

PLOT SCALE - 200,000000:1,000000

PLOTTED FROM - TRAB17879

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

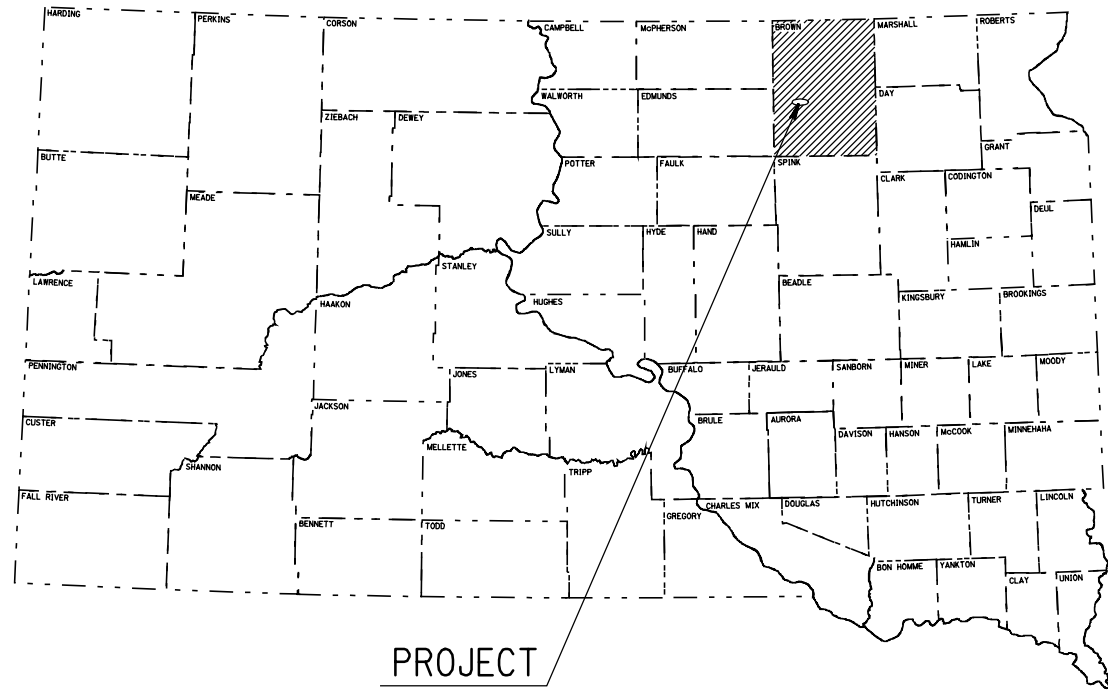
PLANS FOR PROPOSED

PROJECT 012-151
US HIGHWAY 12
BROWN COUNTY

REPLACE LUMINAIRE POLE BASE COUPLERS
PCN 1ldc

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	012-151	1	15

Plotting Date: 15-DEC-2008

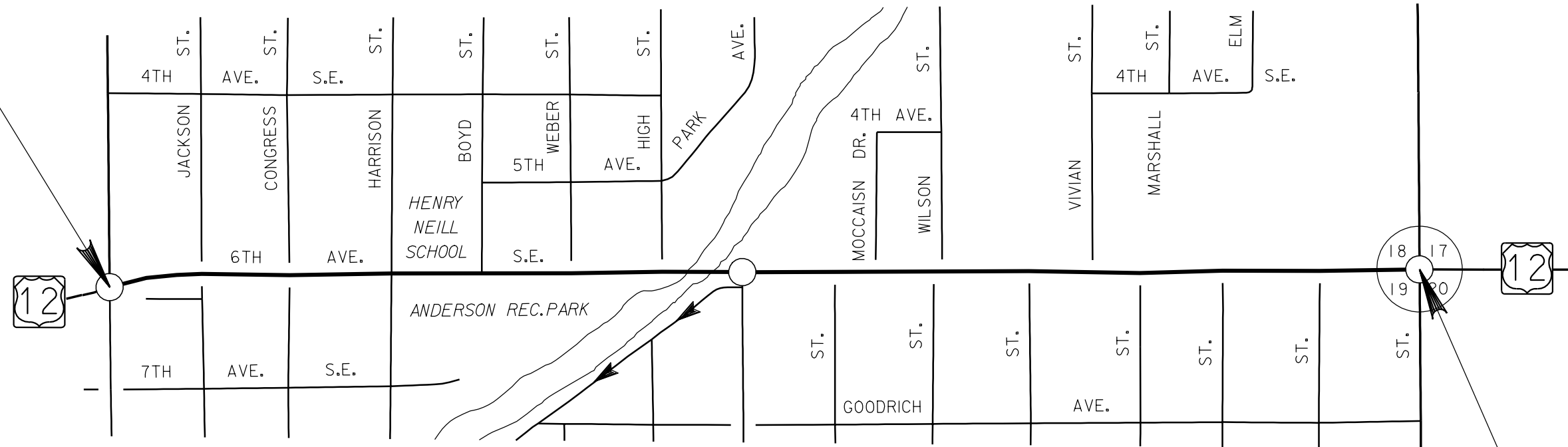


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CITY OF ABERDEEN

Begin Project
MRM - 290.96
US 12 and Dakota Street



End Project
MRM - 291.96
US 12 and Roosevelt Street

FILE - U:\REGIONAL\PRJ\BRWN11DC\TITLE SHEET COUPLER REPLACEMENT.DGN

ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	LUMP SUM	L S
110E154	Remove Luminaire Pole Footing	Each	1
634E0100	Traffic Control	178	Unit
634E0120	Traffic Control, Miscellaneous	LUMP SUM	L S
634E0420	Type C Advance Warning Arrow Panel	1	Each
635E5318	18" Diameter Junction Box	1	Each
635E7500	Remove and Reset Luminaire Pole	22	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.

SCOPE OF WORK

Work shall consist of but not be limited to the replacement of Luminaire pole frangible couplers.

Remove existing Luminaire Pole at station 28+76 Lt. and reset it at station 27+25 Lt.

Install a new 18" Diameter Junction Box at Station 28+76 Lt and splice electrical wiring from removed footing in the junction box.

SHOP DRAWING AND CATALOG CUTS SUBMITTALS

The Contractor shall submit shop drawings and catalog cuts according to the South Dakota Standard Specifications for Roads and Bridges or in Adobe PDF format.

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

alan.petrich@state.sd.us

Jeff.steen@state.sd.us

GENERAL NOTES

Existing anchor bolts must be sized to the proper projection height as specified by the frangible coupling manufacture.

Anchor bolts shall be cleaned, and coated with cold galvanizing material prior to installing the new frangible couplers.

JUNCTION BOX

All costs associated with furnishing and installing the new 18" Diameter Junction Box and splicing electrical wiring in the junction box shall be incidental to the contract unit price Each for "18" Diameter Junction Box",

REMOVE AND RESET LUMINAIRE POLE

Existing luminaire poles shall be removed and reset as shown on the plan sheets. Luminaire poles, luminaries and signs banded to luminaire poles damaged during relocation shall be repaired or replaced by the Contractor at no cost to the State.

All costs associated with furnishing and installing the new frangible couplers, Skirts and reconnection of electrical wire in pole base shall be incidental to the contract unit price Each for "Remove and Reset Luminaire Pole",

FRANGILBE COUPLERS

The new frangible couplers shall be Pole-Safe; Model No. 4100 by Transpo Industries Inc. 20 Jones Street, New Rochelle, NY 10801, Phone No. 914-636-1000 or an approved equal.

The Skirt for pole base frangible couplers shall be Pole-Safe; Part No. SPMKDN-5 by Transpo Industries Inc. 20 Jones Street, New Rochelle, NY 10801, Phone No. 914-636-1000 or an approved equal.

REMOVE LUMINAIRE POLE FOOTING

The footing of existing luminaire pole at station 28+76 – 37' Lt. shall be removed by the Contractor to a minimum of 3' below the ground surface. Install 18" junction box on top of knocked down footing. Restoration of the disturbed area shall be to the satisfaction of the Engineer.

All costs for removing the footings of the existing luminaire pole shall be incidental to the contract unit price per each for "Remove Luminaire Pole Footing".

MAINTENANCE OF TRAFFIC

Traffic shall be maintained in accordance with the Manual on Uniform Traffic Control Devices and as follows:

Work will be allowed only during daylight hours.

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.

All breakaway sign supports shall comply with FHWA NCHRP 350 crash-worthy requirements. The Contractor shall provide post installation details at the preconstruction meeting for all steel post breakaway sign support assemblies.

