

STATE OF SOUTH DAKOTA  
 DEPARTMENT OF TRANSPORTATION  
 PLANS FOR PROPOSED

**PROJECT 000P-452**  
**U.S. HIGHWAY 16B**  
**PENNINGTON COUNTY**

ADVANCE WARNING SIGNAL  
 PCN i2UH

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	000P-452	1	11

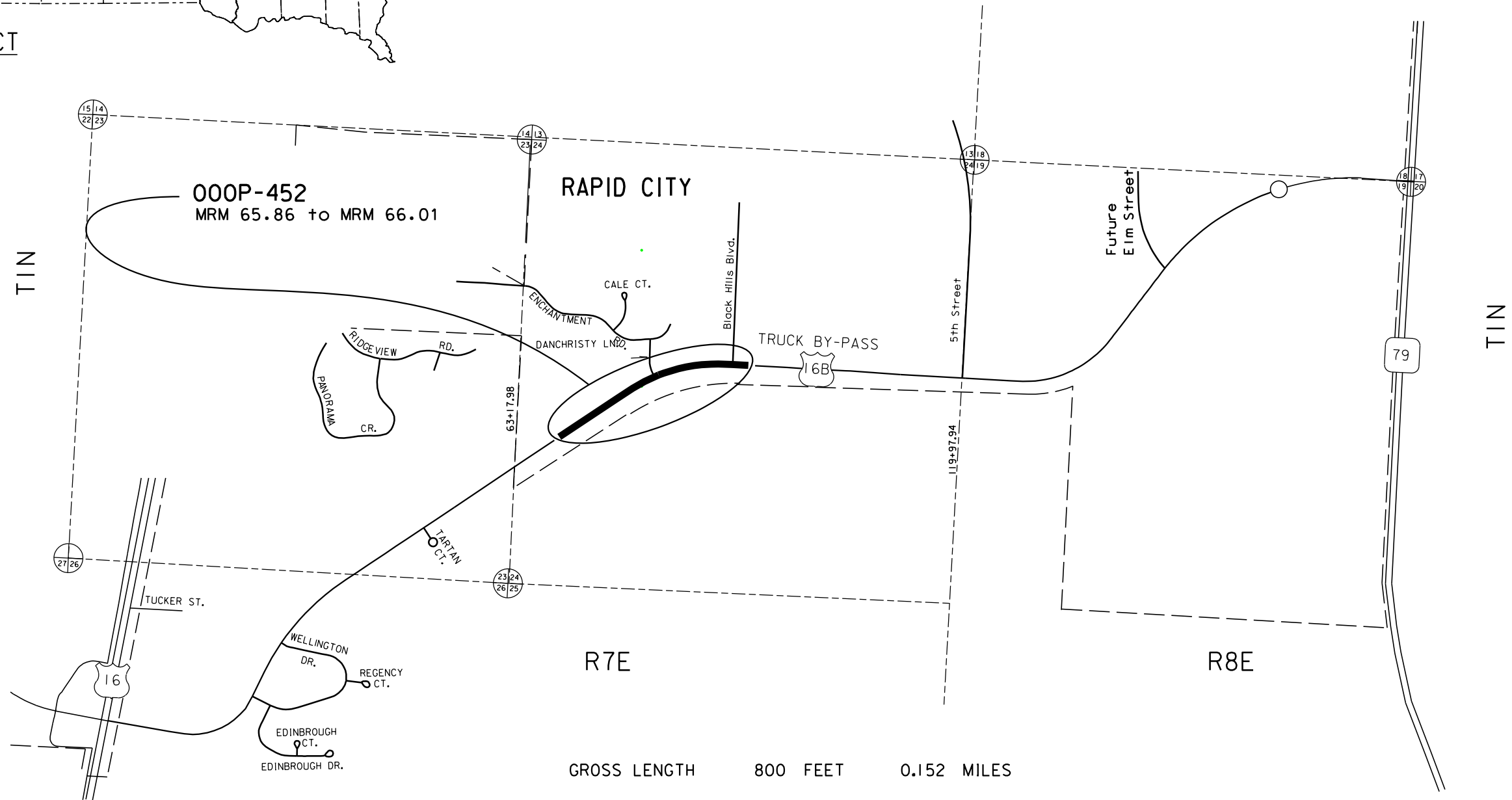
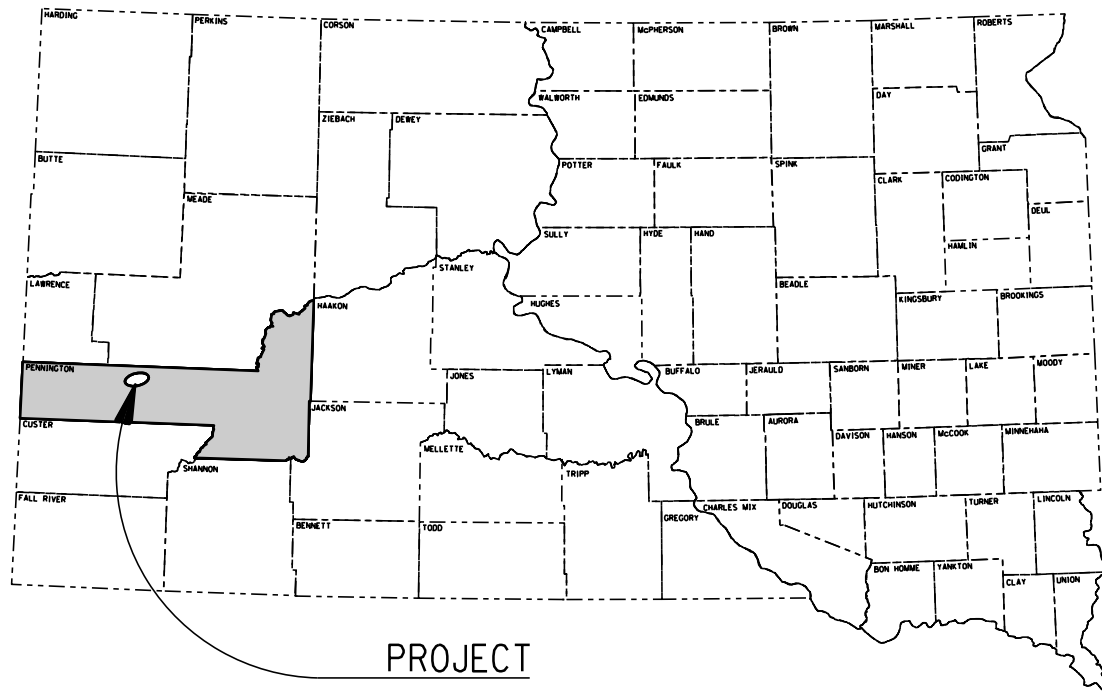
Plotting Date: 04/26/2013

INDEX OF SHEETS

- Sheet 1: Title Sheet
- Sheets 2-4: Estimate of Quantities & Plan Notes
- Sheets 5-6: Conduit & Wiring Details
- Sheets 7-11: Standard Plates



Plot Scale - 1:200



DESIGN DESIGNATION

ADT (2012)	4,210
ADT (2032)	7,334
DHV	865
D	50%
T DHV	4.3%
T ADT	9.5%
V	60 mph

STORM WATER PERMIT

No Permit Required

SCALES

	RURAL	SUBURBAN	URBAN
PLAN	1"=200'	1"=100'	1"=40'
PROFILE	HORIZONTAL: 1"=200'	1"=100'	1"=40'
	VERTICAL: 1"=20'	1"=20'	1"=10'
CROSS SECTIONS	HORIZONTAL: 1"=40'	1"=20'	1"=20'
	VERTICAL: 1"=20'	1"=10'	1"=10'

