

Plot Scale - 1:200

Plotted From - TRRC11951

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
PROJECT 231NF - 452
PEACEFUL PINES RD
MEADE COUNTY

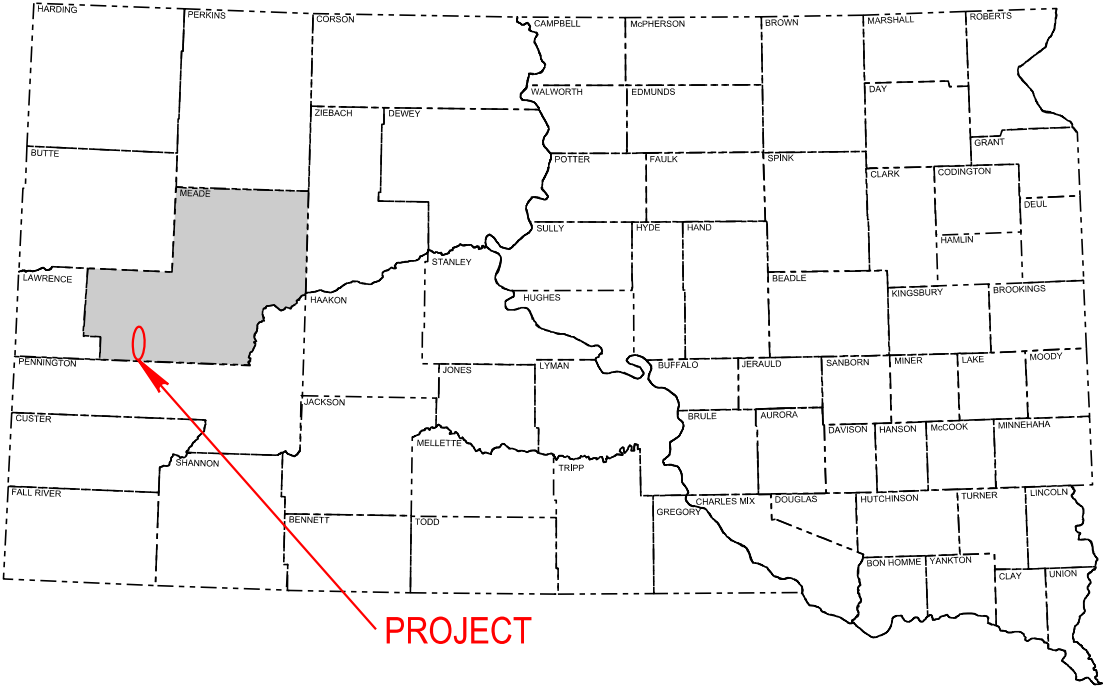
TRAFFIC SIGNAL MODIFICATION
PCN I37D

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	231NF-452	1	17

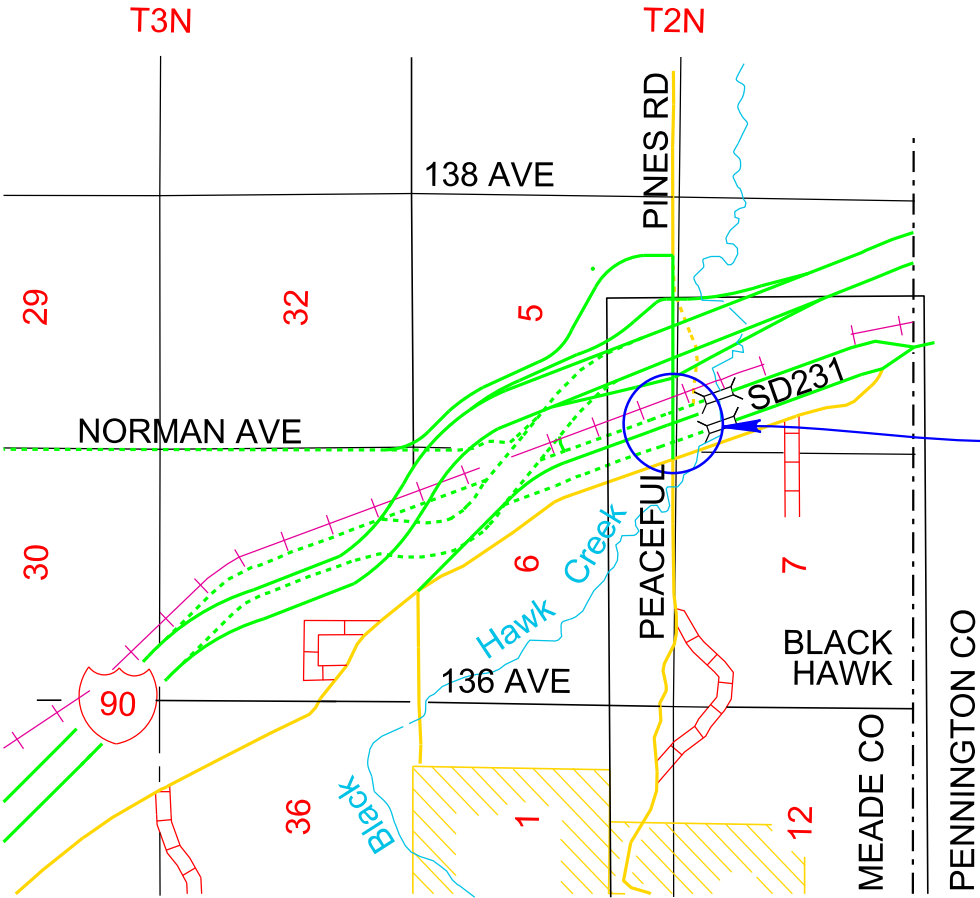
Plotting Date: 11/01/2013

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PROJECT



Signal Modification
Intersection of
SD231 & Peaceful Pines Rd

LEGEND

STATE AND NATIONAL LINE	---
COUNTY LINE	---
SECTION LINE	---
QUARTER LINE	---
SIXTEENTH LINE	---
PROPERTY LINE	---
CONSTRUCTION LINE	---
R. O. W. LINE	---
WORK LIMITS	---

ESTIMATE OF QUANTITIES

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
110E1520	Remove Signal Equipment	Lump Sum	LS
110E1530	Remove Signal Pole Footing	2	Each
250E0010	Incidental Work	Lump Sum	LS
634E0010	Flagging	20	Hour
634E0100	Traffic Control	1,216	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0420	Type C Advance Warning Arrow Panel	1	Each
634E1215	Contractor Furnished Portable Changeable Message Sign	3	Each
635E5030	3' Diameter Footing	27.0	Ft
635E7510	Remove and Reset Signal Pole	2	Each
635E7530	Relocate Signal Equipment	Lump Sum	LS
635E8120	2" Rigid Conduit, Schedule 40	115	Ft
635E9016	1/C #6 AWG Copper Wire	355	Ft
635E9504	4/C #14 AWG Copper Tray Cable, K2	360	Ft
635E9505	5/C #14 AWG Copper Tray Cable, K2	105	Ft
635E9507	7/C #14 AWG Copper Tray Cable, K2	455	Ft
635E9524	24/C #14 AWG Copper Tray Cable, K2	675	Ft
635E9710	2/C #10 AWG Copper Pole and Bracket Cable	130	Ft
635E9800	Preemption Cable	1,655	Ft

SPECIFICATIONS

Standard Specifications for Roads & Bridges, 2004 Edition and Required Provisions, Supplemental Specifications and/or Special Provisions as included in the Proposal.

INCIDENTAL WORK

The Contractor shall restore all areas disturbed during construction to present condition. Restored areas include, but are not limited to trench backfills, drainage slopes and grassed areas.

All costs for work involved in restoring the ground to the condition that existed prior to construction activities shall be incidental to the contract lump sum price for "Incidental Work".

TRAFFIC CONTROL – GENERAL NOTES

1. Requests to deviate from the sequence of operations shall be submitted in writing to the Engineer for review. Approval of an alternate sequence of operations will only be allowed when the proposed changes meet with the Department’s intent for traffic control and sequencing of the work. An alternate sequence shall be submitted for review a minimum of one week prior to potential implementation.
2. Unless otherwise stated in these plans, no work will be allowed during hours of darkness without prior written approval from the Engineer. Hours of darkness are defined, as ½ hour after sunset until ½ hour before sunrise.
3. Storage of vehicles and equipment shall be as near the right-of-way as possible. Contractor’s employees should mobilize at a location off the right-of-way and arrive at the work sites in a minimum number of vehicles necessary to perform the work. Indiscriminate driving and parking of vehicles within the right-of-way will not be permitted. Any damage of 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.
4. Existing guide, route, informational logo, regulatory, and warning signs shall be temporarily reset and maintained during construction. Removing, relocating, covering, salvaging and resetting of existing traffic control devices, including but not limited to, traffic signal heads, delineation, and signing shall be the responsibility of the Contractor. Non-applicable signing and all traffic control devices shall be covered or removed during periods of inactivity. Periods of inactivity shall be defined as no work taking place for a period of more than 48 hours. The cost of removing or covering non-applicable signs shall be incidental to the contract lump sum price for, Traffic Control, Miscellaneous.
5. Construction signing mounted on portable supports shall not be used for a duration of more than 3 days, unless approved by the Engineer. Construction signing that remains in the same location for more than 3 days shall be mounted on fixed location, ground mounted, breakaway supports. Road Work Ahead signs (W20-1) that are not located on Sturgis Road or Peaceful Pines Road may remain on portable supports for longer than 3 days.
6. The quantity of Signs paid for will be for the greatest number of installations per sign in place at any one time regardless of the number of set-ups on the project.
7. Any delineators and signs damaged or lost shall be replaced by the Contractor at no cost to the State.
8. All materials and equipment shall be stored a minimum distance of 30’ from the traveled way during nonworking hours.

