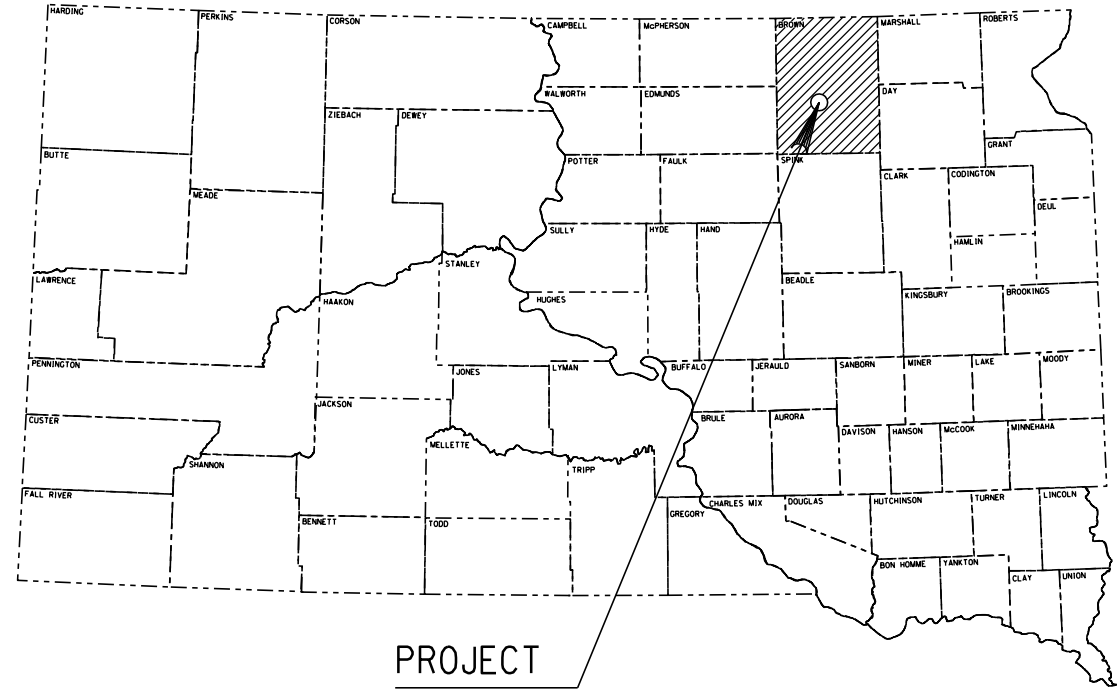


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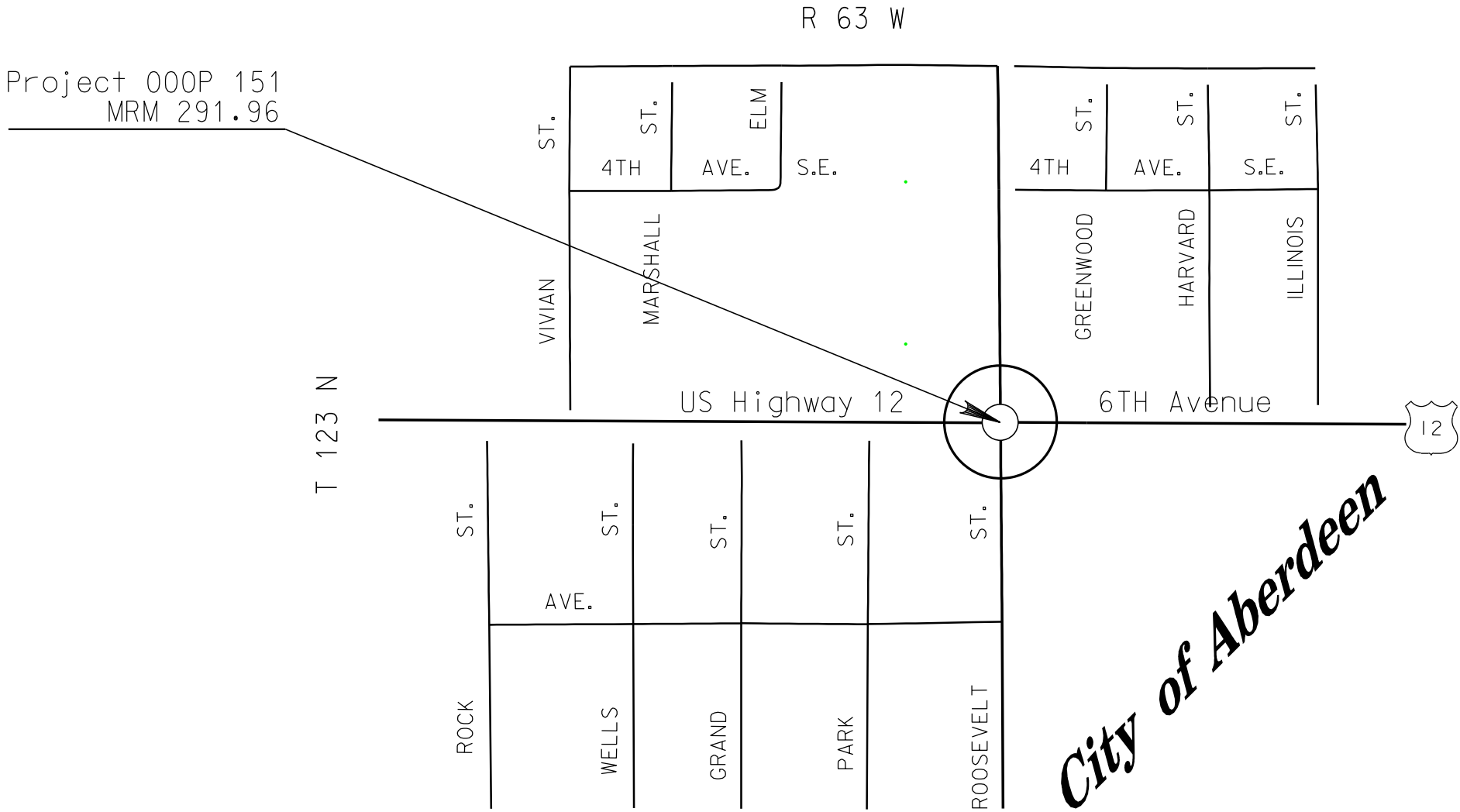
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STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION  
PLANS FOR PROPOSED  
**PROJECT 000P 151**  
**US HIGHWAY 12**  
**BROWN COUNTY**  
REPLACE TRAFFIC SIGNAL CONTROLLER CABINET  
PCN i2tu

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	000P - 151	1	7
Plotting Date: 01/17/2013			

INDEX OF SHEETS	
SHEET 1	TITLE SHEET
SHEET 2-3	ESTIMATE OF QUANTITIES & PLAN NOTES
SHEET 4	EXISTING CONDUIT LAYOUT
SHEET 5	EXISTING SIGNAL LAYOUT
SHEET 6	EXISTING WIRING DIAGRAM
SHEET 7	STANDARD PLATES



DESIGN DESIGNATION	
ADT (2011)	25,745
ADT (2031)	29,735
DHV	3000
T DHV	50%
T ADT	2.0%
	4.3%
	35 M.P.H.

STORM WATER PERMIT  
None Required

PLOT NAME - 1

FILE - ... \DESIGN FILES\TITLE SHEET.DGN

ESTIMATE OF QUANTITIES

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	1	LS
110E5110	Salvage Signal Equipment	1	LS
635E6959	Furnish Controller Cabinet	1	Each
635E6960	Install Controller Cabinet	1	Each

SPECIFICATIONS

South Dakota Department of Transportation Standard Specifications for Roads and Bridges, 2004 Edition, Required Provisions, Supplemental Specifications and/or Special Provisions as included in the Proposal.

GENERAL NOTES

Work includes, but is not limited to, the removal and salvage of existing traffic signal cabinet, installation of new traffic signal cabinet and, salvage and reinstallation of traffic signal system components stated in the plans.

GENERAL MAINTENANCE OF TRAFFIC

Contractor shall give the Aberdeen Area office, (Phone No. 605-626-7885) 72 hours advance notice prior to starting work to allow for a press release to be issued.

Work will be allowed only during the hours between 10 PM and 7 AM. Once the signal has been deactivated, the new cabinet shall be installed and the traffic signal system shall be fully operational by 7 AM.

During the time when the traffic signal at the intersection of US Highway 12 (6th Avenue) and Roosevelt Street is deactivated to replace the traffic signal controller cabinet, traffic on Roosevelt Street shall be controlled by the use of 48” Stop signs.

