

SECTION C - TRAFFIC CONTROL

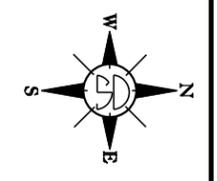
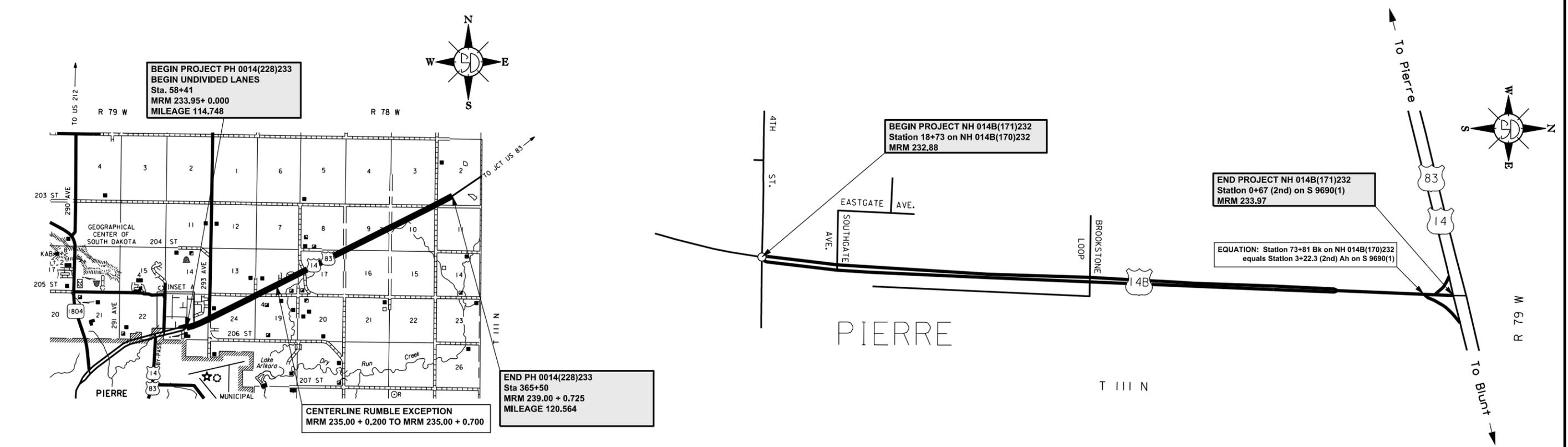
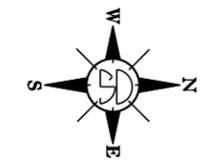
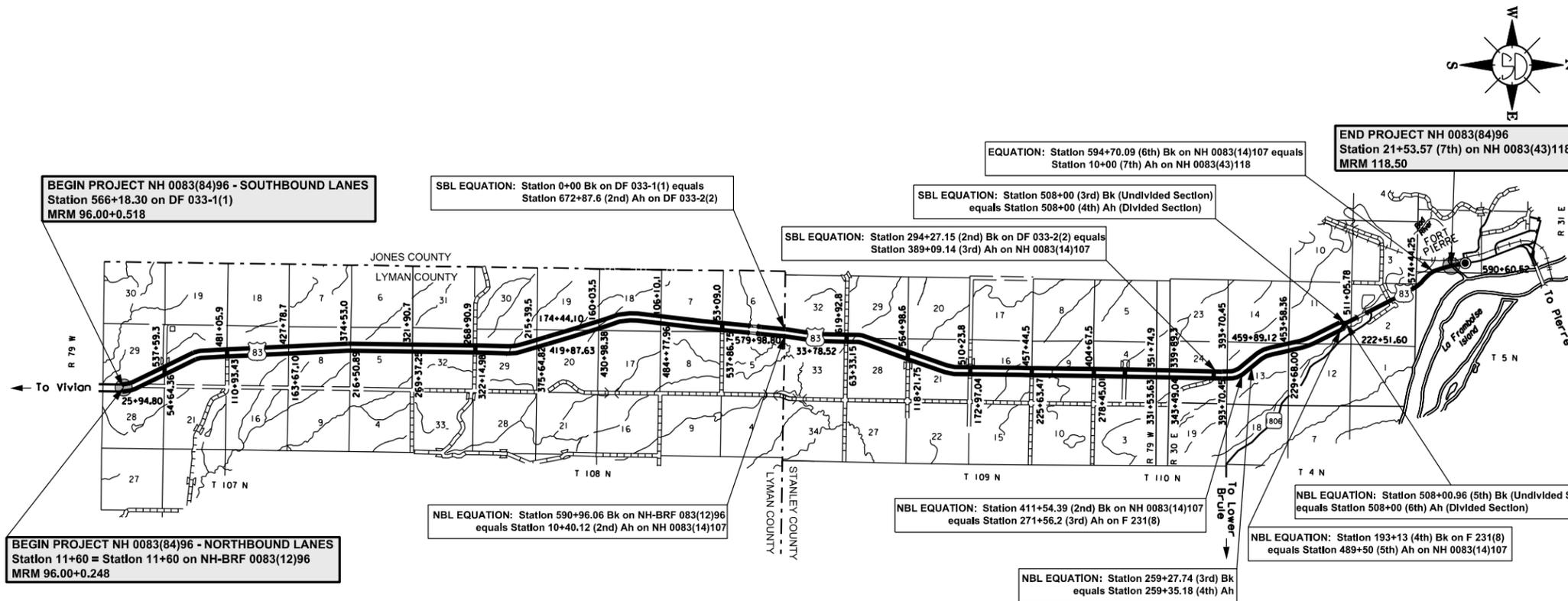
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	C1	C44

Plotting Date: 07/20/2016

Revised by V. Martin on 07/20/16

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STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	C2	C44

SECTION C ESTIMATE OF QUANTITIES – PCN 04WP

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
633E0010	Cold Applied Plastic Pavement Marking, 4"	50,188	Ft
633E0020	Cold Applied Plastic Pavement Marking, 8"	2,600	Ft
633E0030	Cold Applied Plastic Pavement Marking, 24"	483	Ft
633E0040	Cold Applied Plastic Pavement Marking, Arrow	15	Each
633E1200	Waterborne Pavement Marking Paint with High Grade Polymer, White	1,410	Gal
633E1205	Waterborne Pavement Marking Paint with High Grade Polymer, Yellow	1,128	Gal
633E5000	Grooving for Cold Applied Plastic Pavement Marking, 4"	50,188	Ft
633E5005	Grooving for Cold Applied Plastic Pavement Marking, 8"	2,600	Ft
633E5015	Grooving for Cold Applied Plastic Pavement Marking, 24"	483	Ft
633E5025	Grooving for Cold Applied Plastic Pavement Marking, Arrow	15	Each
633E5100	Grooving for Durable Pavement Marking, 4"	481,782	Ft
634E0010	Flagging	1,332.0	Hour
634E0020	Pilot Car	100.0	Hour
634E0110	Traffic Control Signs	2,129.2	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0285	Type 3 Barricade, 8' Double Sided	7	Each
634E0420	Type C Advance Warning Arrow Board	2	Each
634E0600	4" Temporary Pavement Marking Tape Type I	26,880	Ft
634E0630	Temporary Pavement Marking	110.2	Mile

SECTION C ESTIMATE OF QUANTITIES – PCN 05X4

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
633E1200	Waterborne Pavement Marking Paint with High Grade Polymer, White	324	Gal
633E1205	Waterborne Pavement Marking Paint with High Grade Polymer, Yellow	54	Gal
633E5100	Grooving for Durable Pavement Marking, 4"	61,417	Ft
634E0010	Flagging	40.0	Hour
634E0110	Traffic Control Signs	380.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0630	Temporary Pavement Marking	10.6	Mile

SECTION C ESTIMATE OF QUANTITIES – PCN 04XR

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
633E0010	Cold Applied Plastic Pavement Marking, 4"	14,145	Ft
633E0030	Cold Applied Plastic Pavement Marking, 24"	2,061	Ft
633E0035	Cold Applied Plastic Pavement Marking, Area	440	SqFt
633E0040	Cold Applied Plastic Pavement Marking, Arrow	32	Each
633E1400	Pavement Marking Paint, 4" White	800	Ft
633E1405	Pavement Marking Paint, 4" Yellow	960	Ft
633E1410	Pavement Marking Paint, 8" White	1,180	Ft
633E5000	Grooving for Cold Applied Plastic Pavement Marking, 4"	14,145	Ft
633E5015	Grooving for Cold Applied Plastic Pavement Marking, 24"	2,061	Ft
633E5020	Grooving for Cold Applied Plastic Pavement Marking, Area	440	SqFt
633E5025	Grooving for Cold Applied Plastic Pavement Marking, Arrow	32	Each
634E0010	Flagging	40.0	Hour
634E0020	Pilot Car	20.0	Hour
634E0110	Traffic Control Signs	1,031.6	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0285	Type 3 Barricade, 8' Double Sided	11	Each
634E0420	Type C Advance Warning Arrow Board	4	Each
634E0600	4" Temporary Pavement Marking Tape Type I	1,280	Ft
634E0630	Temporary Pavement Marking	2.0	Mile

SCOPE OF WORK

The work required for this project includes, but is not limited to, the following items, not listed in order of execution.

PCN 04WP:

1. Install Fixed Location Signing Prior to Construction Activities Commencing
2. Micro-Mill Asphalt Concrete
3. Unclassified Excavation for Dugouts & Backfill Operations
4. Remove & Replace Topsoil
5. Remove/Replace Culvert
6. Pipe Cleanout
7. Ditch Reprofiling
8. Foam/Grout/Tie Pipe Joints
9. Seed Disturbed Areas
10. Asphalt Concrete Strengthening & Leveling
11. Asphalt Concrete Paving Operations
12. Gravel Placement Operations on Approaches/Intersecting Roads
13. Grind Rumble Strips
14. If Required, Place Flush Seal on Rumble Strips
15. Permanent Pavement Markings
16. Refurbish Mailboxes
17. Remove Project Temporary Signing
18. Complete Any Remaining Project Cleanup

PCN 04XR:

1. Install Fixed Location Signing Prior to Construction Activities Commencing
2. Asphalt Concrete Paving Operations
3. Permanent Pavement Markings
4. Remove Project Temporary Signing
5. Complete Any Remaining Project Cleanup

PCN 05X4:

1. Sinusoidal Centerline Rumble Stripe Grinding
2. Permanent Pavement Markings
3. Complete Any Remaining Project Cleanup

The Contractor is encouraged to inspect the project site prior to bidding to evaluate the extent of work that will be required for construction.

SEQUENCE OF OPERATIONS

The Contractor shall submit a proposed sequence of operations for the Engineer's review and approval at least two weeks prior to the preconstruction meeting.

Traffic shall be maintained through the project at ALL times. The Contractor shall maintain access on and off the highway for local residences and county roads. The Contractor may perform work on the roadway during daylight hours only, unless additional hours are approved by the Engineer. Traffic shall be returned to normal driving lanes during non-working hours.

Once work starts to inconvenience traffic, work shall be pursued in a near continuous, expeditious manner to its completion. Any work that restricts the motorist from driving the posted speed limit, reduces existing roadway width, or causes a potentially unsafe condition due to Contractor operations such as frequent movement of equipment or materials on or through the project, is considered to be an inconvenience to traffic.

Class Q4 & Class S Hot Mixed Asphalt Concrete paving shall commence within 10 calendar days of the start of Micro-Milling Asphalt Concrete. At any given location, the maximum time between milling and the paving operation shall be 21 calendar days.

The Contractor shall coordinate with the City of Pierre prior to any milling operations commencing near or within traffic sensor areas. The Contractor shall contact Ryan Grant (City of Pierre) at 605-773-7341 or Dean VanDeWiele (SDDOT) at 605-773-5294.

Rumble strips and stripes shall be completed prior to permanent pavement marking and the flush seal.

Contractor shall accommodate all overwidth traffic for the duration of the project.

GENERAL NOTES – NH 0083(84)96 PCN 04WP & NH 014B(171)232 PCN 04XR

Removing, relocating, covering, salvaging and resetting of existing traffic control devices, including delineation, shall be the responsibility of the Contractor. Cost for this work shall be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any delineators, signs, and markers that are damaged or lost shall be replaced by the Contractor at no cost to the State.

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	C3	C44

COORDINATION BETWEEN CONTRACTORS – NH 014B(171)232 PCN 04XR

A separate contract for Project PH 0014(201)232 - PCN 04JA is being let at later date but construction of the two projects may interfere. The Contractor shall contact the Pierre Area prior to beginning work to coordinate with the other Contractor.

The Contractor shall schedule the work so as not to interfere with or hinder the progress of the work performed by other Contractors on the other projects. Conflicting traffic control devices may need to be temporarily adjusted or removed as directed by the Engineer at no additional cost to the contract.

TRAFFIC CONTROL

The Contractor shall designate an employee to be responsible for the maintenance of traffic. The Engineer must approve the employee selected. The name and phone number of person(s) shall be provided to the SD Department of Transportation (605-773-5294), SD Highway Patrol (Pierre State Radio (605-773-3536)), Hughes County Sheriff Department (605-773-7470), Lyman County Sheriff Department (605-869-2267), and Stanley County Sheriff Department (605-223-7792).

All traffic control devices shall be in "like new" condition.

GENERAL MAINTENANCE OF TRAFFIC

General:

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

Channelizing devices in a series shall be of the same type. The cost of additional channelizing devices shall be incidental to the contract lump sum price for "Traffic Control, Miscellaneous".

BUMP signs shall be used in conjunction with the cold milling transitions at the end of the day.

A shadow vehicle, equipped with flashing amber light and a ROAD MACHINERY AHEAD sign prominently displayed, shall be used in advance of landscaping, clean up, and other mobile work activities. The cost of ROAD MACHINERY AHEAD sign shall be incidental to the contract lump sum price for "Traffic Control, Miscellaneous".

PCN 05X4:

Traffic for centerline operations shall be maintained on the driving lanes through the work area by using two sets of flaggers. The first flagger that the traveling public encounters shall stop them and inform them of road machinery and fresh oil on the centerline. The second flagger will move with the operation and direct traffic around the operation appropriately. The Contractor shall be limited to a three mile flagger setup, once the three mile area is complete the Contractor will be permitted to advance three additional miles. Completion of an area consists of grinding rumble stripes, installing centerline tabs, flush sealing and a curing of the flush seal such that it is not picked up by traffic.

TRAFFIC CONTROL FOR ASPHALT CORING

Coring operations shall be completed during daylight hours only. Traffic control for coring operations shall be executed by following the "Special Detail for Mobile Operations for Asphalt Coring" sheet.

TEMPORARY PAVEMENT MARKINGS

General:

Temporary pavement markings shall be as per the Specifications.

The total length of no passing zone is estimated to be **0.790** miles on US 83, **0.623** mile on US 14, and **0.231** miles on US 14B.

All turn lanes and divided lanes shall have temporary pavement markings applied.

Temporary pavement markings placed shall be fully compliant as normally used to identify no passing zones.

At the end of each day the temporary pavement markings shall be in place and visible. No separate payment will be made for remarking a segment of roadway that was not evened up with surface treatment at the end of the previous day.

US 83 Sections 1, 2, 5, 6, 8, 9 & 10

Quantities of Temporary Pavement Markings consist of:

- 1) One pass on top of the Milled Surface
- 2) One pass on top of the Q4 Asphalt Concrete
- 3) One pass on top of the Class S Asphalt Concrete

US 83 Sections 3, 4, 7, 11, & 12

Quantities of Temporary Pavement Markings consist of:

- 1) One pass on top of the Milled Surface
- 2) One pass on top of the Class S Asphalt Concrete

US 14B Sections 1, 2, 3, 4, 5, 6, & 7

Quantities of Temporary Pavement Markings consist of:

- 1) One pass on top of the Class S Asphalt Concrete

US 14 Sections

Quantities of Temporary Pavement Markings consist of:

- 1) One pass on top of the Centerline Rumble Strip
- 2) One pass on top of the Flush Seal

Multiple applications of Temporary Flexible Vertical Markers (Tabs) may be needed if plastic covers are lost and the tabs are not functioning. No extra payment will be made.

Flagger symbol signs (W20-7) and flaggers, or a shadow vehicle with rotating yellow lights or strobe lights shall be positioned on the roadway shoulder in advance of workers for both directions of traffic during the installation of temporary flexible vertical markers (tabs). The traffic control device used shall be moved 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.

PCN 04WP:

Approximately 13,440 feet of 4 inch white temporary pavement marking tape, type I and 13,440 feet of 4 inch yellow temporary pavement marking tape, type I, will be required for the project. The Contractor will be paid only once for tape placement. The Contractor is responsible for maintaining and cleaning the tape throughout the duration of the project and for removing all temporary pavement marking tape when it is no longer required.

PCN 04XR:

No Passing Zones may be identified using DO NOT PASS and PASS WITH CARE signs in addition to dashed centerline pavement markings. It is estimated that 6 DO NOT PASS and 6 PASS WITH CARE signs will be required to mark the no passing zones.

If the Contractor elects to use DO NOT PASS and PASS WITH CARE signs to mark no passing zones, then prior to the removal of the existing pavement markings signs shall be erected on fixed location supports.

Approximately 1,280 feet of 4 inch yellow temporary pavement marking tape, type I, will be required for the project. The Contractor will be paid only once for tape placement. The Contractor is responsible for maintaining and cleaning the tape throughout the duration of the project and for removing all temporary pavement marking tape when it is no longer required.

TABLE OF ESTIMATED TEMPORARY PAVEMENT TAPE

4" Temporary Pavement Marking Tape Type I

PCN	4W	4Y
04WP	13,440	13,440
04XR	1,280	--
05X4	--	--
Total:	14,720	13,440

PERMANENT PAVEMENT MARKING

The Contractor shall advise the Engineer a minimum of 2 weeks prior to the application of the permanent pavement marking to allow the State to check and mark the location of no passing zones.

04WP & 04XR:

The application of permanent pavement markings may not begin until 2 calendar days following completion of final surfacing and shall be completed within 14 calendar days following completion of the final surfacing.

05X4:

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

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	C4	C44

GROOVING FOR DURABLE PAVEMENT MARKING, 4" – NH 0083(84)96 PCN 04WP & PH 0014(228)233 PCN 5X4

Grooving for durable pavement markings will replicate the existing 4" pavement marking lines.

The grooving shall be completed within the following tolerances:

Depth of groove - Sum of pavement marking thickness and reflective media + 15 mils ±5 mils

Width of groove	4-1/2" ± 1/8"
Length of skip lines	10'-6" ± 3"
Tapers at begin/end lines	6" to 9"

The equipment shall be capable of:

- moving continuously to permit a mobile traffic work operation

For information only, locations of grooving for durable pavement markings can be seen on the pavement marking layout sheets.

WATERBORNE PAVEMENT MARKING PAINT WITH HIGH GRADE POLYMER – NH 0083(84)96 PCN 04WP & PH 0014(228)233 PCN 05X4

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

This material shall consist of a durable high build, low VOC, fast drying, waterborne traffic paint with a 100% acrylic polymer (Dow DT-400 or Dow HD-21A or equivalent) and with reflective media adhered to the paint. The reflective media shall consist of glass beads as well as bonded core reflective elements.

The bonded core reflective elements shall contain either clear or yellow tinted microcrystalline ceramic beads bonded to the outer surface. All microcrystalline ceramic beads bonded to reflective elements shall have a minimum index of refraction of 1.8 when tested using the liquid oil immersion method.

The Department will take retroreflectivity readings on the pavement marking lines no sooner than 3 days and no later than 30 days after the completion of all line applications required for an individual highway route using a portable retroreflectometer conforming to 30-meter geometry. Retroreflectivity readings will be taken on a test location with cleaning being limited to light hand brooming.

Pavement markings not conforming to the retroreflectivity requirements shall be removed and replaced. If replacement of markings cannot be applied within the same year, the Contractor shall schedule subject work to be completed no later than June 15th in the following year. Upon replacement, the retroreflectivity testing process will be done again requiring new readings.

The Department will randomly select one test location per mile of centerline (solid and/or skip line will be considered as one centerline). Three retroreflectivity readings will be taken at each test location. The three readings will be averaged and become the reading for that test location.

Initial readings:

<u>Pavement Marking Color</u>	<u>Minimum Value</u>
Yellow	275 mc/m ² /lux
White	350 mc/m ² /lux

All pavement markings not conforming to the requirements provided in these plans will be considered deficient and shall be removed and replaced. Additional retroreflectivity readings will be taken by the Department to determine the limits of removal. The removal shall be accomplished using suitable sand blasting or grinding equipment unless the Engineer authorizes other means. The removal process shall remove at least 90% of the deficient line, with no excessive scarring of the existing pavement. The removal width shall be one inch wider all around the nominal width of the pavement marking to be removed. Removal and replacement of the pavement markings shall be at the Contractor's expense, with no cost incurred by the State.

04WP:

Waterborne Pavement Markings shall be applied on the divided section from Station 566+18.30 to Station 495+00 in the Southbound lanes and Station 11+60 to Station 495+00 (thru equation) in the Northbound lanes.

RATES OF MATERIALS FOR PAINT WITH HIGH GRADE POLYMER – NH 0083(84)96 PCN 04WP & PH 0014(228)233 PCN 05X4

Solid 4" line = 27.8 Gals/Mile
Glass Beads = 5.3 Lbs/Gal.
Composite Reflective Elements = 2.1 Lbs/Gal.

All cost for materials, labor and equipment necessary to furnish and install the pavement markings shall be incidental to the contract unit price per gallon for Waterborne Pavement Marking Paint with High Grade Polymer, White or Yellow.

GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING – NH 0083(84)96 PCN 04WP & NH 014B(171)232 PCN 04XR

The Contractor shall establish a positive means for the removal of the grinding and/or grooving residue. Residue from dry grooving shall be vacuumed. Solid residue shall be removed from the pavement surfaces before being blown by traffic action or wind. Residue from wet grooving 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. All costs for removal of grinding and/or grooving residue shall be included in the contract unit price per foot for "Grooving for Cold Applied Plastic Pavement Marking".

The groove depth shall be 100 mils with a tolerance of + 10 mils.

The groove shall be made using stacked diamond tipped blade cutting heads to prevent damage at the joints.

COLD APPLIED PLASTIC PAVEMENT MARKINGS – NH 0083(84)96 PCN 04WP & NH 014B(171)232 PCN 04XR

Cold Applied Plastic Pavement Markings shall be grooved, 3M Series 380 AW or approved equal.

US 14 Centerline & Edge Line Quantities

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	C5	C44

Apply Waterborne Pavement Marking Paint with High Grade Polymer, Yellow				
MRM	To	MRM	Distance (Mileage)	Paint (Gallons)
233.95+0.000		235.00+0.200	1.095	11
235.00+0.200		235.00+0.700	*Exception	
235.00+0.700		239.00+0.725	4.221	43
Total Length (Miles)			5.316	
Total Gallons of Waterborne Pavement Marking Paint with High Grade Polymer, Yellow			-	54

*Note: No grinding shall occur in centerline yellow tape locations

Grooving for Durable Pavement Marking, 4"/Apply Waterborne Pavement Marking Paint with High Grade Polymer, White					
MRM	To	MRM	Side	Distance (Mileage)	Paint (Gallon)
233.95+0.000		239.00+0.725	LT	5.816	324
233.95+0.000		239.00+0.725	RT	5.816	
Total Grooving Length (Miles) per side				11.632	-
Total Gallons of Waterborne Pavement Marking Paint with High Grade Polymer, White				-	324

PROJECT SIGN & PAVEMENT MARKING TABULATION

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	C6	C44

Itemized List for Traffic Control Signs

NH 0083(84)96 PCN 04WP:

SIGN CODE	SIGN DESCRIPTION	EXPRESSWAY / INTERSTATE			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R2-1	SPEED LIMIT	5	36" x 48"	12.0	60.0
R2-6aP	FINES DOUBLE (plaque)	1	36" x 24"	6.0	6.0
R11-2	ROAD CLOSED	2	48" x 30"	10.0	20.0
W3-4	BE PREPARED TO STOP	2	48" x 48"	16.0	32.0
W3-5	SPEED REDUCTION AHEAD (MPH)	3	48" x 48"	16.0	48.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	4	48" x 48"	16.0	64.0
W8-1	BUMP	4	48" x 48"	16.0	64.0
W8-11	UNEVEN LANES	2	48" x 48"	16.0	32.0
W8-15	GROOVED PAVEMENT	32	48" x 48"	16.0	512.0
W13-1P	ADVISORY SPEED (plaque)	4	30" x 30"	6.3	25.2
W16-2P	FEET (supplemental distance plaque)	2	30" x 24"	5.0	10.0
W20-1	ROAD WORK AHEAD	20	48" x 48"	16.0	320.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	4	48" x 48"	16.0	64.0
W20-7	FLAGGER (symbol)	7	48" x 48"	16.0	112.0
W21-2	FRESH OIL	32	48" x 48"	16.0	512.0
W21-5	SHOULDER WORK	4	48" x 48"	16.0	64.0
G20-1	ROAD WORK NEXT MILES	3	48" x 24"	8.0	24.0
G20-2	END ROAD WORK	16	48" x 24"	8.0	128.0
EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT					2129.2

TYPE 3 BARRICADES

ITEM DESCRIPTION	QUANTITY
Type 3 Barricade, 8' Double Sided	7 Each

ARROW BOARDS

ITEM DESCRIPTION	QUANTITY
Type C Advance Warning Arrow Board	2 Each

PH 0014(228)233 PCN 05X4:

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W3-4	BE PREPARED TO STOP	2	48" x 48"	16.0	32.0
W8-15	GROOVED PAVEMENT	4	48" x 48"	16.0	64.0
W16-2P	FEET (supplemental distance plaque)	2	30" x 24"	5.0	10.0
W20-1	ROAD WORK AHEAD	4	48" x 48"	16.0	64.0
W20-4	ONE LANE ROAD AHEAD	4	48" x 48"	16.0	64.0
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.0
W21-2	FRESH OIL	4	48" x 48"	16.0	64.0
G20-2	END ROAD WORK	4	36" x 18"	4.5	18.0
CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT					380.0

NH 014B(171)232 PCN 04XR:

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R3-2	LEFT TURN PROHIBITION (symbol)	2	24" x 24"	4.0	8.0
R3-7R	RIGHT LANE MUST TURN RIGHT	1	30" x 30"	6.3	6.3
R3-7L	LEFT LANE MUST TURN LEFT	2	30" x 30"	6.3	12.6
R4-7	KEEP RIGHT (symbol)	1	24" x 30"	5.0	5.0
R11-2	ROAD CLOSED	2	48" x 30"	10.0	20.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	3	48" x 48"	16.0	48.0
W8-1	BUMP	4	48" x 48"	16.0	64.0
W8-11	UNEVEN LANES	2	48" x 48"	16.0	32.0
W8-15	GROOVED PAVEMENT	4	48" x 48"	16.0	64.0
W9-2	LANE ENDS MERGE LEFT	1	48" x 48"	16.0	16.0
W13-1P	ADVISORY SPEED (plaque)	4	30" x 30"	6.3	25.2
W16-2P	FEET (supplemental distance plaque)	2	30" x 24"	5.0	10.0
W20-1	ROAD WORK AHEAD	25	48" x 48"	16.0	400.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	3	48" x 48"	16.0	48.0
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.0
W21-2	FRESH OIL	4	48" x 48"	16.0	64.0
G20-2	END ROAD WORK	25	36" x 18"	4.5	112.5
CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT					1031.6

TYPE 3 BARRICADES

ITEM DESCRIPTION	QUANTITY
Type 3 Barricade, 8' Double Sided	11 Each

ARROW BOARDS

ITEM DESCRIPTION	QUANTITY
Type C Advance Warning Arrow Board	4 Each

PROJECT SIGN & PAVEMENT MARKING TABULATION

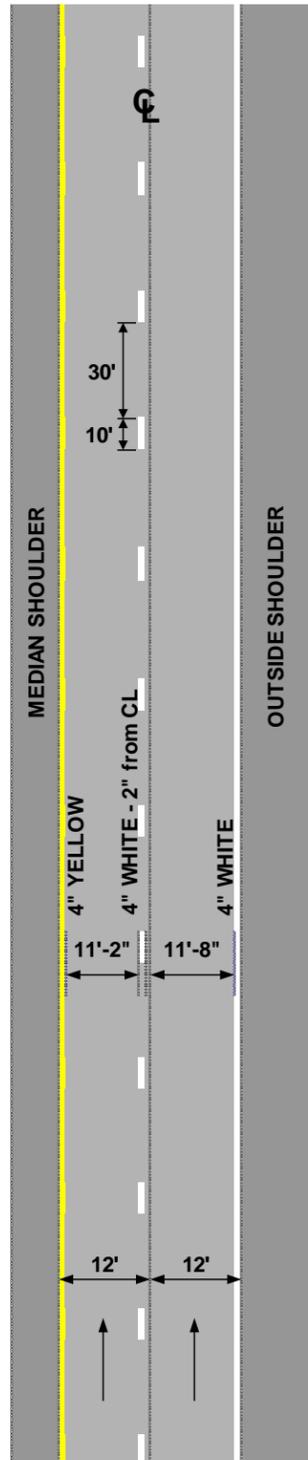
STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	C7	C44

Pavement Markings

NH 0083(84)96 PCN 04WP:

PH 0014(228)233 PCN 05X4:

DIVIDED ROADWAY (ONE DIRECTION SHOWN)



PAVEMENT MARKING

Typical pavement marking as shown on this sheet shall be applied throughout the entire length of divided roadway.

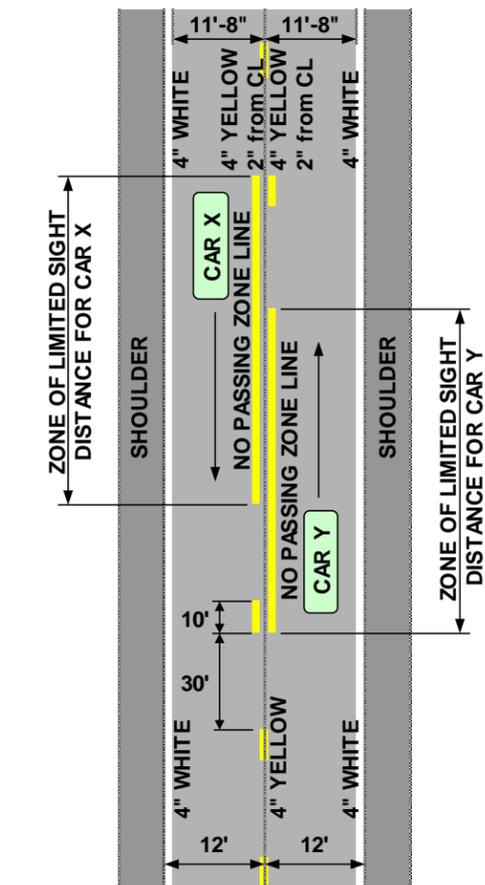
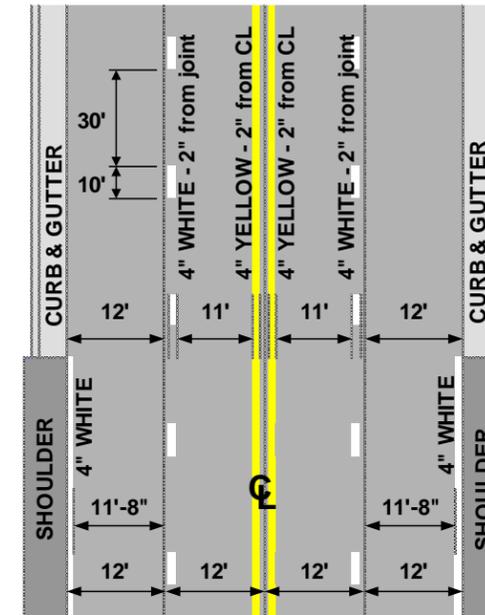
Traffic Control shall be incidental to the cost of application. The striping and advance or trailing warning vehicle shall be equipped with flashing amber lights and advance warning arrow board.

Application rates shall be as follows:

DIVIDED ROADWAY (Rates for one line)	
Solid Yellow Edgeline	Rate = 27.8 Gals./Pass-Mile
Dashed White Centerline	Rate = 27.8 Gals./Pass-Mile
Solid White Edgeline	Rate = 27.8 Gals./Pass-Mile

ESTIMATED QUANTITIES	
POLYMER	QUANTITY
WHITE	1410 GALLONS
YELLOW	1128 GALLONS

UNDIVIDED ROADWAY



PAVEMENT MARKING

Typical pavement marking as shown on this sheet shall be applied throughout the entire length of undivided roadway.

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

Exact location of NO PASSING ZONE lines will be determined in the field by the Engineer. A dash of white paint will mark the beginning and end of all no passing zones. NO PASSING ZONE signs and the ending post in fence lines, if present, shall not be used as the beginning and ending of NO PASSING ZONE lines.

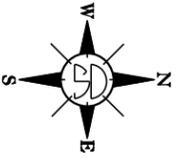
Application rates shall be as follows:

Four Lane Roadway (Rates for one line)	Two Lane Roadway (Rates for one line)
Solid Yellow Centerline	Dashed Yellow Centerline
Rate = 27.8 Gals./Pass-Mile	Rate = 27.8 Gals./Pass-Mile
Dashed White Laneline	Solid Yellow Centerline
Rate = 27.8 Gals./Pass-Mile	Rate = 27.8 Gals./Pass-Mile
Solid White Edgeline	Solid White Edgeline
(Not applicable in curb and gutter)	Rate = 27.8 Gals./Pass-Mile
Rate = 27.8 Gals./Pass-Mile	

ESTIMATED QUANTITIES	
POLYMER	QUANTITY
WHITE	324 GALLONS
YELLOW	54 GALLONS

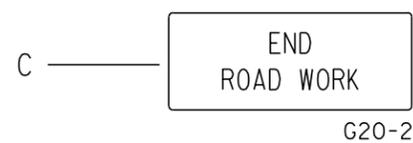
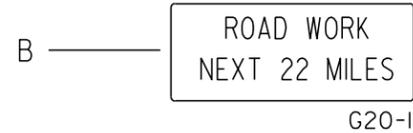
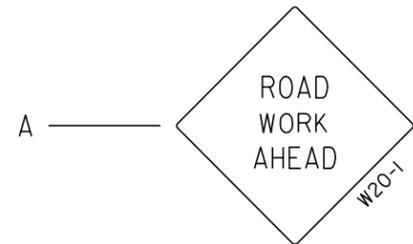
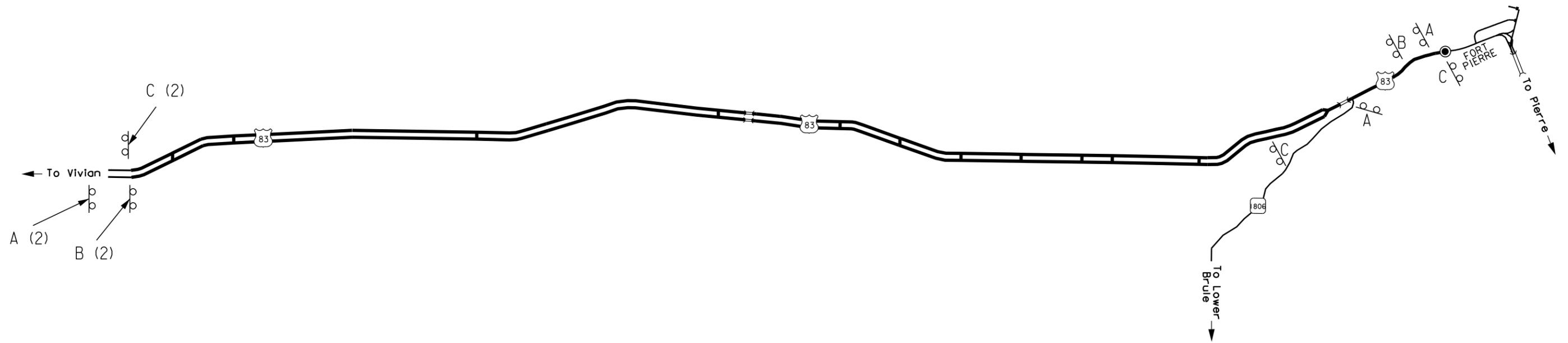
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	C8	C44

Plotting Date: 07/11/2016



Fixed Sign Location

NH 0083(84)96 - PCN 04WP



Notes:

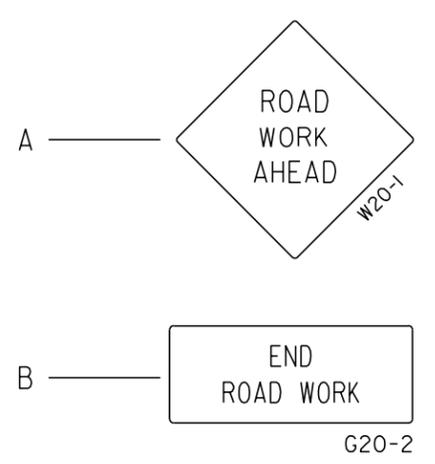
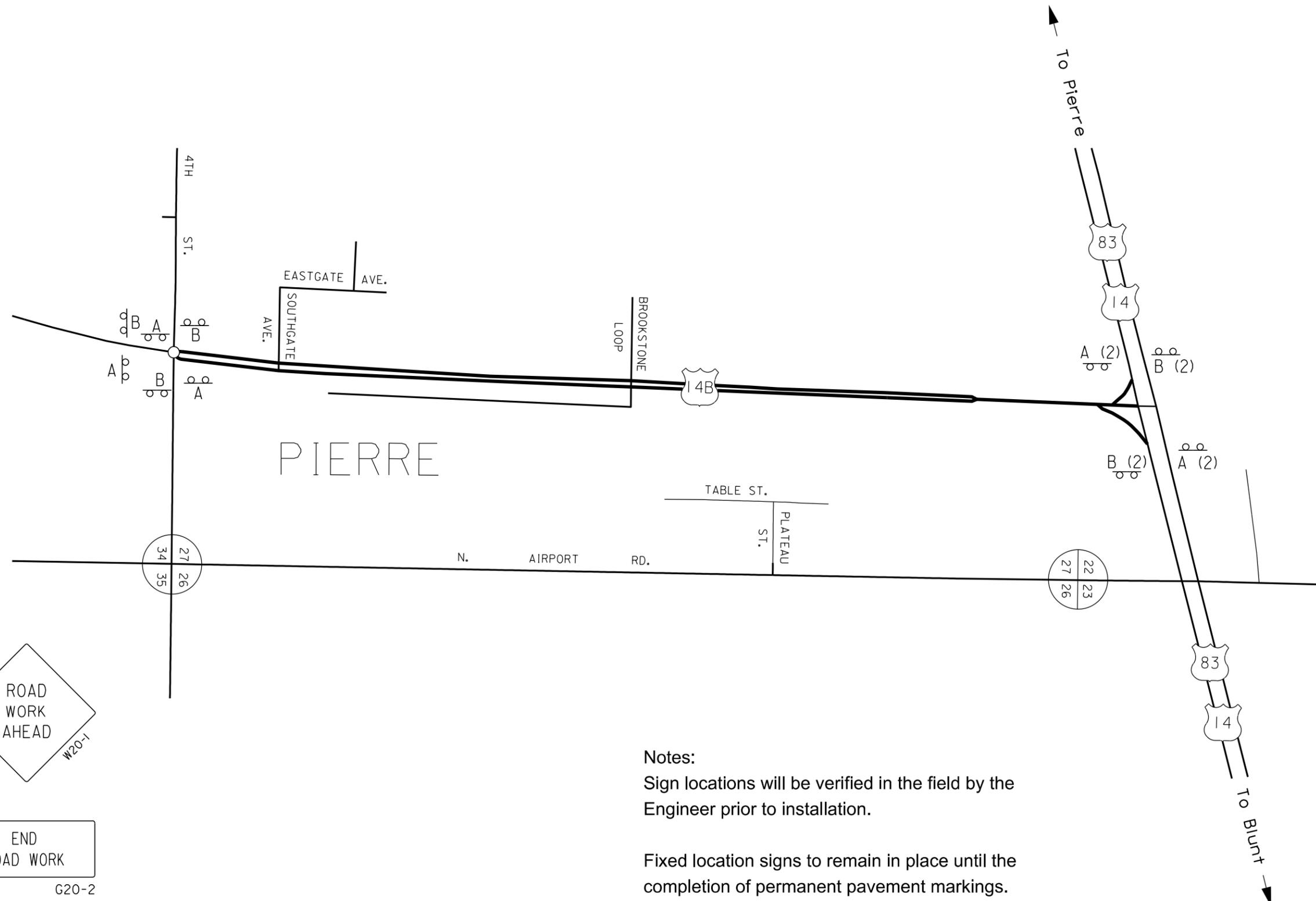
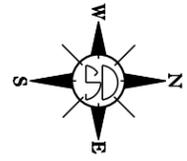
Sign locations will be verified in the field by the Engineer prior to installation.

Fixed location signs to remain in place until the completion of permanent pavement markings.

Plotting Date: 07/11/2016

Fixed Sign Location

NH 014B(171)232 - PCN 04XR



Notes:
 Sign locations will be verified in the field by the Engineer prior to installation.

Fixed location signs to remain in place until the completion of permanent pavement markings.