TRAFFIC CONTROL – GENERAL NOTES (Continued)

9. If inappropriate/conflicting pavement markings exist, the markings shall be removed and replaced with applicable temporary pavement markings when the work duration is more than 3 days. When the work duration is less than 3 days, the channelizing devices in the area where the pavement markings conflict shall be placed at a spacing of ½ G. Pavement marking removals shall be paid for at the contract unit price for Remove Pavement Marking, 4” or equivalent. Temporary pavement marking shall be paid for at the contract unit bid price for Temporary Pavement Marking. The additional channelizing devices shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous.
10. The Contractor shall provide documentation that all breakaway sign supports comply with FHWA NCHRP 350 or MASH crash-worthy requirements. The Contractor shall provide installation details at the preconstruction meeting for all breakaway sign support assemblies.
11. The Contractor shall be required to have a person available 24 hour/day, 7 days/week to maintain traffic control devices. The name and cellular telephone number of this individual shall be given to the Engineer at the preconstruction meeting.
12. The Contractor or designated traffic control subcontractor shall make night inspections at the initial set up of traffic control and every week thereafter to ensure the adequacy, legibility and reflectivity of each sign and device. A written summary of each inspection shall be given to the Engineer within 24 hours after completion of the inspection. The cost for the nighttime inspection work shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous.
13. Vehicles working in traffic or alongside traffic shall be equipped with a flashing amber light visible from all directions. The amber light shall be mounted on the uppermost part of the contractor’s vehicle. Lights must have peak intensity within the range of 40 to 400 candelas and must flash at 75 ± 15 flashes per minute. Vehicle flasher/hazard lights are not acceptable. All haul trucks shall be equipped with a second flashing amber light that is visible from the backside of the haul truck. The costs for the flashing amber lights shall be incidental to the various related contract bid items.
14. All construction operations shall be conducted in the general direction of traffic movement.
15. If there is a discrepancy between the traffic control plans, standard plates, and the MUTCD – whichever is more stringent shall be used, as determined by the Engineer.
16. Temporary Road Markers shall be used for lane closure tapers or lane shift tapers. Temporary Road Markers used for tapers and shifts will not be measured for payment and will be incidental to the contract lump sum price for Traffic Control, Miscellaneous.
17. Drums are required in all lane closure tapers.
18. Construction vehicles shall exit or enter the construction work zones at locations identified by the Engineer.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	231NF-452	2	17

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SEQUENCE OF OPERATIONS

STEP 1

- 1. Setup traffic control as shown on the Traffic Control sheets.
- 2. Install new footing for Signal Poles REA1 and REA2.
- 3. Install new conduit between junction box EJA5 and signal pole REA1, and between junction box EJA8 and signal pole REA2.

Note: If all work as described above is completed and the concrete for the signal pole footings has not achieved design strength, then all traffic control shall be removed from the roadway and shouldered until the footings achieve design strength (No additional payment will be made for this work).

STEP 2

- 1. Setup traffic control as shown on the Traffic Control sheets.
- 2. Turn off power to the traffic signal. Signal heads on signal poles EA3 and EA4 shall be bagged, and the signal heads on signal poles EA1 and EA2 shall be bagged or removed if the mast arms and signal poles cannot be taken down before nightfall.
- 3. Remove existing signal pole EA1 and EA2 and rewire signal heads, luminaire, preemption, and confirmation light.
- 4. Reset EA1 and EA2 as REA1 and REA2 on new footings.
- 5. Remove existing and run new signal wire and preemption cable between controller and signal poles REA1 and REA2. Remove existing power cable and run new cable between EJA5 and REA1 and between EJA8 and REA2.
- 6. Remove existing conduit and signal pole footings.
- 7. Restore all disturbed area on the project.
- 8. Turn traffic signal on, remove traffic control, and restore all lanes to normal traffic flows.

CONTRACTOR FURNISHED PORTABLE CHANGEABLE MESSAGE SIGN

The Contractor shall furnish portable changeable message signs to be used for the duration of the project. Message signs shall be installed to inform the traveling public of when construction will begin for each phase (1 week advance notice), advising the general public of the conditions ahead, and as directed by the Engineer. The changeable message signs shall be furnished, programmed, and maintained for the entire project duration. The Engineer will assist in determining the location and messages to be programmed into the message sign. The message boards shall be clearly visible from a minimum of 900 feet and shall be solar powered or wired directly to a power source. Diesel and gas powered message panels will not be allowed. The portable message panels will be paid for at the contract unit price per each for Contractor Furnished Portable Changeable Message Sign. Payment will be full compensation for furnishing, maintaining, and relocating as many times as required by the Engineer and the Contractor's operations.

PRESS RELEASE ANNOUNCEMENTS

The SDDOT will prepare a Press Release to be released 5 days prior to any phase change or any other major change that affects traffic flow. The SDDOT will be responsible to keep law enforcement, emergency services, and the traveling public notified of changes in project access. The Contractor shall provide the Engineer with pertinent information 7 days prior to any phase change or any other major changes that affect traffic flow.

INVENTORY OF TRAFFIC CONTROL DEVICES

SIGN CODE	SIGN SIZE	DESCRIPTION	NUMBER REQUIRED	UNITS PER SIGN	UNITS
G20-2	36" x 18"	END ROAD WORK	4	17	68
R1-1	36" x 36"	STOP	8	27	216
R1-3P	18" x 6"	ALL WAY (PLAQUE)	7	2	14
R4-7	24" x 30"	KEEP RIGHT (SYMBOL)	2	18	36
W3-1	48" x 48"	STOP AHEAD (SYMBOL)	4	34	136
W4-2	48" x 48"	LEFT OR RIGHT LANE ENDS (SYMBOL)	1	34	34
W20-1	48" x 48"	ROAD WORK ##### FT. OR AHEAD	14	34	476
W20-5	48" x 48"	LT. OR RT. LANE CLOSED ##### FT. OR AHEAD	1	34	34
W20-7a	48" x 48"	FLAGGER	1	34	34
*****		TYPE III BARRICADE - 8 FT. DOUBLE SIDED	3	56	168
TOTAL UNITS					1216

REMOVE AND RESET SIGNAL POLES

Existing signal poles EA1 & EA2 shall be removed and reset as REA1 & REA2 as shown on the plan sheets. Signal poles damaged during relocation shall be repaired or replaced by the Contractor at no cost to the State.

It shall be the Contractor's responsibility to obtain the bolt circle pattern and anchor bolts for the relocated poles from the pole manufacturer listed below. The poles were originally installed under P-PH 0079(49)85 (PCN MEAD5586), Drawing Numbers: KHDHR-55K-206-E8500, KHDHR-65K-206-E8500 and 460B110.

Millerbernd Manufacturing
P.O. Box 98
Winsted, MN 55395
(320) 485-2111

All costs involved with removing and resetting the existing signal poles shall be incidental to the contract unit price per each for "Remove and Reset Signal Pole".

REMOVE SIGNAL POLE FOOTING

The footings of existing signal poles EA1 & EA2 shall be removed by the Contractor to a minimum of 2' below the ground surface. Restoration of the disturbed area shall be to the satisfaction of the Engineer.

All costs for removing the footings of the existing signal poles shall be incidental to the contract unit price per each for "Remove Signal Pole Footing".

TABLE OF FOOTING DATA

Site Designation	Footing Diameter	* Footing Depth	**Spiral Diameter	**Spiral Length	Vertical Reinforcement
REA2	3' - 0"	13' - 0"	2' - 8"	129' - 3"	14-#8 x 12' -6"
REA1	3' - 0"	14' - 0"	2' - 8"	137' - 6"	14-#8 x 13' -6"

- * Footing depth shall be below ground level.
- ** The size of all spirals shall be #3.

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RELOCATE SIGNAL EQUIPMENT

Signal equipment located on existing signal poles EA1 & EA2 shall be removed and relocated on reset signal poles REA1 & REA2 as shown on plan sheets. Signal equipment damaged during relocation shall be repaired or replaced by the Contractor at no cost to the State.

All costs for work involved in the removal and relocation of the existing signal equipment shall be incidental to the contract lump sum price for "Relocate Signal Equipment".

TRAFFIC SIGNAL CONTROL CABLE LABELS

Traffic signal cable shall be identified in hand holes, junction boxes, pedestal bases, electrical service cabinets, and controller cabinets as indicated on the Wiring Diagram. Labels shall be wrapped around traffic signal cable to indicate the signal pole and signal head that it is connected to. Labels shall be self-adhesive vinyl cloth with a preprinted legend. Traffic signal control cables to the poles shall be marked with a legend and shall be color coded as follows; northwest (blue), northeast (red), southeast (green), and southwest (orange).

SIGNAL AIMING

Signals shall be aimed and trees shall be trimmed such that all the signals for each approach shall be continuously visible for the minimum distance listed in the table in Section 4D.12 of the MUTCD.

SUPPLYING AS BUILT PLANS

If the traffic signal systems or roadway lighting systems are constructed differently than what is stated in the plans, the Contractor shall supply as built plans to the Engineer and a copy shall be sent to the Traffic Design Engineer. The as built plans may include conduit layouts, wiring diagrams, or other drawings depicting the changes from the original plans.

SHOP DRAWING AND CATALOG CUTS SUBMITTALS

The Contractor shall submit shop drawings and catalog cuts in accordance with Section 985 of the Standard Specifications or in Adobe PDF format.

Adobe PDF submittals shall be sent to the following email addresses:

Stacy.Bartlett@state.sd.us

ON-SITE INSPECTION

An on-site inspection of the traffic signals shall be conducted before acceptance of the project, once the traffic signals are completed and operational. The on-site inspection shall be conducted by the Project Engineer or Region Traffic Engineer with the Contractor, City Traffic Engineer, and Traffic Design Engineer present.

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TABLE OF CONDUIT AND CABLE QUANTITIES

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	231NF-452	4	17

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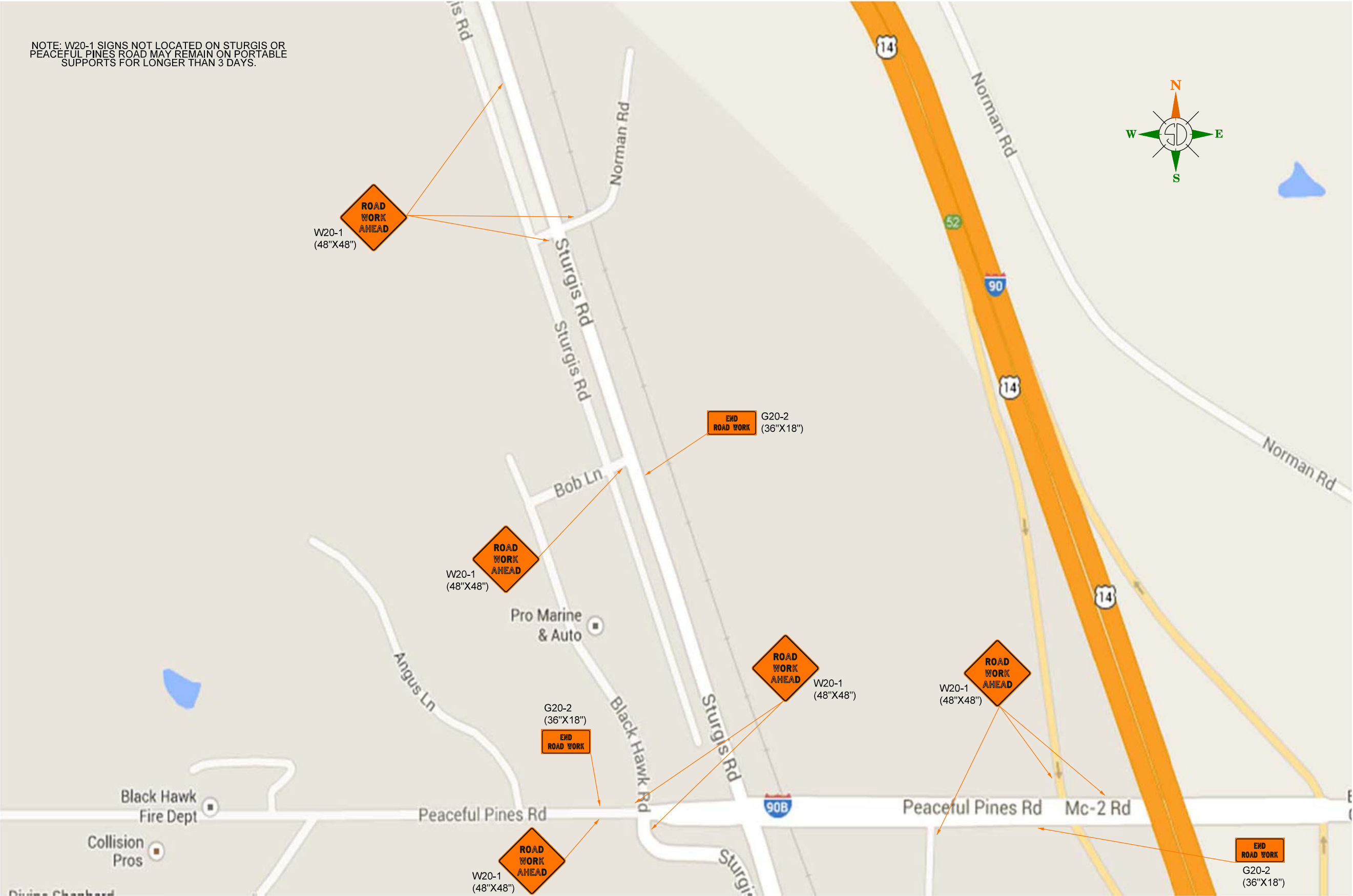
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TRAFFIC CONTROL