GROSS LENGTH 800 FEET 0.152 MILES

Plotted From: TRRC11951

File: ...title.dgn

**ESTIMATE OF QUANTITIES**

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
110E7150	Remove Sign for Reset	4	Each
632E3205	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity	37.0	SqFt
632E3500	Reset Sign	2	Each
634E0010	Flagging	50	Hour
634E0100	Traffic Control	408	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0420	Type C Advance Warning Arrow Panel	1	Each
635E4010	1 Section Vehicle Signal Head	1	Each
635E5302	Type 2 Electrical Junction Box	1	Each
635E5540	Sawed-In Detector Loop	2	Each
635E5550	Detector Unit	2	Each
635E8015	1.5" Rigid Galvanized Steel Conduit	15	Ft
635E8120	2" Rigid Conduit, Schedule 40	275	Ft
635E9020	1/C #10 AWG Copper Wire	2,985	Ft
635E9600	#16 AWG Copper Twisted Shielded Pair	2,400	Ft
734E0010	Erosion Control	Lump Sum	LS

**SPECIFICATIONS**

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

**SEQUENCE OF OPERATIONS**

1. Set up traffic control.
2. Perform signal and sign work.
3. Install Erosion Control
4. Remove traffic control.

**ADVANCE WARNING SIGNS**

The Contractor shall remove and salvage existing "Be Prepared to Stop" signs at approximate station 82+39 L&R. The Contractor shall install new "Be Prepared to Stop" signs, W3-4 at station 89+77 L&R as indicated on the Conduit Layout Sheet. The new "Be Prepared to Stop" signs shall be mounted with the salvaged posts and hardware from the existing "Be Prepared to Stop" signs. The existing "Be Prepared to Stop" signs shall be delivered to the Rapid City Region Complex. The Contractor shall coordinate delivery of the existing "Be Prepared to Stop" signs with the Project Engineer.

The Contractor shall install supplemental plaque "When Flashing", W16-13P below the "Be Prepared to Stop" sign at station 89+77-53' RT.

The Contractor shall remove and reset the existing Signal Ahead signs from approximate station 74+39 L&R to 600' in advance of the new "Be Prepared to Stop" signs.

Costs for removing, salvaging and delivering existing signs, sign posts and hardware shall be incidental to the contract price per each for "Remove Sign for Reset". Costs involved for installing signs W3-4, "Be Prepared to Stop" and supplemental plaque W16-13P, "When Flashing" shall be incidental to the contract price per square foot for "Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity". Costs for resetting the existing Signal Ahead signs, posts and hardware shall be incidental to the contract price per each for "Reset Sign".

**ADVANCE WARNING SIGNAL**

The Contractor shall install an amber beacon above the existing "Be Prepared to Stop" sign at station 89+77-53' RT as indicated on the Conduit Sheet.

The Contractor shall interconnect the beacon to the traffic signal controller at US 16B/Catron Blvd & Black Hills Blvd. The beacon shall flash during the yellow and red intervals of traffic signal for US 16B/Catron Blvd. The beacon shall be dark during the green interval for US 16B/Catron Blvd.

The Contractor shall install sawed-in detector loops for advance detection as indicated on the Conduit Layout Sheet. The advance detection shall prevent phase termination using the unit extension features in the traffic signal controller at US 16B/Catron Blvd & Black Hills Blvd. The Contractor shall confirm the controller has adequate load switches to perform the function. The Contractor shall complete all necessary connections to make the advance warning signal system operational.

Costs installing the beacon and making the advance warning signal system operational shall be incidental to the contract price per each for "1 Section Vehicle Signal Head".

**CONTROLLER PROGRAMMING**

The existing traffic signal controller at US 16B/Catron Blvd & Black Hills Blvd shall be programmed with a lead flash time. The lead flash time shall be 8 seconds.

Costs for programming the controller to make the advance warning signal system operational shall be incidental to the contract price per each for "1 Section Vehicle Signal Head".

The Contractor shall furnish the Road Design Office with a copy of the data programmed into the Controller prior to the full operation of the Controller for approval. The address is as follows:

Pete Longman/Stacy Bartlett  
Traffic Design Engineer  
Office of Road Design  
700 East Broadway  
Pierre, SD 57501

**SIGNAL BACKPLATES**

Signal backplate shall extend not less than 5 inches from the edge of the signal head at the top, bottom, and sides. The backplate shall have a dull black finish.

**TRAFFIC SIGNAL CONTROL CABLE LABELS**

Traffic signal cable shall be identified in junction boxes and controller cabinet. Labels shall be wrapped around traffic signal cable to indicate the signal head that it is connected to. Labels shall be self-adhesive vinyl cloth with a preprinted legend. Traffic signal control cables to the sign post shall be marked with a legend and shall be color coded as follows; northwest (blue), northeast (red), southeast (green), and southwest (orange).

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	000P-452	2	11

**SUPPLYING AS BUILT PLANS**

If the advance warning signal 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 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](mailto:Stacy.Bartlett@state.sd.us)  
[Pete.Longman@state.sd.us](mailto:Pete.Longman@state.sd.us)

**ON-SITE INSPECTION**

An on-site inspection of the advance warning signal shall be conducted before acceptance of the project, once the advance warning signal is 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 the Traffic Design Engineer present.

**TABLE OF CONDUIT AND CABLE QUANTITIES**

Location to Location	Rigid Conduit	Rigid Conduit	Copper Wire	Twisted Shielded Pair
	Galvanized Steel	Schedule 40		
	1.5"	2"	1/C	#16
			#10	AWG
			AWG	
	Ft	Ft	Ft	Ft
SIGN	JA11	225		465
JA11	JS	50	155	
JA11	JA10		700	465
JA10	JA9		715	475
JA9	JA7		480	320
JA7	JA12		375	250
JA12	JA1		445	290
JA1	CONTROLLER		65	135
"Be Prepared to Stop" Sign	15		50	
Total:	15	275	2,985	2,400

**EROSION CONTROL**

The Contractor shall salvage all available topsoil prior any earth disturbing activities. All disturbed areas within the project shall be covered with salvaged topsoil, fertilized, seeded and mulched. All costs associated with this work shall be incidental to the contract unit price per lump sum for "Erosion Control"

**MYCORRHIZAL INOCULUM**

Mycorrhizal inoculum shall consist of mycorrhizal fungi spores and mycorrhizal fungi-infected root fragments in a solid carrier. The carrier may include organic materials, calcinated clay, or other materials consistent with application and good plant growth. The supplier shall provide certification of the fungal species claimed and the live propagule count. The inoculum shall include the following fungal species:

- Glomus intraradices* 25%
- Glomus aggregatu* 25%
- Glomus mosseae* 25%
- Glomus etunicatum* 25%

All seed shall be inoculated with a minimum of 100,000 live propagules of mycorrhizal fungi per acre. All costs associated with this work shall be incidental to the contract unit price per lum sum for "Erosion Control".

**FERTILIZING**

The Contractor shall apply an all-natural slow release fertilizer prior to seeding or placing sod. The all-natural fertilizer shall have a minimum guaranteed analysis of 4-6-4 and be USDA Certified BioBased. It should provide a minimum of 4% (N) nitrogen with a minimum water insoluble nitrogen (WIN) fraction of 3.2%, a minimum of 6% (P2O5) available phosphate, a minimum of 4% (K2O) soluble potash, and a maximum carbon to nitrogen ratio (C:N ratio) of 5:1. The all-natural fertilizer shall be free of weed-seed and pathogens accomplished through thermophilic composting, and not mechanical or chemical sterilization, to assure presence of beneficial soil microbiology. The fertilizer shall have a near neutral pH, a low salt index, a low biological oxygen demand, contain organic humic and fulvic acids, and have high aerobic organism counts. The fertilizer shall also be stable, free of bad odors, and be unattractive as a food source for animals. It should also be in a granular form that is easily spread.

The all-natural slow release fertilizer shall be applied according to the manufacturer's application recommendations.

The application rate is 1,500 pounds per acre.

The all-natural slow release fertilizer shall be from the list below or an approved equal:

<u>Product</u>	<u>Manufacturer</u>
Sustane	Sustane Corporate Headquarters Cannon Falls, Minnesota Phone: 1-800-352-9245 <a href="http://www.sustane.com/">http://www.sustane.com/</a>

Fertilizing shall be incidental to the contract unit price per lump sum for "Erosion Control".

**PERMANENT SEEDING**

The areas to be seeded comprise of all areas where Contractor Furnished Borrow is placed and areas around delineators as directed by the Engineer.

All permanent seed shall be planted in the topsoil at a depth of ¼" to ½".

