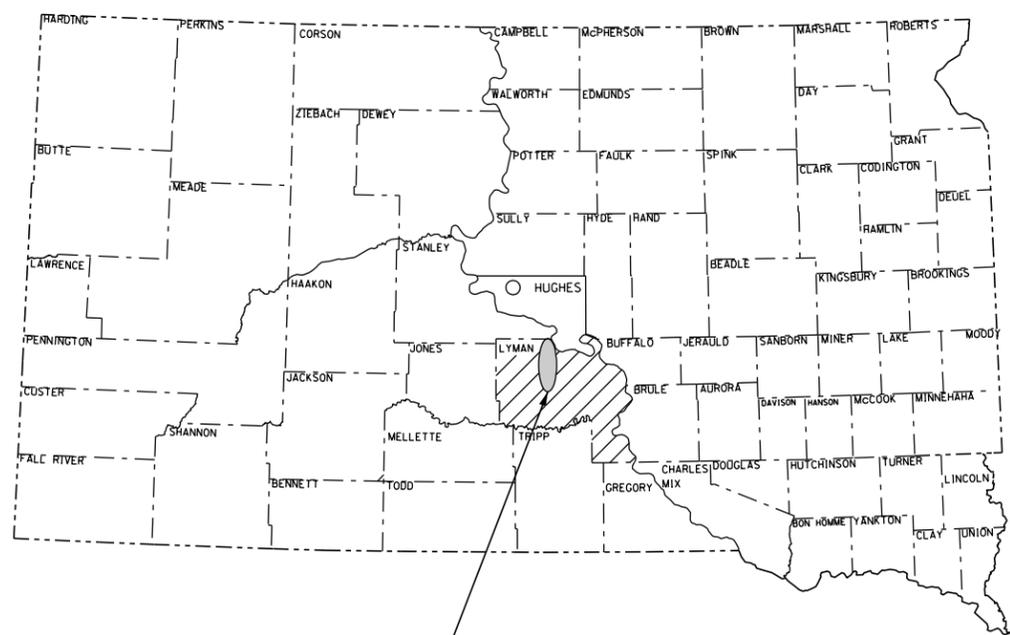


STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P0273(07)61	1	6

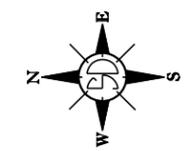
**STATE OF SOUTH DAKOTA**  
**DEPARTMENT OF TRANSPORTATION**  
**PLANS FOR PROPOSED**  
**PROJECT P 0273(07)61**  
**SD HIGHWAY 273**  
**LYMAN COUNTY**  
**ASPHALT CONCRETE CRACK SEALING**  
**PCN 054J**



**INDEX OF SHEETS**

Sheet No. 1	Title Sheet
Sheet Nos. 2-4	Estimate of Quantities
	Environmental Commitments
Sheet No. 5	Plan Notes & Sign Tabulation
Sheet No. 6	Typical Reservoir Section
	Standard Plates

