

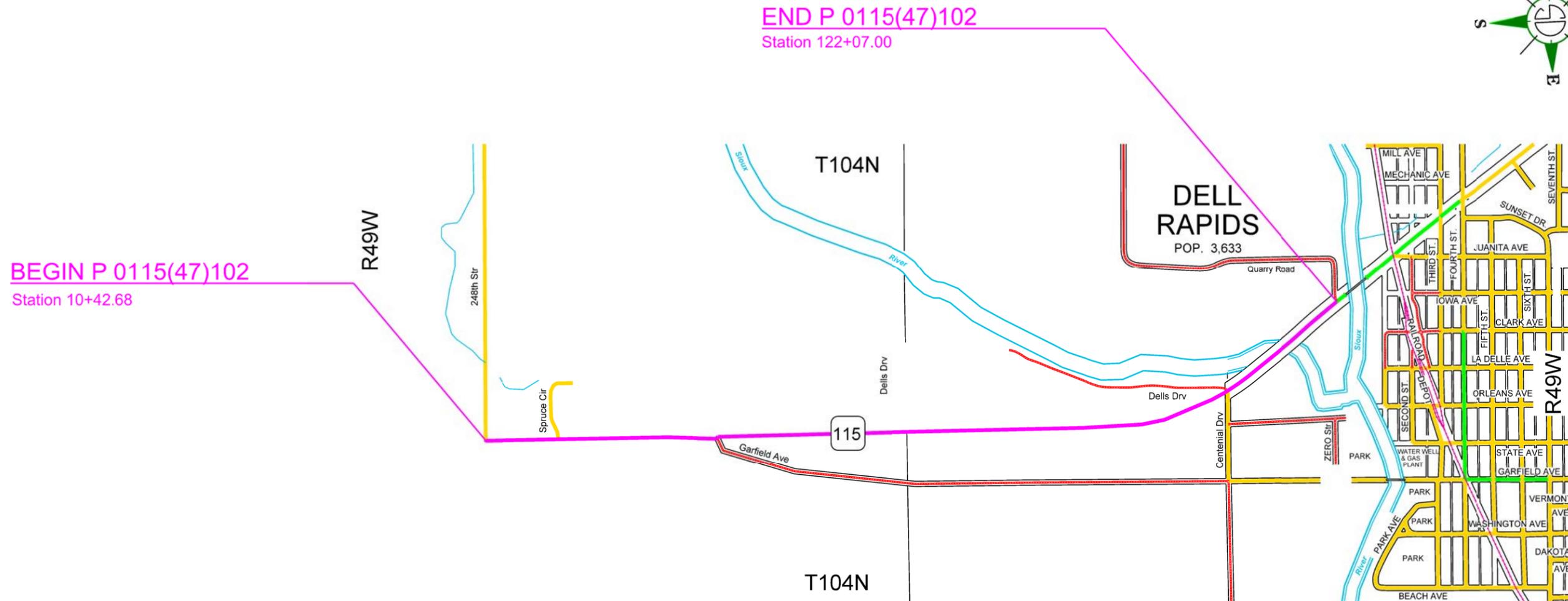
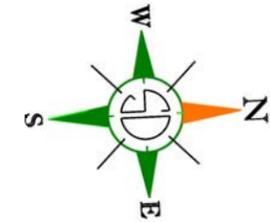
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0115(47)102	C1	C14

Plotting Date: 12/08/2015

Section C: Traffic Control Plans

INDEX OF SHEETS

- C1 General Layout With Index
- C2-C3 Estimate of Quantities and Notes
- C4 Itemized List for Traffic Control and Detouring Signing
- C5 Phase 1 and 2 Typical Sections
- C6-C10 Detour Layout and Details
- C11-C14 Standard Plates



PLOT SCALE - 1:8000

PLOTTED FROM - IRSE12105

PLOT NAME - 1

FILE - ... \025C-SECTION\TITLEC.DGN

SECTION C ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
628E1510	Concrete Barrier End Protection Module Set or Repair Kit	2	Each
632E3600	Temporary Signing	120.0	SqFt
634E0010	Flagging	200.0	Hour
634E0110	Traffic Control Signs	895	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0285	Type 3 Barricade, 8' Double Sided	20	Each
634E0420	Type C Advance Warning Arrow Board	2	Each
634E0560	Remove Pavement Marking, 4" or Equivalent	11,000	Ft
634E0565	Remove Pavement Marking, Arrow	3	Each
634E0640	Temporary Pavement Marking	44,656	Ft
634E0700	Traffic Control Movable Concrete Barrier	320	Each
634E0750	Temporary Concrete Barrier End Protection	8	Each
634E1002	Detour Signing	684.0	SqFt
634E1020	Temporary Business Signing	120.0	SqFt
634E1215	Contractor Furnished Portable Changeable Message Sign	2	Each
734E5010	Sweeping	100	Hour

SEQUENCE OF OPERATIONS

The following Sequence of Operations shall be followed by the Contractor unless an alternate Sequence of Operations is submitted in writing two weeks prior to the preconstruction meeting and approved by the Engineer.

The project shall be constructed in 3 phases. Each phase shall be completed according to the following notes and phasing details. The Contractor will be required to relocate/reuse traffic control and detour signing when switching between phases. No extra payment will be made for this work.

Contractor will be required to maintain access to each residence and business throughout the project.

Phase 1:

Sta. 10+42.7 to Sta. 122+07 (Southbound SD Hwy 115 alignment)

- Install traffic control for phase 1 as shown in the Traffic control layouts and Standard Plates.
- Traffic will be maintained on the existing northbound lane and shoulder of SD Hwy 115 surfacing while the southbound side of the new alignment is being constructed.
- Install erosion and sediment control devices.
- Remove the existing southbound surfacing 12' lane and shoulder. Grade and install pipe culverts to centerline. Place gravel cushion subgrade and concrete pavement surfacing for the 12' driving lane and 8' shoulder.
- During non-work hours, no drop off and 4:1 slope must be maintained adjacent to the traveled roadway. No extra payment will be made for this work.
- Install temporary pavement markings for head to head traffic to be placed on the southbound lane and shoulder. Switch traffic to the newly constructed roadway.
- Seed, mulch and install permanent erosion and sediment control devices throughout the project.

Phase 1: (Continued)

- Install traffic control as per the Traffic Control Layouts and Standard Plates.
- Construct 307'-3" continuous concrete bridge at Sta. 110+39.27 to Sta. 113+46.52.

Phase 2:

Sta. 10+42.7 to Sta. 122+07 (Northbound SD Hwy 115 alignment)

- Install traffic control for Phase 2 as shown in the Traffic Control Layouts and Standard Plates.
- Install erosion and sediment control devices.
- Remove the existing northbound surfacing 12' lane and shoulder. Grade and install pipe culverts. Place gravel cushion subgrade and concrete pavement surfacing for the 12' turn lane, 12' driving lane and 8' shoulder.
- During non-work hours, no drop off and 4:1 slope must be maintained adjacent to the traveled roadway. No extra payment will be made for this work.
- Seed, mulch and install permanent erosion and sediment control devices throughout the project.

Phase 3:

- Install permanent pavement markings, signing and delineation.
- Open SD Hwy 115 to traffic.

GENERAL MAINTENANCE OF TRAFFIC

Traffic shall be maintained in accordance with Section 4.4 of the Standard Specifications. Traffic control shall be installed in accordance with the Federal Manual on Uniform Traffic Control Devices (MUTCD) and standard plates located herein.

Removing, relocating, covering, salvaging and resetting permanent 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 and signs damaged or lost shall be replaced by the Contractor at no cost to the State.

Indiscriminate driving and parking of vehicles within the right-of-way will not be permitted. Any damage to the vegetation, surfacing, embankment, delineators and existing signs resulting from such indiscriminate use shall be repaired and/or restored by the Contractor, at no expense to the State, and to the satisfaction of the Engineer.

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, breakaway supports.

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The Contractor shall provide documentation that all breakaway sign supports comply with NCHRP 350 or MASH crash-worthy requirements. The Contractor shall provide installation details at the preconstruction meeting for all breakaway sign support assemblies.

If traffic is routed to a completed section and the permanent signing is not complete, the Contractor shall use temporary signing consisting of salvaged permanent signs or temporary traffic control signs for traffic direction and safety. The cost of the temporary signing shall be at the Contractor's expense to install and maintain signs.

All costs associated with covering and uncovering existing signs shall be incidental to the bid item Traffic Control Miscellaneous. No extra payment will be made for this work.

STREET SWEEPING

Vehicle tracking of sediment from the construction site shall be minimized. Street sweeping shall be used if erosion and sediment control best management practices are not adequate to prevent sediment from being tracked onto the highway.

The Contractor shall use a pickup broom having integral self-contained storage to clean the roadway. The pickup broom used shall be a minimum of 6 feet wide and have working gutter brooms.

At a minimum, sweeping will be required:

1. Prior to opening any segment or roadway to traffic.
2. Following pavement grooving operations and prior to the application of the pavement marking tape.
3. When sawing operations are underway in the inside driving lanes, the outside driving lane and gutter may need to be swept to control dust.

All costs for cleaning the roadway with a pickup broom shall be incidental to the contract unit price per hour for Sweeping.

