

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED

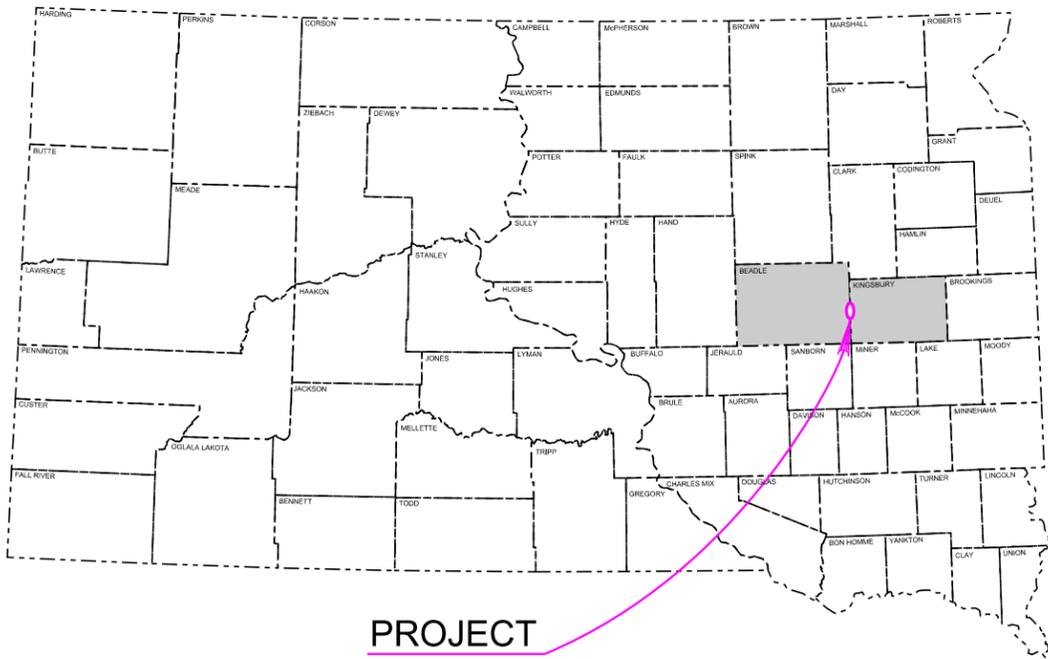
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0014(199)363	1	17

Plotting Date: 07/20/2016

PROJECT NH 0014(199)363
US HIGHWAY 14
BEADLE & KINGSBURY
COUNTIES
ROADWAY LIGHTING

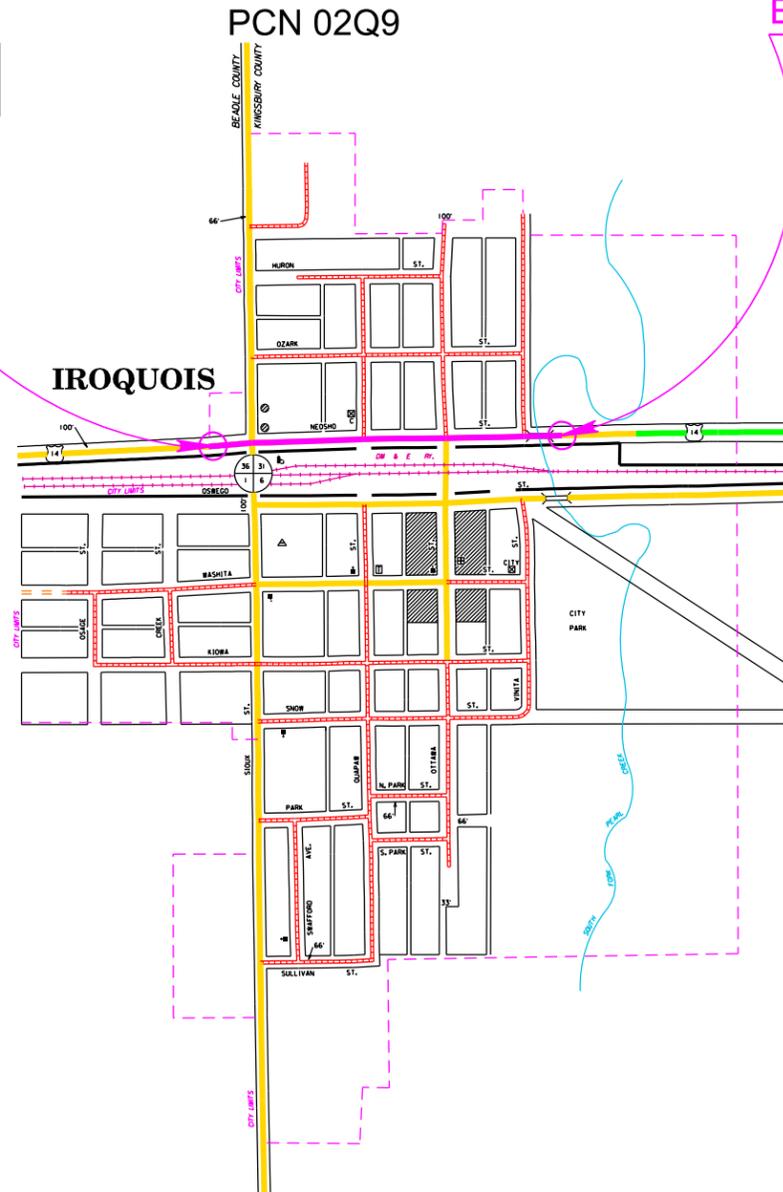
INDEX OF SHEETS

- 1 General Layout with Index
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BEGIN NH 0014(199)363
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END NH 0014(199)363
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DESIGN DESIGNATION

ADT (2015)	2086
ADT (2035)	3086
DHV	99.2
D	50%
T DHV	10.1%
T ADT	22.2%
V	45mph

STORM WATER PERMIT

None Required

SECTION L ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
250E0010	Incidental Work	Lump Sum	LS
634E0010	Flagging	40.0	Hour
634E0110	Traffic Control Signs	202.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0420	Type C Advance Warning Arrow Board	1	Each
635E0050	Breakaway Base Luminaire Pole with Arm, 50' Mounting Height	9	Each
635E3700	Roadway Luminaire, LED with Photoelectric Cell	9	Each
635E5020	2' Diameter Footing	72.0	Ft
635E5301	Type 1 Electrical Junction Box	5	Each
635E5400	Electrical Service Cabinet	1	Each
635E8120	2" Rigid Conduit, Schedule 40	1,760	Ft
635E8220	2" Rigid Conduit, Schedule 80	490	Ft
635E9016	1/C #6 AWG Copper Wire	7,000	Ft
635E9710	2/C #10 AWG Copper Pole and Bracket Cable	585	Ft

SPECIFICATIONS

Standard Specifications for Roads and Bridges, 2015 Edition and Required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.

ENVIRONMENTAL COMMITMENTS

An Environmental Commitment is a measure that SDDOT commits to implement in order to avoid, minimize, and/or mitigate a real or potential environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency mentioned below with permitting authority can influence a project if perceived environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor's primary contact regarding matters associated with these commitments will be the Project Engineer. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office. The environmental commitments associated with this project are as follows:

COMMITMENT B: FEDERALLY THREATENED, ENDANGERED, AND PROTECTED SPECIES

The Whooping Crane is a spring and fall migratory bird in South Dakota that is about 5 feet tall and typically stops on wetlands, rivers, and agricultural lands along their migration route. An adult Whooping Crane is white with a red crown and a long, dark, pointed bill. Immature Whooping Cranes are cinnamon brown. While in flight, their long necks are kept straight and their long dark legs trail behind. Adult Whooping Cranes' black wing tips are visible during flight.

Action Taken/Required:

COMMITMENT B2: WHOOPING CRANE

Harassment or other measures to cause the Whooping Crane to leave the site is a violation of the Endangered Species Act. If a Whooping Crane is sighted roosting in the vicinity of the project, borrow pit, or staging site associated with the project, cease construction activities in the affected area until the Whooping Crane departs and contact the Project Engineer. The Project Engineer will contact the Environmental Office so that the sighting can be reported to USFWS.

COMMITMENT E: STORM WATER

Construction activities constitute less than 1 acre of disturbance.

Action Taken/Required:

At a minimum and regardless of project size, appropriate erosion and sediment control measures must be installed to control the discharge of pollutants from the construction site.

COMMITMENT H: WASTE DISPOSAL SITE

The Contractor shall furnish a site(s) for the disposal of construction and/or demolition debris generated by this project.

Action Taken/Required:

Construction and/or demolition debris may not be disposed of within the Public ROW.

The waste disposal site(s) shall be managed and reclaimed in accordance with the following from the General Permit for Construction/Demolition Debris Disposal Under the South Dakota Waste Management Program issued by the Department of Environment and Natural Resources.

The waste disposal site(s) shall not be located in a wetland, within 200 feet of surface water, or in an area that adversely affects wildlife, recreation, aesthetic value of an area, or any threatened or endangered species, as approved by the Project Engineer.

If the waste disposal site(s) is located such that it is within view of any ROW, the following additional requirements shall apply:

- Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials shall be buried in a trench completely separate from wood debris. The final cover over the construction and/or demolition debris shall consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the Public ROW shall be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor shall control the access to waste disposal sites not within the Public ROW through the use of fences, gates, and placement of a sign or signs at the entrance to the site stating "No Dumping Allowed".
- Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period of time not to exceed the duration of the project. Prior to project completion, the waste shall be removed from view of the ROW or buried and the waste disposal site reclaimed as noted above.

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The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10.06.

Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-1.31.

All costs associated with furnishing waste disposal site(s), disposing of waste, maintaining control of access (fence, gates, and signs), and reclamation of the waste disposal site(s) shall be incidental to the various contract items.

COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historical Preservation Office (SHPO or THPO) for all work included within the project limits and all department designated sources and designated option material sources, stockpile sites, storage areas, and waste sites provided within the plans.

Action Taken/Required:

All earth disturbing activities not designated within the plans require review of cultural resources impacts. This work includes, but is not limited to: Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas.

The Contractor shall arrange and pay for a cultural resource survey and/or records search. The Contractor has the option to contact the state Archaeological Research Center (ARC) at 605-394-1936 or another qualified archaeologist, to obtain either a records search or a cultural resources survey. A record search might be sufficient for review; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor shall provide ARC with the following: a topographical map or aerial view on which the site is clearly outlined, site dimensions, project number, and PCN. If applicable, provide evidence that the site has been previously disturbed by farming, mining, or construction activities with a landowner statement that artifacts have not been found on the site.