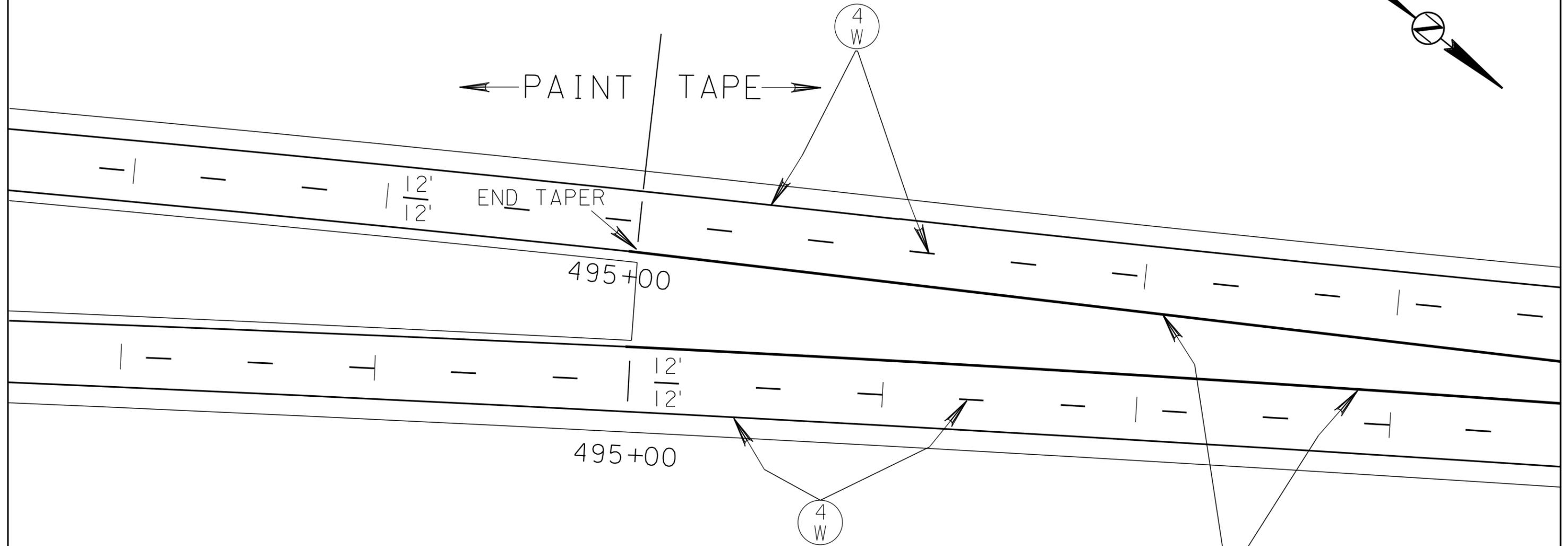
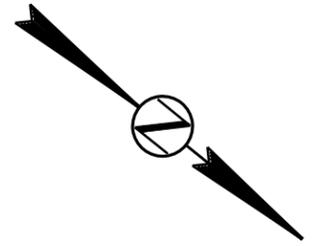
PAVEMENT MARKING LAYOUT

US HWY 83

NH 0083(84)96 - PCN 04WP

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	C10	C44

Plotting Date: 07/11/2016



ESTIMATE OF QUANTITIES - US 83

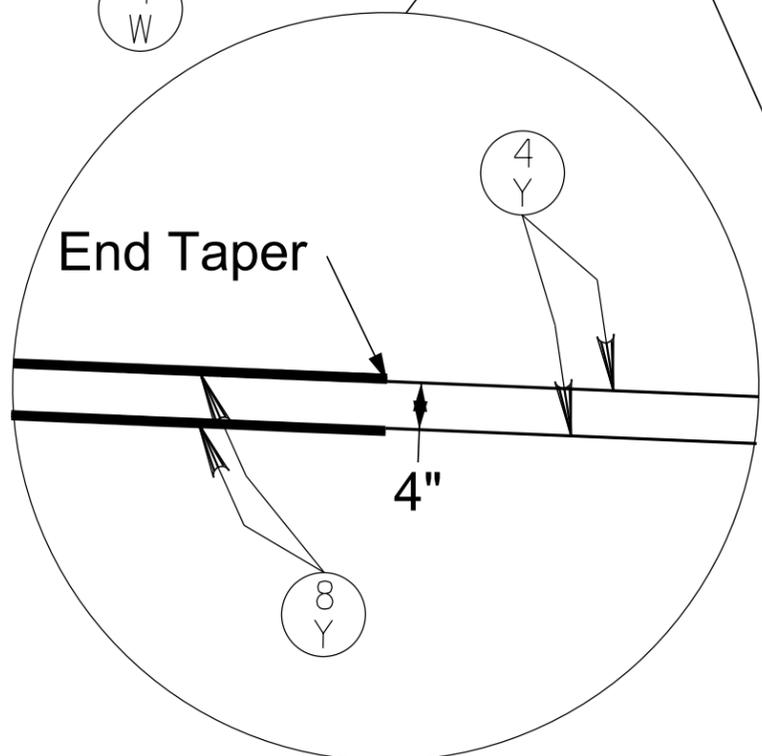
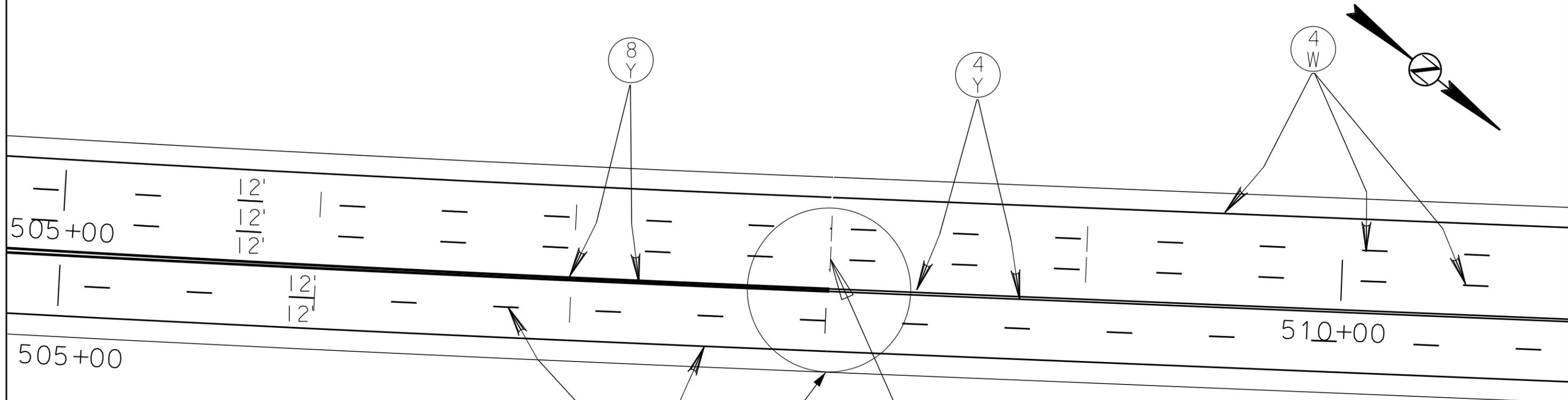
KEY	ITEM	EST QUANT	UNIT
4 W	COLD APPLIED PLASTIC PAVEMENT MARKING, 4" WHITE	26,595	FT
4 Y	COLD APPLIED PLASTIC PAVEMENT MARKING, 4" YELLOW	23,593	FT
8 Y	COLD APPLIED PLASTIC PAVEMENT MARKING, 8" YELLOW	2,600	FT
24 W	COLD APPLIED PLASTIC PAVEMENT MARKING, 24" WHITE	80	FT
24 Y	COLD APPLIED PLASTIC PAVEMENT MARKING, 24" YELLOW	403	FT
↩	COLD APPLIED PLASTIC PAVEMENT MARKING, ARROW	15	EACH
	GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING, 4"	50,188	FT
	GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING, 8"	2,600	FT
	GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING, 24"	483	FT
	GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING, ARROW	15	EACH

KEY	ITEM
④ W	4" WHITE
⑧ Y	8" YELLOW

PAVEMENT MARKING LAYOUT

US HWY 83
NH 0083(84)96 - PCN 04WP

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	C12	C44
Plotting Date: 07/13/2016			



Sta. 508+00 SBL (new) Bk =
Sta. 508+00.96 NBL (new) Bk =
Sta. 508+00 Undivided (new) Ah

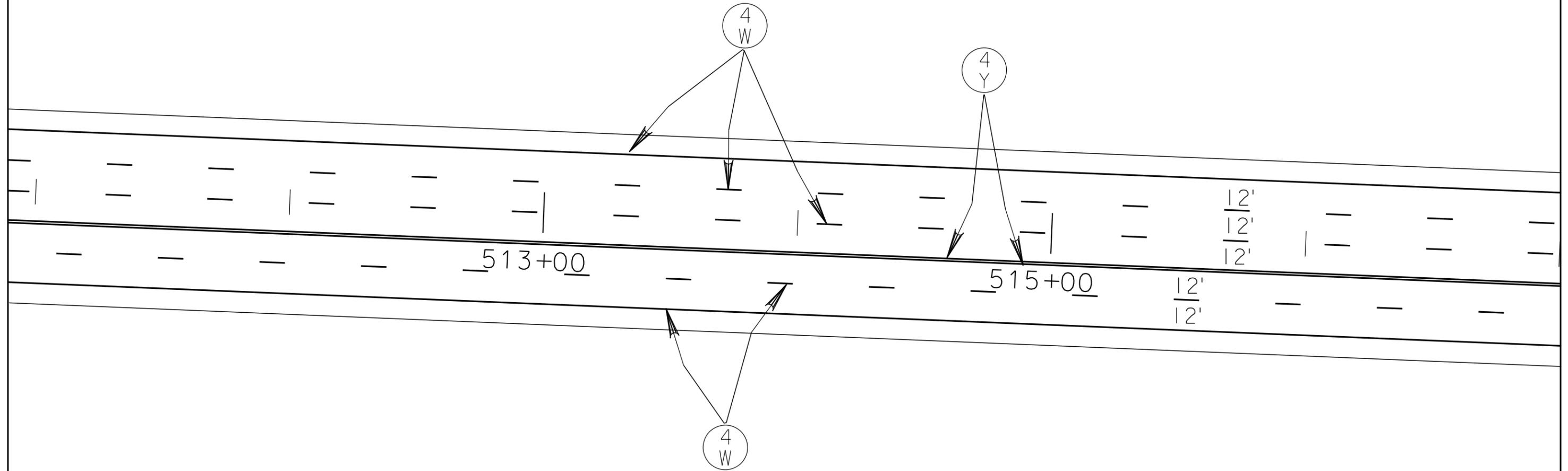
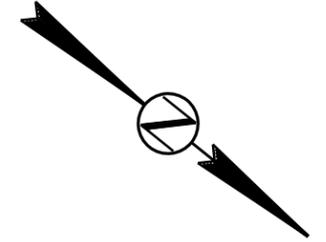
KEY	ITEM
(4 Y)	4" YELLOW
(4 W)	4" WHITE
(8 Y)	8" YELLOW

PAVEMENT MARKING LAYOUT

US HWY 83
NH 0083(84)96 - PCN 04WP

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	C13	C44

Plotting Date: 07/11/2016



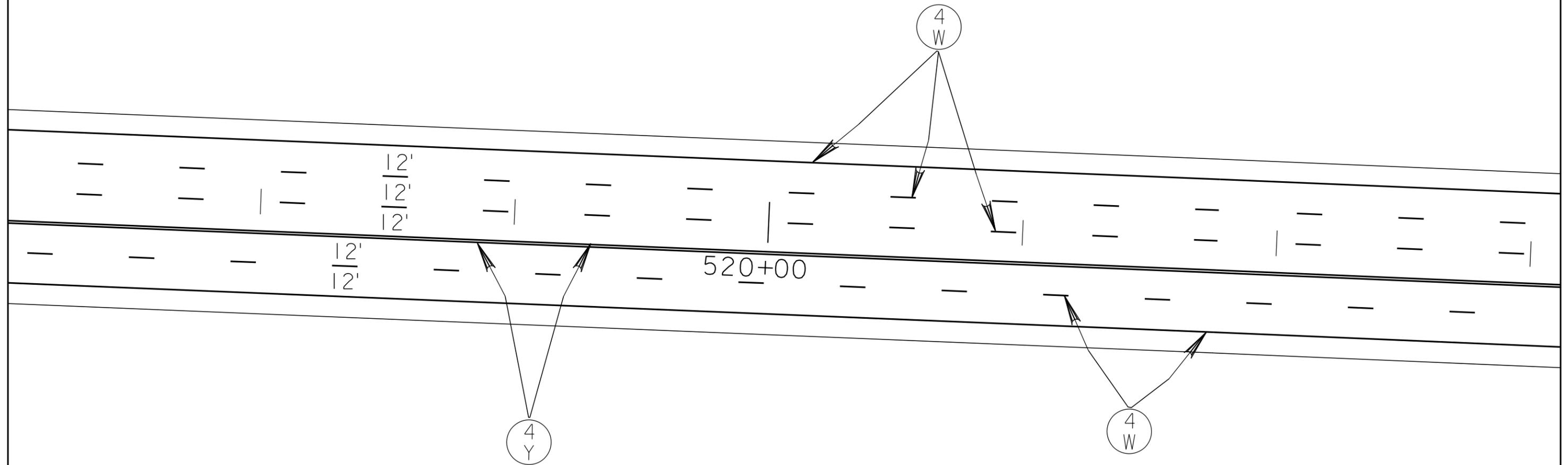
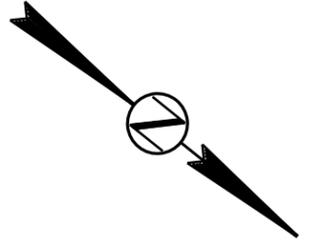
KEY	ITEM
⓪ 4 Y	4" YELLOW
⓪ 4 W	4" WHITE

PAVEMENT MARKING LAYOUT

US HWY 83
NH 0083(84)96 - PCN 04WP

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	C14	C44

Plotting Date: 07/11/2016



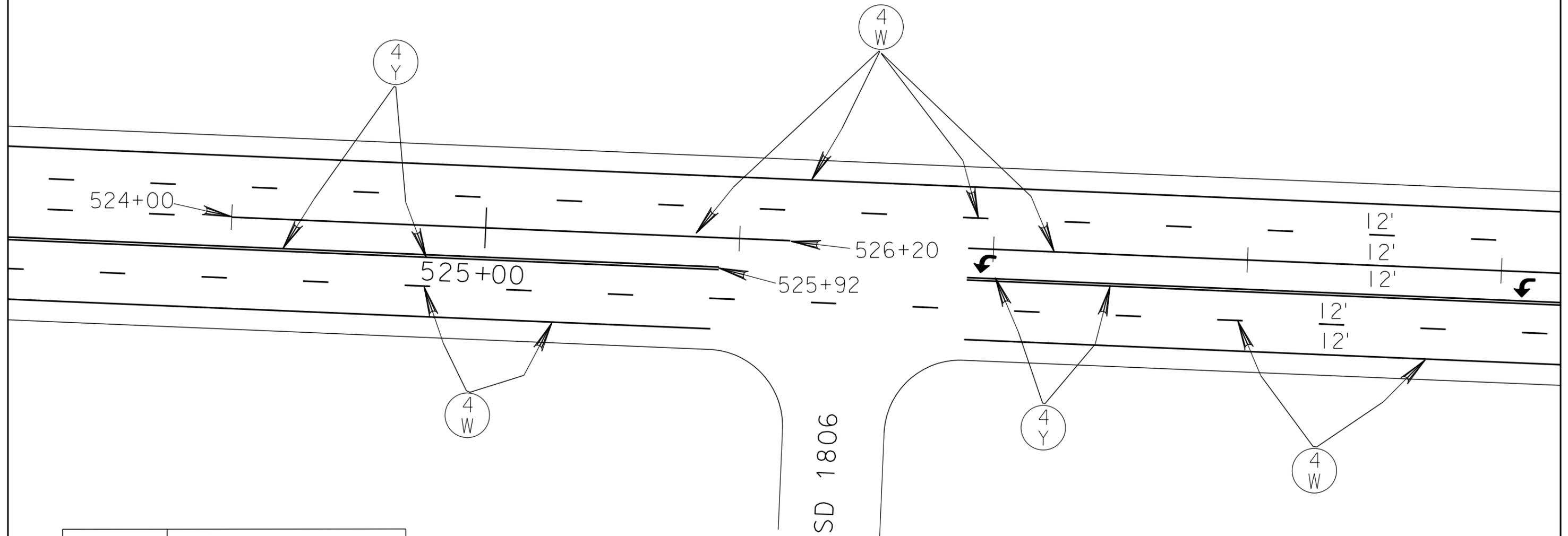
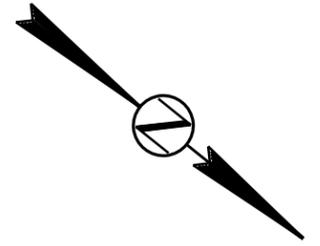
KEY	ITEM
(4 Y)	4" YELLOW
(4 W)	4" WHITE

PAVEMENT MARKING LAYOUT

US HWY 83
NH 0083(84)96 - PCN 04WP

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	C15	C44

Plotting Date: 07/11/2016



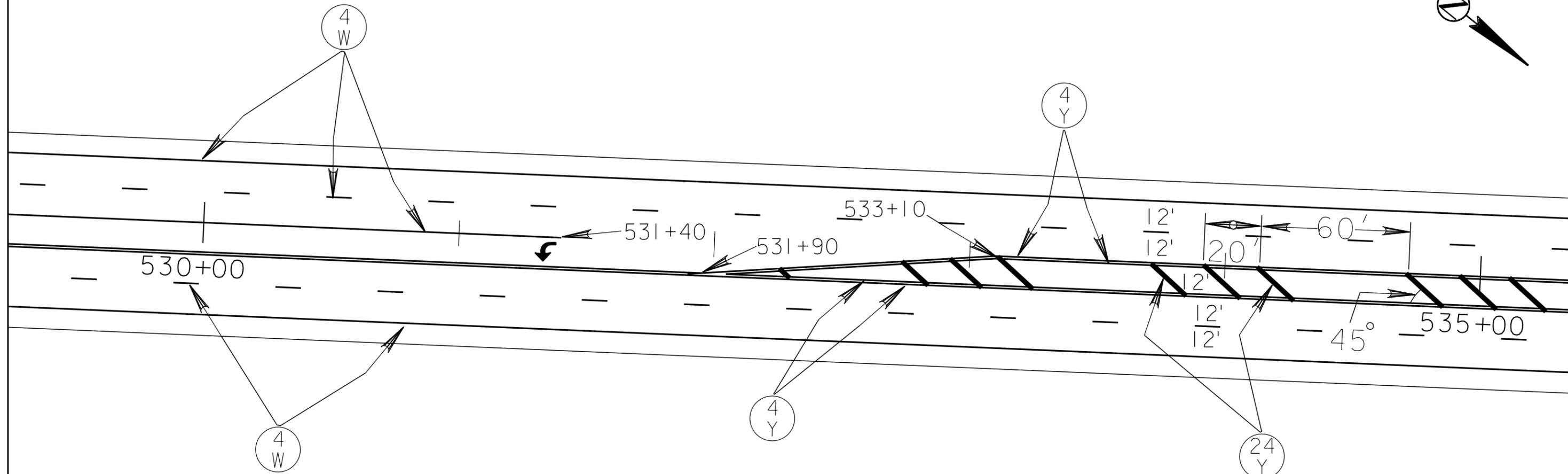
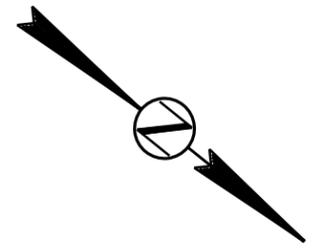
KEY	ITEM
⊙ 4 Y	4" YELLOW
⊙ 4 W	4" WHITE
↩	ARROW

PAVEMENT MARKING LAYOUT

US HWY 83
NH 0083(84)96 - PCN 04WP

STATE OF SOUTH DAKOTA	PROJECT NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	SHEET C16	TOTAL SHEETS C44
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Plotting Date: 07/11/2016



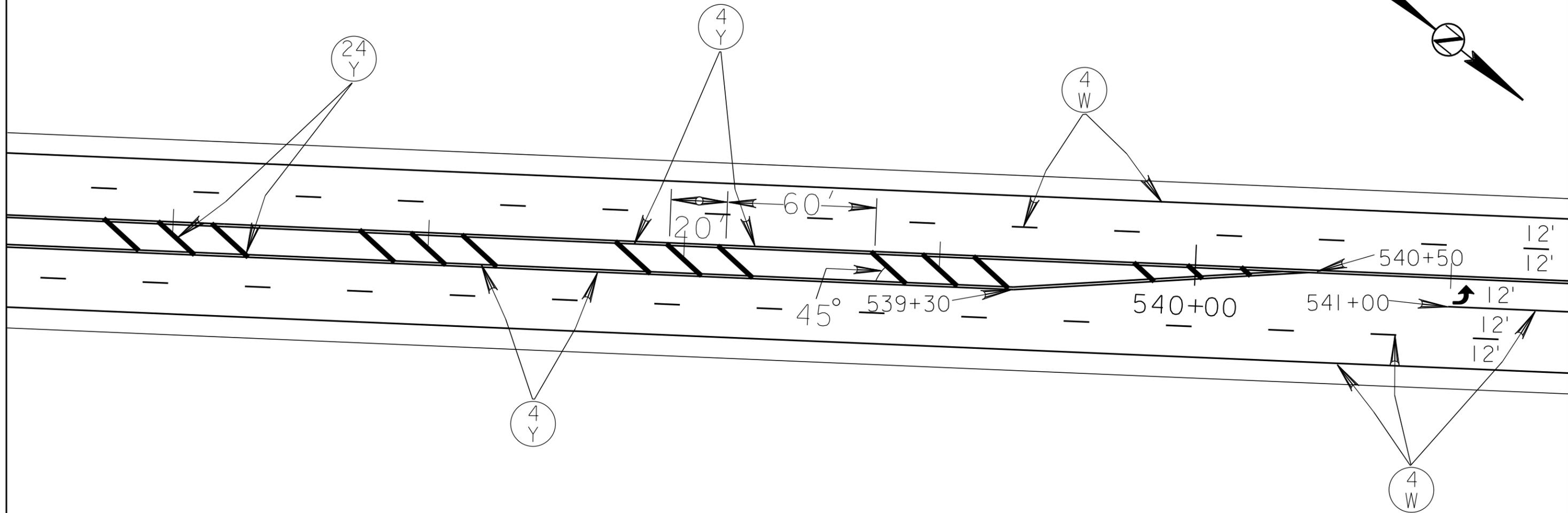
KEY	ITEM
(4 Y)	4" YELLOW
(4 W)	4" WHITE
(24 Y)	24" YELLOW
↩	ARROW

