

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED

PROJECT 090W-451
INTERSTATE 90
MEADE COUNTY
LUMINAIRE FOOTING REPAIRS
PCN i79V

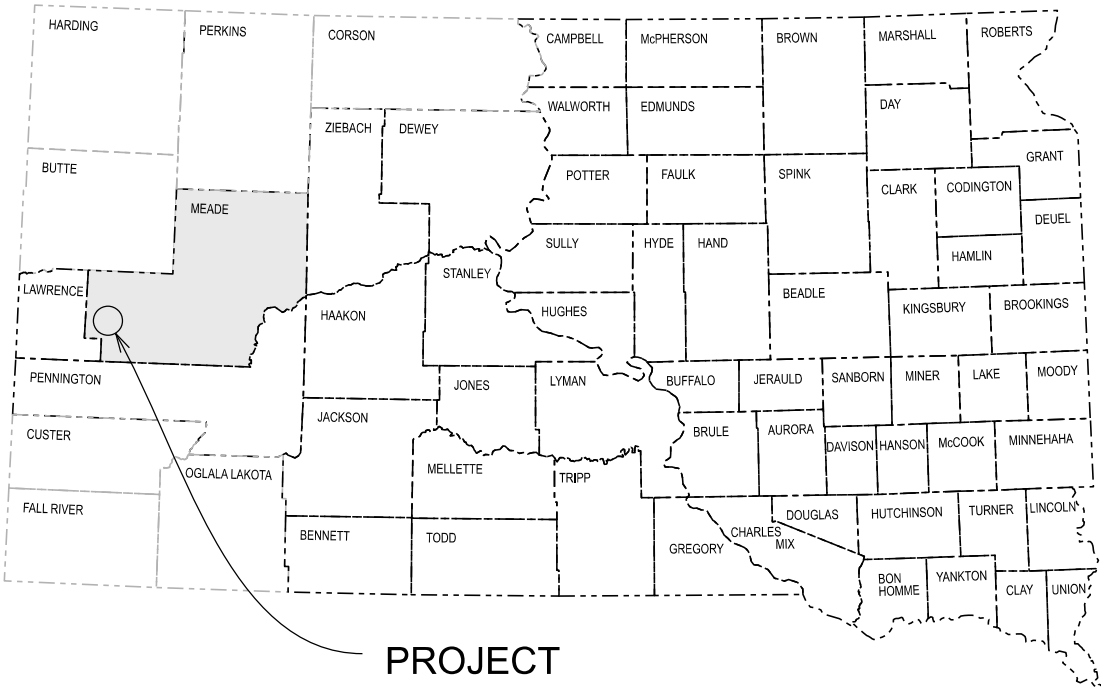


Plotting Date: 07/14/2023

PROJECT	SECTION	SHEET
090W-451	non	1/13

INDEX OF SHEETS

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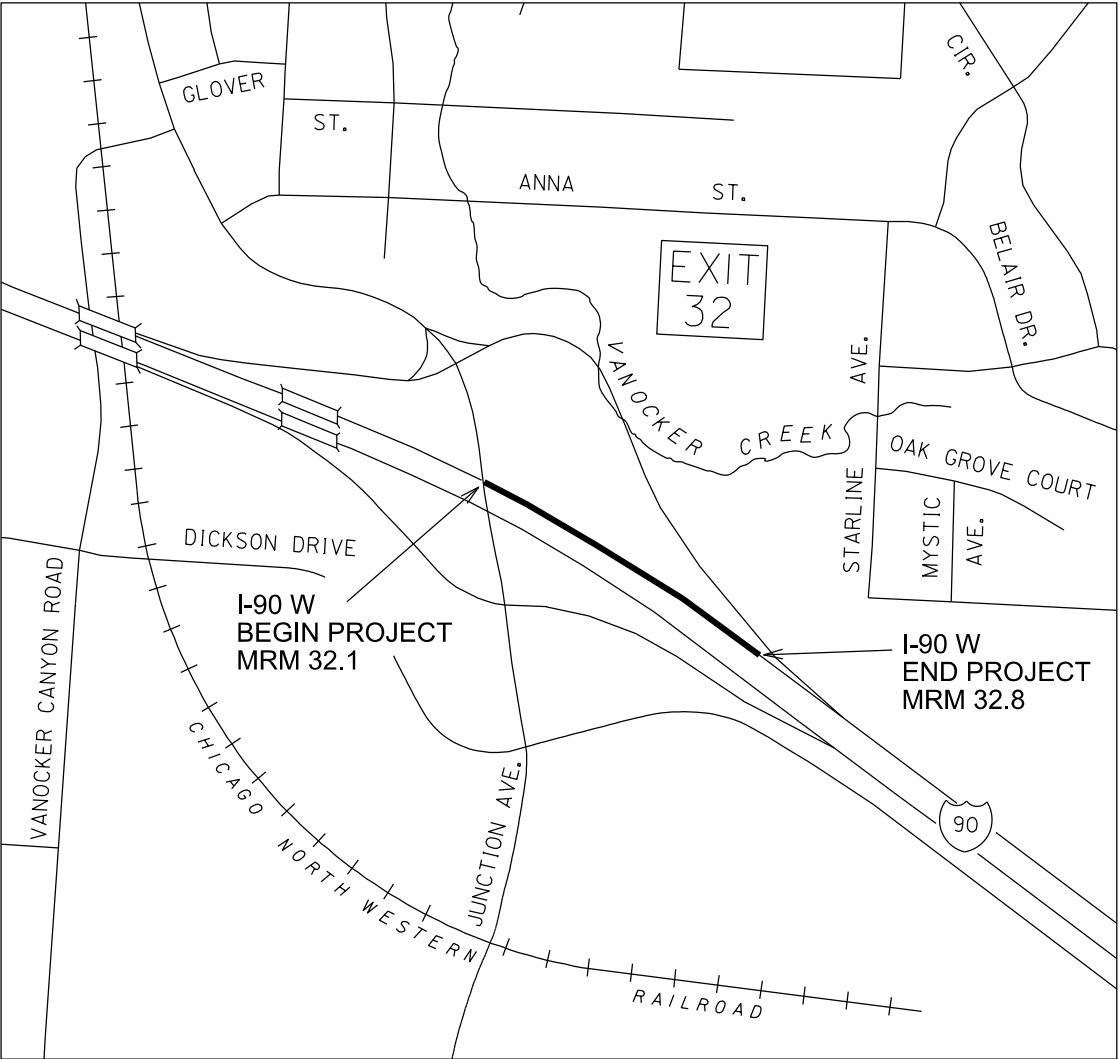
PROJECT