All seed broadcast must be raked or dragged in (incorporated) within the top ¼" to ½" of topsoil when possible. This requirement may be waived by the Engineer during construction when raking or dragging is deemed not feasible by conventional methods.

The varieties listed for the seed mixture are preferred varieties. Native harvest seed will be allowed.

Type F Permanent Seed Mixture shall consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Flintlock, Rodan, Rosana	7
Green Needlegrass	Lodorm	4
Sideoats Grama	Butte, Killdeer, Pierre, Trailway	3
Little Bluestem or Buffalograss or Blue Grama	Badlands, Itasca, Bowie, Cody, Tatanka Bad River, Willis	2
Regreen or QuickGuard: all year Oats or Spring Wheat: April through May; Winter Wheat: August through November		10
Total:		26

Permanent seeding shall be incidental to the contract unit price per lump sum for "Erosion Control".

**FIBER MULCHING**

Fiber mulch shall be applied in a separate operation following permanent seeding.

An additional 2% by weight of tackifier shall be added to the fiber mulch product selected from the approved product list. If the product selected has guar gum tackifier included, then the additional 2% of tackifier shall be guar gum. If the product selected has synthetic tackifier included, then the additional 2% of tackifier shall be synthetic.

Fiber mulch shall be applied at the rate of 2000 pounds per acre.

The Contractor shall allow the fiber mulch to cure a minimum of 18 hours prior to watering or any storm event to ensure proper cohesion between the soil and fiber particles.

All costs associated with this work and for the additional tackifier added to the fiber mulch including labor, equipment, and materials shall be incidental to the contract unit price per lum sum for "Erosion Control".

The fiber mulch provided shall be from the approved product list. The approved product list for fiber mulch may be viewed at the following internet site:

<http://sddot.com/business/certification/products/Default.aspx>

**MAINTENANCE OF TRAFFIC**

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.

Unless otherwise stated in these plans, no work will be allowed during hours of darkness. Hours of darkness are defined, as ½ hour after sunset until ½ hour before sunrise.

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.

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 delineation, shall be the responsibility of the Contractor. Non-applicable signing 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 36 hours. The cost of removing or covering non-applicable signs shall be incidental to the contract lump sum price for, Traffic Control, Miscellaneous.

**MAINTENANCE OF TRAFFIC (CONTINUED)**

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.

The quantity of Signs paid for will be for the greatest number of installations per sign per PCN in place at any one time regardless of the number of set-ups on the project.

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

All materials and equipment shall be stored a minimum distance of 30' from the traveled way during nonworking hours.

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.

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.

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.

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 construction operations shall be conducted in the general direction of traffic movement.

If there is a discrepancy between the traffic control plans, standard plates, and the MUTCD – whichever is more stringent shall be used.

Temporary Road Markers shall be used for lane closure tapers or lane shift tapers and lane lines. Temporary Road Markers installed in accordance with the standard plates will not be measured for payment and shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous.

Drums are required in all lane closure tapers.

Traffic shall be maintained on the driving lanes. Use of the shoulder as a driving lane will not be permitted. Any damage to the shoulder due to rerouted traffic or Contractor's equipment shall be repaired at no expense to the State.

**MAINTENANCE OF TRAFFIC (CONTINUED)**

Traffic control lane closures shall be removed at the end of each working day.

The Contractor shall coordinate the traffic control on this project with any traffic control that might be in place adjacent to this project.

**TABLE OF TRAFFIC CONTROL**

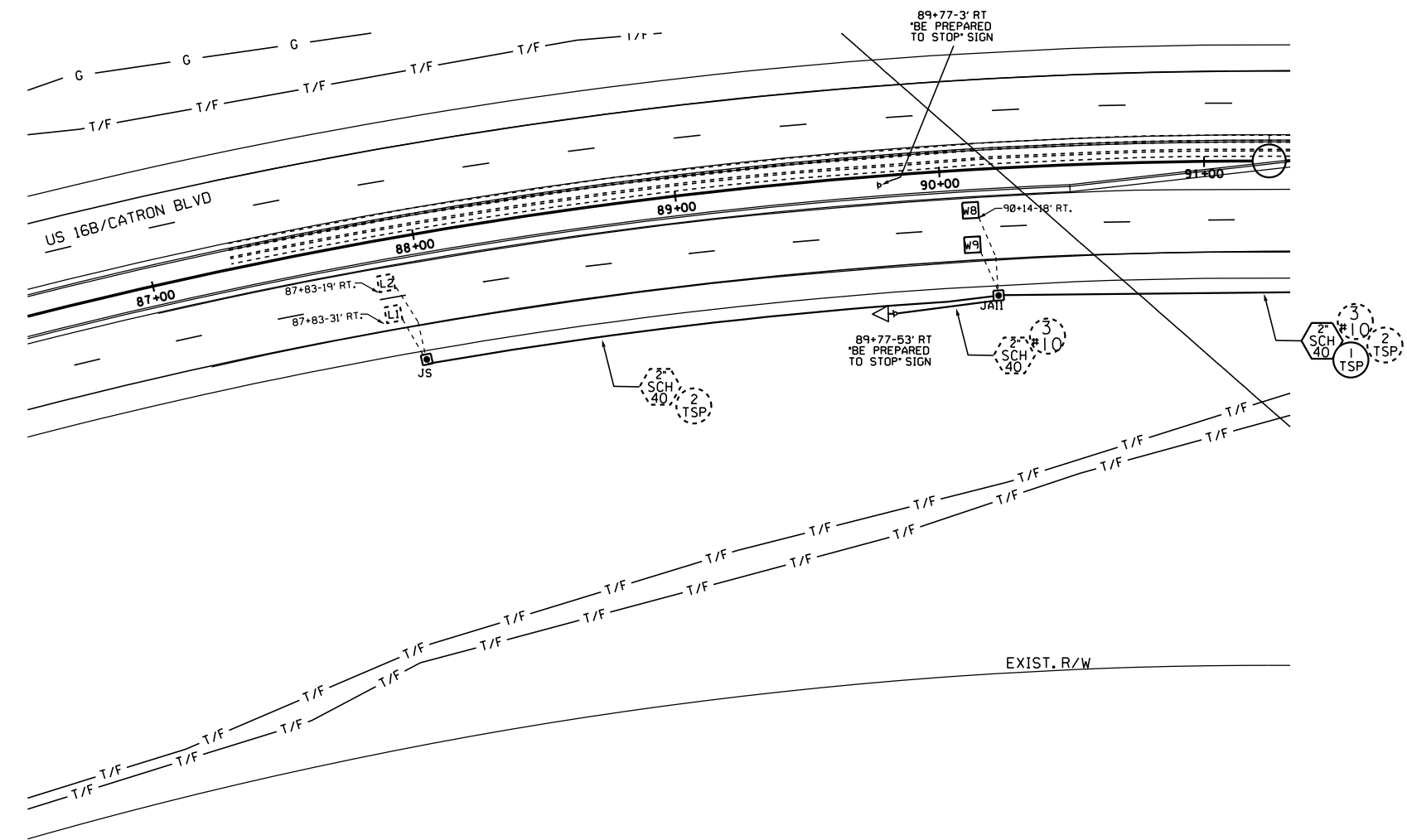
SIGN CODE	SIGN SIZE	DESCRIPTION	#	UNITS PER SIGN	UNITS
G20-2	36" x 18"	END ROAD WORK	2	17	34
W4-2	48" x 48"	LEFT OR RIGHT LANE ENDS (SYMBOL)	2	34	68
W20-1	48" x 48"	ROAD WORK AHEAD	3	34	102
W20-5	48" x 48"	LT. OR RT. LANE CLOSED AHEAD	2	34	68
W20-7a	48" x 48"	FLAGGER	2	34	68
W21-5	48" x 48"	SHOULDER WORK	2	34	68
<b>TOTAL UNITS</b>				<b>408</b>	