FIXED LOCATION SIGNING

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	231NF-452	5	17

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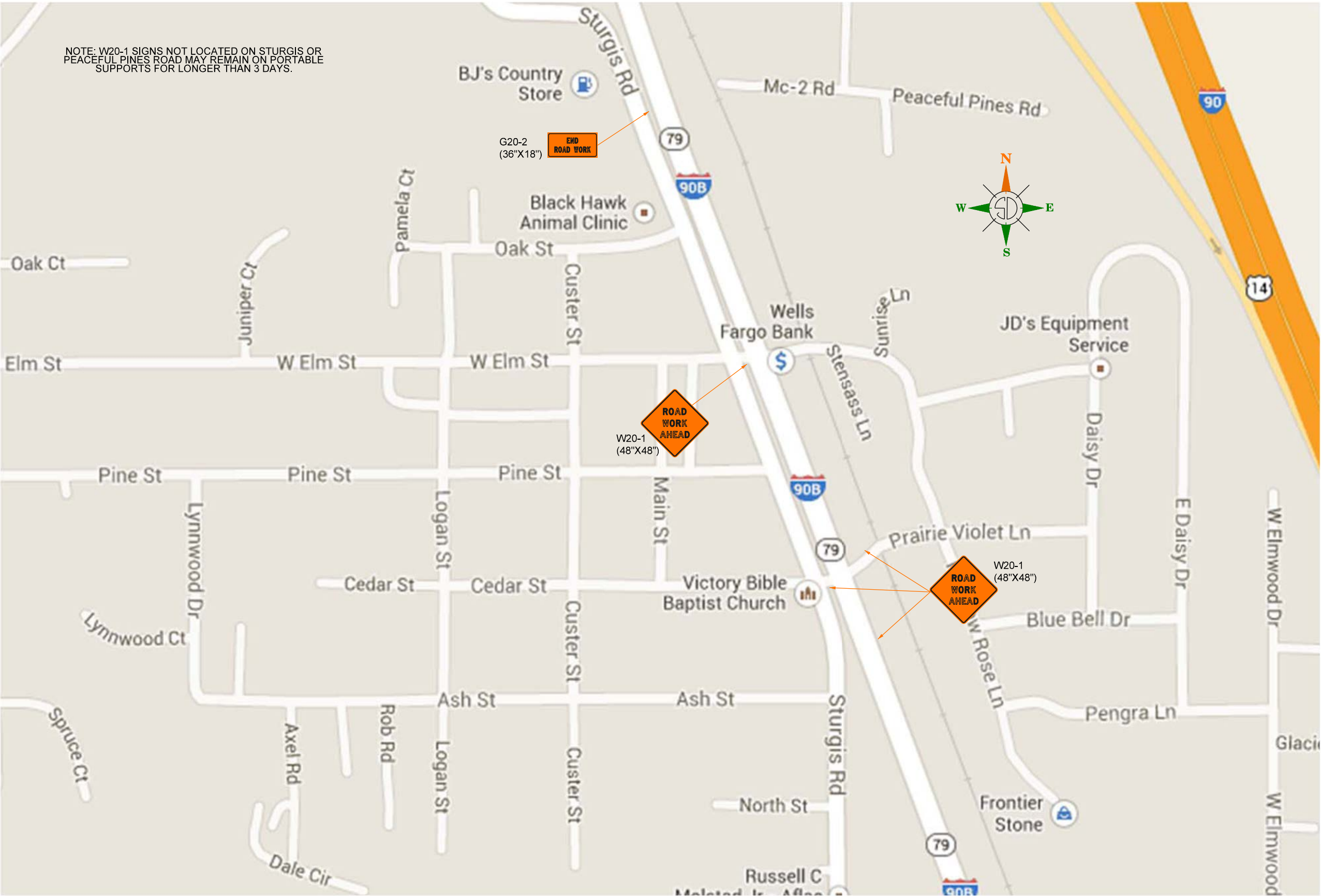


TRAFFIC CONTROL

FIXED LOCATION SIGNING

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	231NF-452	6	17

Plotting Date: 10/31/2013

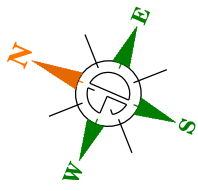


TRAFFIC CONTROL

STEP 1

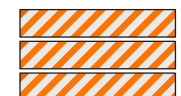
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
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CLOSE WESTBOUND LANE STARTING AT
THE EXIT 52 EASTBOUND OFF RAMP.

CHANNELIZING DEVICES
SPACED AT 50'



TYPE III BARRICADE



2 - TYPE III BARRICADE

CLOSE NORTHBOUND LANE STARTING AT THE
APPROACH TO PRAIRIE VIOLET LANE. THE
EXISTING STOP SIGN ON PRAIRIE VIOLET LANE
SHALL BE COVER AND A TEMPORARY STOP
SIGN INSTALLED BY THE LANE CLOSURE.

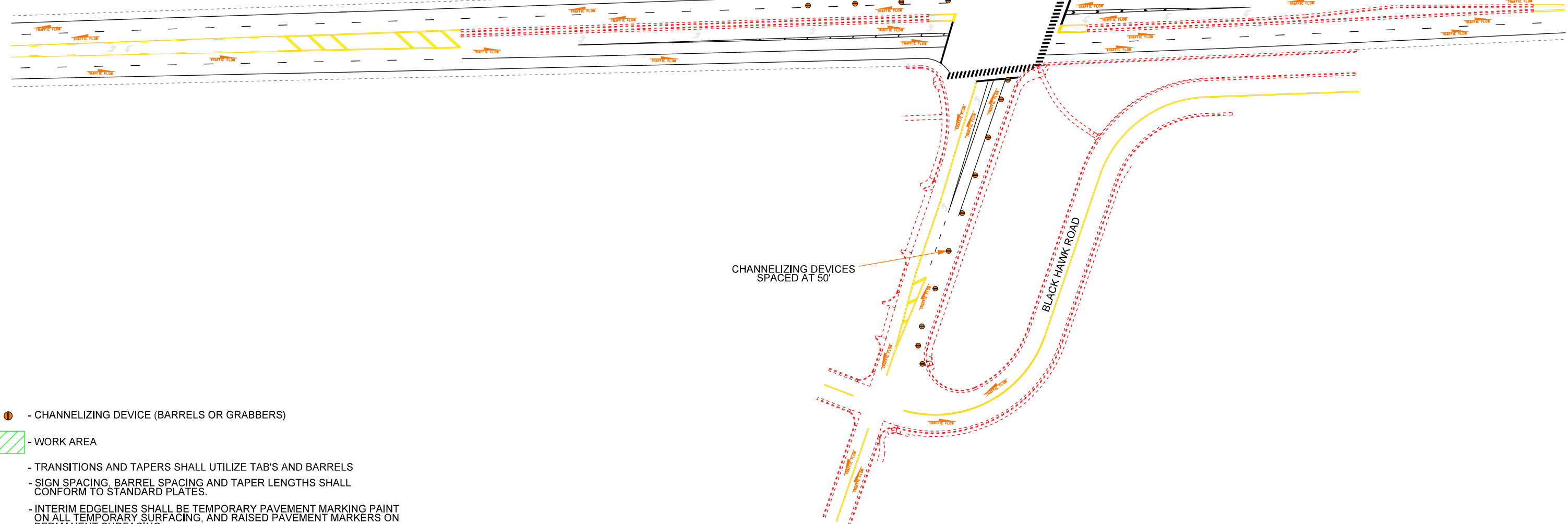
CHANNELIZING DEVICES
SPACED AT 50'

STURGIS ROAD

BLACK HAWK ROAD

PEACEFUL PINES

CHANNELIZING DEVICES
SPACED AT 50'



● - CHANNELIZING DEVICE (BARRELS OR GRABBERS)

▨ - WORK AREA

- TRANSITIONS AND TAPERS SHALL UTILIZE TAB'S AND BARRELS

- SIGN SPACING, BARREL SPACING AND TAPER LENGTHS SHALL
CONFORM TO STANDARD PLATES.

- INTERIM EDGELINES SHALL BE TEMPORARY PAVEMENT MARKING PAINT
ON ALL TEMPORARY SURFACING, AND RAISED PAVEMENT MARKERS ON
PERMANENT SURFACING.