STURGIS
T 5 N - R 5 E
Section 15

DESIGN DESIGNATION

ADT (2022)	10265
ADT (2041)	16198
DHV	2379
D	51%
T DHV	5.3%
T ADT	11.7%
V	80 MPH

STORM WATER PERMIT
No Permit Required



ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
110E1540	Remove Luminaire Pole Footing	8	Each
230E0100	Remove and Replace Topsoil	Lump Sum	LS
634E0110	Traffic Control Signs	208.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	2	Each
634E0420	Type C Advance Warning Arrow Board	2	Each
635E5020	2' Diameter Footing	72.0	Ft
635E6200	Miscellaneous, Electrical	Lump Sum	LS
635E7500	Remove and Reset Luminaire Pole	8	Each
730E0210	Type F Permanent Seed Mixture	4	Lb
731E0100	Fertilizing	160	Lb
734E0102	Type 2 Erosion Control Blanket	227	SqYd
734E0154	12" Diameter Erosion Control Wattle	240	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

The SDDOT is committed to protecting the environment and uses Environmental Commitments as a communication tool for the Engineer and Contractor to ensure that attention is given to avoid, minimize, and/or mitigate an environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency with permitting authority can delay a project if identified 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. During construction, the Project Engineer will verify that the Contractor has met Environmental Commitment requirements. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office.

Additional guidance on SDDOT's Environmental Commitments can be accessed through the Environmental Procedures Manual found at: <<https://dot.sd.gov/media/documents/EnvironmentalProceduresManual.pdf>>

For questions regarding change orders in the field that may have an effect on an Environmental Commitment, the Project Engineer will contact the Environmental Engineer at 605-773-3180 or 605-773-4336 to determine whether an environmental analysis and/or resource agency coordination is necessary.

Once construction is complete, the Project Engineer will review all environmental commitments for the project and document their completion.

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 will 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) will 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 Agriculture and Natural Resources.

The waste disposal site(s) will 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 Environmental Office and the Project Engineer.

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

- Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials will be buried in a trench separate from wood debris. The final cover over the construction and/or demolition debris will consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the Public ROW will be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor will control the access to waste disposal sites not within the Public ROW with 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 not to exceed the duration of the project. Prior to project completion, the waste will 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) will be incidental to the various contract items.

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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 a cultural resource review prior to scheduling the pre-construction meeting. 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 will arrange and pay for a record search and when necessary, a cultural resource survey. 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 if the site was previously surveyed; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor will provide ARC with the following: a topographical map or aerial view in 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 will submit the cultural resources survey report to SDDOT Environmental Office, 700 East Broadway Avenue, Pierre, SD 57501-2586. 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.

In the event of an inadvertent discovery of human remains, funerary objects, or if evidence of cultural resources is identified during project construction activities, then such activities within 100 feet of the inadvertent discovery will immediately cease and the Project Engineer will be immediately notified. The Project Engineer will contact the SDDOT Environmental Office, who will contact the appropriate SHPO/THPO within 48 hours of the discovery 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 will not utilize a site known or suspected of having contaminated soil or water. The Contractor will provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

UTILITIES

The Contractor will contact the involved utility companies through South Dakota One Call (1-800-781-7474) prior to starting work. It will be the responsibility of the Contractor to coordinate work with the utility owners to avoid damage to existing facilities.

If utilities are identified near the improvement area through the SD One Call Process as required by South Dakota Codified Law 49-7A and Administrative Rule Article 20:25, the Contractor will contact the Engineer to determine modifications that will be necessary to avoid utility impacts.

LUMINAIRE REPAIRS

The Luminaire Repair work on this project is to provide good positive drainage away from the luminaire footings and eliminate future maintenance issues associated with poor drainage and siltation. New concrete footings are provided for the luminaires that need to be relocated to a higher location to allow good positive drainage away from the concrete footing.

TABLE OF LUMINAIRE REPAIRS

Hwy.	MRM	Disp.	Pole #	Description
I-90 W	32.41	+0.345	IL11	No Work
I-90 W	32.41	+0.282	IL10	Move South 8'
I-90 W	32.41	+0.216	IL9	Move South 6'
I-90 W	32.41	+0.153	IL8	Move South 7'
I-90 W	32.41	+0.088	IL7	Move North 5'
I-90 W	32.41	+0.090	IL6	No Work
I-90 W	32.41	+0.092	IL5	Move South 5'
I-90 W	32.27	+0.149	IL4	Move South 2'
I-90 W	32.27	+0.068	IL3	Move South 6'
I-90 W	32.27	+0.018	IL2	Move North 8'

SHOP DRAWING AND CATALOG CUTS SUBMITTALS

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

PDF submittals will be sent to the following email addresses:

Stacy.Bartlett@state.sd.us
John.Less@state.sd.us

REMOVE LUMINAIRE POLE FOOTING

The footings of existing luminaire poles IL2, IL3, IL4, IL5, IL7, IL8, IL9 & IL10 will be removed by the Contractor to a minimum of 2' below the ground surface. Restoration of the disturbed area will be to the satisfaction of the Engineer.

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

REMOVE AND RESET LUMINAIRE POLE

Existing luminaire poles IL2, IL3, IL4, IL5, IL7, IL8, IL9 & IL10 will be removed and reset as RIL2, RIL3, RIL4, RIL5, RIL7, RIL8, RIL9,& RIL10 as shown on the plan sheets.

Shop drawing records show that the existing anchor bolts are straight 1 1/4" - 7 X 48" with a bolt circle diameter of 17", and a 4" bolt projection. The replacement anchor bolts will be in conformance with the Specifications. The poles were originally installed with Project IM 90-1(121)30, Drawing No. 10B337 and were fabricated by:

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

Luminaire poles and luminaires damaged during removal or resetting will be repaired or replaced by the Contractor at no cost to the State.

All costs involved with removing and resetting the existing luminaire poles including new anchor bolts with associated hardware, will be incidental to the contract unit price per each for "Remove and Reset Luminaire Pole".