HISTORICAL PRESERVATION OFFICE CLEARANCES

To obtain SHPO clearance, a cultural resources survey may need to be conducted by a qualified archaeologist. The Contractor shall arrange and pay for this survey. In lieu of a cultural resources survey, the Contractor could request a literature search on the site and provide evidence that the site has been previously disturbed by farming, mining, or construction activities with a landowner statement that no artifacts have been found on the site. Jim Donohue, State Archaeological Research Center at 605-394-1937 shall be contacted for a literature search.

If borrow material is furnished from within the current geographical reservation boundaries or historic boundaries of the Lake Traverse, Yankton, or Flandreau-Santee reservations, the Contractor shall obtain THPO (Tribal Historical Preservation Office) clearance from the Tribal Cultural Resources Officer. This requirement is in addition to the SHPO clearance. If no Tribal contact exists, the required SHPO clearance shall suffice, with documentation of Tribal contact efforts provided to SHPO.

To facilitate SHPO and THPO responses, the Contractor should submit a cultural resources survey report or the results of the literature search along with a legal description of the site, a topographical map with the site clearly marked, and evidence of prior site disturbance to Dave Graves, DOT Environmental Engineer, 700 East Broadway Avenue, Pierre, SD 57501-2586 (605-773-5727). Allow 30 days from the date this information is submitted to the Environmental Engineer for SHPO approval. The Contractor is responsible for obtaining all required permits and clearances for the borrow and/or waste disposal site(s) prior to commencing construction activities at the borrow and/or waste disposal site(s). The Contractor shall provide the required permits and clearances to the Engineer at the preconstruction meeting.

WASTE DISPOSAL SITE

The Contractor will be required to furnish a site(s) for the disposal of construction/demolition debris generated by this project. Residue from the surface preparation will not need to be gathered and removed from the project site.

Construction/demolition debris may not be disposed of within the State ROW

The waste disposal site(s) shall be managed and reclaimed in accordance with the following from the General Permit for Highway, Road, and Railway 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

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	012-151	3	15

value of an area, or any threatened or endangered species, as approved by the Engineer.

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

1. Construction/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/demolition debris shall consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the State 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 State ROW through the use of fences, gates, and placement of a sign or signs at the entrance to the site stating "No Dumping Allowed".
2. 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.

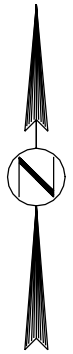
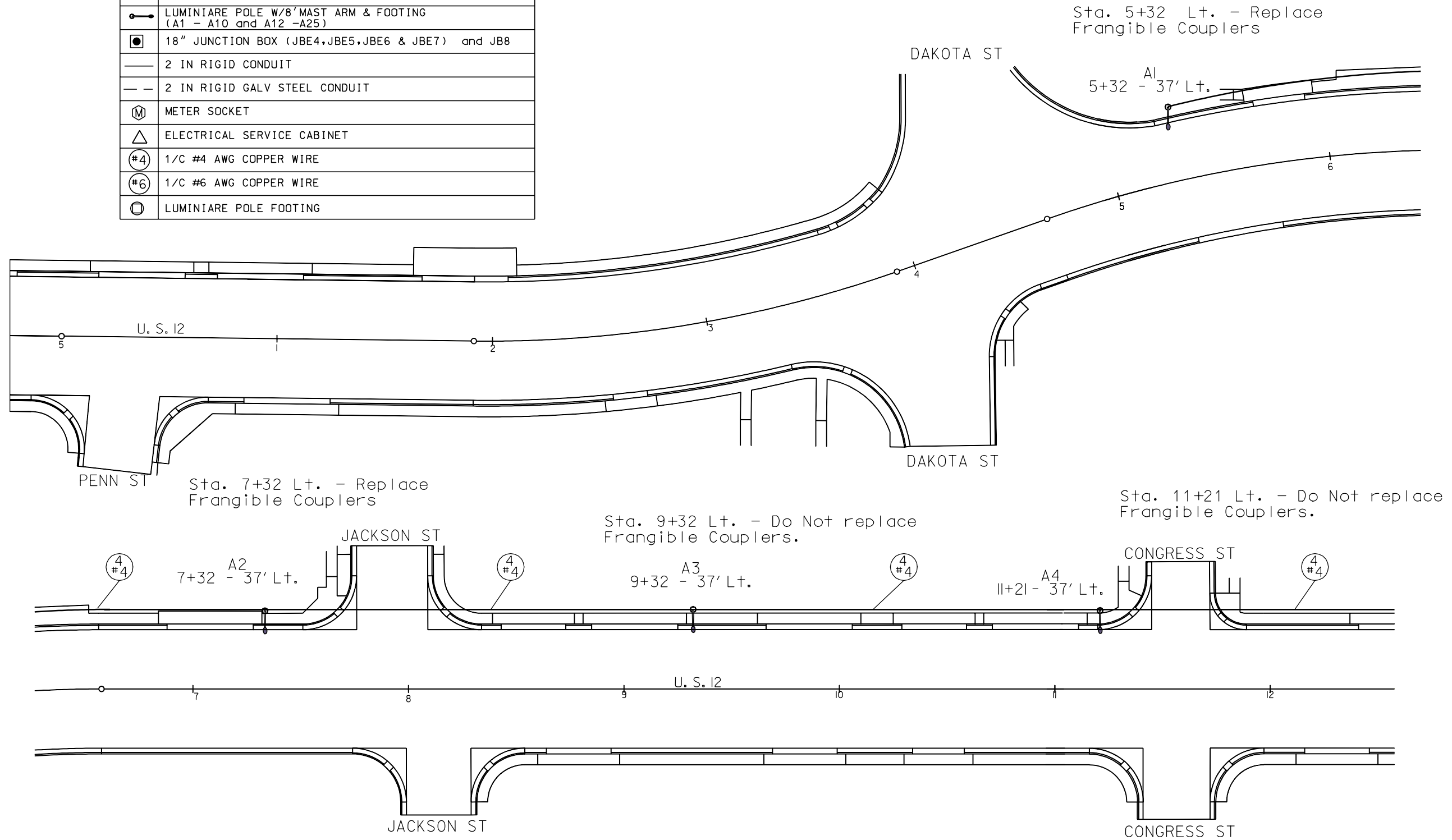
The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06.

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.

LUMINAIRE LAYOUT

EXISTING EQUIPMENT	
KEY	ITEM
	LUMINAIRE POLE W/8' MAST ARM & FOOTING (A1 - A10 and A12 -A25)
	18" JUNCTION BOX (JBE4, JBE5, JBE6 & JBE7) and JB8
	2 IN RIGID CONDUIT
	2 IN RIGID GALV STEEL CONDUIT
	METER SOCKET
	ELECTRICAL SERVICE CABINET
	1/C #4 AWG COPPER WIRE
	1/C #6 AWG COPPER WIRE
	LUMINAIRE POLE FOOTING



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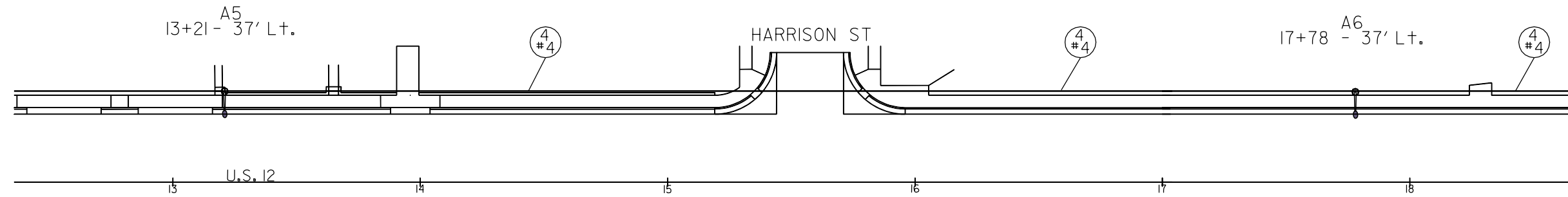
PLOT NAME - LUMINAIRE LOCATIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	012-151	5	15
Plotting Date: 15-DEC-2008			