The Contractor shall submit the records search or cultural resources survey report and if the location of the site is within the current geographical or historic boundaries of any South Dakota reservation to SDDOT Environmental Engineer, 700 East Broadway Avenue, Pierre, SD 57501-2586 (605-773-3180). SDDOT will submit the information to the appropriate SHPO/THPO. Allow **30 Days** from the date this information is submitted to the Environmental Engineer for SHPO/THPO review.

If evidence for cultural resources is uncovered during project construction activities, then such activities shall cease and the Project Engineer shall be immediately notified. The Project Engineer will contact the SDDOT Environmental Engineer in order to determine an appropriate course of action.

SHPO/THPO review does not relieve the Contractor of the responsibility for obtaining any additional permits and clearances for Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas that affect wetlands, threatened and endangered species, or waterways. The Contractor shall provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

Plot Scale - 1:200

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SUPPLYING AS BUILT PLANS

If the roadway lighting 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.

INCIDENTAL WORK

Incidental work includes, but is not limited to, the restoration of all disturbed areas to the satisfaction of the Engineer.

SHOP DRAWING AND CATALOG CUTS SUBMITTALS

The Contractor shall submit shop drawings and catalog cuts in accordance with Section 985 of the Specifications.

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

Norris.Leone@state.sd.us
Pete.Longman@state.sd.us

SUBSURFACE

During construction of the cylindrical footings, concrete placement operations should closely follow excavation procedures. The longer the excavations are left open the more likely caving may occur.

Concrete shall not be dropped through standing water. If water is present in the excavation it shall be removed prior to concrete placement or the concrete shall be tremied.

TABLE OF FOOTING DATA

Site Designation	Footing Diameter	* Footing Depth	**Spiral Diameter	**Spiral Length	Vertical Reinforcement
L1-L9	2' - 0"	8' - 0"	1' - 8"	54' - 9"	8-#7 x 7' - 6"

* Footing depth shall be below ground level.

** The size of all spirals shall be #3.

POLES

Luminaire poles L1-L9 shall have a 50 Ft. mounting height with 6 Ft. arm.

LUMINAIRES

The accepted design for the roadway luminaires shall provide 1.2 and greater average maintained foot-candles and a uniformity ratio (average maintained to minimum maintained foot-candles) of 3:1 and less using the following parameters:

Setback:	6 Ft.
Lamp Loss Factor (LLF):	0.8
Width of Lighted Area:	46 Ft.
Spacing:	450 Ft.
Configuration:	Staggered
Mounting Height:	50 Ft.
Lamp:	LED

The following luminaires meet the requirements for this design:

- a.) Cooper Lighting: NVA-AE-06-E-U-T2R, Short, Semi-Cutoff, Type II
- b.) AEL: ATB2-80LED10-R2, Medium, Semi-Cutoff, Type II.

WIRE SPLICING FOR LIGHTING

All lighting splices shall be made using TE Connectivity™ GTAP™ connectors, nsi Industries© Polaris Blue™ connectors, or approved equivalent.

SEQUENCE OF OPERATIONS

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

Traffic shall be maintained through the project at all times.

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

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

The Contractor shall maintain access on and off the highway for local residences, local businesses, and county roads.

PROJECT WORK HOURS

The Contractor may perform work on the roadway during daylight hours only, unless additional hours are approved by the Engineer. Traffic shall be returned to normal driving lanes during non-working hours.

TRAFFIC CONTROL

The Contractor shall keep businesses and residents informed of progression and prosecution of work in areas that have a direct effect on their access.

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

Channelizing devices for tapers shall be traffic control drums. Between tapers (dividing work zone and directions) channelizing devices shall be 42" cones to allow for better visibility.

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, delineation, and signing shall be the responsibility of the Contractor. Non-applicable signing and all traffic control device 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".

Traffic Control Signs, as shown in the Estimate of Quantities, are estimates. Contractor's operation may require adjustments in quantities, either more or less. Payment will be for those signs actually ordered by the Engineer and used.

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

ITEMIZED LIST FOR TRAFFIC CONTROL

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W4-2	LEFT or RIGHT LANE ENDS (symbol)	1	48" x 48"	16	16
W20-1	ROAD WORK AHEAD	8	48" x 48"	16	128
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	1	48" x 48"	16	16
W20-7	FLAGGER (symbol)	1	48" x 48"	16	16
W21-5	SHOULDER WORK	1	48" x 48"	16	16
G20-2	END ROAD WORK	2	36" x 18"	5	10
CONVENTIONAL ROAD					
TRAFFIC CONTROL SIGNS SQFT					202

ARROW BOARDS

ITEM DESCRIPTION	QUANTITY
Type C Advanced Warning Arrow Board	1 Each

TABLE OF CONDUIT AND CABLE QUANTITIES

Location to Location		Rigid Conduit		Copper Wire		Pole and Bracket Cable																			
		Schedule 40	Schedule 80																						
		2"	2"	1/C #6 AWG	2/C #10 AWG	2"	2"																		
Ft		Ft	Ft	Ft	Ft																				
LIGHTING																									
L1	JL1	150	90		745																				
JL1	L2		70		220																				
JL1	L3	230			715																				
L3	JL2	235			730																				
JL2	L4		70		220																				
JL2	L5	180	60		745																				
L5	JL3	15			50																				
JL3	SERVICE CABINET	50			155																				
JL3	JL4	225			700																				
JL4	L6		70		220																				
JL4	L7	175	60		730																				
L7	JL5	235			730																				
JL5	L8		70		220																				
JL5	L9	265			820																				
LUMINAIRE POLES																									
LUMINAIRE POLE	L1						65																		
LUMINAIRE POLE	L2						65																		
LUMINAIRE POLE	L3						65																		
LUMINAIRE POLE	L4						65																		
LUMINAIRE POLE	L5						65																		
LUMINAIRE POLE	L6						65																		
LUMINAIRE POLE	L7						65																		
LUMINAIRE POLE	L8						65																		
LUMINAIRE POLE	L9						65																		
Subtotal:		1,760	490		7,000		535																		
Total:		1,760	490		7,000		535																		

Plot Scale - 1:200

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LEGEND

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0014(199)363	5	17

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Plotted From - trp14286

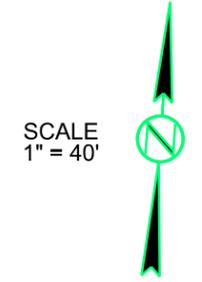
Anchor		Hedge		Shrub Tree		State and National Line	
Antenna		Highway R.O.W. Marker		Sidewalk		County Line	
Approach		Interstate Close Gate		Sign Face		Section Line	
Assumed Corner		Iron Pin		Sign Post		Quarter Line	
Azimuth Marker		Irrigation Ditch		Slough Or Marsh		Sixteenth Line	
BBQ Grill/ Fireplace		Lake Edge		Spring		Property Line	
Bearing Tree		Lawn Sprinkler		Stream Gauge		Construction Line	
Bench Mark		Mailbox		Street Marker		R. O. W. Line	
Box Culvert		Manhole Electric		Subsurface Utility Exploration Test Hole		New R. O. W. Line	
Bridge		Manhole Gas		Telephone Fiber Optics		Cut and Fill Limits	
Brush		Manhole Misc		Telephone Junction Box		Control of Access	
Buildings		Manhole Sanitary Sewer		Telephone Pole		New Control of Access	
Bulk Tank		Manhole Storm Sewer		Television Cable Jct Box		Proposed ROW	
Cattle Guard		Manhole Telephone		Television Tower			
Cemetery		Manhole Water		Test Wells/Bore Holes			
Centerline		Merry-Go-Round		Traffic Signal			
Cistern		Microwave Radio Tower		Trash Barrel		Drainage Arrow	
Clothes Line		Misc. Line		Tree Belt			
Commercial Sign Double Face		Misc. Property Corner		Tree Coniferous			
Commercial Sign One Post		Misc. Post		Tree Deciduous		Remove Concrete Pavement	
Commercial Sign Overhead		Overhang Or Encroachment		Tree Stumps		Remove Concrete Driveway Pavement	
Commercial Sign Two Post		Overhead Utility Line		Triangulation Station		Remove Asphalt Concrete Pavement	
Concrete Symbol		Parking Meter		Underground Electric Line		Remove Concrete Sidewalk	
Creek Edge		Pipe With End Section		Underground Gas Line		Remove Concrete Approach Pavement	
Curb/Gutter		Pipe With Headwall		Underground High Pressure Gas Line		Remove Concrete Median Pavement	
Curb		Pipe Without End Section		Underground Sanitary Sewer		Remove Concrete Curb	
Dam Grade/Dike/Levee		Playground Slide		Underground Storm Sewer		Remove Concrete Curb and Gutter	
Deck Edge		Playground Swing		Underground Tank		Remove Concrete Gutter	
Ditch Block		Power And Light Pole		Underground Telephone Line			
Doorway Threshold		Power And Telephone Pole		Underground Television Cable			
Drainage Profile		Power Meter		Underground Water Line			
Drop Inlet		Power Pole		Warning Sign One Post			
Edge Of Asphalt		Power Pole And Transformer		Warning Sign Two Post			
Edge Of Concrete		Power Tower Structure		Water Fountain			
Edge Of Gravel		Propane Tank		Water Hydrant			
Edge Of Other		Property Pipe		Water Meter			
Edge Of Shoulder		Property Pipe With Cap		Water Tower			
Elec. Trans./Power Jct. Box		Property Stone		Water Valve			
Environmental Sensitive Site		Public Telephone		Water Well			
Fence Barbwire		Railroad Crossing Signal		Weir Rock			
Fence Chainlink		Railroad Milepost Marker		Windmill			
Fence Electric		Railroad Profile		Wingwall			
Fence Misc.		Railroad R.O.W. Marker		Witness Corner			
Fence Rock		Railroad Signs					
Fence Snow		Railroad Switch					
Fence Wood		Railroad Track					
Fence Woven		Railroad Trestle					
Fire Hydrant		Rebar					
Flag Pole		Rebar With Cap					
Flower Bed		Reference Mark					
Gas Valve Or Meter		Regulatory Sign One Post					
Gas Pump Island		Regulatory Sign Two Post					
Grain Bin		Retaining Wall					
Guardrail		Riprap					
Guide Sign One Post		River Edge					
Guide Sign Two Post		Rock And Wire Baskets					
Gutter		Rockpiles					
Guy Pole		Satellite Dish					
Haystack		Septic Tank					
						Detectable Warning	
						Pedestrian Push Button Pole	
						and 30" x 48" Clear Space	
						with 1.5% slope	