TABLE OF FOOTING DATA

Site Designation	Footing Diameter	* Footing Depth	**Spiral Diameter	**Spiral Length	Vertical Reinforcement
RIL2, RIL3, RIL4, RIL5, RIL7, RIL8, RIL9 & RIL10	2' - 0"	9' - 0"	1' - 8"	60' - 0"	8-#7 x 8' - 6"

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

MISCELLANEOUS, ELECTRICAL

The Contractor will disconnect and carefully pull back the existing wiring at luminaire poles IL2, IL3, IL4, IL5, IL7, IL8, IL9 & IL10. The existing conduit will be intercepted to the east and west of the poles and extended to the new footing locations for RIL2, RIL3, RIL4, RIL5, RIL7, RIL8, RIL9,& RIL10 as shown on the plans. The existing wires from the west will be pulled back to the relocated poles and new #4 AWG wires will be pulled between the relocated poles and the adjacent poles to the east.

All costs for labor and materials to disconnect the existing wires, pull back existing wires, splice new conduit to existing conduit, repull existing wires, provide & pull new #4 AWG wires, and reconnect all wires will be incidental to the contract lump sum price for "Miscellaneous, Electrical".

WIRE SPLICING FOR LIGHTING

All wire splices for lighting will be made using TE Connectivity GTAP connectors, NSI Industries Polaris Blue connectors, or an approved equal.

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REMOVE AND REPLACE TOPSOIL

Prior to beginning grading operations topsoil will be removed and placed in a windrow alongside the grading limits. Following completion of construction, topsoil will be spread evenly over the disturbed areas.

All costs associated with removing and replacing the topsoil along areas to be resurfaced will be incidental to the contract lump sum price for "Remove and Replace Topsoil".

PERMANENT SEEDING

The areas to be seeded consist of all areas disturbed during construction.

Type F Permanent Seed Mixture will consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Arriba, Flintlock, Rodan, Rosana, Walsh	7
Green Needlegrass	Lodorm, AC Mallard Ecovar	4
Sideoats Grama	Butte, Pierre	3
Blue Grama	Bad River	2
Oats or Spring Wheat: April through May; Winter Wheat: August through November		10
Total:		26

FERTILIZING

The Contractor will apply an all-natural slow release fertilizer prior to seeding or placing sod. The all-natural fertilizer will have a minimum guaranteed analysis of 4-4-4 and be USDA Certified BioBased. It should provide a minimum of 4% (N) nitrogen with a minimum water insoluble nitrogen (WIN) fraction of 2.07%, a minimum of 4% (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 will 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 will 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 will 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 fertilizer will be applied at a rate of 1,500 pounds per acre in accordance with the manufacturer's recommended method of application.

The all-natural slow release fertilizer will be as shown below or an approved equal:

Product	Manufacturer
Sustane	Sustane Corporate Headquarters Cannon Falls, Minnesota Phone: 1-800-352-9245 www.sustane.com
Perfect Blend	Perfect Blend, LLC Bellevue, WA Phone: 1-866-456-8890 www.perfect-blend.com
Nature Safe	Nature Safe Fertilizers Irving, TX Phone: 1-605-759-5622 www.naturesafe.com

TABLE OF EROSION CONTROL

MRM	Disp.	Pole #	Type F Permanent Seed Mixture Lb	Fertilizing Lb	Type 2 Erosion Control Blanket SqYd	12" Diameter Erosion Control Wattle Ft
32	+0.779	IL10	0.5	20	28.4	30
32	+0.719	IL9	0.5	20	28.4	30
32	+0.650	IL8	0.5	20	28.4	30
32	+0.585	IL7	0.5	20	28.4	30
32	+0.455	IL5	0.5	20	28.4	30
32	+0.391	IL4	0.5	20	28.4	30
32	+0.326	IL3	0.5	20	28.4	30
32	+0.266	IL2	0.5	20	28.4	30
		Total:	4.0	160	227.2	240

GENERAL TRAFFIC CONTROL

Existing guide, route, informational logo, regulatory, and warning signs will be temporarily reset and maintained during construction. Removing, relocating, covering, salvaging, and resetting of existing traffic control devices, including delineation, will be the responsibility of the Contractor. Cost for this work will be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any delineators and signs damaged or lost will be replaced by the Contractor at no cost to the State.

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

All construction operations will 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 will be used, as determined by the Engineer.

Unless otherwise stated in these plans, work will not be allowed during hours of darkness.

Fixed location signing placed more than 4 calendar days prior to the start of construction will be covered or laid down until the time of construction. The covers must be approved by the Engineer prior to installation. The cost of materials, labor, and equipment necessary to complete this work will be incidental to other contract items. No separate payment will be made.

All fixed location signs, sign posts, and breakaway bases will be removed within 7 calendar days following pavement marking.

All haul trucks will be equipped with an additional flashing amber light that is visible from the backside of the haul truck. The costs for the flashing amber lights will be incidental to the various related contract items.

Traffic will 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 will be repaired at no expense to the Department.

A Type 3 Barricade will be installed at the end of a lane closure taper as detailed in these plans.

Construction vehicles will exit or enter the construction work zone at locations identified by the Engineer. At no time will construction vehicles utilize the maintenance crossovers or the Interstate median to exit or enter Interstate traffic.

Lane closures will be removed prior to nightfall.