Plotting Date: 05/09/2013

# CONDUIT LAYOUT

## US 16B/CATRON BLVD

ESTIMATE OF QUANTITIES			
KEY	ITEM	EST. QUANT	UNIT
☐	TYPE 2 ELECTRICAL JUNCTION BOX (JS)	1	EACH
◁	1 SECTION VEHICLE SIGNAL HEAD	1	EACH
⋮	SAWED-IN DETECTOR LOOP (L1 & L2)	2	EACH
	DETECTOR UNIT	2	EACH
SCH 40	2" RIGID CONDUIT, SCHEDULE 40	275	FT
#10	1/2" #10 AWG COPPER WIRE	2985	FT
TSP	#16 AWG COPPER TWISTED SHIELDED PAIR	2480	FT



Plotted From: - trpr14419 Plot Scale: - 1"=60'



Plotting Date: 04/25/2013

# CONDUIT LAYOUT

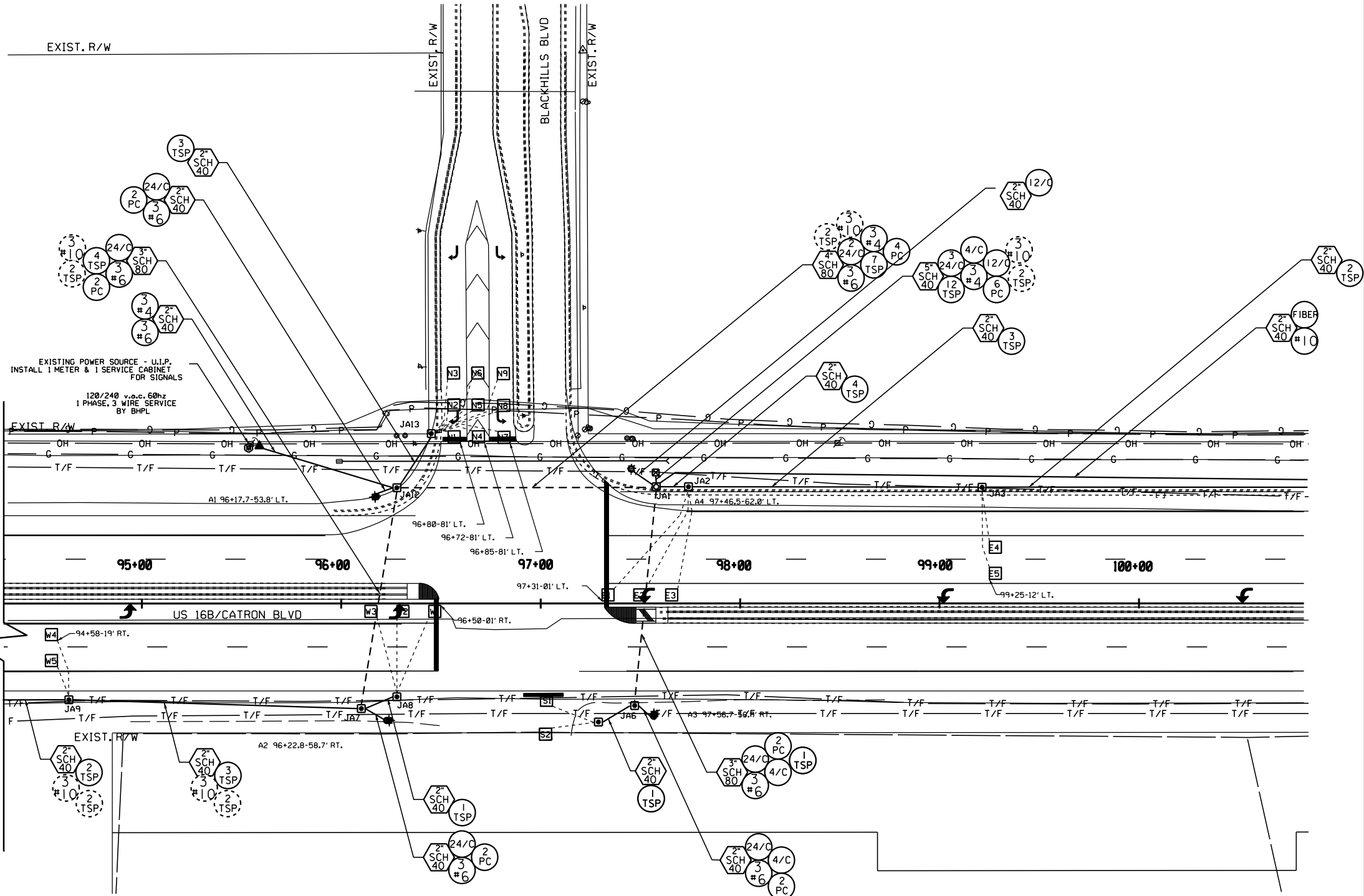
## US 16B/CATRON BLVD @ BLACK HILLS BLVD



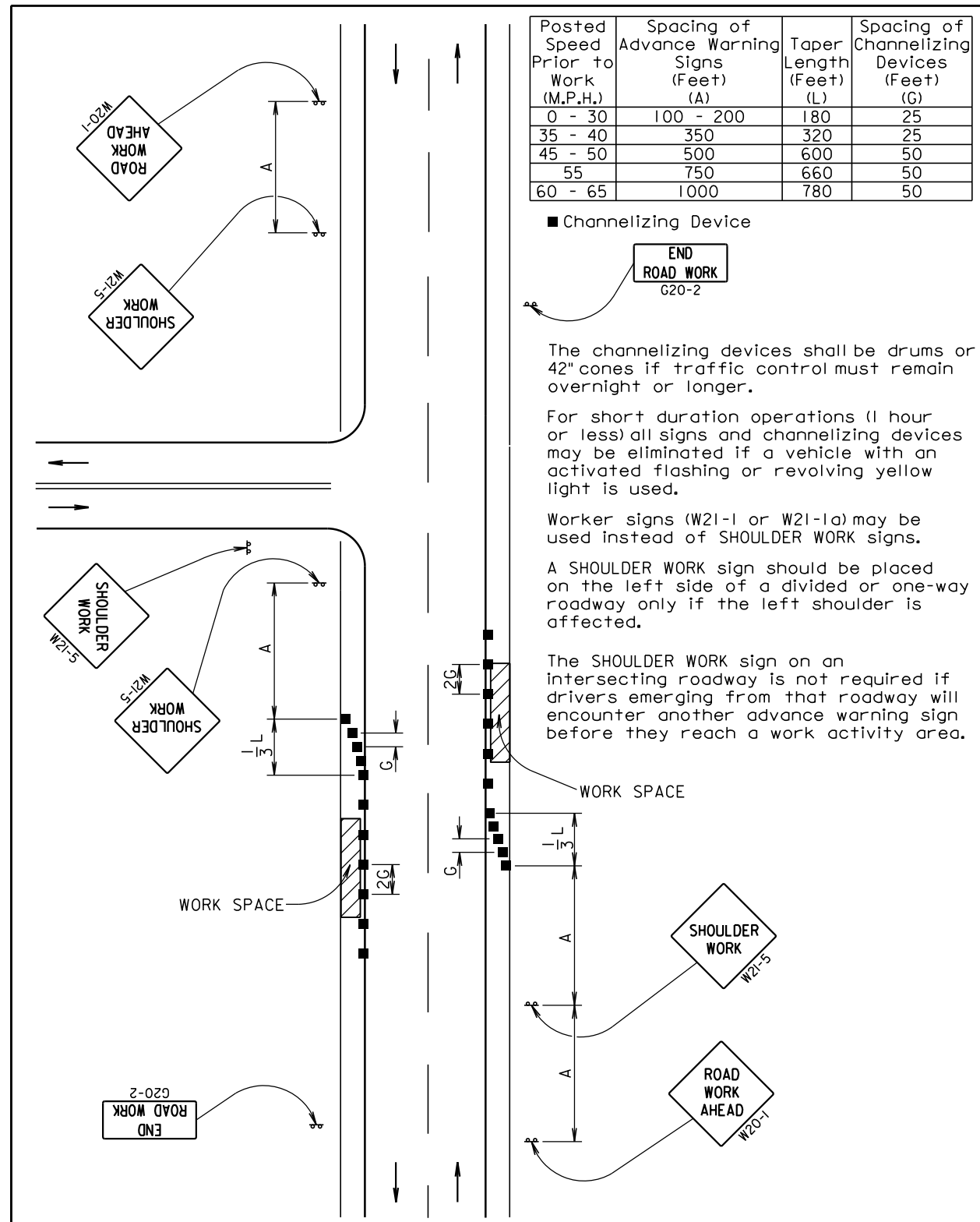
EXISTING ITEMS	
KEY	ITEM
○	2" DIAMETER FOOTING (A4)
○	3" DIAMETER FOOTING (A1-A3)
⊠	TYPE 3 ELECTRICAL JUNCTION BOX (JA2-JA13, JF1-JF3)
⊠	TYPE 4 ELECTRICAL JUNCTION BOX (JA1)
▲	ELECTRICAL SERVICE CABINET
⊠	TRAFFIC SIGNAL CONTROLLER
⊙	METER SOCKET (NOT A BID ITEM)
□	SAWED-IN DETECTOR LOOP (N1-N9, E1-E9, W1-W9, S1, S2)
	DETECTOR UNIT
⬡ <sup>2"</sup> SCH 40	2" RIGID CONDUIT, SCHEDULE 40
⬡ <sup>5"</sup> SCH 40	5" RIGID CONDUIT, SCHEDULE 40
⬡ <sup>3"</sup> SCH 80	3" RIGID CONDUIT, SCHEDULE 80
⬡ <sup>4"</sup> SCH 80	4" RIGID CONDUIT, SCHEDULE 80
⊙ <sup>#4</sup>	1/C #4 AWG COPPER WIRE
⊙ <sup>#6</sup>	1/C #6 AWG COPPER WIRE
⊙ <sup>#10</sup>	1/C #10 AWG COPPER WIRE
⊙ <sup>4/C</sup>	4/C #14 AWG COPPER TRAY CABLE, K2
	7/C #14 AWG COPPER TRAY CABLE, K2
⊙ <sup>12/C</sup>	12/C #14 AWG COPPER TRAY CABLE, K2
⊙ <sup>24/C</sup>	24/C #14 AWG COPPER TRAY CABLE, K2
⊙ <sup>TSP</sup>	#16 AWG COPPER TWISTED SHIELDED PAIR
⊙ <sup>2/C</sup>	#10 AWG COPPER POLE & BRACKET CABLE
⊙ <sup>FIBER</sup>	48 STRAND FIBER OPTIC CABLE
⊙ <sup>PC</sup>	PREEMPTION CABLE