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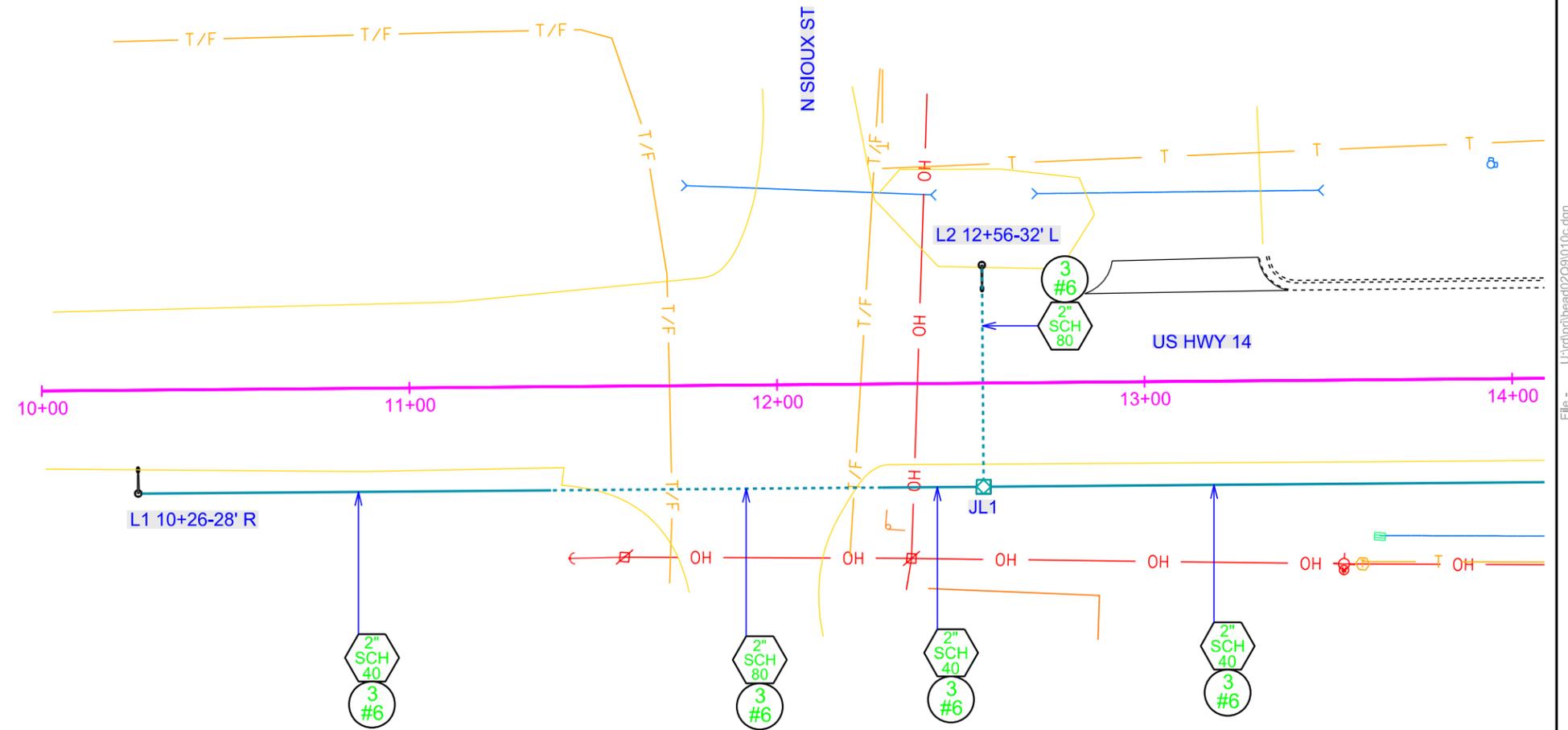
CONDUIT LAYOUT US HWY 14

STATE OF SOUTH DAKOTA	PROJECT NH 0014(199)363	SHEET 6	TOTAL SHEETS 17
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Plotting Date: 07/20/2016



ESTIMATE OF QUANTITIES			
KEY	ITEM	EST QUANT	UNIT
	Breakaway Base Luminaire Pole w/6' Arm 50' MT HT(L1-L9)	9	EACH
	Roadway Luminaire, LED with P.E. (L1-L9)	9	EACH
	2' Diameter Footing (L1-L9)	72	FT
	Type 1 Electrical Junction Box (JL1-JL5)	5	EACH
	Electrical Service Cabinet	1	EACH
	Meter Socket Not a Bid Item	1	EACH
	2" Rigid Conduit, Schedule 40	1,760	FT
	2" Rigid Conduit, Schedule 80	490	FT
	1/2 #6 AWG Copper Wire	7,000	FT
	2/C #10 AWG Copper Pole & Bracket Cable	585	FT



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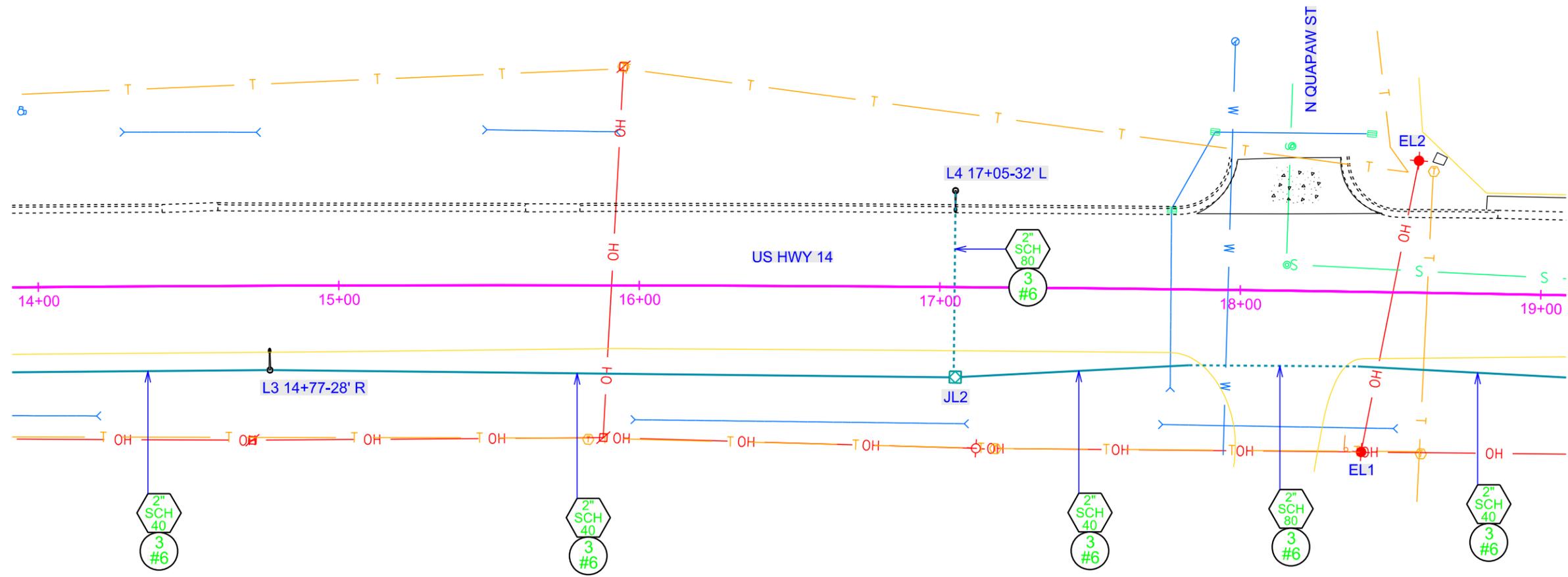
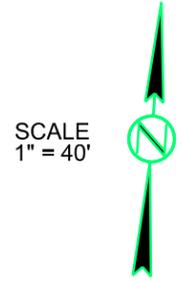
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CONDUIT LAYOUT

US HWY 14

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Plot Scale - 1"=40'

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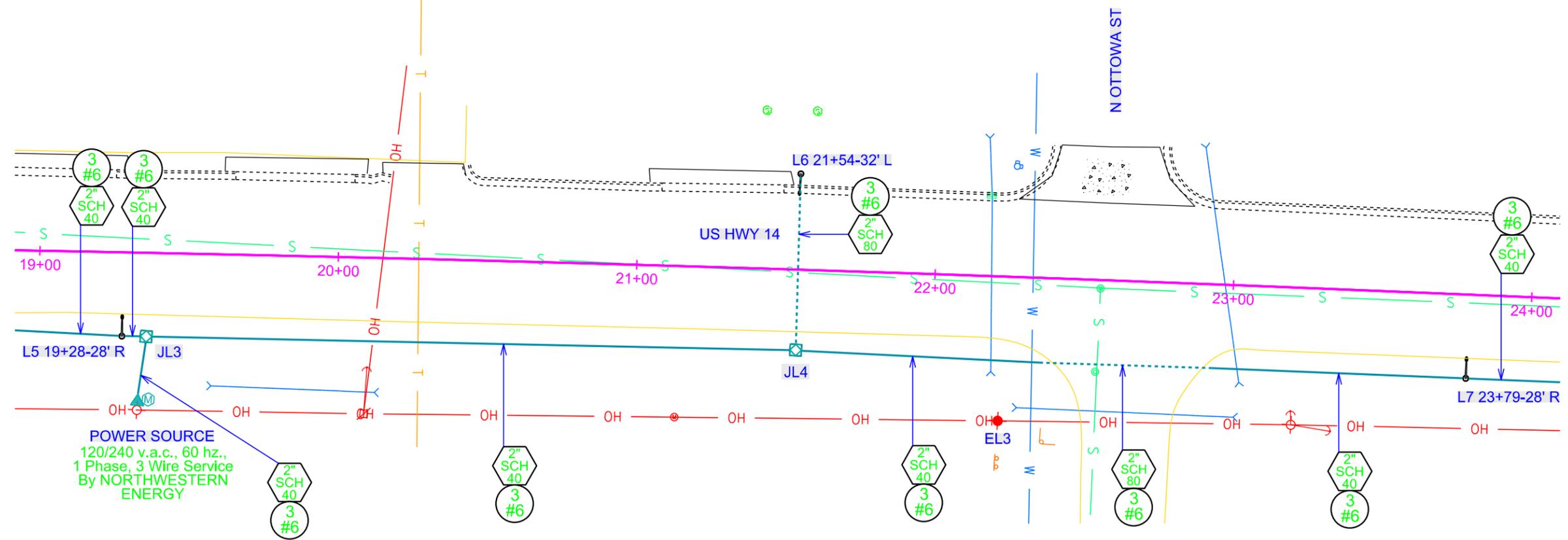
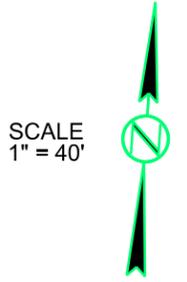
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CONDUIT LAYOUT

