

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH-NH 0085(20)26	C1	C27

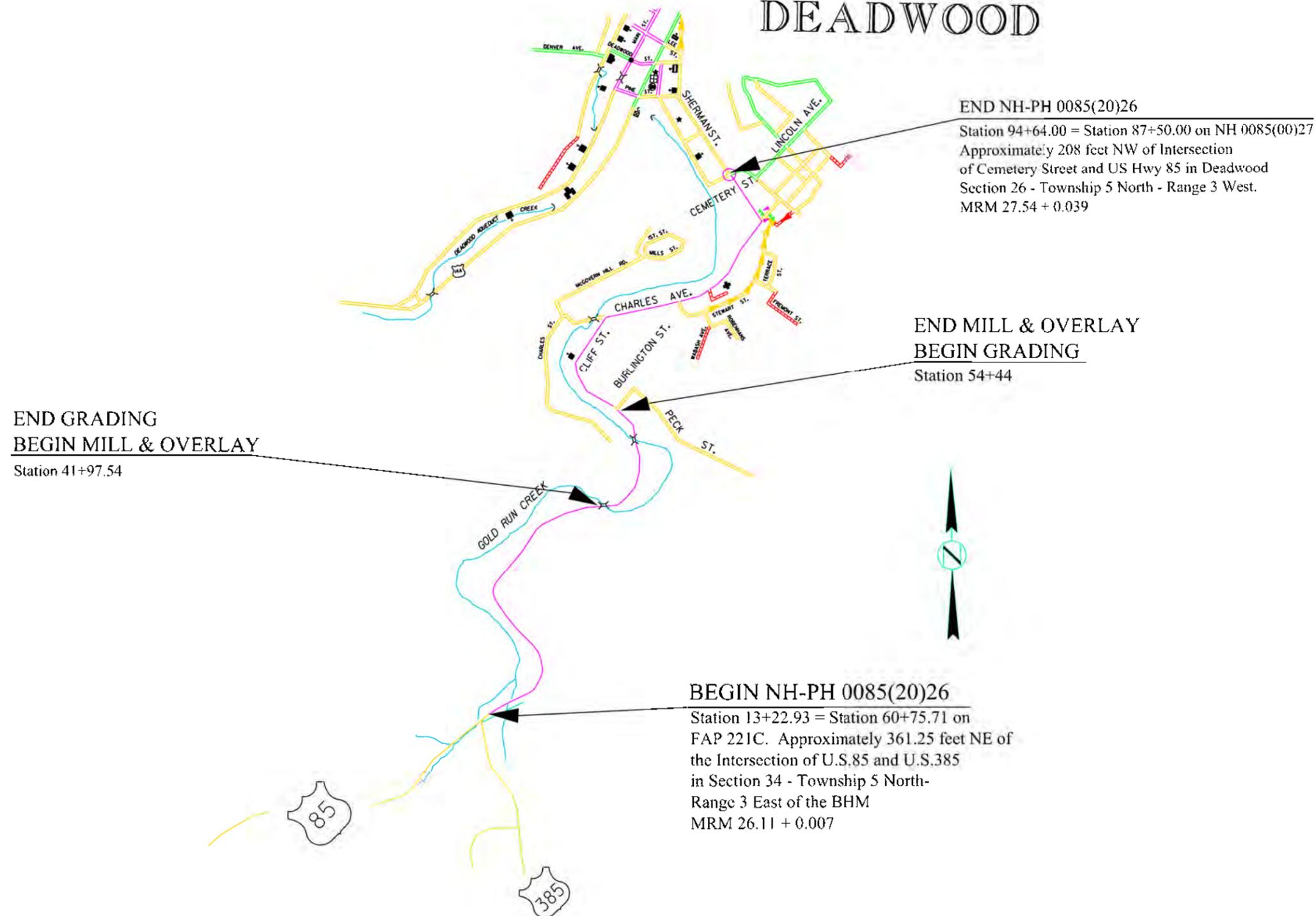
Plotting Date: 06/19/2014

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Section C: Traffic Control

DEADWOOD



SECTION C ESTIMATE OF QUANTITIES

Bid Item Number	Item	Quantity	Unit
009E3010	Public Information	Lump Sum	LS
110E1400	Remove Pavement Marking, 4" or Equivalent	2,144	Ft
621E0160	6' Chain Link Fence with Tension Wired Top	700	Ft
628E1110	Movable F Shape Concrete Barrier, End Section	6	Each
634E0010	Flagging	5,000	Hour
634E0020	Pilot Car	2,500	Hour
634E0100	Traffic Control	3,761	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0420	Type C Advance Warning Arrow Panel	1	Each
634E0525	Linear Delineation System Panel, Barrier Mounted	24	Each
634E0640	Temporary Pavement Marking	26,594	Ft
634E0700	Traffic Control Movable Concrete Barrier	80	Each
634E0705	Remove and Reset Traffic Control Movable Concrete Barrier	77	Each
634E0896	Portable Temporary Traffic Signal System	2	Each
634E1002	Detour Signing	1,079.0	SqFt
634E1215	Contractor Furnished Portable Changeable Message Sign	3	Each
634E2000	Longitudinal Pedestrian Barricade	350	Ft
634E2010	Temporary Pedestrian Facility(s)	Lump Sum	LS

TRAFFIC CONTROL – GENERAL NOTES

- If there is a discrepancy between the traffic control plans, standard plates, and the MUTCD – whichever is more stringent shall be used.
- One lane of traffic shall be maintained during working hours and shall be controlled by pilot car and flaggers. Two-way traffic shall be maintained during the hours of darkness.
- Traffic shall be maintained in 10 ft. minimum lane widths at all times, including turn lanes.
- The Contractor shall keep the portion of the project being used by public traffic in a condition that will adequately and safely accommodate traffic.
- Traffic approaching the project from intersecting roadways and approaches must be adequately accommodated. Major intersections or large commercial entrances may require additional signing, flaggers, and channelizing devices on a temporary basis until work activities pass these areas.
- Construction signing mounted on portable supports shall not be used for a duration of more than 3 days, unless approved by the Engineer. Construction signing that remains in the same location for more than 3 days shall be mounted on fixed location, ground mounted, breakaway supports.
- The quantity of signs paid for will be for the greatest number of installations per sign in place at any one time regardless of the number of set-ups on the project.
- The Contractor or designated traffic control subcontractor shall make night inspections at the initial set up of traffic control and every week thereafter to ensure the adequacy, legibility and reflectivity of each sign and device. A written summary of each inspection shall be given to the Engineer within 24 hours after completion of the inspection. The cost for the nighttime inspection work shall be incidental to the contract lump sum price for "Traffic Control, Miscellaneous".

- Permanent traffic control items shall be installed prior to opening the completed roadway to traffic.
- The use of a pilot car and/or flagger(s) will be required where work activity and/or equipment encroach into a lane open to traffic. Flaggers and a pilot car shall control traffic past the work zone. Flaggers and pilots cars shall be equipped with electronic radios to communicate with each other. During the use of a pilot car, the Contractor will be limited to 10-minute delays.
- The pilot car shall be a 4 wheeled vehicle with the Contractor's name prominently displayed on both sides of the vehicle. A 36" x 18" black on orange sign G20-4, PILOT CAR (top line) FOLLOW ME (bottom line) shall be mounted in a conspicuous position on the rear of the vehicle. The pilot car will be equipped with flashing amber light.
- Vehicles working in traffic or alongside traffic shall be equipped with a flashing amber light visible from all directions. The amber light shall be mounted on the uppermost part of the contractor's vehicle. Lights must have peak intensity within the range of 40 to 400 candelas and must flash at 75 ± 15 flashes per minute. Vehicle flasher/hazard lights are not acceptable.
- On unfinished grades, reflectorized devices (drums or grabber cones) defining the outside edges of the road shall be placed every 25' during the hours of darkness and during the daytime hours at inactive locations where grading work is not being performed. Centerline at these locations shall be defined by reflectorized devices (grabber cones) placed at 50' intervals. During daytime hours at active locations, a well defined path of adequate width shall be provided by motor grader, normally in conjunction with flagging operations. Minimum width for one way operations is 10'; for two way operations it is 20' or as specified.
- At no time during construction shall a vertical drop-off of greater than 12" be left overnight adjacent to the traveled way. The Contractor may utilize embankment material or existing gravel cushion to ensure a 12" vertical drop-off is not exceeded. Vertical drop-offs greater than 12" shall be shouldered to a 3:1 minimum slope. No separate payment will be made for constructing these slopes.
- 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, traffic signal heads, delineation, and signing shall be the responsibility of the Contractor. Non-applicable signing and all traffic control devices 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 24 hours. The cost of removing or covering non-applicable signs shall be incidental to the contract lump sum price for "Traffic Control, Miscellaneous".
- Bump Signs (36"x36") with appropriate Speed Advisory Plate (30"x30") shall be placed 500' in advance of the bump or as approved by the Engineer for adequate sight distance. Type I Object Markers (18"x18") shall be placed at the bump location. All signs shall be orange/black on orange.

- Any delineators and signs damaged or lost shall be replaced by the Contractor at no cost to the State.
- Temporary Road Markers (Tabs) shall be used for lane closure tapers or lane shift tapers and shall be installed at 5' spacing. Tabs used for tapers and shifts will not be measured for payment. All costs associated to furnish, install, maintain (including replacement as required by the Engineer at no added cost to the Department), and remove all markers will be incidental to the contract lump sum price for "Traffic Control, Miscellaneous".
- Parking of equipment during non-working hours shall be in locations that do not hinder the visibility of or access to adjacent businesses.
- Owners shall have access to their businesses and residents during construction unless written permission is obtained and approved by the owner and the Engineer. The Contractor shall coordinate with the Engineer prior to any driveway, sidewalk or utility replacements that will affect access and shall minimize disruptions. This may require grading and temporary gravel surfacing.
- The Contractor shall coordinate with the business owners in the project area (Hickock House, Best Western, Super 8, Twin City Hardware, and Lead Deadwood Regional Hospital) and provide temporary access for delivery trucks as needed throughout construction. This may require off-loading from the road or providing room for trucks with a large turning radius.
- Driveways, streets, and roadways that enter the project shall be delineated such that they are clearly visible during all hours. Freestanding, reflective traffic control barrels shall be used. Cost for this delineation shall be incidental to the contract lump sum price for "Traffic Control, Miscellaneous".

SEQUENCE OF OPERATIONS:

The following Sequence of Operations shall be used in completing the project. The sequence is not meant to describe every item of work that is required for the various phases.

Request to deviate from the sequence of operations shall be submitted in writing to the Engineer for review. Approval of an alternate sequence of operations will only be allowed when the proposed changes meet with the Department's intent for traffic control and sequencing of the work. An alternate sequence shall be submitted for review a minimum of one week prior to potential implementation.

GENERAL NOTES

- Requests to deviate from the sequence of operations shall be submitted in writing to the Engineer for review. Approval of an alternate sequence of operations will only be allowed when the proposed changes meet with the Department's intent for traffic control and sequencing of the work. An alternate sequence shall be submitted for review a minimum of one week prior to potential implementation.
- Unless otherwise stated in these plans, no work will be allowed during hours of darkness. Hours of darkness are defined as ½ hour after sunset until ½ hour before sunrise.

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GENERAL NOTES - (CONT'D)

- It may be necessary to temporarily omit curb and gutter and provide temporary gravel ramps to maintain streets and approaches. All costs to perform ½ width construction on approaches and streets shall be included in the various associated contract bid items.
- All earthwork and pipe installation shall be completed in such a manner that drainage is maintained throughout the project. This work may involve installation of temporary tie-ins, dikes, pumping of water, plugging inlets, and temporary diversion of water utilizing pipes.

The Contractor shall coordinate embankment operations and pipe installations so that drainage is continuous, but does not damage new or existing grading sections. If necessary, temporary pipe, temporary connections, plugs, and channels may be used to avoid damage to new or existing grade or partial omission of permanent drainage features may be required. In addition, permanent drainage features may need to be installed in phases to match sequencing. The cost to install, maintain, and remove temporary items and any incidentals necessary for partial installations of permanent drainage features shall be incidental to the various pipe bid items.

PHASE 1:

Install storm sewer outlets on Cemetery St. Construct the Mickelson Trail retaining wall from Station 21+25 to 24+40 Lt. Perform rock excavation from Sta. 60+50 to 63+00 Rt. and Sta. 22+00 to 25+50 Rt. The work includes constructing a retaining wall, trail grading, concrete barrier installation, rock excavation, and storm sewer outlet installation. Phases 1A, 1B, and 1C can be constructed simultaneously.