LUMINAIRE LAYOUT

Sta. 13+21 Lt. - Replace
Frangible Couplers

Sta. 17+78 Lt. - Replace
Frangible Couplers

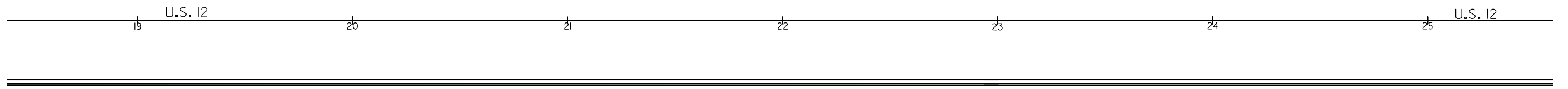
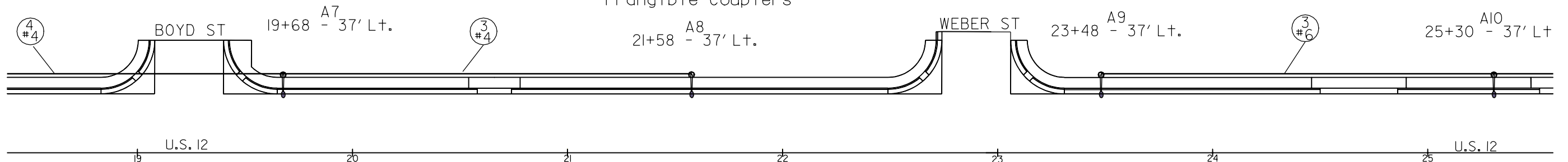


Sta. 19+68 Lt. - Replace
Frangible Couplers

Sta. 21+58 Lt. - Replace
Frangible Couplers

Sta. 23+48 Lt. - Replace
Frangible Couplers

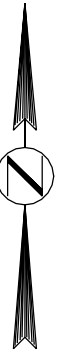
Sta. 25+30 Lt. - Replace
Frangible Couplers



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FILE - U:\REGIONAL\PRJ\BRWN11DC\LUMINAIRE LOCATIONS.DGN PLOT NAME - LUMINAIRE LOCATIONS1



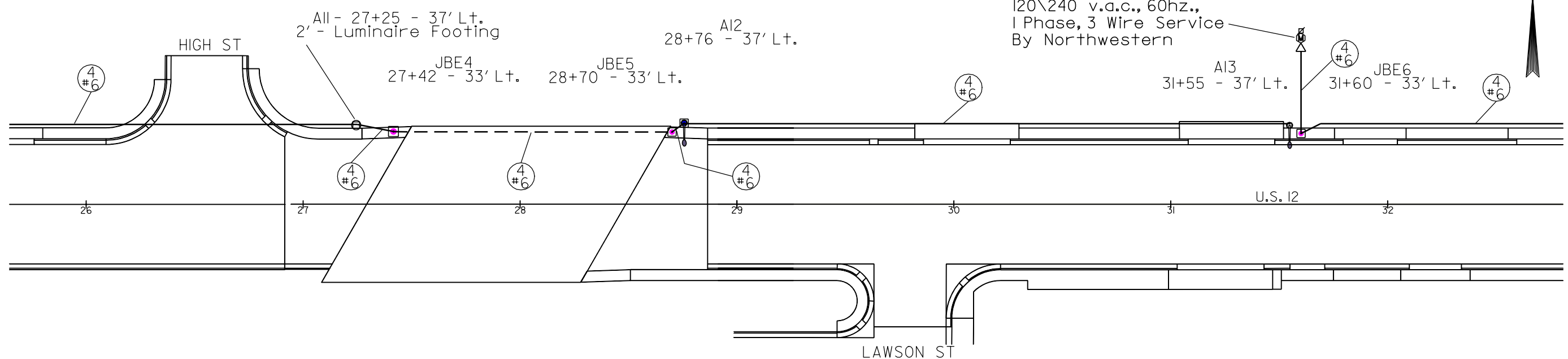
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	012-151	6	15
Plotting Date: 24-DEC-2008			

LUMINAIRE LAYOUT

Sta. 28+76 - 37' Lt.
AI2 - Remove and Reset
Luminaire Pole, and Luminaire to
Footing All at Sta. 27+25 - 37' Lt.

Sta. 28+76 - 37' Lt.
Remove Luminaire Pole Concrete Footing
3' below ground level and install JB8, an 18"
Junction Box, and splice existing electrical wire.

Sta. 31+55 Lt. - Replace
Frangible Couplers



120\240 v.a.c., 60hz.,
1 Phase, 3 Wire Service
By Northwestern

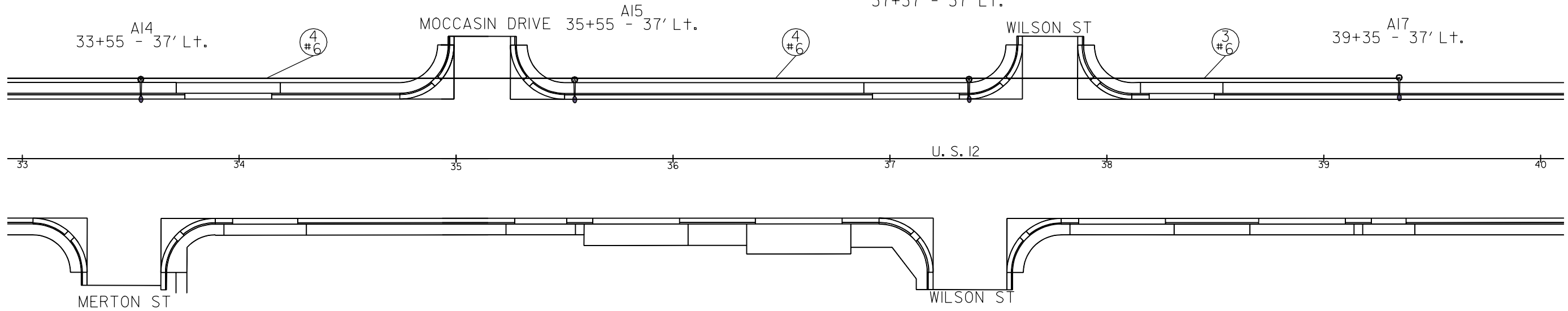


Sta. 33+55 Lt. - Replace
Frangible Couplers

Sta. 35+55 Lt. - Replace
Frangible Couplers

Sta. 37+37 Lt. - Replace
Frangible Couplers

Sta. 39+35 Lt. - Replace
Frangible Couplers



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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	012-151	7	15
Plotting Date: 15-DEC-2008			

LUMINAIRE LAYOUT



Sta. 41+35 Lt. - Replace
Frangible Couplers

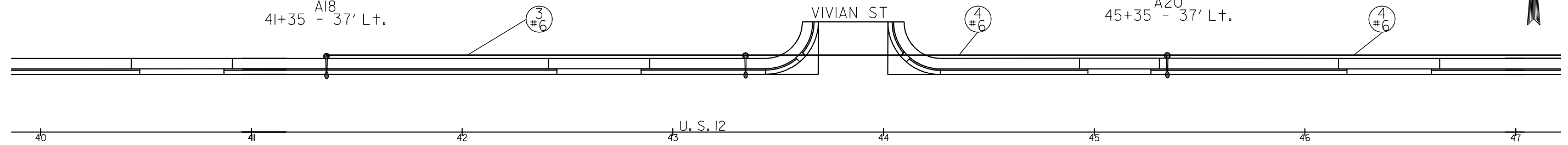
Sta. 43+35 Lt. - Replace
Frangible Couplers

Sta. 45+35 Lt. - Replace
Frangible Couplers

A18
41+35 - 37' Lt.

A19
43+35 - 37' Lt.

A20
45+35 - 37' Lt.



ROCK ST

WELLS ST

Sta. 47+35 Lt. - Replace
Frangible Couplers

Sta. 49+35 Lt. - Replace
Frangible Couplers

Sta. 51+00 Lt. - Replace
Frangible Couplers

Sta. 53+00 Lt. - Replace
Frangible Couplers

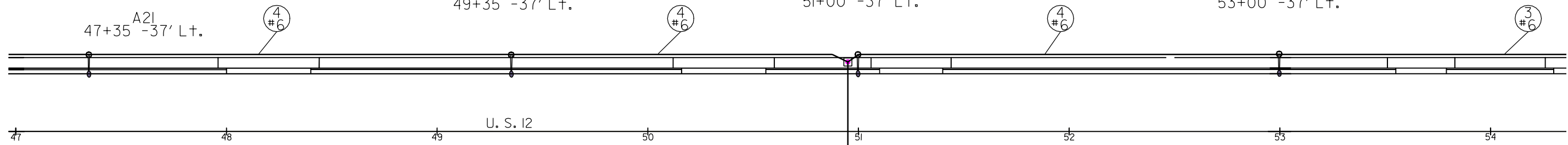
A21
47+35 - 37' Lt.

A22
49+35 - 37' Lt.

JBE7
50+95 - 33' Lt.

A23
51+00 - 37' Lt.

A24
53+00 - 37' Lt.