US HWY 14

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	NH 0014(199)363	8	17

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Plot Scale - 1"=40'

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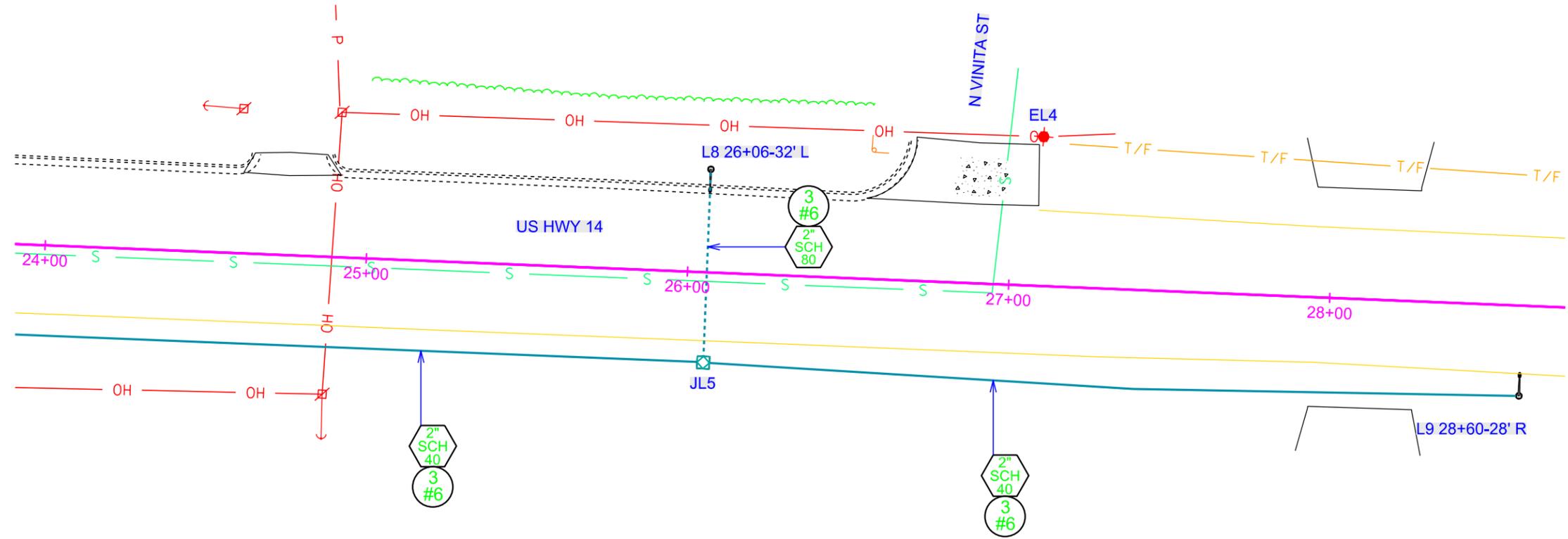
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CONDUIT LAYOUT US HWY 14

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SCALE
1" = 40'



Plot Scale - 1:40

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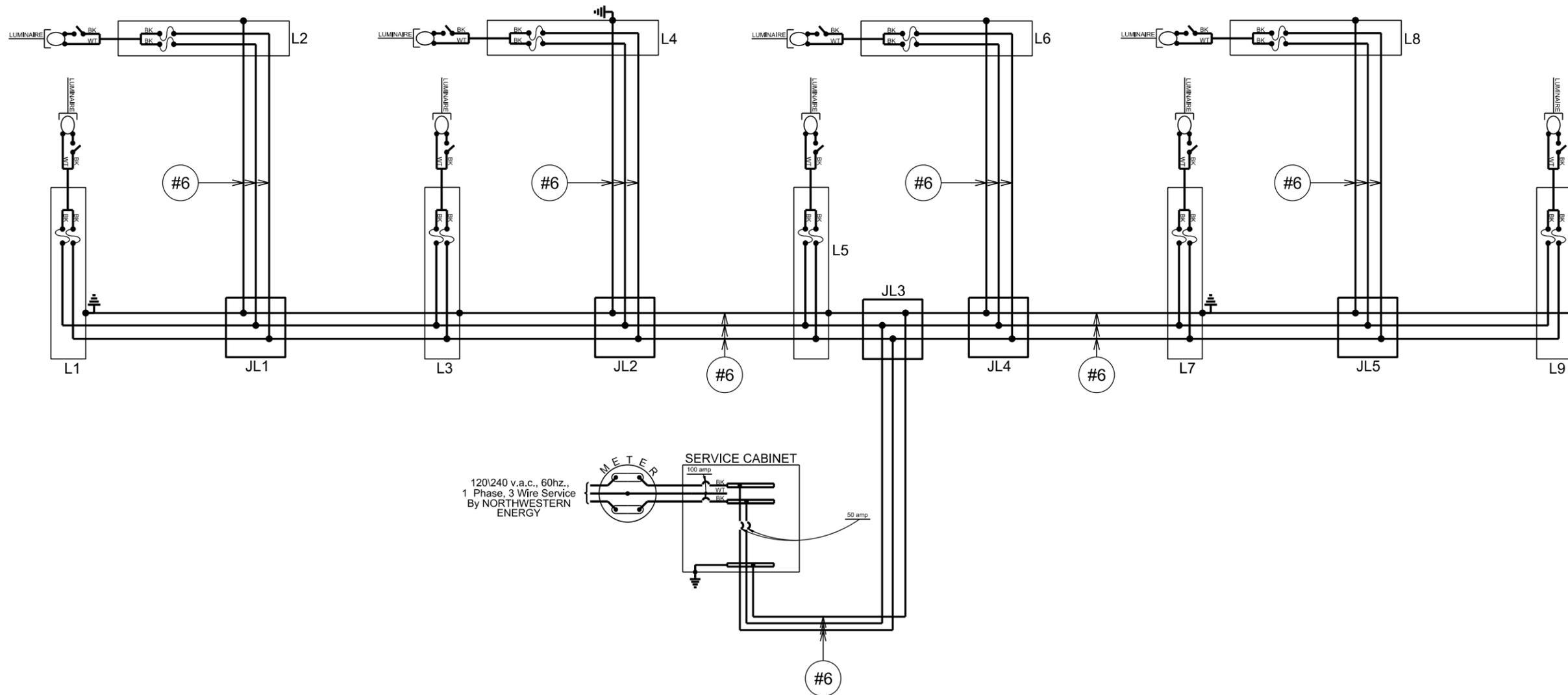
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WIRING DIAGRAM US HWY 14

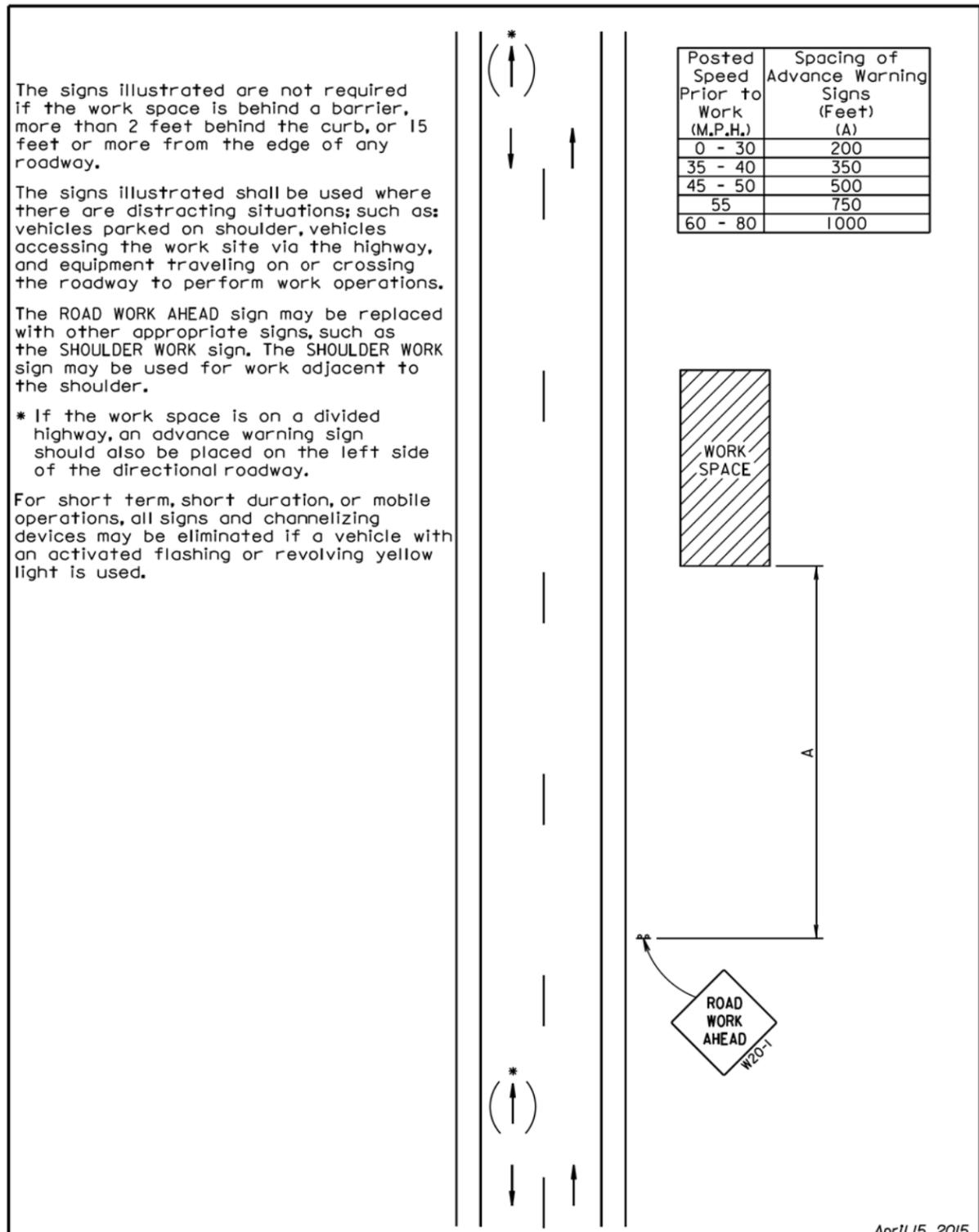
STATE OF SOUTH DAKOTA	PROJECT NH 0014(199)363	SHEET 10	TOTAL SHEETS 17
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NOTE:
All circuits shall be bonded in accordance with the NATIONAL ELECTRICAL CODE. Quantities for bonding conductors are not included in these plans.