- Phase 1A** - Close a portion of Cemetery St. and install storm sewer outlet from Sta. 92+53-34' Lt to 92+60-248.7' Lt. Install 7'x7' Junction Box at Sta. 92+53-18' Rt. and tie in storm sewer. Maintain two lanes of traffic during the Junction Box construction. Place temporary gravel surface to carry traffic thru the winter months if storm sewer work is completed after the seasonal limitations for asphalt.
- Phase 1B** - Construct Mickelson Trail retaining wall section from Sta. 21+25 to 24+40 Lt. Install 38 moveable concrete barriers and 2 sloped ends 1 ft. off of edge line to protect the Mickelson Trail temporary detour. The contractor must maintain a 5 ft. pedestrian path thru the work area at all time during construction. Portable water filled barriers shall be installed to channelize and protect the pedestrians during the retaining wall construction. The temporary path shall be a uniform gravel surface. All costs for supplying and installing the water filled barriers, placing gravel, maintaining and removing the temporary path shall be incidental to the contract lump sum bid item for Temporary Pedestrian Facility(s).
- Phase 1C** - Install 35 moveable concrete barriers and 2 sloped ends 2 ft. off of centerline to allow for wide loads and close the NB lane to perform rock excavation from Sta. 60+50 to 63+00 Rt. Temporary traffic signals shall be used to maintain traffic thru the work zone. See Temporary Moveable Concrete Barrier Layouts and standard plates 634.65 and 634.26 for installation of concrete barriers and temporary traffic signals.

- Phase 1D** - Remove the 38 moveable concrete barriers and 2 sloped ends at the Mickelson Trail retaining wall construction, place 4" of granular material, and pave the asphalt surface to carry two 10 ft. lanes of traffic during the rock excavation. Reset the 38 moveable concrete barriers and 2 sloped ends at the edge of the new asphalt shoulder. Install an additional 44 moveable concrete barriers and 2 sloped ends 2 ft. off of centerline to allow for 2 – 10 ft. lanes thru the rock excavation area from Sta. 22+00 to 25+50 Rt. See Temporary Moveable Concrete Barrier Layouts and standard plates 634.65 for installation of concrete barriers.

PHASE 2:

Construct project from Station 54+45 to 93+79 half width at a time using flaggers and pilot cars. The work includes asphalt removal, utility work, drop inlets, storm sewer, mainline grading, curb & gutter, approaches, asphalt paving, sidewalk, removal of existing traffic signal equipment, new traffic signal conduit, wiring, junction boxes, detector loops, controller cabinet and footings, new roadway lighting, erosion control, temporary and permanent pavement markings.

- Install traffic control devices to close the southbound lane from Station 84+00 to 90+00. Remove concrete curb and gutter, and landscaping at Station 85+50 Lt to 88+00 Lt. Close the approach to the City of Deadwood Railroad Property. Perform grading and place 4" of granular material to carry two lanes of traffic during construction.
- Switch traffic control to close the NB lane from Station 54+45 to 93+79. Salvage asphalt surfacing from the NB lane from Station 54+45 to 93+79. Remove luminaire poles and footings adjacent to the NB lane.
- Relocate and remove power poles at Cemetery St. and remove traffic signals. Install a 4-way stop condition at Cemetery St.
- Perform utility work - water, gas, sewer, power, and communications. Install storm sewer and drop inlets.
- Install traffic signal conduit, electrical cabinet, signal conduit, traffic signal poles with mast arms, and new traffic signals. Install luminaire conduit, luminaire poles, junction boxes, and electrical cabinets from Station 54+45 to 93+79.
- Complete grading, install curb and gutter, concrete approaches, sidewalk and ADA ramps.
- Pave asphalt surface for the NB lane, install temporary paint and temporary pavement markings during paving.
- Switch the traffic to close the SB lane and use pilot car and flaggers during daytime operations. Perform utility work - water, gas, sewer, power, and communications. Install storm sewer, drop inlets, and remove existing luminaire poles for the SB lane.
- Undercut, construct new grade for SB lane. Install retaining walls at Sta. 54+44 to 56+00 Lt and Sta. 60+30 to 60+70 Lt. Install curb and gutter, concrete approaches, sidewalk and ADA ramps.

- Pave asphalt surface, install temporary paint and temporary pavement markings during paving. Install permanent pavement markings upon completing the top lift of asphalt surfacing from Station 54+45 to 93+79.

PHASE 3:

Construct project from Station 12+48 to 42+31 half width at a time using flaggers and pilot cars. Mill and overlay existing asphalt from Station 42+31 to 54+45. Asphalt removal, utility work, drop inlets, storm sewer, excavation, mainline grading, curb & gutter, approaches, asphalt paving, sidewalk, new roadway lighting, erosion control, temporary and permanent pavement markings.

- Install traffic control to close NB lane and use a pilot car and flaggers to carry traffic in one lane from Station 12+48 to 42+31.
- Cold mill and salvage asphalt surfacing for NB lane from Station 12+48 to 42+31 and place travel gravel to carry traffic on the SB lane. Mill 2" off surface from Station 42+31 to 54+45 to be overlaid during the final lift of paving.
- Perform utility work - water, gas, sewer, power, and communications. Install storm sewer, drop inlets, and remove existing luminaire poles from Station 12+48 to 42+31.
- Undercut the subgrade, construct new grade, curb and gutter, sidewalks, and approaches from Station 12+48 to 25+00 and Station 34+00 to 42+31. Construct new grade, storm sewer, curb and gutter, and approaches in the new alignment area from Station 25+00 to 34+00.
- Switch traffic control to close the SB lane. Cold mill and salvage asphalt surfacing for the SB lane from Station 12+48 to 42+31 and place travel gravel to carry traffic on the NB lane. Mill 2" off surface from Station 42+31 to 54+45 to be overlaid during the final lift of paving.
- Pave first 2 lifts of asphalt surface, and install temporary pavement markings during paving from Station 12+48 to 42+31. Pave the final lift from Station 12+48 to 54+45.
- Install luminaire conduit, junction boxes, electrical cabinets, and luminaire poles.
- Install permanent pavement markings upon completing the top lift of asphalt surfacing.

COORDINATION BETWEEN PROJECTS

Coordination with SDDOT project P 0085 (72) 23, PCN 028L will be required for work and traffic control on this project. The Lead Main Street project is currently under construction. The Contractor shall coordinate with the Lead project traffic control to ensure traffic moves smoothly through the two projects and to eliminate conflicting detour routes.

CITY OF DEADWOOD EVENTS

The Contractor should prepare for events scheduled for the City of Deadwood during construction. The Contractor is not required to stop construction operations during these events, but should be aware of the increased volumes in traffic and pedestrians. The Contractor shall coordinate with the City of Deadwood for official dates for events. The following is a list of events for 2015, and a similar timeframe for 2016:

April 9-11: Forks, Corks & Kegs – Food & Wine Festival
 May 2: Cinco de Mayo
 June 19 & 20: Wild Bill Days
 July 4: Independence Day parade
 July 21 – 25: Days of '76
 August 3 – Legend's Ride
 August 20 – 23: Kool Deadwood Nites
 August TBD – Badland's Circuit Finals Steer Roping
 September 18 – 19: Deadwood Jam
 October 2 – 3: Oktoberfest
 October 8 -10: Wild West Songwriter's Festival
 October 31: Deadweird

CONTRACTOR FURNISHED PROGRESS SCHEDULES

The Contractor shall furnish the Engineer two copies of a bar chart method progress schedule at the preconstruction meeting. The schedule shall consist of a construction schedule and brief written narrative. The schedule shall contain the following information:

1. A time scale to graphically show percentage of work scheduled for completion within the contract completion requirements.
2. Definition and relation of work activities to contract pay items.
3. Work activities (prime contractor and all subcontractor activities) in the order the work will be performed including submittals, approvals, deliveries, temporary traffic control, and permanent signing/stripping.
4. All major work activities that are controlling factors in the completion of the work.
5. The time required for each activity and its relationship in time to other activities.
6. The total expected time to complete all work.
7. The expected work shifts in days per week and hours per day and the days when work is not expected to be performed.
8. Expected adverse weather delays.

The schedule shall be updated, revised and resubmitted on a bi-weekly interval until the project is substantially complete. There will be no direct payment for the contractor furnished schedule. All costs associated with the schedule shall be incidental to the related items. Failure to properly submit the required construction schedules will result in the withholding of progress payments until an approved schedule is received.

4-WAY STOP CONDITION AT CEMETERY STREET

The Contractor shall install a 4-way stop condition at Cemetery St. prior to the removal of the existing traffic signals. Stop Ahead signs (W3-1) shall be installed in advance of the 4-way stop condition. The 4-way stop condition shall be in place until the new traffic signals are installed and functioning properly.

MICKELSON TRAIL RETAINING WALL INSTALLATION

The Contractor shall at all times maintain a 5 ft. access for pedestrians and the traveling public during the construction of the retaining wall system at Station 21+25 to 24+40 Lt. Wall installation and grading operations shall be adjusted accordingly to accommodate the traveling public. The Contractor shall maintain a safe and visible path through the work zone at the retaining wall location. The Contractor shall utilize Longitudinal Pedestrian Barricades to protect the pedestrians from the retaining wall work zone. The pedestrian path shall use the temporary water filled barriers to protect and channelize the pedestrians thru the work zone, have a gravel surface that is uniform with no irregularities and be constructed to the satisfaction of the Engineer. All costs, labor and materials for this work shall be incidental to the contract lump sum price for "Temporary Pedestrian Facility(s)".

LONGITUDINAL PEDESTRIAN BARRICADE

There is an estimated 350 ft. of Longitudinal Pedestrian Barricades that shall be utilized at the Mickelson Trail retaining wall to protect pedestrians from the retaining wall construction. All costs associated with installing, stabilize, and removing the Longitudinal Pedestrian Barricades shall be incidental to the contract unit price per foot for "Longitudinal Pedestrian Barricades".

Longitudinal pedestrian barricades shall be ADA compliant and FHWA approved. If used to provide positive protection to pedestrians from traffic, they shall meet crashworthy requirements appropriate for the application.

Longitudinal pedestrian barricades shall be made of high density polyethylene and constructed such that they may be filled with water or sand for stability. High contrast colors shall be utilized.

Longitudinal pedestrian barricades shall not block water drainage from the walkway. A gap height or opening from the walkway surface up to 2 inches maximum height is allowed for drainage purposes. Longitudinal pedestrian barricades shall be 32 inches high or greater. They should interlock such that gaps do not allow pedestrians to stray from the channelized path.

Some possible suppliers of Longitudinal Pedestrian Barricade products are listed below. The list is not all inclusive. The devices must meet the requirements stated above.

2001M-BM
 The Yodock Wall Company INC.
 900 Patterson Drive
 Bloomsburg, PA 17815
 Freephone: 1-88-4-YODOCK
 Phone: 1-570-380-2856
 FAX: 570-380-2859
 Email: contact@yodock.com
 Internet Site: <http://www.yodock.com>

TrafFix Water-Wall
 TrafFix Devices Inc.
 160 Avenida La Pata
 San Clement, CA 92673
 Phone: 949-361-5663
 FAX: 949-361-9205
 Email: ycervantes@traffixdevices.com
 Internet Site: <http://www.traffixdevices.com>

PROTECTION OF PEDESTRIANS

The Contractor shall install orange plastic safety fence around all unattended excavation areas where pedestrians may exist. Pedestrian traffic shall be protected from open excavations and other hazards in and around the construction site to comply with the Americans with Disabilities Act.

The Contractor shall maintain and make repairs to the fence until directed to remove it by the Engineer.

Holes and drop-offs which present hazards to pedestrians, bicyclists, and others who would not typically use the roadway shall be protected by safety fence. Cost for the safety fence, in these situations shall be incidental to the contract lump sum price for "Traffic Control, Miscellaneous".

TEMPORARY PEDESTRIAN FACILITY(S) FOR TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR)

The Contractor shall develop and provide for a continuous Temporary Pedestrian Access Route (TPAR) for this Project. The TPAR shall clearly address all non-motorized users in the construction zone. The Contractor shall submit this plan to the Engineer prior to the scheduling of the pre-construction meeting. The pre-construction meeting will not be allowed to be scheduled until this document is submitted.