GRAND ST

120\240 v.a.c., 60hz.,
1 Phase, 3 Wire Service
By Northwestern

PARK ST

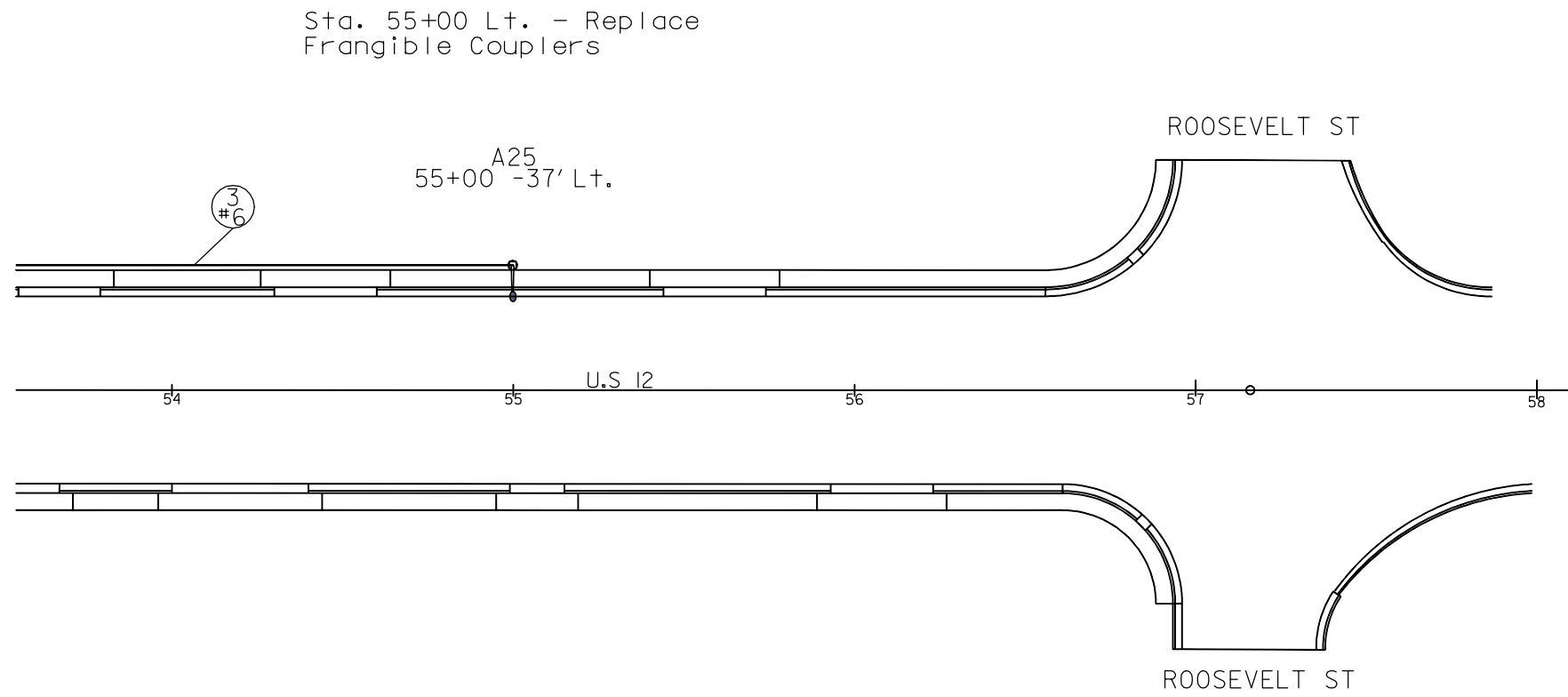
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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	012-151	8	15
Plotting Date: 15-DEC-2008			

LUMINAIRE LAYOUT



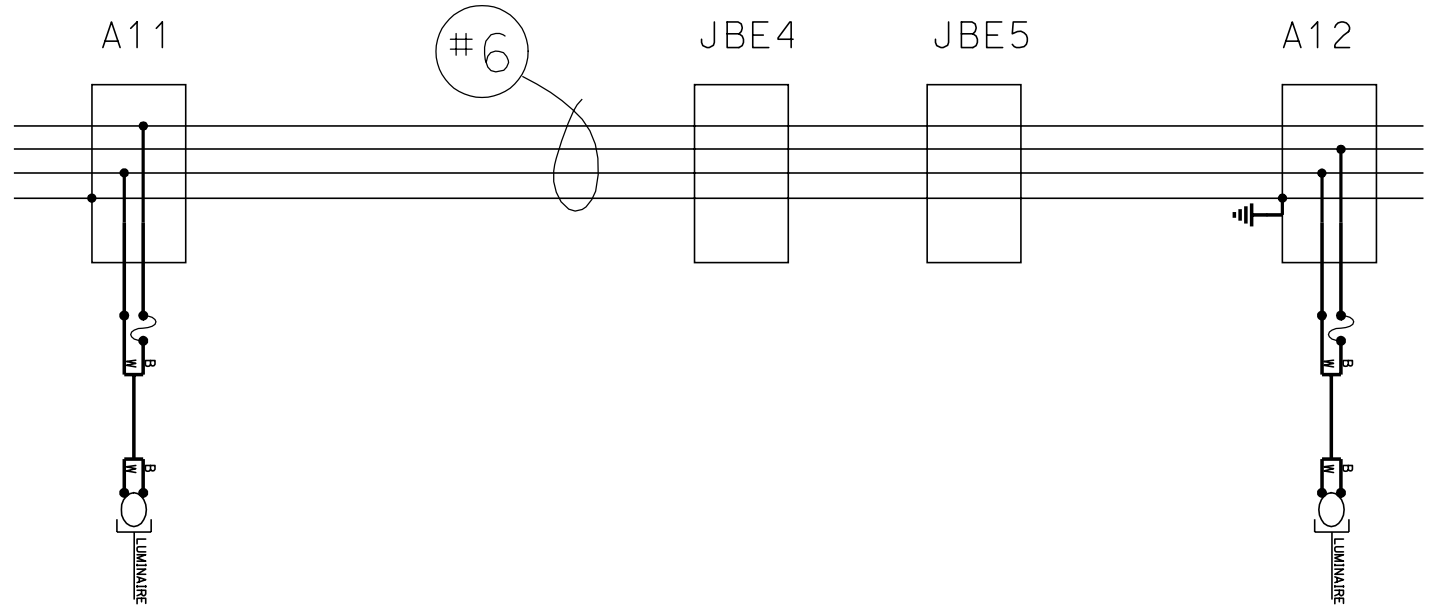
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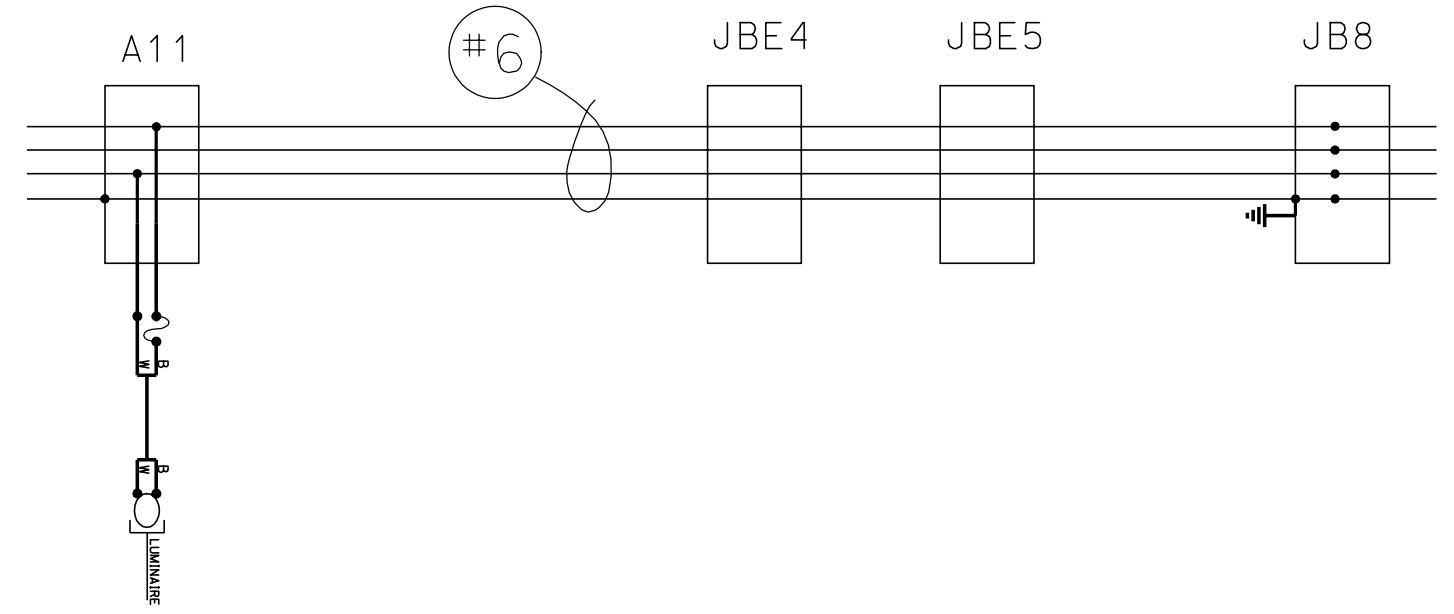
FILE - U:\REGIONAL\PRJ\BRWN11DC\LUMINAIRE LOCATIONS.DGN PLOT NAME - LUMINAIRE LOCATIONS4