ACCESS TO RESIDENCES AND BUSINESSES ALONG SD HWY 115

The Contractor will be required to maintain access to each residence and business throughout the project at all times. At a minimum, the Contractor shall provide a 10' wide smooth drivable, gravel access roadway to the residences and businesses. The roadway shall have a minimum of 4" depth of gravel base installed on it. The Contractor shall re-grade the access roadway on a weekly basis or anytime the roadway is un-drivable per the Engineer's direction.

The Contractor shall coordinate with the homeowner or business to inform them of the access road they should take during their phasing process

At the preconstruction meeting the Contractor shall provide the name and phone number of the person who will be available for maintaining the access to residences and businesses 24 hours a day 7 days a week.

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MAINTENANCE OF DRAINAGE

The Contractor will be required to maintain drainage on the project during the course of construction. This will include the installing of Contractor furnished pipe to temporarily connect drainage systems, performing the necessary shaping, and all needed miscellaneous work. No separate payment will be made for this work. All costs for maintaining the drainage shall be incidental to the cost of the various contract bid items. If existing cross pipe are not needed to maintain drainage and are not removed from under the new roadway section, the pipe must be filled with flowable fill approved by the Engineer. This process shall be incidental to the cost for the various contract bid items.

TEMPORARY PAVEMENT MARKING

The Contractor shall place and maintain temporary pavement marking in accordance with Section 634 of the Standard Specifications and the details in these plans.

Double yellow for Phase 1 northbound lane of Hwy 11 = 22,328'
 Double yellow for Phase 2 southbound lane of Hwy 11 = 22,328'
 Total = 44,656'

Temporary raised pavement markers shall be used in lieu of Temporary Pavement Marking Paint in transition and mainline areas which will not be covered by permanent pavement marking. Measurements will be made and quantities will be paid for the actual quantities used.

The Contractor shall be required to remove the temporary raised pavement markers. The Contractor shall use equipment that is not detrimental to the roadway surface for removing Raised Pavement Markers as approved by the Engineer. The cost of removing the Raised Pavement Markers installed on the project by the Contractor shall be incidental to the contract unit price per foot for Temporary Pavement Marking.

Raised pavement markers shall be attached to the roadway surface with a flexible non-permanent bituminous adhesive capable of being removed from the roadway surface or with an adhesive approved by the Engineer.

REMOVE EXISTING PAVEMENT MARKING

Existing pavement markings which conflict with the desired traffic patterns detailed in traffic control layouts in the plans shall be removed by the Contractor unless otherwise shown. Removal of pavement markings shall be paid at the contract unit bid price per foot for Remove Pavement Marking, 4" or Equivalent.

REMOVE PAVEMENT MARKING ARROW

Existing pavement marking arrows which conflict with the desired traffic patterns detailed in traffic control layouts in the plans shall be removed by the Contractor unless otherwise shown. Removal of pavement marking arrows shall be paid at the contract unit price per each for "Remove Pavement Marking Arrow".

INCIDENTS

An incident is an emergency road user occurrence or unplanned event that impedes the flow of traffic such as an accident, hazardous materials spill or similar event. The Contractor shall set up a meeting prior to the start of work to plan and coordinate the response to an incident. The Contractor will invite Department of Transportation, the South Dakota Highway Patrol, The City of Dell Rapids, and local emergency response entities to the meeting.

The Contractor will assist to maintain traffic as required by these plan notes and as agreed to at the meeting. The Contractor will be required to modify messages on portable changeable message signs or relocate portable changeable message signs. The Contractor may be asked to provide flaggers to direct or detour traffic. The Contractor should be prepared to relocate advance warning signs if determined to be necessary for a major traffic incident lasting for more than two hours. Ground mounted advance warning signs may be covered and additional portable warning signs provided.

No additional payment will be made for the modification of portable changeable message sign messages or the relocation of portable changeable message signs. Cost for flagging shall be paid at the contract unit price per hour for Flagging. Cost for the relocation of an advanced warning sign due to an incident shall be 50% of the designated sign rate as per Section 634.5 Basis of Payment in the Specifications. Cost for additional signs shall be paid at the contract unit price per square foot for Traffic Control Signs.

The Contractor shall provide adequate personnel to accomplish the necessary traffic control work in the event of an incident.

TEMPORARY SIGNING

If traffic is routed to a completed section and the permanent signing is not complete, the Contractor shall use temporary traffic control signs for traffic direction and safety. The cost to install and maintain the temporary signing shall be at the Contractor's expense.

TEMPORARY BUSINESS SIGNS

The Contractor shall install temporary guide signs for businesses along the project. The businesses shall supply the signs and the Contractor shall furnish the posts and install, maintain, and remove the signs. Signs damaged by the Contractor shall be replaced at the Contractor's expense.

Each business shall be allowed a maximum of 4 guide signs. The size of the signs shall be limited to 3 feet wide by 2 feet tall. Signs may be increased in size to 3 feet by 3 feet when multiple businesses combine to furnish a sign.

The estimated quantity of 20 business signs may be increased or decreased as deemed necessary. All costs, labor and materials to install, maintain, remove and return the signs shall be included in the contract unit price per square foot for Temporary Business Signing.

PORTABLE CHANGEABLE MESSAGE SIGNS

The portable changeable message signs (PCMS) shall be used for special traffic situations as directed by the Engineer. The Contractor shall install and maintain Contractor furnished PCMS at the locations determined by the Engineer. The PCMS boards shall be available two weeks prior to the start of the project to warn traffic of upcoming work and shall be available for the duration of the project.

The PCMS shall be non-operational unless required for:
 - Advance closure notice
 - Incident/crash management
 - Unforeseen project conditions

Below are several examples of the messages that shall be displayed on the signs throughout the project. The Engineer may approve alternate messages to fit project conditions.

Advance closure notice:

SD 115 ROAD WORK	STARTS (DATE)
---------------------------------	--------------------------

During typical traffic control operations:

REDUCE SPEED	FOLLOW DETOUR
-------------------------	--------------------------

If crashes occur within the project:

ACCIDENT AHEAD	BE PREPARED TO STOP
---------------------------	------------------------------------

All costs, labor and materials for furnishing, installing, storing, relocating, reprogramming and maintaining these PCMS boards shall be included in the contract unit price per each for "Contractor Furnished Portable Changeable Message Sign." All bracing required to install the PCMS at the proper height shall be included in this bid item.

TRAFFIC CONTROL MOVABLE CONCRETE BARRIER

The Contractor will be required to pick up and haul the barrier to the project site, install them as per the Table of Concrete Barrier and End Protection, and relocate the barriers as necessary. The Contractor shall Contact Greg Aalberg (605-367-4970 Ext. 2116) at the Sioux Falls Area Office to arrange for pickup of the barrier. All barriers are and shall remain the property of the Department of Transportation and will remain in place per the plans following completion of the project. The number of barrier used shall be approved by the Engineer. Payment will be based on the actual number of barrier used on construction.

CONCRETE BARRIER END PROTECTION

The crash cushions provided shall meet NCHRP 350 test level 3.

Documentation on the crash cushion, which includes the drawing details of the crash cushion, details for the transition to the concrete barrier, and details for the concrete anchoring pad shall be provided to the Project Engineer at the pre-construction meeting.

The crash cushion shall be attached to the concrete barrier with a transition that meets test level 3 requirements of NCHRP 350 at locations shown below in the Table of Concrete Barrier and End Protection. For bidirectional traffic, the transition shall be placed on both sides of the crash cushion and barrier.

Concrete barrier is to be installed on SD Hwy 115 concrete pavement 2 feet right of the existing centerline. The concrete barrier is being installed on the existing SD Hwy 115 pavement to protect the traveling public from drop offs in excess of 3 feet adjacent to grade sections and pipe culvert installations as detailed in the table of concrete barrier and end protection.

Grading sections with drop offs are located at Sta. 22+00 to Sta. 32+00, Sta. 52+00 to Sta. 67+00 and Sta. 79+00 to Sta. 93+00.

Culverts are to be installed at Sta.13+55, Sta. 40+43 and Sta. 48+36. The plans provide 8 concrete barriers and 2 end protections for the installation of the culverts. The Contractor will be required to mark the end of the installed culvert and backfill the culvert prior to moving the concrete barrier and end protection to the next culvert installation.

The Contractor shall certify that the crash cushion was installed according to the manufacturer's installation instructions.

All cost for furnishing and installing the crash cushion including the anchoring pad, anchors for connection to the pad, transitions to the concrete barrier(if required), materials, labor, equipment, and incidental items shall be paid for at the contract unit price each for Temporary Concrete Barrier End Protection.