The TPAR must have a minimum width of 60 inches (5 feet) and guide pedestrians through and/or around the Project by using devices such as signage, barricades, and temporary curb ramps or blended transitions. The TPAR shall provide unimpeded access along the full length of the project on one side of the street or the other, with a minimum of 1 crossing per block. The Contractor shall provide flagging to assist pedestrians to cross the work zone during periods of construction traffic at the pedestrian crossing locations. All flagging for pedestrian crossings shall be incidental to the contract lump sum price for "Temporary Pedestrian Facility(s)".

Where the TPAR is exposed to adjacent construction, excavation drop-offs, traffic, or other hazards, it shall be protected with a pedestrian barricade or channelizing device. All TPARs must have a smooth, level, firm, stable, slip resistant surface and shall meet the applicable requirements of the Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way. This work may include but is not limited to sawing existing sidewalk to leave half in place, staging sidewalk removal and construction to maintain access, installing safety fence around work areas, and construction and removal of temporary boardwalk. The Contractor shall determine the actual location of temporary access during construction and shall be approved by the Engineer. All costs, labor and materials for this work shall be incidental to the contract lump sum price for "Temporary Pedestrian Facility(s)".

The Contractor shall provide and update a weatherproof map of the unrestricted paths and crossing locations to be posted at each intersection quadrant and business. All costs, labor and materials for this work shall be incidental to the contract lump sum price for "Temporary Pedestrian Facility(s)". All information regarding the TPAR shall be communicated through the Public Information Specialist.

TEMPORARY PEDESTRIAN FACILITY(S) FOR TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR) – CONT'D

The Contractor shall schedule and coordinate the replacement of the pedestrian access to accommodate the needs of the business and residences. Existing sidewalks shall be left in-place until such time that it is required to remove them to accommodate new construction. Pedestrian access will be provided to businesses and to buildings without alternate public entrances. Where disrupted by construction, the Contractor must provide a continuous TPAR for all areas disrupted by construction throughout all phases of construction.

For technical provisions on TPAR, the Contractor is directed to the Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way at: <http://www.access-board.gov/guidelines-and-standards/streets-sidewalks/public-rights-of-way/proposed-rights-of-way-guidelines> and Chapter 6D of the Manual on Uniform Traffic Control Devices 2012 revision (MUTCD) at <http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/mutcd2009r1r2edition.pdf>.

The Contractor shall notify the Engineer in writing at least 72 hours prior to the start of any construction operation that will necessitate a change in pedestrian access. Traffic control devices must allow for an accessible route through the Project. TPAR pedestrian barricades and channelizing devices shall be continuous, stable, and non-flexible and shall consist of a wall, fence, or enclosures. Pedestrian barricades and channelizing devices should include a continuously detectable edging that should protrude at least 6 inches above the surface of the sidewalk or TPAR, with the bottom of the edging a maximum of 2.5 inches above the surface to provide for drainage. The purpose of this barrier is to provide a continuous way-finding device for the visually impaired; therefore the barrier shall not have any points that might catch a person who is using a cane for a guide. The Devices shall provide a continuous surface or upper rail at a minimum 3 feet above the ground or walkway surface. Support members shall not protrude into the path. Whenever possible the TPAR shall only utilize in-place street crossings. TPAR must be regularly inspected and updated depending on Project staging.

No pedestrian curb ramp or blended transition work shall occur concurrently at adjacent intersections.

The Contractor shall be responsible for maintaining the TPAR within this Project. The Contractor shall furnish the name, addresses, and phone number of at least one individual responsible for the placement and maintenance of TPAR. This individual shall be "on call" 24 hours per day, seven days per week during the times any devices, furnished and installed by the Contractor, are in place. The required information shall be submitted to the Engineer at the pre-construction meeting.

The Contractor shall be expected to answer calls immediately and begin corrective measures needed within one hour. If the Contractor is negligent in correcting the deficiency within one hour of notification the Contractor shall be subject to a temporary project shutdown or monetary damages being assessed through a specification deviation.

OFF-STREET PARKING IN TEMPORARY EASEMENTS

The Contractor shall not impact off-street parking in temporary easements until such time that the Contractor is physically working in those areas. The Contractor shall coordinate with adjacent landowners to minimize timeframe for loss of off-street parking in temporary easement areas.

LEAD DEADWOOD REGIONAL HOSPITAL

Access to Lead Deadwood Regional Hospital shall be maintained at all times during construction activities. The Hospital has a large portable M.R.I. truck that requires access to the Hospital on Tuesdays, and a food delivery truck that requires access throughout the week. The Contractor shall coordinate the work with the Hospital and the Engineer to accommodate delivery vehicles and services provided by the Hospital. The Contractor must maintain access to the emergency room entrance during construction. The Contractor shall not close any approach to the Hospital without prior approval by the Hospital and the Engineer.

Emergency response vehicles will need to have access during construction. The Contractor shall develop an emergency management plan with the Hospital and Law Enforcement to accommodate emergency response vehicles during construction.

The Contractor shall provide and maintain two temporary crosswalks (5 ft. min width) at the main entrance and the medical clinic entrance throughout the duration of the project. The temporary crosswalks shall be accessible to pedestrians with disabilities. Additional flaggers shall be provided at the temporary crosswalks to assist pedestrians crossing the street when construction activities will affect pedestrian access to the hospital as noted in the Temporary Pedestrian Facility(s) for Temporary Pedestrian Access Route (TPAR) note. The Contractor shall remove the existing pedestrian crossings signs at the Hospital locations and reset on temporary posts and maintain power for the flashing beacons. All costs associated with the temporary pedestrian crossings shall be incidental to the lump sum price for "Temporary Pedestrian Facility(s)".

TRAVEL GRAVEL

Travel gravel shall be used during construction for a temporary driving surface and at approaches. The travel gravel shall be obtained from the Base Course Salvaged material salvaged on this project and may be used without further test. Base Course, Salvaged Asphalt Mix shall be placed and compacted to the satisfaction of the Engineer. Prior to and during the Sturgis Motorcycle Rally the Contractor shall utilize the Base Course Salvage material to create a hard uniform traveling surface with no uneven surfaces to maintain two lanes of traffic throughout the project. The travel gravel shall be paid for at the contract unit price per ton for "Base Course, Salvaged".

TYPE C ADVANCE WARNING ARROW PANEL

The quantity of Type C Advance Warning Arrow Panels paid will be the most installations in place at any one time regardless of the number of setups on the project.

SAWING IN EXISTING PAVEMENT

Where new asphalt concrete is placed adjacent to existing asphalt concrete or portland cement concrete the existing asphalt concrete (except cold milled areas) or portland cement concrete shall be sawed full depth to a true line with a vertical face. No separate payment shall be made for sawing.

MAINTENANCE OF LANDSCAPING

Vegetation that has been damaged or disturbed by the Contractor outside the easement area, ROW or grading limits shown on the plans shall be replaced at no cost to the State.

TEMPORARY PAVEMENT MARKING

Temporary pavement markings shall be as per the Specifications. Temporary pavement marking paint shall be used on first two lifts of asphalt. Temporary pavement marking paint shall be used for centerline delineation and lane line as directed by the Engineer. The total quantity for performing this work is 16,300 feet. Temporary pavement marking paint shall consist of 4' long skips, one line with an overall cycle length of 40', the entire length of the project. Paint shall not be used for temporary pavement marking on the top lift of asphalt concrete. All costs for painting the temporary pavement marking shall be incidental to the contract unit price per foot for "Temporary Pavement Marking".

An additional quantity of 2,144 ft. of temporary pavement marking will be needed for stop bars and double yellow centerline at the temporary traffic signal location. All costs for removing the temporary pavement markings at the temporary traffic signal location shall be incidental to the contract unit price per foot for "Remove Pavement Marking, 4" or Equivalent".

Temporary Road Markers (Tabs) with covers shall be used on the top lift of asphalt surfacing. Dashes shall occur with an overall cycle length of 40'. Two temporary road markers in one line at a 4' spacing shall designate each dash. After completion of the Flush Seal, the protective covers on the temporary road markers shall be removed. It is not required to mark solid lines with tabs at five foot spacing. The total quantity for performing this work is 8,150 feet. The visibility and maintenance of tabs shall be required at all times by the Contractor. The contract unit price per foot for "Temporary Pavement Marking" shall be full compensation to furnish, install, remove covers, maintain tabs until completion of permanent paint, removal, and discarding of tabs.

The Contractor shall be responsible for maintaining a visible and reflective centerline throughout the project. Any marking covered or damaged shall be replaced prior to the end of the day. Grabber cones shall be used as centerline delineation in Grading areas until surface is primed and painted.

The Contractor shall remove and dispose of the temporary road markers after Permanent Pavement Marking is applied. Method of removal shall be nondestructive to the road surface and shall be accomplished within one week of completion of the Permanent Pavement Marking.

Quantities of Temporary Pavement Markings consist of:

1. One pass on top of Primed Surface or Milled Surface with temporary pavement marking
2. One pass on top of first lift Asphalt Concrete with temporary pavement marking
3. One pass on top of second lift Asphalt Concrete with temporary road markers (Tabs)

Flagger symbol signs (W20-7) and flaggers, or a shadow vehicle with rotating yellow lights or strobe lights shall be positioned on the roadway shoulder in advance of workers for both directions of traffic during the installation of temporary road markers. The traffic control device used shall be moved to provide proper warning of the work operation. A ROAD WORK AHEAD (W20-1), a Worker symbol sign (W21-1) or a BE PREPARED TO STOP (W3-4) warning sign shall be mounted on the rear of the shadow vehicle. The method of traffic control used by the Contractor for this work shall be approved by the Engineer.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH-NH 0085(20)26	C6	C27

Revised Date: 6-26-14 ajh

MOVABLE F SHAPE CONCRETE BARRIER, END SECTIONS

The Contractor shall furnish 6 Movable F Shape Concrete Barrier End Sections to be placed at both ends of each run of interior sections of barriers.

The Department shall retain possession of the end sections. At the completion of the project the Contractor shall remove and deliver the Concrete Barrier, End Sections to SDDOT South Maintenance Yard adjacent to Hwy 79 south of Rapid City.

The Contractor shall contact Bob Smith (605-394-1646) at the Rapid City Area Office to arrange for the return of the Concrete Barrier, End Sections.

All costs associated with furnishing, transporting, setting, connecting, and hauling the end sections back to DOT Maintenance Yard shall be incidental to the contract unit price per each for "Movable F Shape Concrete Barrier, End Section".

If the concrete barrier end sections need to be moved and reset on the project, all costs for removing, transporting, and resetting the end sections shall be incidental to the contract unit price per each for "Remove and Reset Traffic Control Movable Concrete Barrier".

TRAFFIC CONTROL MOVABLE CONCRETE BARRIERS

The Contractor shall place and maintain Type F movable concrete barriers. Type F movable concrete barriers shall be placed at the rock excavation areas at Sta. 60+50 to 63+00-Rt., the Mickelson Trail retaining wall location from approx. Sta. 21+00 to 25+00 Lt., and the rock excavation at Sta. 22+00 to 25+50-Rt. The barriers shall be installed as per Standard Plate #634.65 and the special detail for each installation or as directed by the Engineer.

The South Dakota Department of Transportation shall furnish the movable concrete barriers for this project. The Contractor shall pick up the concrete barriers from DOT Property located adjacent to Interstate 90 at Exit 52 or the South Maintenance Yard adjacent to Hwy 79 south of Rapid City. At the completion of the project the Contractor shall remove and deliver the Concrete Barriers back to Exit 52. All costs associated with picking up from Exit 52, transporting, setting, connecting, and hauling back to Exit 52 shall be incidental to the contract unit price per each for "Traffic Control Movable Concrete Barrier".

The Contractor shall contact Bob Smith (605-394-1646) at the Rapid City Area Office to arrange for pick up and return of the barrier.

Barriers to be adjusted or moved shall be disconnected from adjacent barriers to minimize damage to connecting pins. Pins damaged by the Contractor shall be replaced at no cost to the Department.

All costs associated with removing concrete barriers from the initial placement and resetting/bolting, etc. in a new location will be paid for at the contract unit price per each for "Remove and Reset Traffic Control Movable Concrete Barrier". No additional payment will be made for minor adjustments.

Concrete barrier sections shall be placed as depicted in the plans to comply with clear zone requirements and as required by the Engineer. The barriers shall be pinned and bolted together as per Standard Plate #628.01 or as directed by the Engineer. Concrete barriers shall, at all times, be set on a flat surface with a minimum of 4' flat behind the barrier.