PAVEMENT MARKING LAYOUT

US HWY 83
NH 0083(84)96 - PCN 04WP

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	C17	C44

Plotting Date: 07/11/2016



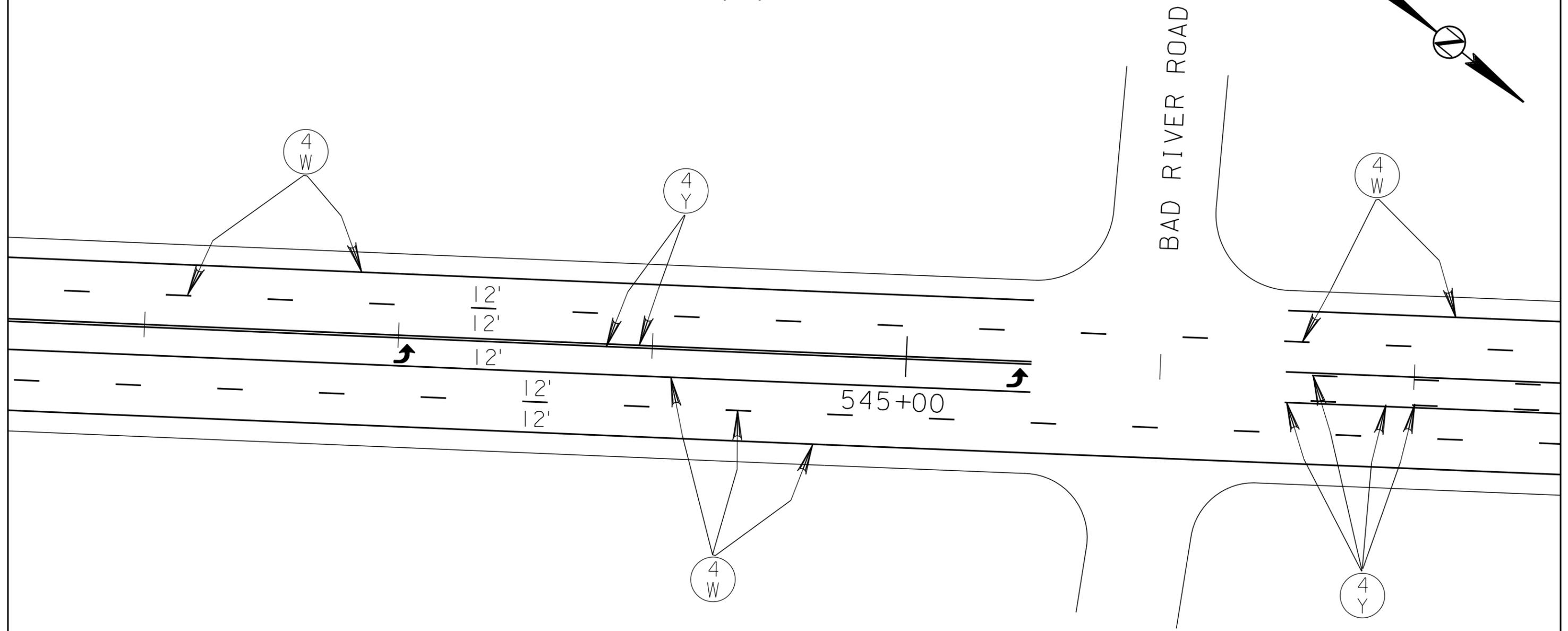
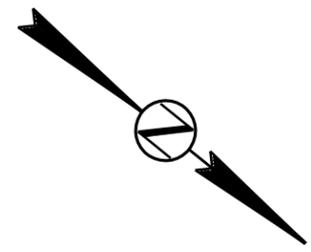
KEY	ITEM
⓪ 4 Y	4" YELLOW
⓪ 4 W	4" WHITE
⓪ 24 Y	24" YELLOW
↩	ARROW

PAVEMENT MARKING LAYOUT

US HWY 83
NH 0083(84)96 - PCN 04WP

STATE OF SOUTH DAKOTA	PROJECT NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	SHEET C18	TOTAL SHEETS C44
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Plotting Date: 07/11/2016



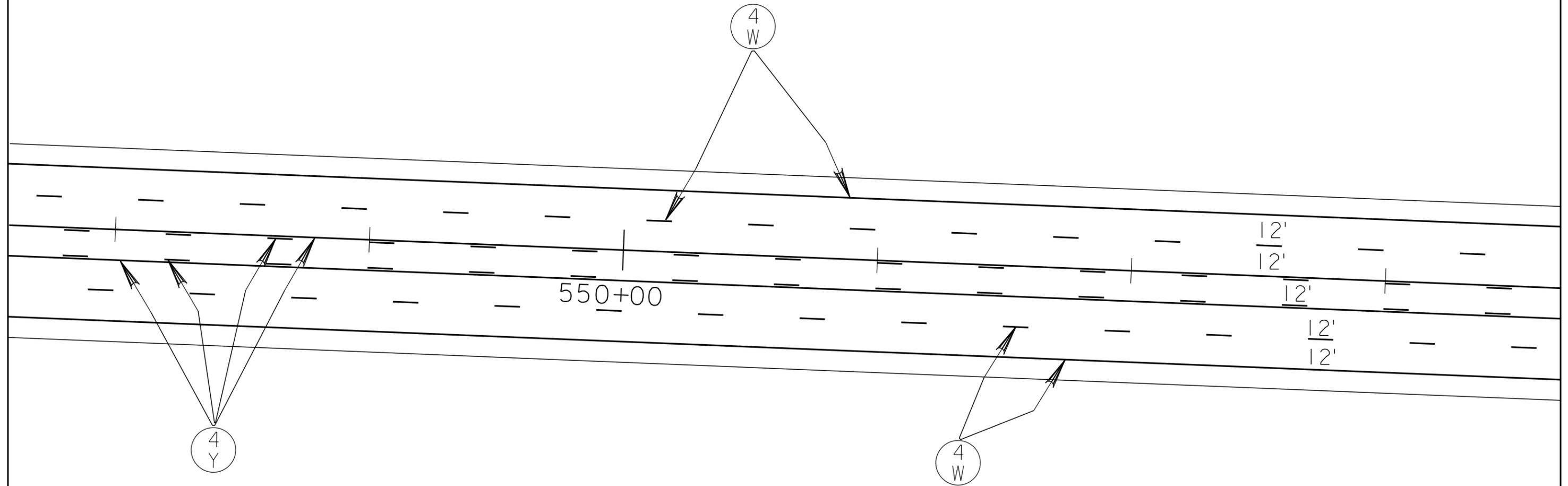
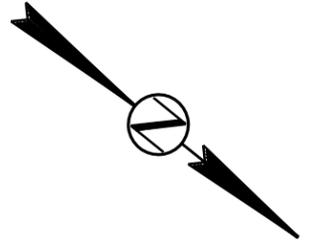
KEY	ITEM
⓪ 4 Y	4" YELLOW
⓪ 4 W	4" WHITE
↩	ARROW

PAVEMENT MARKING LAYOUT

US HWY 83
NH 0083(84)96 - PCN 04WP

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	C19	C44

Plotting Date: 07/11/2016



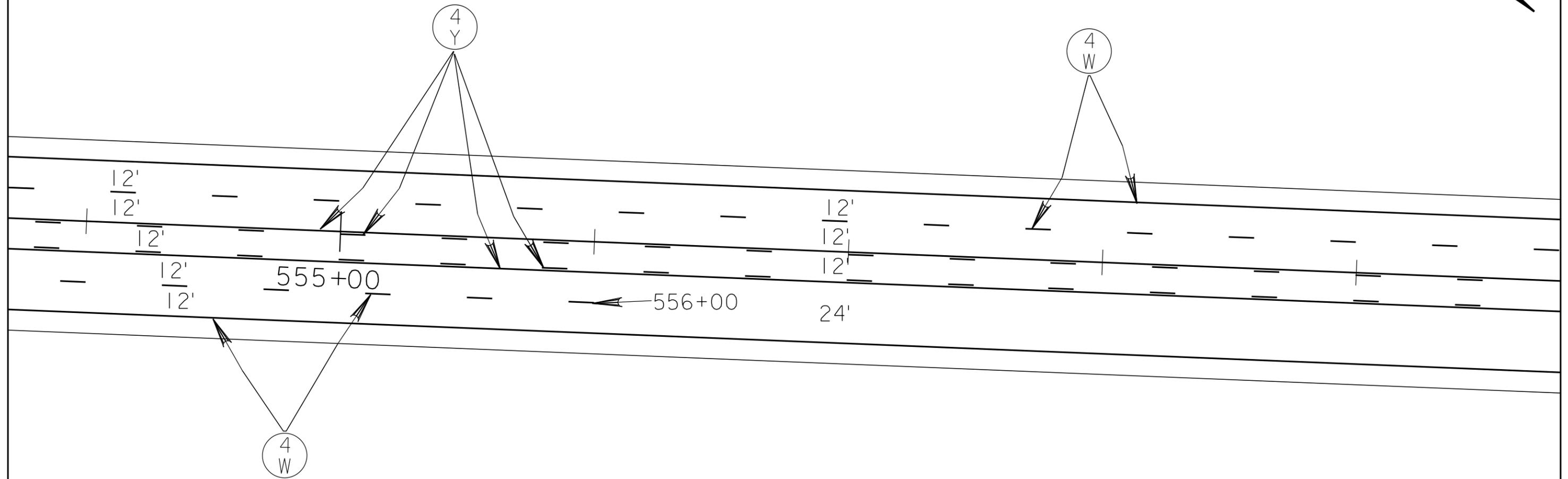
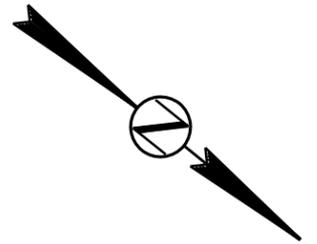
KEY	ITEM
(4 Y)	4" YELLOW
(4 W)	4" WHITE

PAVEMENT MARKING LAYOUT

US HWY 83
NH 0083(84)96 - PCN 04WP

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	C20	C44

Plotting Date: 07/11/2016



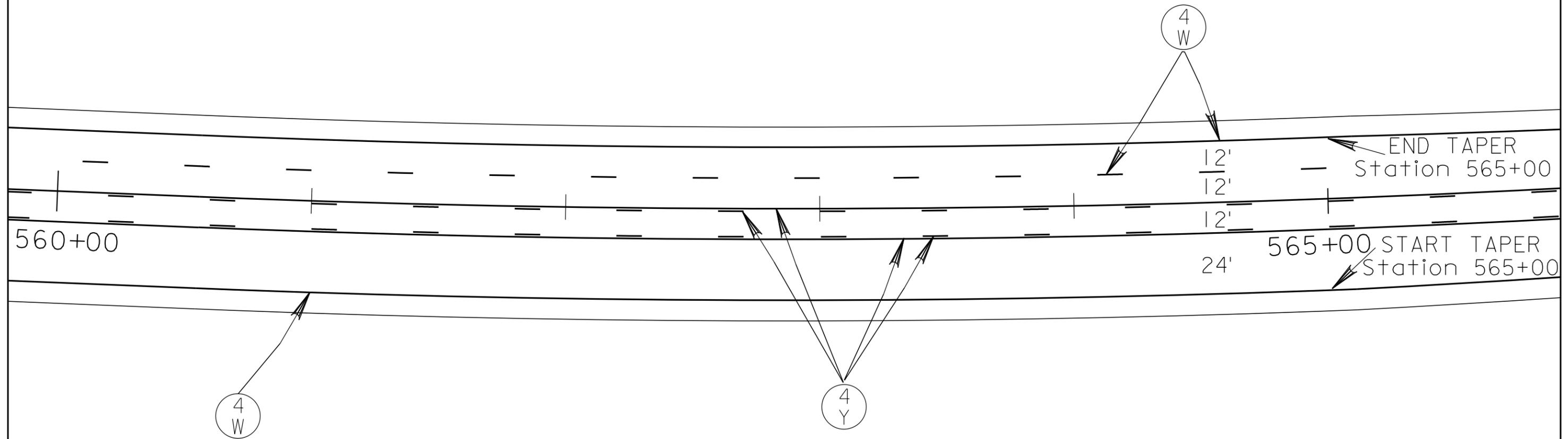
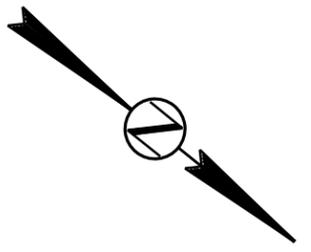
KEY	ITEM
⊙ 4 Y	4" YELLOW
⊙ 4 W	4" WHITE

PAVEMENT MARKING LAYOUT

US HWY 83
NH 0083(84)96 - PCN 04WP

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	C21	C44

Plotting Date: 07/11/2016



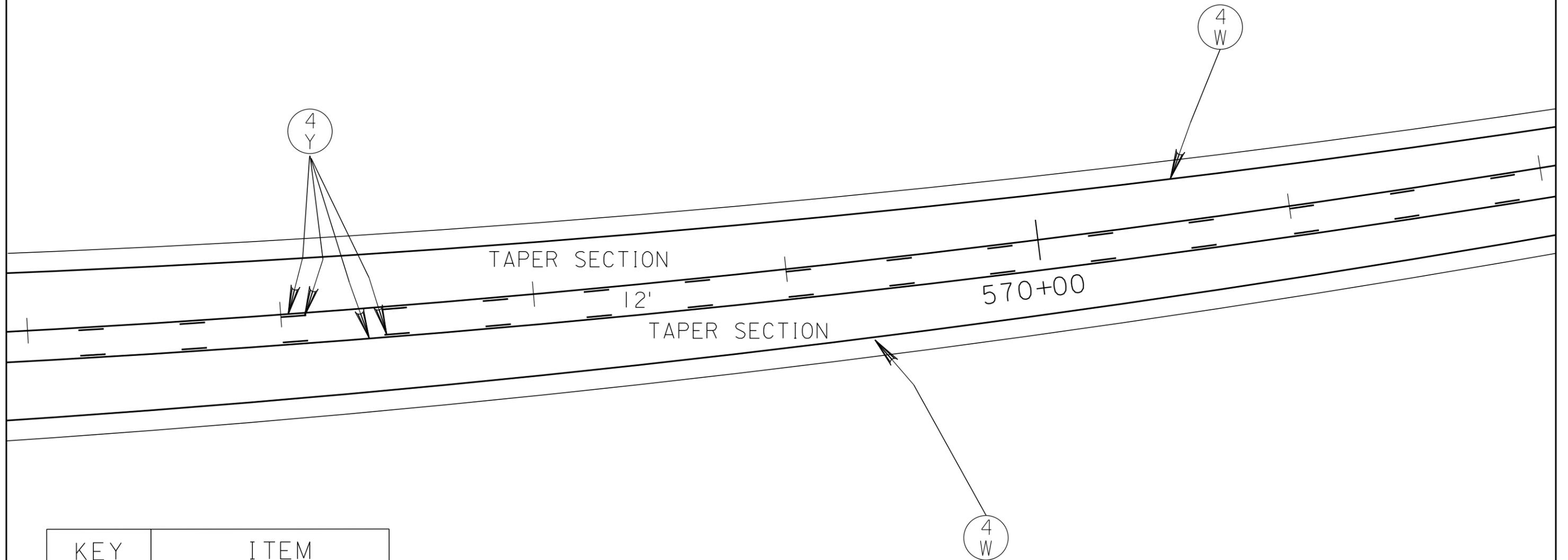
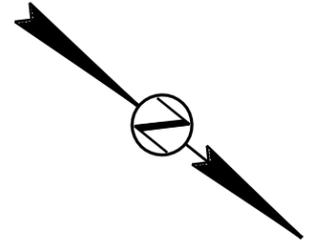
KEY	ITEM
⊙ 4 Y	4" YELLOW
⊙ 4 W	4" WHITE

PAVEMENT MARKING LAYOUT

US HWY 83
NH 0083(84)96 - PCN 04WP

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	C22	C44

Plotting Date: 07/11/2016



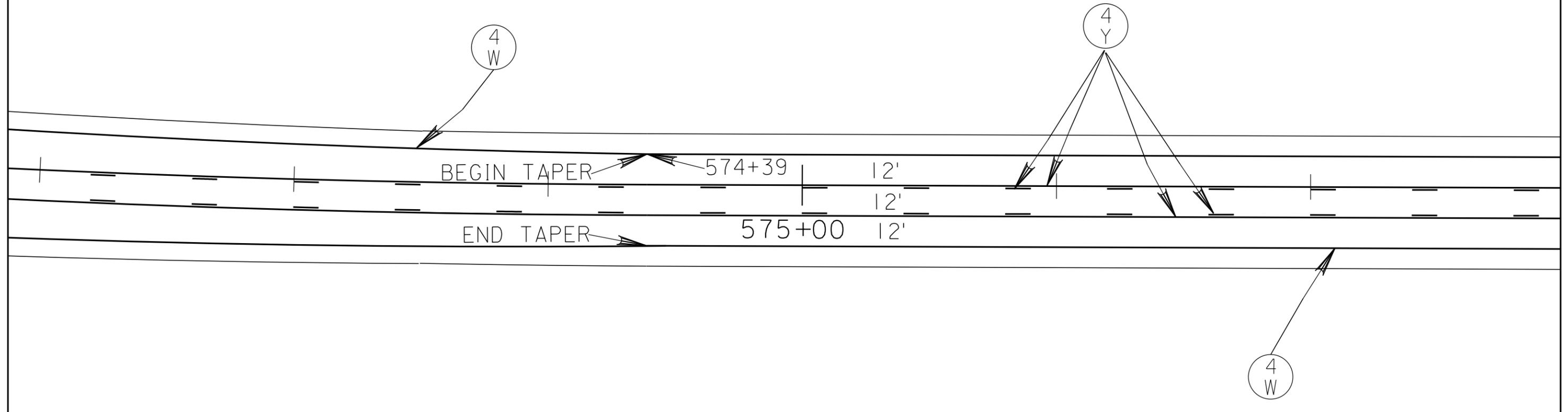
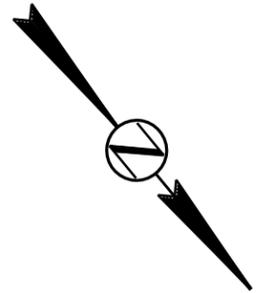
KEY	ITEM
(4 Y)	4" YELLOW
(4 W)	4" WHITE

PAVEMENT MARKING LAYOUT

US HWY 83
NH 0083(84)96 - PCN 04WP

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	C23	C44

Plotting Date: 07/11/2016



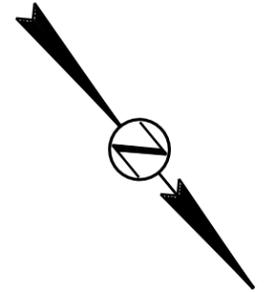
KEY	ITEM
(4 Y)	4" YELLOW
(4 W)	4" WHITE

PAVEMENT MARKING LAYOUT

US HWY 83
NH 0083(84)96 - PCN 04WP

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	C24	C44

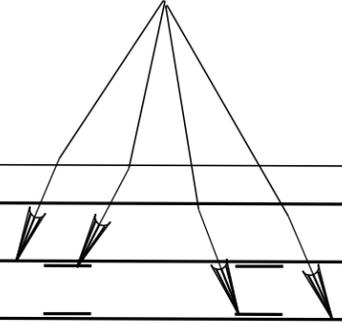
Plotting Date: 07/11/2016



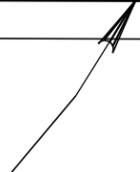
4
W



4
Y



4
W



580+00

12'
12'
12'

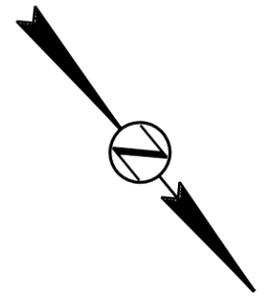
KEY	ITEM
4 Y	4" YELLOW
4 W	4" WHITE

PAVEMENT MARKING LAYOUT

US HWY 83
NH 0083(84)96 - PCN 04WP

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	C25	C44

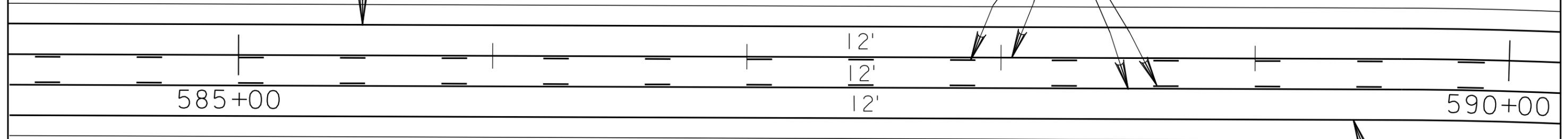
Plotting Date: 07/11/2016



4
W

4
Y

4
W



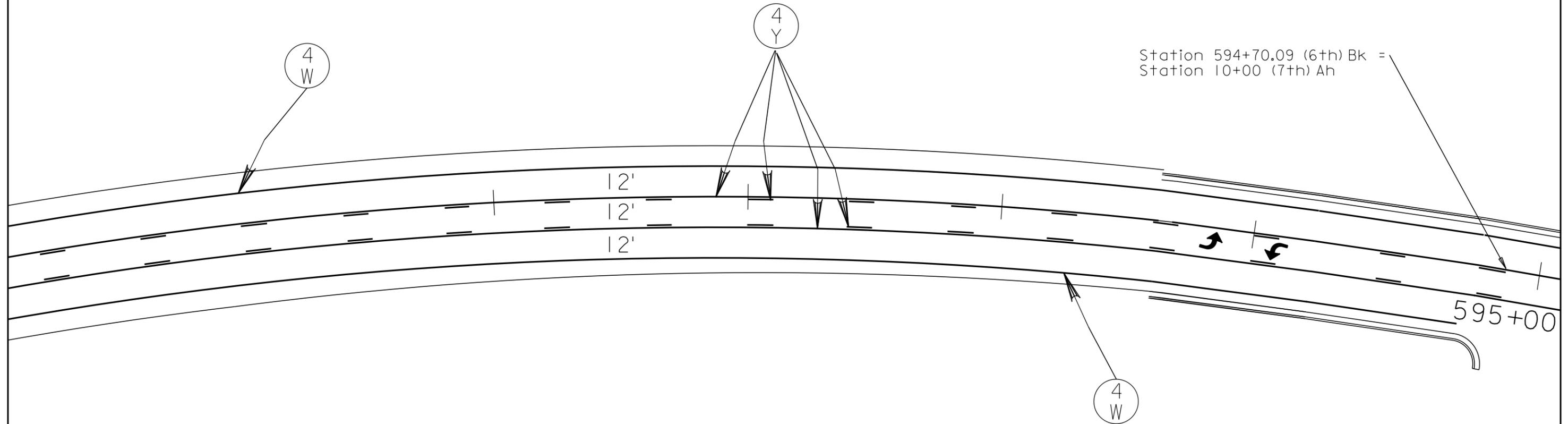
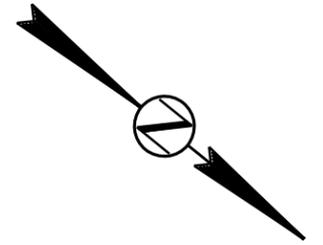
KEY	ITEM
4 Y	4" YELLOW
4 W	4" WHITE

