons applied 12 feet wide (6 feet each shoulder) (Rate = 0.075 gallons per square yard).		

I90L		
Mainline	0+00 to 170+60	3.231 miles
CRS-2P Asphalt for Surface Treatment at the rate of 20.35 tons applied 24 feet wide (Rate = 0.34 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 147.84 tons applied 24 feet wide (Rate = 21 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 4.49 tons applied 24 feet wide (Rate = 0.075 gallons per square yard).		
Shoulders	3+72 to 8+22	0.085 miles
CRS-2P Asphalt for Surface Treatment at the rate of 20.44 tons applied 20 feet wide (10 feet each shoulder) (Rate = 0.41 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 123.20 tons applied 20 feet wide (10 feet each shoulder) (Rate = 21 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 3.74 tons applied 20 feet wide (10 feet each shoulder) (Rate = 0.075 gallons per square yard).		
Shoulders	8+22 to 9+75	0.029 miles
	11+25 to 13+82	<u>0.049 miles</u>
		0.078 miles
CRS-2P Asphalt for Surface Treatment at the rate of 22.49 tons applied 22 feet wide (11 feet each shoulder) (Rate = 0.41 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 135.52 tons applied 22 feet wide (11 feet each shoulder) (Rate = 21 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 4.11 tons applied 22 feet wide (11 feet each shoulder) (Rate = 0.075 gallons per square yard).		
Shoulders	9+75 to 11+25	0.028 miles
CRS-2P Asphalt for Surface Treatment at the rate of 30.67 tons applied 30 feet wide (15 feet each shoulder) (Rate = 0.41 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 184.80 tons applied 30 feet wide (15 feet each shoulder) (Rate = 21 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 5.61 tons applied 30 feet wide (15 feet each shoulder) (Rate = 0.075 gallons per square yard).		

I90L (Continued)		
Shoulders	13+82 to 15+68	0.035 miles
CRS-2P Asphalt for Surface Treatment at the rate of 16.36 tons applied 16 feet wide (10 feet left shoulder and 6 feet right shoulder) (Rate = 0.41 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 98.56 tons applied 16 feet wide (10 feet left shoulder and 6 feet right shoulder) (Rate = 21 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 2.99 tons applied 16 feet wide (10 feet left shoulder and 6 feet right shoulder) (Rate = 0.075 gallons per square yard).		
Turn Lane	13+82 to 15+68	0.035 miles
CRS-2P Asphalt for Surface Treatment at the rate of 12.27 tons applied 12 feet wide (Rate = 0.41 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 73.92 tons applied 12 feet wide (Rate = 21 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 2.24 tons applied 12 feet wide (Rate = 0.075 gallons per square yard).		
Center Turn Lane	15+68 to 59+39	0.828 miles
CRS-2P Asphalt for Surface Treatment at the rate of 12.27 tons applied 12 feet wide (Rate = 0.41 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 73.92 tons applied 12 feet wide (Rate = 21 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 2.24 tons applied 12 feet wide (Rate = 0.075 gallons per square yard).		
Shoulders	15+68 to 61+71	0.872 miles
CRS-2P Asphalt for Surface Treatment at the rate of 12.27 tons applied 12 feet wide (6 feet each shoulder) (Rate = 0.41 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 73.92 tons applied 12 feet wide (6 feet each shoulder) (Rate = 21 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 2.24 tons applied 12 feet wide (6 feet each shoulder) (Rate = 0.075 gallons per square yard).		
Shoulders	61+71 to 128+02	1.256 miles
CRS-2P Asphalt for Surface Treatment at the rate of 19.42 tons applied 19 feet wide (9.5 feet each shoulder) (Rate = 0.41 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 117.04 tons applied 19 feet wide (9.5 feet each shoulder) (Rate = 21 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 3.55 tons applied 19 feet wide (9.5 feet each shoulder) (Rate = 0.075 gallons per square yard).		

I90L (Continued)		
Shoulders	128+02 to 136+35	0.158 miles
CRS-2P Asphalt for Surface Treatment at the rate of 7.16 tons applied 7 feet wide (3.5 feet each shoulder) (Rate = 0.41 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 43.12 tons applied 7 feet wide (3.5 feet each shoulder) (Rate = 21 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 1.31 tons applied 7 feet wide (3.5 feet each shoulder) (Rate = 0.075 gallons per square yard).		
Shoulders	136+35 to 168+05	0.600 miles
CRS-2P Asphalt for Surface Treatment at the rate of 18.40 tons applied 18 feet wide (9 feet each shoulder) (Rate = 0.41 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 110.88 tons applied 18 feet wide (9 feet each shoulder) (Rate = 21 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 3.37 tons applied 18 feet wide (9 feet each shoulder) (Rate = 0.075 gallons per square yard).		
Shoulders	168+05 to 170+60	0.048 miles
CRS-2P Asphalt for Surface Treatment at the rate of 14.31 tons applied 14 feet wide (6 feet left shoulder and 8 feet right shoulder) (Rate = 0.41 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 86.24 tons applied 14 feet wide (6 feet left shoulder and 8 feet right shoulder) (Rate = 21 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 2.62 tons applied 14 feet wide (6 feet left shoulder and 8 feet right shoulder) (Rate = 0.075 gallons per square yard).		

US281		
Shoulders	0+00 to 446+61	8.459 miles
	447+80 to 761+23	5.936 miles
	762+75 to 1302+50	<u>10.223 miles</u>
		24.618 miles
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 1.50 tons applied 8 feet wide (4 feet each shoulder) (Rate = 0.075 gallons per square yard).		

SD1806		
Shoulders	0+00 to 312+05	5.910 miles
CRS-2P Asphalt for Surface Treatment at the rate of 24.91 tons applied 27 feet wide (Rate = 0.37 gallon per square yard).		
Type 2B Cover Aggregate at the rate of 166.32 tons applied 27 feet wide (Rate = 21 pounds per square yard).		
SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 5.05 tons applied 27 feet wide (Rate = 0.075 gallons per square yard).		

TABLE OF ADDITIONAL QUANTITIES

LOCATION	CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPHALT FOR FOG SEAL TON
SD34 West Segment			
Sta. 0+00 to 3+81 L Gore Area – 5.9' to 0' Rates = 0.35 gal, 21 lb & 0.075 gal/SqYd	123 SqYd	0.18	1.29
Sta. 0+00 to 3+81 L Transition from 4-lane to 2-lane Rates = 0.35 gal, 21 lb & 0.075 gal/SqYd	95 SqYd	0.14	1.00
Sta. 202+46 L Intersecting Road & Radii – 413 Ave Rates = 0.35 gal, 21 lb & 0.075 gal/SqYd	211 SqYd	0.31	2.22
Sta. 273+77 R Intersecting Street & Radii – Second St (Artesian) Rates = 0.35 gal, 21 lb & 0.075 gal/SqYd	224 SqYd	0.33	2.35
Sta. 273+77 L Intersecting Street & Radii – Second St (Artesian) Rates = 0.35 gal, 21 lb & 0.075 gal/SqYd	215 SqYd	0.32	2.26
Sta. 281+17 R Intersecting Street & Radii – Main St (Artesian) Rates = 0.35 gal, 21 lb & 0.075 gal/SqYd	426 SqYd	0.63	4.47
Sta. 281+17 L Intersecting Street & Radii – Main St (Artesian) Rates = 0.35 gal, 21 lb & 0.075 gal/SqYd	226 SqYd	0.34	2.37
SD34 West Segment Totals	2.25	15.96	0.49

SD34 East Segment			
Sta. 5+21 L Intersecting Road & Radii – 425 Ave Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	291 SqYd	0.51	3.06
Sta. 111+23 R Intersecting Road & Radii – SD25 Jct Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	304 SqYd	0.53	3.19
SD34 East Segment Totals	1.04	6.25	0.19

LOCATION	CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPHALT FOR FOG SEAL TON
SD42			
Sta. 0+00 R Radius – Jct SD37 Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	79 SqYd	0.14	0.83
Sta. 0+00 L Radius – Jct SD 37 Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	86 SqYd	0.15	0.90
Sta. 52+75 R Intersecting Road & Radii – 411 Ave Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	269 SqYd	0.47	2.82
Sta. 52+75 L Intersecting Road & Radii – 411 Ave Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	402 SqYd	0.70	4.22
Sta. 53+00 to 54+90 R Shoulder Transition from 0' to 4' Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	42 SqYd	0.07	0.44
Sta. 58+37 to 59+16 L Shoulder Transition from 8' to 4' Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	18 SqYd	0.03	0.19
Sta. 67+37 L Intersecting Street & Radii – 6 th St (Ethan) Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	187 SqYd	0.33	1.96
Sta. 316+38 L Intersecting Road & Radii – 416 Ave Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	165 SqYd	0.29	1.73
Sta. 590+09 R Intersecting Road & Radii – 421 Ave Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	228 SqYd	0.40	2.39
Sta. 590+09 L Intersecting Road & Radii – 421 Ave (Alexandria Road) Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	319 SqYd	0.56	3.35
Sta. 1012+44 L Intersecting Road & Radii – 429 Ave (Emery Road) Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	305 SqYd	0.53	3.20
Sta. 1012+44 R Intersecting Road & Radii – 429 Ave Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	189 SqYd	0.33	1.98

LOCATION	CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPHALT FOR FOG SEAL TON
SD42 (Continued)			
Sta. 1116+94 L Radii – 431 Ave Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	85 SqYd	0.15	0.89
Sta. 1328+34 Lt Radii – 435 Ave (Bridgewater Road) Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	36 SqYd	0.06	0.38
Sta. 1355+01 L Intersecting Road & Radii – Walnut Ave (Bridgewater) Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	104 SqYd	0.18	1.09
Sta. 1355+01 R Intersecting Road & Radii – BH20 Rd Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	113 SqYd	0.20	1.19
SD42 Totals	4.59	27.56	0.85

SD44			
Sta. 294+43 to 298+01 R One-Way Curve (Partial) Rates = 0.35 gal, 21 lb & 0.075 gal/SqYd	743 SqYd	1.11	7.80
Sta. 309+29 R Intersecting Road & Radii – SD25 Jct Rates = 0.35 gal, 21 lb & 0.075 gal/SqYd	141 SqYd	0.21	1.48
SD44 Totals	1.32	9.28	0.28

SD50			
None			
SD50 Totals	0.00	0.00	0.00

TABLE OF ADDITIONAL QUANTITIES (CONTINUED)

LOCATION	CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1H ASPHALT FOR FOG SEAL TON
<u>I90L</u>			
Sta. 8+22 to 9+75 L Shoulder Transition from 11' to 15' Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	34 SqYd 0.06	0.36	0.01
Sta. 8+22 to 9+75 R Shoulder Transition from 11' to 15' Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	34 SqYd 0.06	0.36	0.01
Sta. 11+25 to 12+86 L Shoulder Transition from 15' to 11' Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	36 SqYd 0.06	0.38	0.01
Sta. 11+25 to 12+86 R Shoulder Transition from 15' to 11' Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	36 SqYd 0.06	0.38	0.01
Sta. 12+86 to 13+82 L Shoulder Transition from 11' to 14' Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	16 SqYd 0.03	0.17	0.01
Sta. 12+86 to 13+82 R Shoulder Transition from 11' to 14' Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	16 SqYd 0.03	0.17	0.01
Sta. 14+42 to 15+68 R One-Way Curve Rates = 0.34 gal, 21 lb & 0.075 gal/SqYd	206 SqYd 0.30	2.16	0.07
Sta. 17+21 L Commercial Entrance Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	130 SqYd 0.23	1.37	0.04
Sta. 18+33 L Commercial Entrance Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	130 SqYd 0.23	1.37	0.04
Sta. 19+19 L Commercial Entrance Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	144 SqYd 0.25	1.51	0.05
Sta. 26+98 L Commercial Entrance Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	59 SqYd 0.10	0.62	0.02
Sta. 27+54 R Commercial Entrance Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	130 SqYd 0.23	1.37	0.04
Sta. 29+29 L Commercial Entrance Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	88 SqYd 0.15	0.92	0.03

LOCATION	CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPHALT FOR FOG SEAL TON
<u>I90L (Continued)</u>			
Sta. 38+82 L Commercial Entrance Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	70 SqYd 0.12	0.74	0.02
Sta. 48+33 R Commercial Entrance Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	69 SqYd 0.12	0.72	0.02
Sta. 51+73 R Commercial Entrance Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	69 SqYd 0.12	0.72	0.02
Sta. 59+39 to 61+71 Transition from Center Turn Lane to 2-Lane - 12' to 0' Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	155 SqYd 0.27	1.63	0.05
Sta. 59+39 to 61+71 L Shoulder Transition from 6' to 9.5' Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	45 SqYd 0.08	0.47	0.01
Sta. 59+39 to 61+71 R Shoulder Transition from 6' to 9.5' Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	45 SqYd 0.08	0.47	0.01
Sta. 128+02 to 133+02 Transition from 2-Lane to Turn Bay-0' to 12' Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	333 SqYd 0.58	3.50	0.11
Sta. 128+02 to 133+02 L Shoulder Transition from 9.5' to 3.5' Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	167 SqYd 0.29	1.75	0.05
Sta. 128+02 to 133+02 R Shoulder Transition from 9.5' to 3.5' Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	167 SqYd 0.29	1.75	0.05
Sta. 133+02 to 134+68 Turn Bay - 12' Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	221 SqYd 0.39	2.32	0.07
Sta. 134+14 L Intersecting Road & Radii - Shoreline Drive Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	409 SqYd 0.71	4.29	0.13
Sta. 134+68 to 136+35 Transition from Turn Bay to 2-Lane-12' to 0' Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	223 SqYd 0.39	2.34	0.07
Sta. 134+68 to 136+35 L Shoulder Transition from 3.5' to 9' Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	51 SqYd 0.09	0.54	0.02

LOCATION	CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPHALT FOR FOG SEAL TON
<u>I90L (Continued)</u>			
Sta. 134+68 to 136+35 Shoulder Transition from 3.5' to 9' Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	51 SqYd 0.09	0.54	0.02
Sta. 168+05 to 170+60 Transition from 2-Lane to Divided 2-Lane - 0' to 7' Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	99 SqYd 0.17	1.04	0.03
Sta. 168+05 to 170+60 L Shoulder Transition from 9' to 6' Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	43 SqYd 0.07	0.45	0.01
Sta. 168+05 to 170+60 R Shoulder Transition from 9' to 8' Rates = 0.41 gal, 21 lb & 0.075 gal/SqYd	14 SqYd 0.02	0.15	0.01
I90L Totals:	5.67	34.56	1.04

LOCATION	CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPHALT FOR FOG SEAL TON
<u>US281</u>			
None			
US281 Totals	0.00	0.00	0.00

LOCATION	CRS-2P ASPHALT SURFACE TREATMENT TON	TYPE 2B COVER AGGREGATE TON	CSS-1h ASPHALT FOR FOG SEAL TON
<u>SD1806</u>			
Sta. 121+23 L Intersecting Road & Radii - Lucas Road Rates = 0.37 gal, 21 lb & 0.075 gal/SqYd	328 SqYd 0.52	3.44	0.10
Sta. 312+13 L Radius - Jct SD44 Rates = 0.37 gal, 21 lb & 0.075 gal/SqYd	33 SqYd 0.05	0.35	0.01
Sta. 312+13 R Radius - Jct SD44 Rates = 0.37 gal, 21 lb & 0.075 gal/SqYd	23 SqYd 0.04	0.24	0.01
SD1806 Totals:	0.61	4.03	0.12

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 shall schedule his work so as to complete the affected routes after the bike tour is completed.

COORDINATION BETWEEN CONTRACTORS

A separate contract for Project P 0021(154) - PCN 048J has been awarded to another Contractor for asphalt concrete crack sealing on SD34, SD42, SD44 and SD1806.

The Contractor shall schedule his work so as to complete the asphalt surface treatment on SD34, SD42, SD44 and SD1806 after completion of the above asphalt concrete crack sealing projects.

A separate contract for Project IM-P 0021(158) - PCN 054E has been awarded to another Contractor for asphalt concrete crack sealing on SD34 and SD42 adjacent to the SD34 and SD42 routes on this contract.

The Contractor shall coordinate with the crack seal Contractor so that there is at least 3 miles between the two work areas if work is going on concurrently on these routes.

A separate contract for Project PH 0020(140) – PCN 04GV has been awarded to another Contractor for Corridor Signing Replacement on SD42, SD44, SD50, US281 and SD1806.

The Contractor shall coordinate with the signing Contractor so that the two Contractors are not working on the same route at the same time.

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 thirty 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 shall be removed to the satisfaction of the Engineer prior to asphalt surface treatment.

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

BRIDGES, APPROACH SLABS, SLEEPER SLABS, STRIP SEALS, RAILROAD CROSSINGS, MANHOLES, WATER VALVES, MAINLINE RUMBLE STRIPS AND CONCRETE

Asphalt Surface Treatment shall not be placed on any of the bridges, approach slabs, sleeper slabs, strip seals, railroad crossings, manholes, water valves or any type of concrete. It also shall not be placed on the rumble strips in the mainline driving lane prior to a Stop sign.

Material used to cover and protect these areas shall 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 shall 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.

COVER AGGREGATE

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

ASPHALT FOR SURFACE TREATMENT

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

PROJECT BROOMING

All material shall be broomed off of bridges and curb & gutter areas adjacent to the bridges. No material shall 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 shall be disposed of in a manner satisfactory to the Engineer.

No material shall 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 shall be disposed of in a manner satisfactory to the Engineer.

Material that is broomed onto the roadway inslopes shall not be left in piles or windrows. The material shall 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:

PROJECT	LOCATION
SD34 West Segment	Commercial area through the City of Artesian
SD42	Curb & gutter areas in the City of Ethan.
I90L	Curb & gutter areas in the City of Oacoma

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. It shall be applied to the entire width of routes SD34 West Segment, SD34 East Segment, SD42, SD44, I90L and SD 1806. The fog seal shall be applied to the shoulders only on routes SD 50 and US281.

The fog seal shall 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 shall 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. A CSS-1h emulsion shall be used for the fog seal application. An emulsion-to-water rate of 3:1 should be used for the binder application.

Blotting Sand for Fog Seal shall 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 shall not exceed 4.5%. Prior to hauling, Blotting Sand shall be screened to minimize segregation, eliminate oversize and effectively breakup or discard material bonded into chunks.

Blotting Sand shall be furnished by the Contractor. A rate of application for the Blotting Sand will not be given. A small quantity of Blotting Sand 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 all other areas until the Fog Seal has cured sufficiently as to not stick to tires.

TEMPORARY PAVEMENT MARKING

Paint will not be allowed for Temporary Pavement Marking, except after the placement of the fog seal.

