

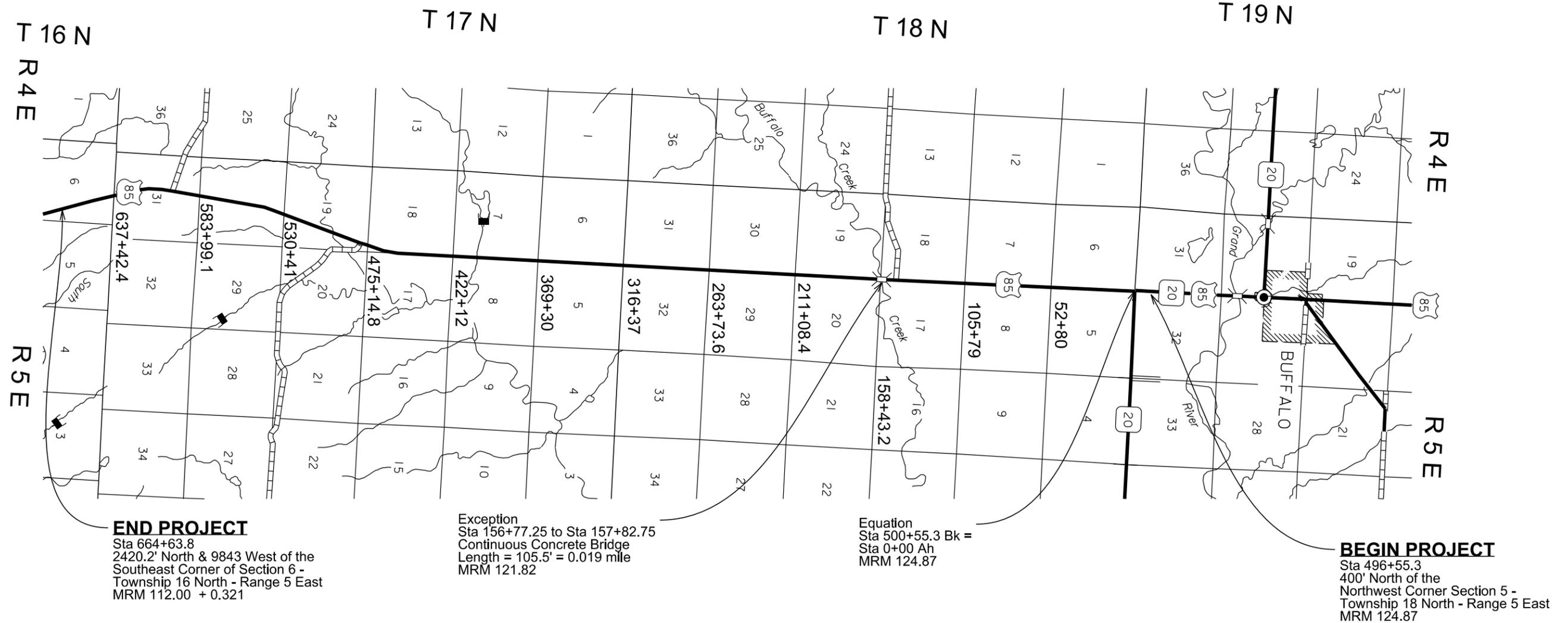
# Section M: Pavement Marking Plans

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0085(81)112	M1	M5

Plotting Date: 10/14/2014

## INDEX OF SHEETS

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Plot Scale - 1:200

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**SECTION C ESTIMATE OF QUANTITIES**

Bid Item Number	Item	Quantity	Unit
110E1400	Remove Pavement Marking, 4" or Equivalent	2,420	Ft
633E0010	Cold Applied Plastic Pavement Marking, 4"	6,850	Ft
633E0030	Cold Applied Plastic Pavement Marking, 24"	420	Ft
633E0040	Cold Applied Plastic Pavement Marking, Arrow	4	Each
633E1300	Pavement Marking Paint, White	430.0	Gal
633E1305	Pavement Marking Paint, Yellow	320.0	Gal
633E5000	Grooving for Cold Applied Plastic Pavement Marking, 4"	6,850	Ft
633E5015	Grooving for Cold Applied Plastic Pavement Marking, 24"	420	Ft
633E5025	Grooving for Cold Applied Plastic Pavement Marking, Arrow	4	Each

**REMOVE PAVEMENT MARKING, 4" OR EQUIVALENT**

Included in the estimate of quantities is 2,420 feet of Remove Pavement Marking, 4" from Sta 491+15 to Sta 496+55 to remove the existing pavement markings.

**PERMANENT PAVEMENT MARKINGS**

Application of permanent pavement marking paint shall be completed within 14 calendar days following the completion of the flush seal. A minimum 7 day cure time shall be required for the Flush Seal prior to pavement marking paint application.

The Contractor shall survey and remark disturbed Passing/No Passing zone markings as they currently exist.