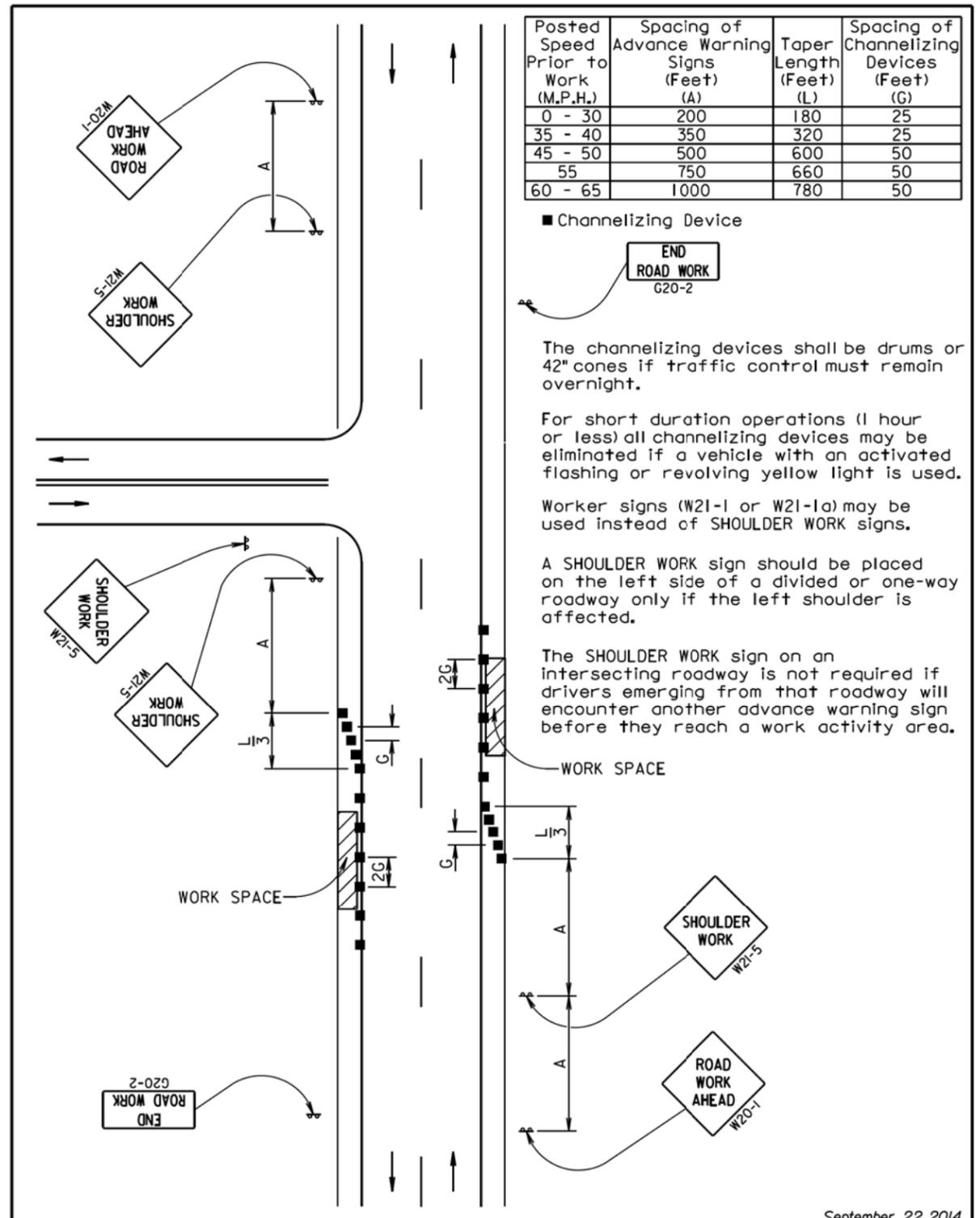


LEGEND:
 FUSE: 4 amp. Non-Time Delay or 1 8/10 amp. Dual Element
 LUMINAIRE: LED



April 15, 2015

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



September 22, 2014

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

Plot Scale - 1:200

- Plotted From - tpr14286

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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 is 40' for 42" cones.

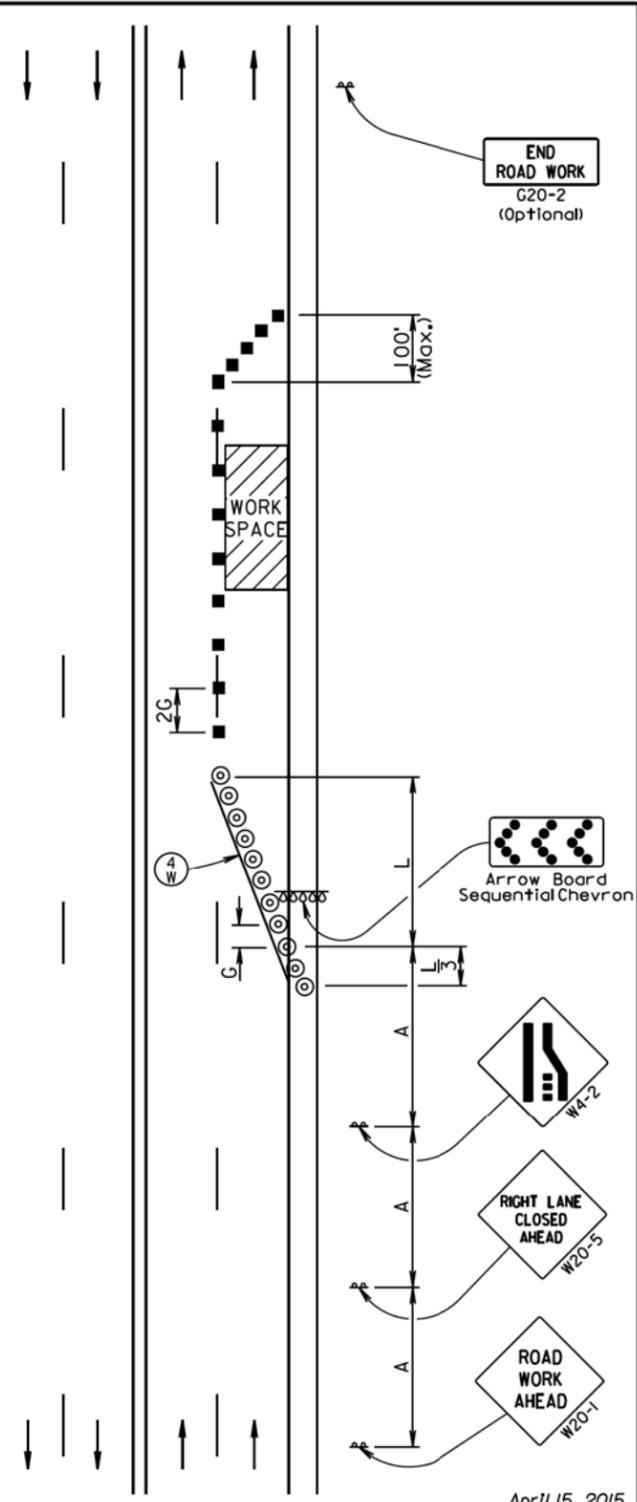
- ⊙ Reflectorized Drum
- Channelizing Device
- ④ 4" White Temporary Pavement Marking

The channelizing devices shall be 42" cones or drums.

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

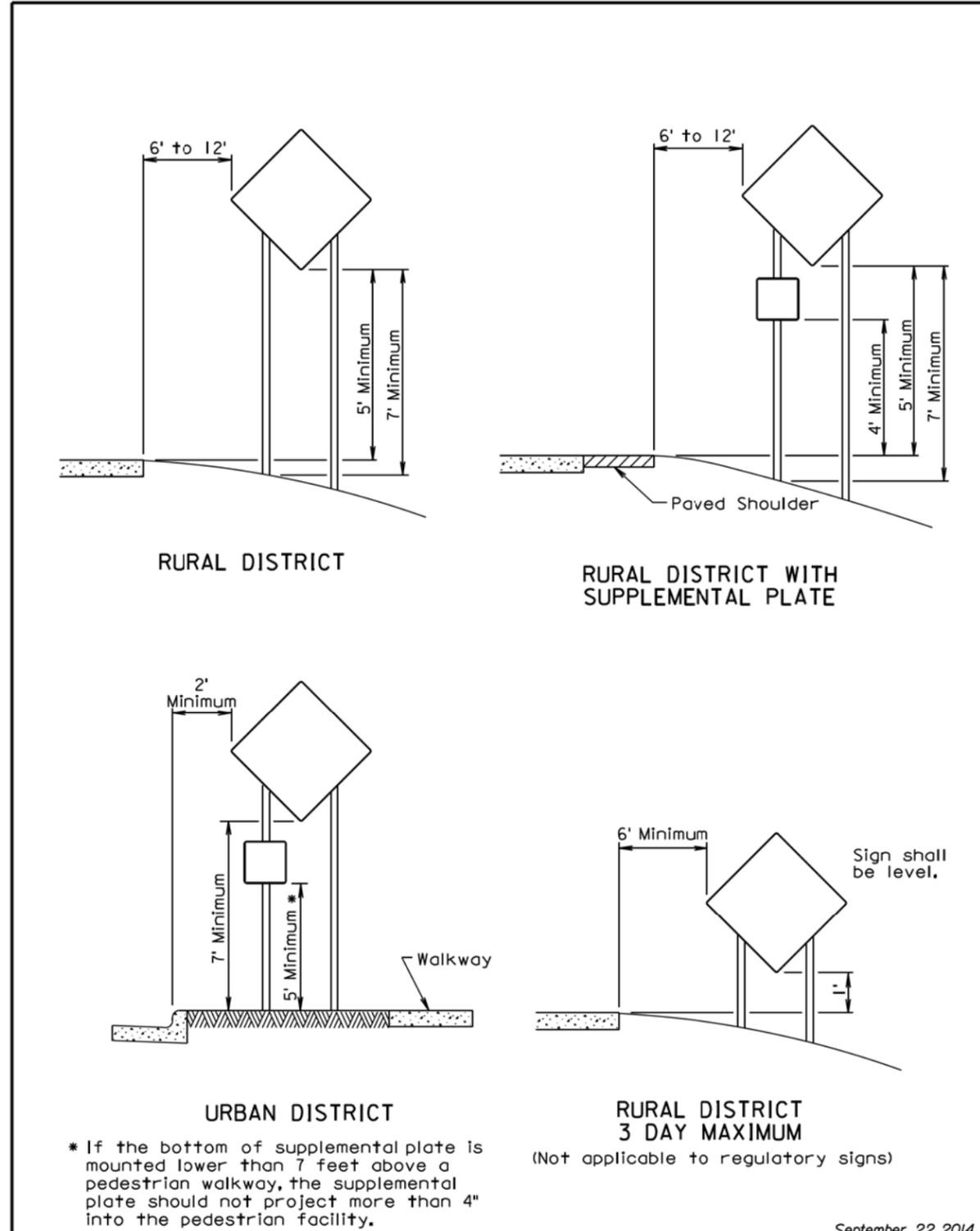
Temporary pavement markings shall be used if traffic control must remain overnight.