DELINEATION OF MOVEABLE CONCRETE BARRIERS

A linear delineation system panel shall be attached to the traffic side of the barrier section. The panel shall be white.

The linear delineation system shall be 4" long and 6" in height and be constructed of aluminum formed into a shape to provide retroreflective properties across a wide range of angles. It shall be sheeted with super high or very high intensity sheeting. The Contractor shall furnish, install, and maintain one panel along traffic side of the barrier.

The panels remain the property of SDDOT and remain attached to the barriers at the end of the project.

The panels shall be installed at the center of the barrier when measured along the length, with the top of the panel 4" below the top of the barrier. Installation shall be as per the manufacturer's recommendation using stainless steel inserts and bolts. This will allow for easy removal for replacement of damaged panels or to replace with an alternate color.

Replacement of damaged linear delineation system panels shall be furnished and replaced by the Contractor.

All costs associated with furnishing, installing, maintaining, removing for reattachment, and reattaching the linear delineation system shall be included in the contract unit price per each for Linear Delineation System Panel, Barrier Mounted. Payment shall be for the most installed at any one time.

CHAIN LINK FENCE FOR ROCK EXCAVATION

Six-foot Chain Link Fence with Tension Wired Top shall be installed inside of the concrete barriers to provide additional protection to the traveling public at the rock excavation locations as directed by the Engineer. The posts for the chain link fence shall be installed through the in-place asphalt concrete surfacing.

Any asphalt disturbed by the installation of the posts shall be repaired after removal of the fence.

All costs associated with installation, repair and removal of the fence shall be paid for at the contract unit price per foot for "6' Chain Link Fence with Tension Wired Top."

All costs associated with repair of the existing asphalt at locations where posts have been installed shall be incidental to the contract unit price per foot for "6' Chain Link Fence with Tension Wired Top."

PORTABLE TEMPORARY TRAFFIC SIGNAL SYSTEM

Portable Temporary Traffic Signal Systems shall be used to maintain traffic during the Rock Excavation at Sta. 22+00 to 25+50 Rt. and Sta. 60+50 to 63+00 Rt. Portable Traffic Signal System will be paid for at the contract unit price per each. Each is defined as a site. One site will be considered to be two portable signal units (master and slave unit).

CONTRACTOR FURNISHED PORTABLE CHANGEABLE MESSAGE SIGN

The Contractor shall furnish 3 portable changeable message signs to be located in advance of the work zone. The Contractor shall place 2 portable changeable message signs on Highway 85 for northbound and southbound traffic and 1 on Highway 14A south of the intersection of Highway 85 and 14A. Message signs shall be installed to inform the traveling public of when construction will begin for each phase, changes that impact traffic, and as directed by the Engineer. The changeable message sign shall be furnished, programmed and maintained for the entire project duration.

The Engineer shall approve the locations and messages to be programmed into the message signs. The message signs shall be clearly visible from a minimum of 900 feet and shall be solar powered or wired directly to a power source. Diesel and gas powered message signs will not be allowed.

The portable message signs will be paid for at the contract unit price per each for Contractor Furnished Portable Changeable Message Sign. Payment will be full compensation for furnishing, maintaining, and relocating as many times as required by the Engineer and the Contractor's operations.

KEEP RIGHT SIGNS

Keep Right Signs that are used in two way traffic situations shall be "Safe-Hit RubberTough 360" with heavy duty sign post, or an approved equal. The sign post shall be predominantly orange in color and shall be reflectorized. The sign panel shall be 18" x 24". The back side of the sign panel shall also be sheeted with high intensity retro-reflective sheeting for visibility.

Keep Right Signs shall be maintained in a like new condition as directed by the Engineer.

Payment for Keep Right Signs will be at the contract unit price per unit for Traffic Control. Payment shall be full compensation for furnishing, installing, maintaining, replacing, and removal of the Keep Right Signs as required by the Engineer.

OVERWIDTH DETOUR SIGNING

Overwidth signs shall be furnished and installed by the Contractor. See Traffic Control Overwidth Detour sheet for signs and locations. See the Typical Overwidth Sign Detail sheet for sheeting color and legend size details.

It will be the responsibility of the Contractor to maintain and reinstall these signs during the project as required by construction progress. Upon completion of the project the Contractor shall remove the width restriction signs. Payment for furnishing, installing, maintaining, and removing the overwidth signs and hardware shall be paid for at the contract unit price per square foot for "Detour Signing".

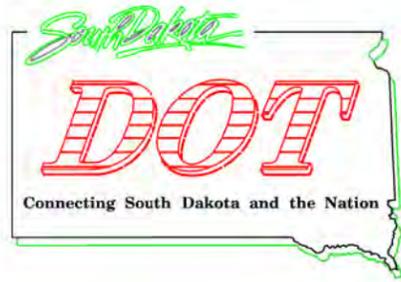
TABLE OF OVERWIDTH DETOUR SIGNING

Table for Detour Signing (Sq. Ft.)						
Sign Description	Sign Code	Width (in)	Height (in)	Sign Area (Sq. Ft.)	Truck Detour	
					No. of Signs	Total Sq. Ft.
NORTH	M3-1	24	12	2.0	6	12
SOUTH	M3-3	24	12	2.0	26	52
UP-LEFT ARROW	M5-1L	21	15	2.2	3	7
UP-RIGHT ARROW	M5-1R	21	15	2.2	2	4
TRUCK	M4-4	24	12	2.0	29	58
TO	M4-5	24	12	2.0	13	26
DETOUR	M4-8	24	12	2.0	5	10
DETOUR W/ ARROW	M4-9	30	24	5.0	22	110
END DETOUR	M4-8A	24	18	3.0	3	9
US 85	M1-4	24	24	4.0	19	76
US 385	M1-4	24	24	4.0	13	52
WIDTH RESTRICTION	SPECIAL	96	108	72.0	9	648
NO VEHICLES OVER 10 FT WIDE	SPECIAL	84	25.5	14.9	1	15
					Total =	1,079

*Only the maximum quantity of signs installed at any one time will be the basis of payment

INVENTORY OF TRAFFIC CONTROL DEVICES

SIGN CODE	SIGN SIZE	DESCRIPTION	NUMBER REQUIRED	UNITS PER SIGN	UNITS
G20-1	48" x 24"	ROAD WORK NEXT ## MILES	5	24	120
G20-2	36" x 18"	END ROAD WORK	9	17	153
R1-1	48" x 48"	STOP	8	34	272
R4-7	18" x 24"	KEEP RIGHT (SYMBOL)	10	7	70
R9-9	24" x 12"	SIDEWALK CLOSED	4	4	16
R9-10	24" x 12"	SIDEWALK CLOSED, USE OTHER SIDE	2	4	8
R9-11	24" x 12"	SIDEWALK CLOSED AHEAD, CROSS HERE	4	4	16
R9-11a	24" x 12"	SIDEWALK CLOSED, CROSS HERE	2	4	8
R10-6	24" x 36"	STOP HERE ON RED	2	20	40
R11-2	48" x 30"	ROAD CLOSED	2	27	54
R11-4	60" x 30"	ROAD CLOSED TO THRU TRAFFIC	4	30	120
W1-3	48" x 48"	REVERSE TURN SIGN (LEFT OR RIGHT)	8	34	272
W1-7	48" x 24"	LARGE ARROW - HORZ. DOUBLE HEAD	4	24	96
W3-1	48" x 48"	STOP AHEAD (SYMBOL)	4	34	136
W3-3	48" x 48"	SIGNAL AHEAD (SYMBOL)	2	34	68
W3-4	48" x 48"	BE PREPARED TO STOP (also show n as W20-7b)	3	34	102
W4-2	48" x 48"	LEFT OR RIGHT LANE ENDS (SYMBOL)	3	34	102
W8-1	36" x 36"	BUMP	6	27	162
W13-1	30" x 30"	ADVISORY SPEED PLATE	6	21	126
W20-1	48" x 48"	ROAD WORK ##### FT. OR AHEAD	9	34	306
W20-3	48" x 48"	ROAD CLOSED ##### FT. OR AHEAD	4	34	136
W20-4	48" x 48"	ONE LANE ROAD ##### FT. OR AHEAD	4	34	136
W20-5	48" x 48"	LT. OR RT. LANE CLOSED ##### FT. OR AHEAD	4	34	136
W20-7	48" x 48"	FLAGGER	4	34	136
W21-1	48" x 48"	WORKERS (SYMBOL)	2	34	68
W21-2	36" x 36"	FRESH OIL	4	27	108
W21-5	48" x 48"	SHOULDER WORK	2	34	68
OM1-3	18" x 18"	TYPE 1 OBJECT MARKER	6	5	30
SPECIAL	48" x 48"	MILLED SURFACE	4	34	136
*****	*****	TYPE III BARRICADE - 8 FT. DOUBLE SIDED	10	56	560
TOTAL UNITS					3761

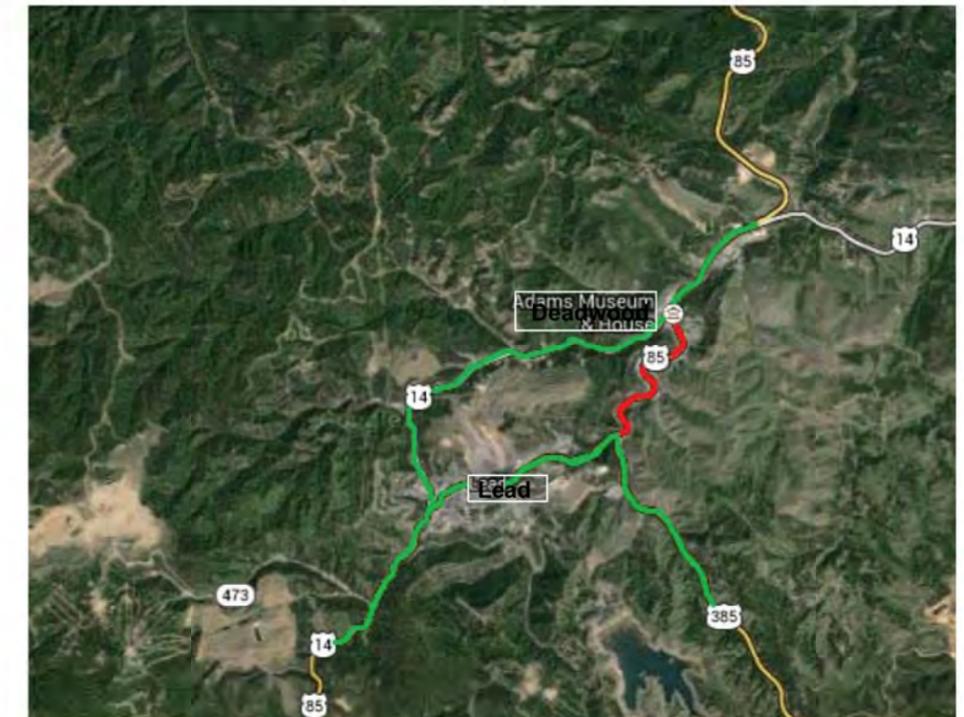


OVERWIDTH DETOUR ROUTES

2014

2015

2016



**** Green Line - Indicates the Available Truck Detour Route ****

*** Red Line - Indicates Width Restriction**

2014 - US85 - 10 ft. Width Restriction and 28 ft. Length Restriction thru Lead

2015 - US85 - 10 ft. Width Restriction and 28 ft. Length Restriction thru Lead and 10 ft. Width Restriction thru Deadwood