Plot Scale - 1"=60'

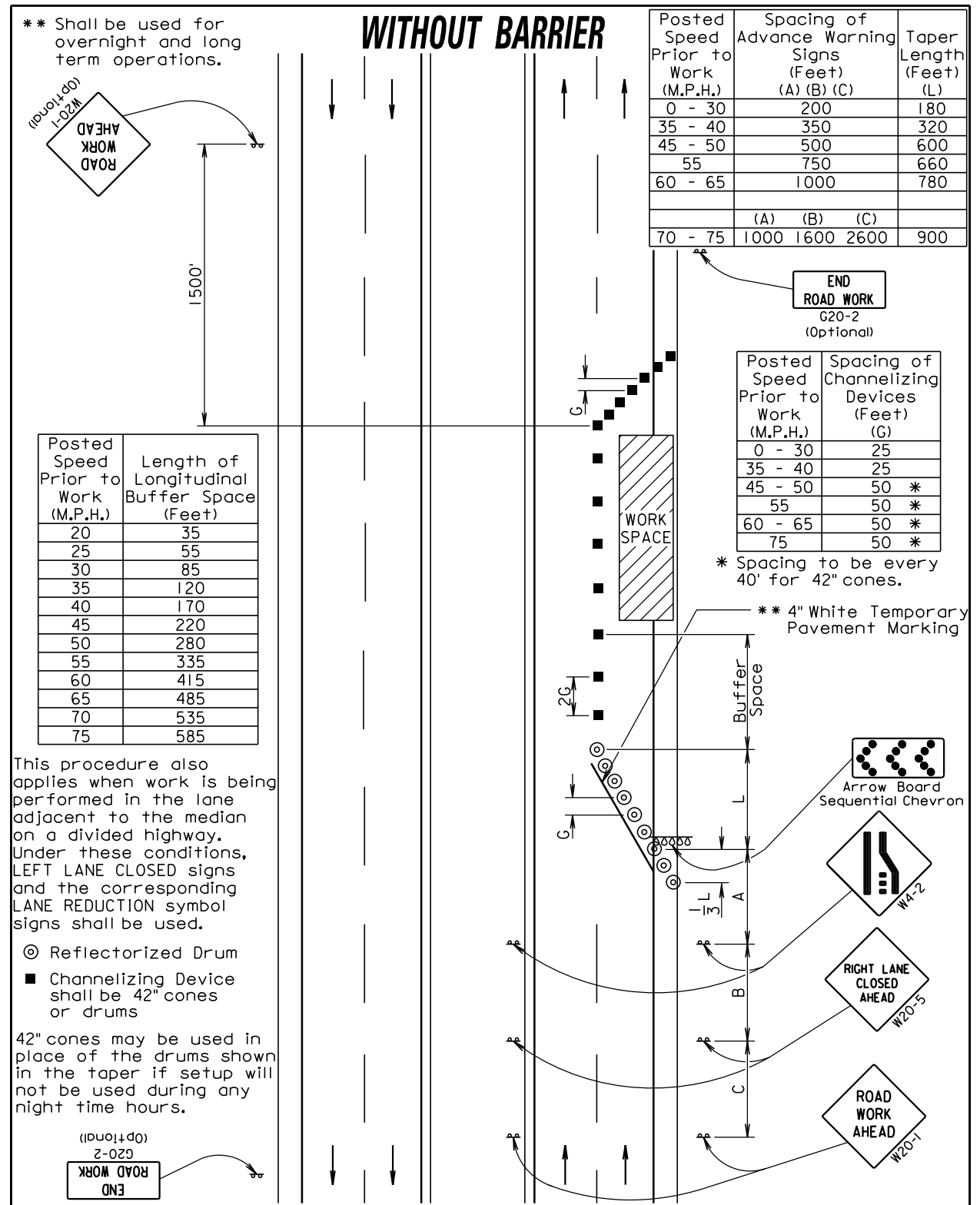
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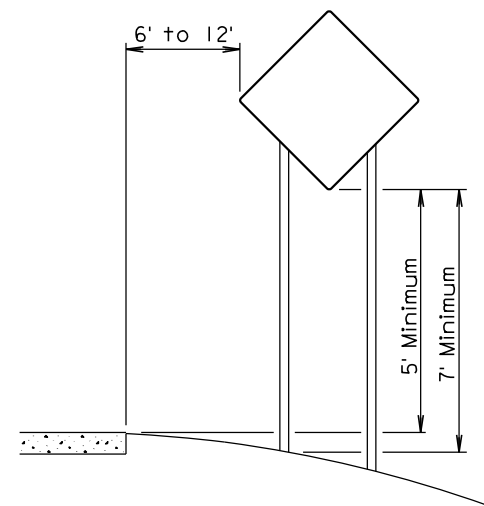
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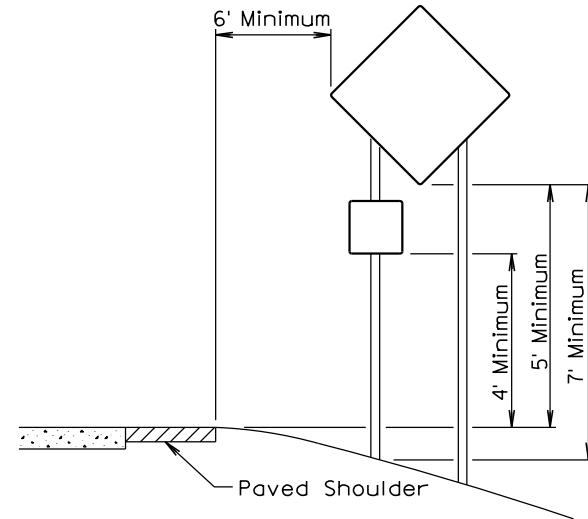
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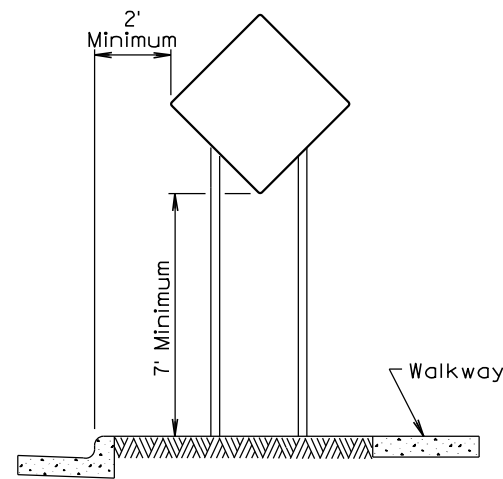
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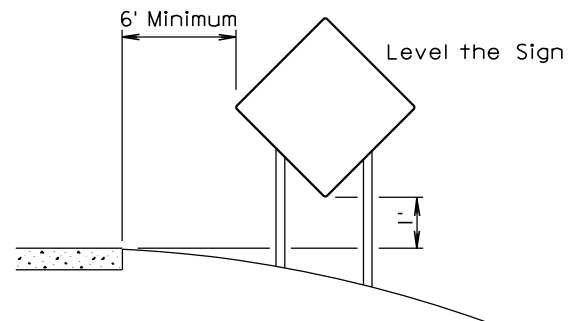
RURAL DISTRICT