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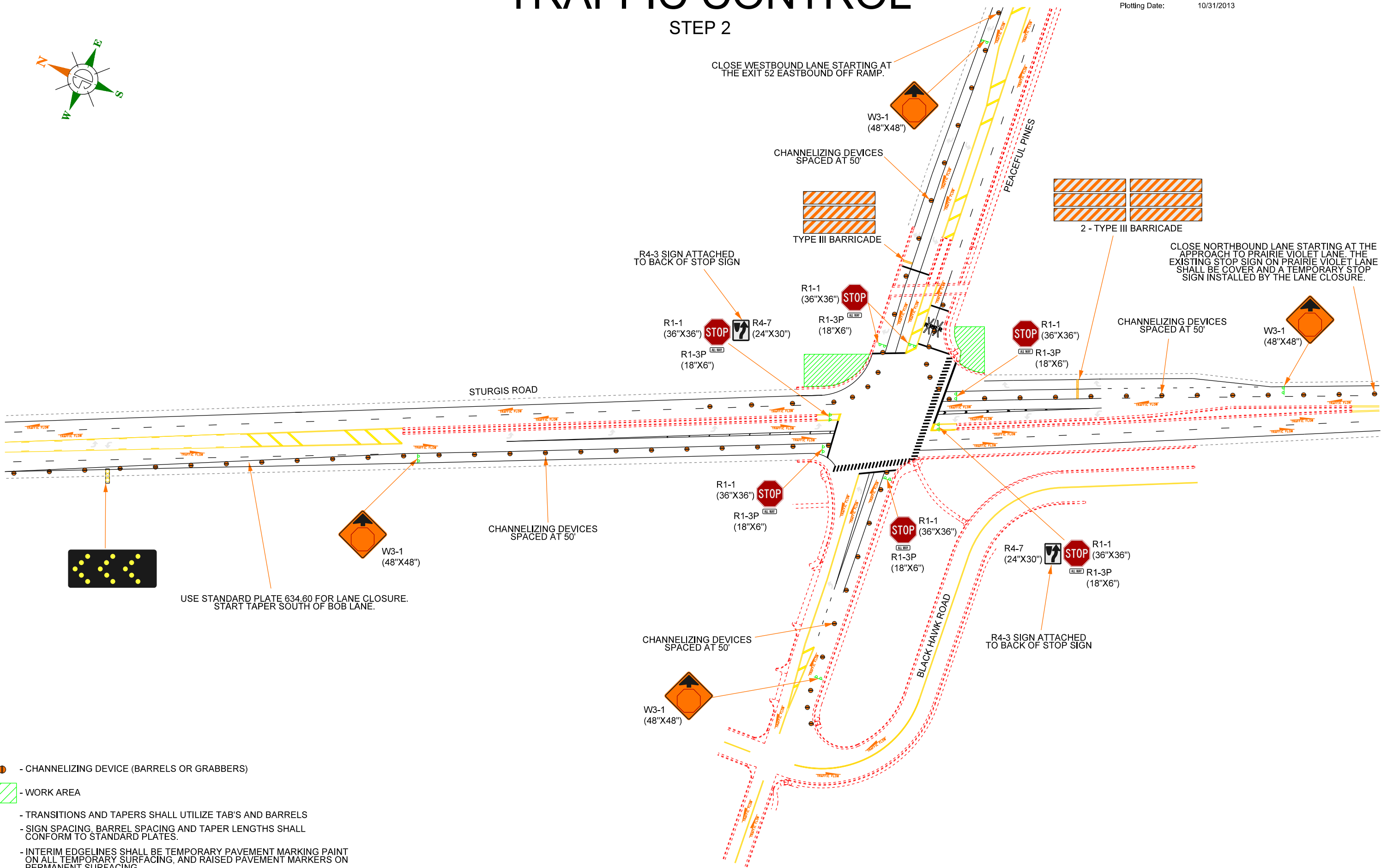
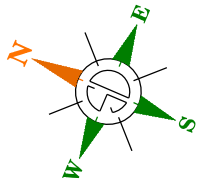
TRAFFIC CONTROL

STEP 2

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	231NF-452	8	17

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EXISTING SIGNAL LAYOUT

I90 E FRONTAGE RD & SD HWY 231/PEACEFUL PINES RD

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
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RELOCATE SIGNAL EQUIPMENT

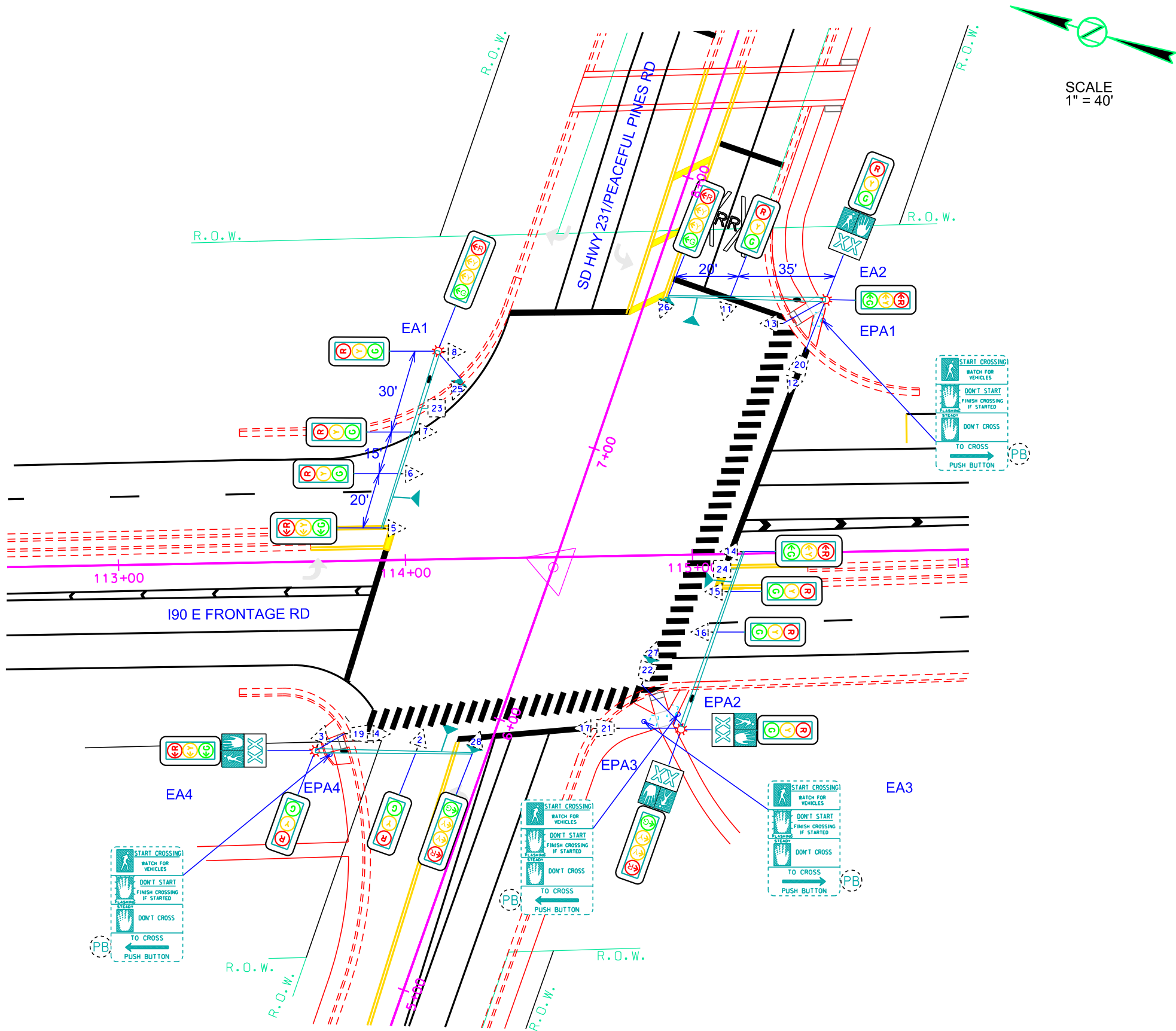
KEY	ITEM
•	SIGNAL POLE W/MAST ARM & 8' LUMINAIRE ARM (REA1,REA2)
➤	3 SECTION VEHICLE SIGNAL HEAD (5-8,11-13)
➤	4 SECTION VEHICLE SIGNAL HEAD (25,26)
➤	LED BLANK OUT SIGN (23) - NO RIGHT TURN
➤	PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER (20)
➤	SIREN EMERGENCY VEHICLE PREEMPTION DETECTOR (REA1,REA2)

EXISTING ITEMS

KEY	ITEM
•	SIGNAL POLE W/MAST ARM & 8' LUMINAIRE ARM 50' MT HT (EA3-EA4)
•	ROADWAY LUMINAIRE, 400W WITH P.E. (EA3-EA4)
➤	3 SECTION VEHICLE SIGNAL HEAD (2-8, 11-17)
➤	4 SECTION VEHICLE SIGNAL HEAD (27-28)
➤	LED BLANKOUT SIGN (24" X 24") (24-NO LEFT TURN)
PB	PEDESTRIAN PUSH BUTTON
○	PEDESTRIAN PUSH BUTTON POLE (EPA1-EPA4)
➤	PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER (19-21,22)
➤	PEDESTRIAN CROSSING SIGN (R10-3B) (2 LEFT,2 RIGHT)
➤	SIREN EMERGENCY VEHICLE PREEMPTION DETECTOR (EA3,EA4)

ESTIMATE OF QUANTITIES

KEY	ITEM	EST QUANT	UNIT
	REMOVE & RESET SIGNAL POLE (EA1 AS REA1, EA2 AS REA2)	2	EACH
	RELOCATE SIGNAL EQUIPMENT	LUMP SUM	LS
•	REMOVE SIGNAL POLE FOOTING (EA1,EA2)	2	EACH

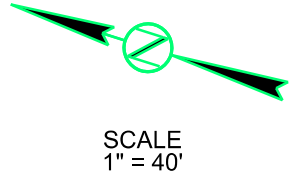


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SIGNAL LAYOUT

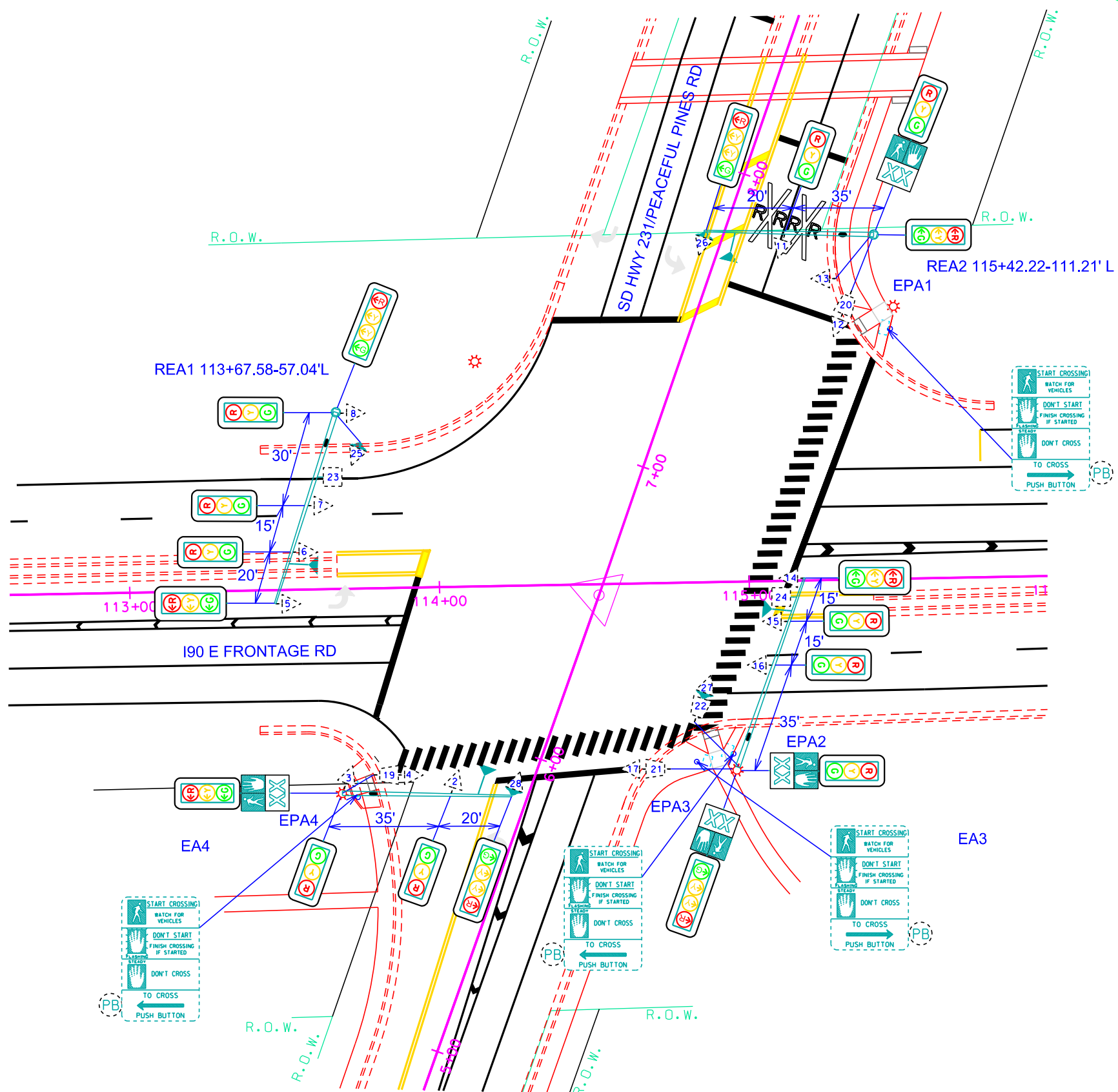
I90 E FRONTAGE RD & SD HWY 231/PEACEFUL PINES RD