WIRING DIAGRAM

Existing Wiring Diagram



Wiring Diagram

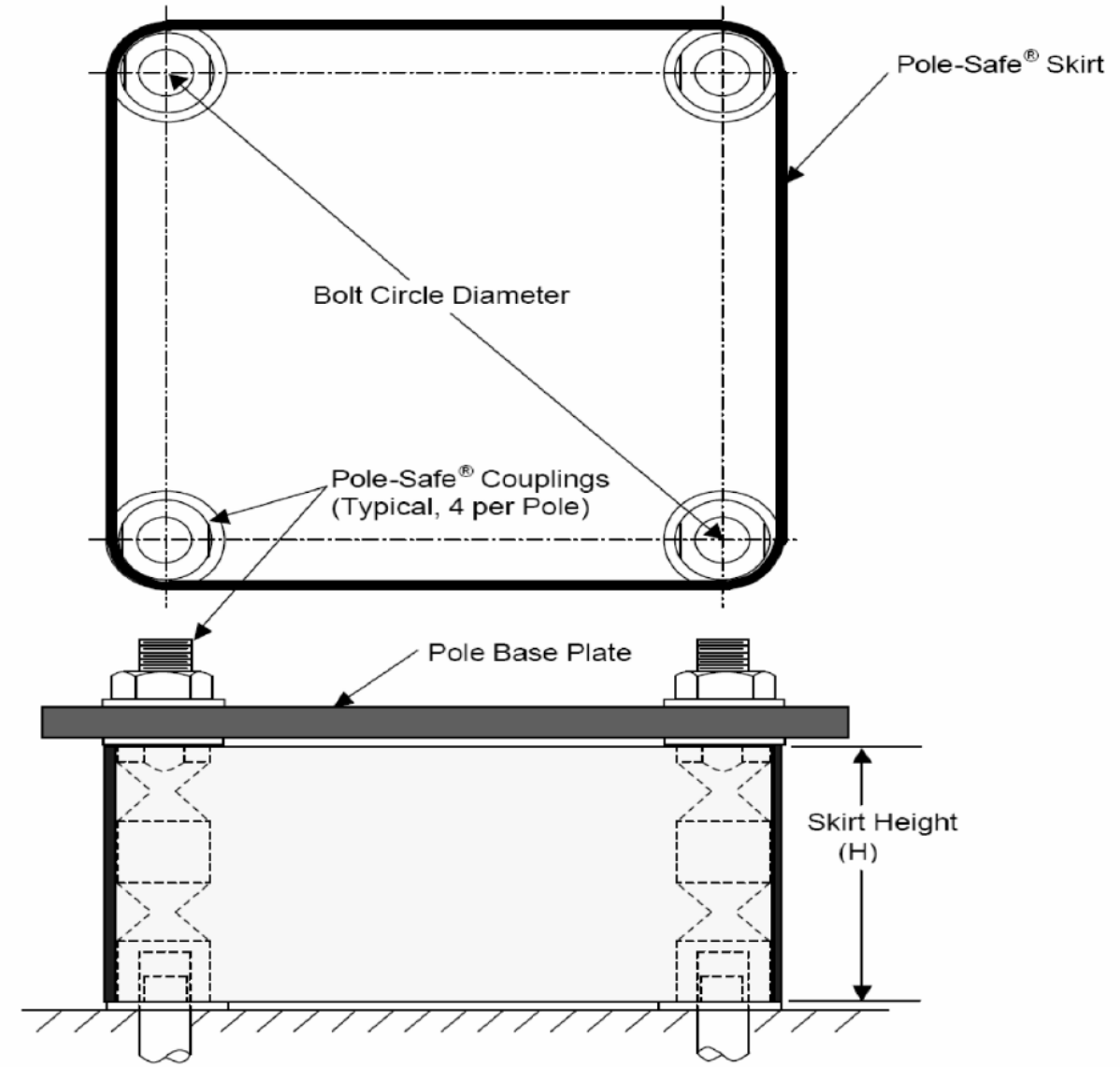
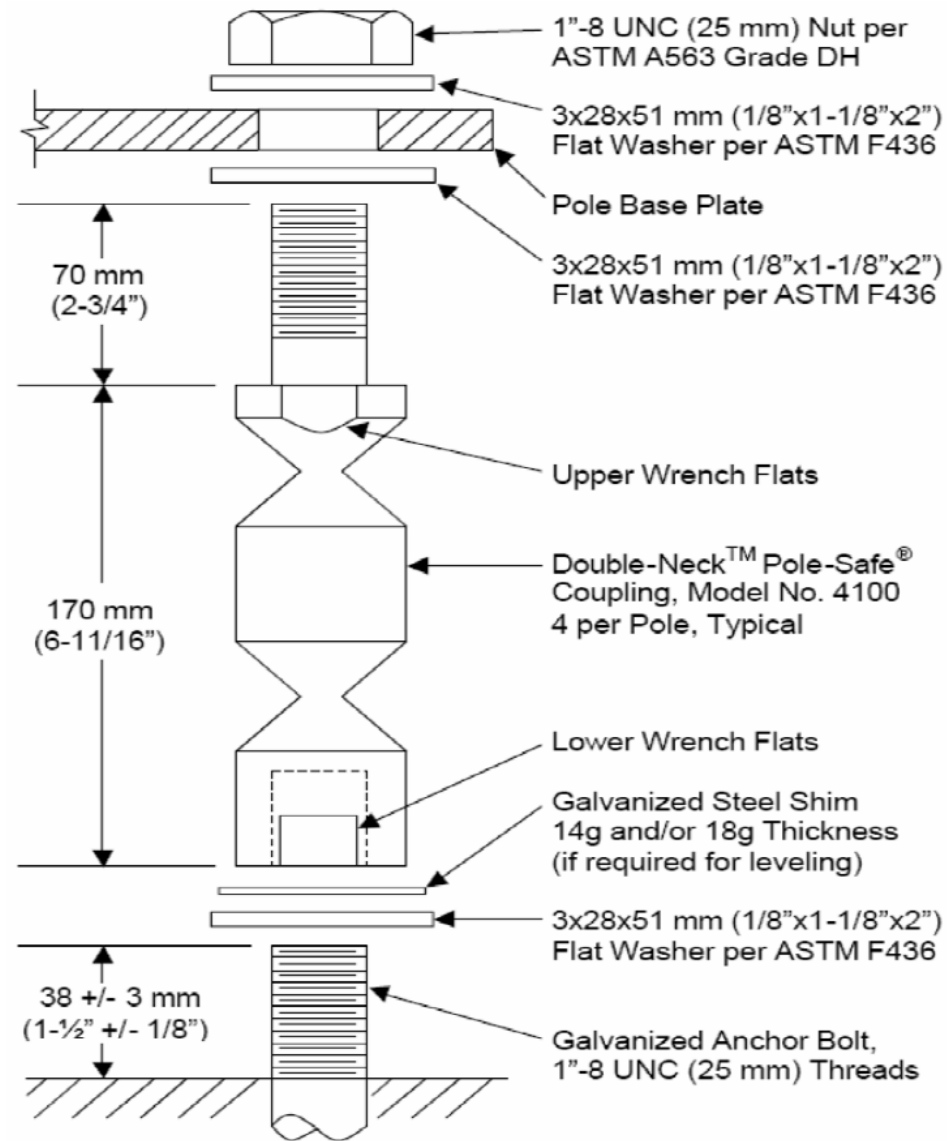