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



April 15, 2015

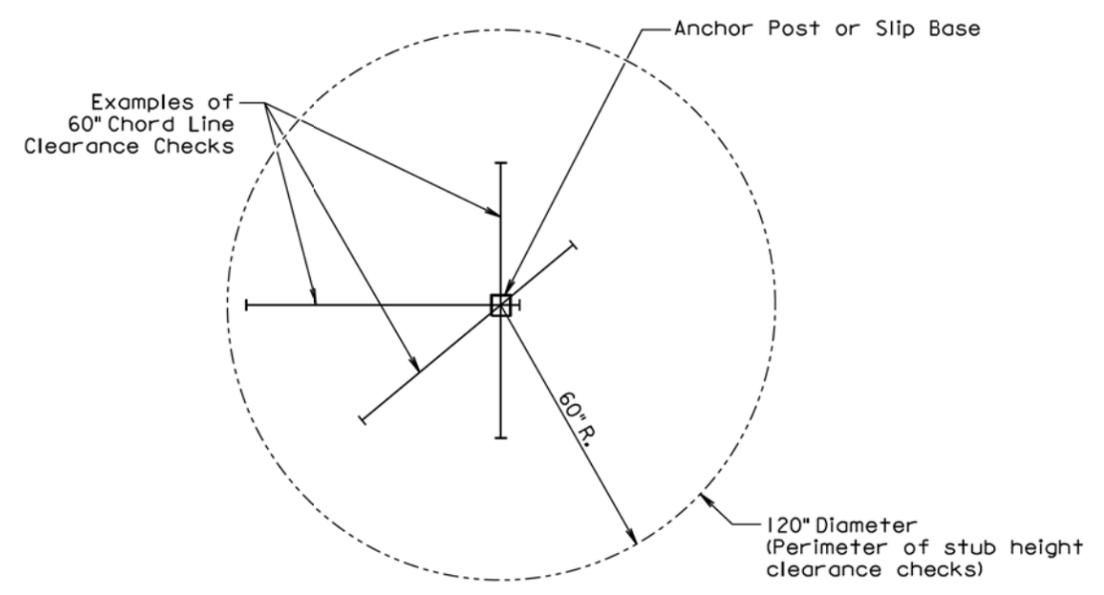
S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES 4-LANE UNDIVIDED, RIGHT LANE CLOSED	PLATE NUMBER 634.47
	Published Date: 2nd Qtr. 2016	Sheet 1 of 1



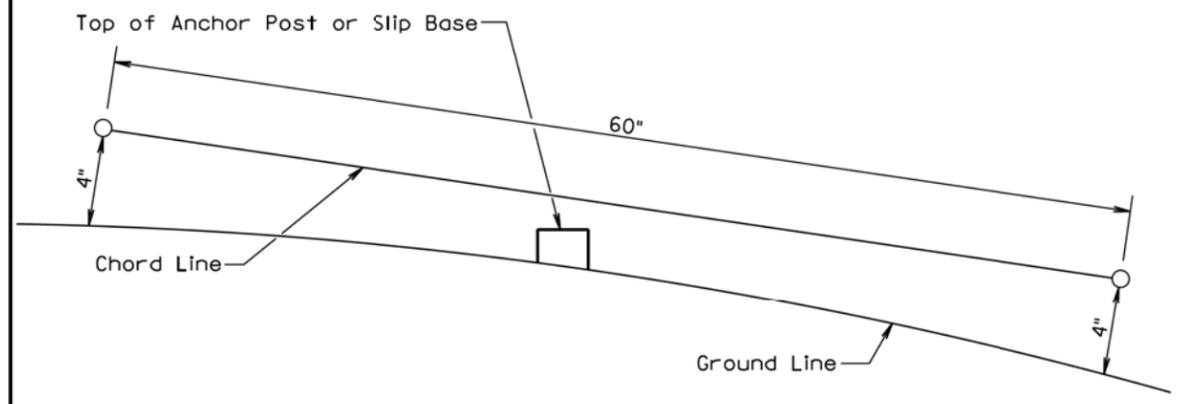
* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

September 22, 2014

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

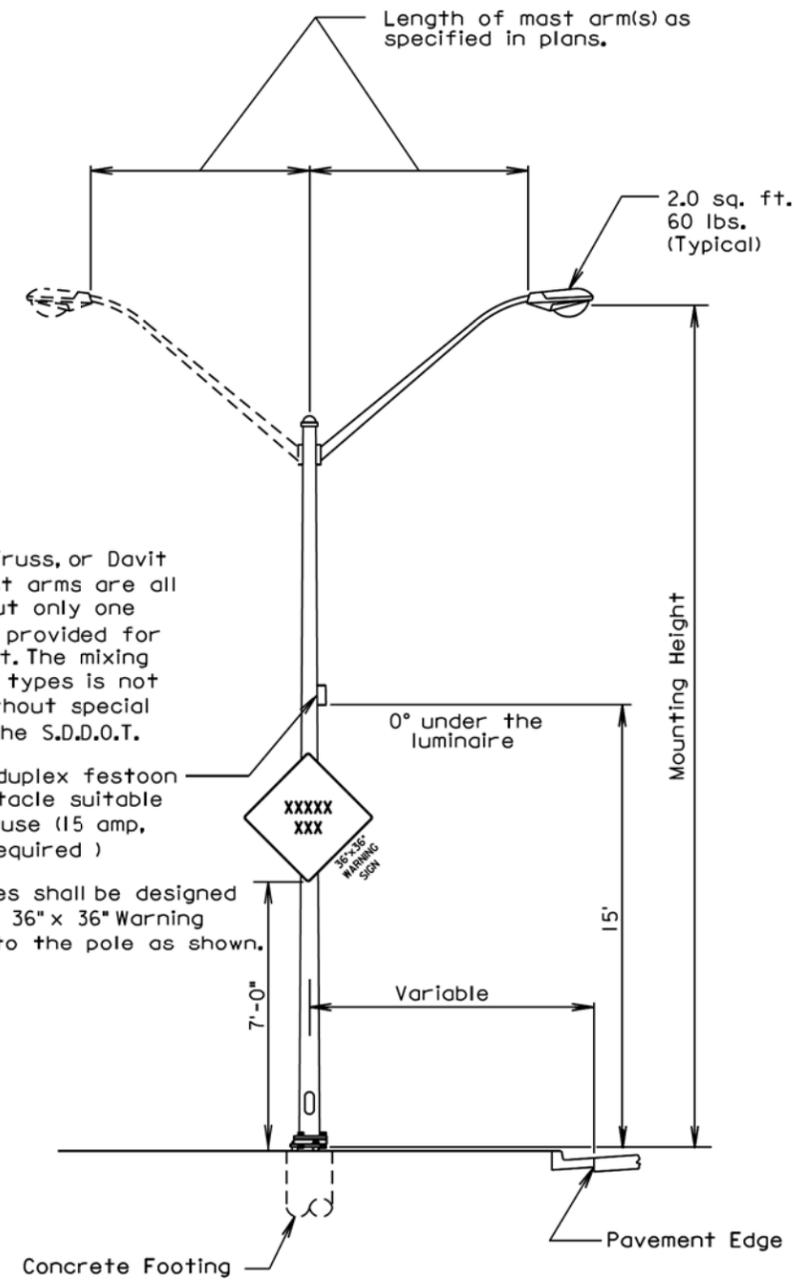
July 1, 2005

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

Plot Scale - 1:200

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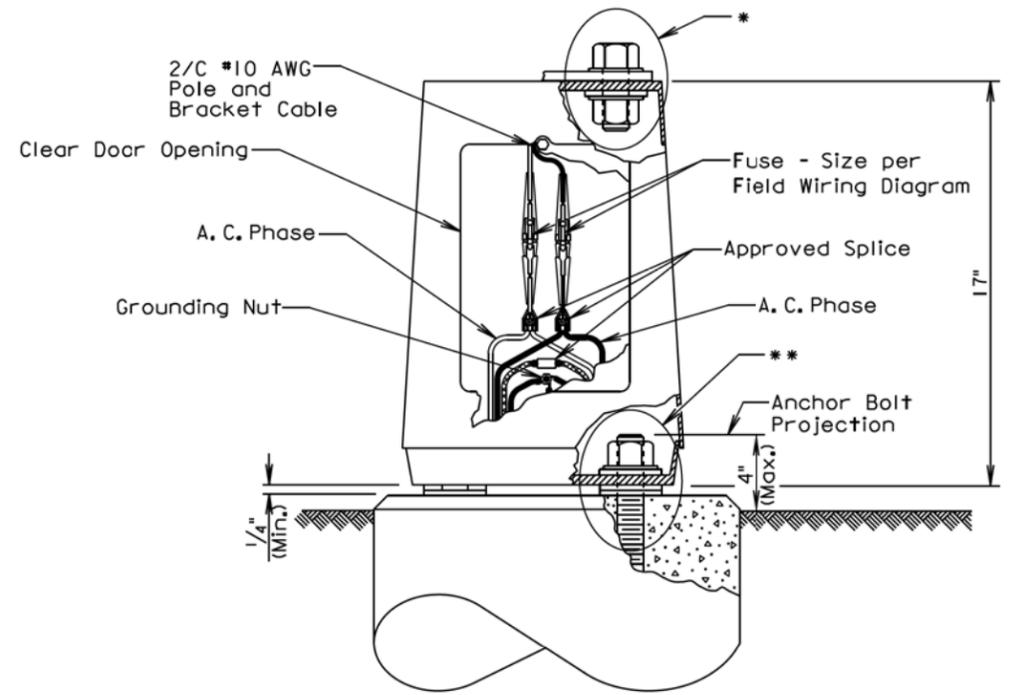
Single Tube, Truss, or Davit types of mast arms are all acceptable, but only one type shall be provided for each contract. The mixing of different types is not permitted without special approval by the S.D.D.O.T.

Convenience duplex festoon outlet receptacle suitable for outdoor use (15 amp, 3-wire) (as required)

Luminaire poles shall be designed to support a 36" x 36" Warning sign banded to the pole as shown.