TABLE OF CONCRETE BARRIER AND END PROTECTION

Barrier (Each) End Protection (Each)

Sta. 13+55 (8 barriers + 2 end protections to be used for the
Sta. 40+43 installation of the three pipe culverts)
Sta. 48+36

Sta. 22+00 to Sta. 32+00	80 barrier	2 end protection
Sta. 52+00 to Sta. 67+00	120 barrier	2 end protection
Sta. 79+00 to Sta. 93+00	112 barrier	2 end protection
Total =	320 barrier	8 end protection

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ITEMIZED LIST OF TRAFFIC CONTROL

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-1	STOP	6	30" x 30"	6	36
R1-2	YIELD		36" x 36"	9	
R2-1	SPEED LIMIT 45	2	24" x 30"	5	10
R2-6aP	FINES DOUBLE (plaque)		24" x 18"	3	
R3-2	NO LEFT TURN (symbol)	3	24" x 24"	4	12
R4-1	DO NOT PASS	3	24" x 30"	5	15
R4-7	KEEP RIGHT (symbol)		24" x 30"	5	
R5-1	DO NOT ENTER		30" x 30"	6	
R5-1a	WRONG WAY		36" x 24"	6	
R10-6	STOP HERE ON RED		24" x 36"	6	
R11-2	ROAD CLOSED	3	48" x 30"	10	30
R11-3a	ROAD CLOSED 350 FEET AHEAD LOCAL TRAFFIC ONLY	2	60" x 30"	13	26
R11-4	ROAD CLOSED TO THRU TRAFFIC		60" x 30"	13	
W1-1	LEFT or RIGHT TURN ARROW	1	48" x 48"	16	16
W1-2	LEFT or RIGHT CURVE ARROW		48" x 48"	16	
W1-3	REVERSE TURN (L or R)		48" x 48"	16	
W1-4	REVERSE CURVE (L or R)		48" x 48"	16	
W1-6	LARGE ARROW (one direction)	1	48" x 24"	8	8
W3-1	STOP AHEAD (symbol)		48" x 48"	16	
W3-2	YIELD AHEAD (symbol)		48" x 48"	16	
W3-3	SIGNAL AHEAD (symbol)		48" x 48"	16	
W3-4	BE PREPARED TO STOP		48" x 48"	16	
W3-5	SPEED REDUCTION AHEAD 45MPH	2	48" x 48"	16	32
W4-1	MERGE (symbol)		48" x 48"	16	
W4-2	LEFT or RIGHT LANE ENDS (symbol)		48" x 48"	16	
W4-3	ADDED LANE (symbol)		48" x 48"	16	
W5-3	ONE LANE BRIDGE		48" x 48"	16	
W6-3	TWO WAY TRAFFIC (symbol)	4	48" x 48"	16	64
W7-3aP	NEXT __ MILES (plaque)		36" x 30"	8	
W8-1	BUMP	5	48" x 48"	16	80
W8-6	TRUCK CROSSING	4	48" x 48"	16	64
W8-7	LOOSE GRAVEL	4	48" x 48"	16	64
W8-11	UNEVEN LANES	2	48" x 48"	16	32
W8-17	SHOULDER DROP-OFF (symbol)	2	48" x 48"	16	32
W13-1P	ADVISORY SPEED (plaque)	4	30" x 30"	6	24
W20-1	ROAD WORK AHEAD	6	48" x 48"	16	96
W20-2	DETOUR AHEAD	2	48" x 48"	16	32
W20-3	ROAD CLOSED AHEAD	2	48" x 48"	16	32
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16	32
W20-5	LEFT or RIGHT LANE CLOSED AHEAD		48" x 48"	16	
W20-7	FLAGGER (symbol)	2	48" x 48"	16	32
W21-1	WORKERS (symbol)		48" x 48"	16	
W21-2	FRESH OIL		48" x 48"	16	
W21-3	ROAD MACHINERY AHEAD		48" x 48"	16	
W21-5	SHOULDER WORK	4	48" x 48"	16	64
W21-5a	LEFT or RIGHT SHOULDER CLOSED		48" x 48"	16	
W21-5b	LEFT or RIGHT SHOULDER CLOSED AHEAD	2	48" x 48"	16	32
G20-1	ROAD WORK NEXT __ MILES		36" x 18"	5	
G20-2	END ROAD WORK	6	36" x 18"	5	30
G20-5aP	WORK ZONE (plaque)		24" x 18"	3	
-	TYPE 3 OBJECT MARKER		12" x 36"	3	
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT 895			

ITEMIZED LIST OF DETOUR SIGNING

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
M1-5	SD ROUTE MARKER (3 digits)	63	30" x 24"	5	315
M3-1	DIRECTION MARKER - NORTH	29	24" x 12"	2	58
M3-3	DIRECTION MARKER - SOUTH	34	24" x 12"	2	68
M4-8	DETOUR	59	24" x 12"	2	118
M4-8a	END DETOUR	3	24" x 18"	3	9
M5-1	ADVANCE TURN ARROW 90° (L or R)	18	21" x 15"	2	36
M6-1	DIRECTION ARROW - Horizontal Single Head (L or R)	18	21" x 15"	2	36
M6-3	DIRECTION ARROW - Vertical Single Head	22	21" x 15"	2	44
		CONVENTIONAL ROAD DETOUR SIGNING SQFT 684			

TYPE 3 BARRICADES (FOR DETOUR SIGNING)

ITEM DESCRIPTION	QUANTITY
Type 3 Barricade, 8' Double Sided	10 Each

TYPE 3 BARRICADES

ITEM DESCRIPTION	QUANTITY
Type 3 Barricade, 8' Double Sided	10 Each

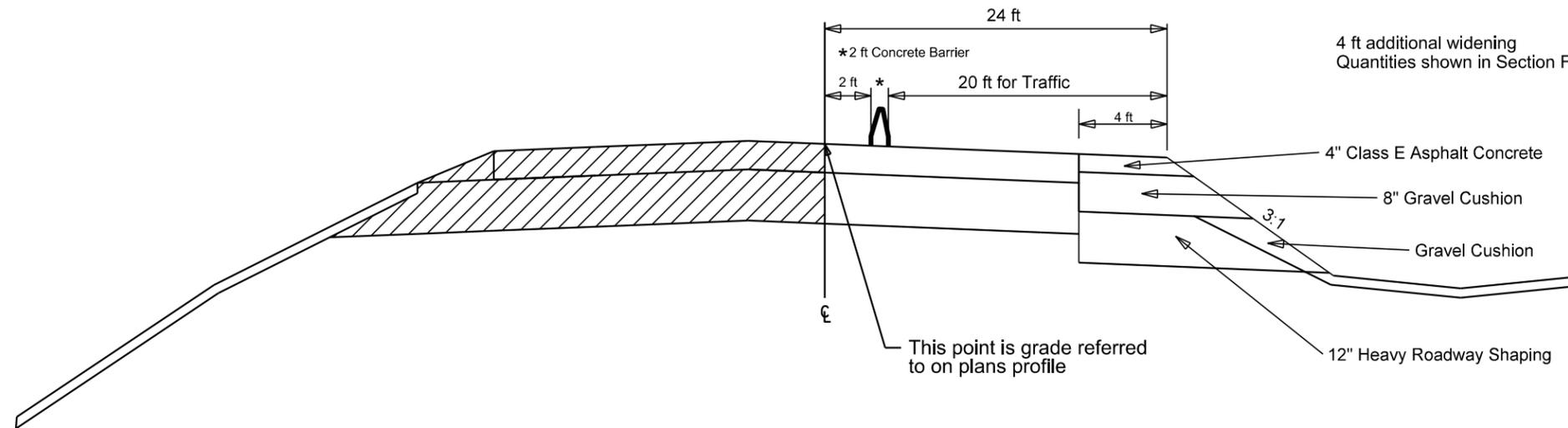
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0115(47)102	C6	C14