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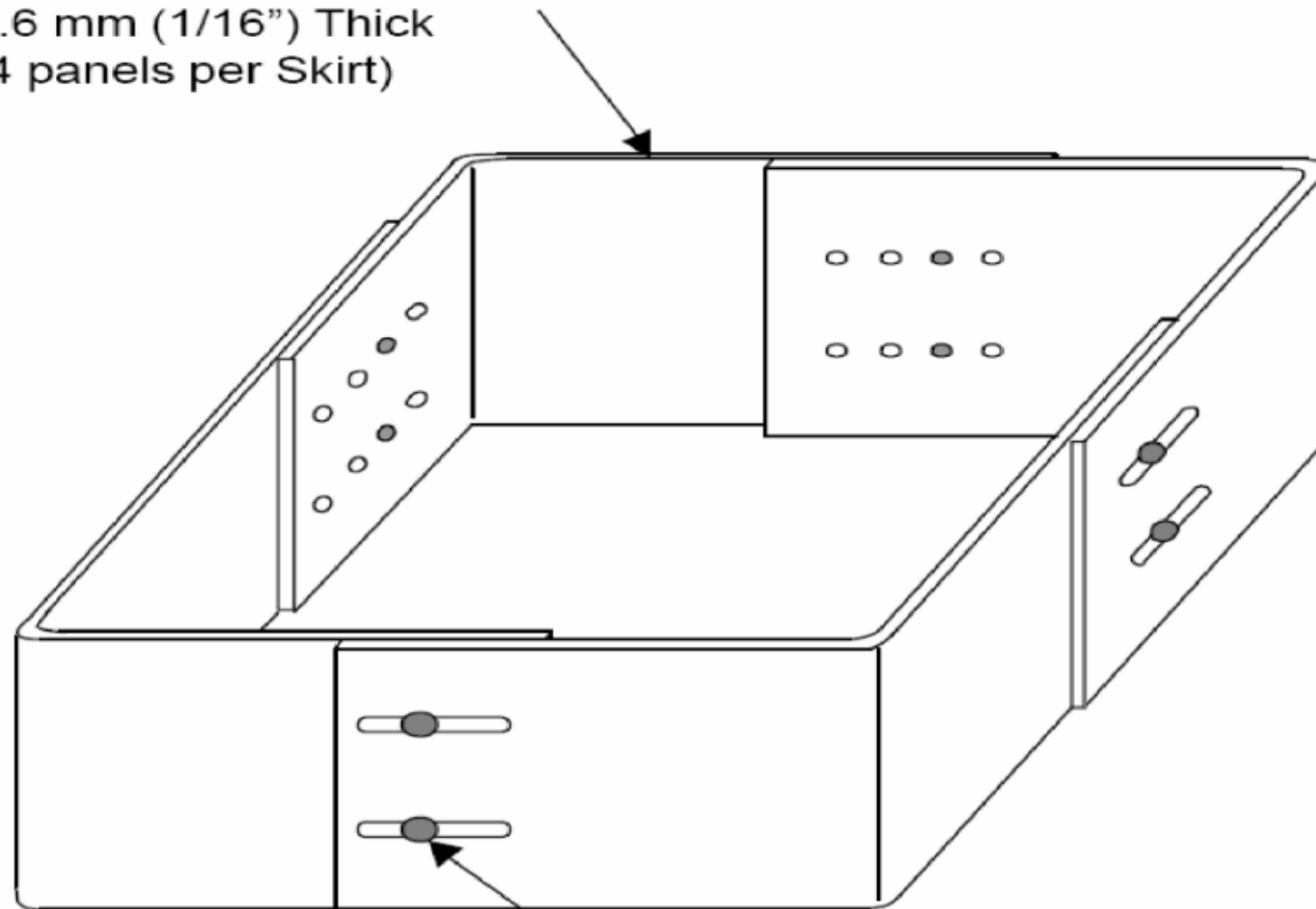
PLOT NAME - LUMINAIRE LOCATIONS5
FILE - U:\REGIONAL\PRJ\BRWN11DC\LUMINAIRE LOCATIONS.DGN

FRANGIBLE COUPLER DETAILS



FRANGIBLE COUPLER DETAILS

Pole-Safe[®] Skirt
3003-H14 Aluminum Sheet,
1.6 mm (1/16") Thick
(4 panels per Skirt)



#10 x 10 mm (#10 x 3/8")
Stainless Steel Sheet Metal
Screw, Typical, 8 per Skirt

ITEMIZED LIST FOR TRAFFIC CONTROL

SIGN CODE	SIGN SIZE	DESCRIPTION	NUMBER REQUIRED	UNITS PER SIGN	UNITS
R3-7R	30" x 30"	RIGHT LANE MUST TURN RIGHT	2	21	42
W4-1a	48" x 48"	THRU TRAFFIC MERGE LEFT	1	34	34
W4-2	48" x 48"	LEFT OR RIGHT LANE ENDS (SYMBOL)	1	34	34
W20-1	48" x 48"	ROAD WORK ##### FT. OR AHEAD	1	34	34
W20-5	48" x 48"	LT. OR RT. LANE CLOSED ##### FT. OR AHEAD	1	34	34
TOTAL UNITS					178

If a sign is required on a project and not listed in the above inventory, the units per sign will be determined as follows:

Signs 36" x 36" will be measured at 27 units each and signs 48" x 48" will be measured at 34 units each, otherwise:

If a sign measures less than 25" high and 25" wide the units per sign will be computed as sign size (sq ft) x 3.

If a sign measures between 23H" and 37H" the units per sign will be computed as sign size (sq ft) x 1.2 +15.

Plotting Date: 09-DEC-2008

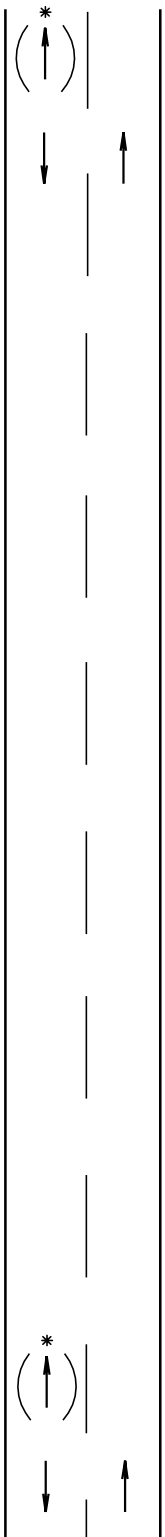
The signs illustrated are not required if the work space is behind a barrier, more than 2 feet behind the curb, or 15 feet or more from the edge of any roadway.

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.



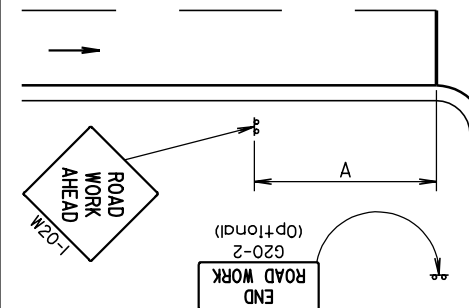
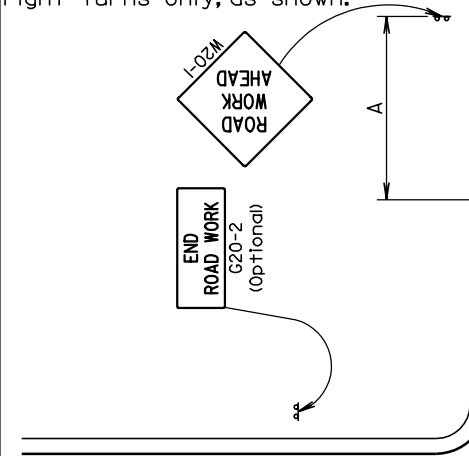
Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 75	1000



July 1, 2005

For intersection approaches reduced to a single lane, left-turning movements may be prohibited to maintain capacity for through traffic.

The standard procedure is to close on near side of the intersection any lane that is not carried through the intersection. However, when this results in the closing of a right lane having significant right-turning movements, then the right lane may be restricted to right turns only, as shown.



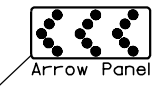
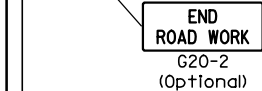
Where the turning radius is large, it may be possible to create a right turn island using channelizing devices, as shown. This procedure reinforces the nature of the temporary exclusive right-turn lane and enables a second RIGHT LANE MUST TURN RIGHT sign to be placed in the island.

Flashing warning lights and/or flags may be used to call attention to the advanced warning signs.