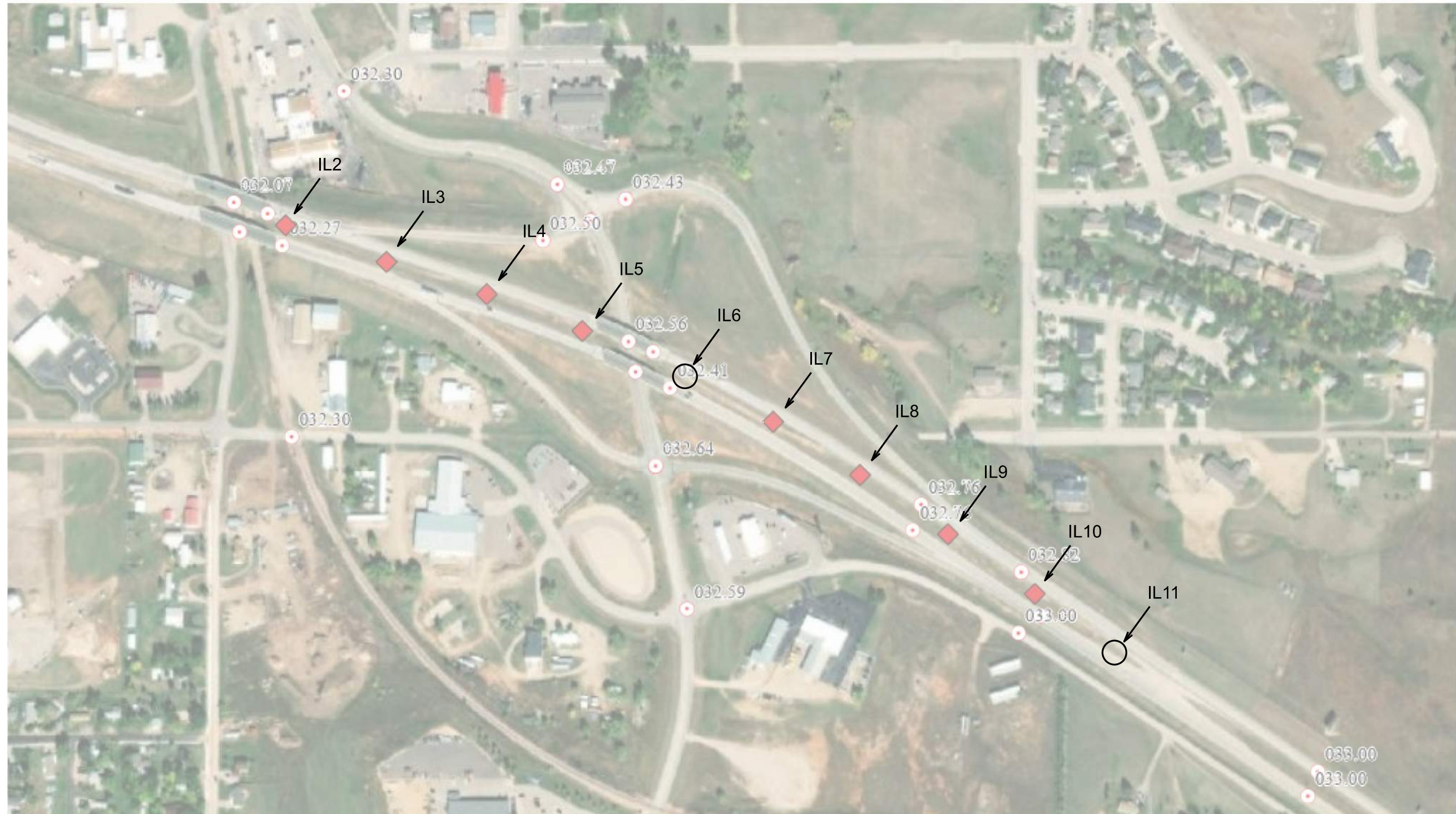
TRAFFIC CONTROL SIGNS

Traffic control signs have been included in a table for each direction of I-90. Payment will only be for those signs used for each direction.

INVENTORY OF TRAFFIC CONTROL DEVICES

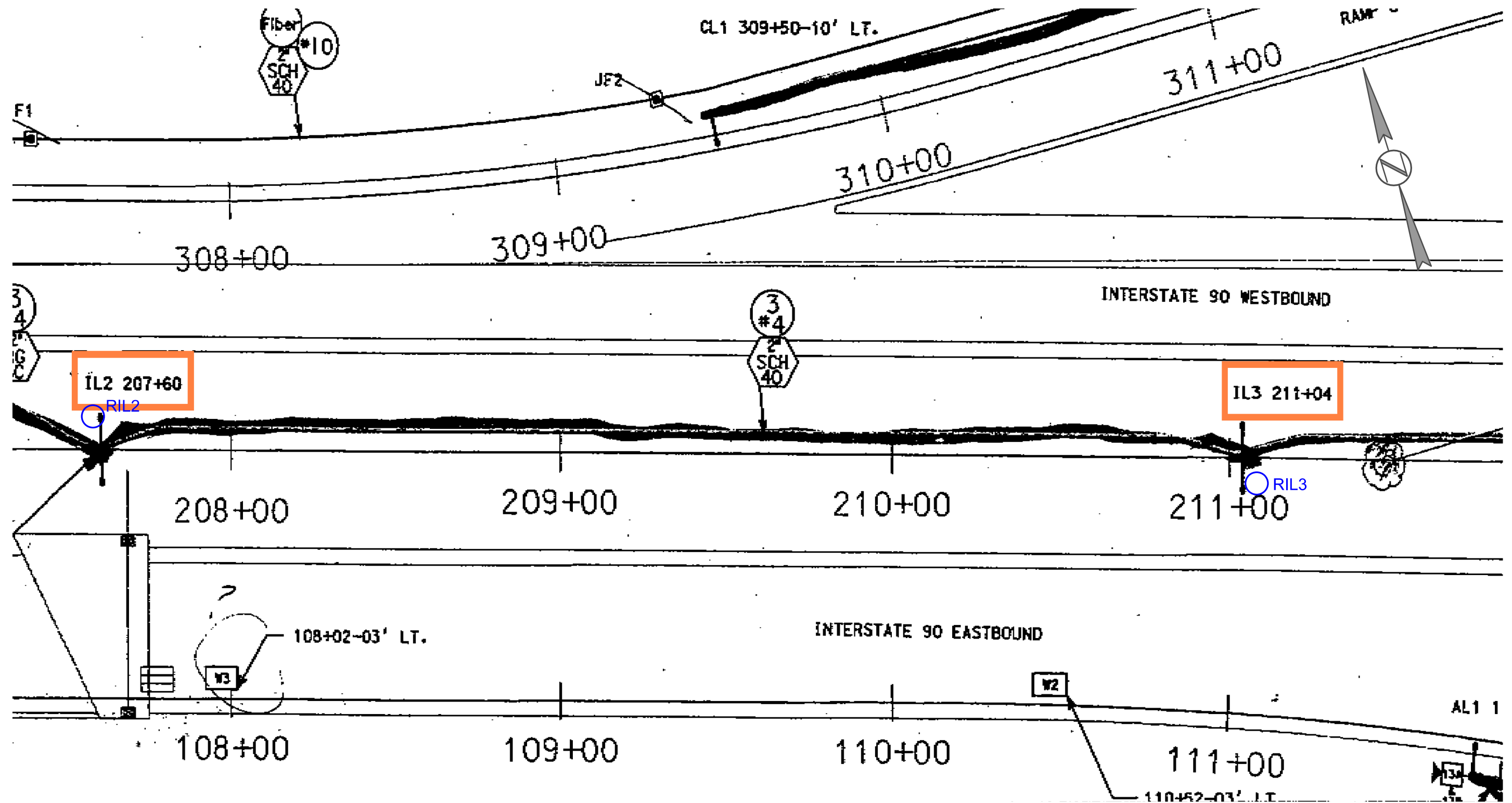
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W4-2	LEFT or RIGHT LANE ENDS (symbol)	4	48" x 48"	16.0	64.0
W20-1	ROAD WORK AHEAD	4	48" x 48"	16.0	64.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	4	48" x 48"	16.0	64.0
G20-2	END ROAD WORK	2	48" x 24"	8.0	16.0
		EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS			208.0
		SQFT			