The total length of no passing zones on this contract is estimated to be 18.228 miles.

It is estimated that 85 DO NOT PASS and 77 PASS WITH CARE signs will be required to mark the no passing zones, should the Contractor elect to use these signs.

Use of DO NOT PASS and PASS WITH CARE signs will be allowed for a two week duration.

Cost for furnishing, installing and removing the DO NOT PASS and PASS WITH CARE signs shall be incidental to the contract unit price per mile for Temporary Pavement Marking.

TABLES OF DO NOT PASS AND PASS WITH CARE SIGNS

PROJECT	DO NOT PASS	PASS WITH CARE
SD34 West Segment	1	0
SD34 East Segment	11	9
SD42	48	46
SD44	5	3
SD50	0	0
I90L	7	6
US281	0	0
SD1806	13	13
TOTAL	85	77

Prior to asphalt surface treatment the Contractor shall mark, with appropriately colored temporary flexible vertical markers (tabs), the location of all existing pavement marking, except edgelines. However, the Contractor shall place temporary flexible vertical markers (tabs) on the edgeline of all transition areas such as turn lanes and climbing lanes and on all dashed edgelines. Prior to installation of the permanent pavement marking, the Engineer is to be notified. The Contractor shall 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 shall be marked with temporary flexible vertical markers (tabs).

The temporary flexible vertical markers (tabs) shall have secure covers. If the covers become detached, prior to sealing, the temporary flexible vertical markers (tabs) shall be replaced with a new temporary flexible vertical marker (tab). Any temporary flexible vertical markers (tabs) that are non-reflective shall be cleaned.

Where the asphalt surface treatment has been applied, the temporary flexible vertical marker (tab) covers shall be removed prior to nightfall each day.

The temporary flexible vertical marker (tab) covers are considered construction debris and shall be disposed of properly by the Contractor.

TEMPORARY PAVEMENT MARKING (CONTINUED)

The Contractor shall remove and dispose of the temporary flexible vertical markers (tabs) after Permanent Pavement Marking is applied. Method of removal shall be nondestructive to the road surface and shall result in the marker being separated from the adhesive (the adhesive shall remain on the road surface and the marker is discarded) or the marker shall be cut in such a manner that no more than 1/4" of the vertical portion of the marker remains on the road surface. Removal shall be accomplished within 7 days of completion of the Permanent Pavement Marking.

Cost for furnishing, applying, uncovering, cleaning, removing and disposing of the temporary flexible vertical markers (tabs) shall be included in the contract unit price per mile for Temporary 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 shall 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 shall 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 shall be mounted on the rear of the shadow vehicle. The method of traffic control used by the Contractor for this work shall be approved by the Engineer.

Cost for the traffic control to install and remove the temporary flexible vertical markers (tabs) shall be incidental to the contract unit price per mile for Temporary Pavement Marking.

PAVEMENT MARKING MASKING

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

All pavement markings to be masked shall be cleaned with a high pressure air blast device immediately prior to the application of the Pavement Marking Masking. The width of this masking shall be one inch wider than the existing marking. The various items for Pavement Marking Masking shall 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 shall be incidental to the contract unit price for Pavement Marking Masking.

If the pavement marking is damaged due to improper masking, it shall 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 shall be removed from the road surface.

TABLE OF PAVEMENT MARKING MASKING

PROJECT	LOCATION	DESCRIPTION
*SD42	SD37 Intersection - WB	AHEAD (1 Each)
*SD42	SD37 Intersection - WB	STOP (1 Each)
*SD42	Sta. 37+52 - EB	Railroad Crossing (1 Each)
*SD42	Sta. 51+47 - WB	Railroad Crossing (1 Each)
*SD42	Sta. 1364+10 - NB	Railroad Crossing (1 Each)

PAVEMENT MARKING MASKING (CONTINUED)

* 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.

PERMANENT PAVEMENT MARKING

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

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

The Contractor will be required to repaint all 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, shall be made prior to the placement of the new stop lines.

Flush sealing shall not be allowed as an option for correction of markings that are 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 PAINTED PAVEMENT MARKING

PROJECT	LOCATION
SD34W Segment	24" Hashes in Turn Bay at Jct SD37
SD34W Segment	Solid Areas for Turn Bay at Jct SD37
SD34E Segment	Stop Line At Jct SD25 - NB
SD42	Stop Line at Jct SD37 - WB
SD42	Word Message "STOP" at Jct SD37 - WB
SD50	Stop Line at Jct SD44 - NB
I90L	Stop Line - NB
I90L	24" Yellow Hashes for Turn Bays
I90L	Solid Areas for Turn Bays
I90L	Arrows in Turn Bays and Center Turn Lane

PERMANENT PAVEMENT MARKING (CONTINUED)

TABLES OF PERMANENT PAVEMENT MARKING

SD34W Segment	White	Yellow
Yellow Centerline Dashes = 8.732 miles @ 6.2 Gal/Mile		54.1
Solid Yellow Centerline = 0.159 miles @ 22.5 Gal/Mile		3.6
8" Yellow for Turn Bays = 0.146 miles @ 45.0 Gal/Mile		6.6
24" Yellow Hashes for Turn Bays = 0.010 miles @ 135 Gal/Mile		1.4
Solid Yellow Areas for Turn Bays = 32.5 SqFt = 0.018 miles @ 22.5 Gal/Mile		0.4
4" Solid White Edgelines = 17.463 miles @ 22.5 Gal/Mile	392.9	
TOTAL GALLONS	393	66

SD34E Segment	White	Yellow
Yellow Centerline Dashes = 8.075 miles @ 6.2 Gal/Mile		50.1
Solid Yellow Centerline = 1.283 miles @ 22.5 Gal/Mile		28.9
4" Solid White Edgelines = 15.881 miles @ 22.5 Gal/Mile	357.3	
24" White Stop Line = 0.006 miles @ 135.0 Gal/Mile	0.8	
TOTAL GALLONS	358	79

SD42	White	Yellow
Yellow Centerline Dashes = 25.009 miles @ 6.2 Gal/Mile		155.1
Solid Yellow Centerline = 8.867 miles @ 22.5 Gal/Mile		199.5
4" Solid White Edgelines = 49.353 miles @ 22.5 Gal/Mile	1110.4	
8" Solid White Edgelines = 1.985 miles @ 45.0 Gal/Mile	89.3	
24" White Stop Line = 0.005 miles @ 135.0 Gal/Mile	0.7	
White Word Message = 26.8 SqFt = 0.015 miles @ 22.5 Gal/Mile	0.3	
TOTAL GALLONS	1201	355

SD44	White	Yellow
Yellow Centerline Dashes = 5.639 miles @ 6.2 Gal/Mile		35.0
Solid Yellow Centerline = 1.135 miles @ 22.5 Gal/Mile		25.5
4" Solid White Edgelines = 11.592 miles @ 22.5 Gal/Mile	260.8	
8" Solid White Gore = 0.057 miles @ 45.0 Gal/Mile	2.6	
TOTAL GALLONS	263	61

SD50	White	Yellow
Yellow Centerline Dashes = 13.970 miles @ 4.6 Gal/Mile		64.3
Solid Yellow Centerline = 5.165 miles @ 16.9 Gal/Mile		87.3
4" Solid White Edgelines = 29.918 miles @ 16.9 Gal/Mile	505.6	
24" White Stop Line = 0.002 miles @ 101.4 Gal/Mile	0.2	
TOTAL GALLONS	506	152

PERMANENT PAVEMENT MARKING (CONTINUED)

TABLES OF PERMANENT PAVEMENT MARKING

I90L	White	Yellow
Yellow Centerline Dashes = 3.016 miles @ 6.2 Gal/Mile		18.7
Solid Yellow Centerline = 4.258 miles @ 22.5 Gal/Mile		95.8
Double Yellow for Turn Bays = 2 (4" line) X 0.290 miles @ 22.5 Gal/Mile		13.1
24" Yellow Hashes for Turn Bays = 0.061 miles @ 135 Gal/Mile		8.2
Solid Yellow Areas for Turn Bays = 134.5 SqFt = 0.076 miles @ 22.5 Gal/Mile		1.7
4" Solid Yellow Edgelines = 0.014 miles @ 22.5 Gal/Mile		0.3
4" Solid White Edgelines = 5.392 miles @ 22.5 Gal/Mile	121.3	
Solid White Lane Lines = 0.038 miles @ 22.5 Gal/Mile	0.9	
8" Solid White Gore = 0.034 mile @ 45.0 Gal/Mile	1.5	
24" White Stop Lines = 0.002 miles @ 135.0 Gal/Mile	0.3	
Arrows = 30 each @ 0.19 Gal/Each	5.7	
Combination Arrow = 1 each @ 0.31 Gal/Each	0.3	
TOTAL GALLONS	130	138

US281	White	Yellow
Yellow Centerline Dashes = 24.681 miles @ 4.6 Gal/Mile		113.5
Solid Yellow Centerline = 3.548 miles @ 16.9 Gal/Mile		60.0
4" Solid White Edgelines = 48.702 miles @ 16.9 Gal/Mile	823.1	
TOTAL GALLONS	823	174

SD1806	White	Yellow
Yellow Centerline Dashes = 5.487 miles @ 6.2 Gal/Mile		34.0
Solid Yellow Centerline = 2.254 miles @ 22.5 Gal/Mile		50.7
8" Solid White Edgelines = 11.690 miles @ 22.5 Gal/Mile	526.1	
4" Solid White Edgelines = 0.028 miles @ 22.5 Gal/Mile	0.6	
24" White Stop Line = 0.003 miles @ 135.0 Gal/Mile	0.4	
TOTAL GALLONS	527	85

SEQUENCE OF OPERATIONS

The below sequence is per project:

1. Install fixed location "ground mounted" traffic control devices.
2. Install and remove temporary traffic control devices as needed for each type of work.
3. Place temporary pavement marking not more than 24 hours prior to chip seal.
4. Place pavement marking masking immediately prior to chip seal. See Pavement Marking Masking note for alternate sequence.
5. Apply chip seal. (See workspace note under General Maintenance of Traffic notes.)

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

The Contractor shall 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.

The application of the asphalt and aggregate shall cease at least one hour prior to sunset each day.

6. Remove pavement marking masking immediately after chip seal.
7. Remove plastic covers from temporary flexible vertical markers (tabs) after application of the chip seal and prior to nightfall.
8. Broom chip sealed areas each morning following chip seal application.
9. Place pavement marking masking immediately prior to fog seal. See Pavement Marking Masking note for alternate sequence.
10. Apply fog seal.
11. Remove pavement marking masking immediately after fog seal.
12. Remove plastic covers from temporary flexible vertical markers (tabs) or apply temporary pavement marking paint after application of the fog seal and prior to nightfall.
13. Pick up cover aggregate in curb & gutter areas and other areas as stated in the plans and directed by the Engineer.
14. Immediately prior to application of the permanent pavement marking, the areas to be painted shall be broomed or blown off with high pressure compressed air. (If a high pressure air device is used to clean the pavement surface, it shall be capable of sustaining continuous high pressure for the duration of the pavement marking process.)
15. Complete the pavement marking.
16. Complete required hand painted pavement marking areas within the 14 day time period specified elsewhere in the plans.
17. Remove temporary flexible vertical markers (tabs) within the seven day time period specified elsewhere in the plans.
18. Remove traffic control devices.

GENERAL MAINTENANCE OF TRAFFIC

The bottom of signs on portable or temporary supports shall not be less than seven feet above the pavement in urban areas and one foot above the pavement in rural areas. Portable sign supports may be used as long as the duration is less than 3 days. If the duration is more than 3 days the signs shall be on fixed location, ground mounted supports.

The actual workspace for the chip seal shall be limited to two mile segments. A sufficient buffer space shall be installed so as not to cause congestion at the workspace. The traveling public shall not have to wait longer than 15 minutes at the flagger station. The pilot car shall travel no faster than 20 mph on the fresh seal.

In addition to the traffic control shown in the layouts contained in these plans, the Contractor shall provide the following:

Until initial brooming, additional flagger(s) and Flagger symbol sign(s) shall be provided during daylight hours to alert the traveling public entering completed portions of the project to the potential of airborne chips.

Flagger(s) shall provide each motorist with a printed notice on the Contractor's letterhead similar to the one shown. Cost for the notice shall be incidental to the contract unit prices for the various items.

"CONTRACTOR'S LETTERHEAD

THIS HIGHWAY IS BEING RESURFACED WITH A 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 SEAL COAT APPLICATION AREA.

THANK YOU.

The 40 MPH Advisory Speed Plaque should not be installed with the LOOSE GRAVEL sign in areas where the posted speed limit is less than 40 MPH. LOOSE GRAVEL and 40 MPH Advisory Speed Plaques or LOOSE GRAVEL and ON SHOULDER signs shall be covered or removed from view when they are not applicable.

The Contractor shall furnish, install and maintain TRUCK CROSSING signs daily. The TRUCK CROSSING signs shall be displayed at all times when haul vehicles are hauling material. When hauling conditions no longer exist, the signs shall be covered or removed from view. The exact number and location shall be determined on construction. Payment for additional signs will be based on the contract unit price per square foot for Traffic Control Signs.

FRESH OIL (W21-2) signs with Supplemental ON SHOULDER signs shall be used on the SD50 and US281 routes when the condition exists. The signs shall be mounted on temporary supports and placed at five mile intervals. The signs shall be removed no later than the day following the application of the of the fog seal. The signs are included in the Itemized List for Traffic Control Signs for these two routes.

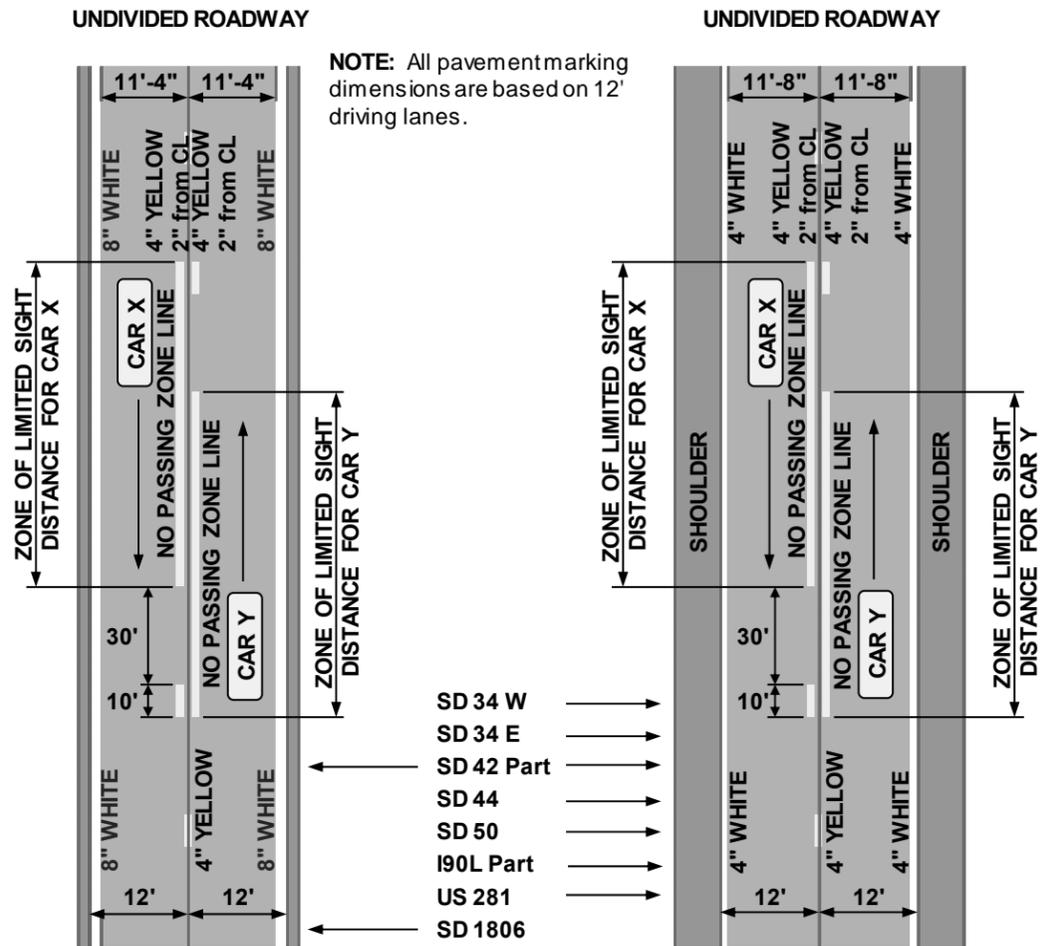
Sufficient traffic control devices have been included in these plans to sign one workspace on each project. If the Contractor elects to work on additional sites simultaneously, the cost for additional traffic control devices shall be incidental to the contract unit price per square foot for Traffic Control Signs.

STOCKPILE SITE RELEASES

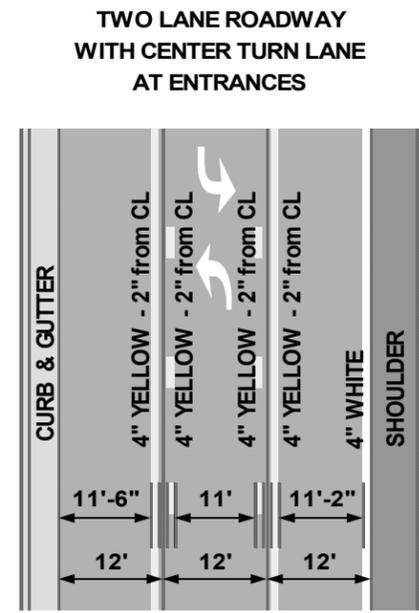
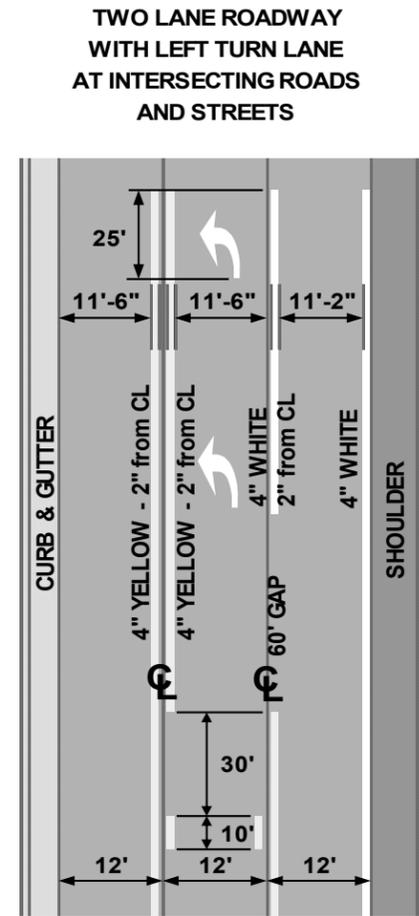
Upon completion of the contract, the Contractor shall supply the Engineer a copy of all stockpile site releases to place in the Department's file.