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	231NF-452	10	17
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EXISTING ITEMS	
KEY	ITEM
	SIGNAL POLE W/MAST ARM & 8' LUMINAIRE ARM 50' MT HT (REA1, REA2, EA3, EA4)
	ROADWAY LUMINAIRE, 400W WITH P.E. (REA1, REA2, EA3, EA4)
	3 SECTION VEHICLE SIGNAL HEAD (2-8, 11-17)
	4 SECTION VEHICLE SIGNAL HEAD (25-28)
	LED BLANKOUT SIGN (24" X 24") (23-NO RIGHT TURN/24-NO LEFT TURN)
	PEDESTRIAN PUSH BUTTON
	PEDESTRIAN PUSH BUTTON POLE (EPA1-EPA4)
	PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER (19-22)
	PEDESTRIAN CROSSING SIGN (R10-3B) (2 LEFT, 2 RIGHT)
	SIREN EMERGENCY VEHICLE PREEMPTION DETECTOR (REA1, REA2, EA3, EA4)

ESTIMATE OF QUANTITIES			
KEY	ITEM	EST QUANT	UNIT
	3' DIAMETER FOOTING (REA1, REA2)	27	FT



Plot Scale - 1"=40'

Plotted From - Ipr14286

EXISTING ITEMS

KEY	ITEM
	LUMINAIRE POLE (EL1)
	SIGNAL POLE (EA3-EA4)
	PEDESTRIAN PUSH BUTTON POLE (EPA1-EPA4)
	JUNCTION BOX (EJA1-EJA10)
	ELECTRICAL SERVICE CABINET
	DETECTOR LOOP (E1-E6, N1-N14, S1-S16, W1-W6)
	2" RIGID GALVANIZED STEEL CONDUIT
	2" RIGID CONDUIT, SCHEDULE 40
	5" RIGID CONDUIT, SCHEDULE 40
	2" RIGID CONDUIT, SCHEDULE 80
	3" RIGID CONDUIT, SCHEDULE 80
	4" RIGID CONDUIT, SCHEDULE 80
	1/C #4 AWG COPPER WIRE
	1/C #6 AWG COPPER WIRE
	4/C #14 AWG COPPER TRAY CABLE, K2
	7/C #14 AWG COPPER TRAY CABLE, K2
	24/C #14 AWG COPPER TRAY CABLE, K2
	#16 AWG COPPER TWISTED SHIELDED PAIR
	PREEMPTION CABLE
	TRAFFIC SIGNAL CONTROLLER

ESTIMATE OF QUANTITIES

KEY	ITEM	EST QUANT	UNIT
	REMOVE SIGNAL EQUIPMENT	LUMP SUM	LS
	3' DIAMETER FOOTING (RE1,RE2)	27	FT
	2" RIGID CONDUIT, SCHEDULE 40	115	FT
	2/C #10 AWG COPPER TRAY CABLE, K2	130	FT
	4/C #14 AWG COPPER TRAY CABLE, K2	360	FT
	5/C #14 AWG COPPER TRAY CABLE, K2	105	FT
	7/C #14 AWG COPPER TRAY CABLE, K2	455	FT
	24/C #14 AWG COPPER TRAY CABLE, K2	675	FT
	PREEMPTION CABLE	1655	FT
	1/C #6 AWG COPPER WIRE	355	FT

REMOVE SIGNAL EQUIPMENT

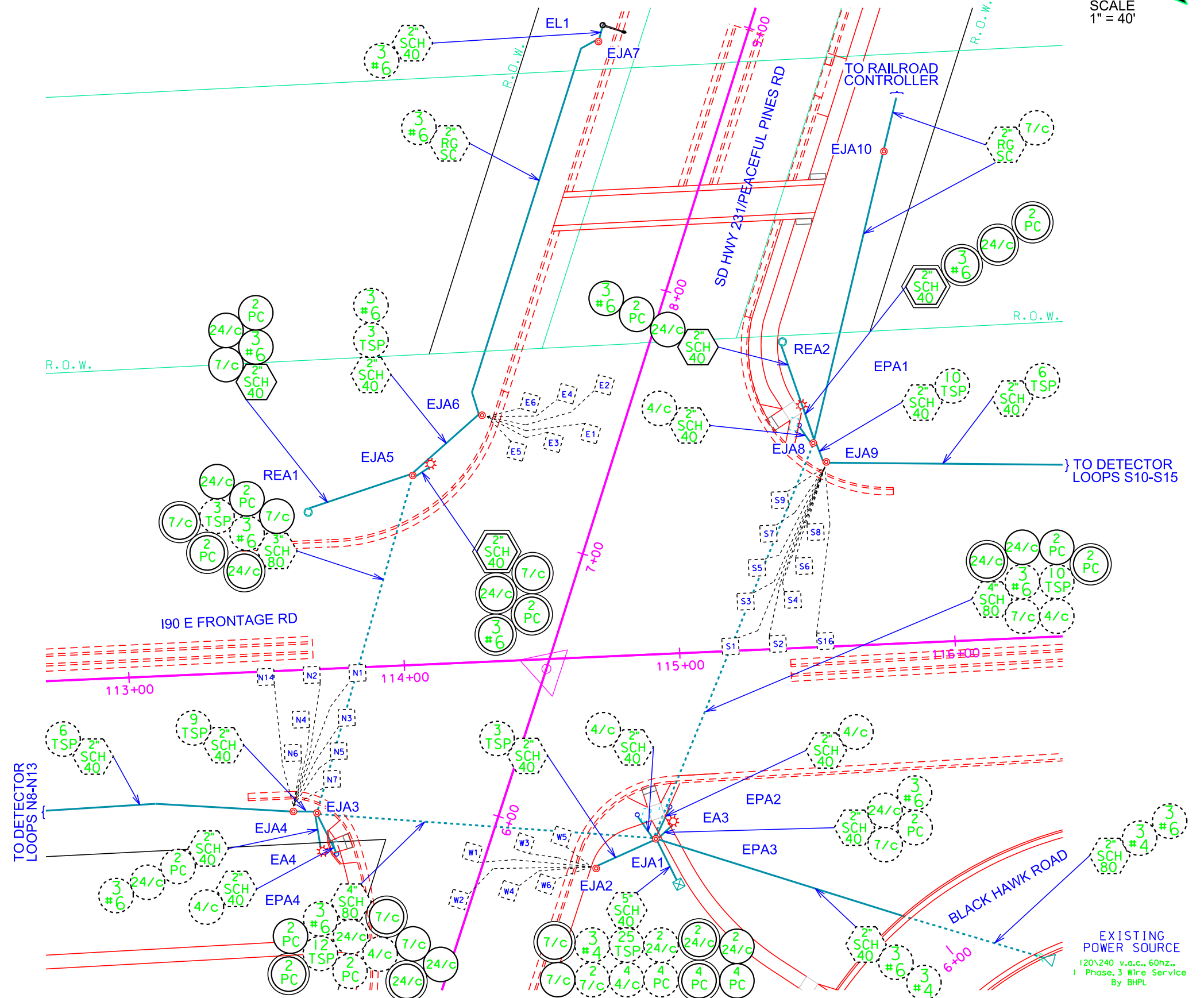
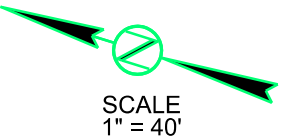
KEY	ITEM
	2" RIGID CONDUIT, SCHEDULE 40
	1/C #6 AWG COPPER WIRE
	7/C #14 AWG COPPER TRAY CABLE, K2
	24/C #14 AWG COPPER TRAY CABLE, K2
	PREEMPTION CABLE