Luminaire Pole Repair Locations

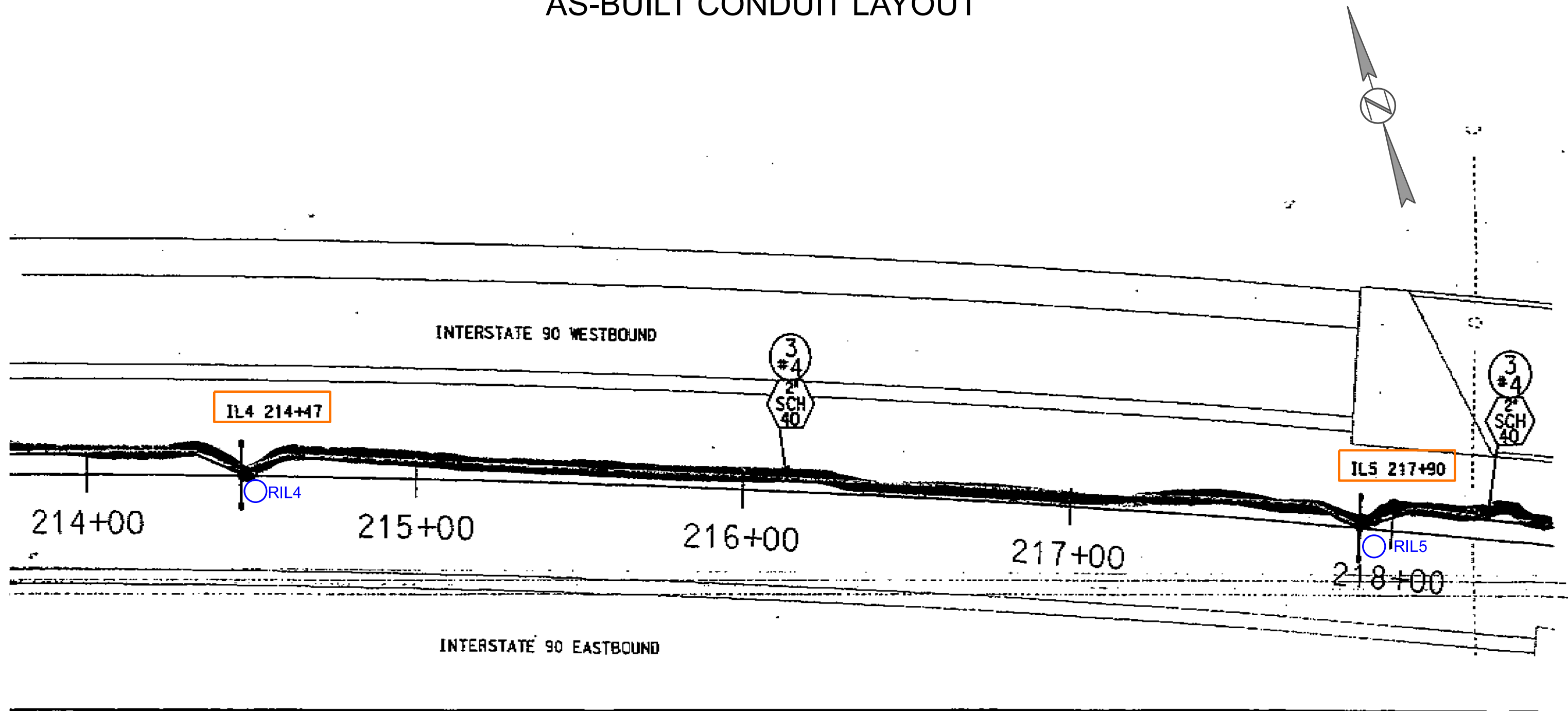


○ No work at pole IL6 and IL11.