FURNISHING AND APPLYING PAVEMENT MARKING PAINT

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0021(157)	22	43



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



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

Traffic Control shall be incidental to the cost of application. The striper and advance or trailing warning vehicle shall be equipped with flashing amber lights or advance warning arrow board.

For the three lane roadway, Left Arrows, in sets of two, spaced 8' to 16' arrow tip to arrow tip (when two are required) shall be positioned in the center turn lane at existing arrow locations.

Two Left Arrows shall be positioned in the left turn lane, at each left turn lane for intersecting roads and streets.

Paint application rates shall be as follows:

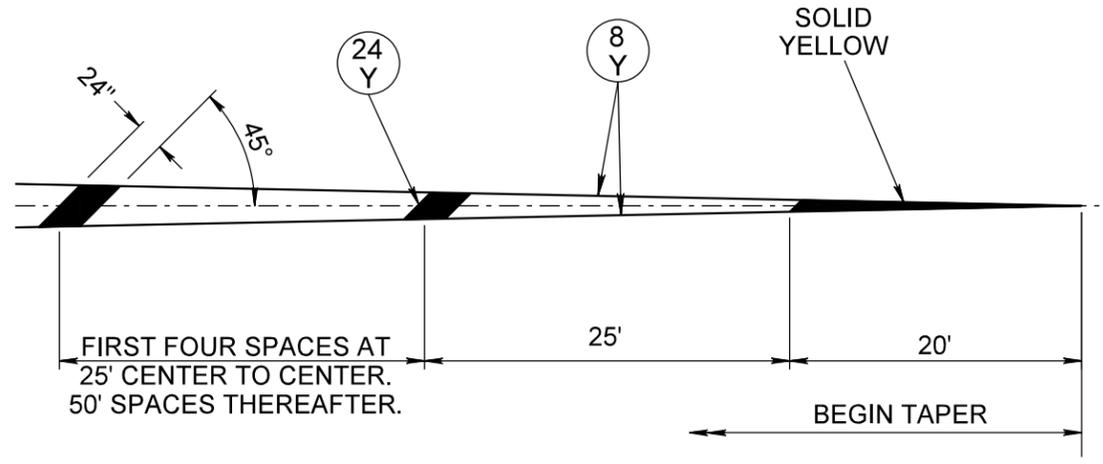
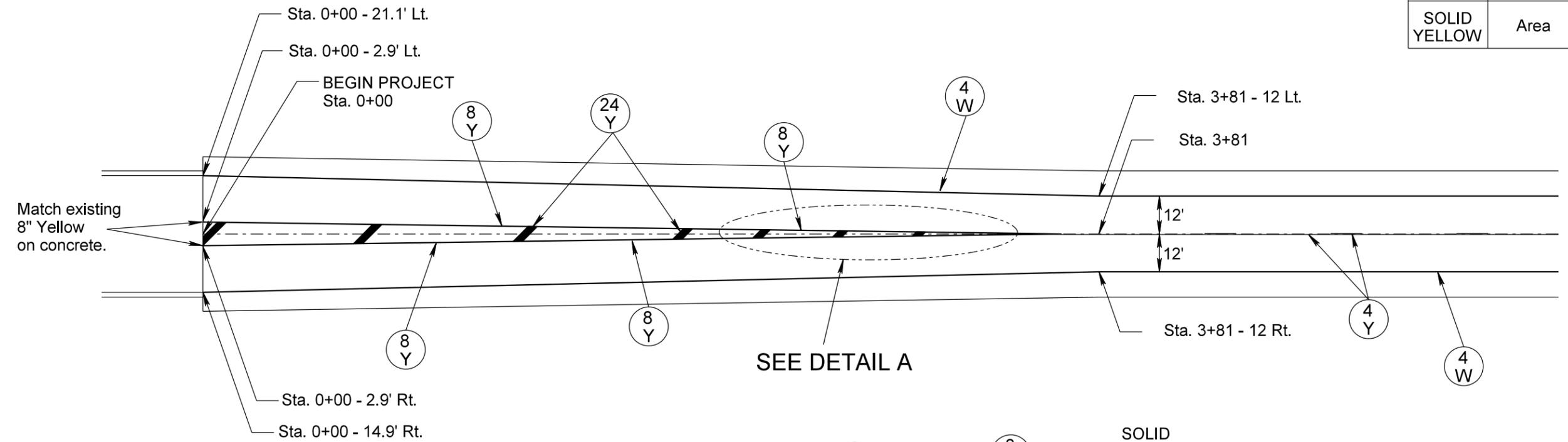
UNDIVIDED ROADWAY			
PROJECT NO.:	PROJECT NO.:	PROJECT NO.:	PROJECT NO.:
SD 42 Part SD 1806	SD 34 West Segment SD 34 East Segment SD 42 Part SD 44 I90L Part	I90L Part	SD 50 US 281
Two Lane Roadway		Three Lane Roadway With Left/Center Turn Lane	Two Lane Roadway
(Rate for one line)		(Rate for one line)	(Rate for one line)
Dashed Yellow Centerline Rate = 6.2 Gal/Pass-Mile		Dashed Yellow Centerline Rate = 6.2 Gal/Pass-Mile	Dashed Yellow Centerline Rate = 4.6 Gal/Pass-Mile
Solid Yellow Centerline Rate = 22.5 Gal/Pass-Mile		Solid Yellow Centerline Rate = 22.5 Gal/Pass-Mile	Solid Yellow Centerline Rate = 16.9 Gal/Pass-Mile
Solid White Edgeline - 8" Rate = 45.0 Gal/Pass-Mile	Solid White Edgeline - 4" Rate = 22.5 Gal/Pass-Mile	Solid White Edgeline (Not applicable in curb & gutter section) Rate = 22.5 Gal/Pass-Mile	Solid White Edgeline - 4" Rate = 16.9 Gal/Pass-Mile
Glass Beads = 8 Lb/Gal			

PROJECTS	ESTIMATED QUANTITIES	
	WHITE	YELLOW
SD 34 West Segment	393	66
SD 34 East Segment	358	79
SD 42	1201	355
SD 44	263	61
SD 50	506	152
I90L	130	138
US 281	823	174
SD 1806	527	85
TOTAL GALLONS	4201	1110

PAVEMENT MARKING LAYOUT

SD34 West Segment AT STA. 0+00

KEY	
(4 W)	4" White
(4 Y)	4" Yellow
(8 Y)	4" Yellow
(24 Y)	24" Yellow
SOLID YELLOW	Area



DETAIL A

PLOT SCALE - 1:7000

PLOTTED FROM - TRMLINT06

PLOT NAME - 1

FILE - ... \34 GORE AT CONCR 053F.DGN

PAVEMENT MARKING LAYOUT

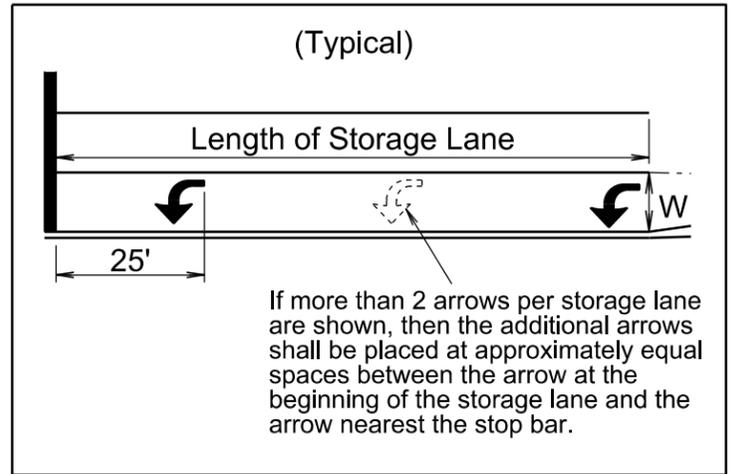
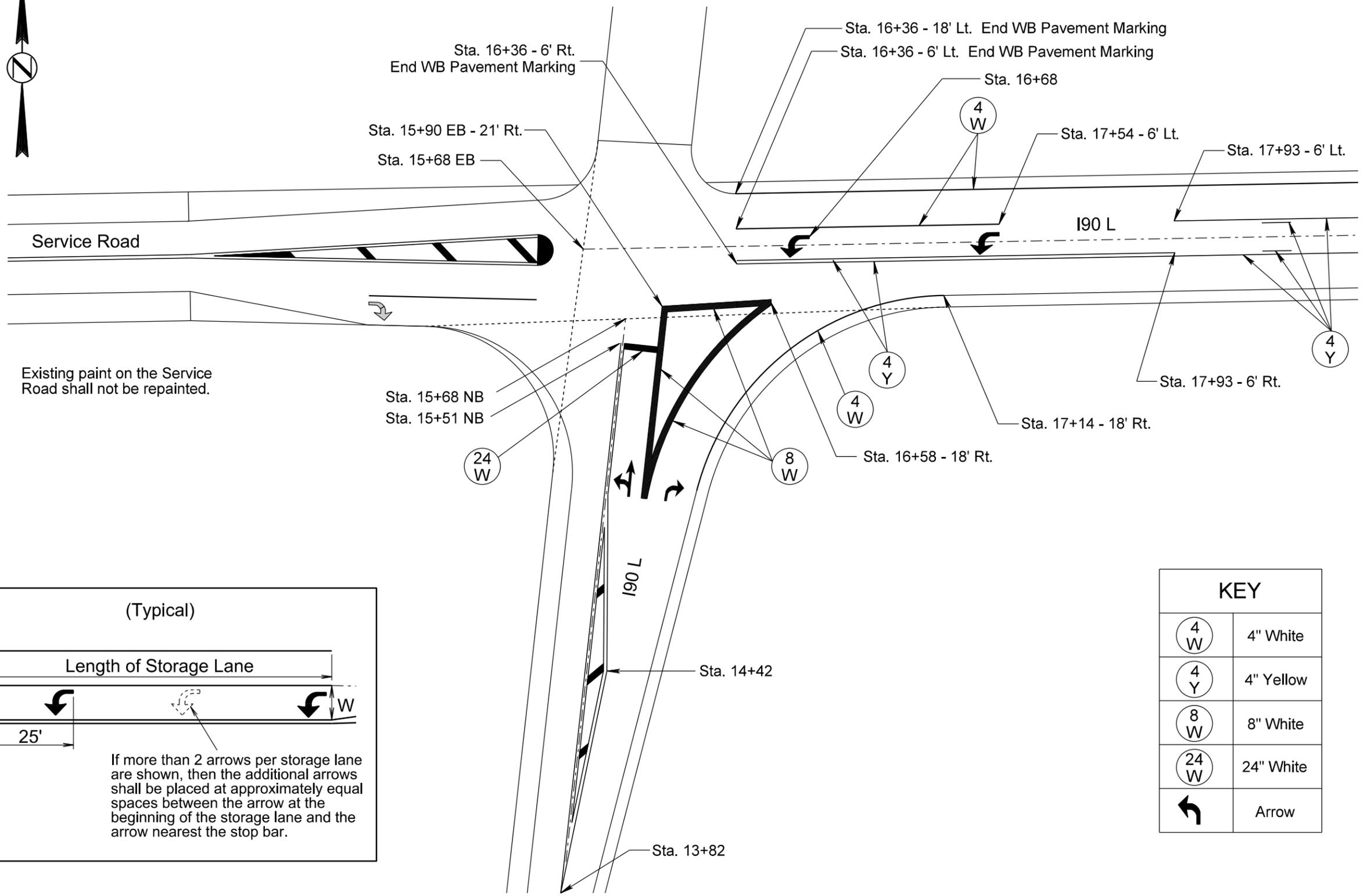
I90L OACOMA

AT STA. 15+68

PLOT SCALE - 1:7000

PLOT NAME - 5

FILE - ... \I90L OACOMA MARKING 053F.DGN



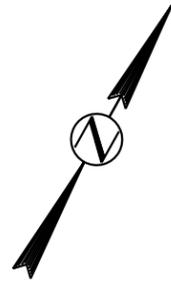
KEY	
(4 W)	4" White
(4 Y)	4" Yellow
(8 W)	8" White
(24 W)	24" White
↩	Arrow

PLOTTED FROM - TRMLINT06

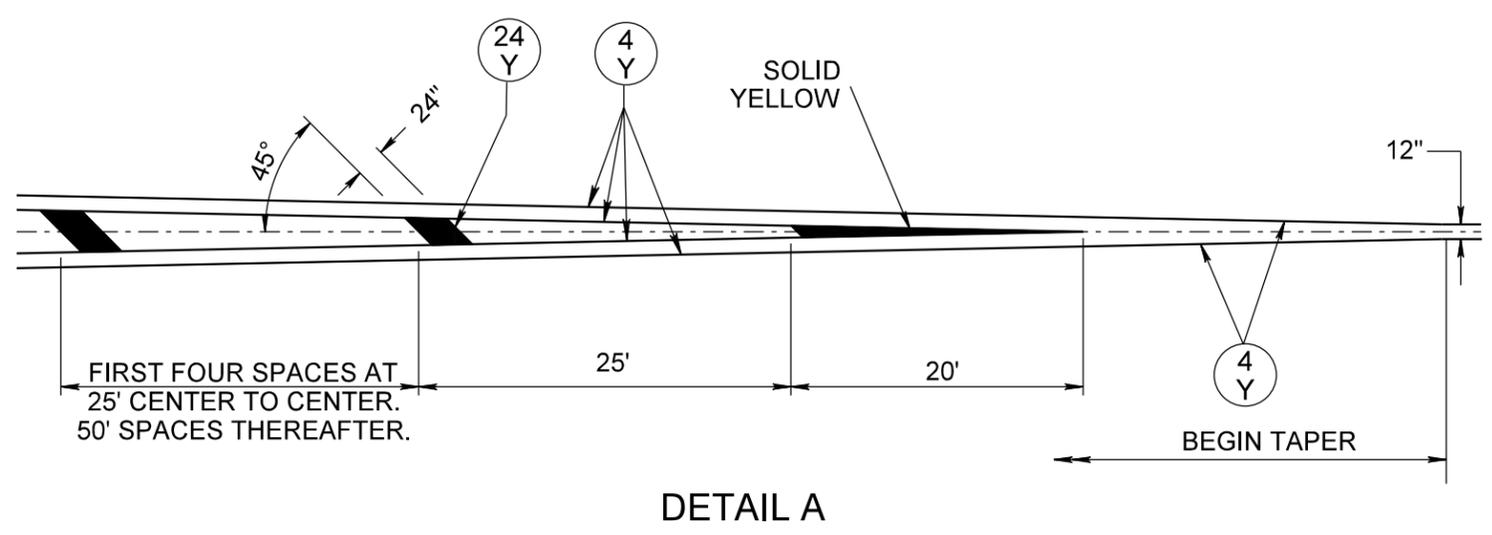
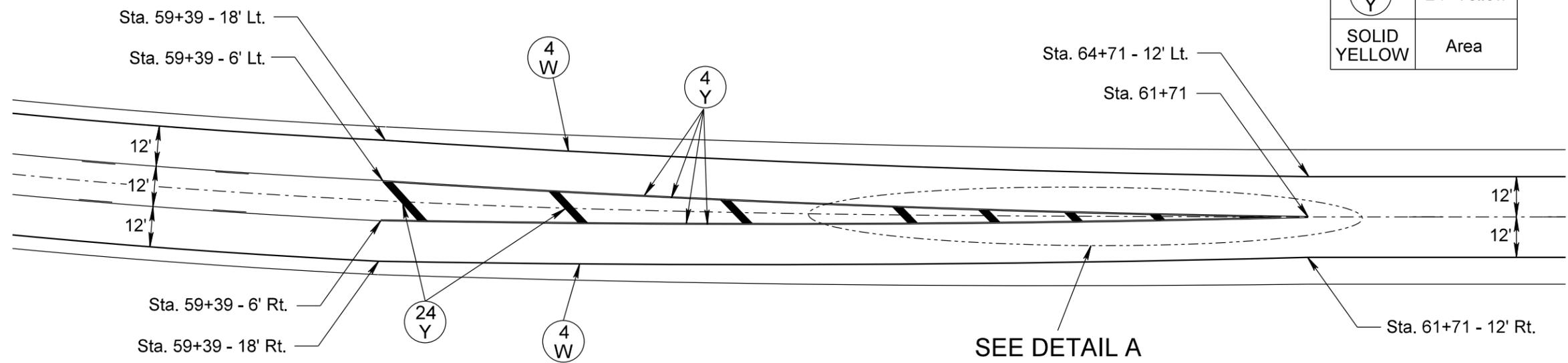
PAVEMENT MARKING LAYOUT

I90L OACOMA

AT STA. 59+39



KEY	
$\textcircled{4W}$	4" White
$\textcircled{4Y}$	4" Yellow
$\textcircled{24Y}$	24" Yellow
SOLID YELLOW	Area