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 and signs damaged or lost shall be replaced by the Contractor at no cost to the State.

Storage of vehicles and equipment shall be outside the clear zone and as near as possible to the right-of-way line. 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 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 Contractor shall provide documentation that all breakaway sign supports comply with FHWA NCHRP Report 350 or MASH crash-worthy requirements. The Contractor shall provide installation details at the preconstruction meeting for all breakaway sign support assemblies.

The cost to furnish, install, maintain and remove the 2 - 48” Stop signs and the 4 - Road Work Ahead Signs shall be incidental to the various contract items.

SUPPLYING AS BUILT PLANS

If the traffic signal system is 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:

Pete.Longman@state.sd.us  
Dan.Martell@state.sd.us

ON-SITE INSPECTION

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

SALVAGE SIGNAL EQUIPMENT

Traffic Signal Controller Cabinet

Existing Traffic Signal Controller Cabinet shall be salvaged and delivered to the City of Aberdeen by the Contractor.

The Contractor shall notify the City 5 days before the delivery of the salvaged Traffic Signal Cabinet. The City contact is Brad Holm at (605) 626-7022

Traffic Signal System Components

Salvage the following traffic signal system components to be installed in to new traffic signal controller cabinet;

Controller  
Power supply  
Detector units  
BIU's  
Load switches

Relay switches  
Malfunction Management Unit (MMU),  
Emergency Vehicle Pre-emption system (EVP),  
Battery backup cabinet and components

All costs for work involved in the salvage of Traffic Signal System Components and delivery of the existing Traffic Signal Controller Cabinet shall be incidental to the contract lump sum price for “Salvage Signal Equipment”.

FURNISH CONTROLLER CABINET

Traffic Signal Controller Cabinet

The traffic signal controller cabinet with interface panels shall be NEMA TS2 Type 1 from the approved product list and as approved by the South Dakota Department of Transportation Traffic Design Engineer in the Office of Road Design.

The controller cabinet doors shall be hinged on the right side.

The controller cabinet shall be capable of placing vehicle and pedestrian calls into the controller. Placed calls shall provide for eight vehicle phases and four pedestrian phases. The placed calls for vehicle phases shall be capable of extending the associated vehicle phase by continuous or intermittent contact.

The Controller Cabinet interface panels shall be capable of inserting up to sixteen load switches, six flash transfer relay sockets, one flasher socket, and one 16-channel detector rack.

The Controller cabinet shall provide simplified integration between the major components of TS2 Type-1 cabinet, allowing for ease of assembly, installation, and troubleshooting. The cabinet shall utilize a modular assembly and plug-in cabling to allow for the replacement of all major components with no rewiring.

The Controller cabinet shall be equipped with an internal cabinet heater. The heater shall be sized to provide manufactures operating temperature range for the signal equipment during cold weather season.

All costs to furnish the Traffic Signal Cabinet with hardware components that will provide for a complete operational traffic signal system shall be incidental to the contract unit price for “Furnish Controller Cabinet”.

Existing Traffic Signal System Items – For informational use only

Existing cabinet is, Length – 44”, Width - 26”, Height - 55.04”.

Concrete Cabinet Pad is, Length - 47.25”, Width – 30.5”.

Cabinet Pad anchor bolt spacing, center to center is, 41”x18.5”

Existing Controller – Econolite ASC/2S-1000

Existing Malfunction Management Unit – EDI (MMU-16E)

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	000P 151	3	7

**INSTALL CONTROLLER CABINET**

The Contractor shall wire the new traffic signal controller cabinet.

Traffic Signal System Components

Install the following salvaged traffic signal system components;

- Controller
- Power supply
- Detector units
- BIU's
- Load switches
- Relay switches
- Malfunction Management Unit (MMU),
- Emergency Vehicle Pre-emption system (EVP),
- Battery backup cabinet and components

This lists the major components and may not be all inclusive of the components needed to be salvaged and installed in to the new controller cabinet to restore the traffic signal system to be fully operational.

The new controller cabinet shall be mounted on existing pad. The Contractor shall field verify the size of the cabinet pad, anchor bolt size and spacing prior to ordering the controller cabinet.

All costs for work involved in the installation of the controller cabinet and the existing traffic signal system components for a fully operational traffic signal system shall be incidental to the contract lump sum price for "Install Controller Cabinet".