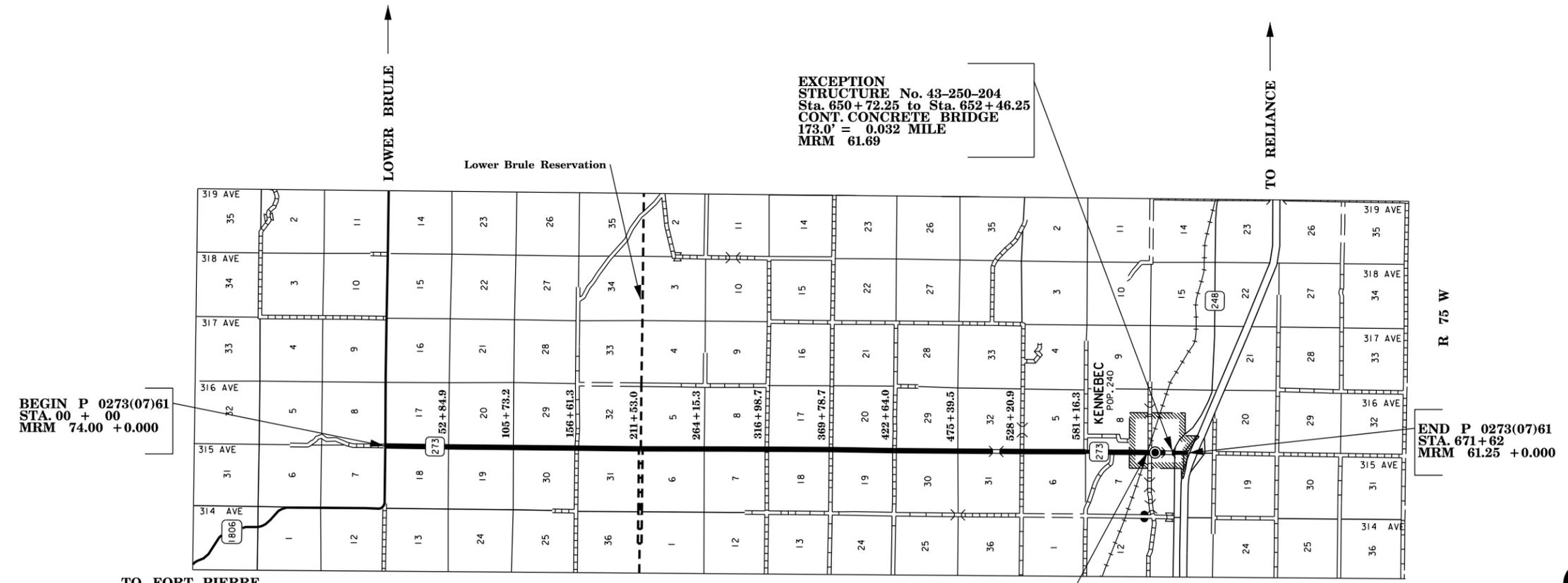
**PROJECT**



**DESIGN DESIGNATION**  
(SD HIGHWAY 273)

ADT (2014)	444
ADT (2034)	739
DHV	113.8
D	51%
T DHV	6.5%
T ADT	14.4%
V	55 & 65 MPH

**EXCEPTION**  
**STRUCTURE No. 43-250-204**  
**Sta. 650+72.25 to Sta. 652+46.25**  
**CONT. CONCRETE BRIDGE**  
**173.0' = 0.032 MILE**  
**MRM 61.69**



**BEGIN P 0273(07)61**  
**STA. 00 + 00**  
**MRM 74.00 + 0.000**

**END P 0273(07)61**  
**STA. 671 + 62**  
**MRM 61.25 + 0.000**

**STORM WATER PERMIT**  
**NO PERMIT REQUIRED**

**SD HIGHWAY 273**

GROSS LENGTH	67,162.00 FEET	12.720 MILES
LENGTH OF EXCEPTIONS	183 FEET	0.035 MILES
NET LENGTH	66,979.00 FEET	12.685 MILES

**EXCEPTION**  
**Sta. 632+19.1 to Sta. 632+29.1**  
**Railroad Crossing**

**8**

Revised: 1-04-2016

**Estimate of Quantities**

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
350E0010	Asphalt Concrete Crack Sealing	18,192	Lb
634E0010	Flagging	230.0	Hour
634E0020	Pilot Car	115.0	Hour
634E0110	Traffic Control Signs	116	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS

**SPECIFICATIONS**

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

**PROJECT COORDINATION**

For sequencing planning purposes, this project will be adjacent to one other SDDOT projects. The Contractor will coordinate their work schedule and traffic closures as per the plans and specifications, as determined by the Engineer. Existing construction signing and traffic control may need to be covered or removed/reset as appropriate to complete this work. The cost for this work shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous.