Plotting Date: 12/22/2015

Revised 12/22/2015 LLA

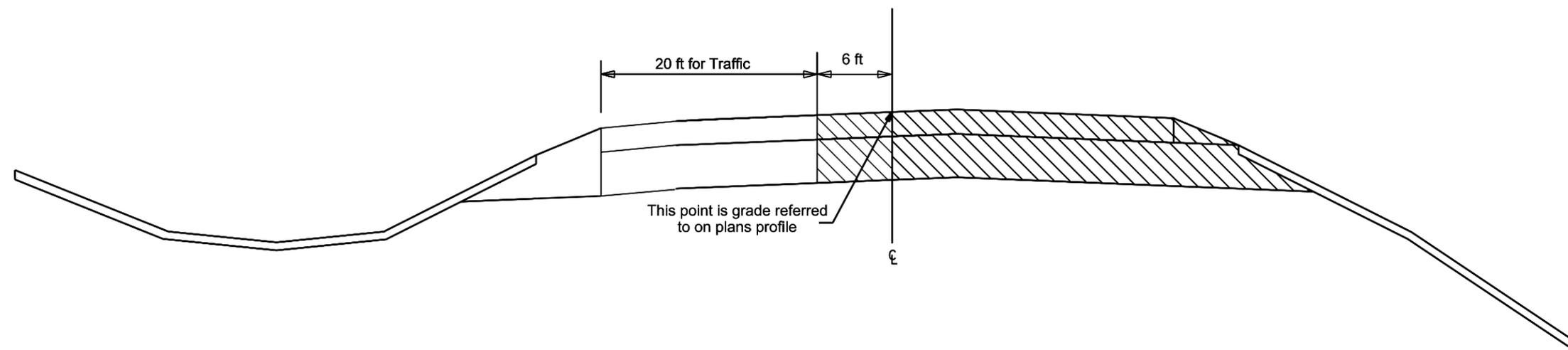
Traffic Control Phase 1 Typical Section

10+42.68 to 102+74



Traffic Control Phase 2 Typical Section

10+42.68 to 102+74



PLOT SCALE - 1:12

PLOTTED FROM - IRPR18387

PLOT NAME - 1

FILE - ... \TYPICAL PHASE 1 & 2.DGN

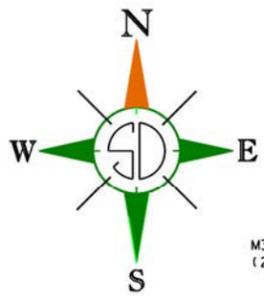
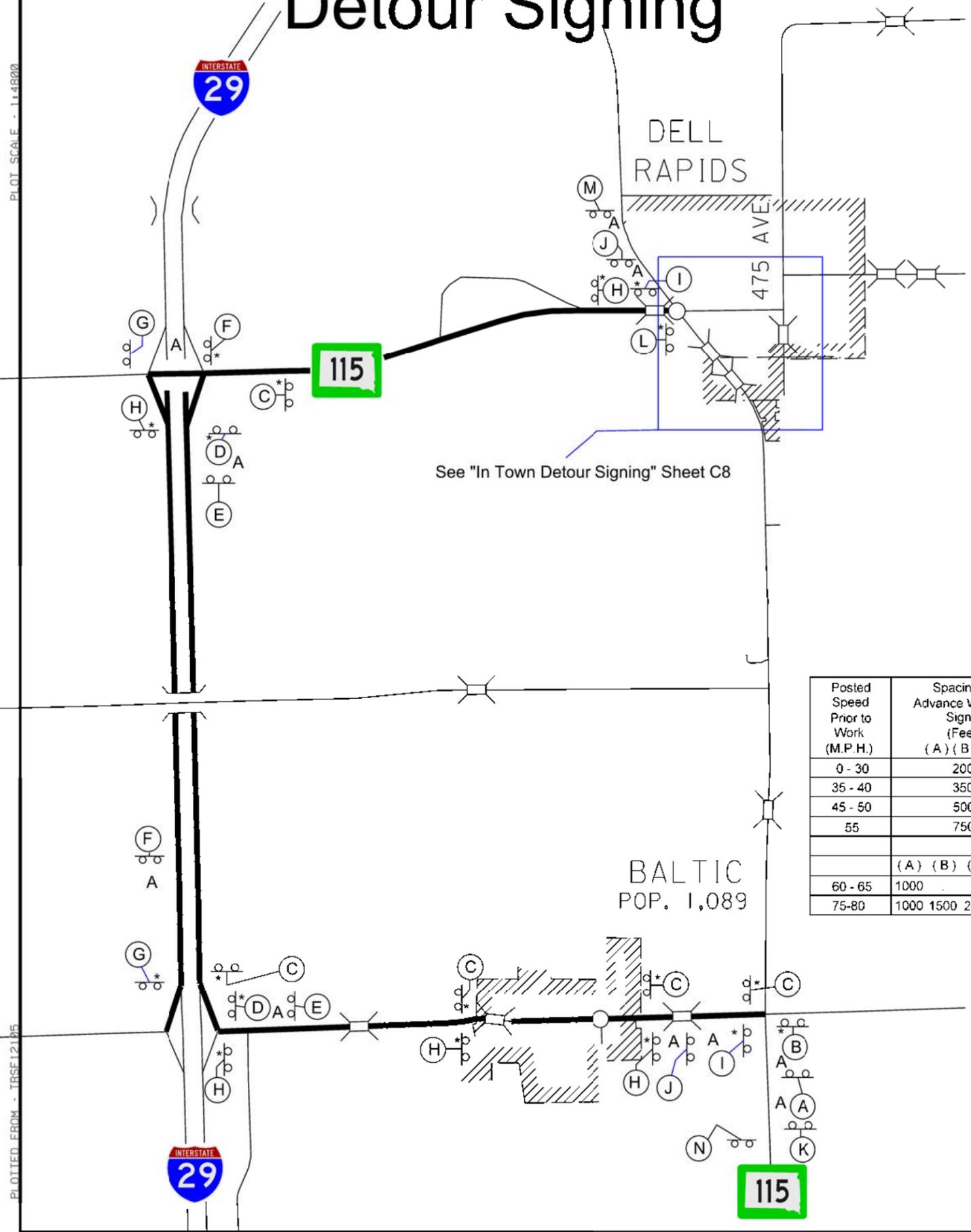
Detour Signing

PLOT SCALE - 1:4800

PLOTTED FROM - IRSE121B5

PLOT NAME - 3

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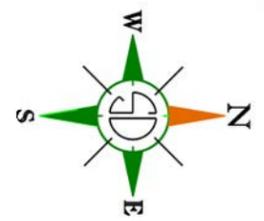


Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet)			Taper Length (Feet) (L)	Spacing of Channelizing Devices (Feet) (G)
	(A)	(B)	(C)		
0 - 30	200			180	25
35 - 40	350			320	25
45 - 50	500			600	50
55	750			660	50
		(A)	(B)	(C)	(D)
60 - 65	1000			780	50
75-80	1000	1500	2640	1125	50

	(A)	(B)	(C)	(D)	(E)
M4-8 (24"x12")					
M3-1 (24"x12")					
M1-5 (30"x24")					
M5-1 (21"x15")		M6-1 (21"x15")	M6-3 (21"x15")	M6-1 (21"x15")	M5-1 (21"x15")
(F)	(G)	(H)	(I)	(J)	
M4-8 (24"x12")					
M3-3 (24"x12")					
M1-5 (30"x24")					
M5-1 (21"x15")		M6-1 (21"x15")	M6-3 (21"x15")	M6-1 (21"x15")	M5-1 (21"x15")
(K)	(L)	(M)	(N)		
W20-2 (48"x48")		M3-3 (24"x12")		M4-8a (24"x18")	
	M4-8a (24"x18")				
		M1-5 (30"x24")			
		W20-2 (48"x48")			

* Signs shall be placed 100'-200' from the intersection. Exact location to be approved by the Engineer.

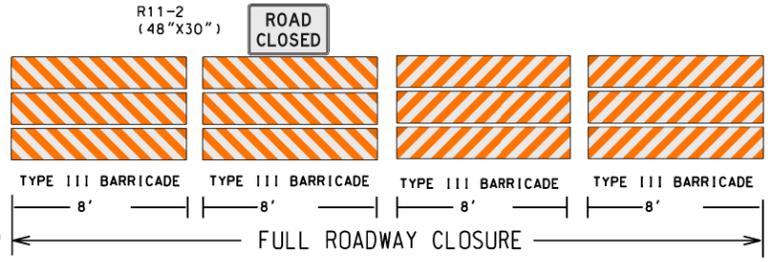
In Town Detour Signing Layout



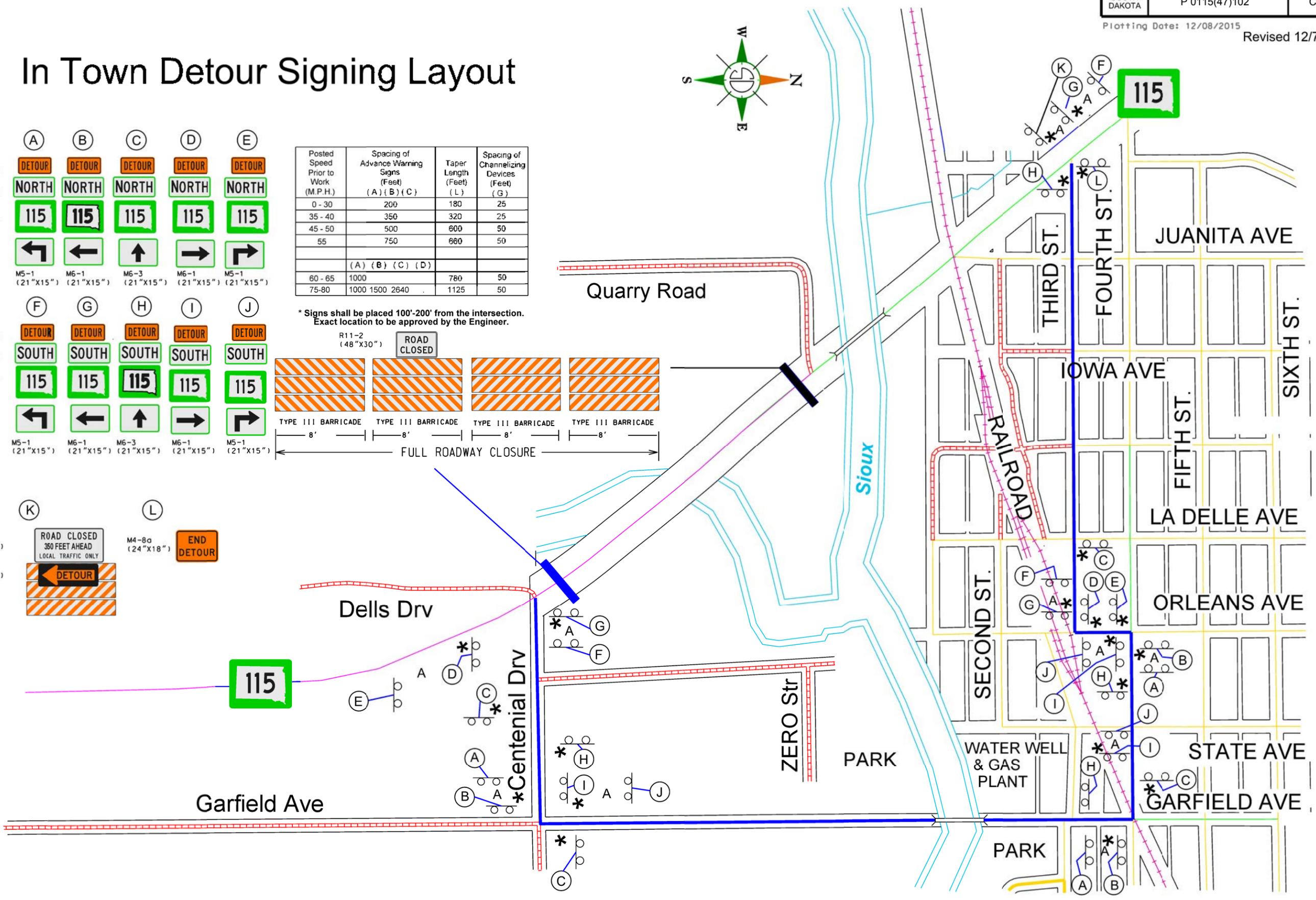
(A) M4-8 (24"x12")	(B) M4-8 (24"x12")	(C) M4-8 (24"x12")	(D) M4-8 (24"x12")	(E) M4-8 (24"x12")
DETOUR	DETOUR	DETOUR	DETOUR	DETOUR
M3-1 (24"x12")				
NORTH	NORTH	NORTH	NORTH	NORTH
M1-5 (30"x24")				
115	115	115	115	115
M5-1 (21"x15")	M6-1 (21"x15")	M6-3 (21"x15")	M6-1 (21"x15")	M5-1 (21"x15")
←	←	↑	→	→
(F) M4-8 (24"x12")	(G) M4-8 (24"x12")	(H) M4-8 (24"x12")	(I) M4-8 (24"x12")	(J) M4-8 (24"x12")
DETOUR	DETOUR	DETOUR	DETOUR	DETOUR
M3-3 (24"x12")				
SOUTH	SOUTH	SOUTH	SOUTH	SOUTH
M1-5 (30"x24")				
115	115	115	115	115
M5-1 (21"x15")	M6-1 (21"x15")	M6-3 (21"x15")	M6-1 (21"x15")	M5-1 (21"x15")
←	←	↑	→	→