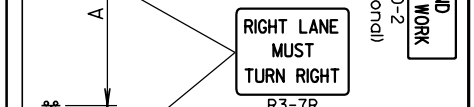
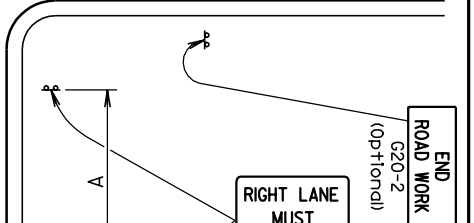
The channelizing Devices shall be Drums or Type II Barricades if traffic control must remain overnight or longer.

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

■ Channelizing Device



Type III Barricade



April 1, 2008

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

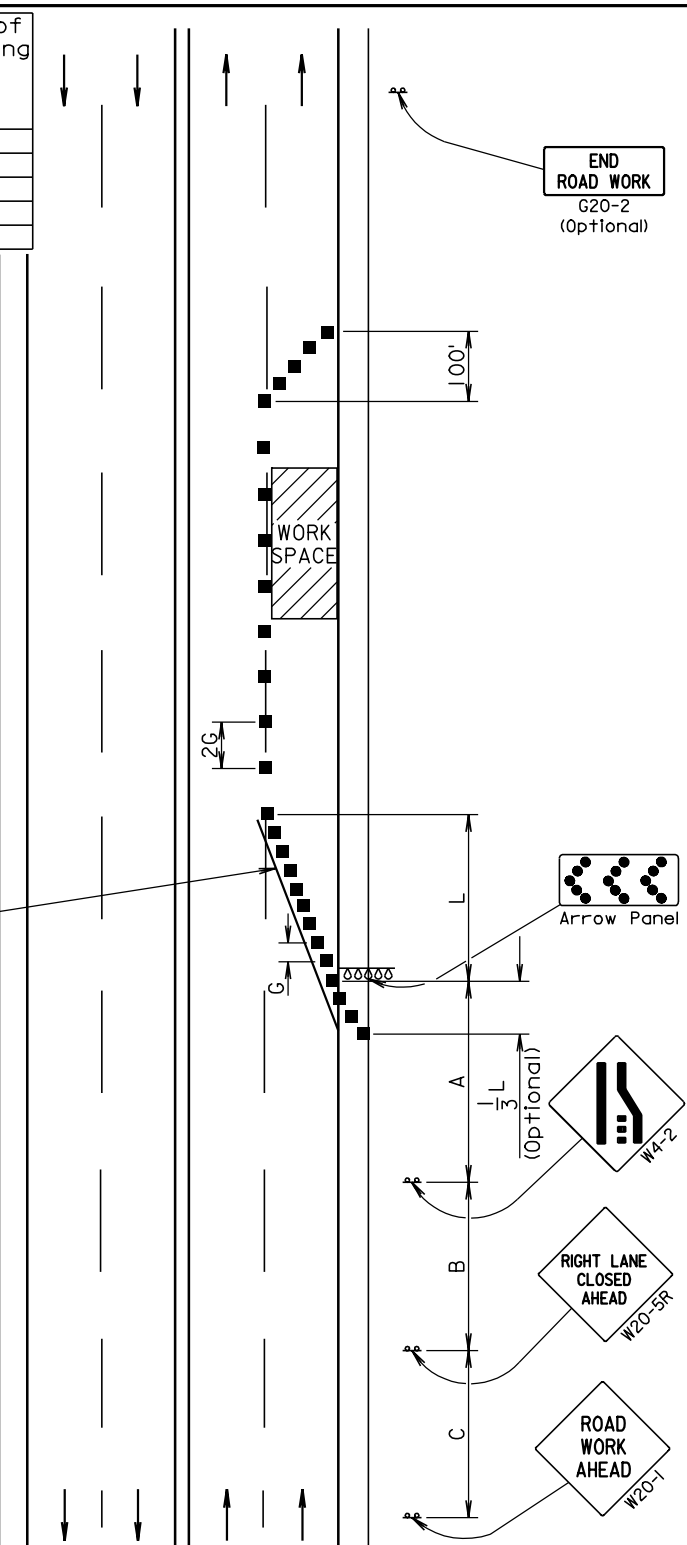
■ Channelizing Device

Drums or Type II Barricades shall be used if required overnight.

42" cones may be used along centerline

Longitudinal dimensions may be adjusted to fit project conditions such as horizontal curves, vertical curves, and other site restrictions.

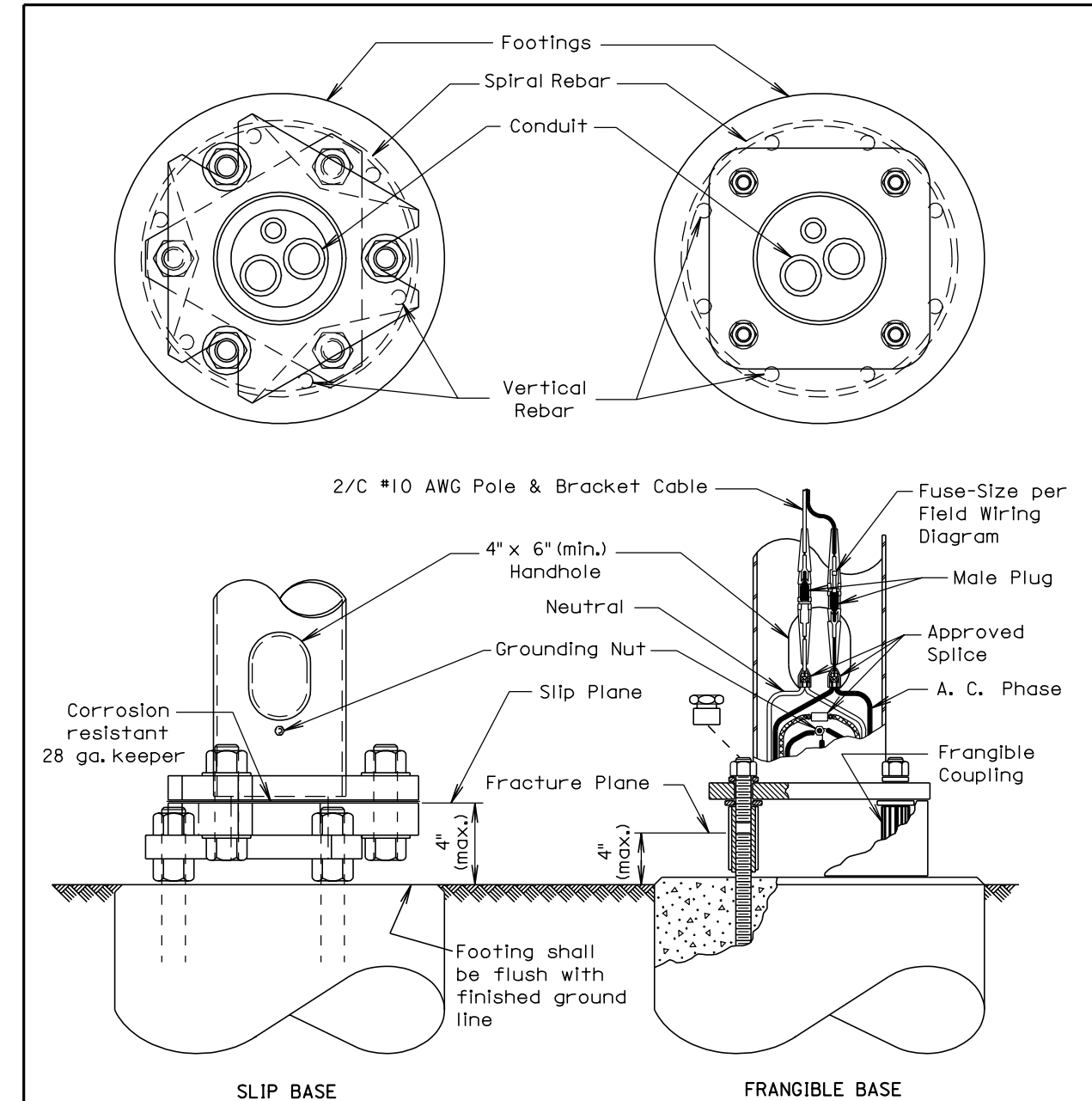
Four inch white temporary pavement marking shall be used if traffic control must remain overnight or longer.



April 1, 2008

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES 4-LANE UNDIVIDED, RIGHT LANE CLOSED	PLATE NUMBER 634.47
		Sheet 1 of 1

Published Date: 4th Qtr. 2008



GENERAL NOTES:

The Contractor has the option of using either the Slip Base, Transformer Base, or Frangible Base.

Base details are provided for example only and are not intended to be a complete design.