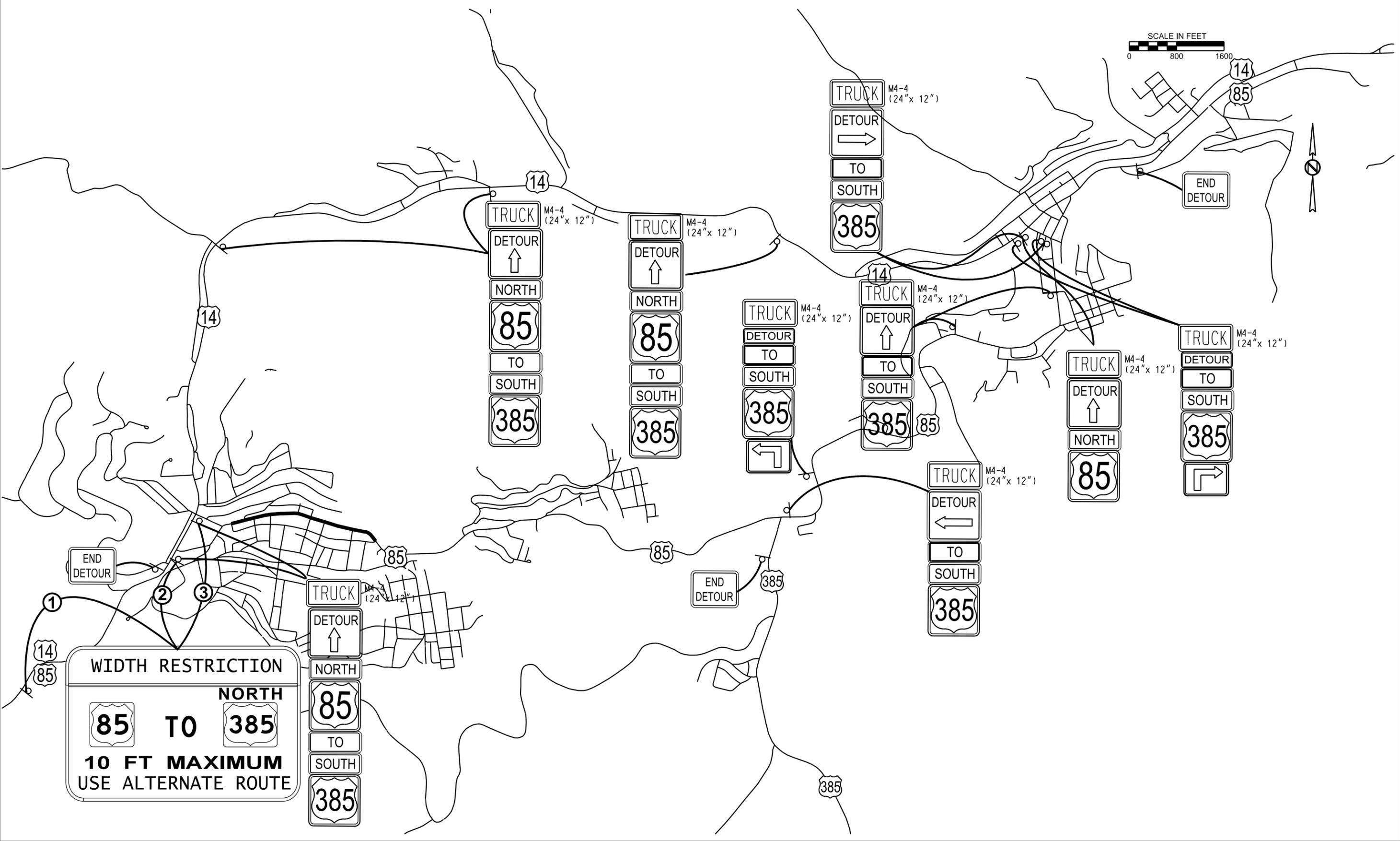
2016 - US85 - 10 ft. Width Restriction thru Deadwood

Plotting Date: 06/19/2014

NORTHBOUND US 85 TRUCK DETOUR



Plot Scale - 1:1480
Plotted From - trcs12247

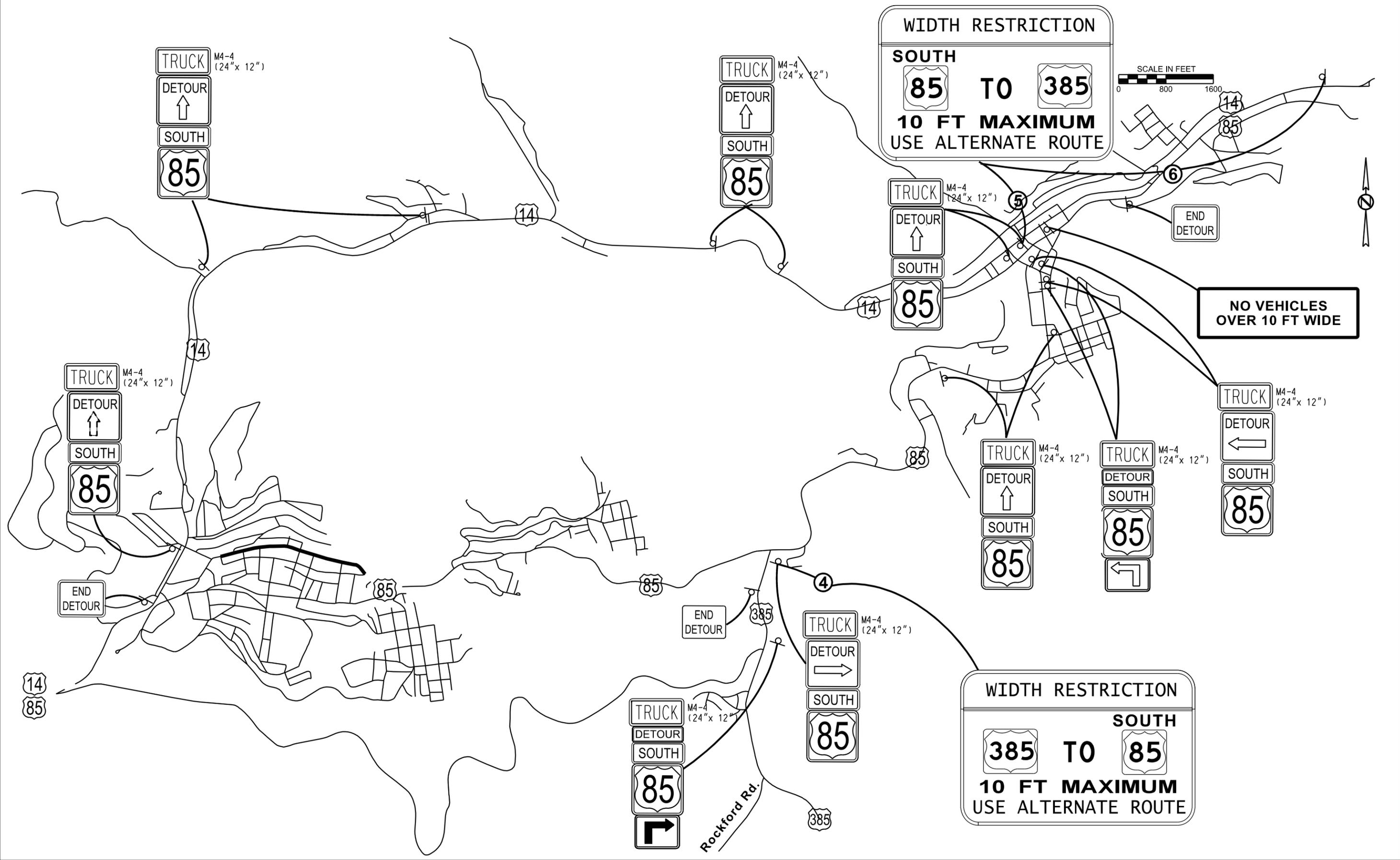


SOUTHBOUND US 85 TRUCK DETOUR

STATE OF SOUTH DAKOTA	PROJECT PH-NH 0085(20)26	SHEET C11	TOTAL SHEETS C27
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Plotting Date: 06/19/2014

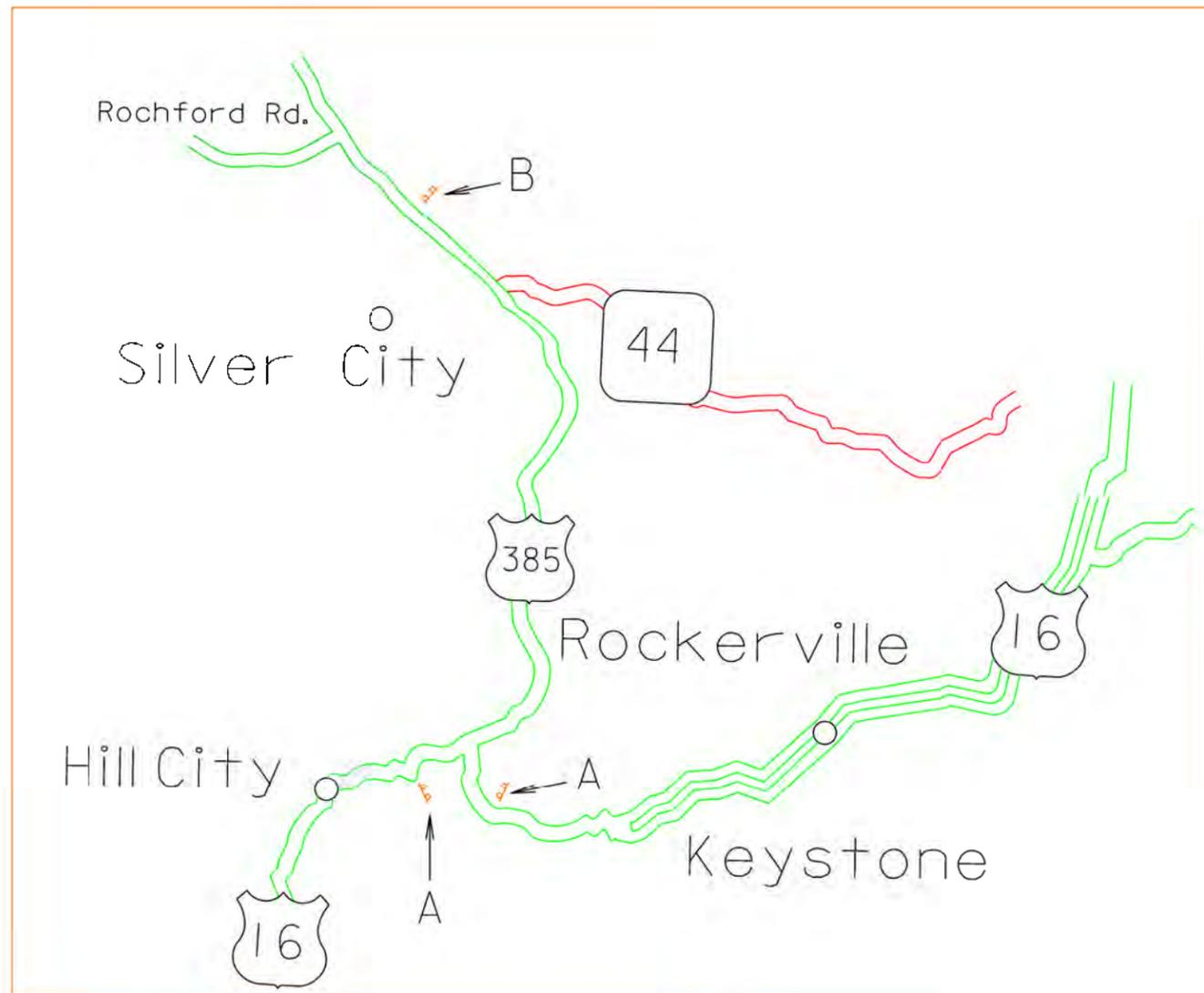
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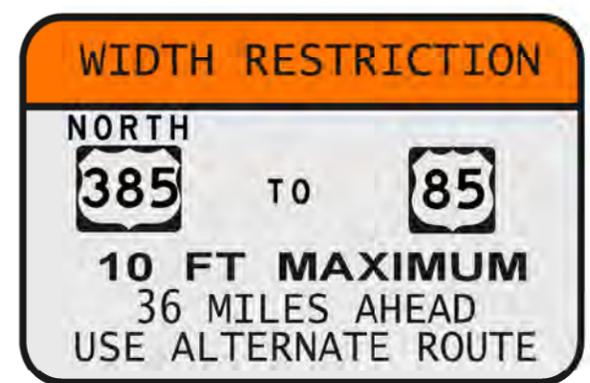
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ADDITIONAL TRUCK DETOUR SIGNING - 2014 & 2015