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A) (B) (C)	Taper Length (Feet) (L)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	180	25
35 - 40	350	320	25
45 - 50	500	600	50
55	750	660	50
	(A) (B) (C) (D)		
60 - 65	1000	780	50
75-80	1000 1500 2640	1125	50

* Signs shall be placed 100'-200' from the intersection. Exact location to be approved by the Engineer.



(K) R11-3a (60"x30")	(L) M4-8a (24"x18")
ROAD CLOSED 360 FEET AHEAD LOCAL TRAFFIC ONLY	END DETOUR
W1-6 (48"x24")	
← DETOUR	



PLOT SCALE - 1:2500

PLOTTED FROM - IRSE12105

PLOT NAME - 4

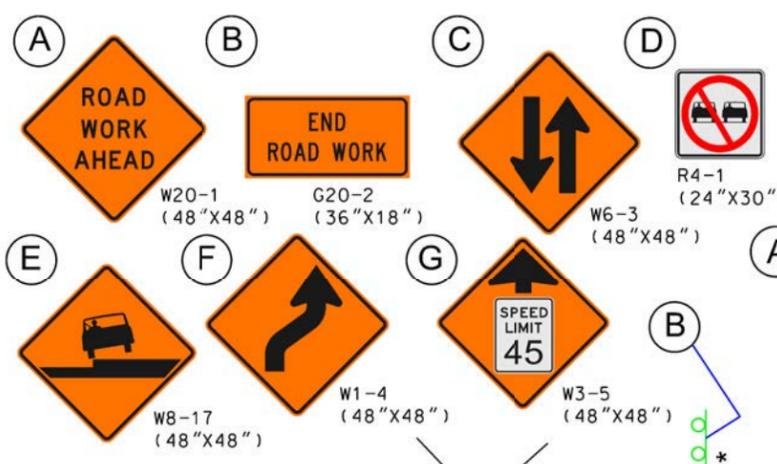
FILE - ... \IN TOWN DETOUR.DGN

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet)			Taper Length (Feet) (L)	Spacing of Channelizing Devices (Feet) (G)
	(A)	(B)	(C)		
0 - 30	200			180	25
35 - 40	350			320	25
45 - 50	500			600	50
55	750			660	50
	(A)	(B)	(C)	(D)	
60 - 65	1000			780	50
75-80	1000	1500	2640	1125	50

Fixed Location Signing



* Signs shall be placed 100' to 200' from intersection. Exact location to be approved by the Engineer.



248th Street

475 AVE

BEGIN PROJECT
STA. 10+42.68

END PROJECT
STA. 122+07

PLOT SCALE - 1:2000

PLOTTED FROM - IRSE12105

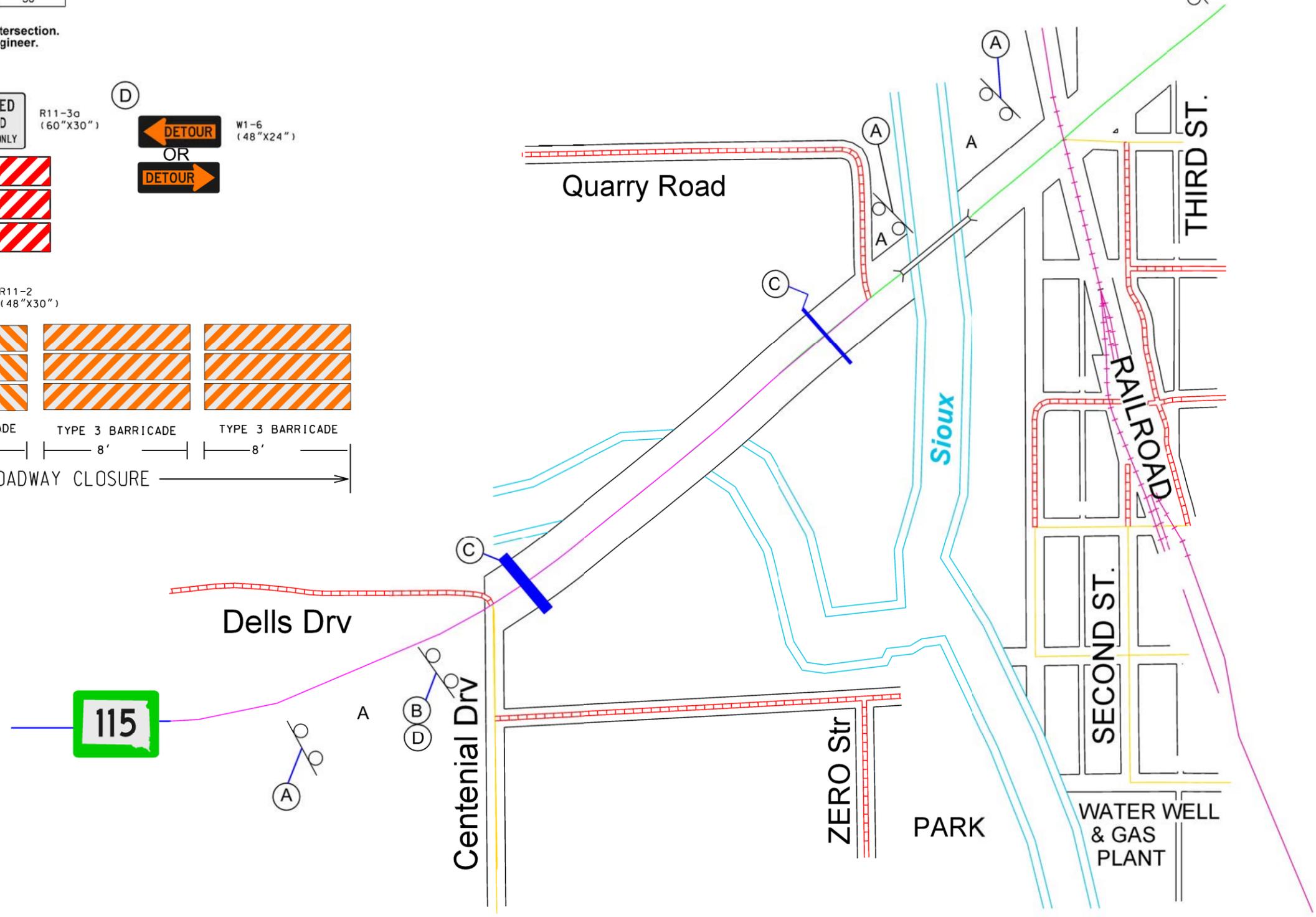
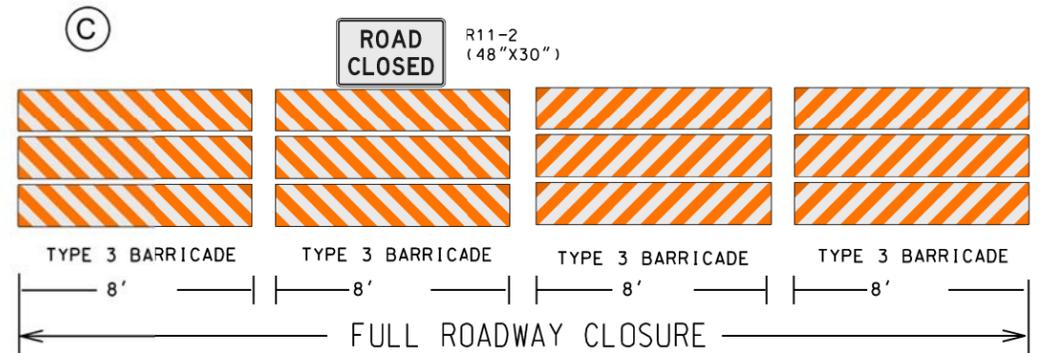
PLOT NAME - 5

FILE - ...FIXED LOCATION SIGNS.DGN

Fixed Location Signing

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A) (B) (C)	Taper Length (Feet) (L)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	180	25
35 - 40	350	320	25
45 - 50	500	600	50
55	750	660	50
	(A) (B) (C) (D)		
60 - 65	1000	780	50
75-80	1000 1500 2640	1125	50

* Signs shall be placed 100'-200' from the intersection. Exact location to be approved by the Engineer.