PLOT SCALE - 1:7000

PLOTTED FROM - TRMLINT06

PLOT NAME - 5

FILE - ... \I90L OACOMA MARKING 053F.DGN

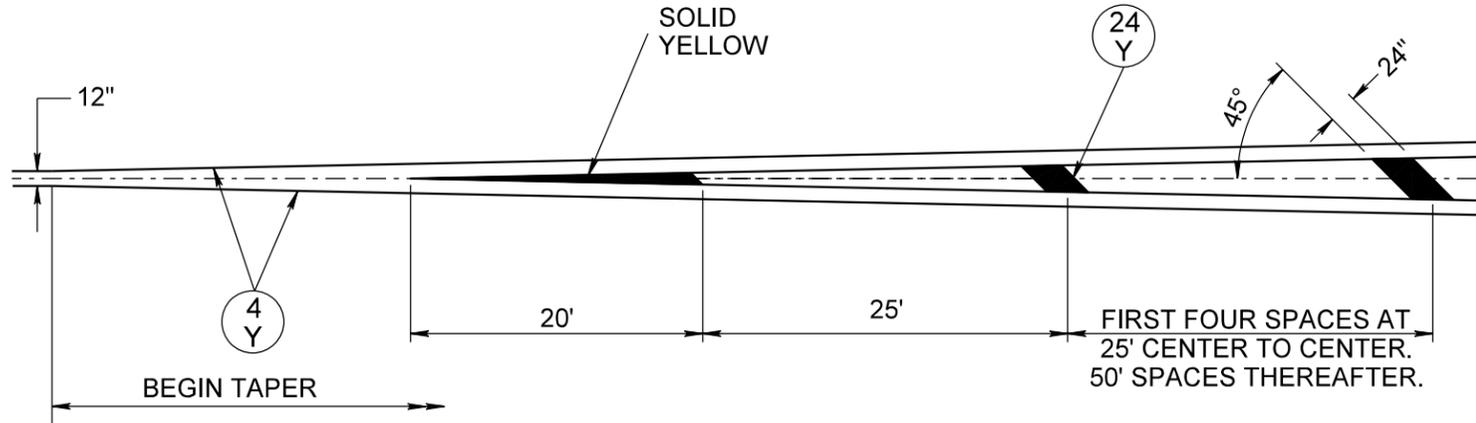
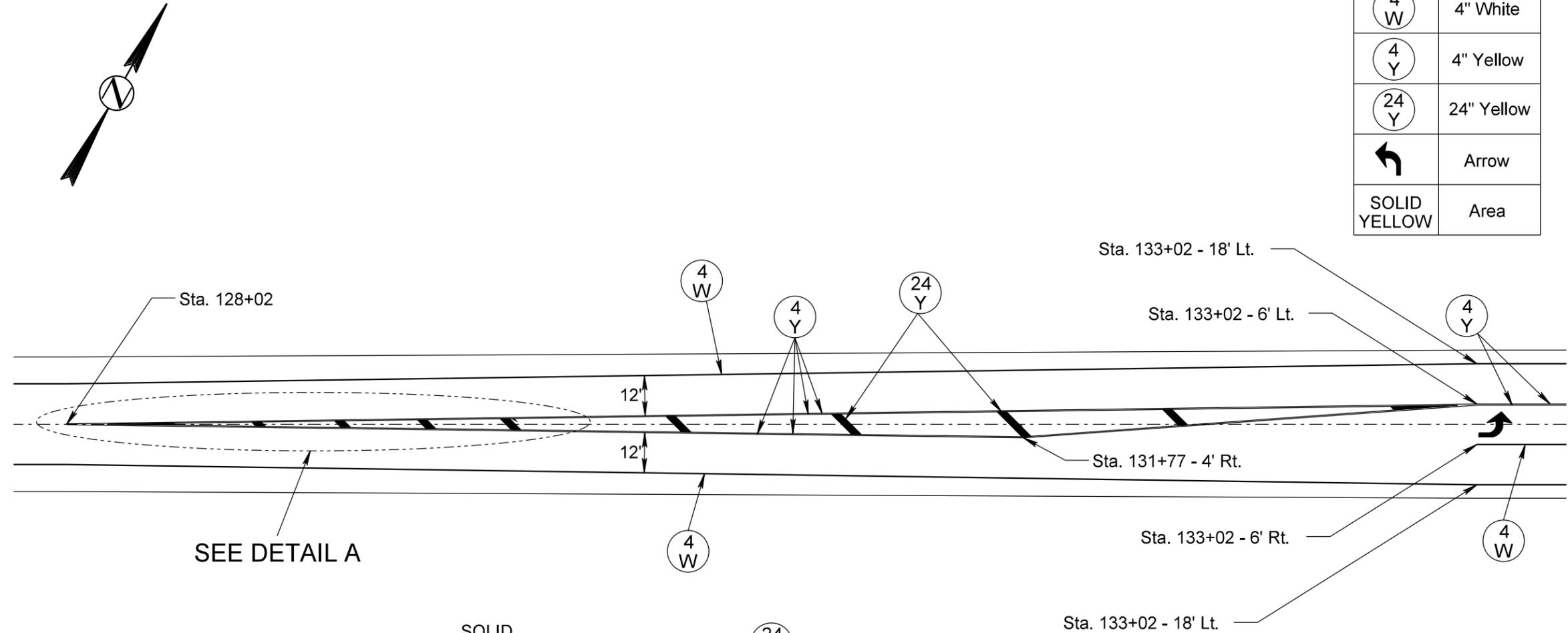
Plotting Date: 11/20/2015

PAVEMENT MARKING LAYOUT

I90L OACOMA

AT STA. 128+02

KEY	
	4" White
	4" Yellow
	24" Yellow
	Arrow
SOLID YELLOW	Area



SHEET 1 OF 2

PLOT SCALE - 1:7000

PLOTTED FROM - TRMLINT06

PLOT NAME - 5

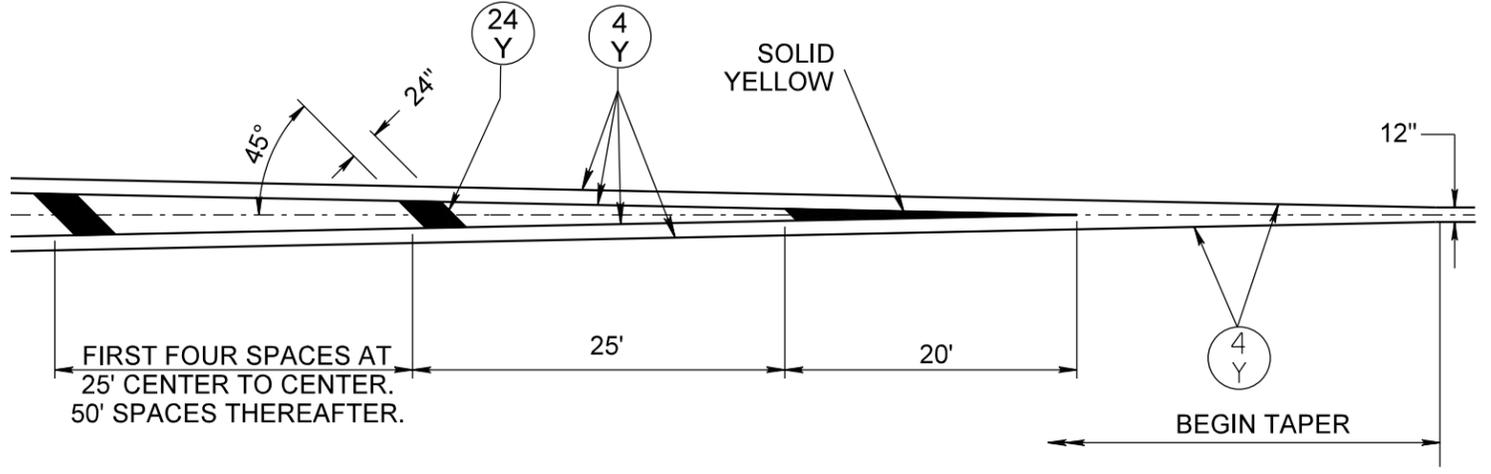
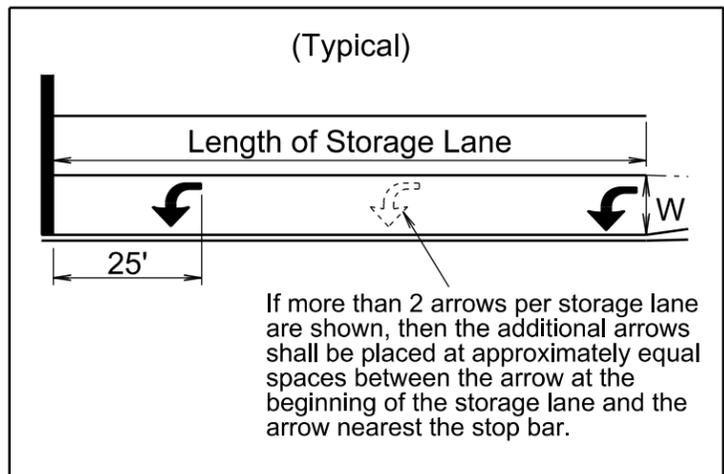
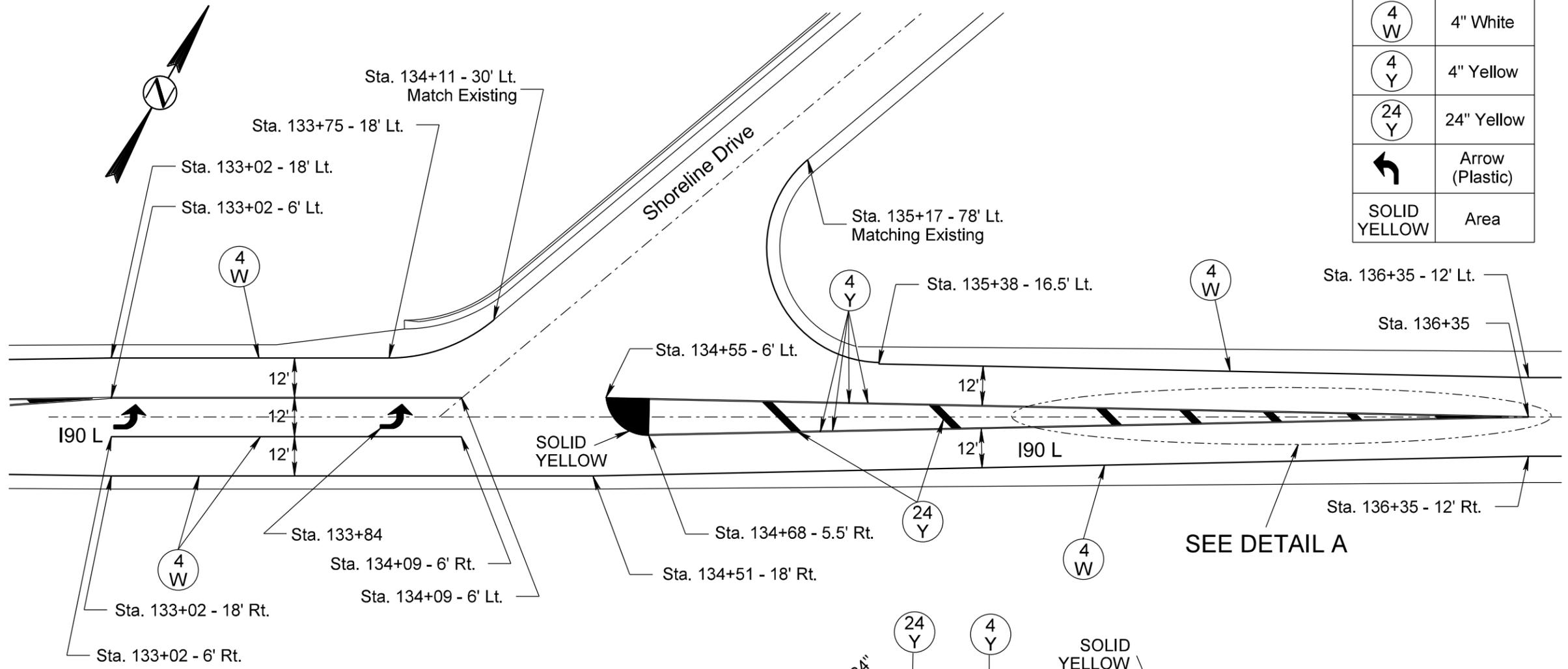
FILE - ... \I90L OACOMA MARKING 053F.DGN

PAVEMENT MARKING LAYOUT

I90L OACOMA

AT STA. 134+55

KEY	
	4" White
	4" Yellow
	24" Yellow
	Arrow (Plastic)
	Area



PLOT SCALE - 1:7000

PLOTTED FROM - TRMLINT06

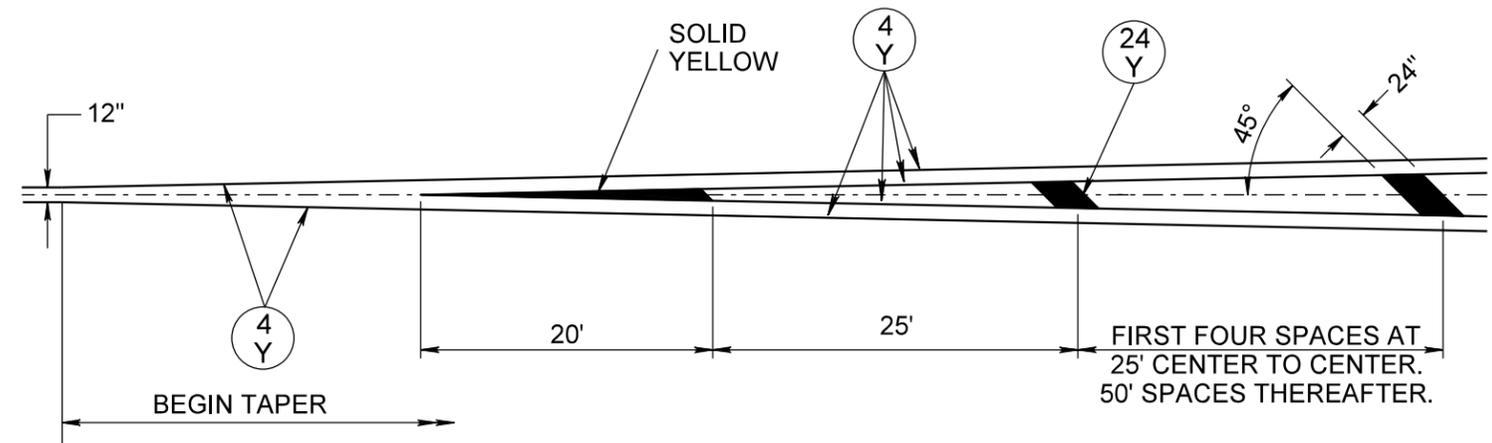
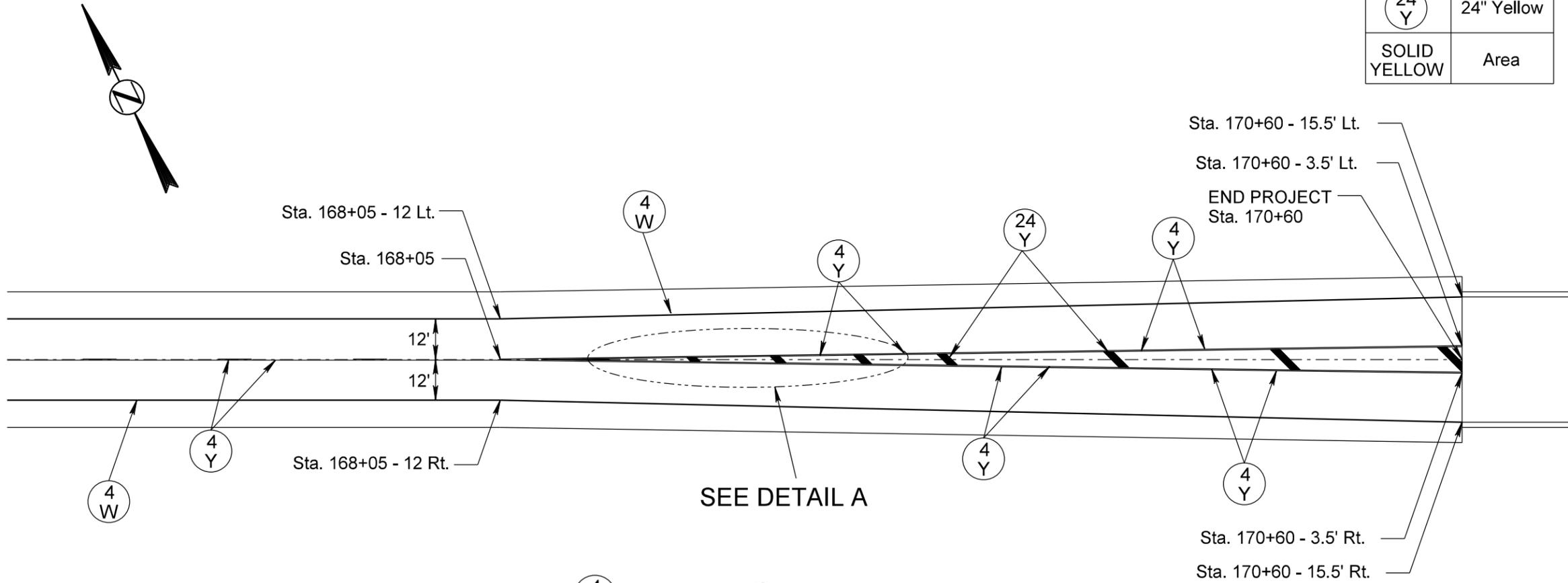
PLOT NAME - 5

FILE - ... \190L OACOMA MARKING 053F.DGN

PAVEMENT MARKING LAYOUT

I90L OACOMA AT STA. 168+05

KEY	
(4 W)	4" White
(4 Y)	4" Yellow
(24 Y)	24" Yellow
SOLID YELLOW	Area



DETAIL A

PLOT SCALE - 1:7000

PLOTTED FROM - TRMLINT06

PLOT NAME - 5

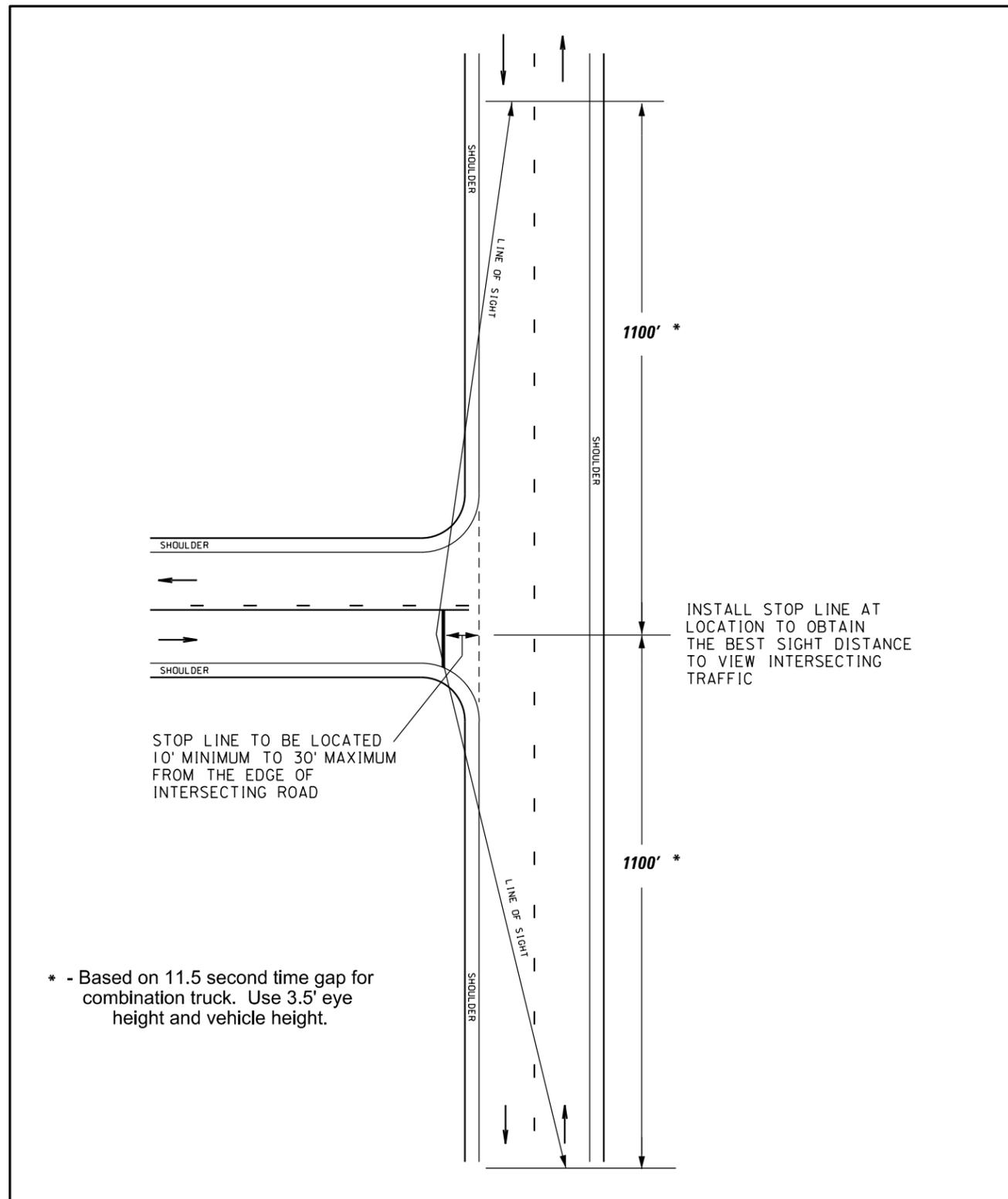
FILE - ... \I90L OACOMA MARKING 053F.DGN