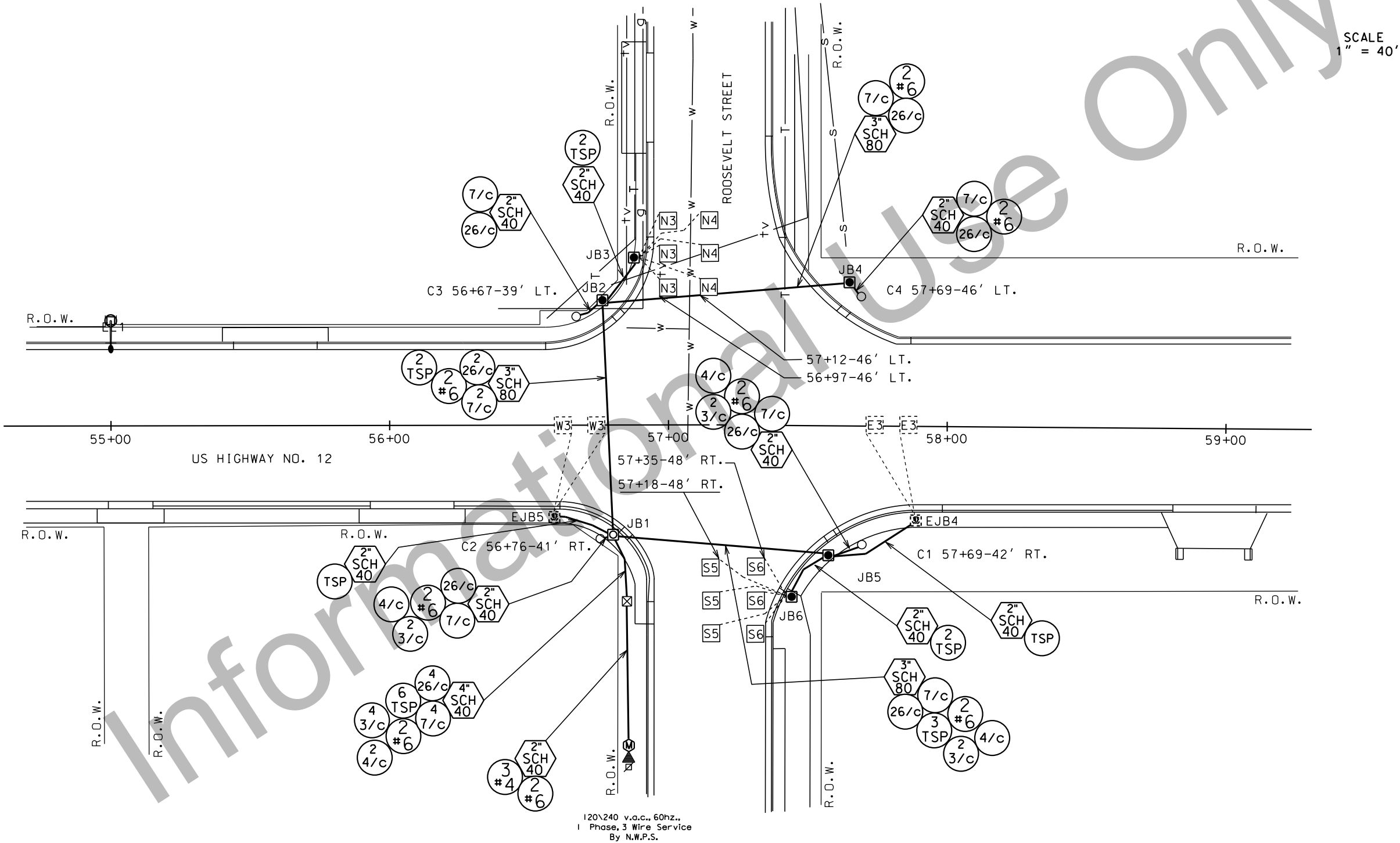
PLOT SCALE - 1"=40'

PLOTTED FROM - TRAB17879

# EXISTING CONDUIT LAYOUT

US HIGHWAY NO. 12 & ROOSEVELT STREET

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	000P - 151	4	7
Plotting Date: 01/17/2013			