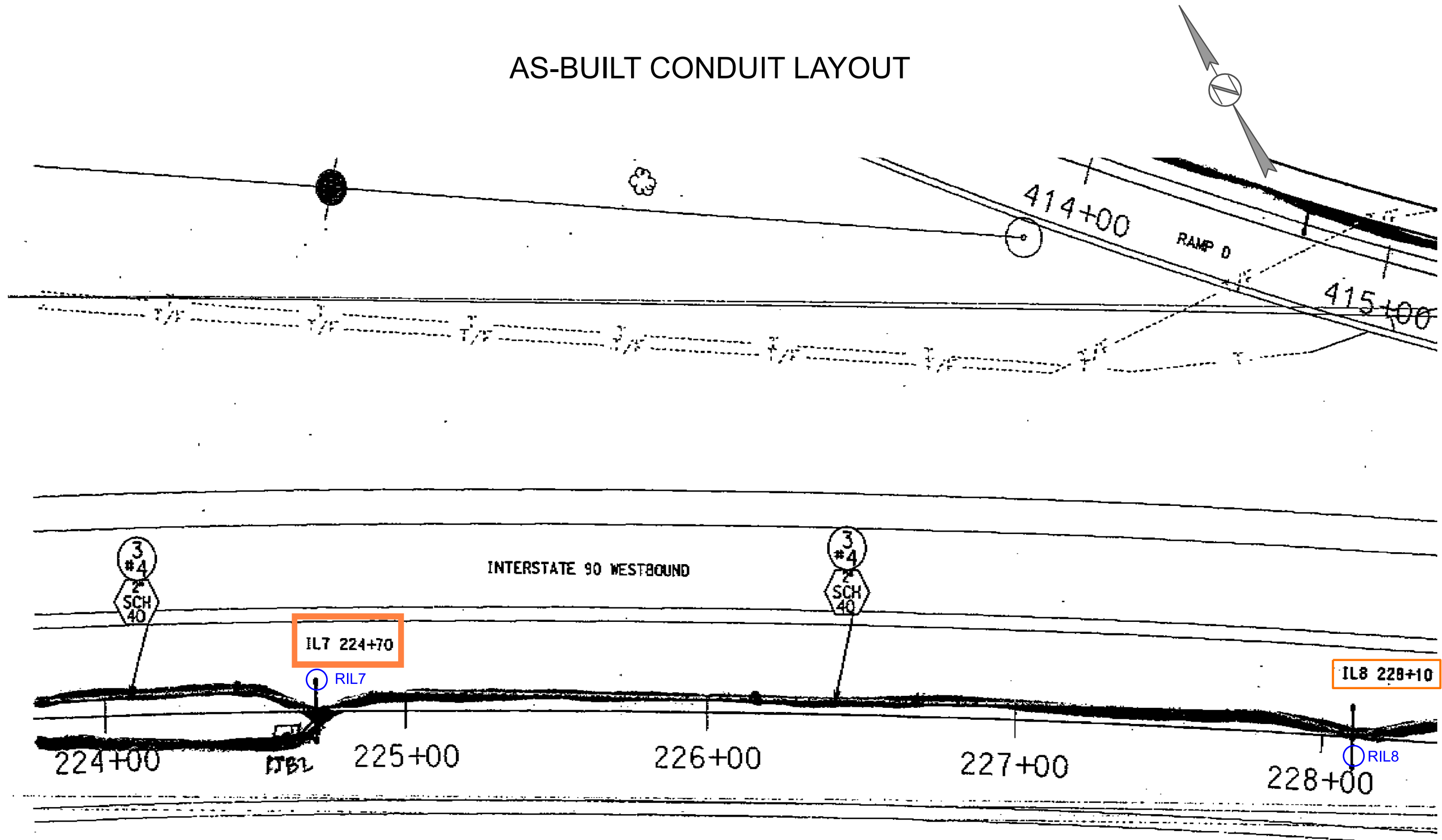
AS-BUILT CONDUIT LAYOUT



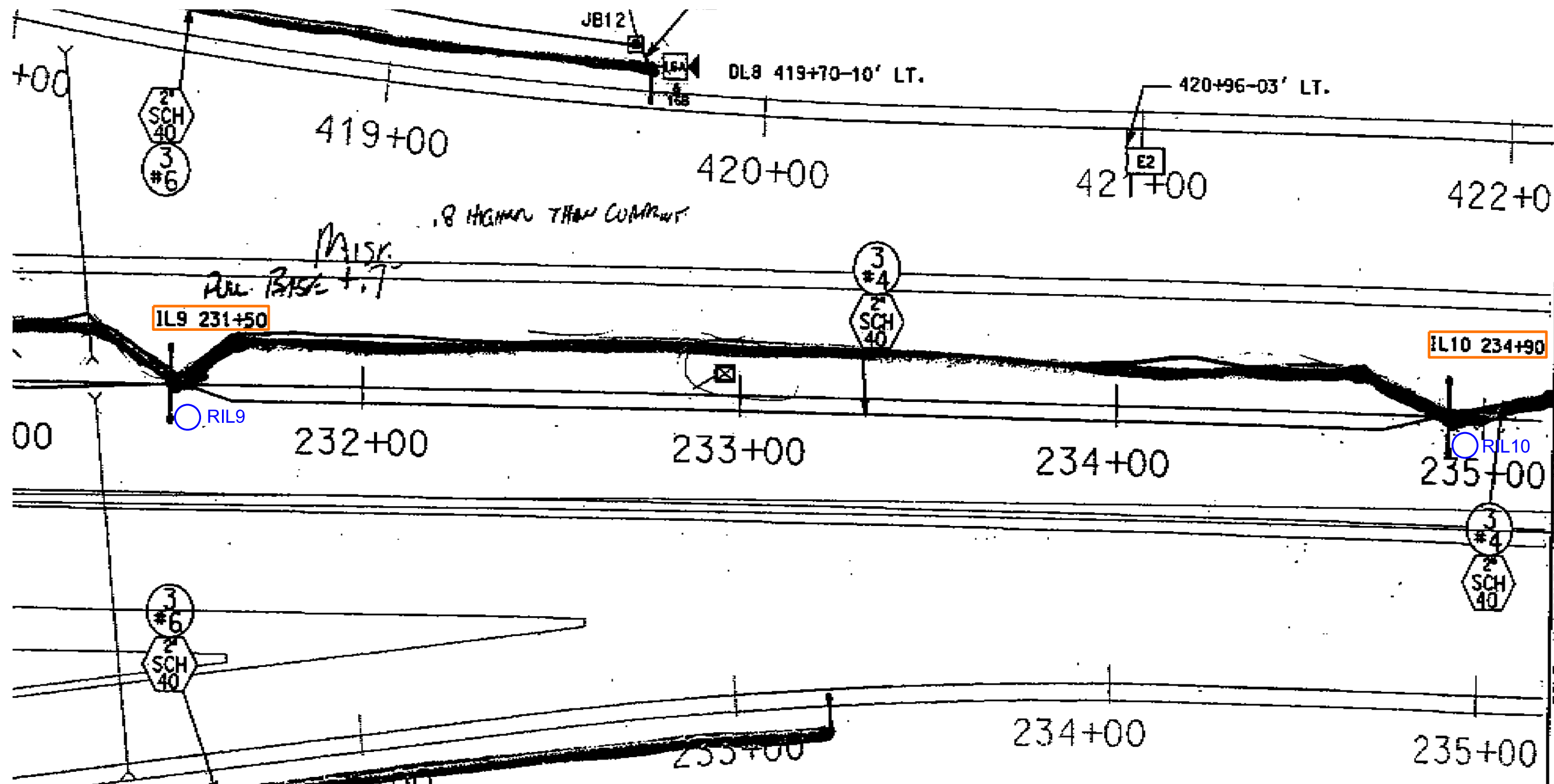
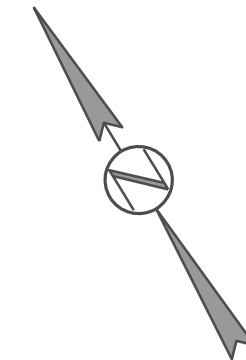
AS-BUILT CONDUIT LAYOUT