March 31, 2000

S D D O T	STEEL ROADWAY LUMINAIRE POLE WITH MAST ARM(S)	PLATE NUMBER 635.01
	Published Date: 2nd Qtr. 2016	Sheet 1 of 1



GENERAL NOTES:

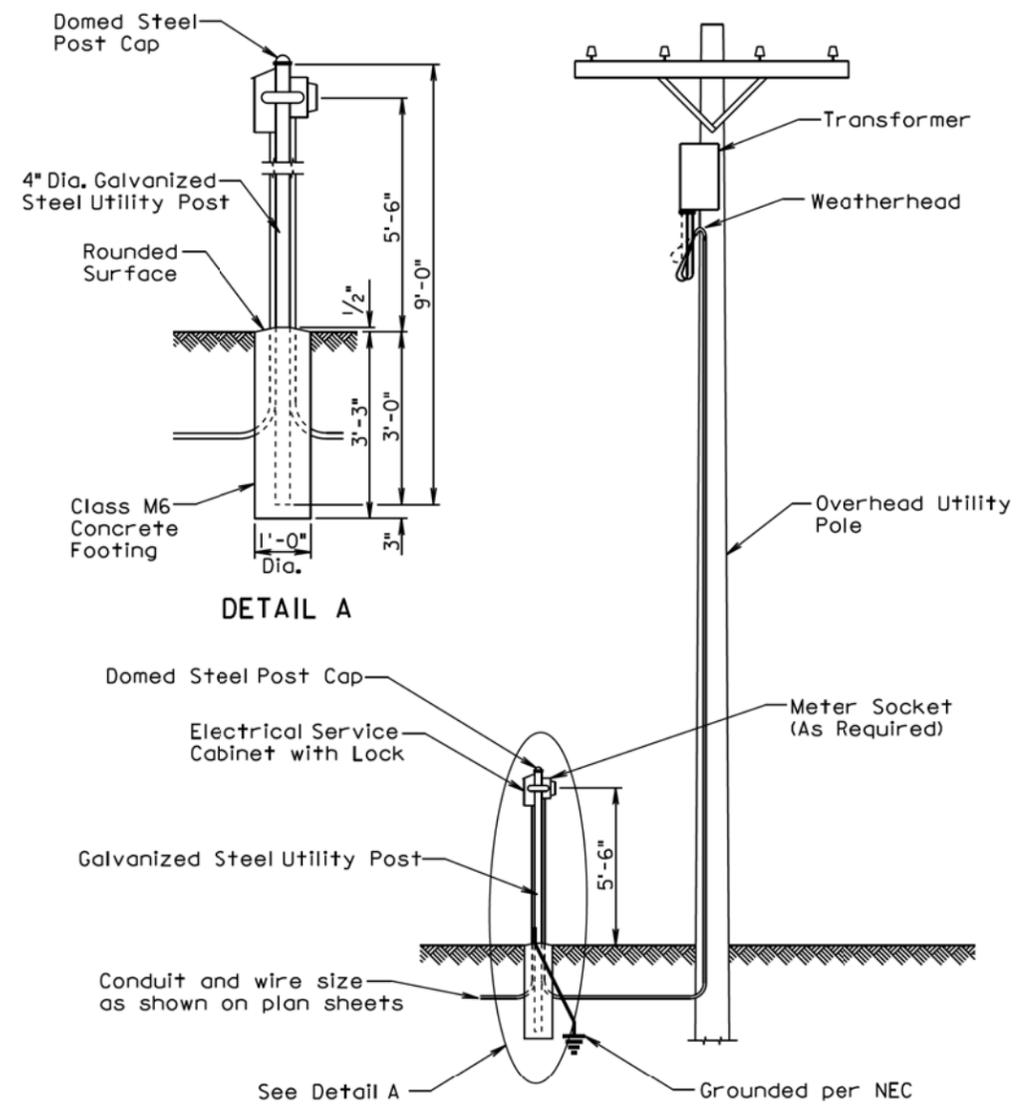
Base details are provided for example only and are not intended to be a complete design. Fused connectors shall be breakaway type.

*Hardware connecting the pole to the base shall be installed in accordance with the manufacturer's recommendation.

**Hardware connecting the base to the footing shall be installed in accordance with the manufacturer's recommendation. The Contractor shall install leveling devices in accordance with the manufacturer's recommendation if shimming is necessary to install the light poles plumb and level. The washers and shims shall be installed around the anchor bolts.

September 6, 2015

S D D O T	ROADWAY LUMINAIRE POLE BREAKAWAY TRANSFORMER BASE	PLATE NUMBER 635.21
	Published Date: 2nd Qtr. 2016	Sheet 1 of 1



GENERAL NOTES:

The concrete for the post footing shall be class M6 concrete.

The 4" diameter galvanized steel utility post shall be 9' long and shall be in conformance with AASHTO Standard Specifications M181. The post shall be Type 1 and either Grade 1 or Grade 2. The domed steel post cap shall be in conformance with AASHTO Standard Specifications M181 and shall be Type 1.

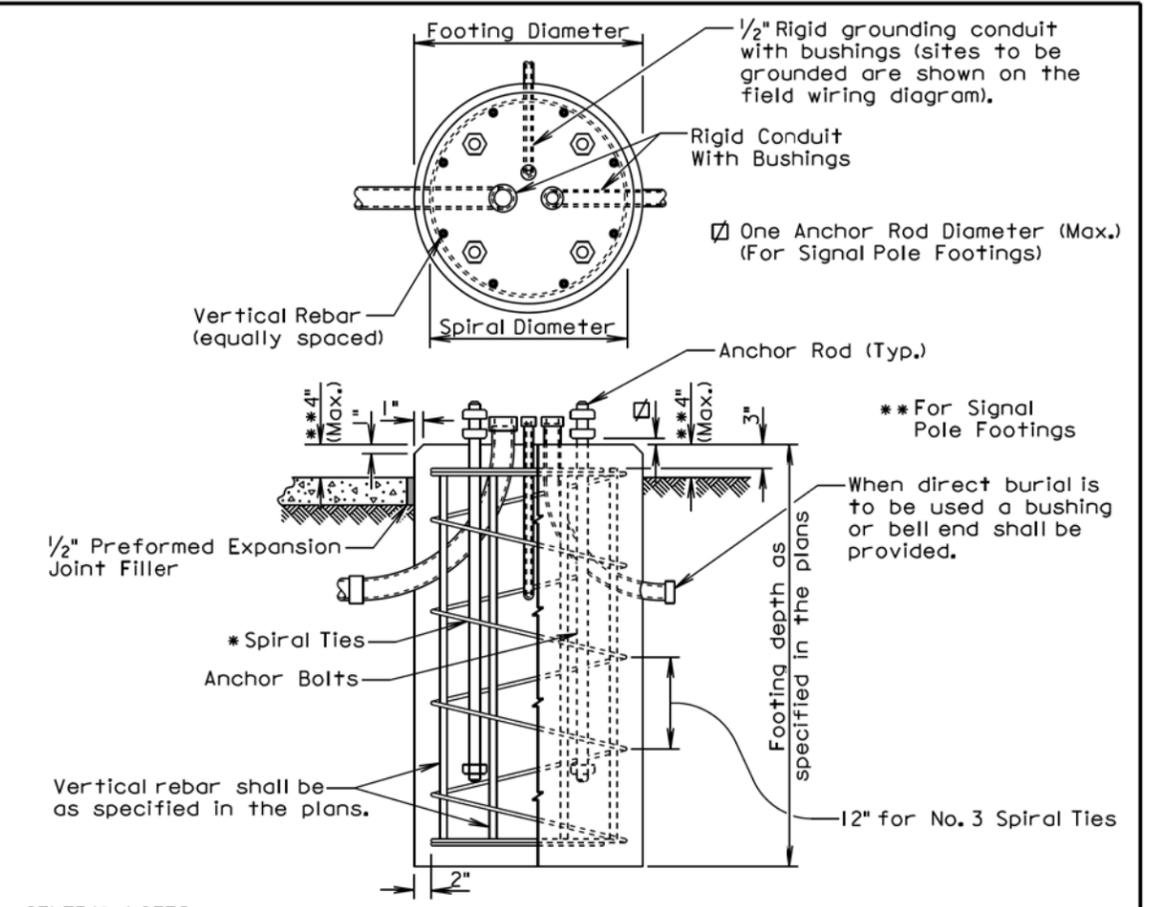
The Contractor shall contact and coordinate his/her work with the Utility Companies regarding hookup requirements, fees, materials, and equipment necessary.

All costs for furnishing and installing all materials from the electrical service cabinet to the transformer including labor, equipment, hookup fees, all items within the cabinet, post, concrete footing, post cap, meter socket if required, conduit, and incidentals shall be incidental to the contract unit price per each for "Electrical Service Cabinet".

June 26, 2006

S D D O T	GALVANIZED STEEL UTILITY POST WITH OVERHEAD UTILITY POLE	PLATE NUMBER 635.35
		Sheet 1 of 1

Published Date: 2nd Qtr. 2016



GENERAL NOTES:

* Circular ties may be used in lieu of the spiral ties. The No. 3 ties shall be spaced 12 inches apart except for the top two which shall be spaced 6 inches apart. The ties shall be lapped 18 inches and the laps shall be staggered around the cage.

Spiral ties shall have 1-1/2 extra turns at each end.

See Section 985 of the Specifications for footing materials.

Conduits and bushings may project 2 1/2 inches to 6 inches above footing for fixed base poles but shall not project above the slip plane or fracture plane for breakaway poles.

Conduits shall be sealed water-tight during all phases of construction until poles are in place.

The anchor rods shall fit inside the reinforcing steel cage. If the anchor rods designed by the Pole Manufacturer do not fit, contact the Office of Bridge Design for footing redesign. No additional payment will be made for the redesigned footing.

Costs of conduit and conduit bushings shown on footing detail shall be incidental to the footing bid item(s).

The pole shall not be installed until the concrete has attained design strength (4000 psi).

The contour of the area surrounding the breakaway pole shall be flat, though not necessarily level for a distance of 5 feet in all directions. The Contractor may be required to provide finish grading at some breakaway pole locations.