CONDUIT LAYOUT

I90 E FRONTAGE RD & SD HWY 231/PEACEFUL PINES RD

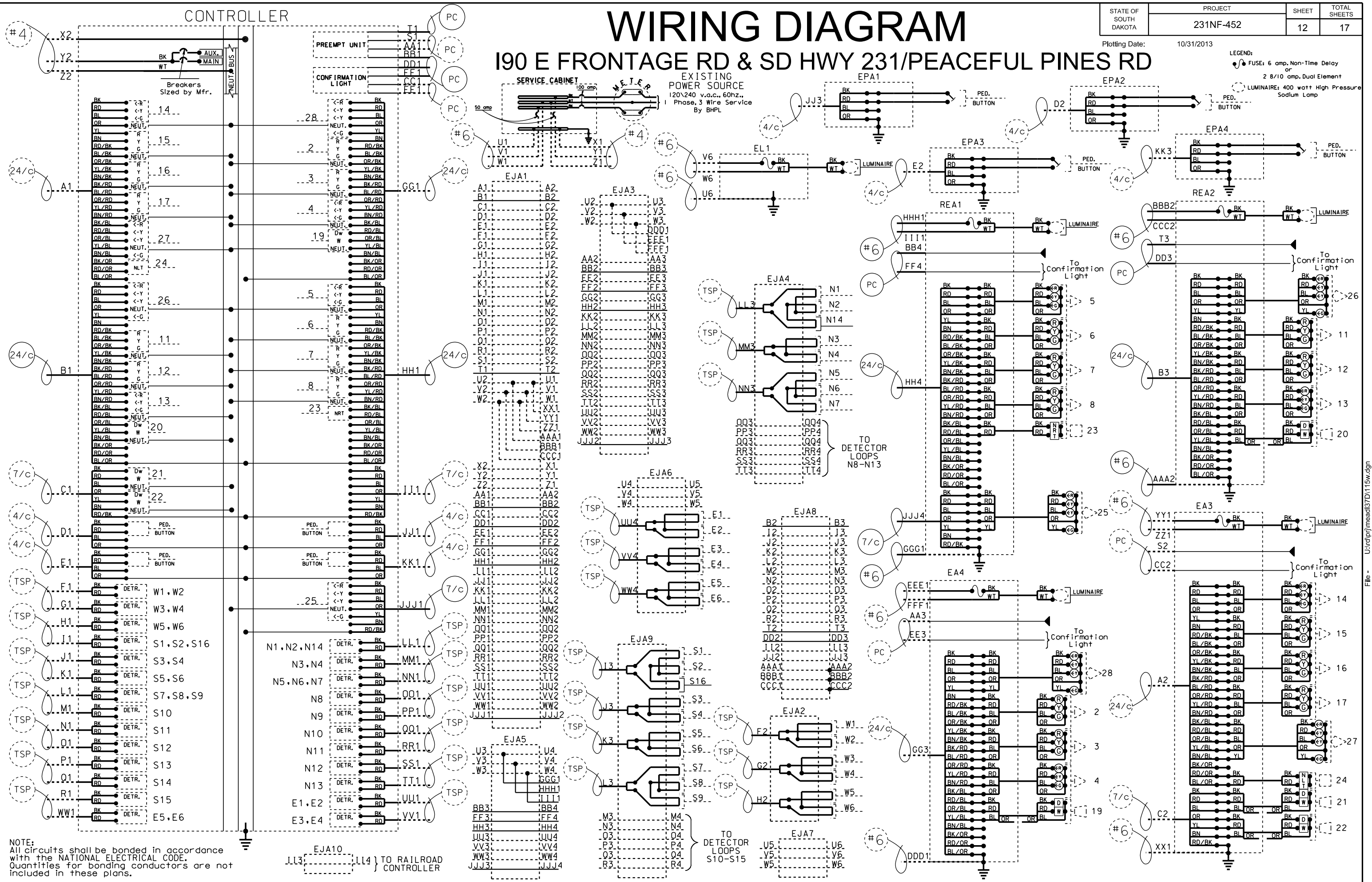
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	231NF-452	11	17

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CONTROLLER



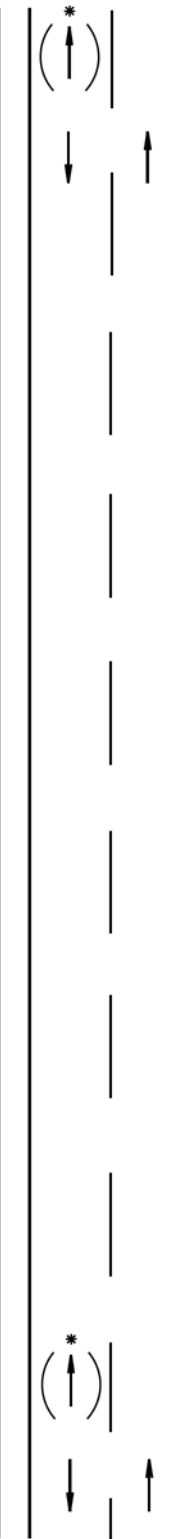
The signs illustrated are not required if the work space is behind a barrier, more than 2 feet behind the curb, or 15 feet or more from the edge of any roadway.

The signs illustrated shall be used where there are distracting situations; such as: vehicles parked on shoulder, vehicles accessing the work site via the highway, and equipment traveling on or crossing the roadway to perform work operations.

The ROAD WORK AHEAD sign may be replaced with other appropriate signs, such as the SHOULDER WORK sign. The SHOULDER WORK sign may be used for work adjacent to the shoulder.

* If the work space is on a divided highway, an advance warning sign should also be placed on the left side of the directional roadway.

For short term, short duration, or mobile operations, all signs and channelizing devices may be eliminated if a vehicle with an activated flashing or revolving yellow light is used.



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 - 75	1000



July 1, 2005

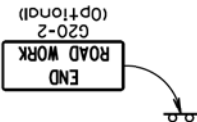
Published Date: 4th Qtr. 2013	S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES WORK BEYOND THE SHOULDER	PLATE NUMBER 634.01
			Sheet 1 of 1

Ⓢ 4" White temporary pavement marking shall be used for overnight and long term operations.

The spacing of advance warning signs may be adjusted to fit field conditions. Urban areas and intersecting streets may limit sign spacing.

L may be adjusted to fit field conditions.

Additional channelizing devices at 4' spacing may be needed to control traffic entering and leaving intersections.



Ⓢ Reflectorized Drum

■ Channelizing Device shall be 42" cones or drums

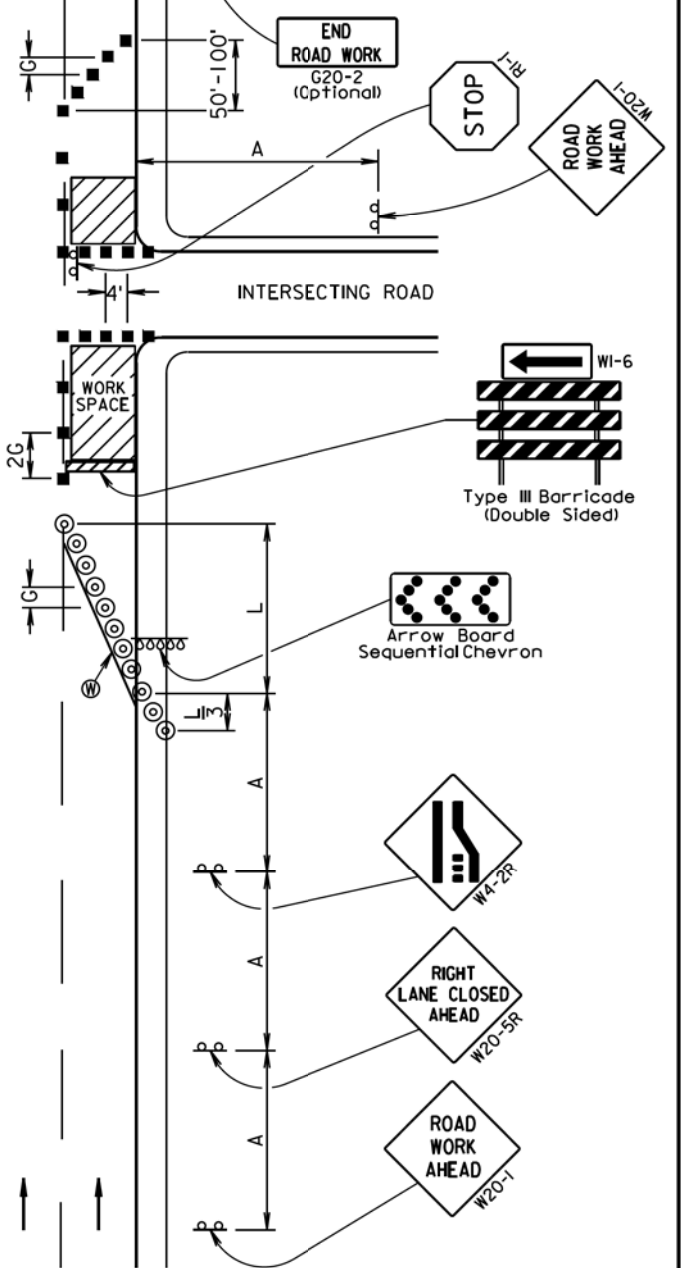
42" cones may be used in place of the drums shown in the taper if setup will not be used during any night time hours.

Published Date: 4th Qtr. 2013	S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES 5-LANE, OUTSIDE LANE CLOSED	PLATE NUMBER 634.60
			Sheet 1 of 1