RURAL DISTRICT WITH  
SUPPLEMENTAL PLATE



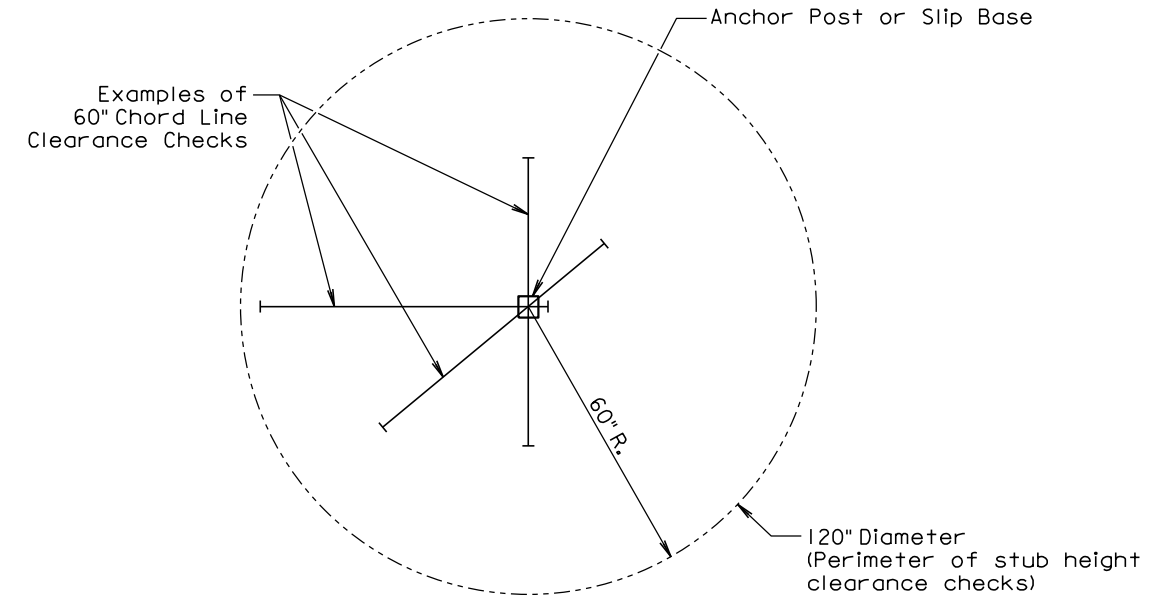
URBAN DISTRICT



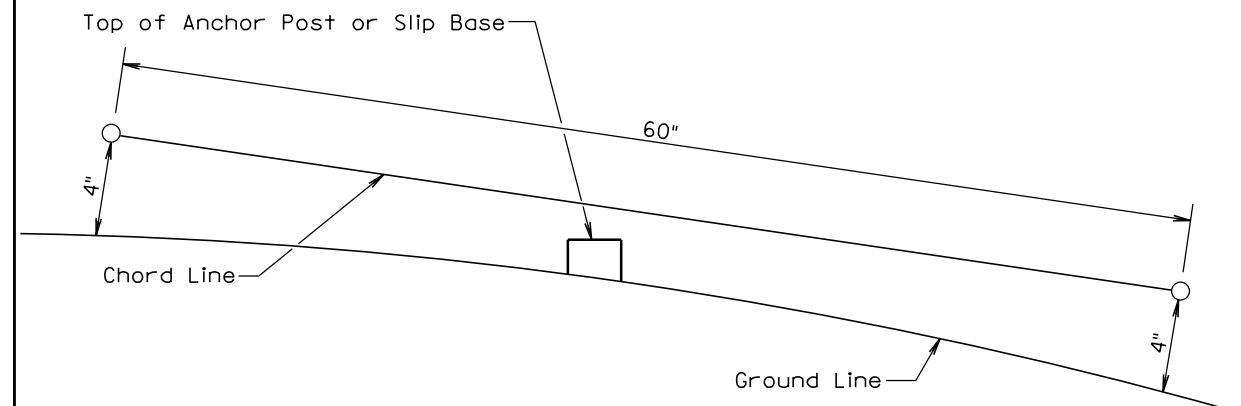
RURAL DISTRICT  
3 DAY MAXIMUM

February 14, 2011

Published Date: 1st Qtr. 2013	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.

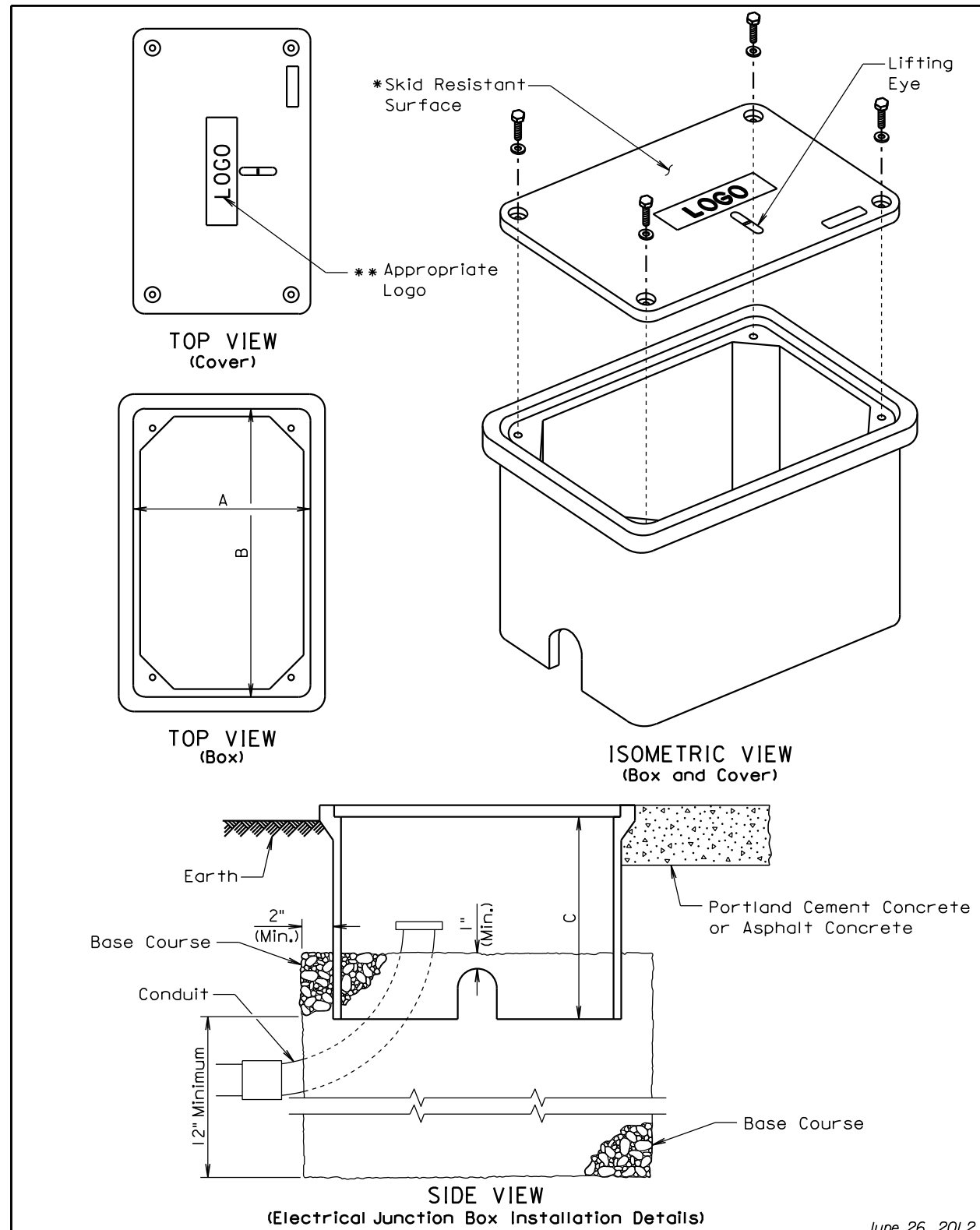
At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height shall be a maximum of 4" above the ground line at the localized area adjacent to the breakaway support stub.