PLOT NAME - 2

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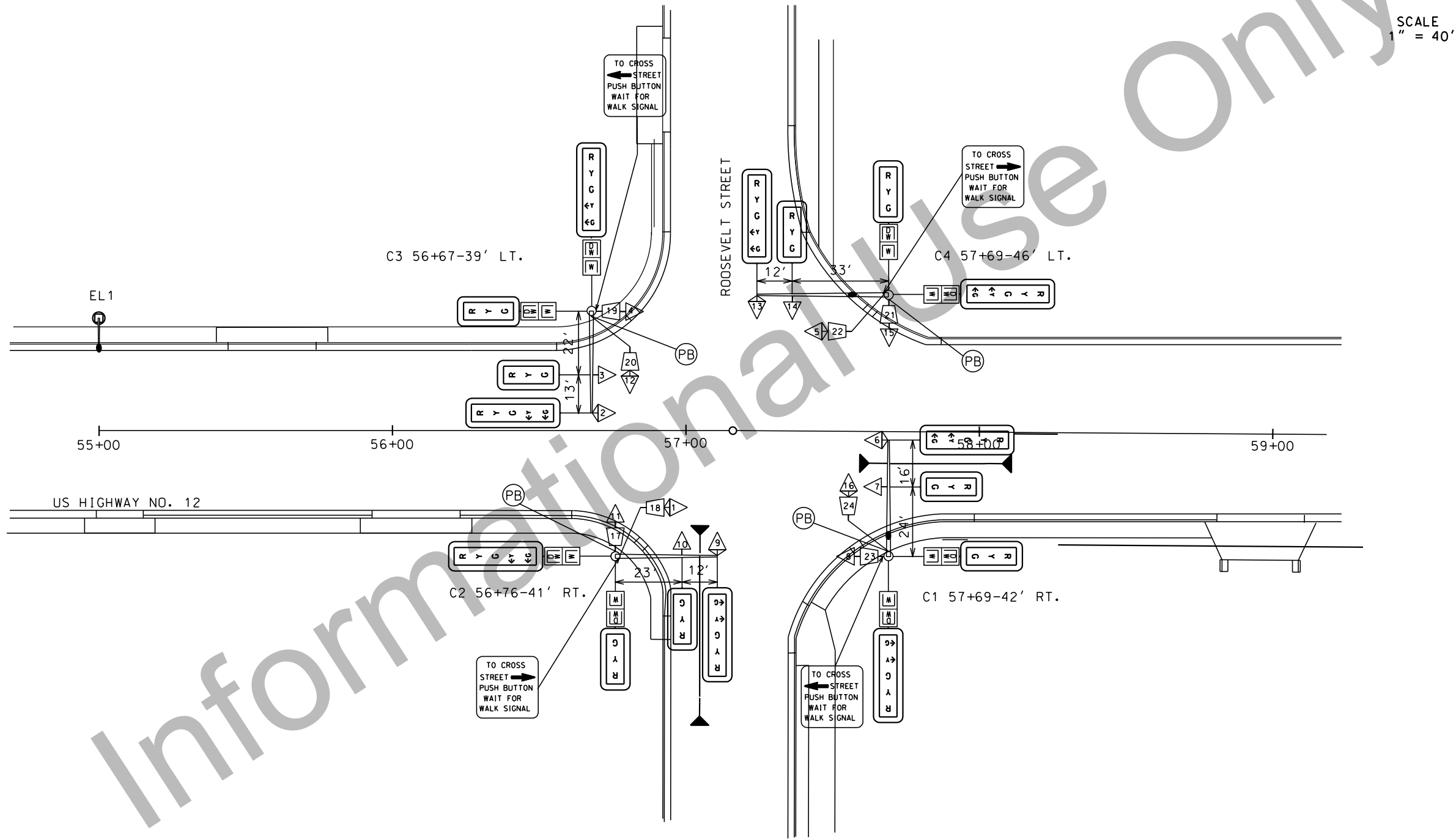
PLOT SCALE - 1"=40'

PLOTTED FROM - TRAB17879

# EXISTING SIGNAL LAYOUT

## US HIGHWAY NO. 12 & ROOSEVELT STREET

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	000P - 151	5	7
Plotting Date: 01/17/2013			