December 23, 2012

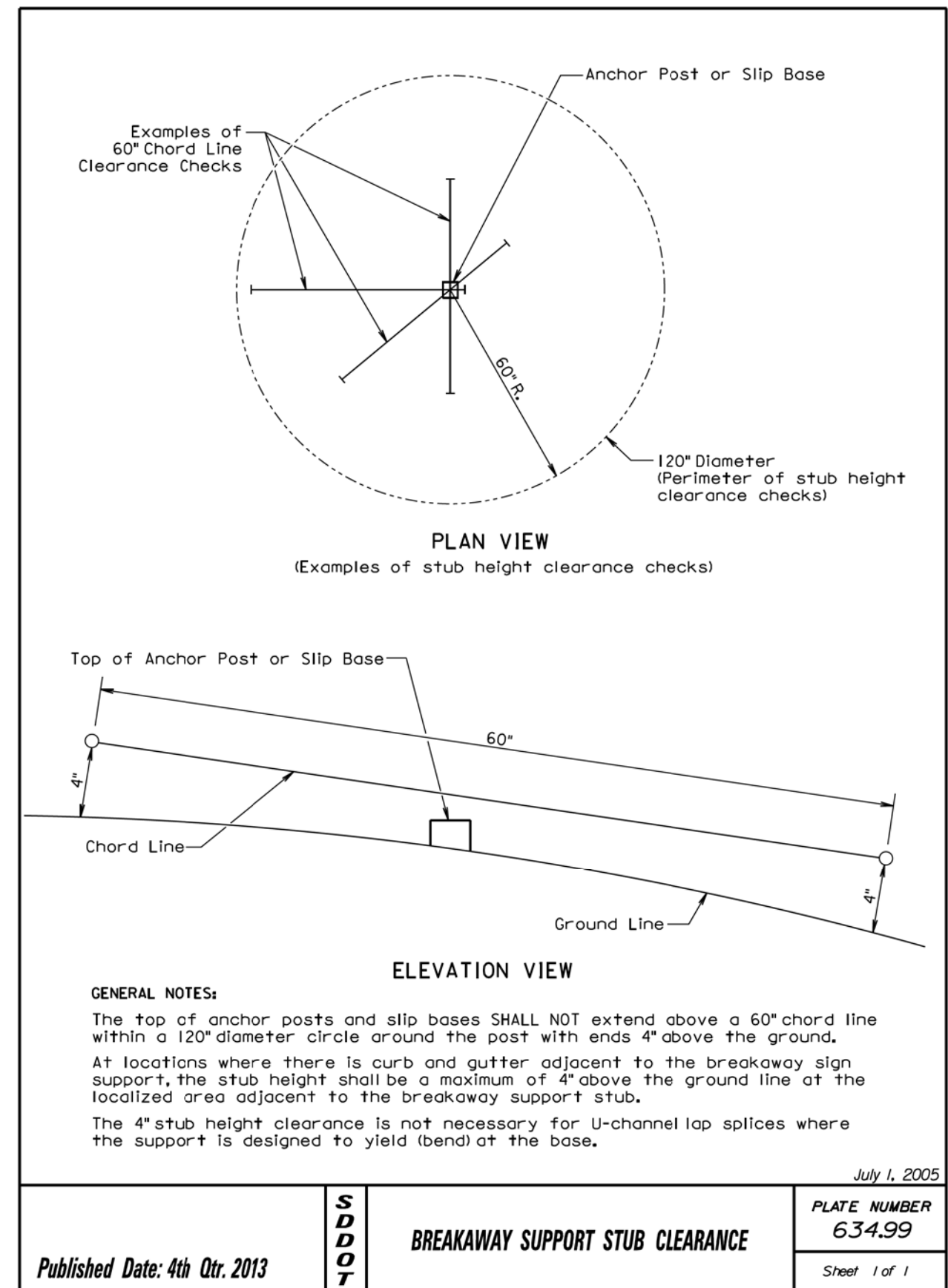
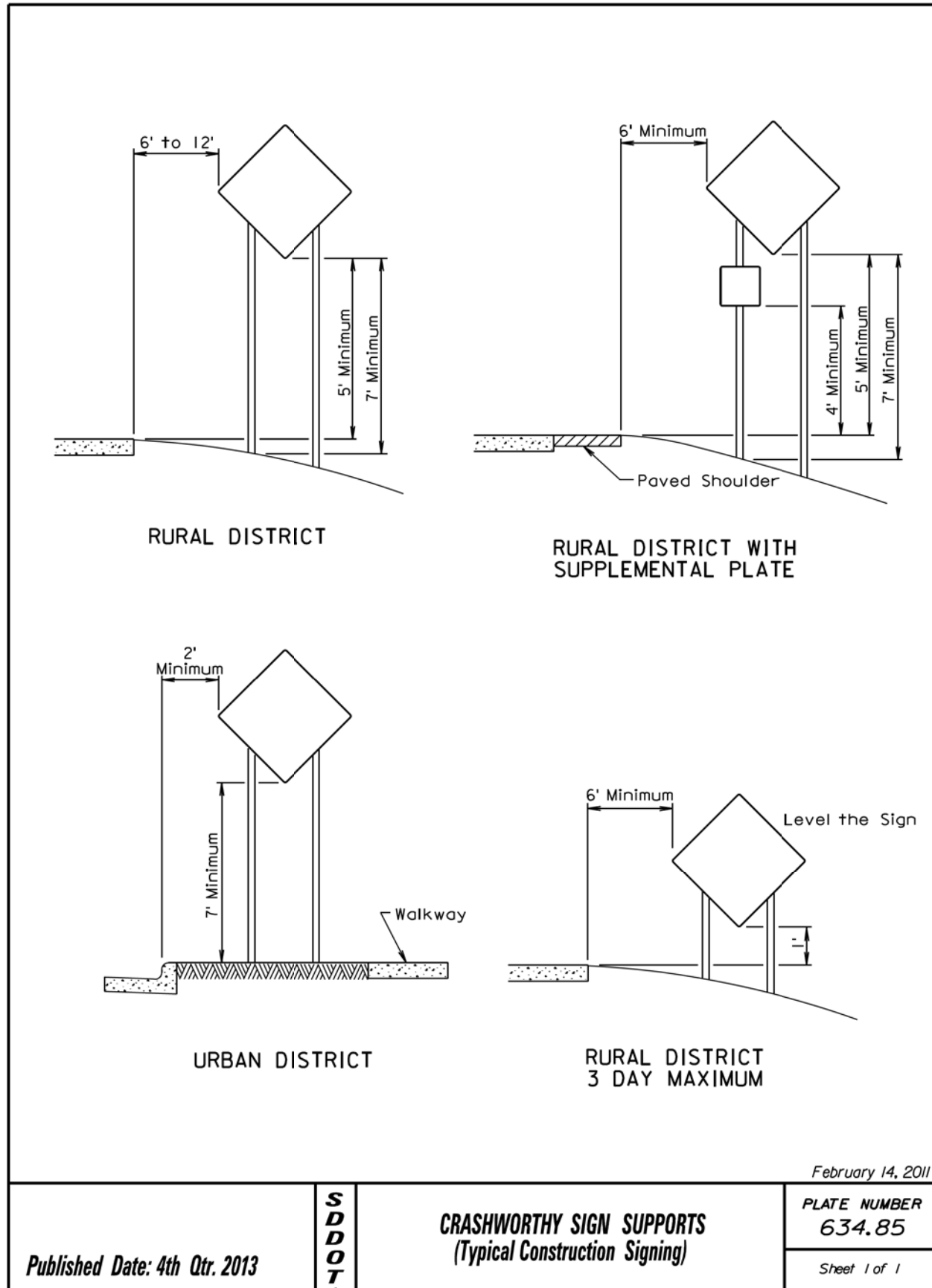
Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Taper Length (Feet) (L)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	180	25
35 - 40	350	320	25
45 - 50	500	600	50 *
55	750	660	50 *
60 - 65	1000	780	50 *

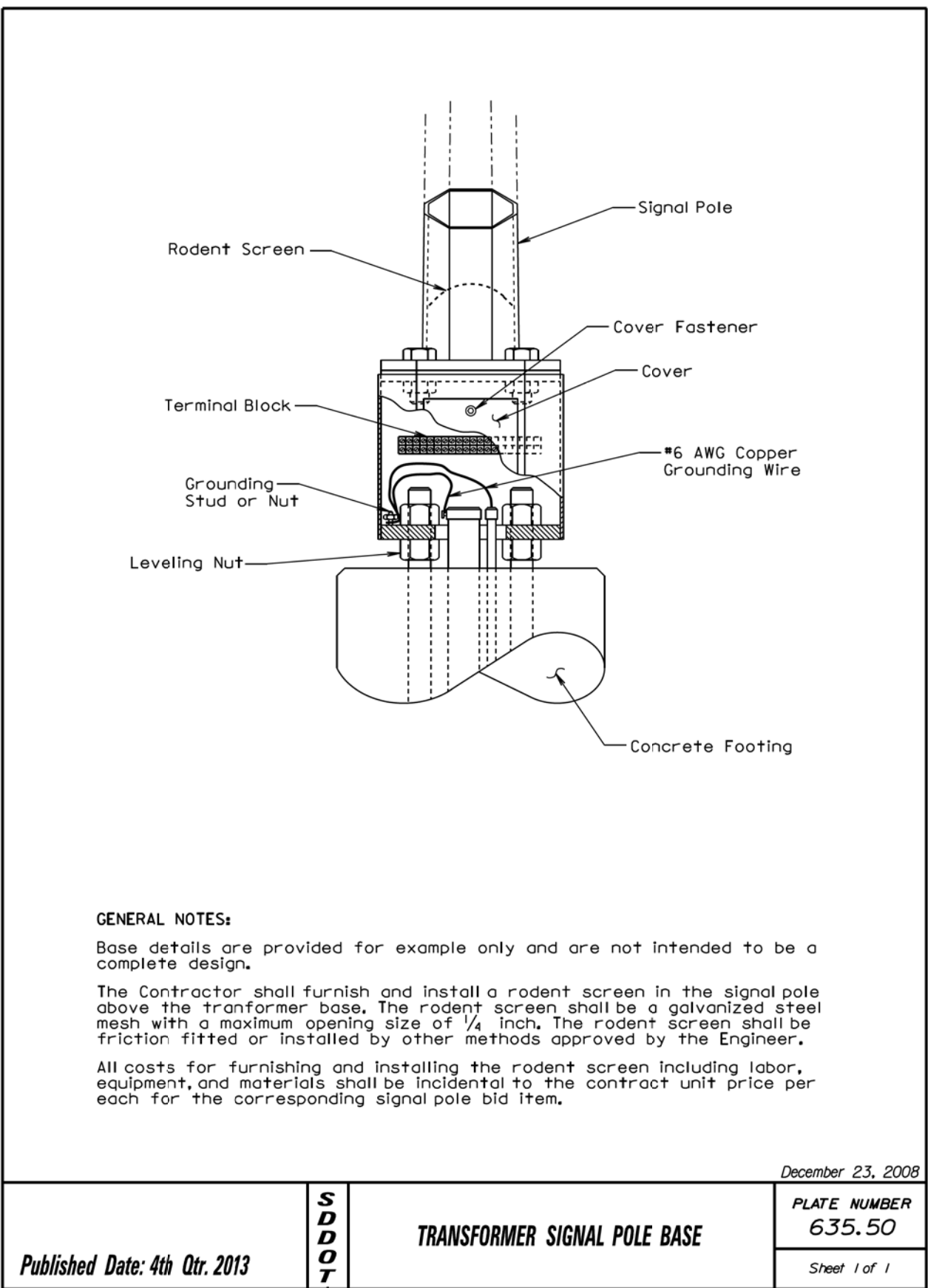
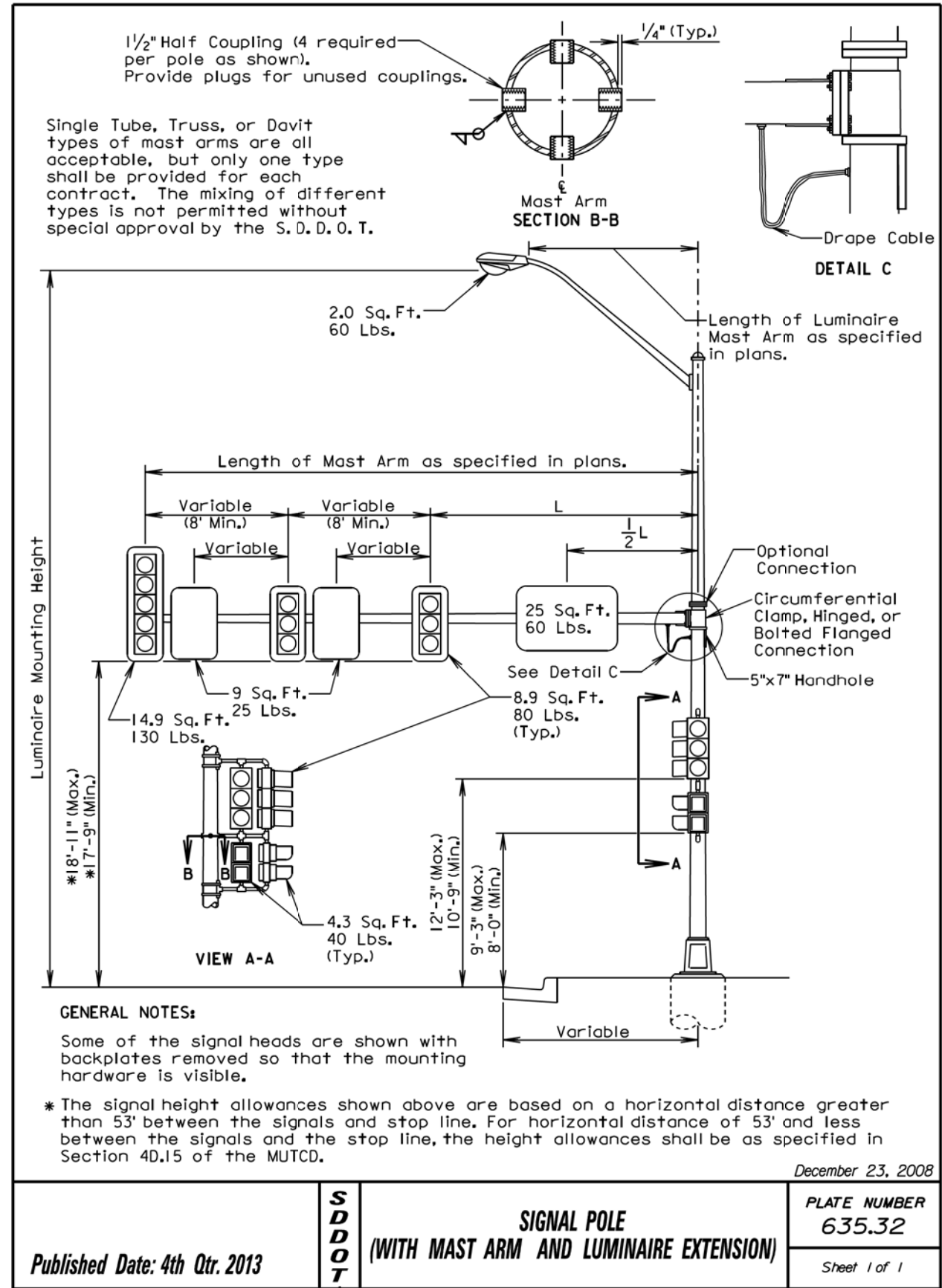
* Spacing to be every 40' for 42" cones.