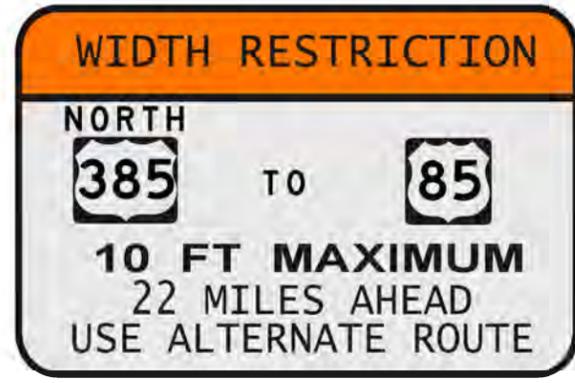
HWY 385 & HWY 16



A

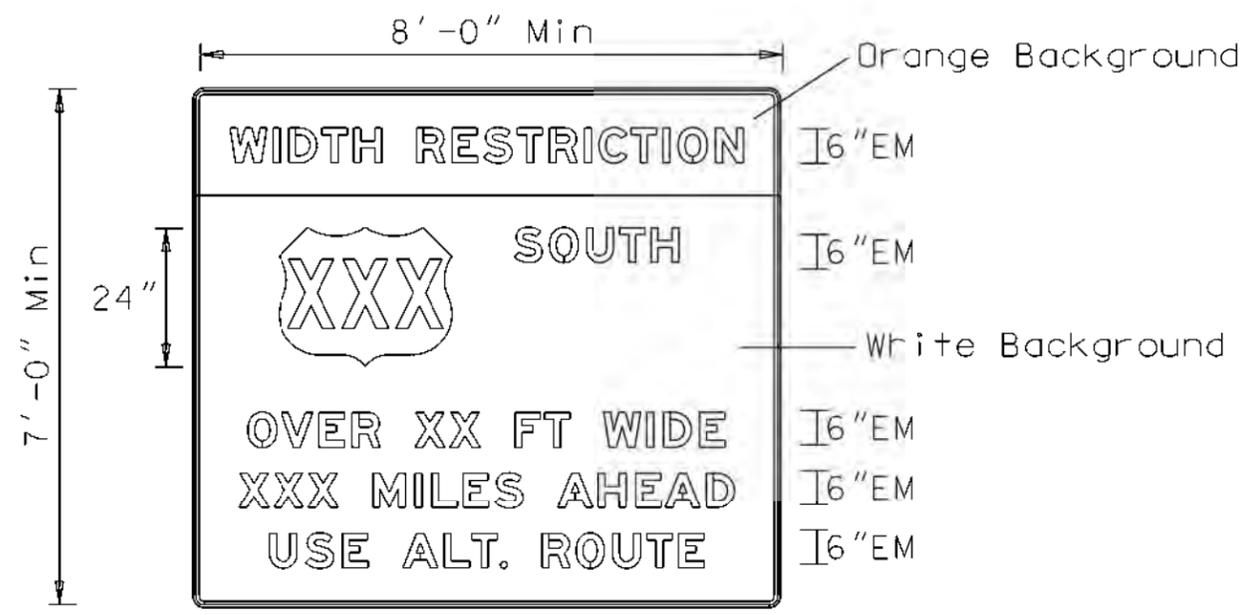


B



NOTE: Overwidth signing shown on this sheet shall be in place for the 2014 - Phase 1D Rock Excavation (Sta. 22+00 to 25+50 Rt.). Once the work for Phase 1D is complete the signing shall be covered until the 2015 construction season starts or as directed by the Engineer.

TYPICAL OVERWIDTH SIGN DETAILS



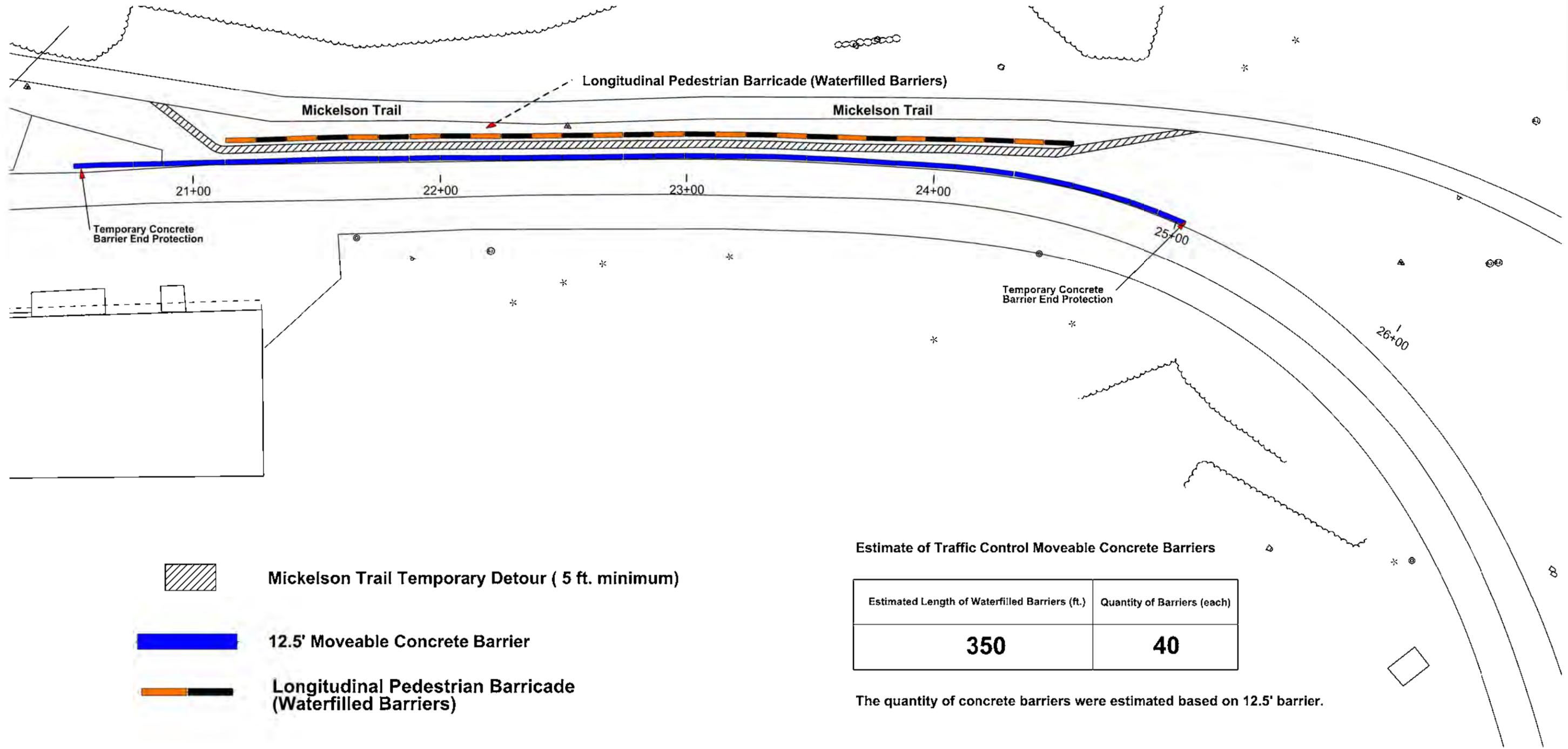
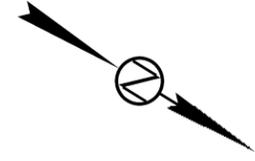
Plot Scale 1:200

Plotted From: rrr-13247

Mickelson Trail Temporary Detour Layout

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH-NH 0085(20)26	C14	C27

Plotting Date: 06/19/2014



-  Mickelson Trail Temporary Detour (5 ft. minimum)
-  12.5' Moveable Concrete Barrier
-  Longitudinal Pedestrian Barricade (Waterfilled Barriers)

Estimate of Traffic Control Moveable Concrete Barriers

Estimated Length of Waterfilled Barriers (ft.)	Quantity of Barriers (each)
350	40

The quantity of concrete barriers were estimated based on 12.5' barrier.

Plot Scale - 1:40

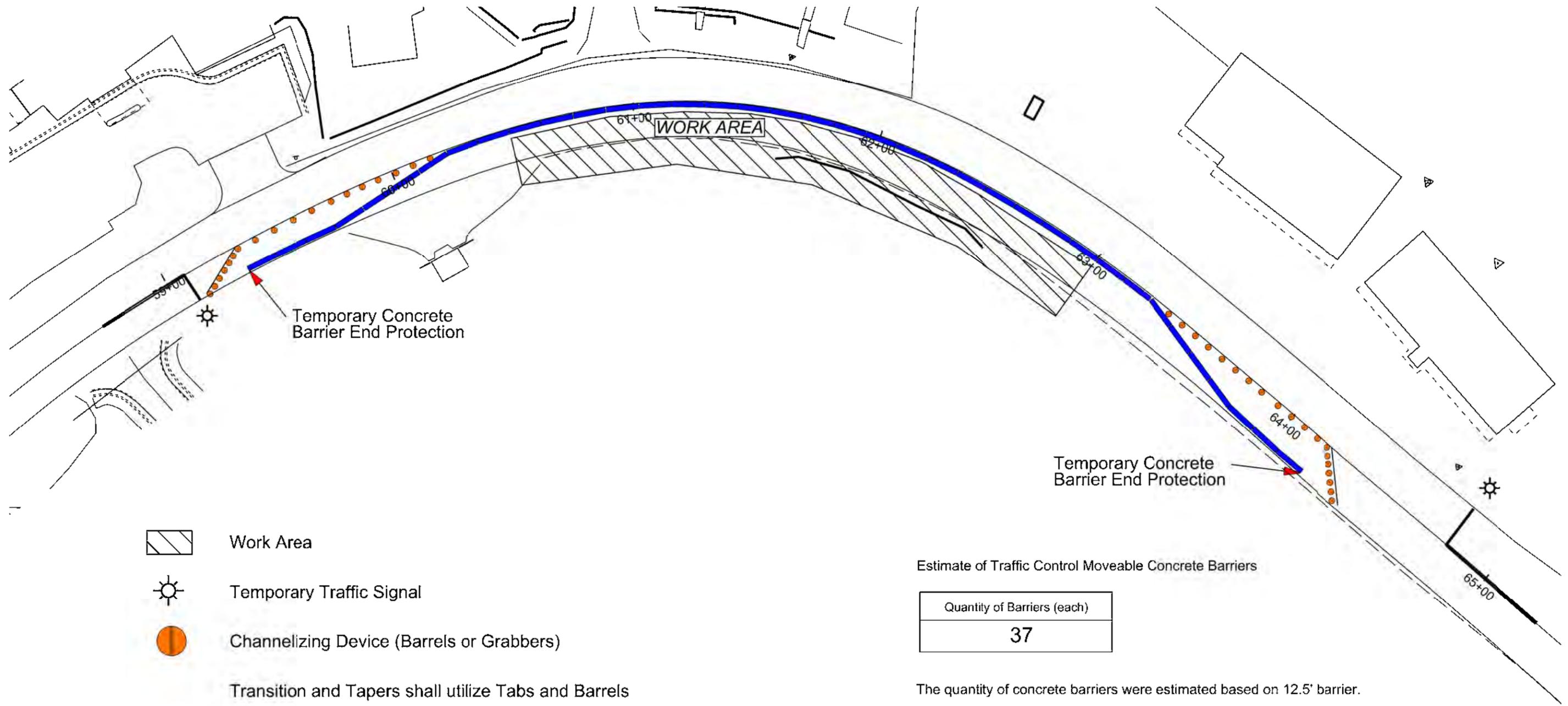
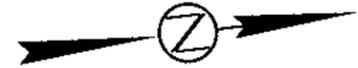
Plotted From - lrcs12247

File - ...lBarrier 1 - Mickelson Trail Retaining Wall.dgn

TEMPORARY MOVEABLE CONCRETE BARRIER LAYOUT

Rock Excavation from Sta. 60+50 to 63+00 Rt.