The Contractor shall notify the engineer a minimum of 3 weeks prior to the application of the permanent pavement markings to allow the state to verify, determine and mark the locations of No Passing Zones. State forces will not be available to mark the No Passing Zones from 07-20-15 to 08-20-15.

All materials shall be applied as per manufacturer's recommendations.

All pavement markings shall be a Waterborne Pavement Marking Paint except for the turn lanes at SD Hwy 20 east and the weigh scale site which shall be a grooved-in Cold Applied Plastic Pavement Marking.

The pavement marking paint and glass beads shall be furnished and applied by the Contractor and shall meet the requirements for materials and application as per the Specifications.

All areas to be painted shall be thoroughly broomed prior to placement of any permanent paint to the satisfaction of the Engineer.

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 panel.

**PAVEMENT MARKING RATES OF APPLICATION**

Approximate paint application rates shall be as follows:

<b>Two Lane Roadway</b> (Rates for one line)
<u>Dashed Yellow Centerline</u> Rate = 4.6 Gals./Pass-Mile
<u>Solid Yellow Centerline</u> Rate = 16.9 Gals./Pass-Mile
<u>Solid White Edgeline</u> Rate = 16.9 Gals./Pass-Mile
Glass Beads = 8 Lbs./Gal.

Centerline striping (yellow) – 25.0 gallons per mile. \*

\* Rate above is the Region average. The actual gallons used will vary depending upon the number of no passing zones.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
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**GROOVE PAVEMENT FOR PAVEMENT MARKING**

The Contractor shall establish a positive means for the removal of the grinding and/or grooving residue. Solid residue shall be removed from the pavement surfaces before being blown by traffic action or wind. Residue shall not be permitted to flow across lanes being used by public traffic or into gutter or drainage facilities. Residue, whether in solid or slurry form, shall be disposed of in a manner that will prevent it from reaching any waterway in a concentrated state.

The equipment shall be capable of the following:

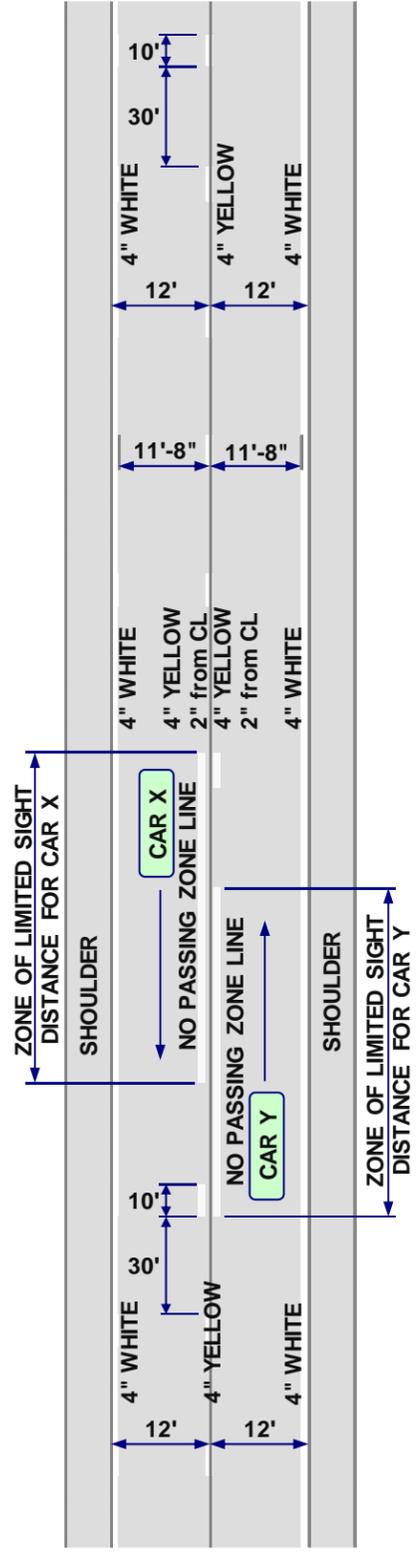
- Grooving the total width of the groove in one pass or uniform depths with multiple passes.
- Grooving without causing damage to the pavement joints or joint sealant material.
- Providing uniform alignment and depth.
- Moving continuously to permit a mobile traffic work operation.

If damage to joints, joint sealant material, backer rod, etc. occurs, the grooving operation shall be stopped and modifications shall be made to the grooving

Operation to prevent further damage. The Contractor shall be required to use specially prepared circular diamond blade cutting heads to prevent damage at the joints. Damage caused to joints, the joint sealant material, backer rod, etc. shall be repaired or replaced by the Contractor, as directed by the Engineer. No additional payment will be made for the repair work or any reapplication of the pavement marking in the area of the repair.

The bottom of the groove shall be uniform and free of loose material. The groove shall be flat and of uniform depth for the entire width of the groove. Grooving on bridge decks shall start and stop a sufficient distance from the expansion joints so no damage occurs in these areas. Markings on bridge decks shall be surface applied.