PLOT NAME - 3

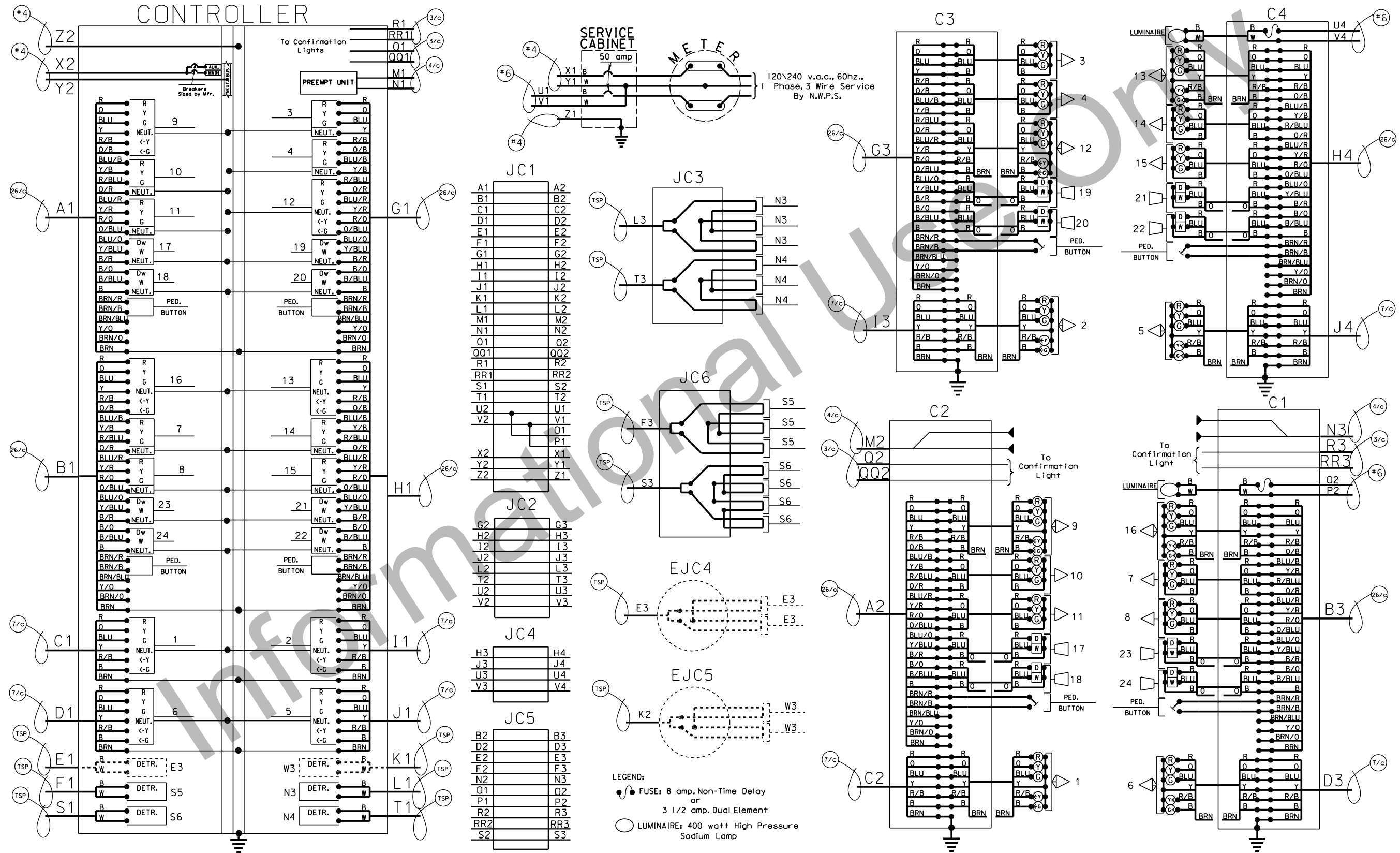
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# EXISTING WIRING DIAGRAM

## US HIGHWAY NO. 12 & ROOSEVELT STREET

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	000P - 151	6	7
Plotting Date: 01/17/2013			

NOTE:  
All circuits shall be bonded in accordance  
with the NATIONAL ELECTRICAL CODE.  
Quantities for bonding conductors are not  
included in these plans.