Plot Scale - 1:40



-  Work Area
-  Temporary Traffic Signal
-  Channelizing Device (Barrels or Grabbers)

Transition and Tapers shall utilize Tabs and Barrels

Sign spacing, barrel spacing, taper lengths, and temporary signal locations shall conform to standard plates 634.26 and 634.65

Estimate of Traffic Control Moveable Concrete Barriers

Quantity of Barriers (each)
37

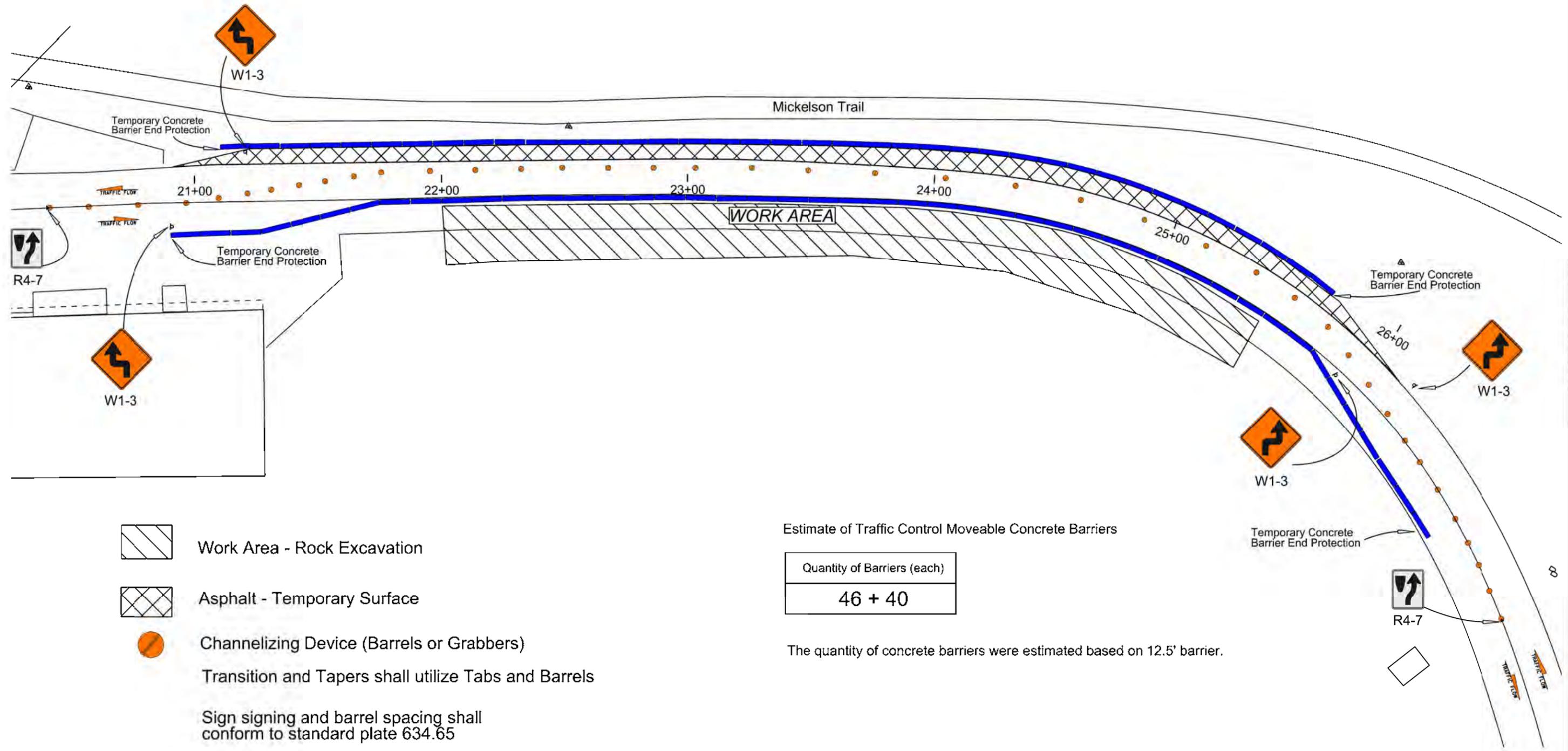
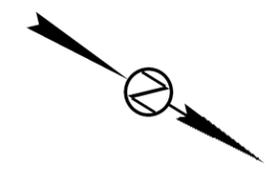
The quantity of concrete barriers were estimated based on 12.5' barrier.

Plotted From - lrcs12247

File - ...lrcs12247 - Rock Excavation (Sta. 60+50 to 63+00).dgn

TEMPORARY MOVEABLE CONCRETE BARRIER LAYOUT

Rock Excavation Sta. 22+00 to 25+50 Rt.



-  Work Area - Rock Excavation
-  Asphalt - Temporary Surface
-  Channelizing Device (Barrels or Grabbers)
- Transition and Tapers shall utilize Tabs and Barrels
- Sign signing and barrel spacing shall conform to standard plate 634.65

Estimate of Traffic Control Moveable Concrete Barriers

Quantity of Barriers (each)
46 + 40

The quantity of concrete barriers were estimated based on 12.5' barrier.

Plot Scale - 1:40

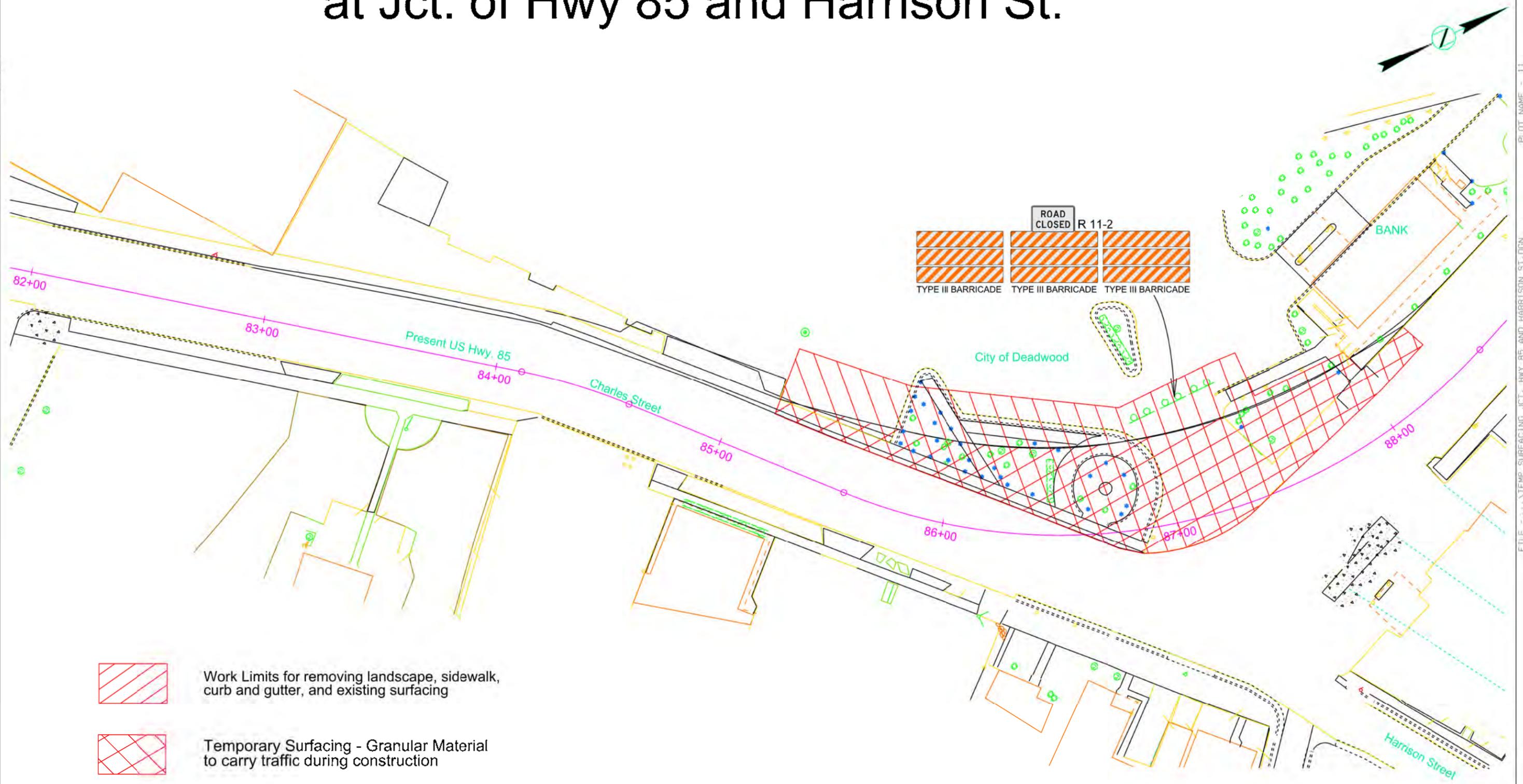
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File - ...lBarrier 3 - Rock Excavation (Sta. 22+00 to 25+50).dgn

Layout for Work Limits & Temporary Surfacing at Jct. of Hwy 85 and Harrison St.

PLOT SCALE - 1:40

FILE - ... \TEMP SURFACING JCT. HWY 85 AND HARRISON ST.DGN



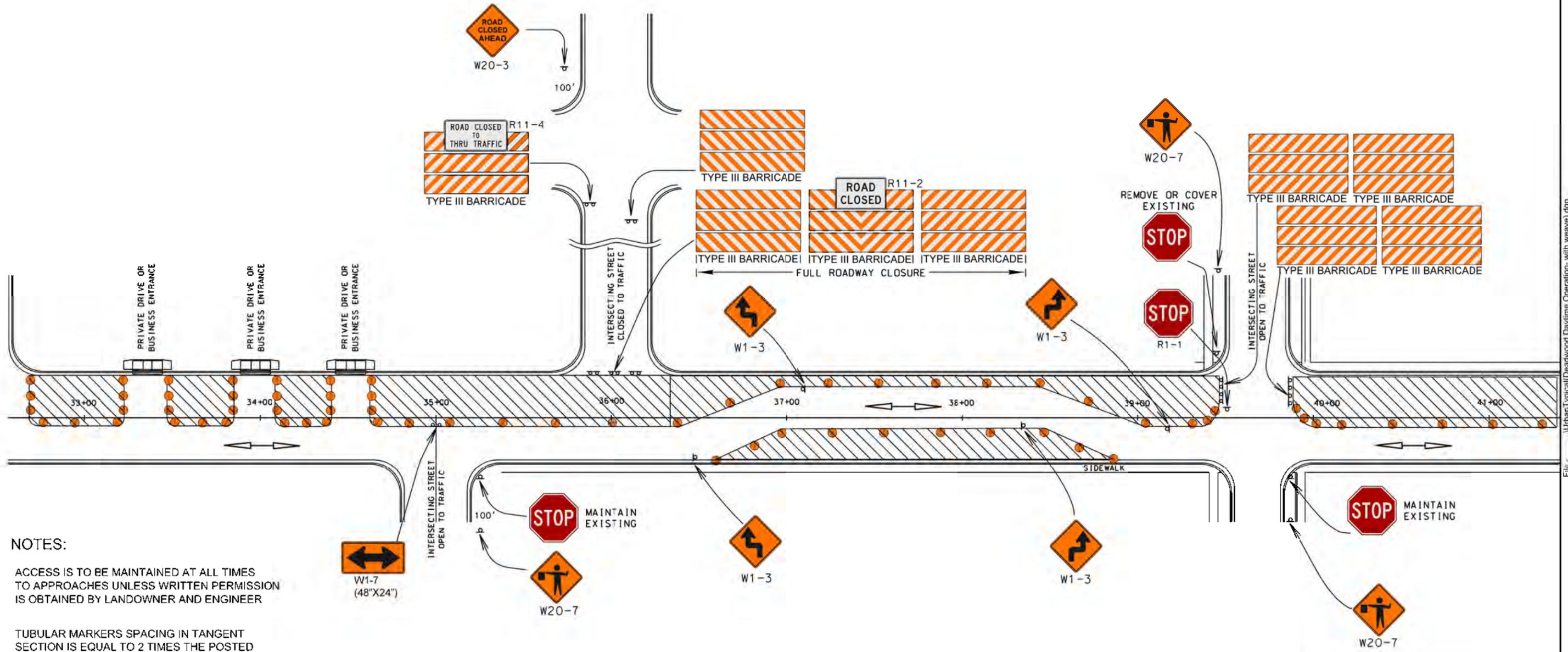
PLOTTED FROM - TRRC12247

TRAFFIC CONTROL - DAYTIME OPERATIONS

(TYPICAL URBAN ONE WAY WITH PILOT CAR with WEAVE)

STATE OF SOUTH DAKOTA	PROJECT PH-NH 0085(20)26	SHEET C18	TOTAL SHEETS C27
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Plotting Date: 06/19/2014



NOTES:

ACCESS IS TO BE MAINTAINED AT ALL TIMES TO APPROACHES UNLESS WRITTEN PERMISSION IS OBTAINED BY LANDOWNER AND ENGINEER

TUBULAR MARKERS SPACING IN TANGENT SECTION IS EQUAL TO 2 TIMES THE POSTED SPEED LIMIT.

SIGN SPACING MAY BE ADJUSTED FOR SITE CONDITIONS.