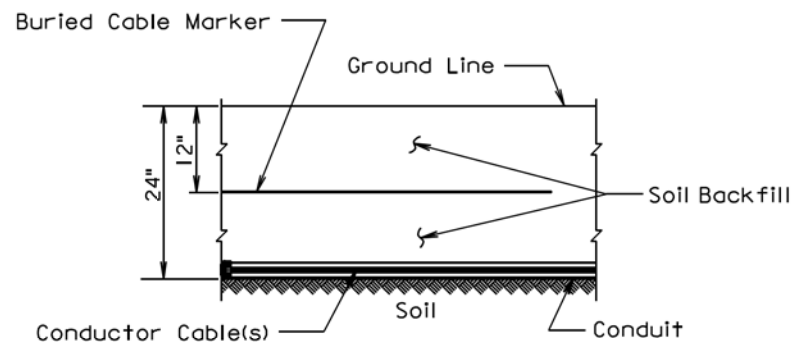


STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	231NF-452	14	17

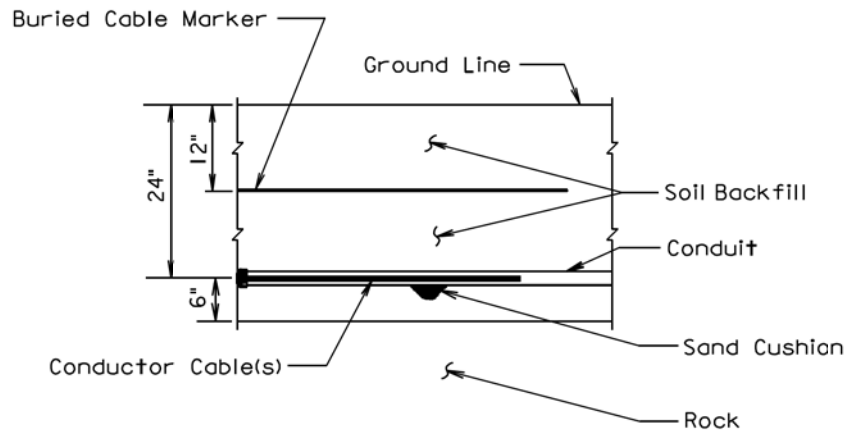
Plotting Date: 10/31/2013







SECTION VIEW



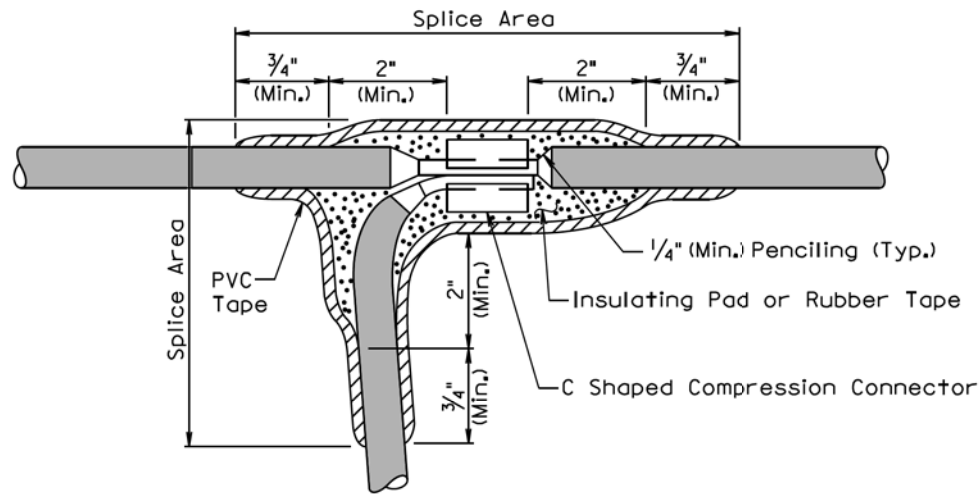
SECTION VIEW

GENERAL NOTE:

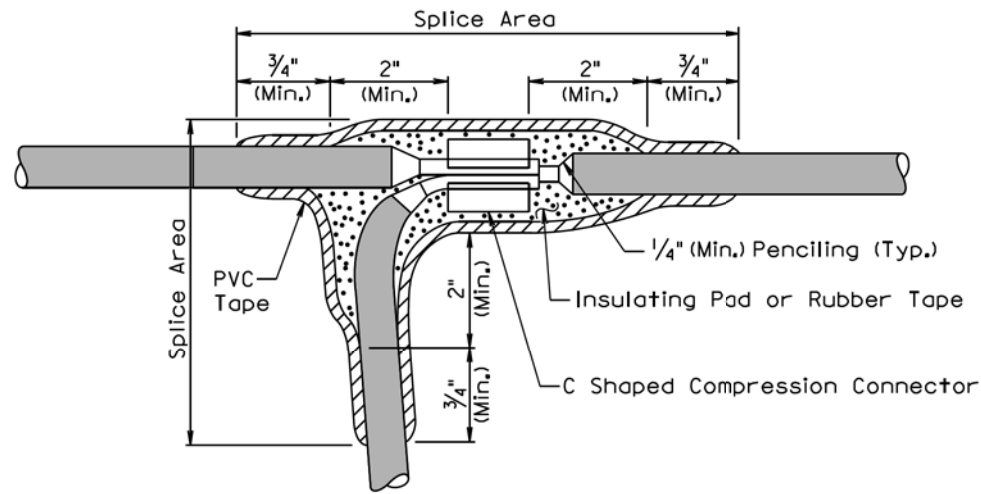
The Buried Cable Marker shall be plastic, approximately 6" wide, and shall be capable of sustaining a minimum of a 350% tolerance of elongation without tearing. The Buried Cable Marker shall have a life expectancy approximately equal to that of the conductor(s) beneath it. A phrase indicating the presence of a buried electric circuit below shall be printed in a contrasting color on the cable marker. The Buried Cable Marker shall be subject to approval by the Engineer. All costs associated with furnishing and installing the Buried Cable Marker shall be incidental to the contract unit price per Foot for the bid item used for the electrical conductor.

March 31, 2000

Published Date: 4th Qtr. 2013	S D D O T	CONDUIT INSTALLATION	PLATE NUMBER 635.76
			Sheet 1 of 1



TYPE C SPLICE
(Between 1 free end and 1 through conductor)



TYPE T SPLICE
(For 3 free ends)

February 14, 2010

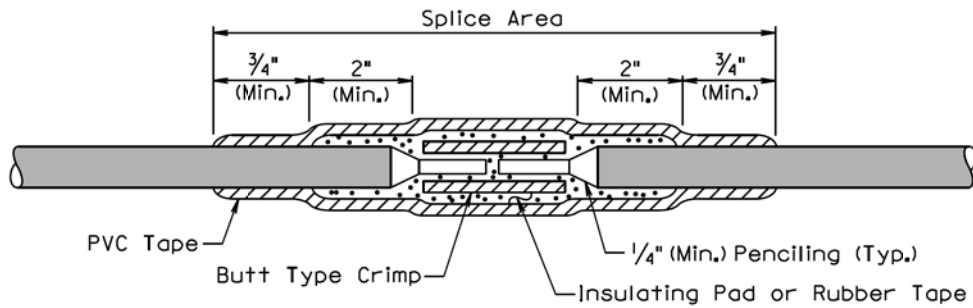
Published Date: 4th Qtr. 2013	S D D O T	WIRE SPlicing FOR LIGHTING (LOW VOLTAGE CIRCUITS (0 to 600 V))	PLATE NUMBER 635.80
			Sheet 1 of 2

Plot Scale - 1:200

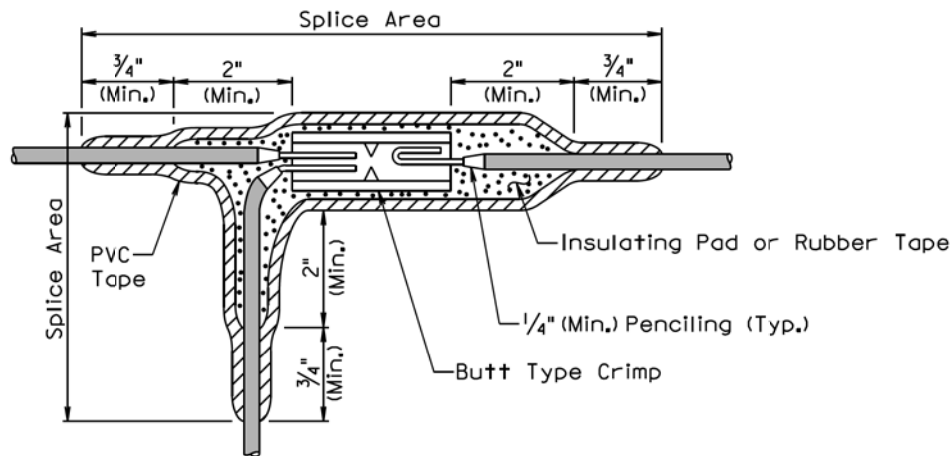
Plotted From - tpr14286

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	231NF-452	17	17

Plotting Date: 10/31/2013



TYPE S SPLICE
(Between 2 free ends)



TYPE ST SPLICE
(For 3 free ends)

GENERAL NOTES:

The splice shall be environmentally sealed for protection from weather, moisture, and abrasion in accordance with the method stated below.

The rubber tapes shall be rolled after application.

Method for insulating splice area:

1. The splice area shall be completely covered with electrical insulating coating and dried.
2. Apply two layers of 1/8" minimum thickness electrical insulating pad or two layers of half lapped synthetic oil resistant self fusing rubber tape.
3. Three layers of half lapped polyvinyl chloride tape shall be applied.
4. The entire splice area shall be covered with electrical insulating coating and dried.

February 14, 2010

Published Date: 4th Qtr. 2013	S D D O T	WIRE SPlicing FOR LIGHTING (LOW VOLTAGE CIRCUITS (0 to 600 V))	PLATE NUMBER 635.80
			Sheet 2 of 2

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