PAVEMENT MARKING LAYOUT

US HWY 83
NH 0083(84)96 - PCN 04WP

STATE OF SOUTH DAKOTA	PROJECT	SHEET C26	TOTAL SHEETS C44
	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233		

Plotting Date: 07/11/2016



595+00

Scotty Phillips

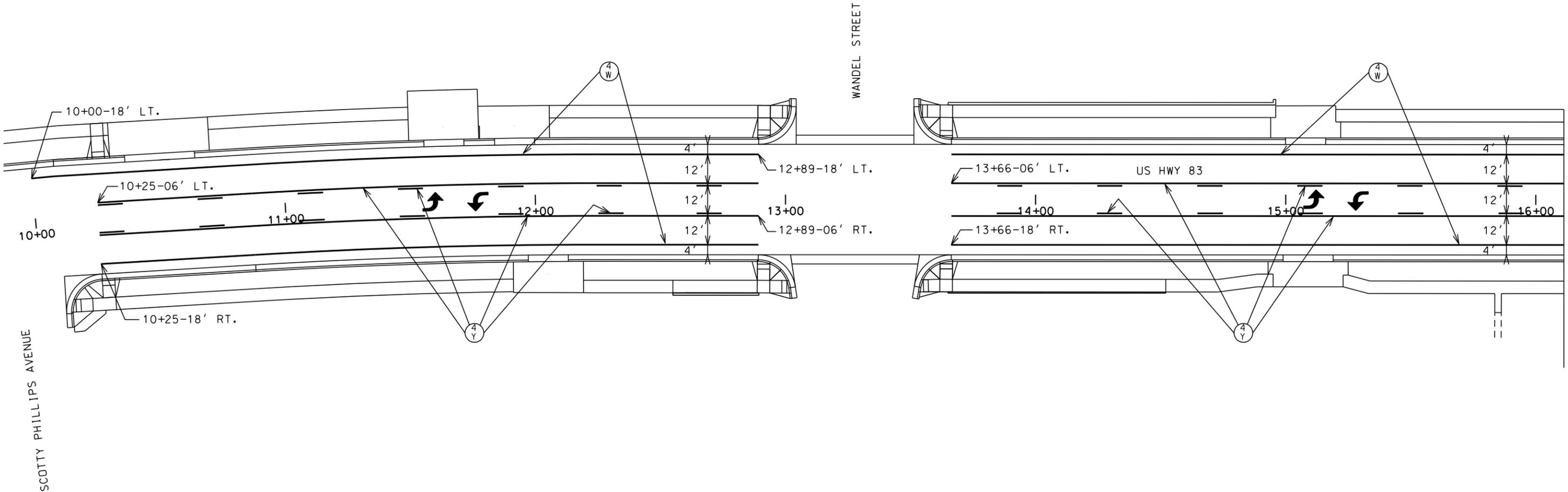
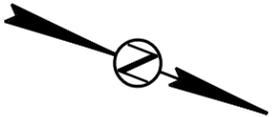
KEY	ITEM
⊙ 4 Y	4" YELLOW
⊙ 4 W	4" WHITE
↩	ARROW

PAVEMENT MARKING LAYOUT

US HWY 83
NH 0083(84)96 - PCN 04WP

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	C27	C44

Plotting Date: 07/11/2016

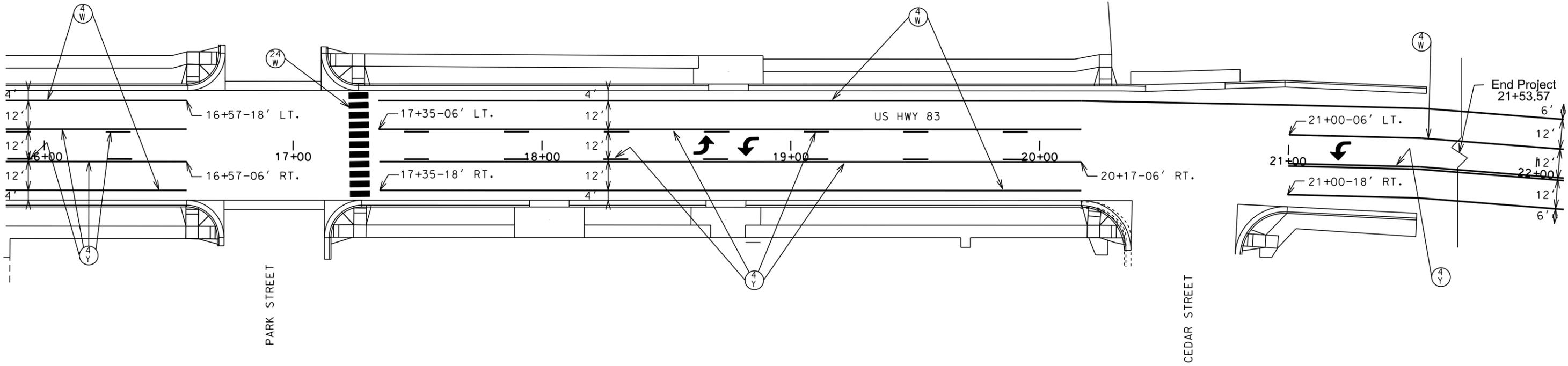
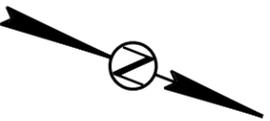


PAVEMENT MARKING LAYOUT

US HWY 83
NH 0083(84)96 - PCN 04WP

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	C28	C44

Plotting Date: 07/11/2016

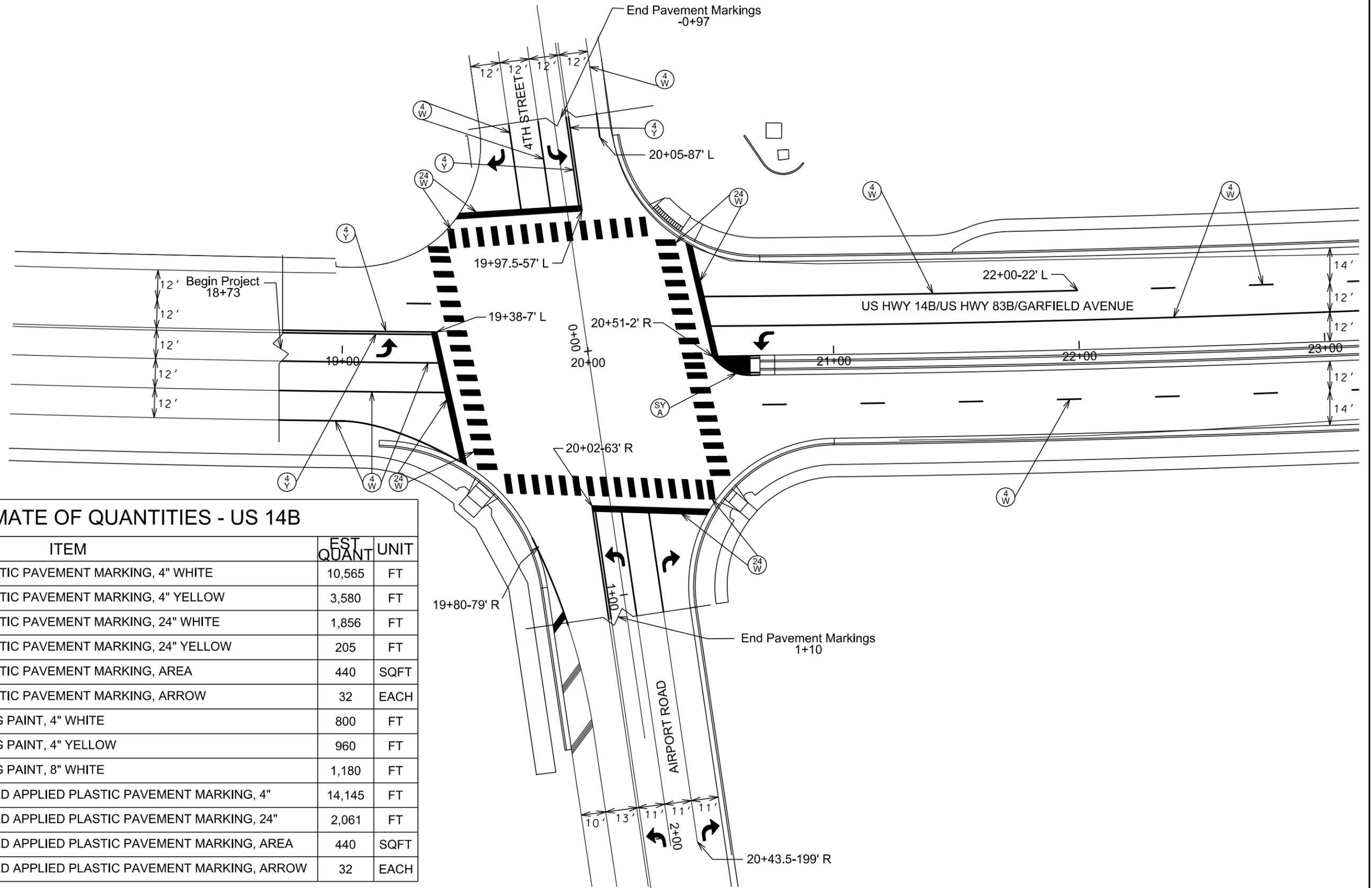


PAVEMENT MARKING LAYOUT

US HWY 14B/US HWY 83B/GARFIELD AVENUE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	C29	C44

Plotting Date: 07/13/2016



ESTIMATE OF QUANTITIES - US 14B

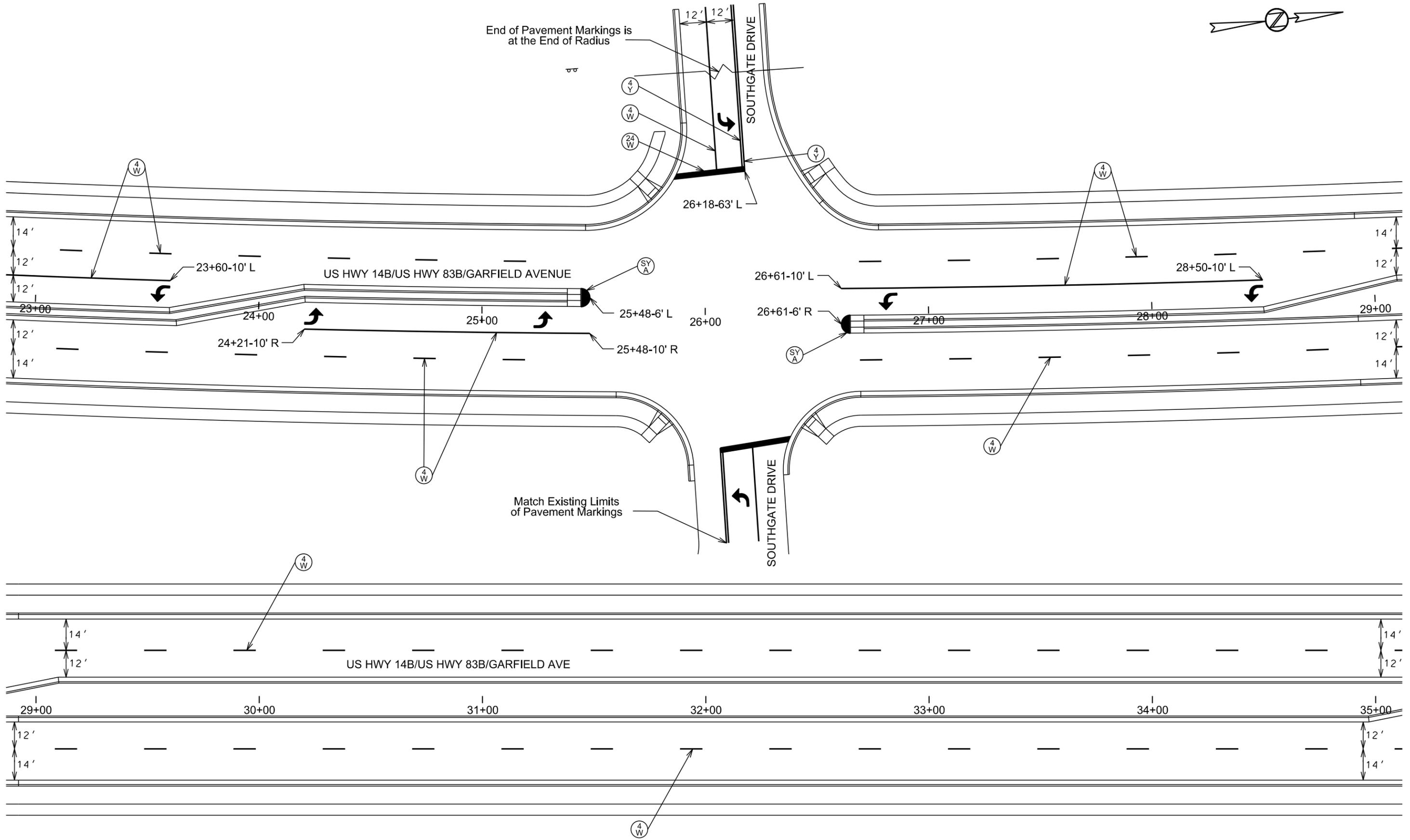
KEY	ITEM	EST QUANT	UNIT
(4W)	COLD APPLIED PLASTIC PAVEMENT MARKING, 4" WHITE	10,565	FT
(4Y)	COLD APPLIED PLASTIC PAVEMENT MARKING, 4" YELLOW	3,580	FT
(24W)	COLD APPLIED PLASTIC PAVEMENT MARKING, 24" WHITE	1,856	FT
(24Y)	COLD APPLIED PLASTIC PAVEMENT MARKING, 24" YELLOW	205	FT
(SYA)	COLD APPLIED PLASTIC PAVEMENT MARKING, AREA	440	SQFT
↩	COLD APPLIED PLASTIC PAVEMENT MARKING, ARROW	32	EACH
(4WP)	PAVEMENT MARKING PAINT, 4" WHITE	800	FT
(4YP)	PAVEMENT MARKING PAINT, 4" YELLOW	960	FT
(8WP)	PAVEMENT MARKING PAINT, 8" WHITE	1,180	FT
	GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING, 4"	14,145	FT
	GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING, 24"	2,061	FT
	GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING, AREA	440	SQFT
	GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING, ARROW	32	EACH

PAVEMENT MARKING LAYOUT

US HWY 14B/US HWY 83B/GARFIELD AVENUE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	C30	C44

Plotting Date: 07/11/2016

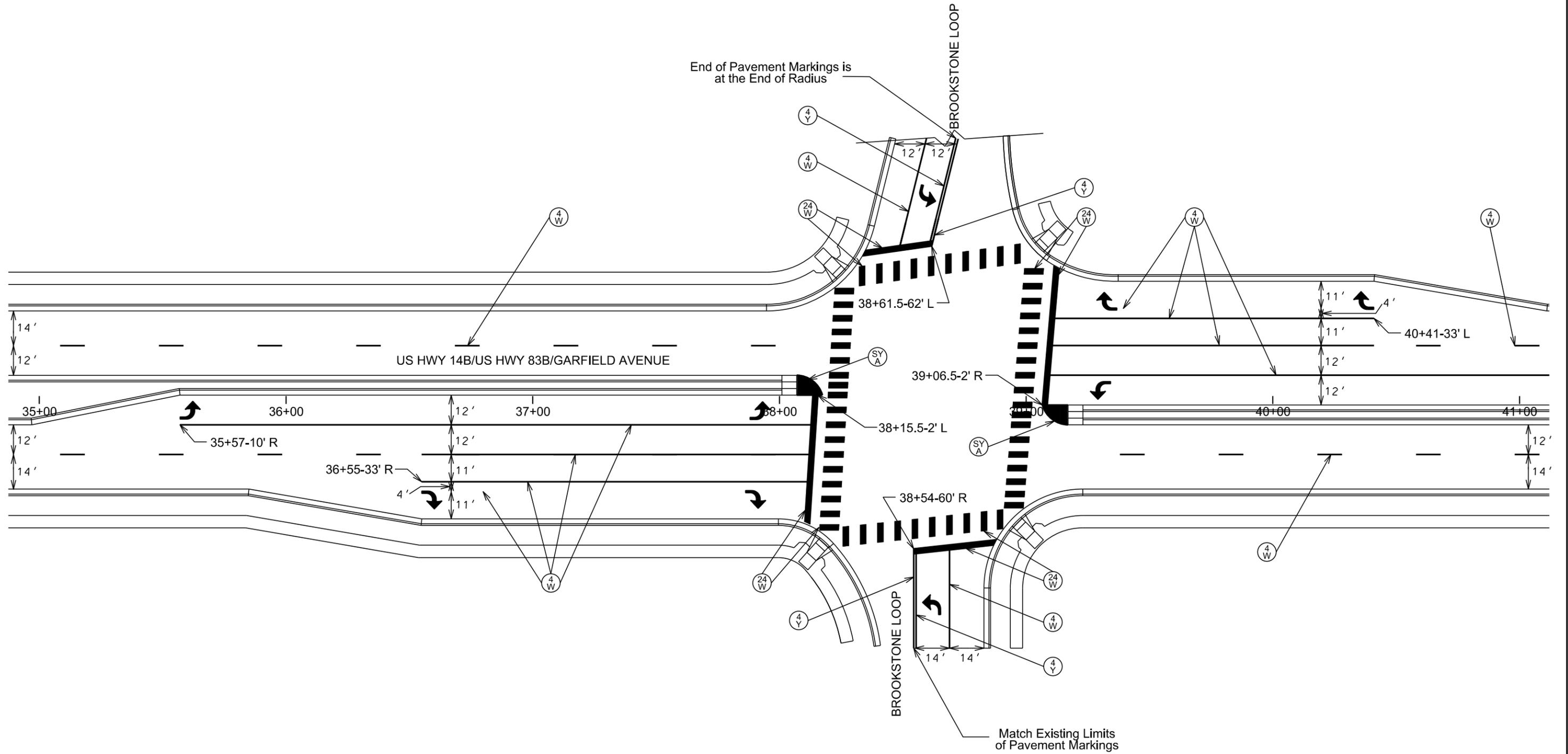


PAVEMENT MARKING LAYOUT

US HWY 14B/US HWY 83B/GARFIELD AVENUE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	C31	C44

Plotting Date: 07/11/2016

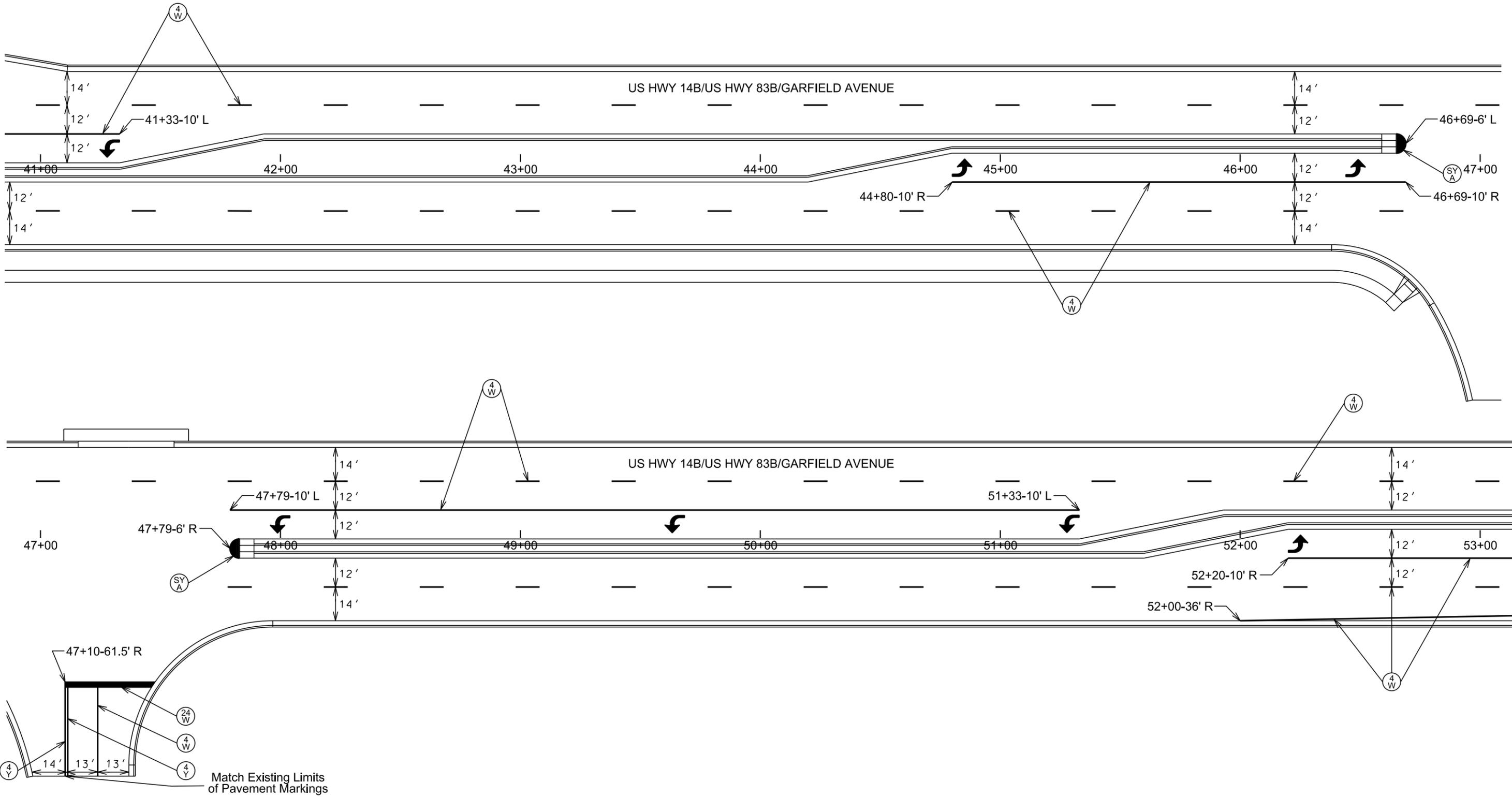


PAVEMENT MARKING LAYOUT

US HWY 14B/US HWY 83B/GARFIELD AVENUE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	C32	C44