PLOT SCALE - 1:7000

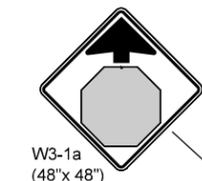
PLOT NAME - 1

FILE - ... \LYM\053F\STOP LINE 053F.DGN

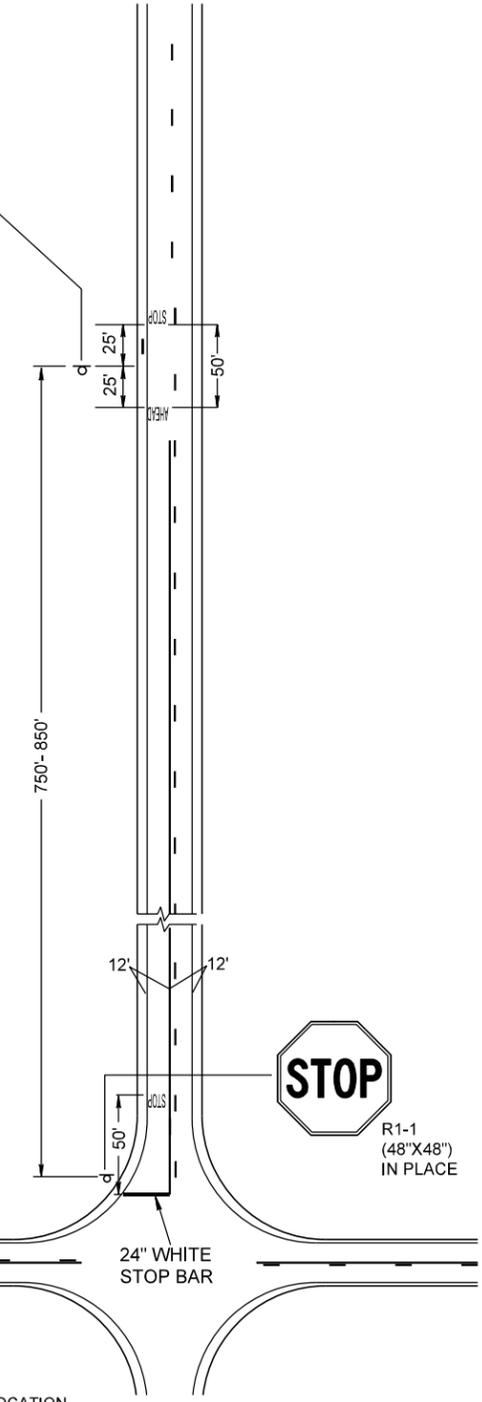
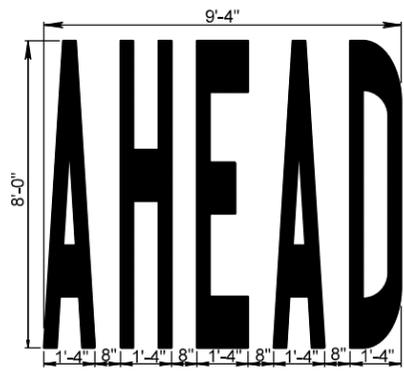
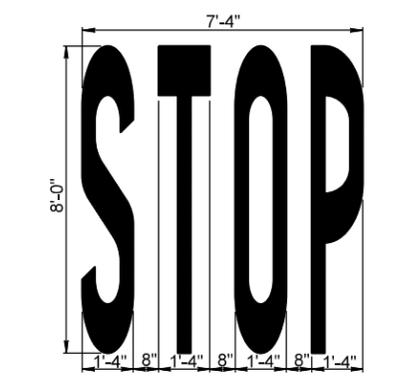
INTERSECTION APPROACH PAVEMENT MARKING (Typical)



STOP LINE PAVEMENT MARKING INSTALLATION



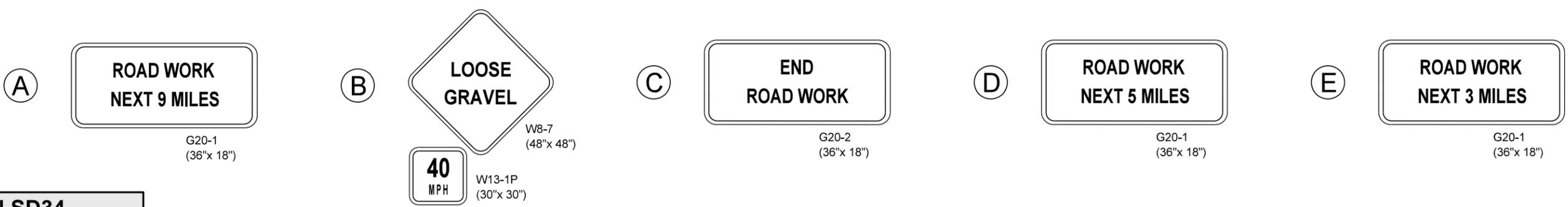
W3-1a
(48"x 48")
Sign to be relocated to
this location by State
DOT Maintenance.
Shown for reference
only.



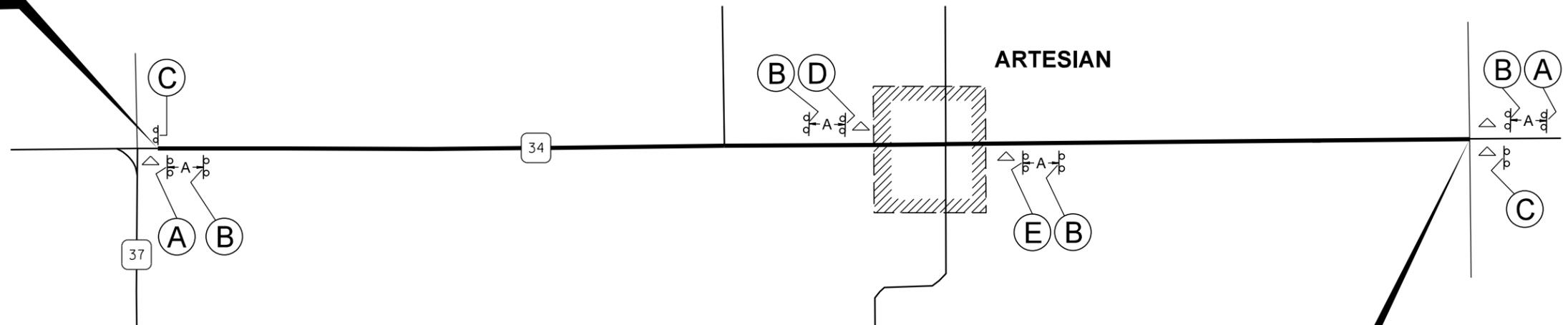
NOTE:
THE HIGHWAY AUTHORITY SHALL DETERMINE THE LOCATION
OF THE STOP LINE.

TRAFFIC CONTROL
FIXED LOCATION SIGNS
(GROUND MOUNTED SUPPORTS)
SD34 WEST SEGMENT - PCN 053F
SANBORN COUNTY

PLOT SCALE - 1:7000



BEGIN SD34 WEST SEGMENT
 STA. 0+00
 MRM 341.20 +0.119
 MILEAGE 280.762
 (At End Concrete)



END SD34 WEST SEGMENT
 STA. 466+91
 MRM 350.00 +0.008
 MILEAGE 289.605
 (37' W of County Line)

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

PLOTTED FROM - TRMLINT06

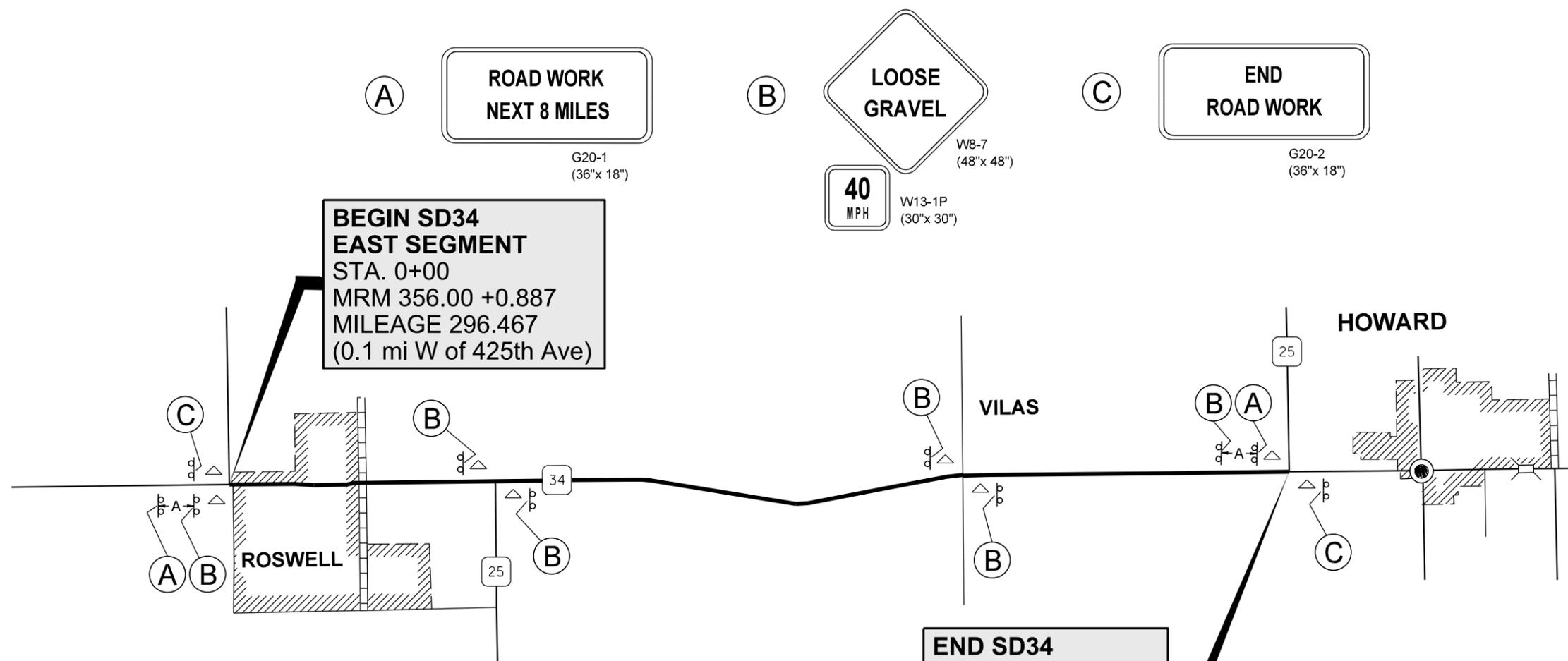
PLOT NAME - 8

FILE - ... \LYM\053F\TC 053F 2016.DGN

TRAFFIC CONTROL FIXED LOCATION SIGNS (GROUND MOUNTED SUPPORTS) SD34 EAST SEGMENT - PCN 053F MINER COUNTY

PLOT SCALE - 1:7000

PLOT NAME - 8



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.

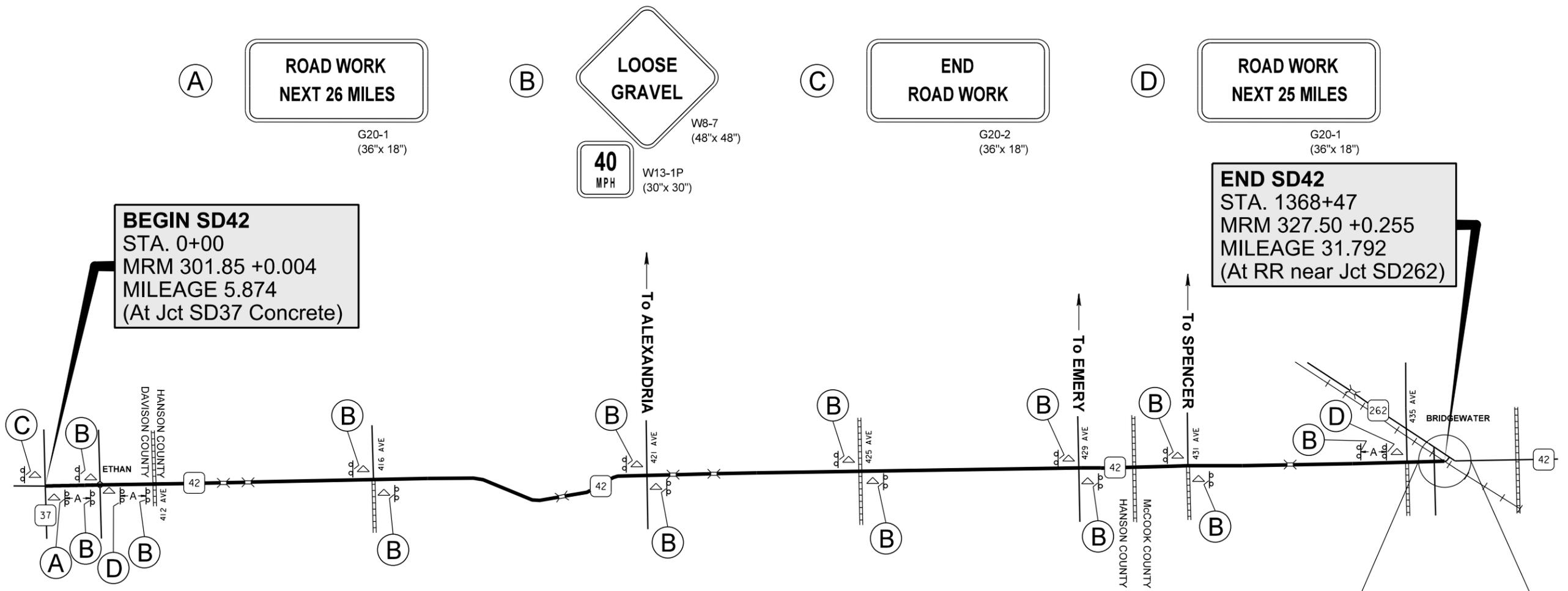
Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (FEET)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 65	1000
75	1000

PLOTTED FROM - TRMLINT06

FILE - ... \L\M\053F\TC 053F 2016.DGN

**TRAFFIC CONTROL
FIXED LOCATION SIGNS
(GROUND MOUNTED SUPPORTS)
SD42 - PCN 053F
DAVISON, HANSON & MCCOOK COUNTIES**

PLOT SCALE - 1:7000



BEGIN SD42
STA. 0+00
MRM 301.85 +0.004
MILEAGE 5.874
(At Jct SD37 Concrete)

END SD42
STA. 1368+47
MRM 327.50 +0.255
MILEAGE 31.792
(At RR near Jct SD262)

A ROAD WORK
NEXT 26 MILES

B LOOSE GRAVEL

C END ROAD WORK

D ROAD WORK
NEXT 25 MILES

40
MPH

G20-1
(36"x 18")

W8-7
(48"x 48")

G20-2
(36"x 18")

G20-1
(36"x 18")

↑
TO ALEXANDRIA

↑
TO EMERY

↑
TO SPENCER

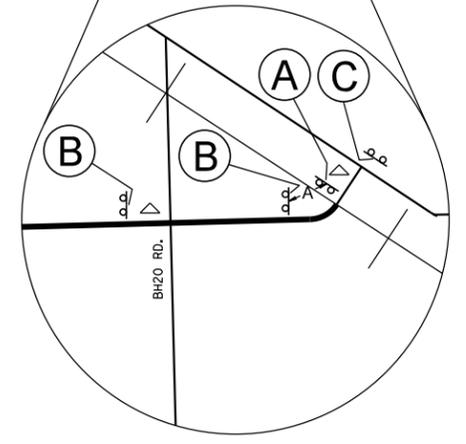
NOTES:

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

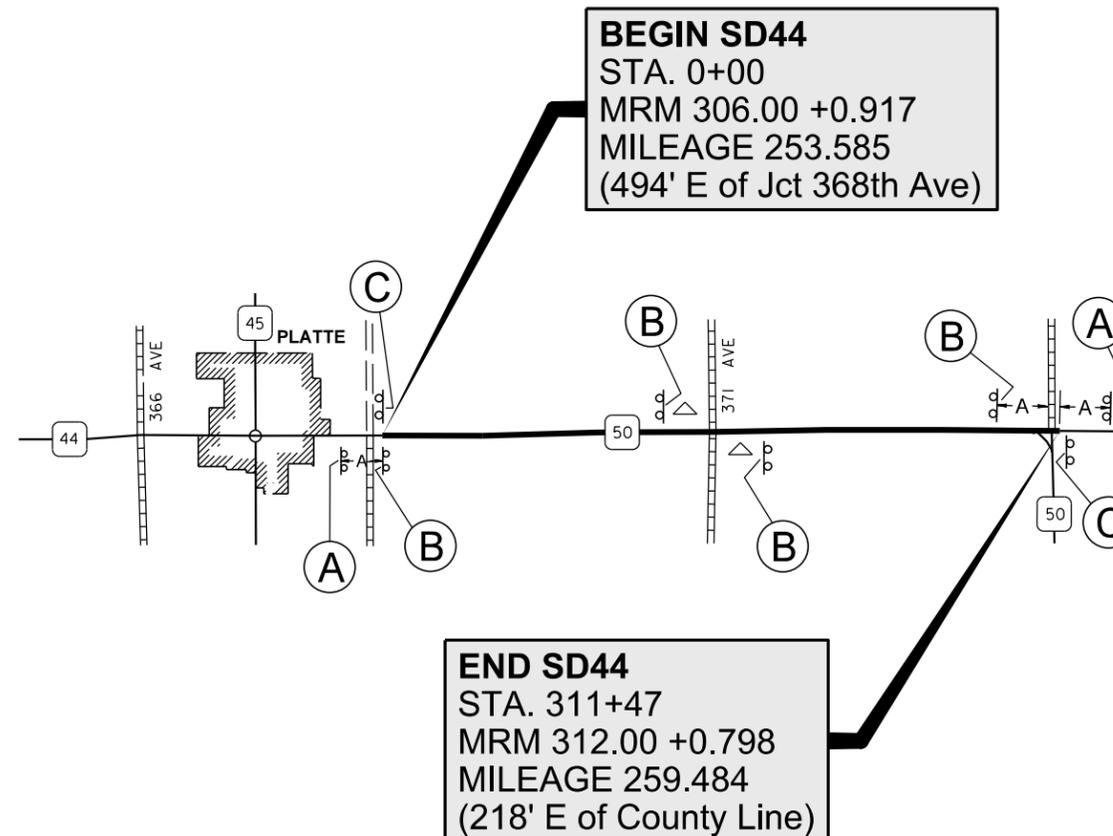
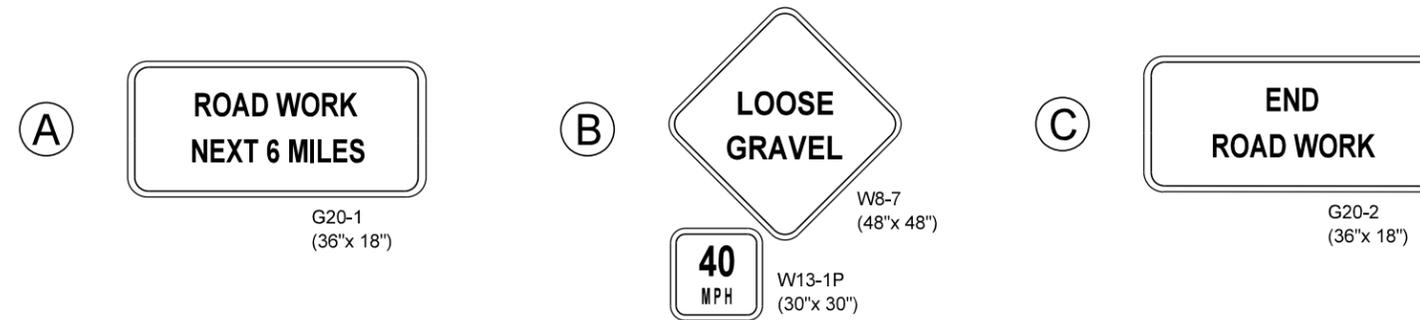


PLOTTED FROM - TRMLINT06

PLOT NAME - 8

FILE - ... \LYM\053F\TC 053F 2016.DGN

**TRAFFIC CONTROL
FIXED LOCATION SIGNS
(GROUND MOUNTED SUPPORTS)
SD44 - PCN 053F
CHARLES MIX & DOUGLAS COUNTIES**



NOTES:

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

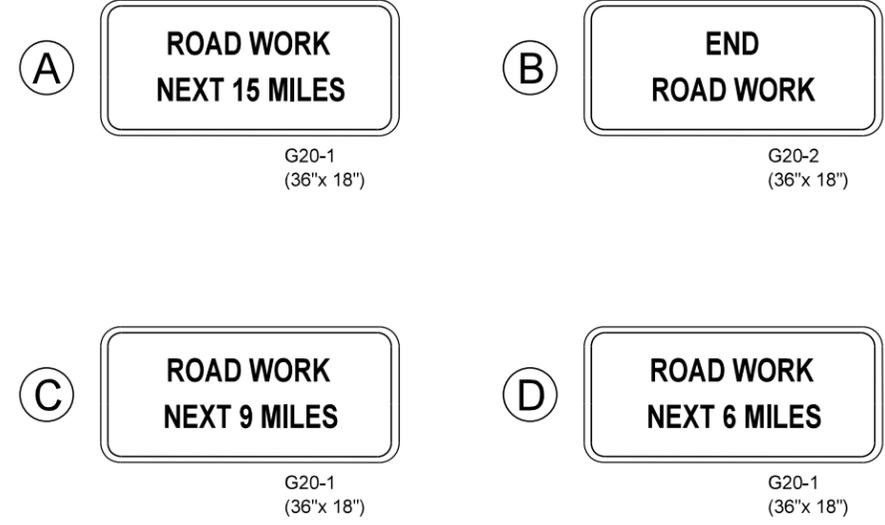
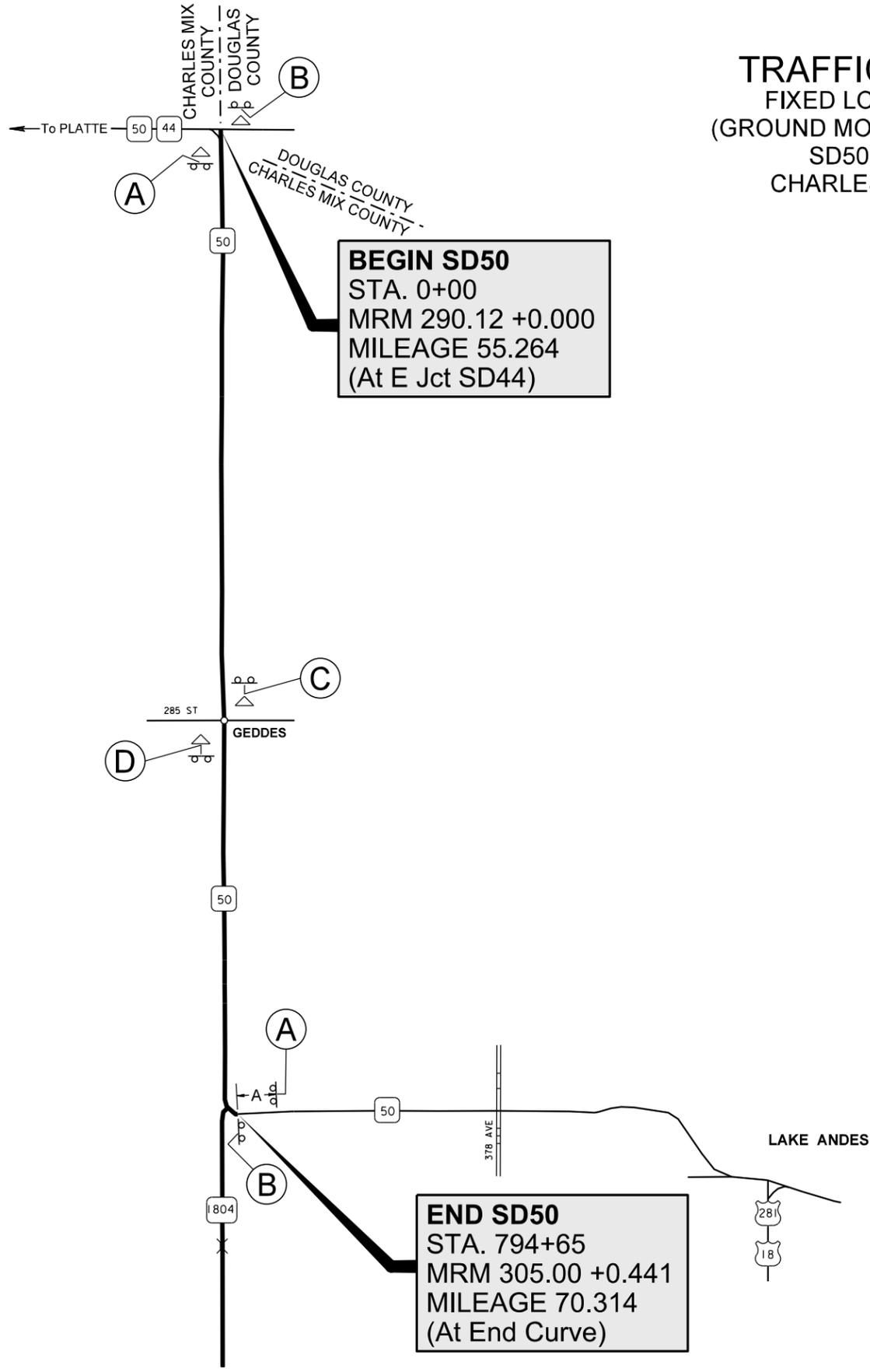
△ Signs shall be placed 200' to 300' from intersection. Exact location to be approved by the Engineer.

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

Plotting Date: 11/20/2015

TRAFFIC CONTROL
FIXED LOCATION SIGNS
 (GROUND MOUNTED SUPPORTS)
 SD50 - PCN 053F
 CHARLES MIX 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

PLOT SCALE - 1:7000

PLOTTED FROM - TRMLINT06

PLOT NAME - 8

FILE - ... \LMN053F\TC 053F 2016.DGN

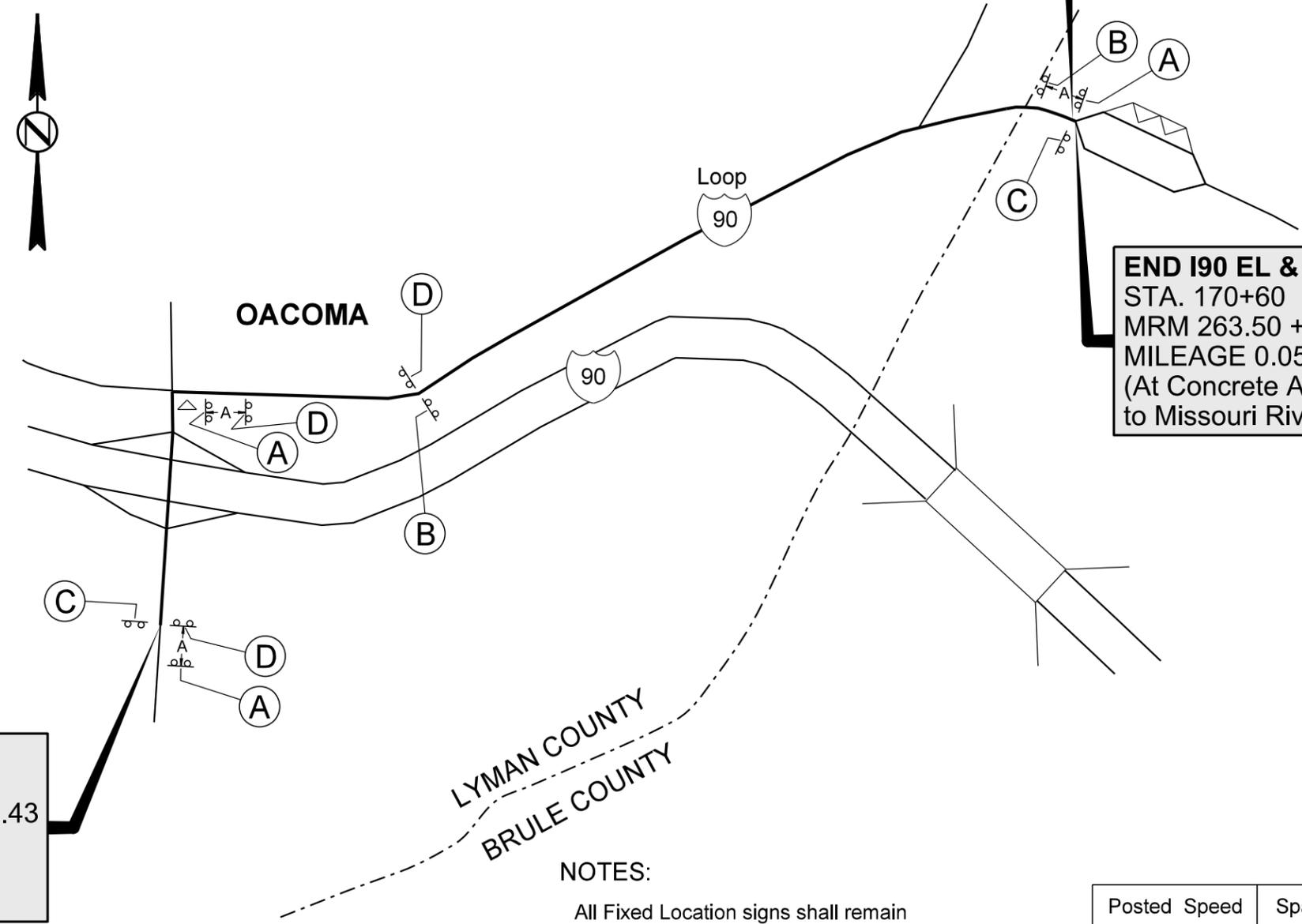
Plotting Date: 11/20/2015

TRAFFIC CONTROL
FIXED LOCATION SIGNS
(GROUND MOUNTED SUPPORTS)
I90L - PCN 053F
LYMAN & BRULE COUNTIES

END I90 L
STA. 167+59
MRM 263.50 +0.000
MILEAGE 3.028
BEGIN I90 EL & I90 WL
MILEAGE 0.000

END I90 EL & I90 WL
STA. 170+60
MRM 263.50 +0.057
MILEAGE 0.057
(At Concrete Approach to Missouri River Bridge)

BEGIN I90 LOOP
STA. 0+00
1014 Ft South of MRM 260.43
MILEAGE -0.146
(At End Concrete just N of W 2nd St in Oacoma)



- A** **ROAD WORK NEXT 3 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** **LOOSE GRAVEL**
W8-7 (48"x 48")

NOTES:

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

△ Signs shall be placed 50' to 150' from intersection. Exact location to be approved by the Engineer.

Construction signs shall not obscure existing signs and must be installed a minimum of 100' 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

PLOT SCALE - 1:7000

PLOTTED FROM - TRMLINT06

PLOT NAME - 8

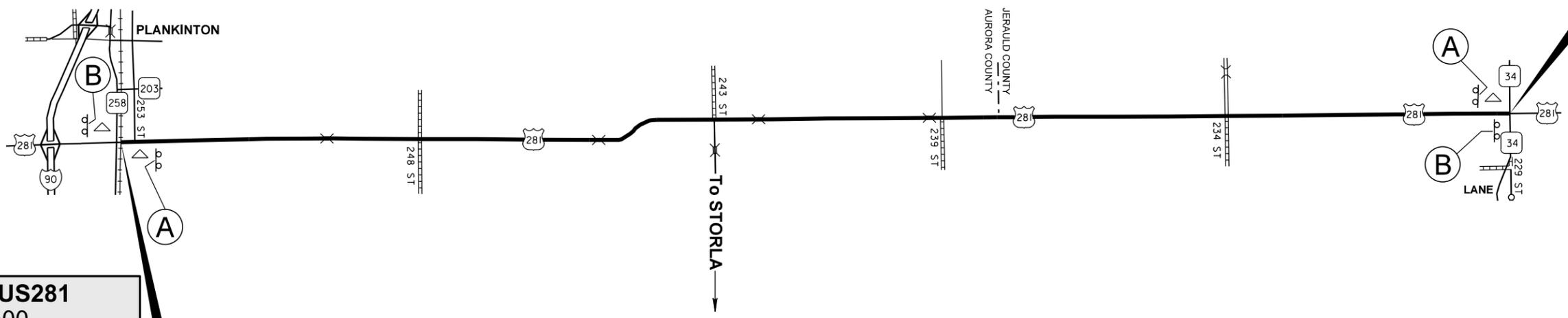
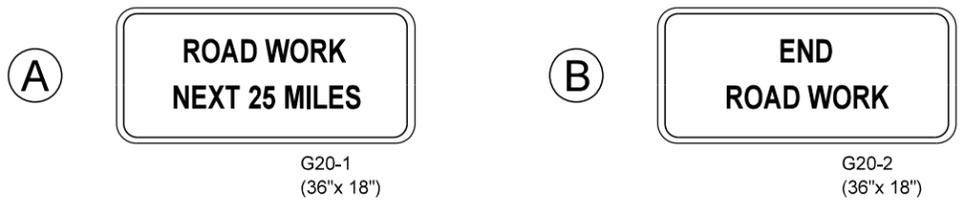
FILE - ... \LYMN053F\TC 053F 2016.DGN

Plotting Date: 11/20/2015

**TRAFFIC CONTROL
FIXED LOCATION SIGNS
(GROUND MOUNTED SUPPORTS)
US281 - PCN 053F
AURORA & JERAULD COUNTIES**

PLOT SCALE - 1:7000

PLOT NAME - 8



BEGIN US281
STA. 0+00
MRM 71.47 +0.035
MILEAGE 36.474
(86' N of Jct SD258)

END US281
STA. 1302+50
MRM 96.16 +0.000
MILEAGE 61.143
(At Jct SD34)