Project  
IM0904(59)210: PCN 04D4  
I90 Shoulder Seals Project from MRM 210.14 to MRM 260.49

**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**

**COMMITMENT B2: WHOOPING CRANE**

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:**

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 B4: BALD EAGLE**

Bald eagles are known to occur in this area.

**Action Taken/Required:**

If a nest is observed within one mile of the project site, notify the Project Engineer immediately so that he/she can consult with the Environmental Office for an appropriate course of action.

**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.

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P0273(07)61	3	6

### **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 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 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:

1. 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 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.

### **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: staging areas, borrow sites, waste disposal sites, and all material processing sites.

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 staging areas, borrow sites, waste disposal sites, or material processing sites 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.

Revised: 2-16-2016

### 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.

Work activities will be conducted during daylight hours only.

### CRACK SEAL QUANTITIES

Estimated quantities to complete the project were figured based on the existing transverse cracks only. The contractor is required to seal to the grass line. The Contractor will not be required to seal the existing longitudinal cracks on the project, unless ordered by the Engineer.

All quantities are based on a factor of 0.4 lbs of sealant per 1 foot of existing crack. Actual quantities used may vary depending upon the location and width of the existing crack. Rates may vary as directed by the Engineer.

### ROADWAY CLEANING

The Contractor shall be responsible for removing the router tailings from the roadway surface, including shoulders, intersecting roads and/or as directed by the Engineer.

### CRACK SEALING

One 5 lb. (2.27kg) sample representing each lot or batch shall be taken from the application wand during the sealing process. The sample shall be placed in Teflon or silicone lined box furnished by the Contractor and having a minimum capacity of 5 lbs. (2.27 kg).

The contractor shall perform a destructive pull out test in one random location each day to provide assurance that the crack sealant is properly adhering to the reservoir. Once the test is completed, the contractor is required to re-seal the affected area. This testing is to be witnessed by the engineer on site. If the material fails to adhere to the reservoir in a manner satisfactory to the engineer, work is to stop and the bituminous engineer is to be notified.

All other requirements stated in Section 350 of the Specifications shall apply.

### BLOTTING MATERIAL

Blotting material shall be placed over the sealant material immediately following placement of sealant on all cracks.

### GENERAL MAINTENANCE OF TRAFFIC

Traffic shall be maintained in 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.

All materials and equipment shall be moved to a minimum distance of 30 feet from the edge of the traveled lanes during nights, weekends, and other non-working hours.

If operations exist where the traveling public will be delayed at a flagging station more than 5 minutes, it is required that the flaggers and pilot car operators all have radio or telephone contact with one another. This equipment is to be used to assist with Traffic movement in the event that an emergency vehicle such as ambulance, police or fire vehicles need to pass through the project in an expedient manner.

Highway equipment working within traffic or adjacent to traffic shall, at all times, display a flashing or revolving amber light to warn the traveling public.

Sufficient traffic control devices have been included in these plans to sign one workspace. No additional payment will be made if the Contractor elects to work on additional sites simultaneously.

The bottom of signs on portable or temporary supports shall not be less than seven feet above the pavement in urban areas and one foot above the pavement in rural areas. Portable sign supports may be used as long as the duration is less than 3 days. If the duration is more than 3 days, the signs shall meet the minimum mounting heights of 5 foot for rural areas and 7 foot for urban areas.

The public may not be delayed more than 15 minutes.

### REFLECTORIZED SHEETING REQUIREMENTS FOR TEMPORARY TRAFFIC CONTROL DEVICES

Delete the first paragraph of Section 984.1 and replace with the following:

Temporary traffic control devices, including signs, drums, cones, tubular markers, barricades, vertical panels, and direction indicator barricades shall be reflectORIZED with sheeting applied to a satisfactory backing. Flat surfaced temporary traffic control devices including, but not limited to; signs, barricades, vertical panels, and direction indicator barricades shall be reflectORIZED with super/very high intensity reflectORIZED sheeting meeting the standards of Type XI as defined by AASHTO M 268 (ASTM D4956). Round surfaced temporary traffic control devices including, but not limited to; drums, cones, and tubular markers shall be reflectORIZED with high intensity reflectORIZED sheeting meeting the standards of Type IV as defined by AASHTO M 268 (ASTM D4956). All orange colored material shall be fluorescent.