PLOT SCALE - 1:2320

PLOTTED FROM - IRSE12105

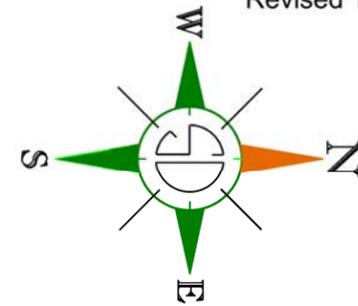
PLOT NAME - 6

FILE - ... \FIXED LOCATION SIGNS.DGN

Begin Project Sta. 10+42 Detail

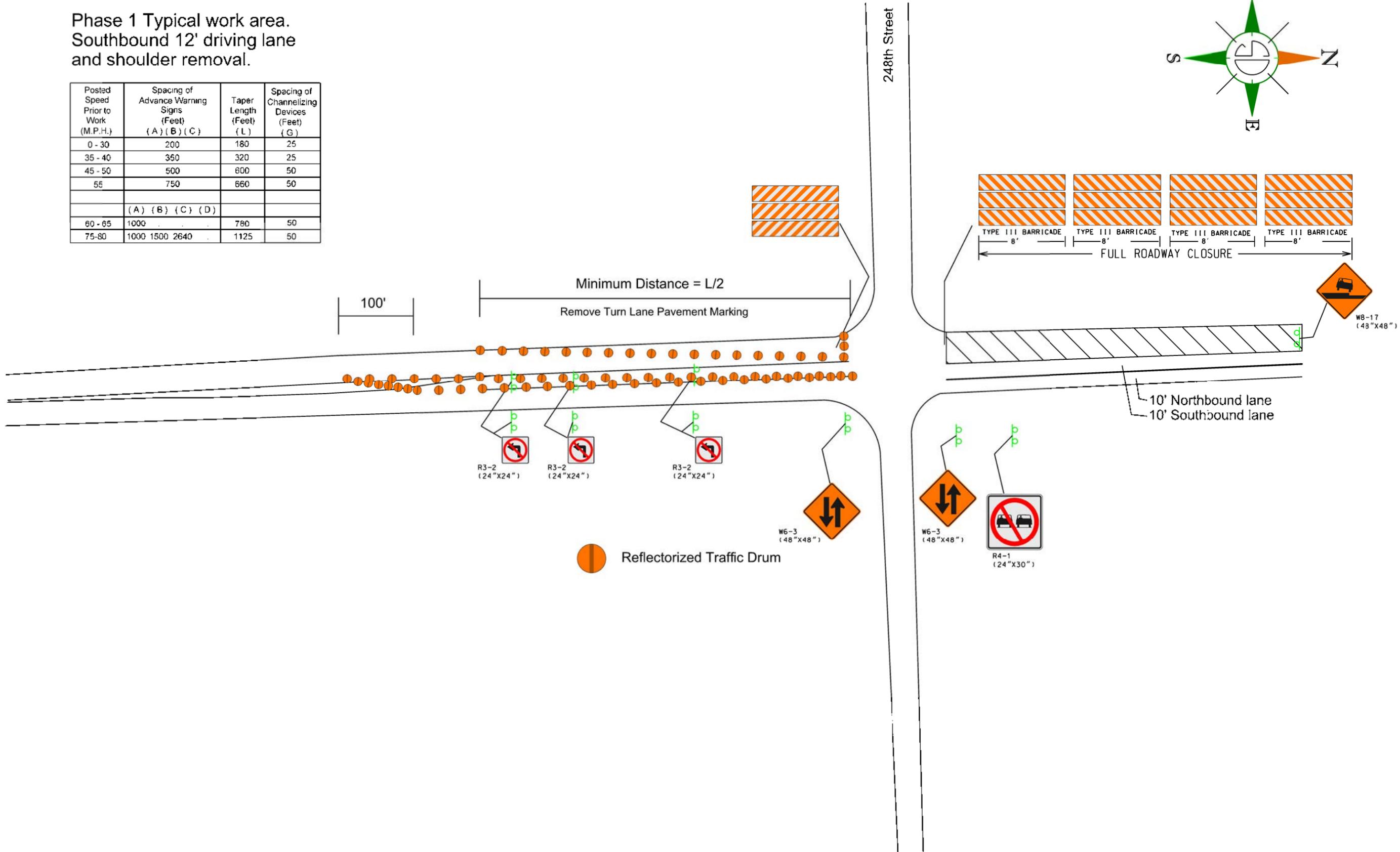
Phase 1 Typical work area.
Southbound 12' driving lane
and shoulder removal.

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet)			Taper Length (Feet) (L)	Spacing of Channelizing Devices (Feet) (G)
	(A)	(B)	(C)		
0 - 30	200			180	25
35 - 40	350			320	25
45 - 50	500			800	50
55	750			660	50
	(A)	(B)	(C)	(D)	
60 - 65	1000			780	50
75-80	1000	1500	2640	1125	50