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: 1st Qtr. 2013	S D D O T	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
			Sheet 1 of 1





June 26, 2012

**ELECTRICAL JUNCTION BOX**

TYPE	DESCRIPTION	DIMENSIONS		
		A	B	C
1	Open Bottom with Gasket	11"-15"	18"-21"	18" (Min.)
2	Open Bottom with Gasket	13"-18"	23"-28"	18" (Min.)
3	Open Bottom with Gasket	17"-22"	24"-30"	18" (Min.)
4	Open Bottom with Gasket	28"-33"	36"-48"	24" (Min.)

**GENERAL NOTES:**

The cover shall be gasketed with a minimum of two stainless steel bolts and washers.

The cover shall have a lifting eye.

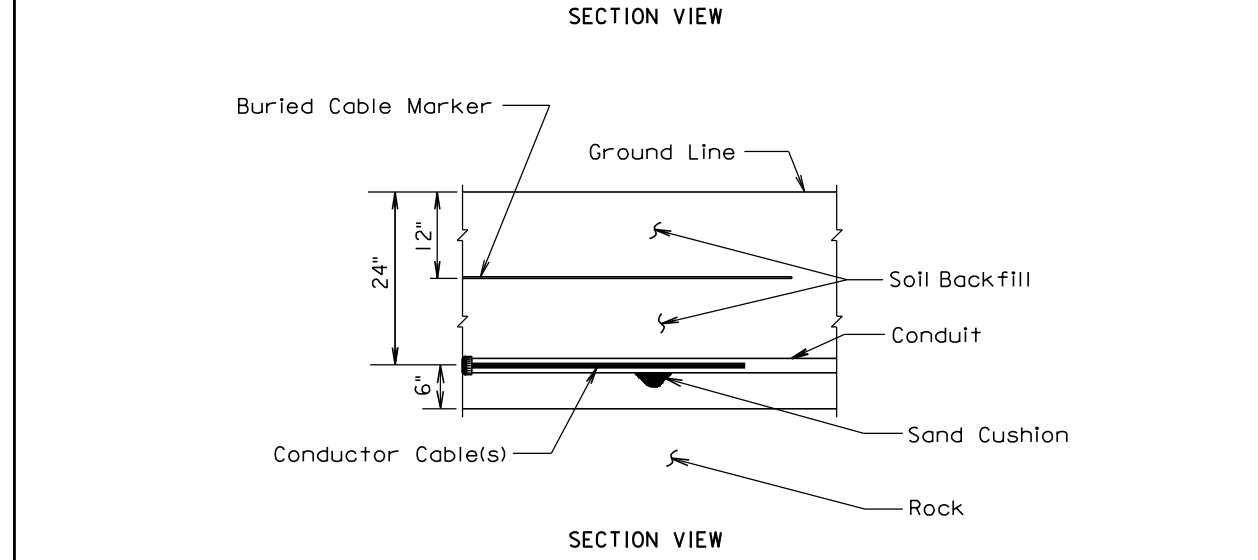
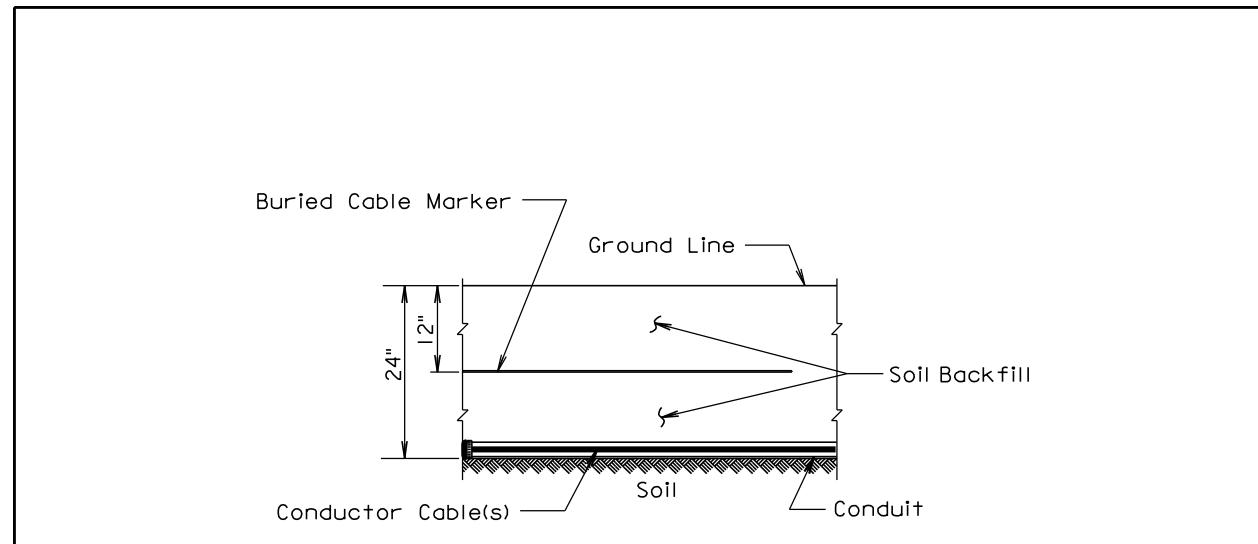
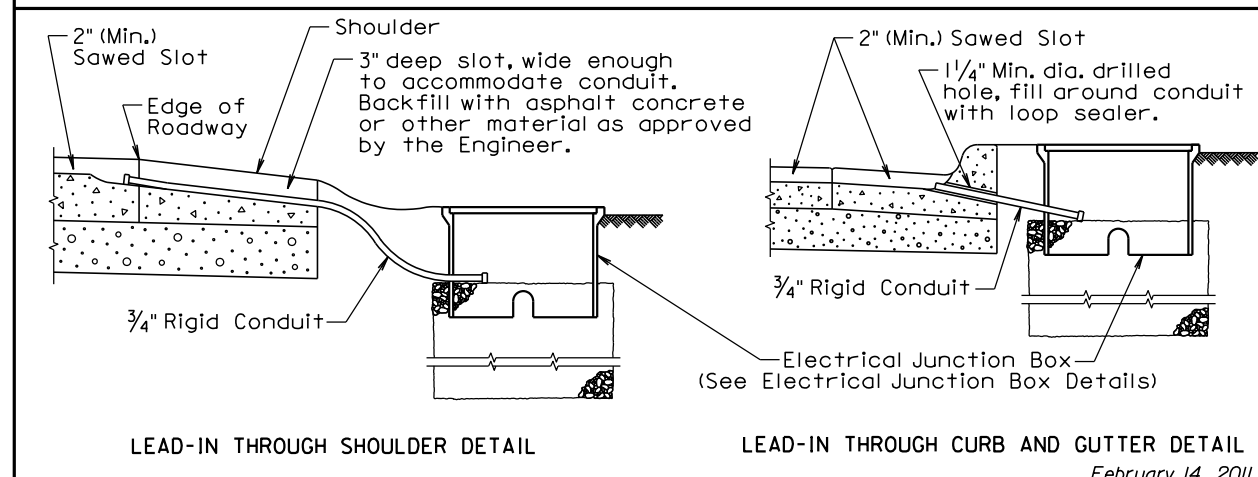
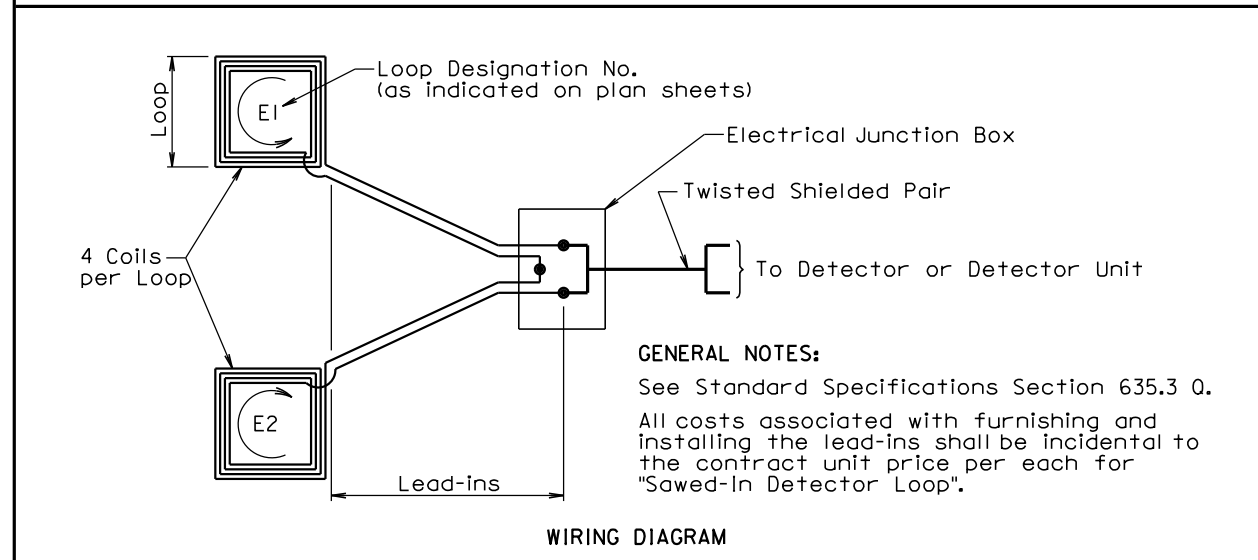
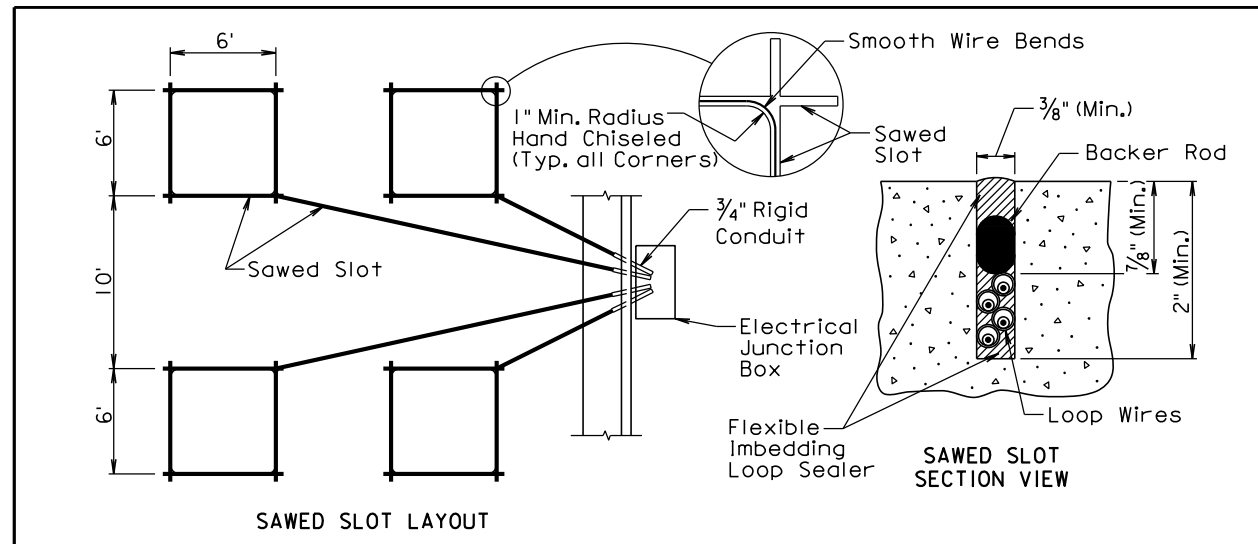
\*The surface of the cover shall have a minimum wet and dry coefficient of friction value of 0.5 as determined by ASTM F 609.