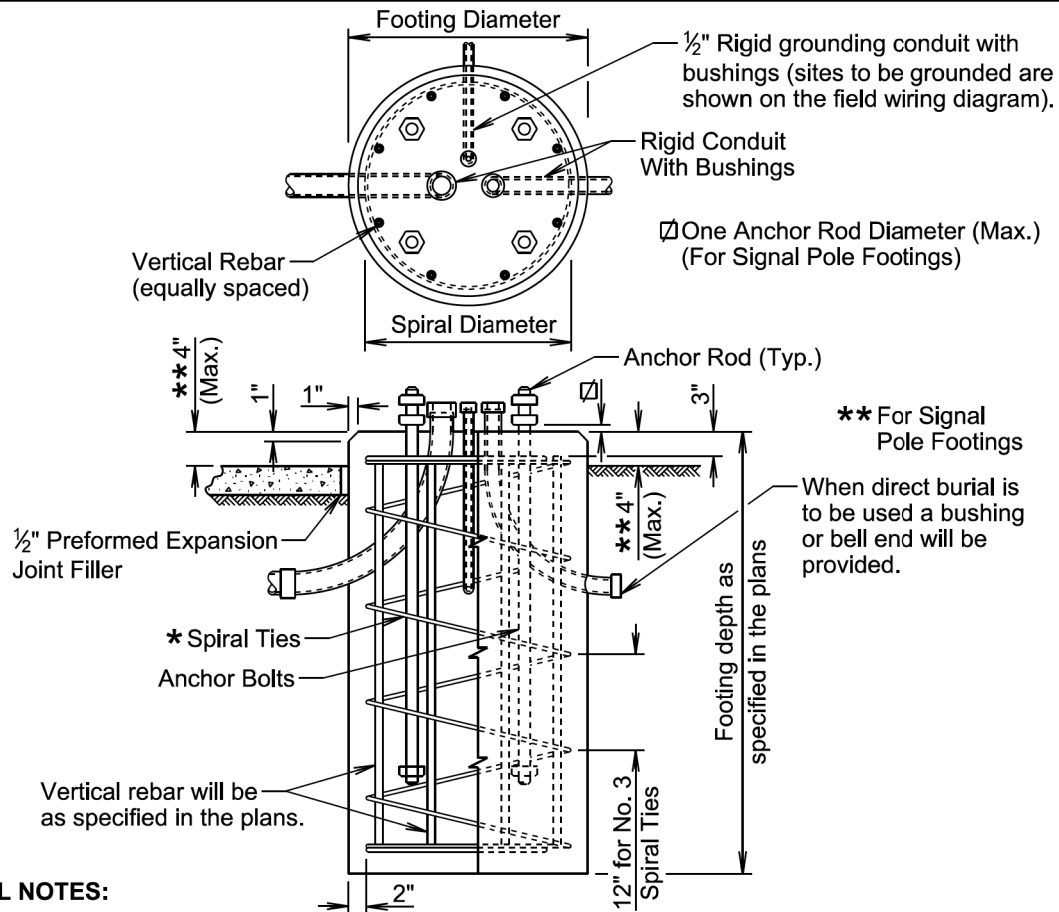


AS-BUILT CONDUIT LAYOUT



AS-BUILT CONDUIT LAYOUT



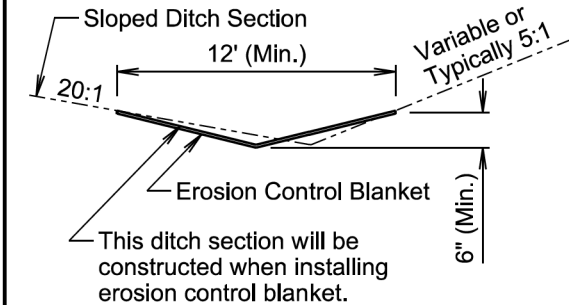
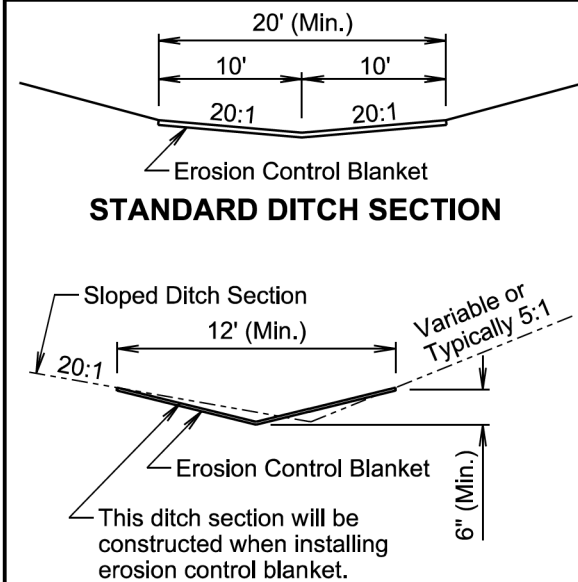


GENERAL NOTES:

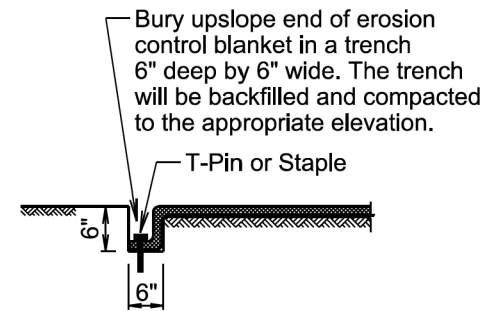
- * Circular ties may be used in lieu of the spiral ties. The No. 3 ties will be spaced 12 inches apart except for the top two which will be spaced 6 inches apart. The ties will be lapped 18 inches and the laps will be staggered around the cage.
- Spiral ties will have 1-1/2 extra turns at each end.
- 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 will not project above the slip plane or fracture plane for breakaway poles.
- Conduits will be sealed water-tight during all phases of construction until poles are in place.
- The anchor rods will 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 will be incidental to the footing bid item(s).
- The pole will not be installed until the concrete has attained design strength (4000 psi).
- The contour of the area surrounding the breakaway pole will 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.