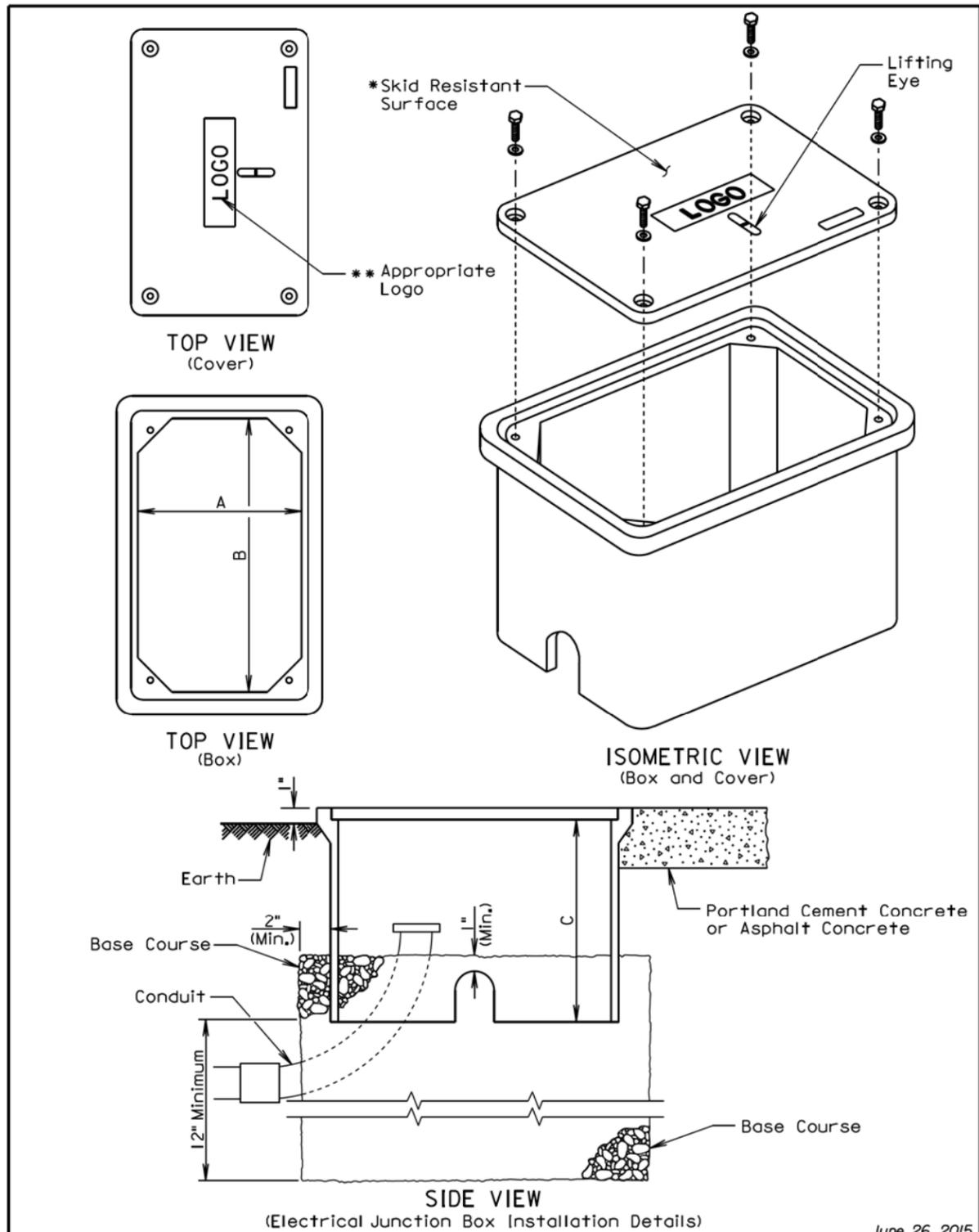
June 26, 2015

S D D O T	POLE FOOTING	PLATE NUMBER 635.55
		Sheet 1 of 1

Published Date: 2nd Qtr. 2016

Plot Scale: 1:200
Plotted From: tpr14296

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June 26, 2015

S D D O T	ELECTRICAL JUNCTION BOXES TYPE 1 THROUGH TYPE 4	PLATE NUMBER 635.65
		Sheet 1 of 2

Published Date: 2nd Qtr. 2016

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, 2015

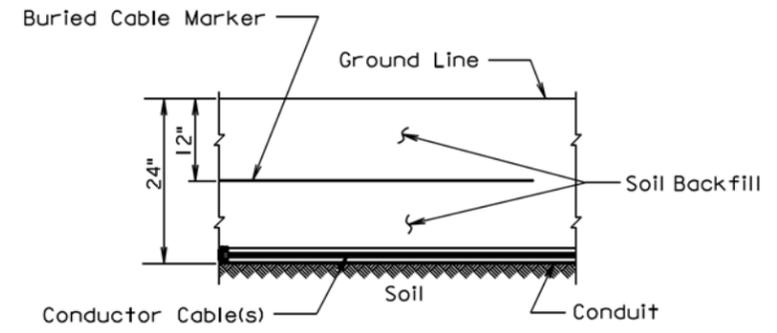
S D D O T	ELECTRICAL JUNCTION BOXES TYPE 1 THROUGH TYPE 4	PLATE NUMBER 635.65
		Sheet 2 of 2

Published Date: 2nd Qtr. 2016

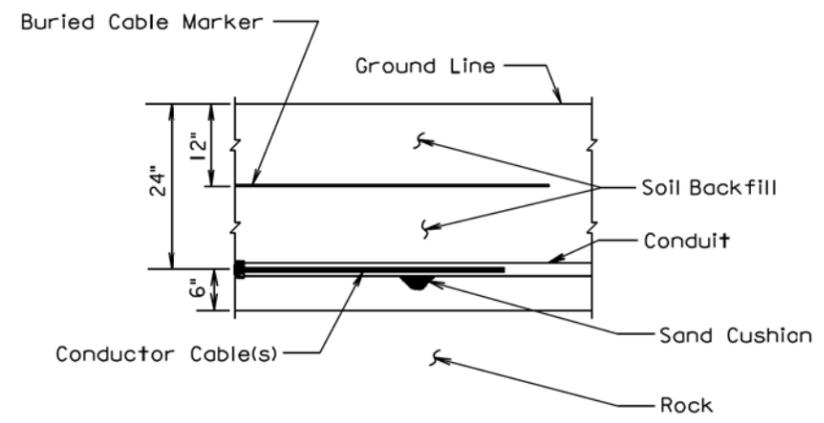
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SECTION VIEW



SECTION VIEW

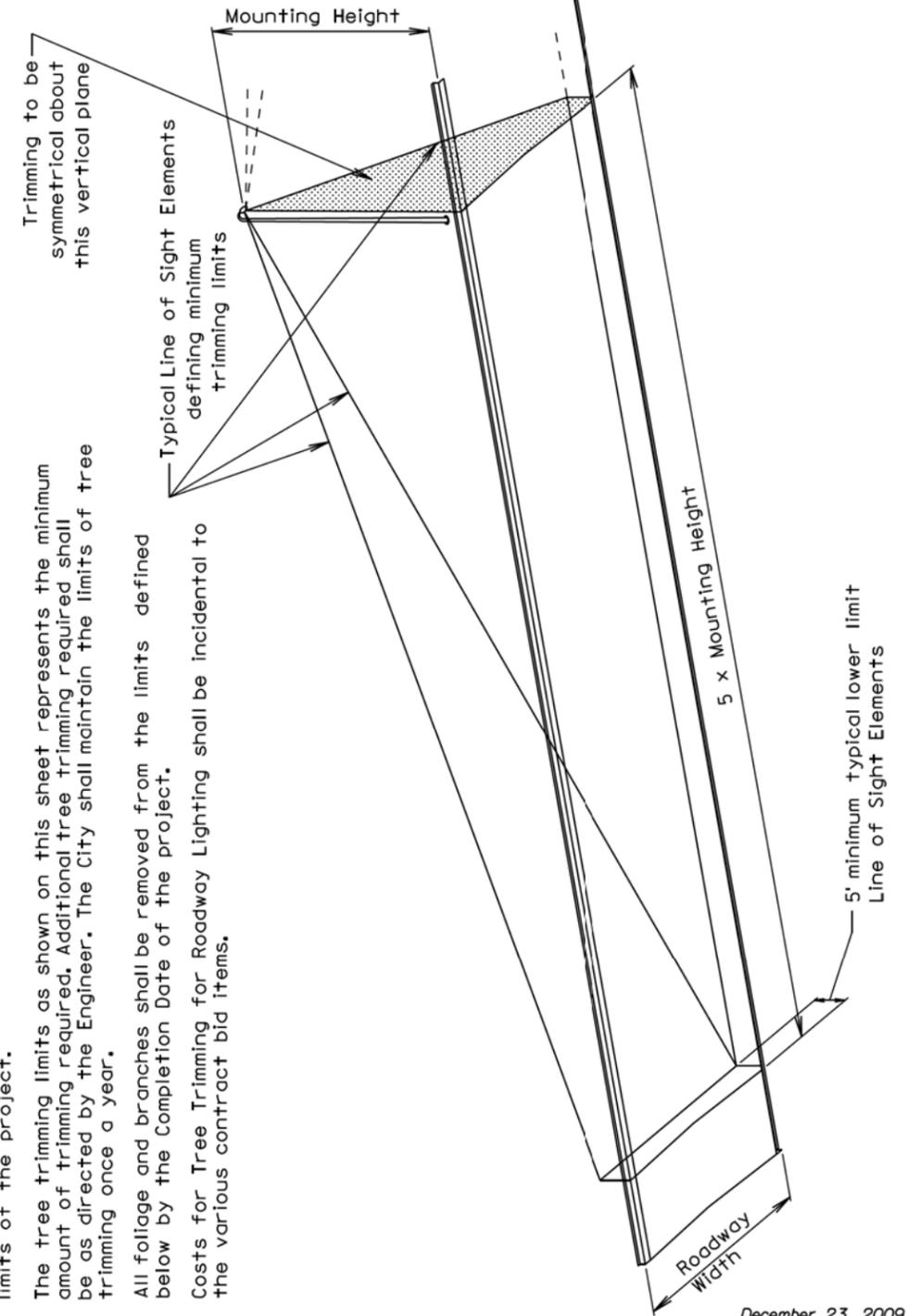
GENERAL NOTE:

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

S D D O T	CONDUIT INSTALLATION	PLATE NUMBER 635.76
		Sheet 1 of 1

Published Date: 2nd Qtr. 2016



GENERAL NOTES:

Tree Trimming shall be done in accordance with proper tree trimming practices. The underside of each branch to be removed shall have a groove sawed through the bark (1/2" Min. depth) before any sawing is started on the top side of the branch.

Tree trimming shall be applied around each light source installed within the limits of the project.

The tree trimming limits as shown on this sheet represents the minimum amount of trimming required. Additional tree trimming required shall be as directed by the Engineer. The City shall maintain the limits of tree trimming once a year.

All foliage and branches shall be removed from the limits defined below by the Completion Date of the project.

Costs for Tree Trimming for Roadway Lighting shall be incidental to the various contract bid items.

December 23, 2009

S D D O T	TREE TRIMMING FOR ROADWAY LIGHTING	PLATE NUMBER 635.99
		Sheet 1 of 1

Published Date: 2nd Qtr. 2016