Plotting Date: 07/11/2016

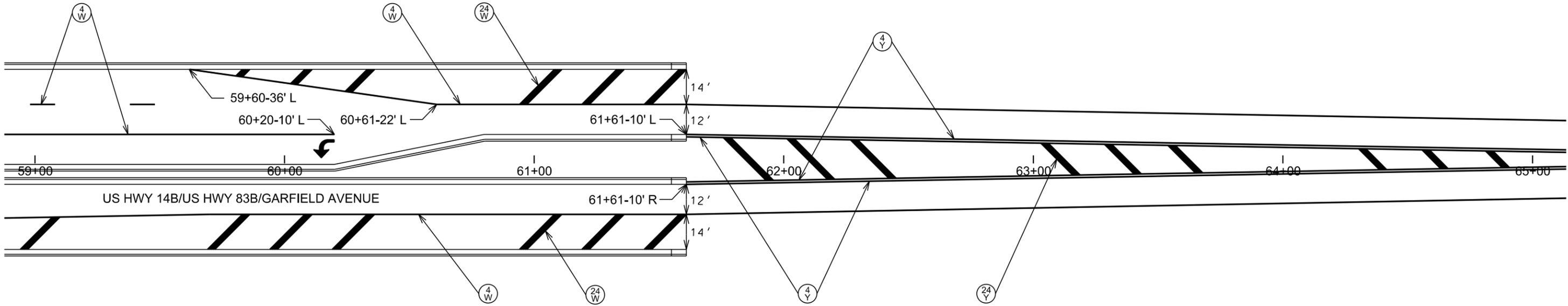
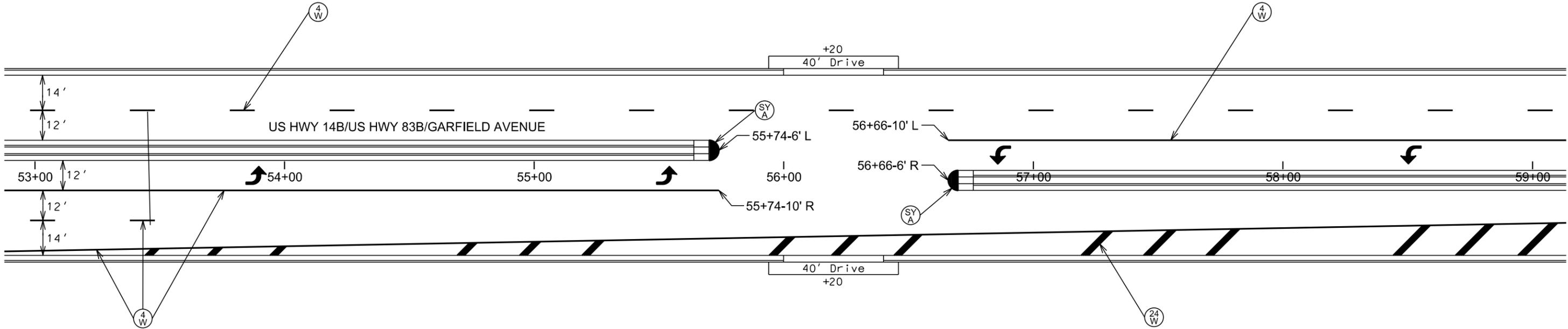


PAVEMENT MARKING LAYOUT

US HWY 14B/US HWY 83B/GARFIELD AVENUE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	C33	C44

Plotting Date: 07/11/2016

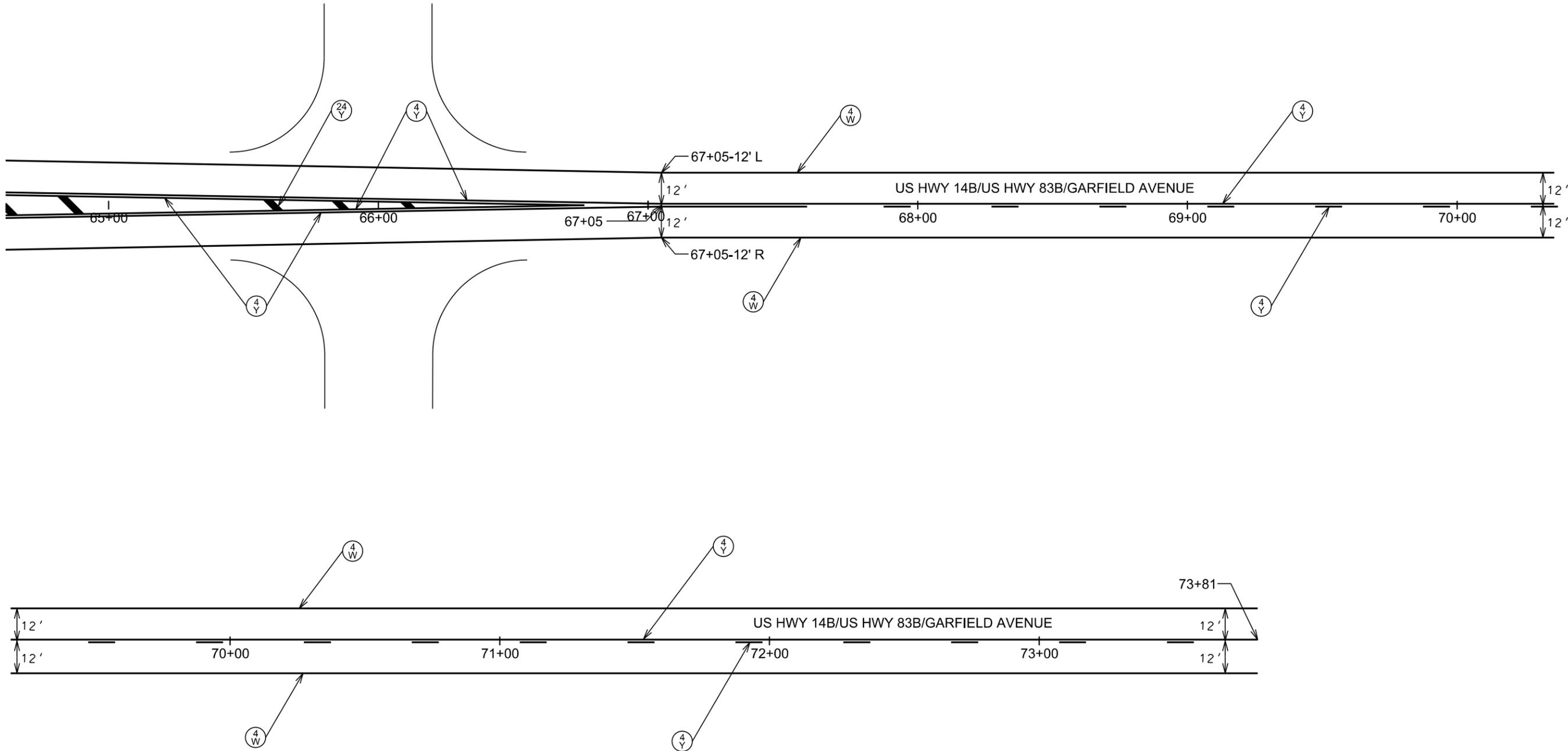


PAVEMENT MARKING LAYOUT

US HWY 14B/US HWY 83B/GARFIELD AVENUE

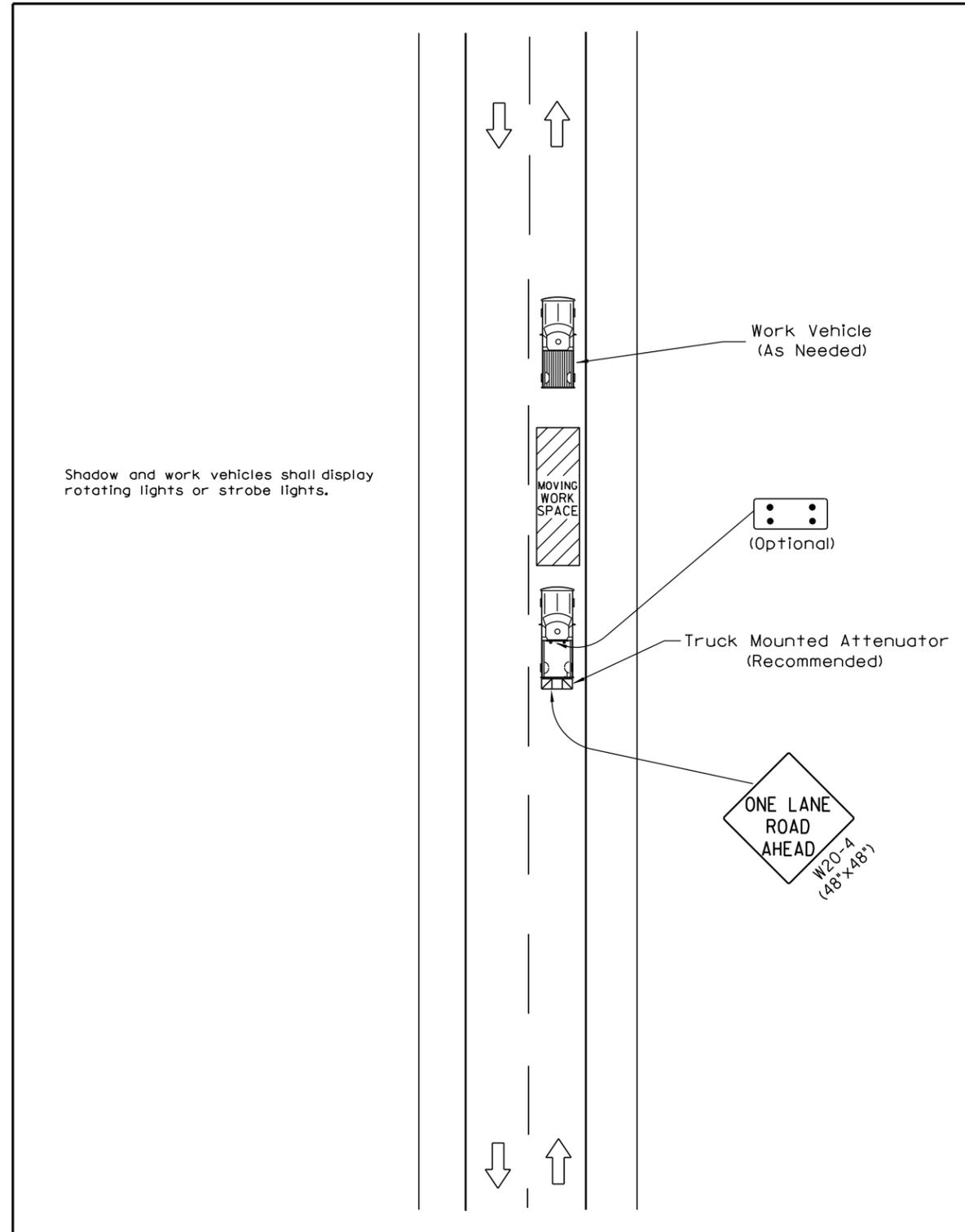
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	C34	C44

Plotting Date: 07/11/2016

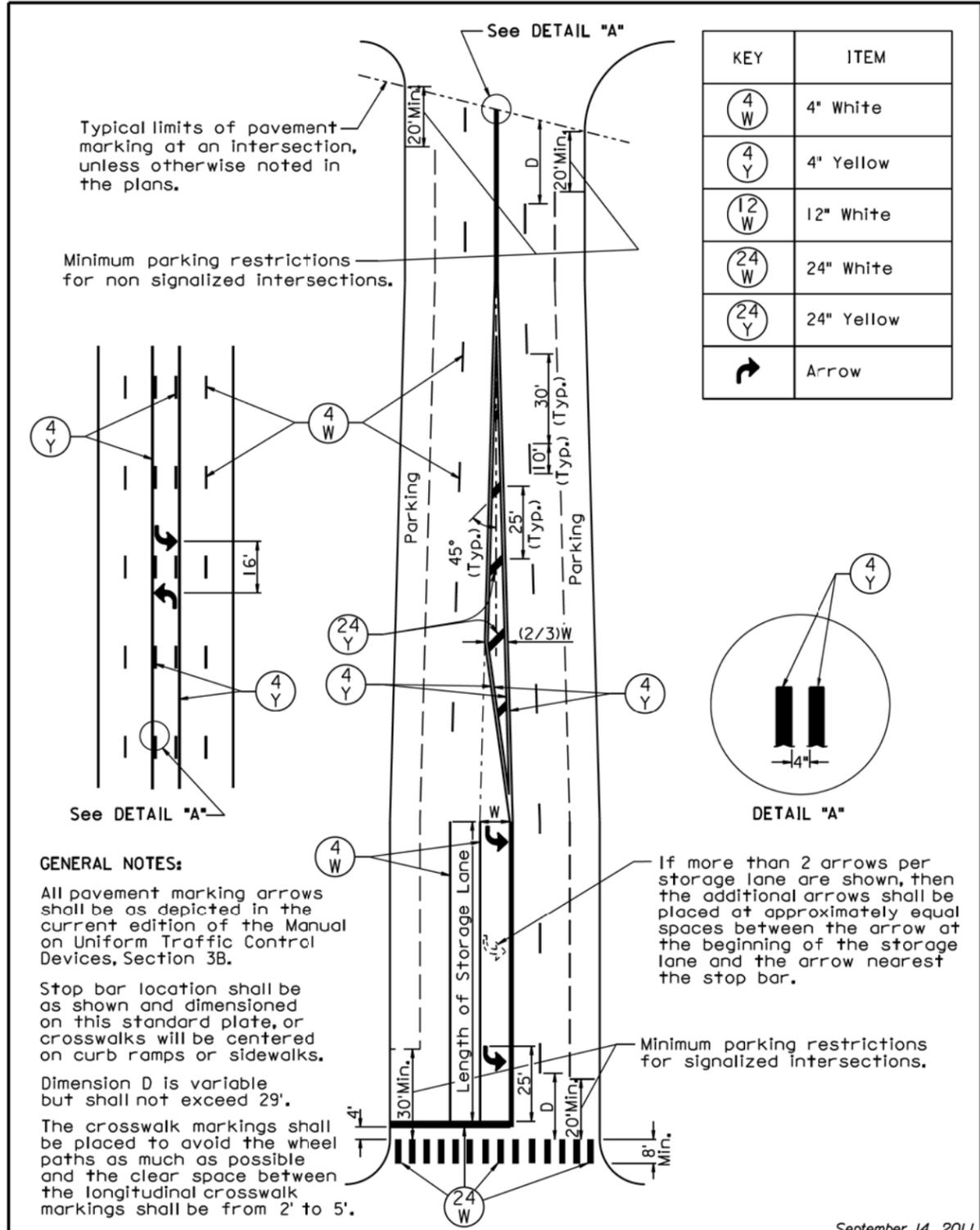


STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	NH 0083(84)96, NH 014B(171)232, & PH 0014(228)233	36	44

SPECIAL DETAIL FOR MOBILE OPERATION FOR ASPHALT CORING

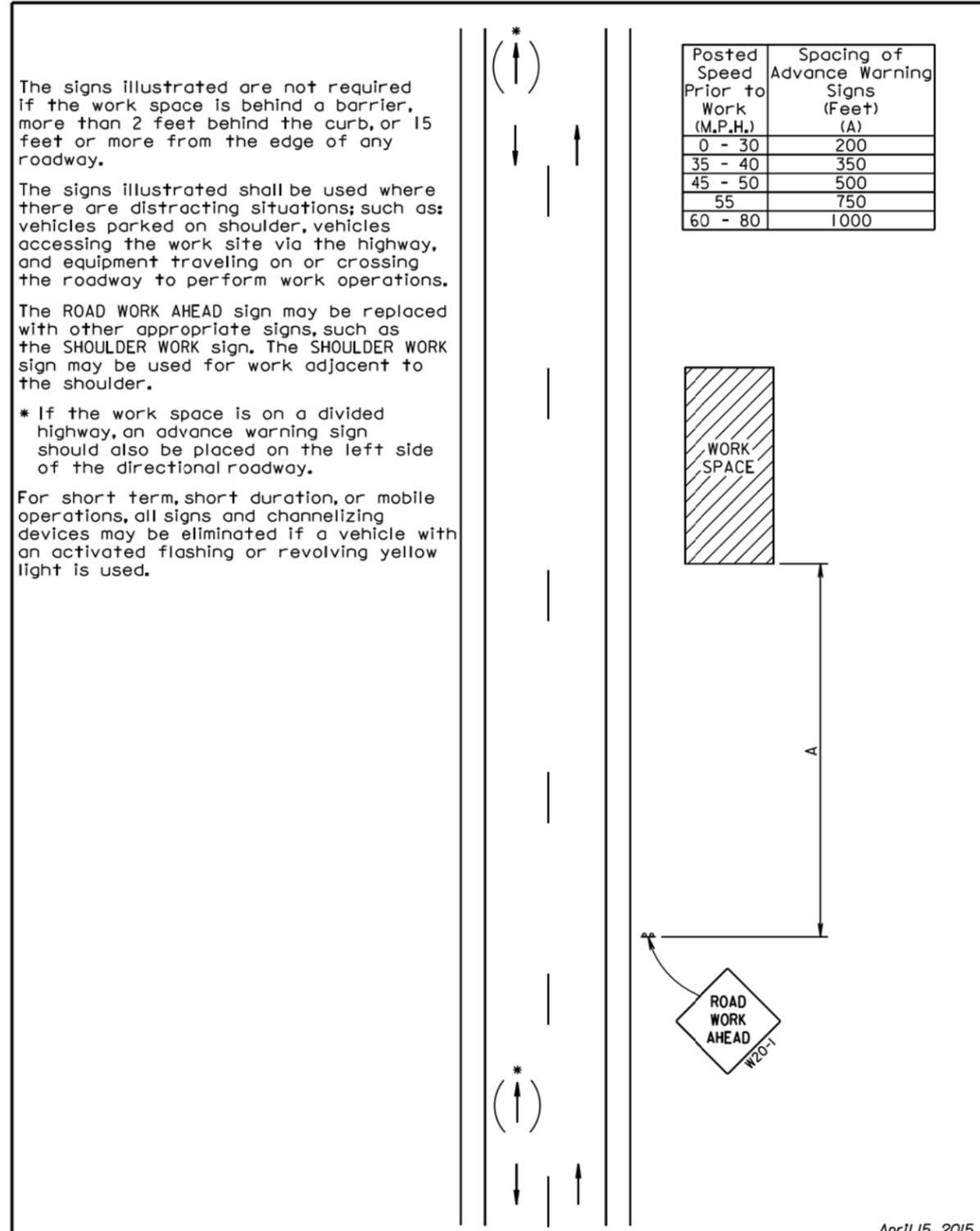


Plot Scale - 1:200



September 14, 2011

S D D O T	PAVEMENT MARKINGS FOR ADJACENT INTERSECTIONS AND CENTER TURN LANE	PLATE NUMBER 633.01
	Published Date: 2nd Qtr. 2016	Sheet 1 of 1