TWO LANE ROADWAY

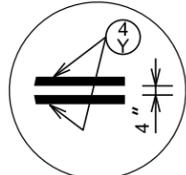
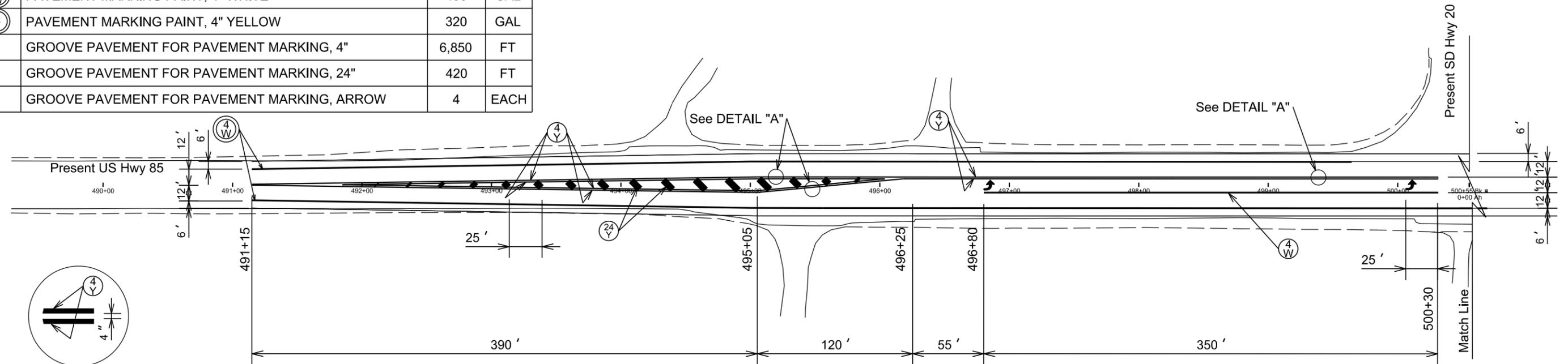


# PAVEMENT MARKING LAYOUT

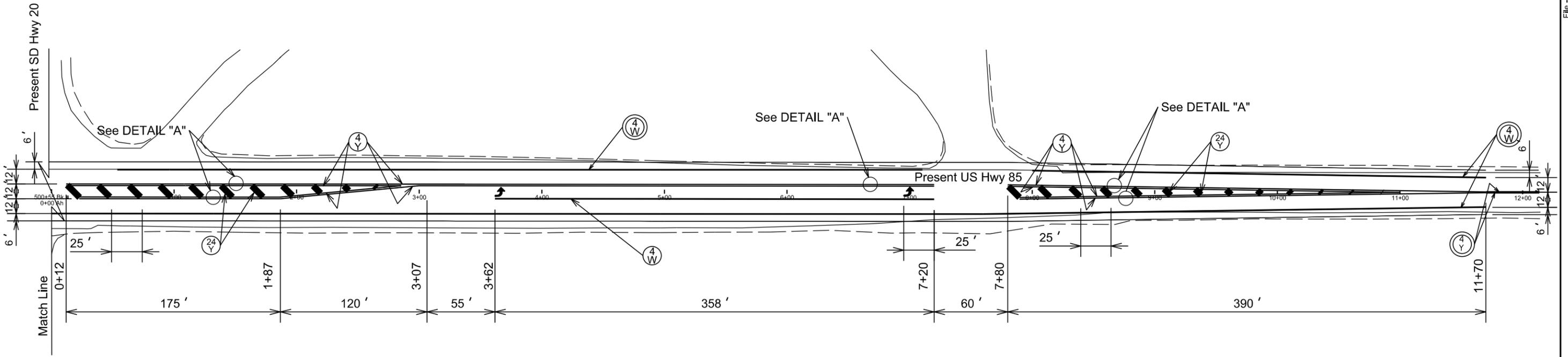
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0085(81)112	M4	M5
Plotting Date: 10/14/2014			

## ESTIMATE OF QUANTITIES (Section 2 & 3)

KEY	ITEM	EST QUANT	UNIT
(4W)	COLD APPLIED PLASTIC PAVEMENT MARKING, 4" WHITE	710	FT
(4Y)	COLD APPLIED PLASTIC PAVEMENT MARKING, 4" YELLOW	6,140	FT
(24Y)	COLD APPLIED PLASTIC PAVEMENT MARKING, 24" YELLOW	420	FT
↩	COLD APPLIED PLASTIC PAVEMENT MARKING, ARROW LEFT - 50/RIGHT - 2	4	EACH
(4W)	PAVEMENT MARKING PAINT, 4" WHITE	430	GAL
(4Y)	PAVEMENT MARKING PAINT, 4" YELLOW	320	GAL
	GROOVE PAVEMENT FOR PAVEMENT MARKING, 4"	6,850	FT
	GROOVE PAVEMENT FOR PAVEMENT MARKING, 24"	420	FT
	GROOVE PAVEMENT FOR PAVEMENT MARKING, ARROW	4	EACH



DETAIL "A"



Plot Scale - 1:80

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