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

PLOTTED FROM - TRMLINT06

FILE - ... \LYM\053F\TC 053F 2016.DGN

TRAFFIC CONTROL
FIXED LOCATION SIGNS
(GROUND MOUNTED SUPPORTS)
SD1806 - PCN 053F
GREGORY COUNTY

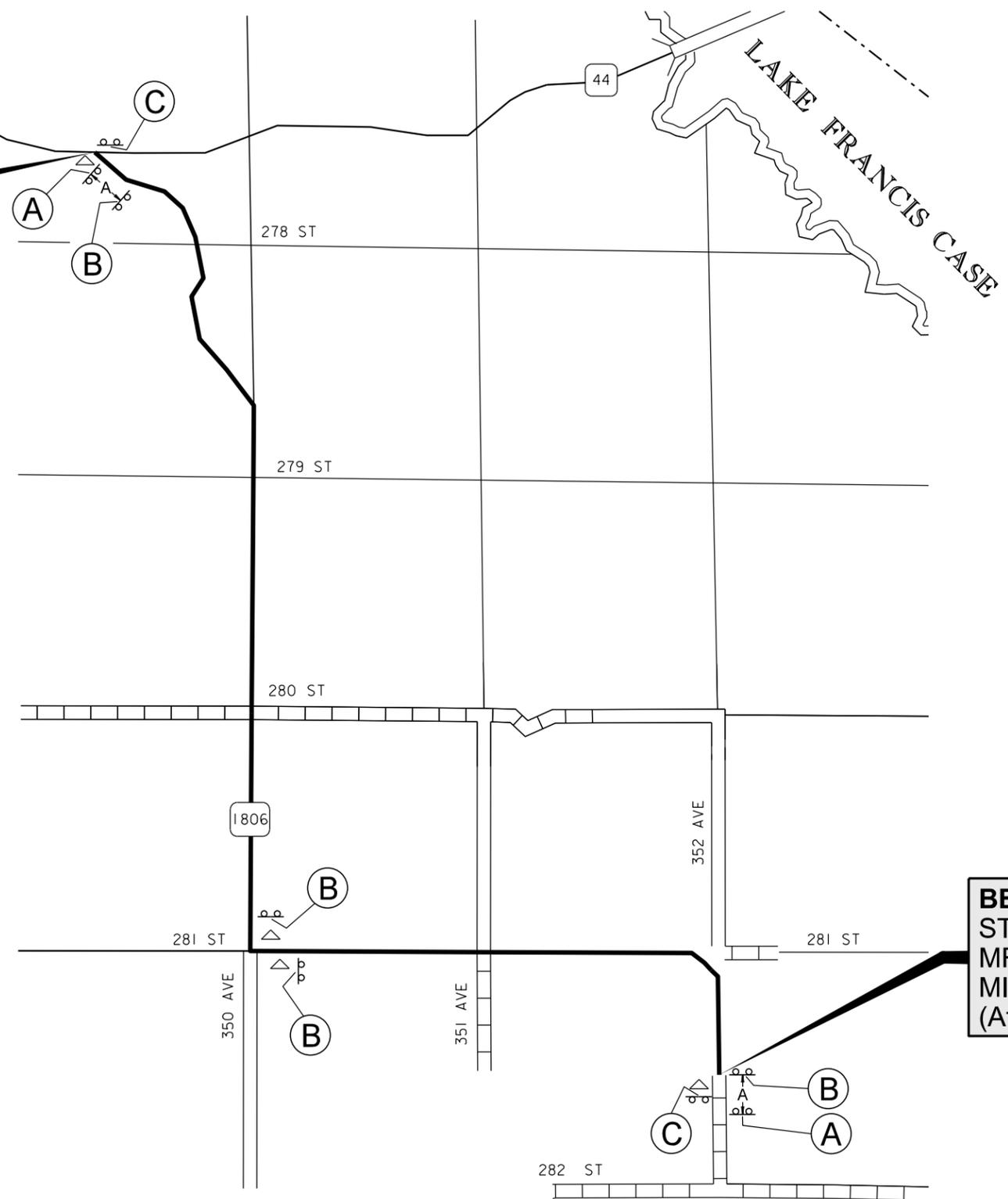
END SD1806
STA. 312+05
MRM 48.55 +0.000
MILEAGE 20.606

BEGIN SD1806
STA. 0+00
MRM 42.78 +0.000
MILEAGE 14.696
(At Begin Asphalt)

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



A **ROAD WORK NEXT 6 MILES**
G20-1
(36"x 18")

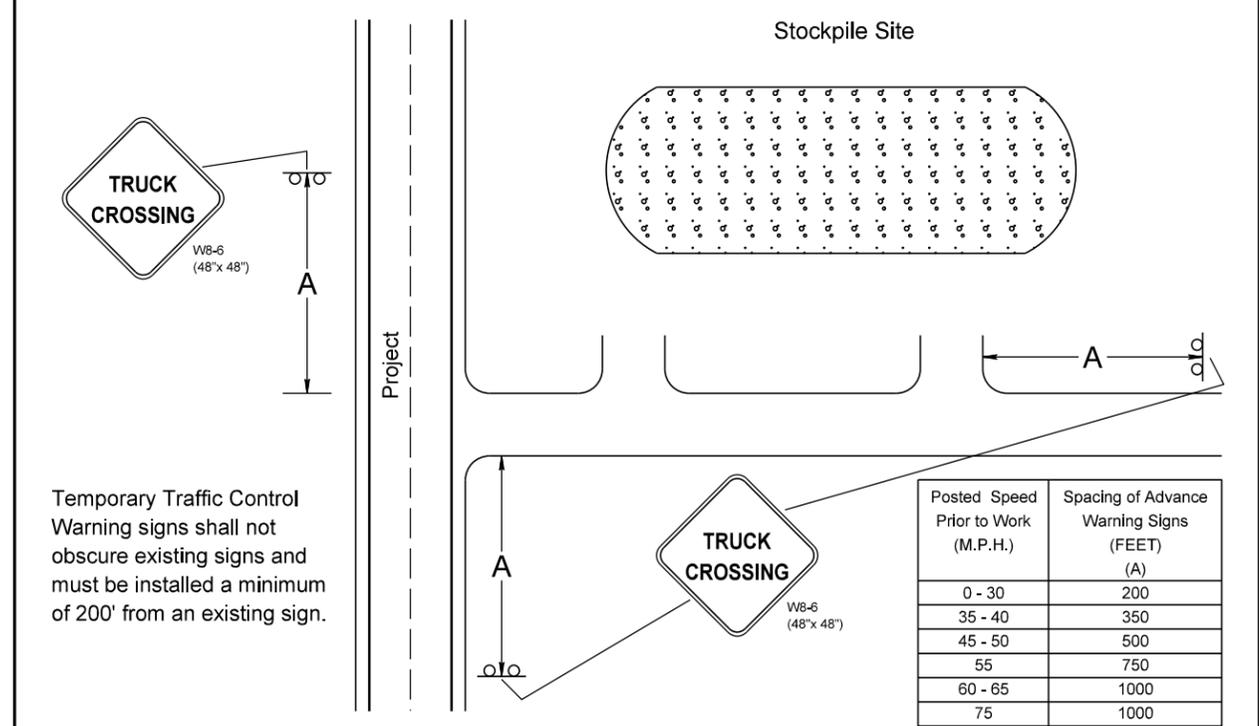
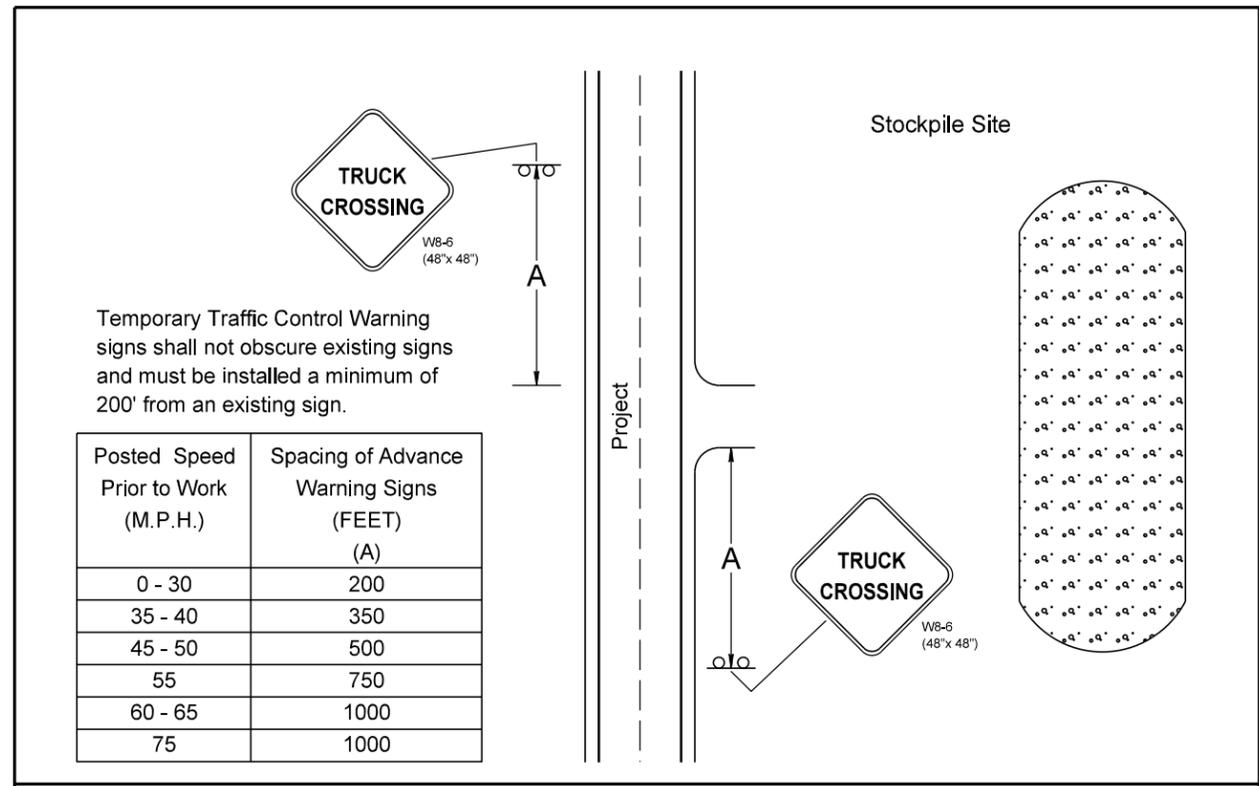
B **LOOSE GRAVEL**
W8-7
(48"x 48")

40 MPH
W13-1P
(30"x 30")

C **END ROAD WORK**
G20-2
(36"x 18")

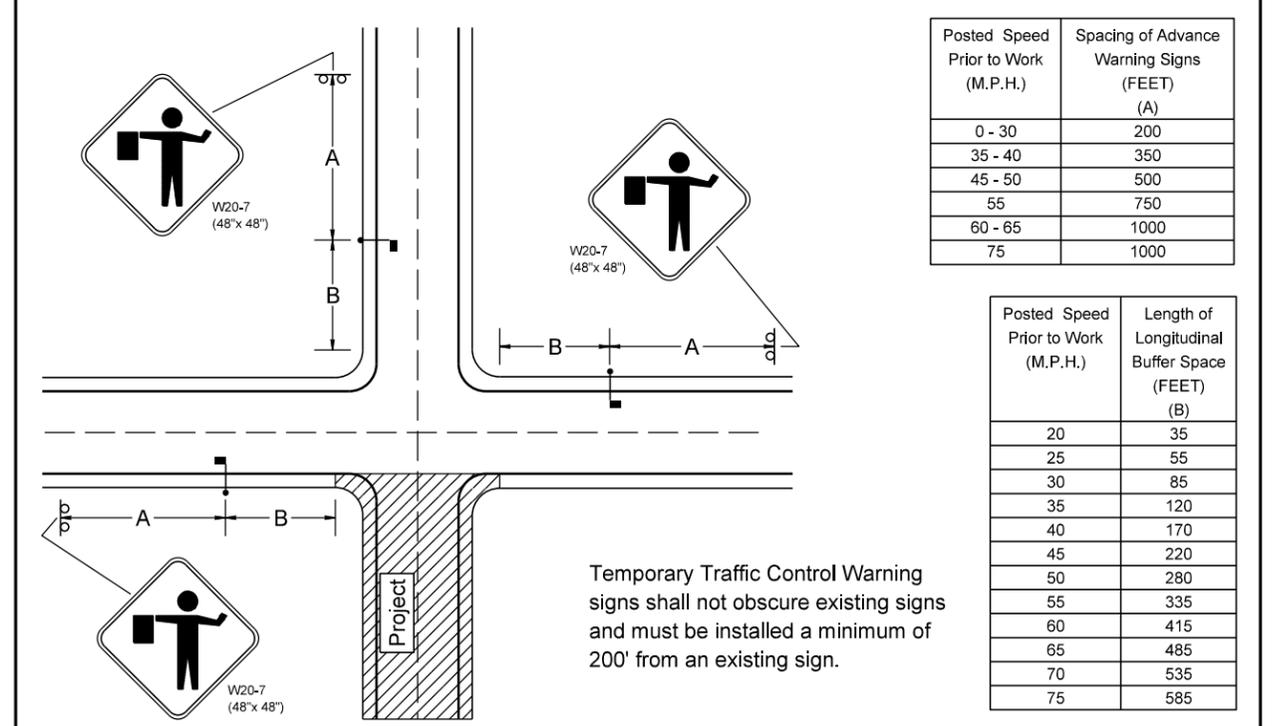
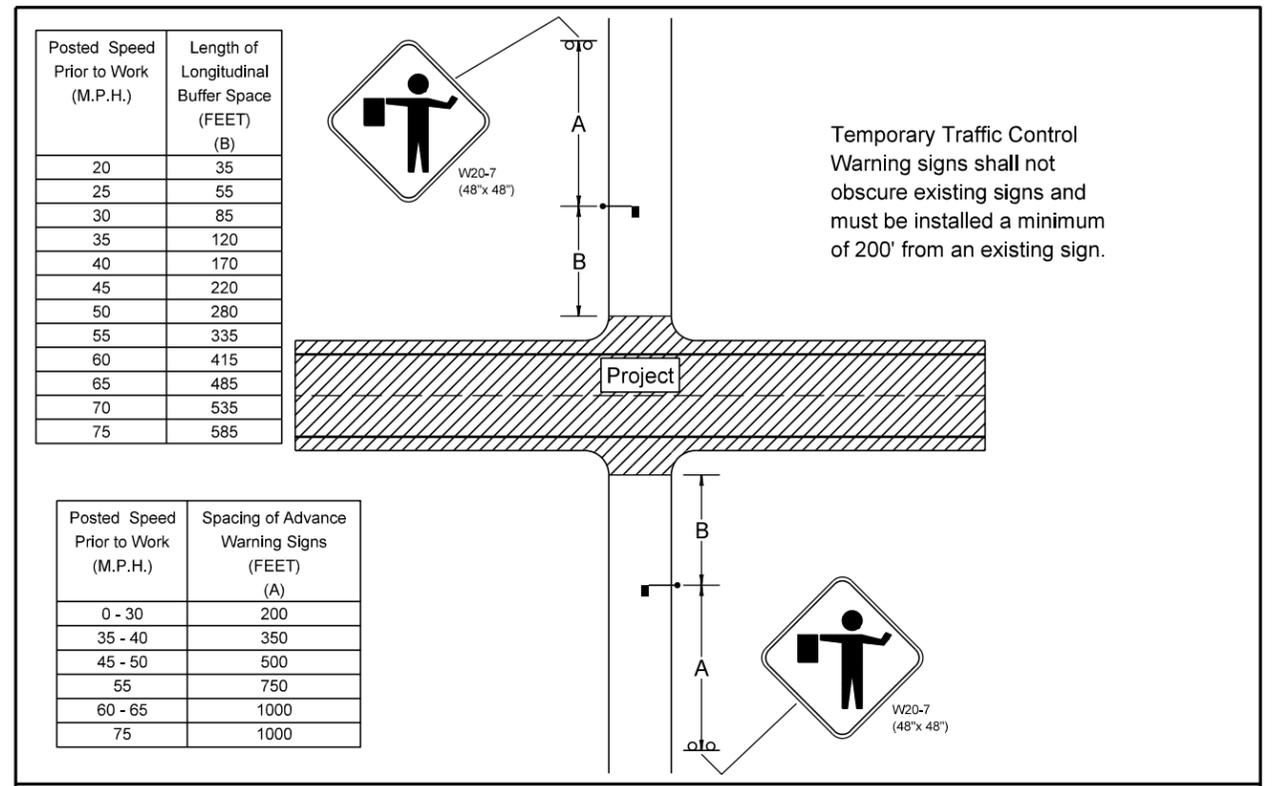
Plotting Date: 11/20/2015

PLOT SCALE - 1:7000



GUIDES FOR TRAFFIC CONTROL DEVICES TRUCK CROSSING SIGN INSTALLATION

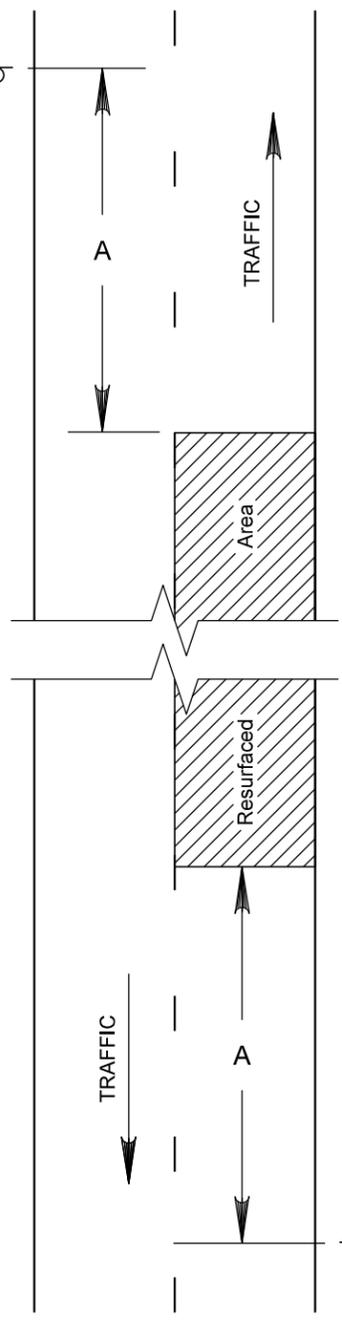
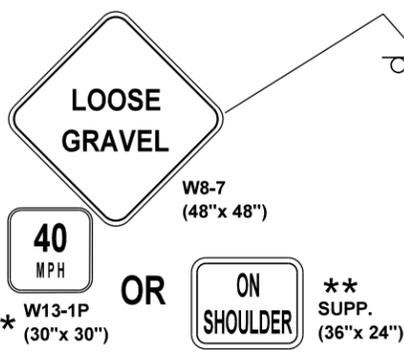
PLOTTED FROM - TRMLINT06



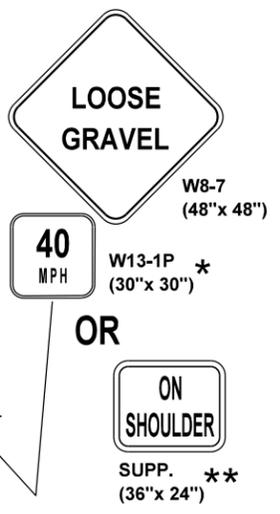
GUIDES FOR TRAFFIC CONTROL DEVICES FLAGGER SIGN INSTALLATION AT INTERSECTING ROADS

PLOT NAME - 1
FILE - ... \TRUCK CROSSING & FLAGGER 053F 2016.DGN

PLOT SCALE - 1:7000



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



- * The W13-1P plate shall be used when the asphalt surface treatment is applied to the mainline.
- ** The Supplemental plate shall be used when the asphalt surface treatment is applied only to the shoulders.