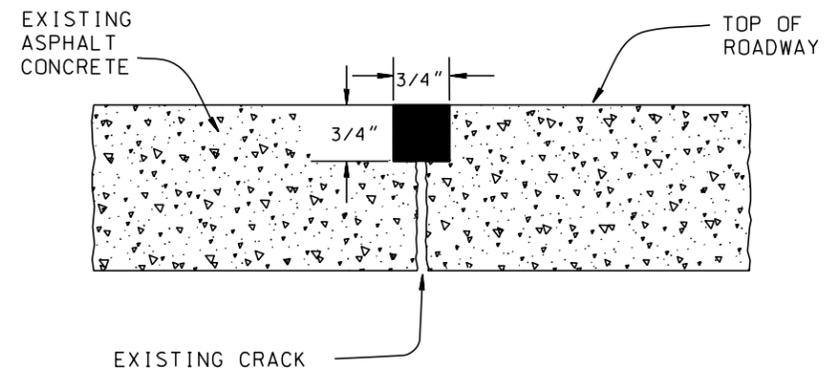
### ITEMIZED LIST FOR TRAFFIC CONTROL

SIGN CODE	DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W16-2P	___ FEET (supplemental distance plaque)	2	30" x 24"	5	10
W20-1	ROAD WORK AHEAD	2	48" x 48"	16	32
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16	32
W20-7	FLAGGER (symbol)	2	48" x 48"	16	32
G20-2	END ROAD WORK	2	36" x 18"	5	10
<b>TOTAL SQFT</b>					<b>116</b>

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P0273(07)61	5	6

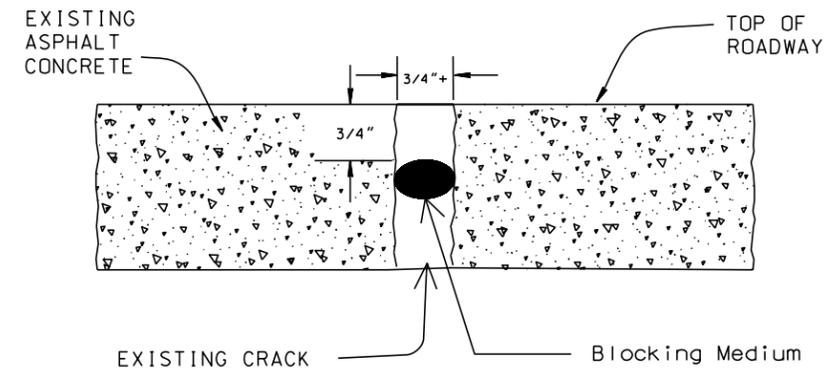
Plotting Date: 11/17/2014

Typical Reservoir section for cracks up to 3/4" in width.



Cracks which are less than 3/4 inch in width or depth will require routing to a width and depth of 3/4 inch.

Typical Reservoir section for cracks over 3/4" in width.



Cracks which are 3/4 inch or greater in width and depth will not require routing, but shall be thoroughly cleaned of foreign material to a depth equal to the width of the crack. The cleaned reservoir shall be filled with a blocking medium to ensure a nominal sealant depth equal to the width of the reservoir.

The inert blocking medium material used shall be approved by the Engineer. All costs for furnishing and placing the blocking medium shall be incidental to the contract unit price per pound for "Asphalt Concrete Crack Sealing".

Revised: 1-4-2016

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	25
35 - 40	350	25
45 - 50	500	50
55	750	50
60 - 65	1000	50

Warning sign sequence in opposite direction same as below.

- Flagger
- Channelizing Device

For low-volume traffic situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger may be used.