GENERAL NOTES:

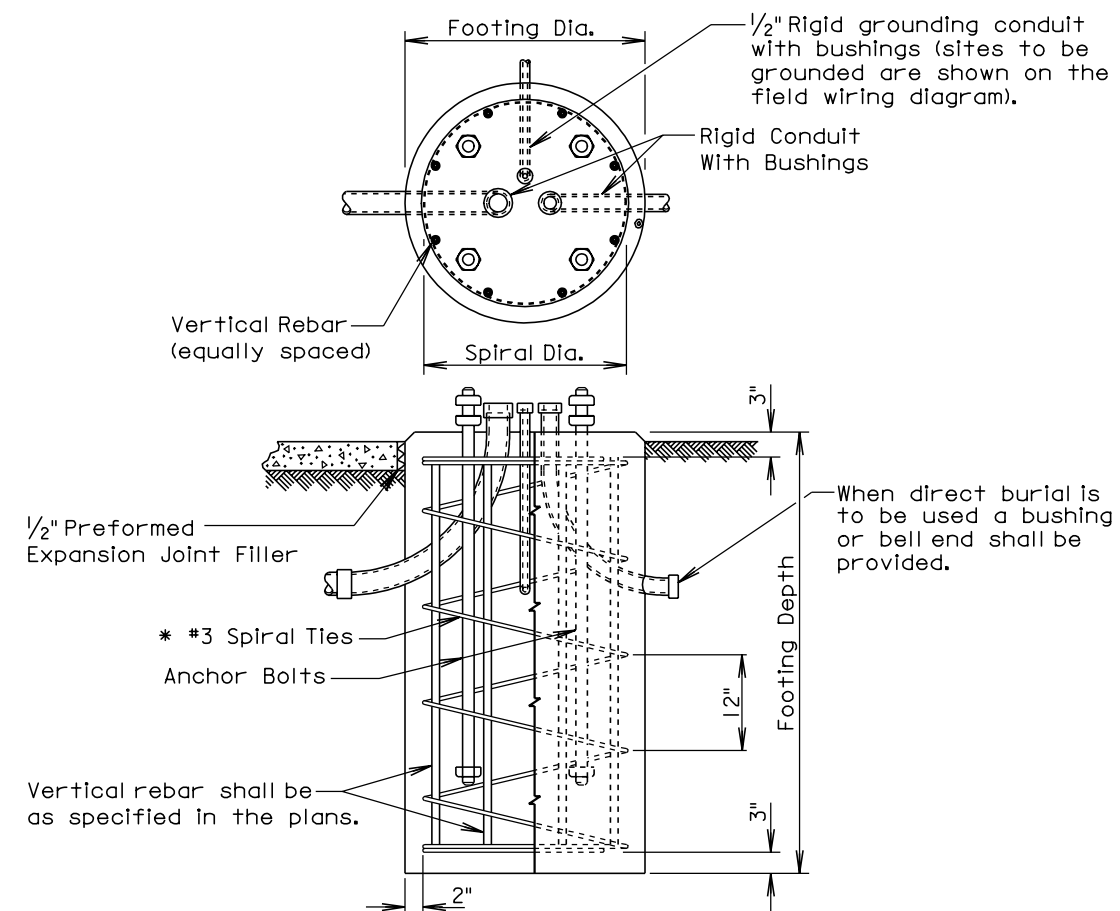
Connectors shall be breakaway type with the male plug pointing down on the line side and up on the neutral side.

The Connector on the line side shall be fused and the Connector on the neutral side shall be unfused and have a white marking.

March 31, 2000

S D D O T	ROADWAY LUMINAIRE POLE BREAKAWAY BASE (NEUTRAL)	PLATE NUMBER 635.10
		Sheet 1 of 1

Published Date: 4th Qtr. 2008



GENERAL NOTES:

* #3 Circular ties may be used in lieu of the #3 spiral ties. The ties shall be spaced 12" apart except for the top two which shall be spaced 6" apart. The ties shall be lapped 18" 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 Standard Specifications for footing materials.

Conduits and bushings may project 2 1/2" to 6" 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.

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

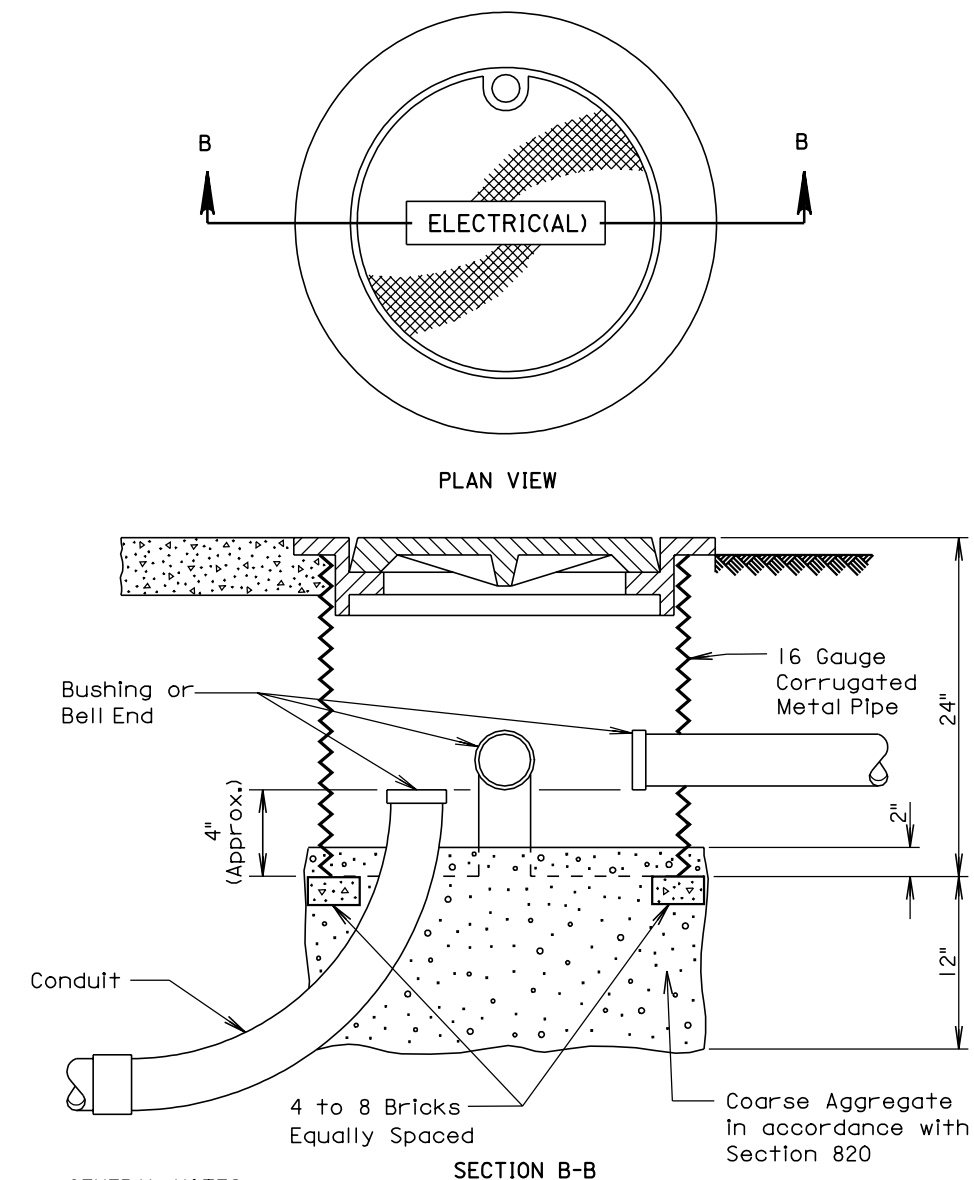
The pole shall not be installed until the concrete has attained design strength (4000 psi).

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.

December 23, 2007

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

Published Date: 4th Qtr. 2008



GENERAL NOTES:

Where conductors are installed by the direct burial method, the conductors shall enter into the junction box through stub conduits. The stub conduit shall have a minimum nominal inside diameter as determined by the 40% fill method. The stub conduits shall have a minimum length of 12 inches and conduit bushings or bell ends shall be provided at both ends. The costs for furnishing and installing the stub conduits shall be incidental to the contract unit price per Each for the appropriate junction box bid item(s).

The junction box covers shall be bonded to the equipment ground prior to energization of wires in the junction box.

The junction box sizes and quantities are shown on the plan sheets.

March 31, 2000

S D D O T	ELECTRICAL JUNCTION BOX (CORRUGATED METAL PIPE)	PLATE NUMBER 635.65
		Sheet 1 of 1

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