November 19, 2022

Published Date: 2024	SD DOT	POLE FOOTING	PLATE NUMBER 635.55
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SLOPED DITCH SECTION



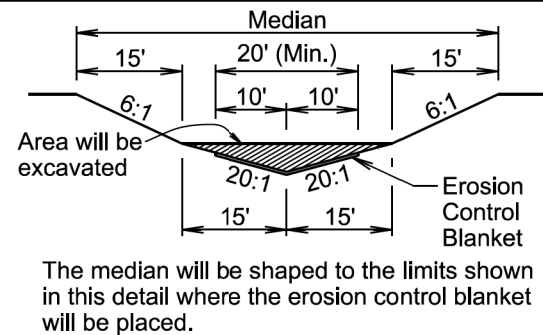
TRENCH DETAIL

GENERAL NOTES:

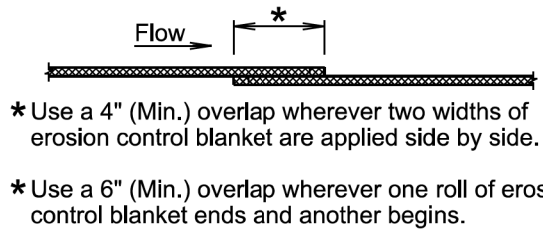
- Prior to placement of the erosion control blanket, the areas will be properly prepared, shaped, seeded, and fertilized.
- Erosion control blanket will be unrolled in the direction of the flow of water when placed in ditches and on slopes. The upslope end of the erosion control blanket will be buried in a trench 6" wide by 6" deep. There will be at least a 6" overlap wherever one roll of erosion control blanket ends and another begins, with the upslope erosion control blanket placed on top of the downslope erosion control blanket.
- The erosion control blanket will be pinned to the ground according to the manufacturer's installation recommendations.
- After the placement of the erosion control blanket, the Contractor will fine grade along all edges of the blanket to maintain a uniform slope adjacent to the blanket and level any low spots which might prevent uniform and unrestricted flow of side drainage directly onto the erosion control blanket.
- All ditch sections will be shaped when installing the erosion control blanket. All costs for shaping the ditches will be incidental to the contract unit price per foot for "Shaping for Erosion Control Blanket".

February 14, 2020

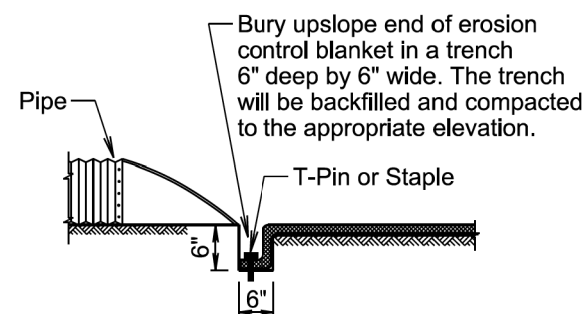
Published Date: 2024	SD DOT	EROSION CONTROL BLANKET	PLATE NUMBER 734.01
			Sheet 1 of 1



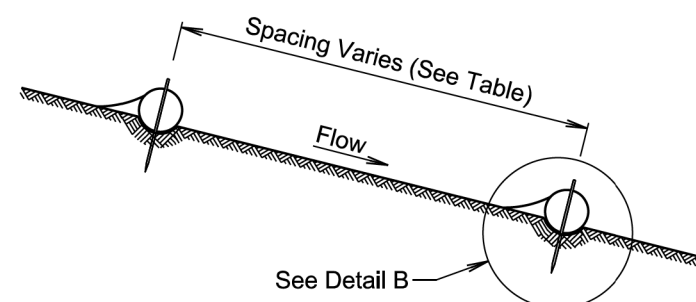
MEDIAN SECTION



OVERLAP DETAIL

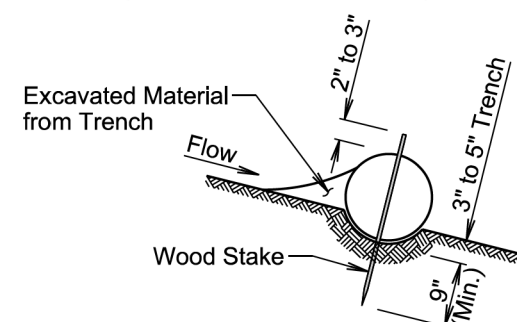


PIPE END DETAIL

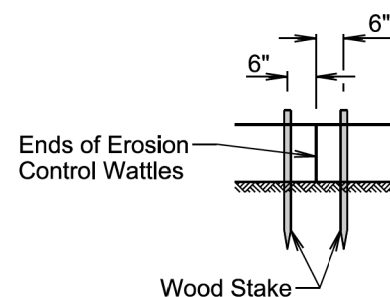


ELEVATION VIEW
(Cut or Fill Slope Installation)

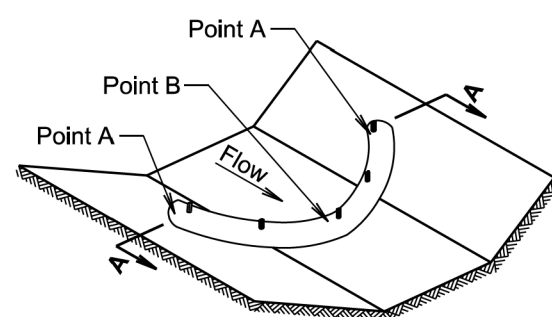
CUT OR FILL SLOPE INSTALLATION	
Slope	Spacing (Ft.)
1:1	10
2:1	20
3:1	30
4:1	40



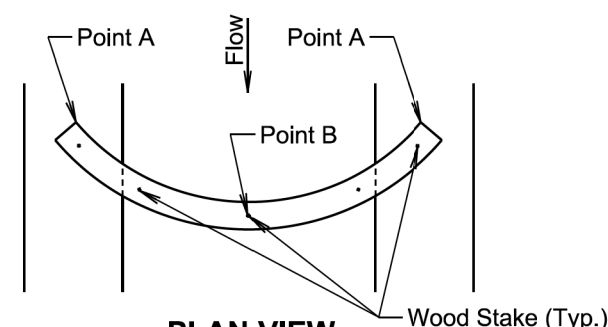
DETAIL B
(Typical of All Installations)



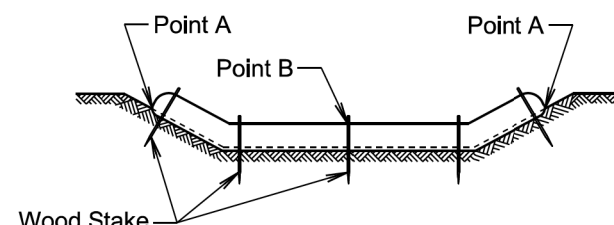
DETAIL C
(See General Notes)



ISOMETRIC VIEW
(Ditch Installation)



PLAN VIEW (Ditch Installation)



SECTION A-A

DITCH INSTALLATION	
Grade	Spacing (Ft.)
2%	150
3%	100
4%	75
5%	50

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SDDOT

EROSION CONTROL WATTLE

PLATE NUMBER
734.06

Sheet 1 of 2

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EROSION CONTROL WATTLE

PLATE NUMBER
734.06

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