NOTES:

The Contractor shall 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 5 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 of loose aggregate.

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 - 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) shall 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.

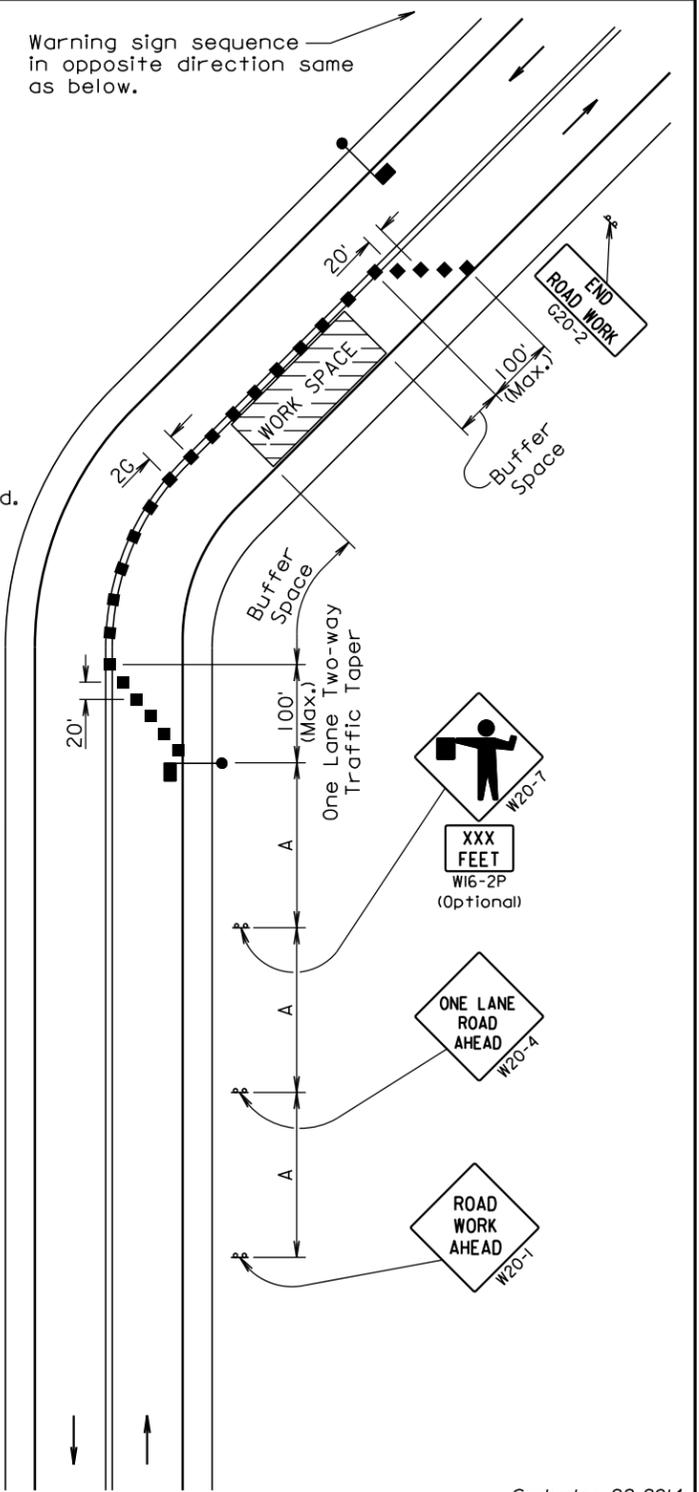
The channelizing devices shall be drums or 42" cones.

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 shall 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.



Warning sign sequence in opposite direction same as below.

Published Date: 4th Qtr. 2015	S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES LANE CLOSURE WITH FLAGGER PROVIDED	September 22, 2014
		PLATE NUMBER 634.23	Sheet 1 of 1

PLOTTED FROM - TRMLINT06

FILE - ... \LOOSE GRAVEL & 63423 053F 2016.DGN

PLOT NAME - 1

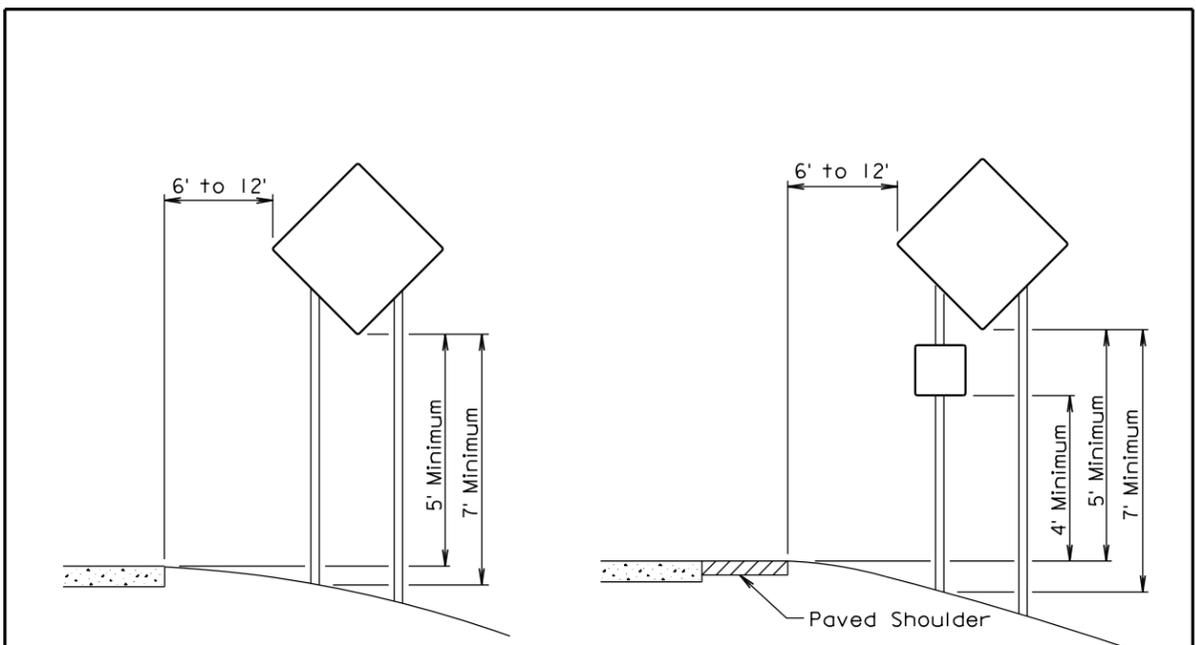
Plotting Date: 11/20/2015

PLOT SCALE - 1:7000

PLOT NAME - 1

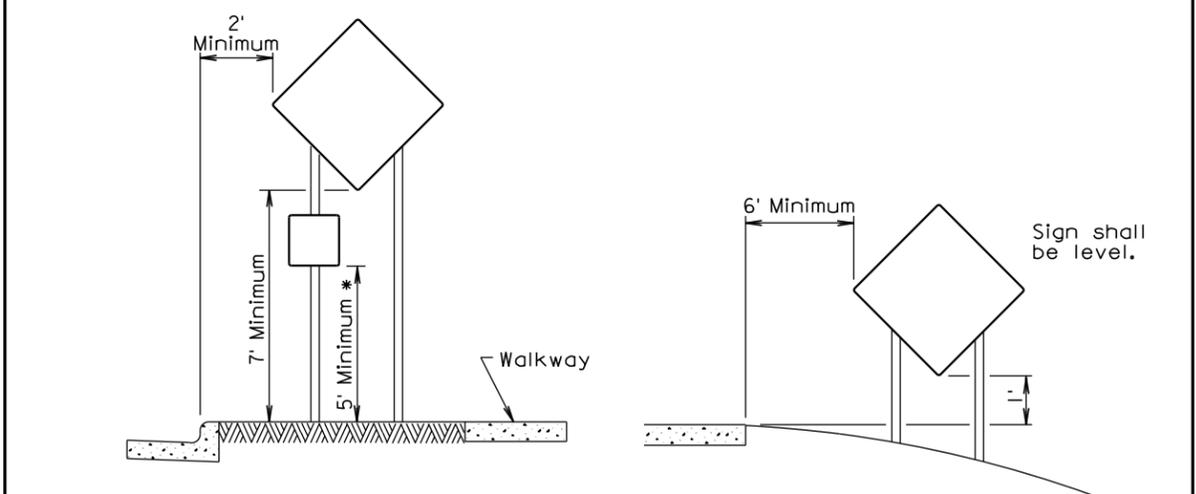
FILE - ... \63485 & 63499 053F 2016.DGN

PLOTTED FROM - TRMLINT06



RURAL DISTRICT

RURAL DISTRICT WITH SUPPLEMENTAL PLATE



URBAN DISTRICT

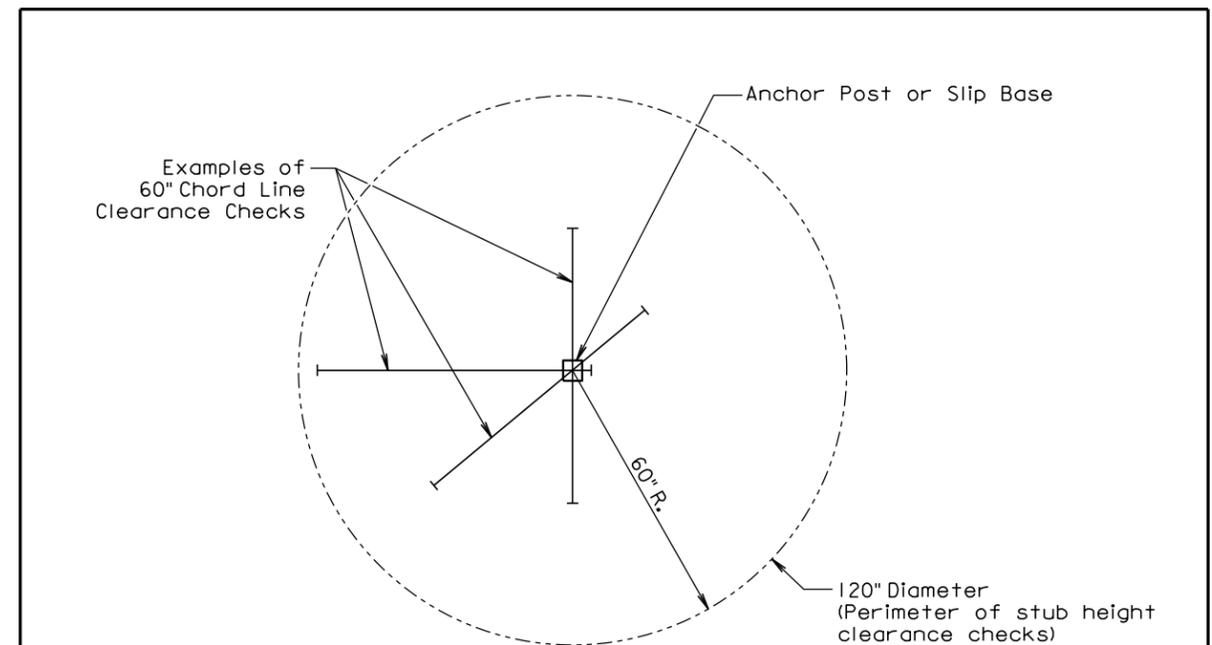
RURAL DISTRICT 3 DAY MAXIMUM

* 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.

(Not applicable to regulatory signs)

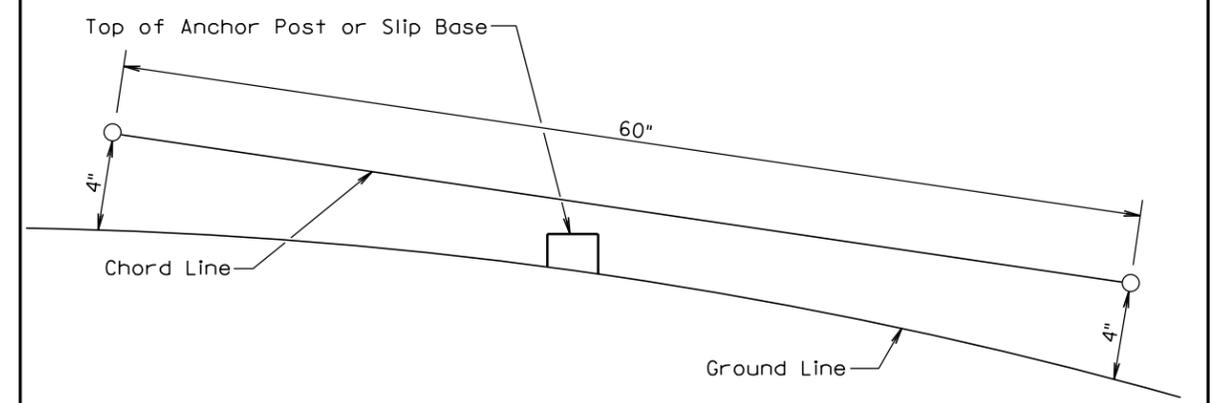
September 22, 2014

Published Date: 4th Qtr. 2015	S D D O T	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 SHALL 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 shall 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.

July 1, 2005

Published Date: 4th Qtr. 2015	S D D O T	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
			Sheet 1 of 1

ITEMIZED LIST FOR TRAFFIC CONTROL

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	32
W8-7	LOOSE GRAVEL	4	48" x 48"	16	64
W13-1P	ADVISORY SPEED (plaque)	4	30" x 30"	6	24
W20-1	ROAD WORK AHEAD	2	48" x 48"	16	32
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16	32
W20-7	FLAGGER (symbol)	6	48" x 48"	16	96
G20-1	ROAD WORK NEXT 9 MILES	2	36" x 18"	5	10
G20-1	ROAD WORK NEXT 5 MILES	1	36" x 18"	5	5
G20-1	ROAD WORK NEXT 3 MILES	1	36" x 18"	5	5
G20-2	END ROAD WORK	2	36" x 18"	5	10
CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT 310					

SD34 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	32
W8-7	LOOSE GRAVEL	6	48" x 48"	16	96
W13-1P	ADVISORY SPEED (plaque)	6	30" x 30"	6	36
W20-1	ROAD WORK AHEAD	2	48" x 48"	16	32
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16	32
W20-7	FLAGGER (symbol)	6	48" x 48"	16	96
G20-1	ROAD WORK NEXT 8 MILES	2	36" x 18"	5	10
G20-2	END ROAD WORK	2	36" x 18"	5	10
CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT 344					

SD42 DAVISON, HANSON & McCOOK COUNTIES

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-6	TRUCK CROSSING	2	48" x 48"	16	32
W8-7	LOOSE GRAVEL	16	48" x 48"	16	256
W13-1P	ADVISORY SPEED (plaque)	16	30" x 30"	6	96
W20-1	ROAD WORK AHEAD	2	48" x 48"	16	32
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16	32
W20-7	FLAGGER (symbol)	6	48" x 48"	16	96
G20-1	ROAD WORK NEXT 26 MILES	2	36" x 18"	5	10
G20-1	ROAD WORK NEXT 25 MILES	2	36" x 18"	5	10
G20-2	END ROAD WORK	2	36" x 18"	5	10
CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT 574					

SD44 CHARLES MIX & DOUGLAS COUNTIES

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-6	TRUCK CROSSING	2	48" x 48"	16	32
W8-7	LOOSE GRAVEL	4	48" x 48"	16	64
W13-1P	ADVISORY SPEED (plaque)	4	30" x 30"	6	24
W20-1	ROAD WORK AHEAD	2	48" x 48"	16	32
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16	32
W20-7	FLAGGER (symbol)	6	48" x 48"	16	96
G20-1	ROAD WORK NEXT 6 MILES	2	36" x 18"	5	10
G20-2	END ROAD WORK	2	36" x 18"	5	10
CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT 300					

SD50 CHARLES MIX COUNTY

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W20-1	ROAD WORK AHEAD	2	48" x 48"	16	32
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16	32
W20-7	FLAGGER (symbol)	6	48" x 48"	16	96
W21-2	FRESH OIL	6	48" x 48"	16	96
SUPP.	ON SHOULDER	6	36" x 30"	8	48
G20-1	ROAD WORK NEXT 15 MILES	2	36" x 18"	5	10
G20-1	ROAD WORK NEXT 9 MILES	1	36" x 18"	5	5
G20-1	ROAD WORK NEXT 6 MILES	1	36" x 18"	5	5
G20-2	END ROAD WORK	2	36" x 18"	5	10
CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT 334					

190L LYMAN & BRULE COUNTIES

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-6	TRUCK CROSSING	2	48" x 48"	16	32
W8-7	LOOSE GRAVEL	5	48" x 48"	16	80
W13-1P	ADVISORY SPEED (plaque)	2	30" x 30"	6	12
W20-1	ROAD WORK AHEAD	4	48" x 48"	16	64
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16	32
W20-7	FLAGGER (symbol)	8	48" x 48"	16	128
G20-1	ROAD WORK NEXT 3 MILES	3	36" x 18"	5	15
G20-2	END ROAD WORK	2	36" x 18"	5	10
CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT 373					

ITEMIZED LIST FOR TRAFFIC CONTROL (CONTINUED)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0021(157)	43	43

US281 AURORA & JERAULD COUNTIES

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W20-1	ROAD WORK AHEAD	2	48" x 48"	16	32
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16	32
W20-7	FLAGGER (symbol)	6	48" x 48"	16	96
W21-2	FRESH OIL	10	48" x 48"	16	160
SUPP.	ON SHOULDER	10	36" x 30"	8	80
G20-1	ROAD WORK NEXT 25 MILES	2	36" x 18"	5	10
G20-2	END ROAD WORK	2	36" x 18"	5	10
CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT					420

SD1806 GREGORY COUNTY

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-6	TRUCK CROSSING	2	48" x 48"	16	32
W8-7	LOOSE GRAVEL	4	48" x 48"	16	64
W13-1P	ADVISORY SPEED (plaque)	4	30" x 30"	6	24
W20-1	ROAD WORK AHEAD	2	48" x 48"	16	32
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16	32
W20-7	FLAGGER (symbol)	6	48" x 48"	16	96
G20-1	ROAD WORK NEXT 6 MILES	2	36" x 18"	5	10
G20-2	END ROAD WORK	2	36" x 18"	5	10
CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT					300