\*\*The cover of the junction box shall have the appropriate logo in one inch size letters and shall be recessed. When the junction box contains cables or wires for a traffic signal then the logo shall be "Signal". When the junction box contains lighting conductors then the logo shall be "Lighting".

The electrical junction boxes shall comply with the American National Standards Institute (ANSI)/Society of Cable Telecommunications Engineers (SCTE) 77 2007 Specification for Underground Enclosure Integrity. The loading requirement for all the electrical junction boxes shall be Tier 8 of ANSI/SCTE 77 2007.

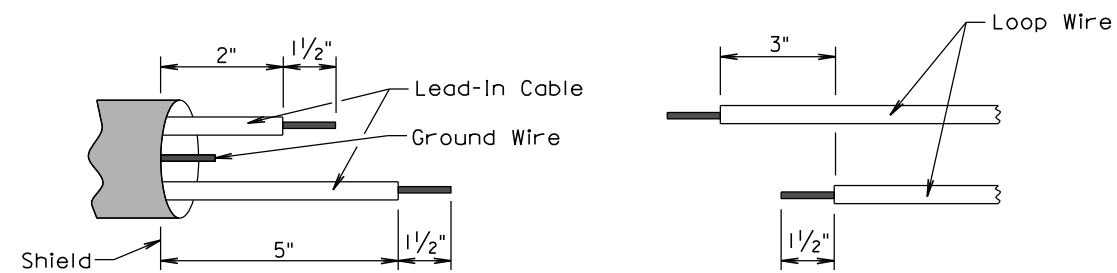
The electrical junction boxes shall be UL listed.

June 26, 2012



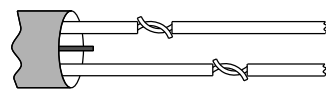
**GENERAL NOTE:**  
The Buried Cable Marker shall be plastic, approximately 6" wide, and shall be capable of sustaining a minimum of a 350% tolerance of elongation without tearing. The Buried Cable Marker shall have a life expectancy approximately equal to that of the conductor(s) beneath it. A phrase 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.

Step 1. Strip loop wires and lead-in cable.

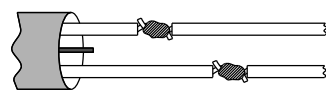


Step 2. Connect and solder.

Twist bare conductors together

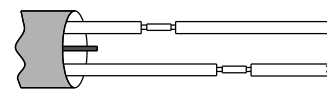


and solder with 60/40 (tin/lead) resin solder

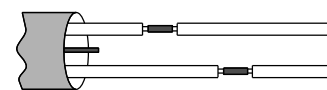


OR

Crimp bare conductors together with an uninsulated butt connector

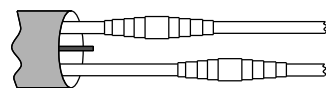


and solder with 60/40 (tin/lead) resin solder



Step 3. Insulate each solder joint separately.

Electrical Tape



OR

Shrink Tube



Step 4. Environmentally seal total splice against weather, moisture and abrasion. Methods for environmentally sealing the splice include heat-shrinkable tubing, special sealing kits, special forms to be filled by sealant, and tape and coating.



June 20, 2000

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**DETECTOR LOOP WIRE SPLICING**

PLATE NUMBER  
635.77

Sheet 1 of 1