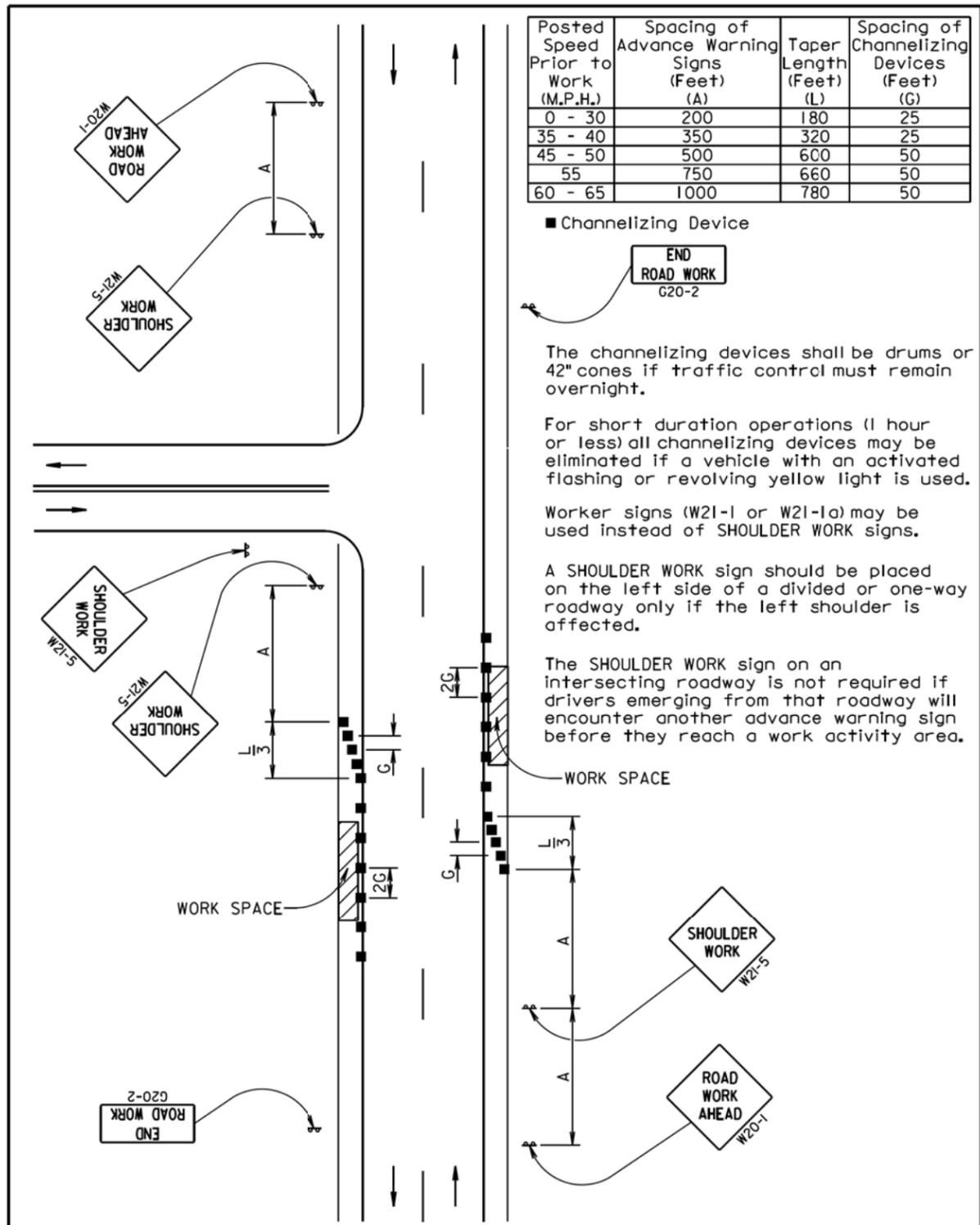


S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES WORK BEYOND THE SHOULDER	PLATE NUMBER 634.01
	Published Date: 2nd Qtr. 2016	Sheet 1 of 1

- Plotted From - tpr25584

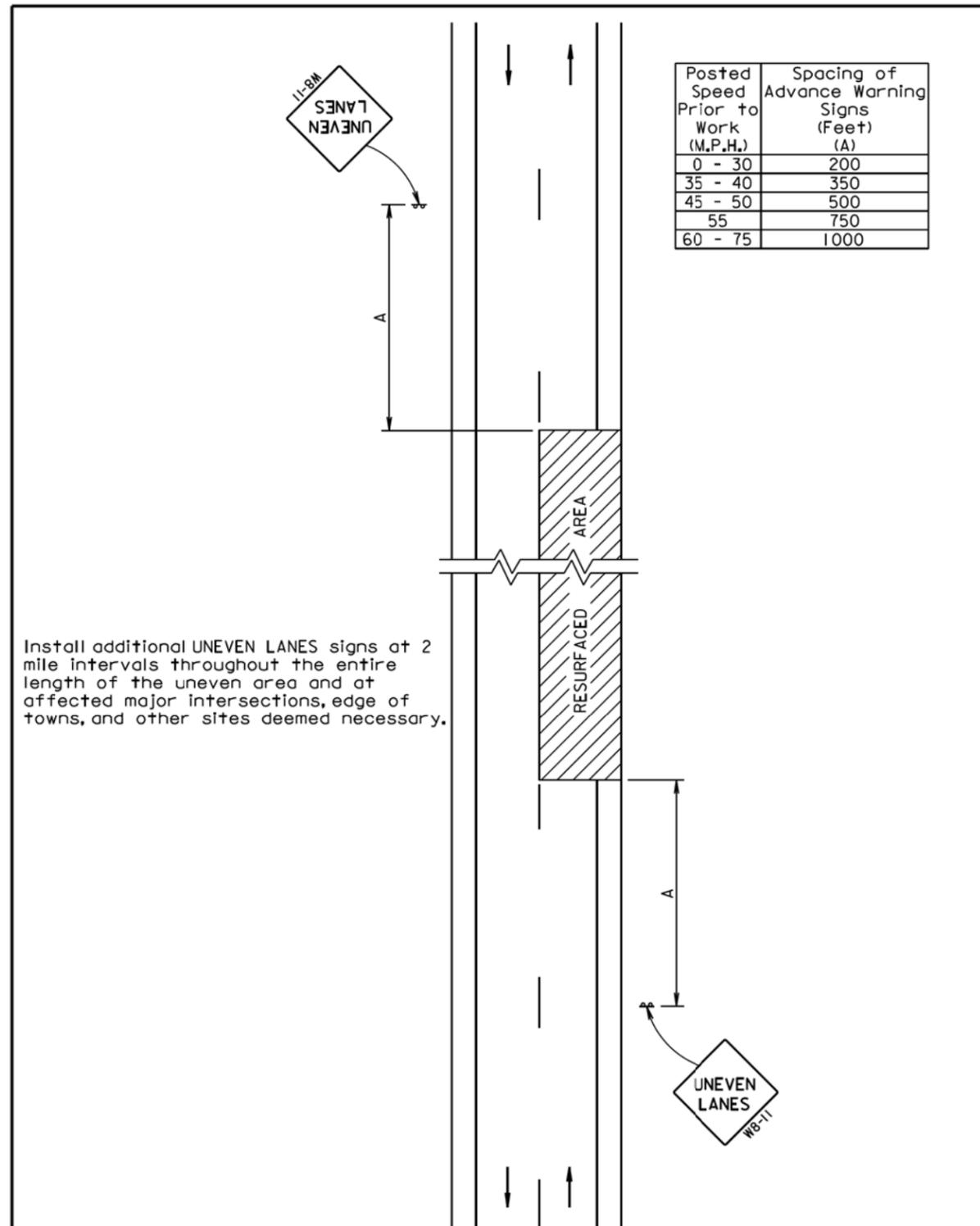
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Plot Scale - 1:200



September 22, 2014

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES WORK ON SHOULDERS	PLATE NUMBER 634.03
	Published Date: 2nd Qtr. 2016	Sheet 1 of 1



April 15, 2015

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES UNEVEN ROAD SURFACE	PLATE NUMBER 634.22
	Published Date: 2nd Qtr. 2016	Sheet 1 of 1

- Plotted From - tpr25584

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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.

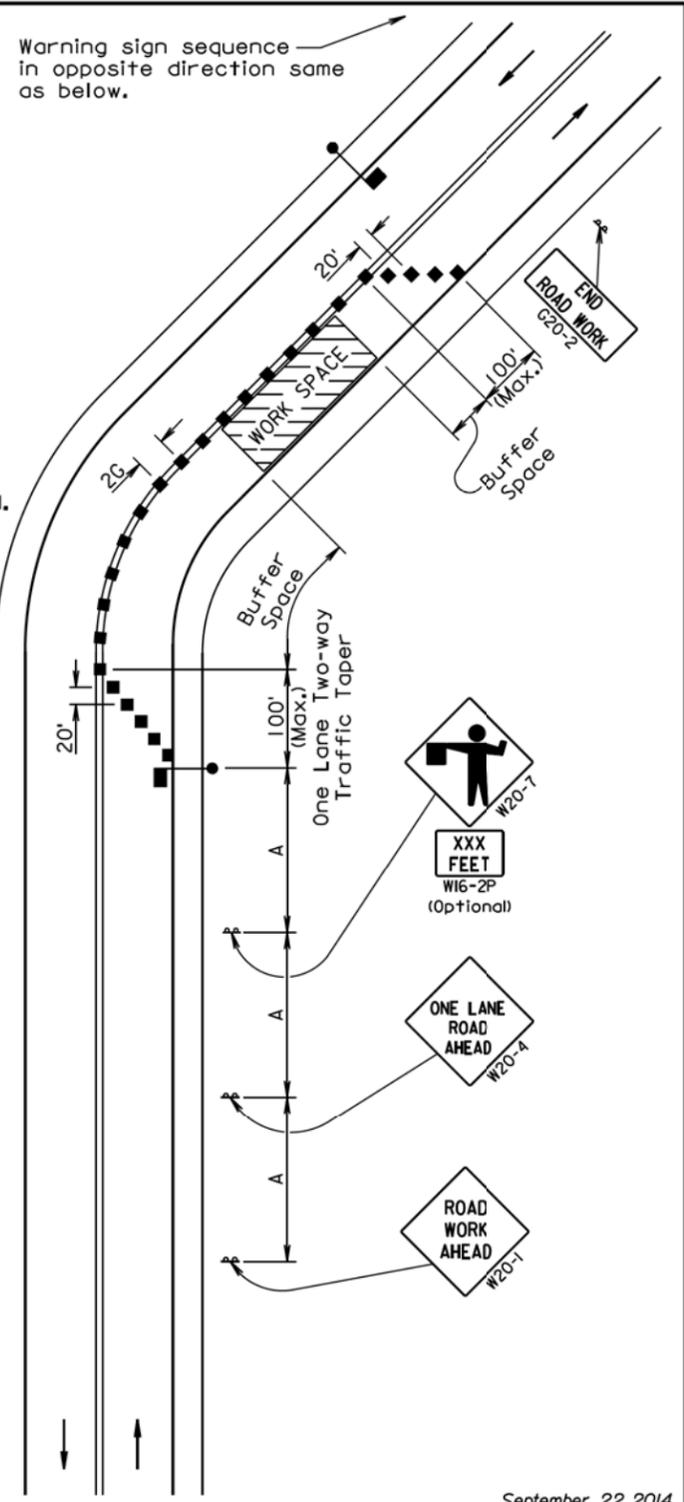
The channelizing devices shall be drums or 42" cones.

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.

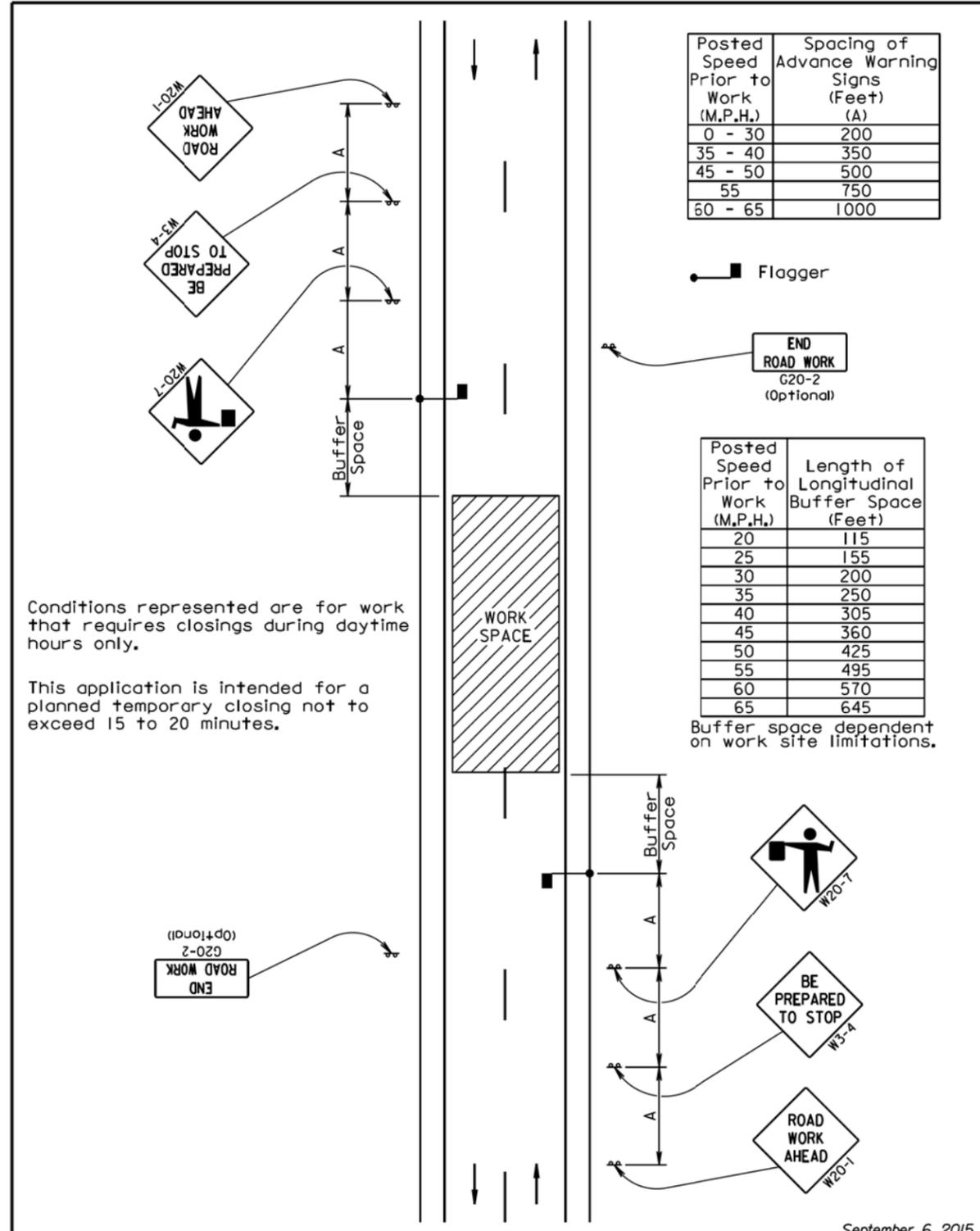
The buffer space should be extended so that the two-way traffic taper is placed before a horizontal or vertical curve to provide adequate sight distance for the flagger and queue of stopped vehicles.

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



September 22, 2014

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES LANE CLOSURE WITH FLAGGER PROVIDED	PLATE NUMBER 634.23
	Published Date: 2nd Qtr. 2016	Sheet 1 of 1



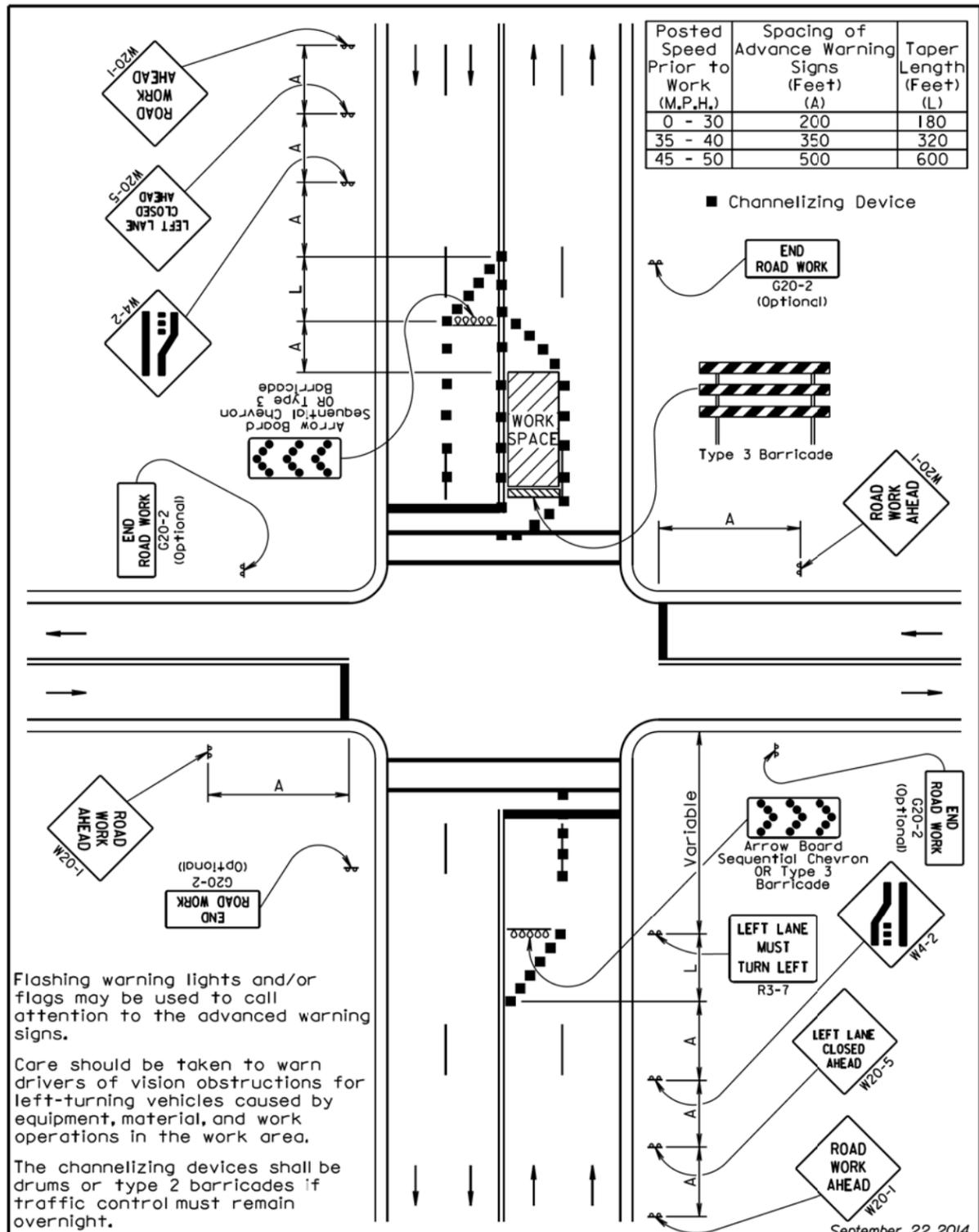
Conditions represented are for work that requires closings during daytime hours only.

This application is intended for a planned temporary closing not to exceed 15 to 20 minutes.

September 6, 2015

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES TEMPORARY ROAD WORK	PLATE NUMBER 634.30
	Published Date: 2nd Qtr. 2016	Sheet 1 of 1

Plot Scale - 1:200



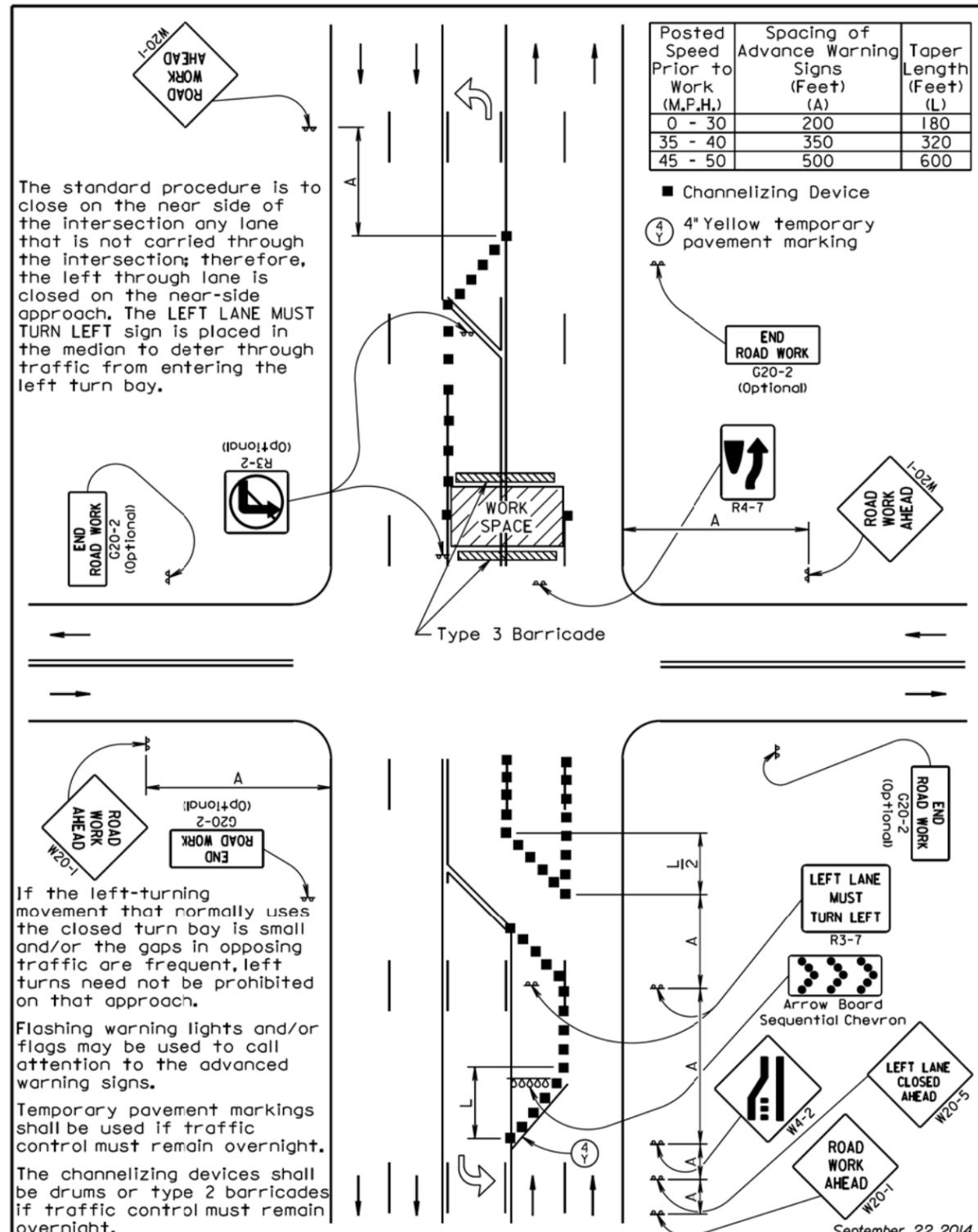
Flashing warning lights and/or flags may be used to call attention to the advanced warning signs.