The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

For tack and/or flush seal operations, when flaggers are not being used, the FRESH OIL sign (W21-2) shall be displayed in advance of the liquid asphalt areas.

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

The channelizing devices shall be drums or 42" cones.

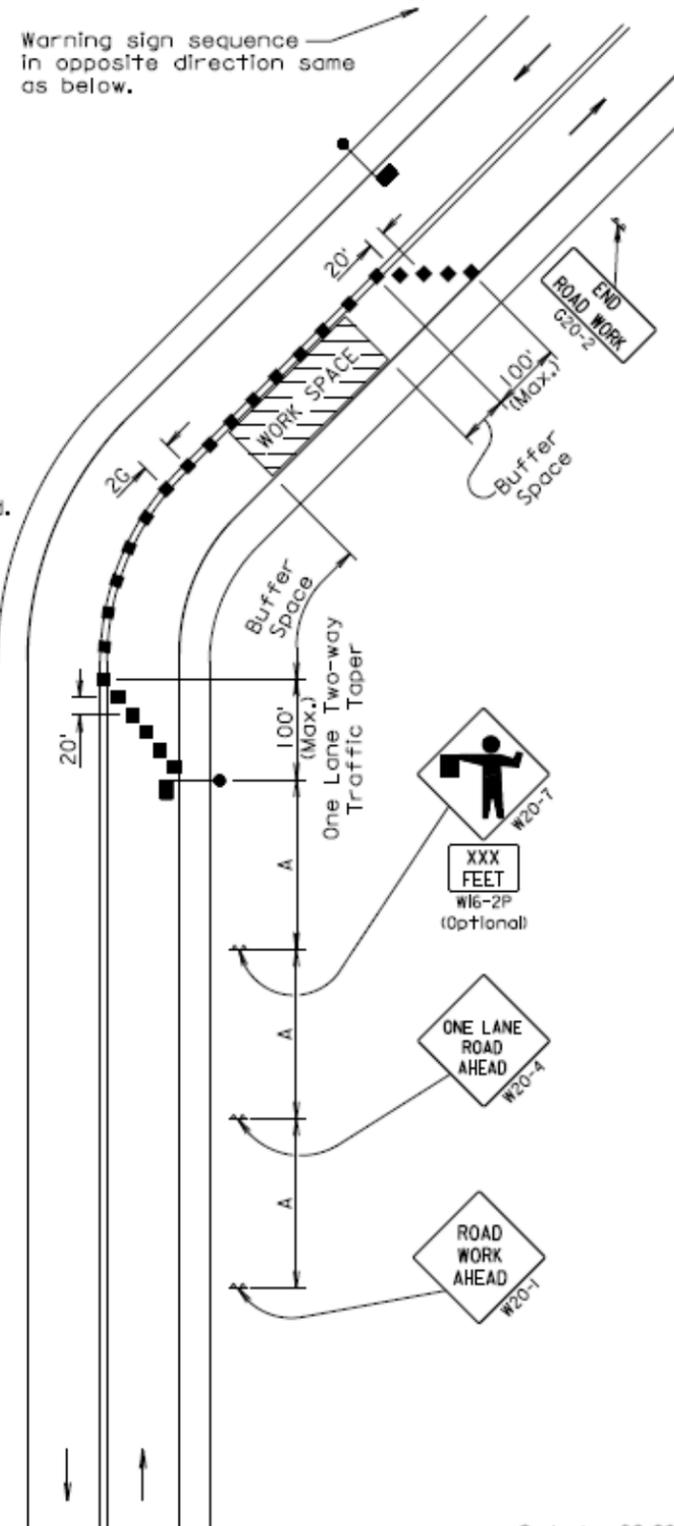
Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.

2-020  
ROAD WORK  
END

Channelizing devices and flaggers shall be used at intersecting roads to control intersecting road traffic as required.

The buffer space should be extended so that the two-way traffic taper is placed before a horizontal or vertical curve to provide adequate sight distance for the flagger and queue of stopped vehicles.

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



September 22, 2014