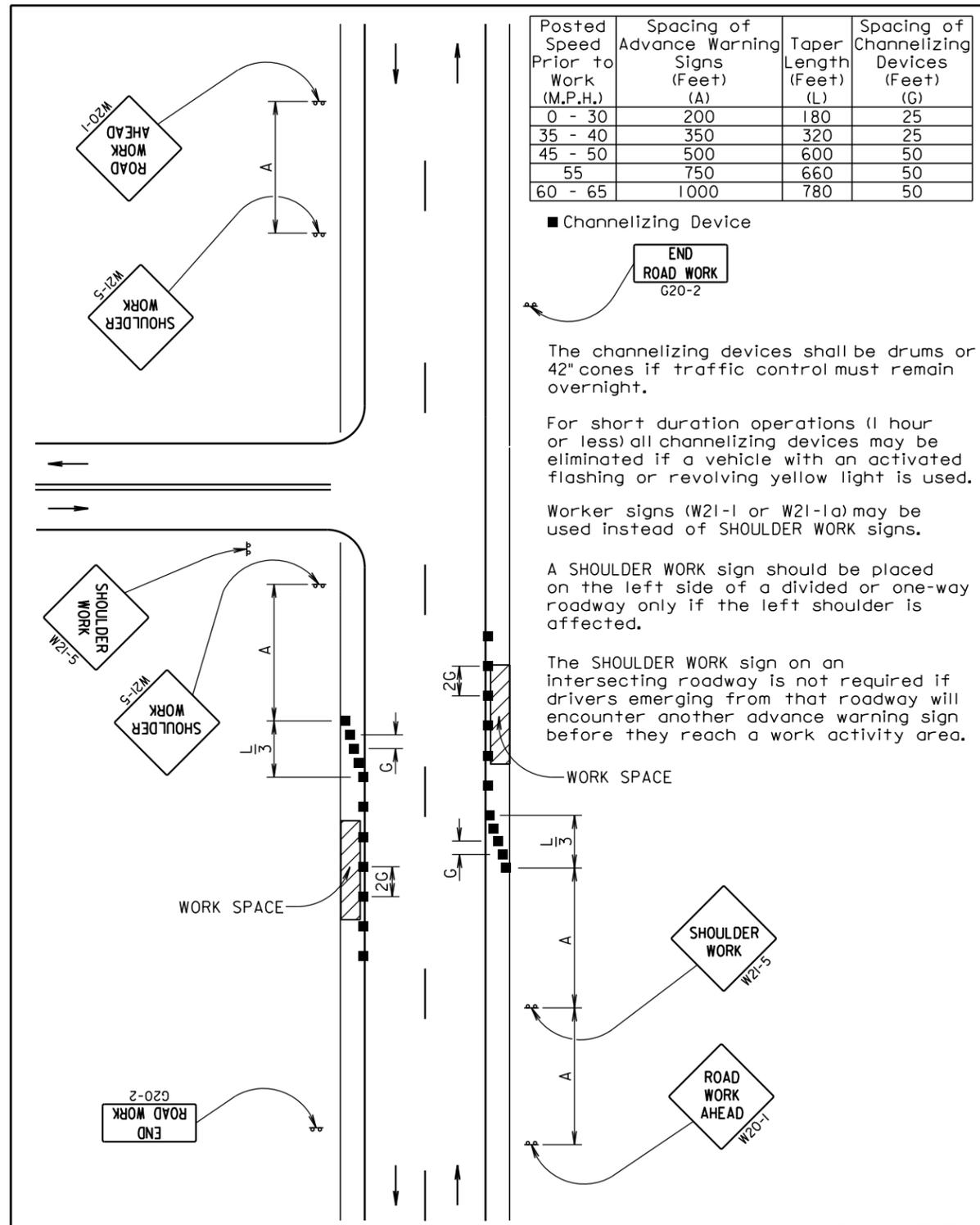
PLOT SCALE - 1:100

PLOT NAME - 7

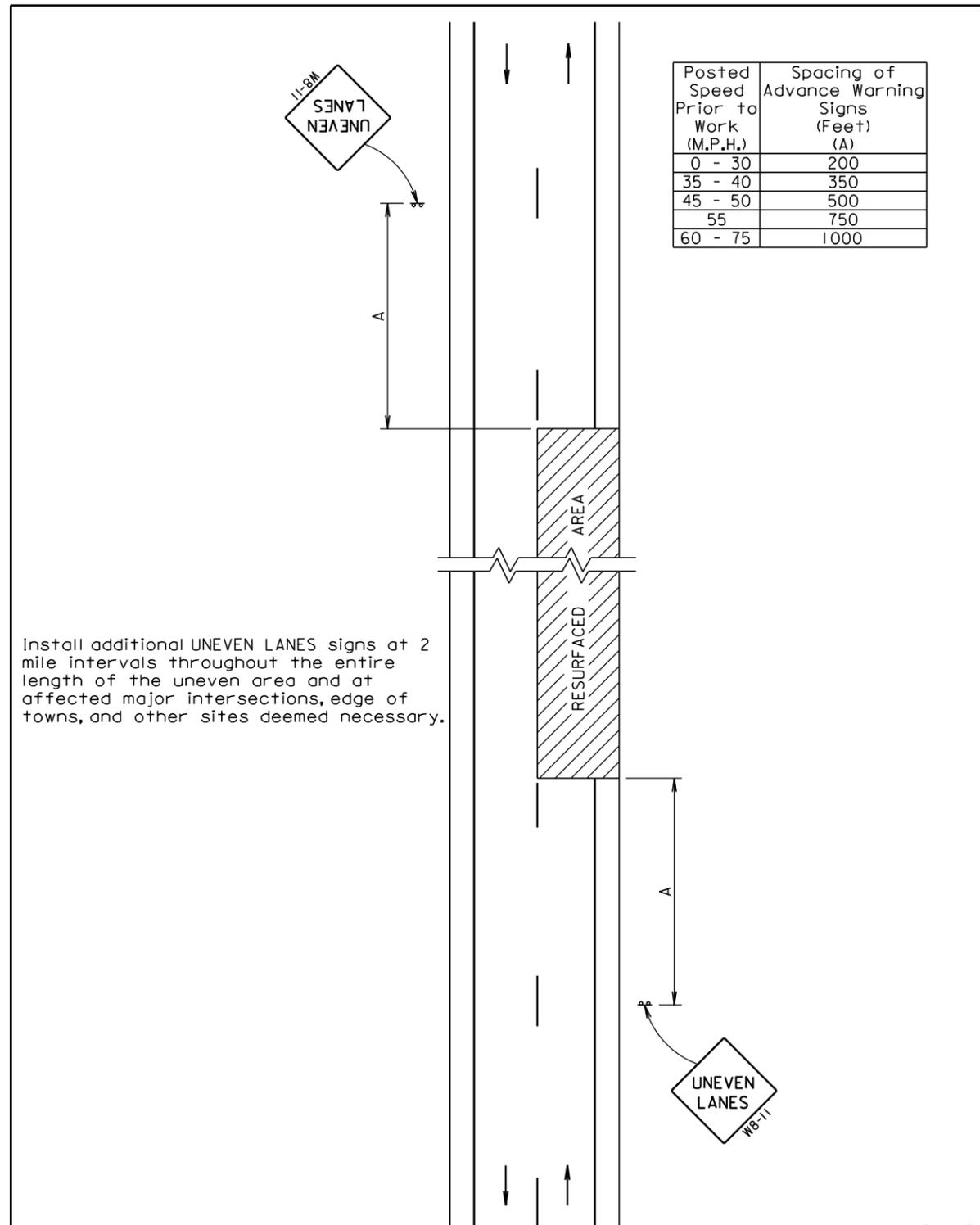


PLOTTED FROM - IRSE12105

FILE - ... SOUTH END DETAIL.DGN



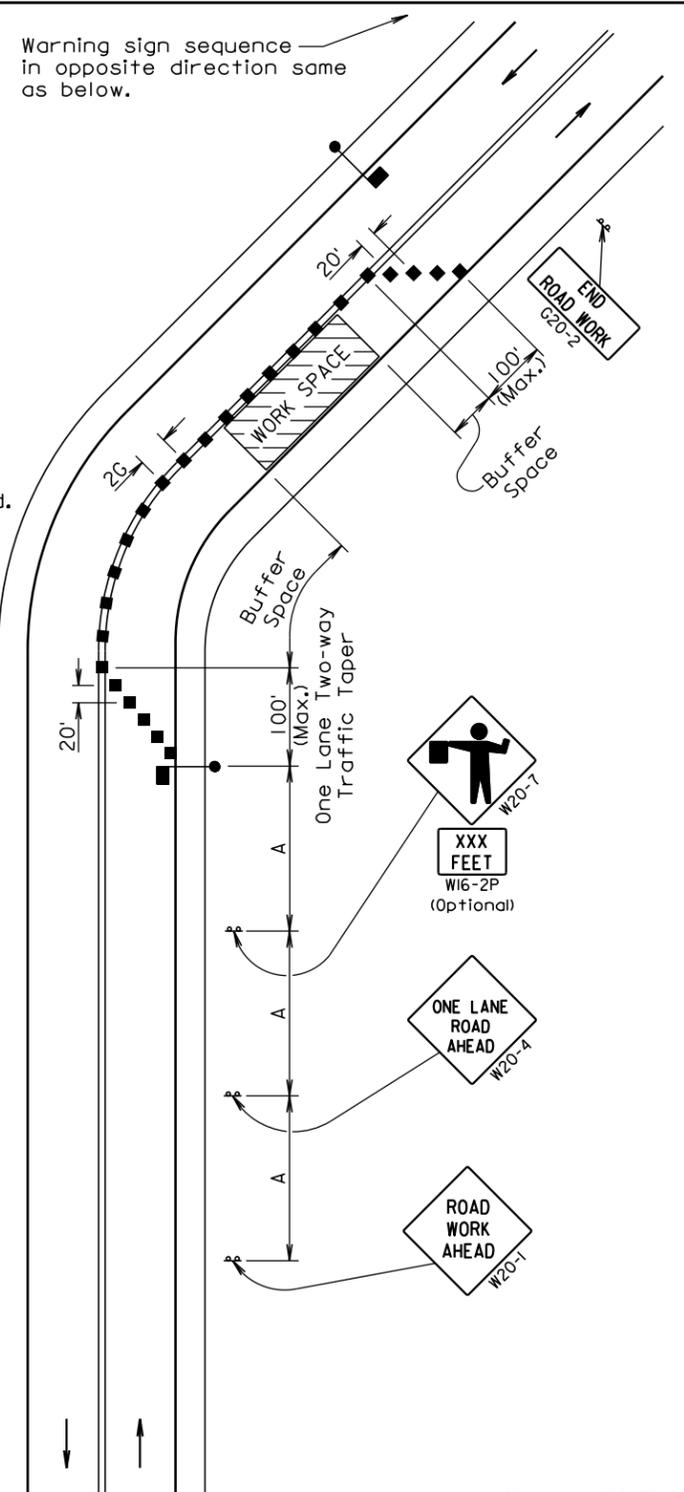
September 22, 2014



April 15, 2015

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

Warning sign sequence in opposite direction same as below.



● 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.