Care should be taken to warn drivers of vision obstructions for left-turning vehicles caused by equipment, material, and work operations in the work area.

The channelizing devices shall be drums or type 2 barricades if traffic control must remain overnight.

September 22, 2014

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES LEFT LANE CLOSURE FAR SIDE OF INTERSECTION	PLATE NUMBER 634.43
	Published Date: 2nd Qtr. 2016	Sheet 1 of 1



The standard procedure is to close on the near side of the intersection any lane that is not carried through the intersection; therefore, the left through lane is closed on the near-side approach. The LEFT LANE MUST TURN LEFT sign is placed in the median to deter through traffic from entering the left turn bay.

If the left-turning movement that normally uses the closed turn bay is small and/or the gaps in opposing traffic are frequent, left turns need not be prohibited on that approach.

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

Temporary pavement markings shall be used if traffic control must remain overnight.

The channelizing devices shall be drums or type 2 barricades if traffic control must remain overnight.

September 22, 2014

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES MULTIPLE LANE CLOSURES AT INTERSECTION	PLATE NUMBER 634.45
	Published Date: 2nd Qtr. 2016	Sheet 1 of 1

- Plotted From - tpr25584

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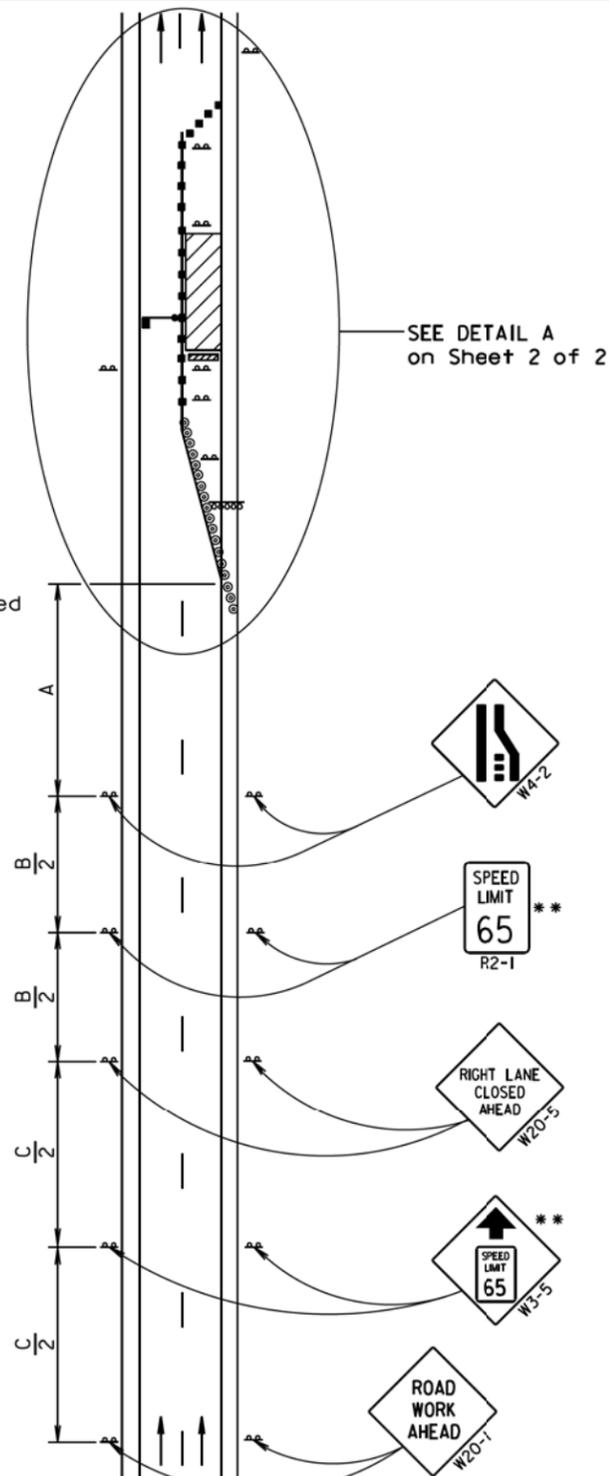
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Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet)		
	(A)	(B)	(C)
0 - 30	200		
35 - 40	350		
45 - 50	500		
55	750		
60 - 65	1000		
	(A)	(B)	(C)
70 - 80	1000	1500	2640

- ** Speed appropriate for location.
- Reflectorized Drum
- Channelizing Device

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

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



April 15, 2015

S D D O T	WORK ZONE SPEED REDUCTION FOR INTERSTATE AND HIGH SPEED MULTI-LANE HIGHWAYS	PLATE NUMBER 634.63
	Published Date: 2nd Qtr. 2016	Sheet 1 of 2

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

- * Spacing is 40' for 42" cones.
- ** Speed appropriate for location.
- *** Use speed limit designated for the condition when workers are present in the work space. Signs shall be covered or removed when workers are not present.

- Flagger (As Necessary)
- Reflectorized Drum
- Channelizing Device

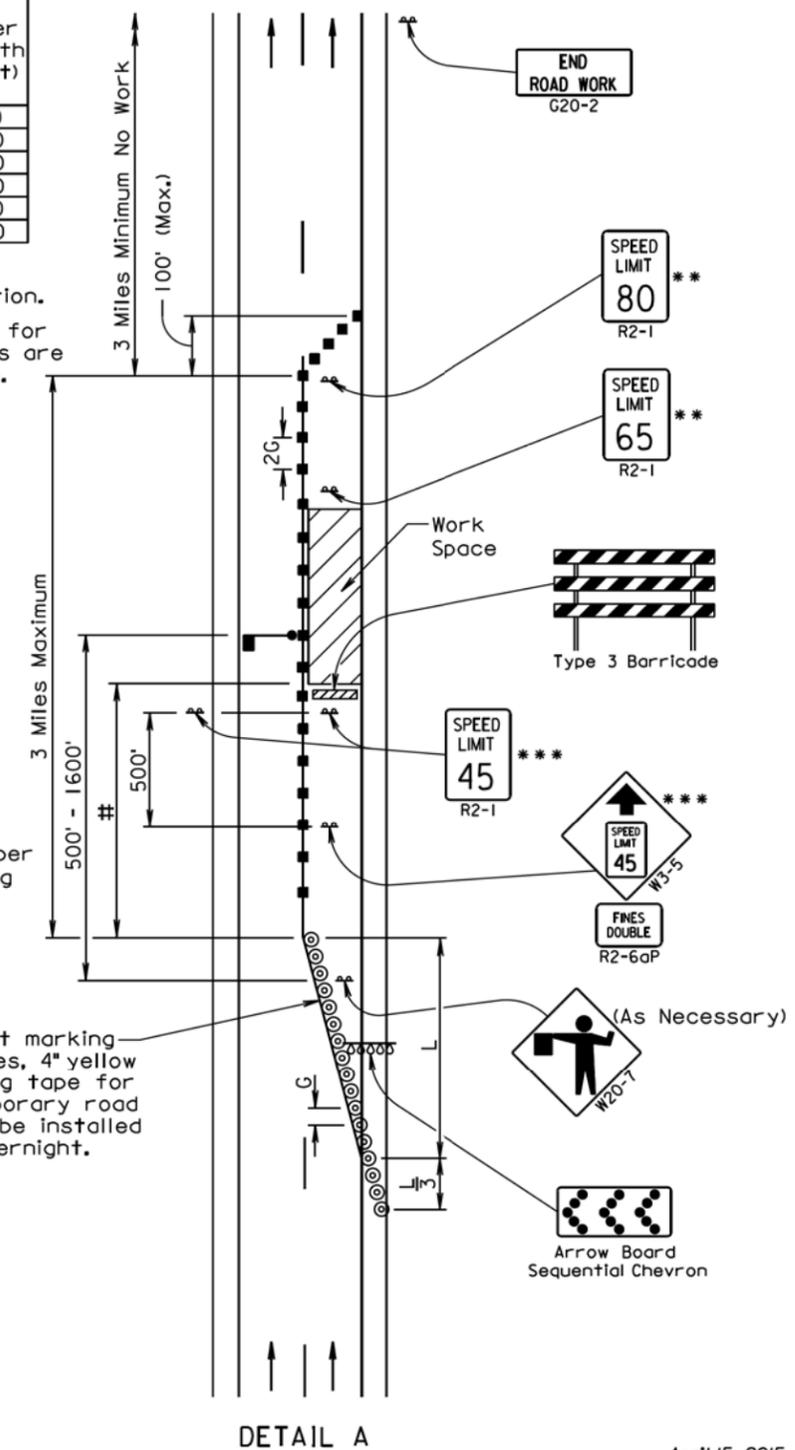
The Work Space shall be a minimum of 500' from the end of the taper.

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

The channelizing devices shall be 42" cones or drums.

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

4" white temporary pavement marking tape for right lane closures, 4" yellow temporary pavement marking tape for left lane closures, or temporary road markers at 5' spacing shall be installed when the lane is closed overnight.



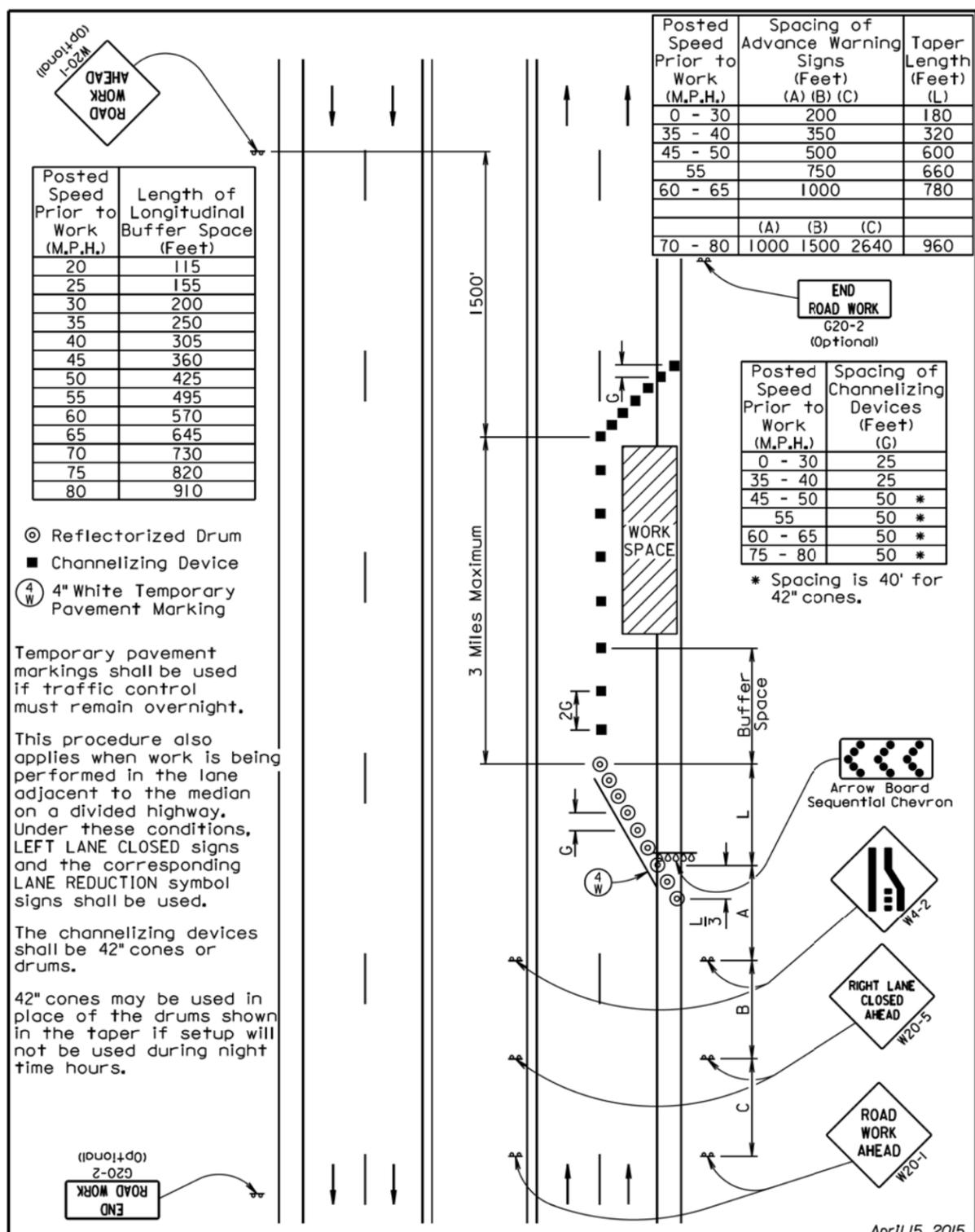
April 15, 2015

S D D O T	WORK ZONE SPEED REDUCTION FOR INTERSTATE AND HIGH SPEED MULTI-LANE HIGHWAYS	PLATE NUMBER 634.63
	Published Date: 2nd Qtr. 2016	Sheet 2 of 2

- Plotted From - tpr25584

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Plot Scale - 1:200



- ⊙ Reflectorized Drum
- Channelizing Device
- ④ 4" White Temporary Pavement Marking

Temporary pavement markings shall be used if traffic control must remain overnight.

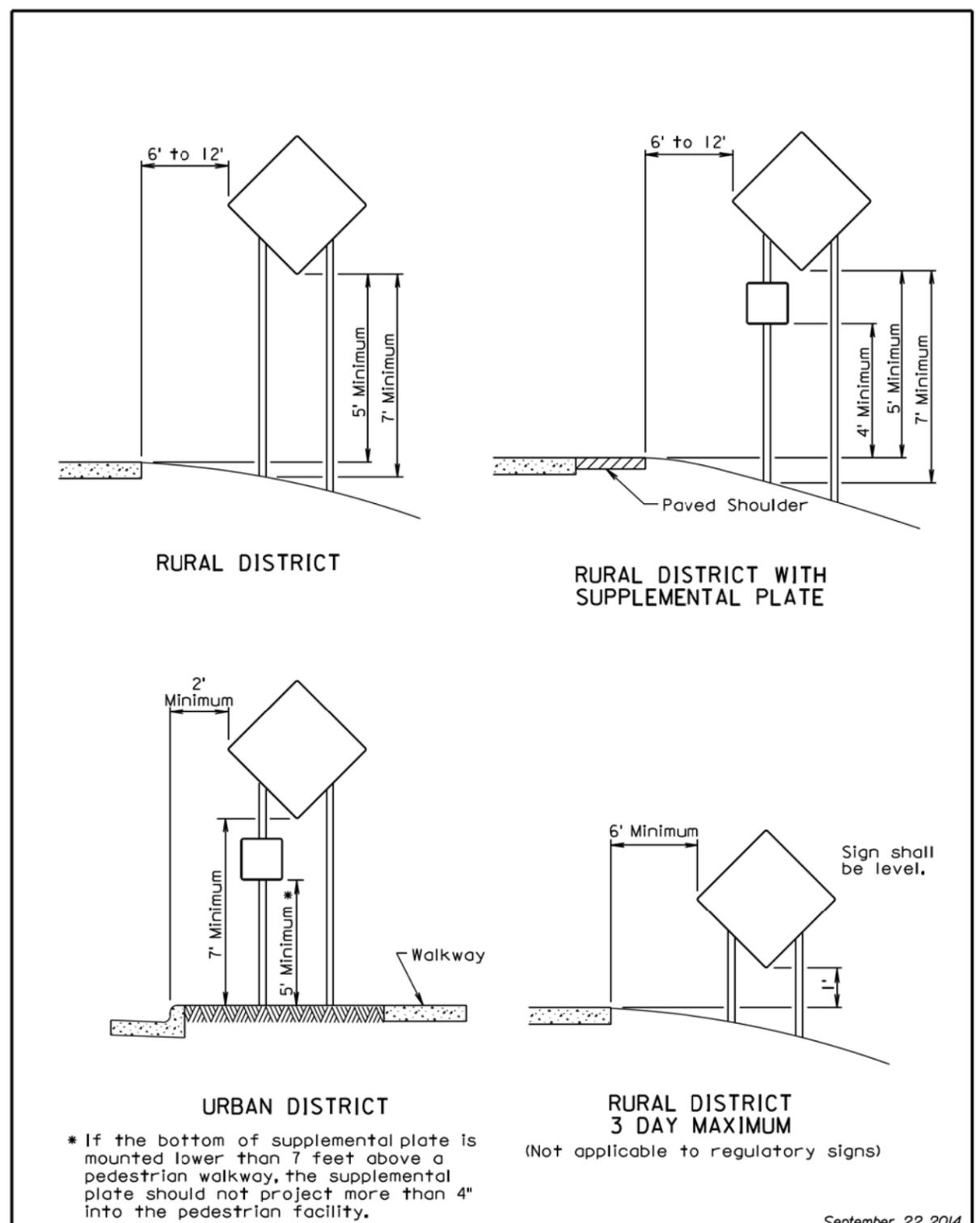
This procedure also applies when work is being performed in the lane adjacent to the median on a divided highway. Under these conditions, LEFT LANE CLOSED signs and the corresponding LANE REDUCTION symbol signs shall be used.

The channelizing devices shall be 42" cones or drums.

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

April 15, 2015

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES LANE CLOSURE WITHOUT BARRIER	PLATE NUMBER 634.64
	Published Date: 2nd Qtr. 2016	Sheet 1 of 1



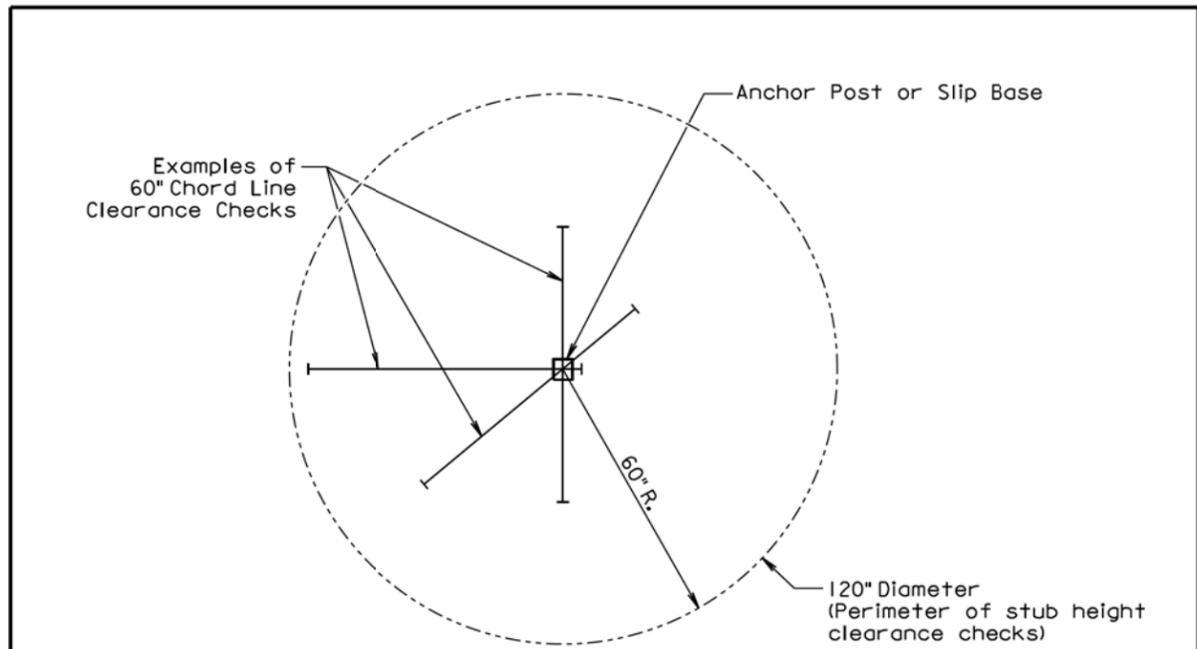
September 22, 2014

S D D O T	CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
	Published Date: 2nd Qtr. 2016	Sheet 1 of 1

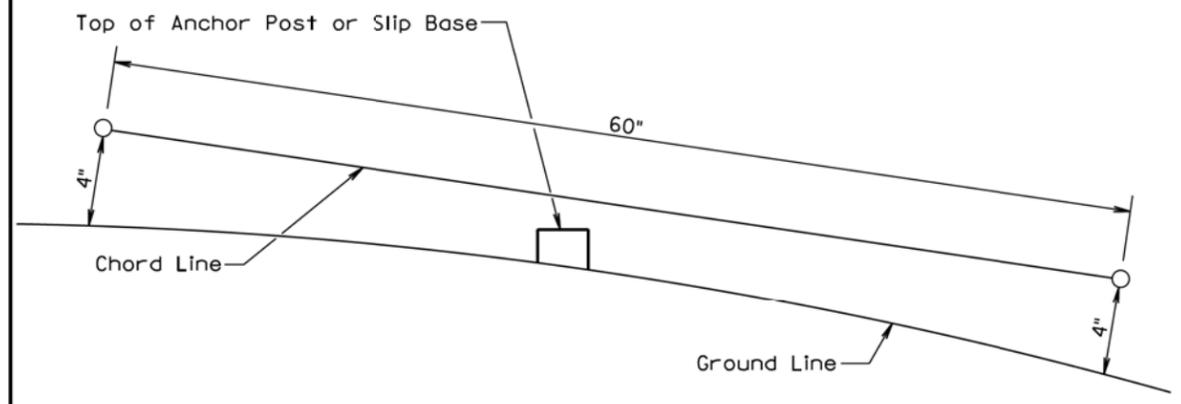
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PLAN VIEW
(Examples of stub height clearance checks)



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

S D D O T	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
	Published Date: 2nd Qtr. 2016	Sheet 1 of 1

- Plotted From - tpr25584

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