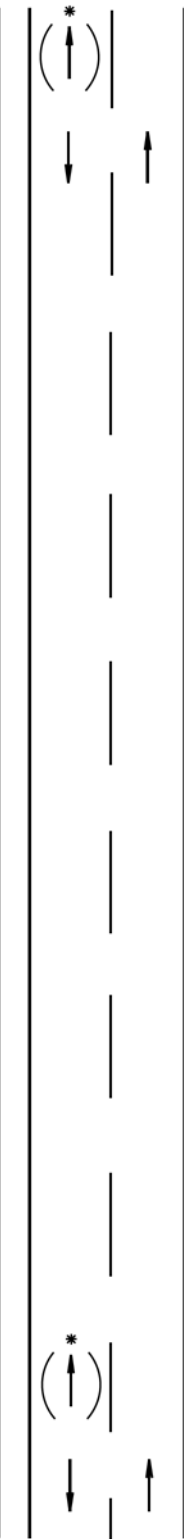
The signs illustrated are not required if the work space is behind a barrier, more than 2 feet behind the curb, or 15 feet or more from the edge of any roadway.

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.

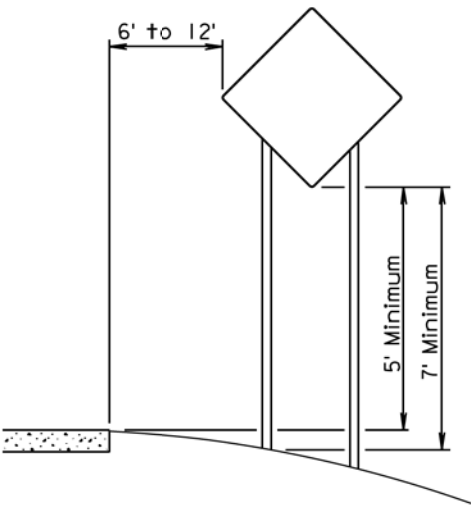


Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 75	1000

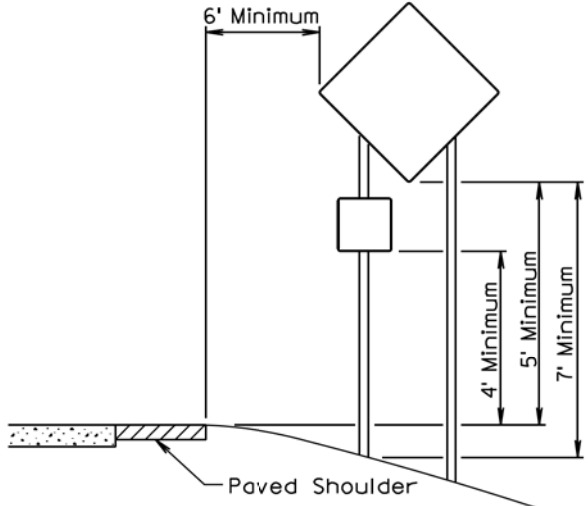


July 1, 2005

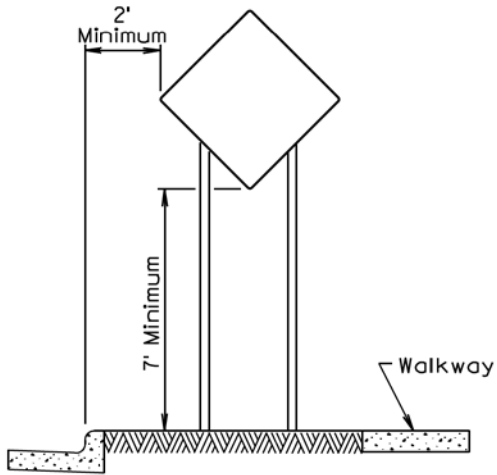
Published Date: 4th Qtr. 2012	S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES WORK BEYOND THE SHOULDER	PLATE NUMBER 634.01
			Sheet 1 of 1



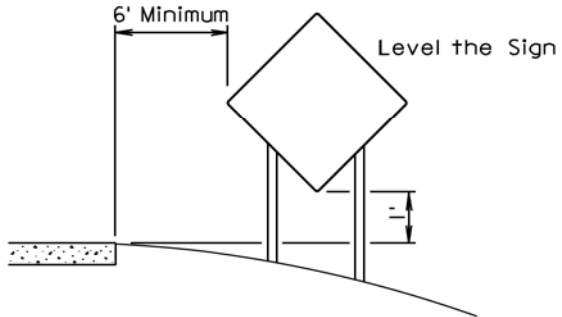
RURAL DISTRICT



RURAL DISTRICT WITH  
SUPPLEMENTAL PLATE



URBAN DISTRICT



RURAL DISTRICT  
3 DAY MAXIMUM

February 14, 2011

Published Date: 4th Qtr. 2012	S D D O T	CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
			Sheet 1 of 1