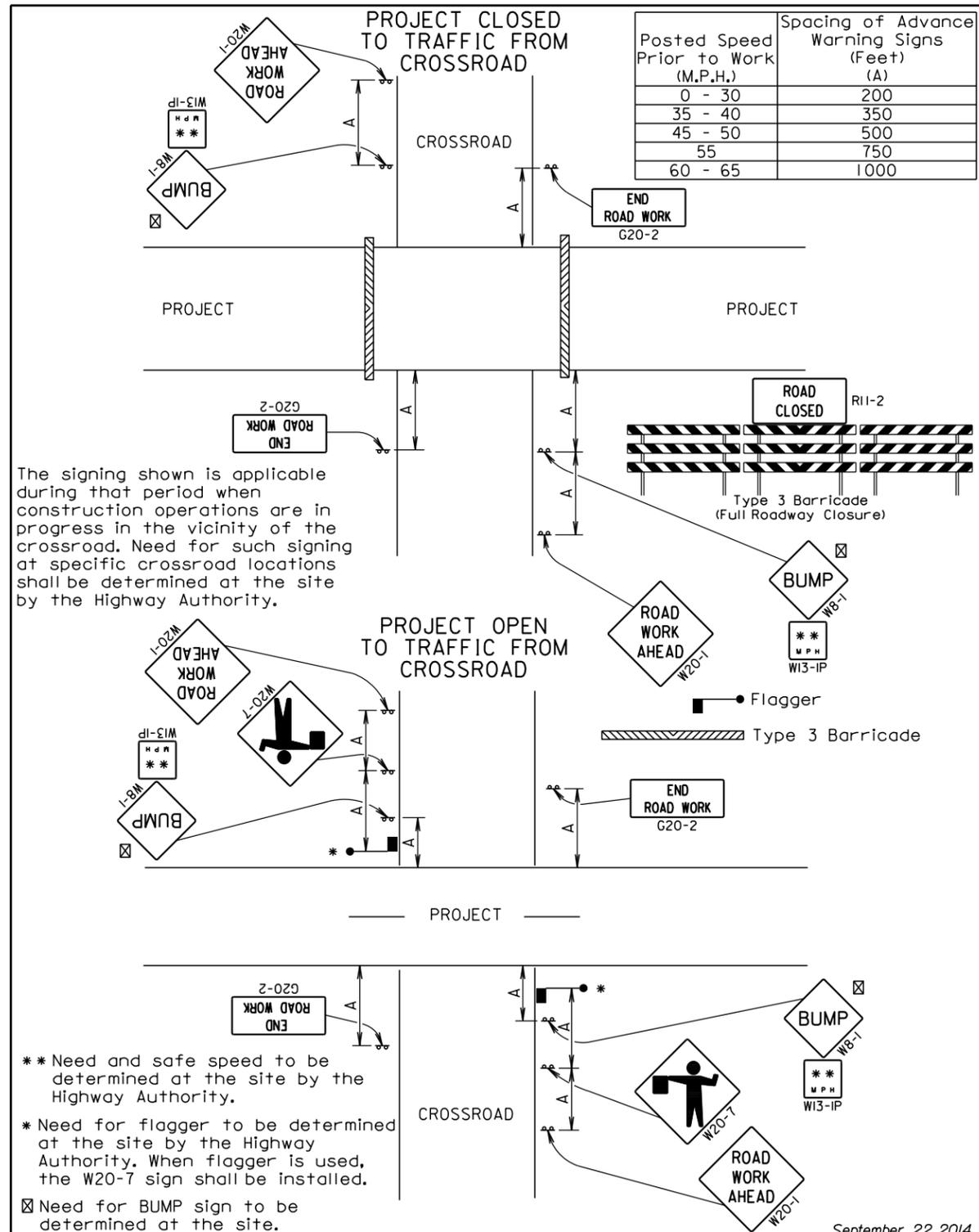
Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.

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



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

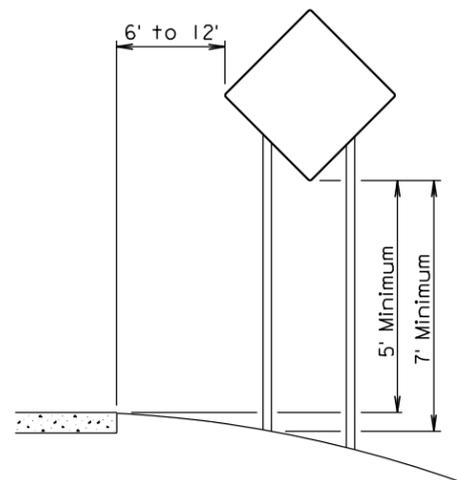
The signing shown is applicable during that period when construction operations are in progress in the vicinity of the crossroad. Need for such signing at specific crossroad locations shall be determined at the site by the Highway Authority.

** Need and safe speed to be determined at the site by the Highway Authority.

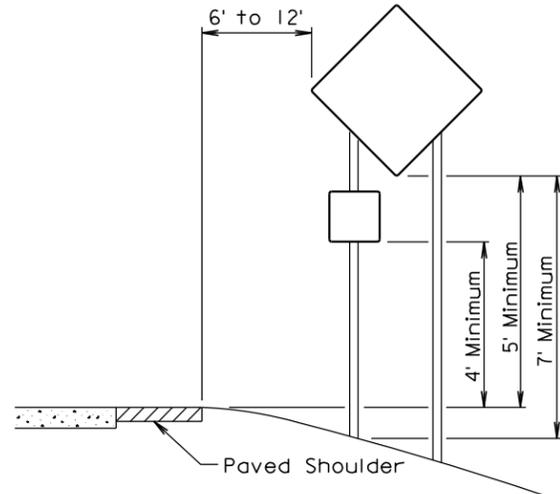
* Need for flagger to be determined at the site by the Highway Authority. When flagger is used, the W20-7 sign shall be installed.

☒ Need for BUMP sign to be determined at the site.

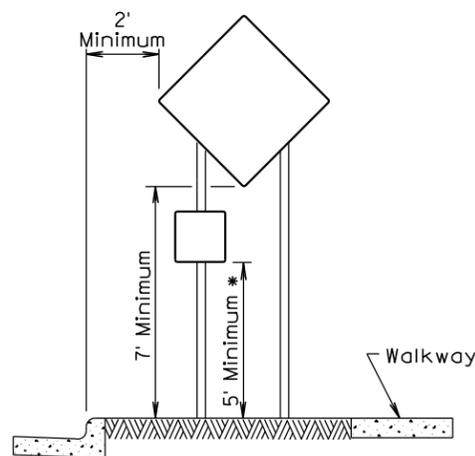
September 22, 2014



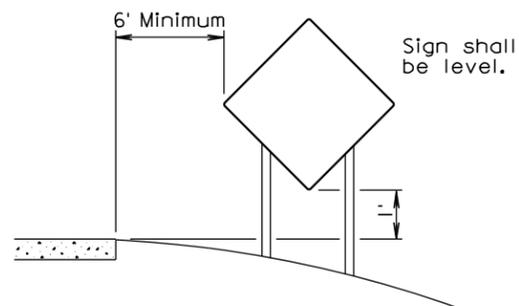
RURAL DISTRICT



RURAL DISTRICT WITH SUPPLEMENTAL PLATE



URBAN DISTRICT

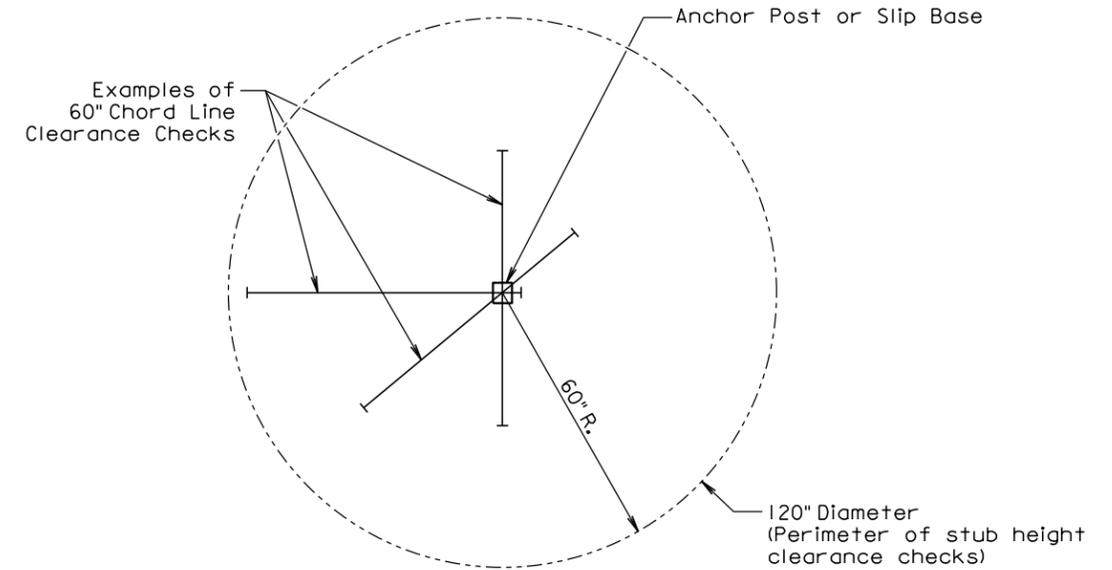


RURAL DISTRICT 3 DAY MAXIMUM
(Not applicable to regulatory signs)

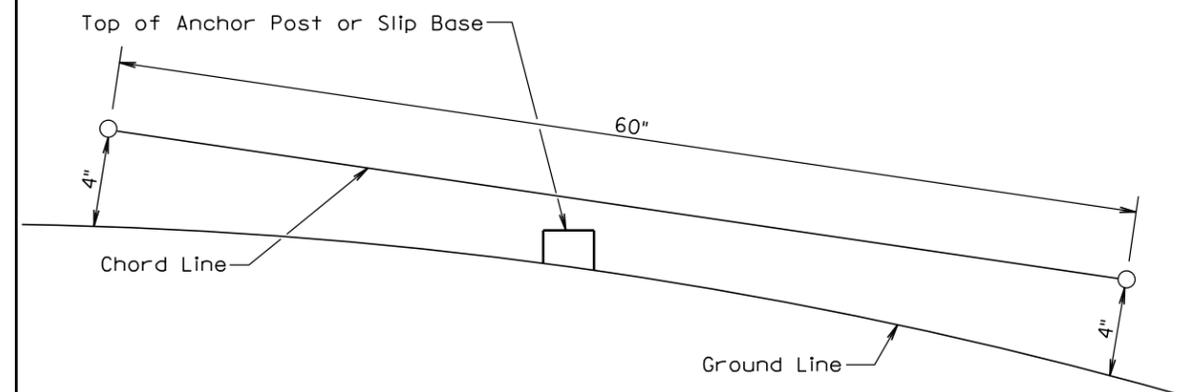
* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

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