PILOT CAR OPERATION - ONE WAY TRAFFIC THRU WORK ZONE

** MINIMUM 10 FT. LANE WIDTH

Plot Scale - 1:40

Plotted From - lrs12247

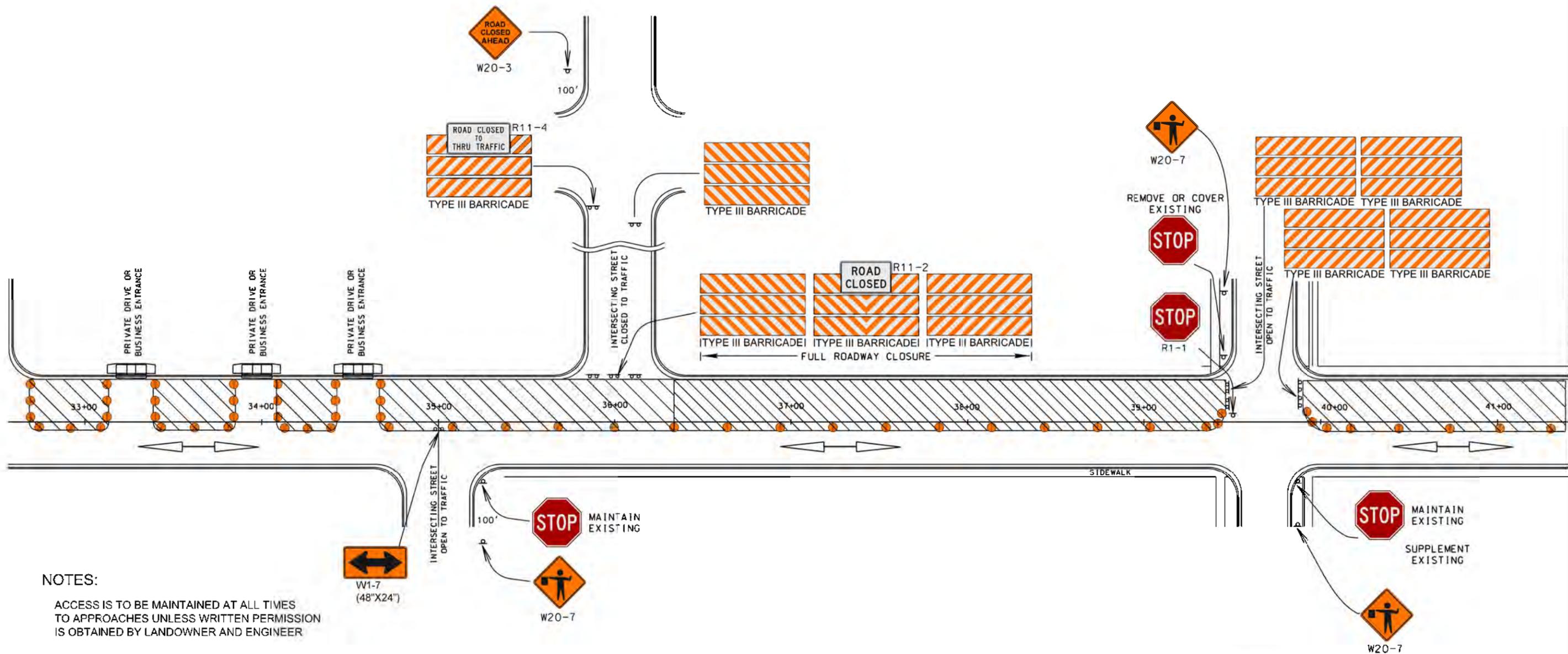
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TRAFFIC CONTROL - DAYTIME OPERATIONS

(TYPICAL URBAN - ONE WAY TRAFFIC WITH PILOT CAR)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH-NH 0085(20)26	C19	C27

Plotting Date: 06/19/2014



NOTES:

ACCESS IS TO BE MAINTAINED AT ALL TIMES TO APPROACHES UNLESS WRITTEN PERMISSION IS OBTAINED BY LANDOWNER AND ENGINEER

TUBULAR MARKERS SPACING IN TANGENT SECTION IS EQUAL TO 2 TIMES THE POSTED SPEED LIMIT.

SIGN SPACING MAY BE ADJUSTED FOR SITE CONDITIONS.

PILOT CAR OPERATION - ONE WAY TRAFFIC THRU WORK AREAS

** MINIMUM 10 FT. LANE WIDTH

KEY

-WORK SPACE

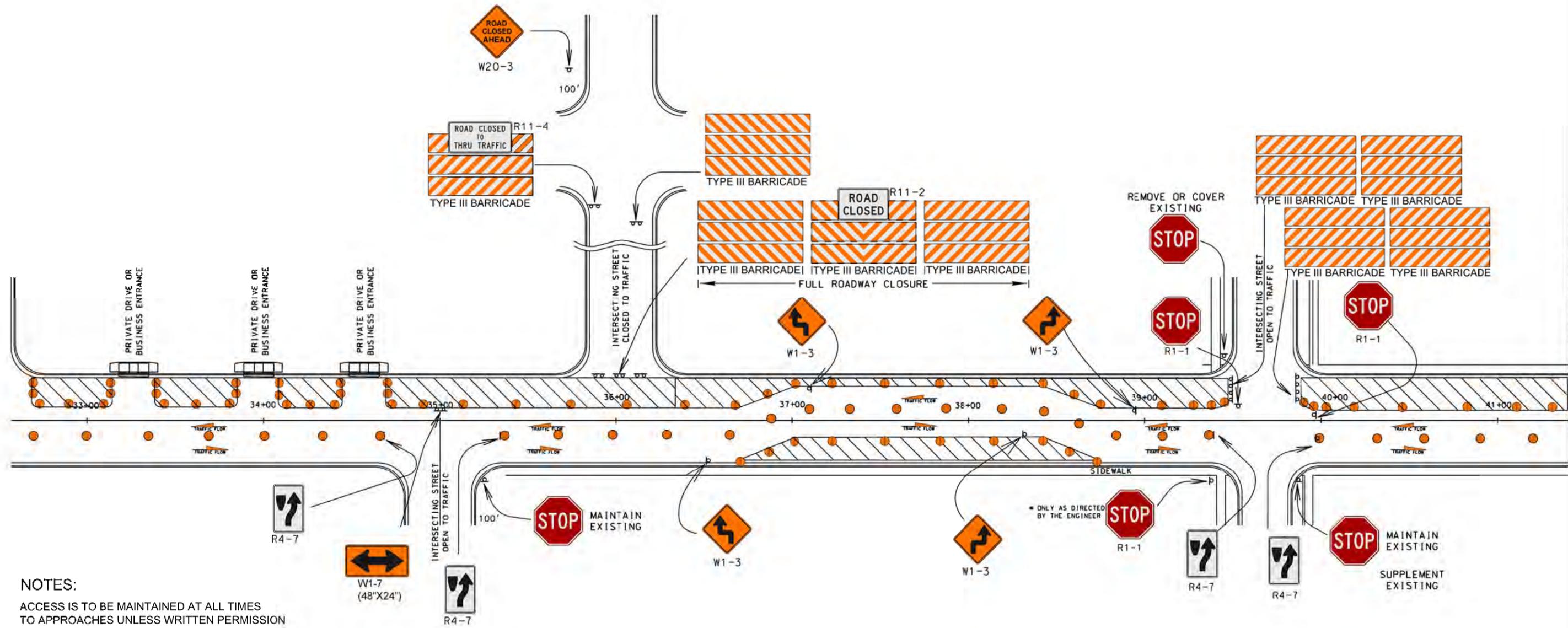
-REFLECTORIZED DRUMS

TRAFFIC CONTROL - NIGHTTIME OPERATION

(TYPICAL URBAN TWO WAY TRAFFIC with WEAVE)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH-NH 0085(20)26	C20	C27

Plotting Date: 06/19/2014



NOTES:

- ACCESS IS TO BE MAINTAINED AT ALL TIMES TO APPROACHES UNLESS WRITTEN PERMISSION IS OBTAINED BY LANDOWNER AND ENGINEER
- TUBULAR MARKERS SPACING IN TANGENT SECTION IS EQUAL TO 2 TIMES THE POSTED SPEED LIMIT.
- SIGN SPACING MAY BE ADJUSTED FOR SITE CONDITIONS.
- ** MINIMUM 10 FT. LANE WIDTH

KEY

- WORK SPACE
- TUBULAR MARKERS
- REFLECTORIZED DRUMS

Plot Scale - 1:40

Plotted From - trs12247

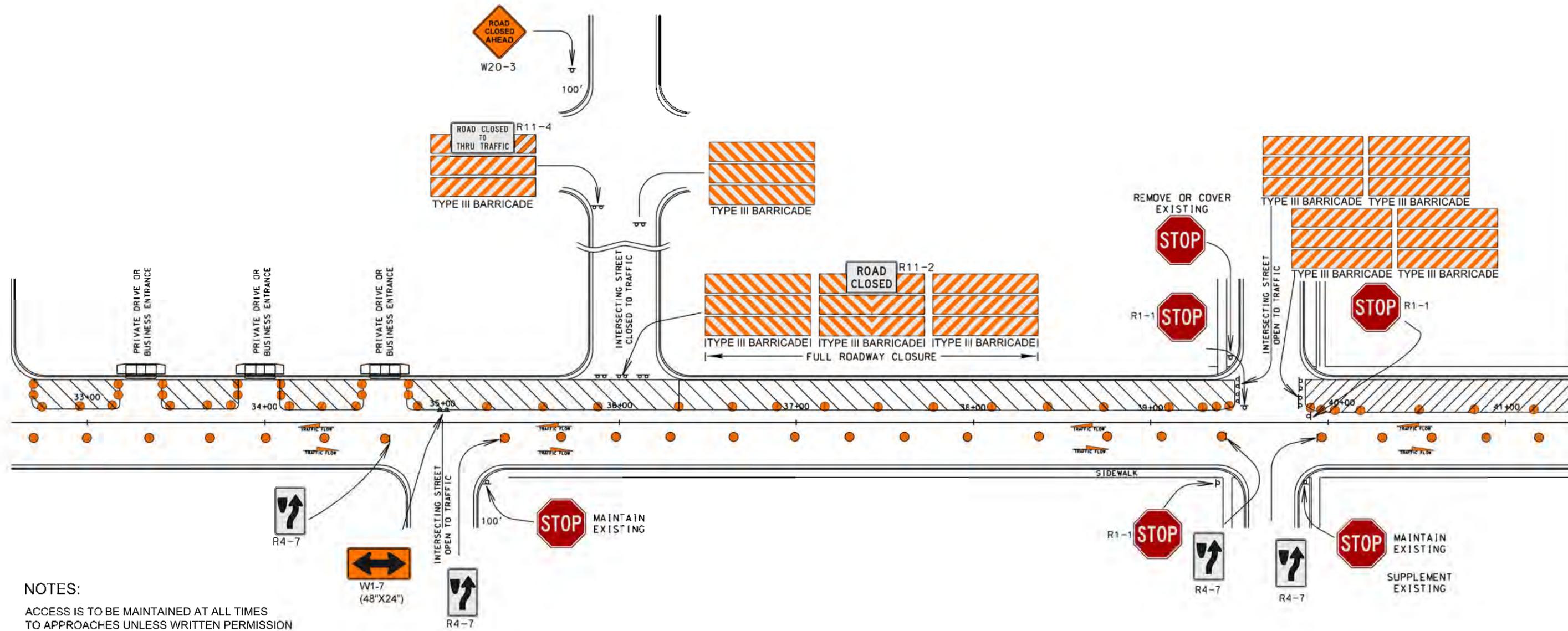
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TRAFFIC CONTROL - NIGHTTIME OPERATION

(TYPICAL URBAN TWO WAY TRAFFIC)

STATE OF SOUTH DAKOTA	PROJECT PH-NH 0085(20)26	SHEET C21	TOTAL SHEETS C27
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Plotting Date: 06/19/2014



NOTES:

ACCESS IS TO BE MAINTAINED AT ALL TIMES TO APPROACHES UNLESS WRITTEN PERMISSION IS OBTAINED BY LANDOWNER AND ENGINEER

TUBULAR MARKERS SPACING IN TANGENT SECTION IS EQUAL TO 2 TIMES THE POSTED SPEED LIMIT.

SIGN SPACING MAY BE ADJUSTED FOR SITE CONDITIONS.

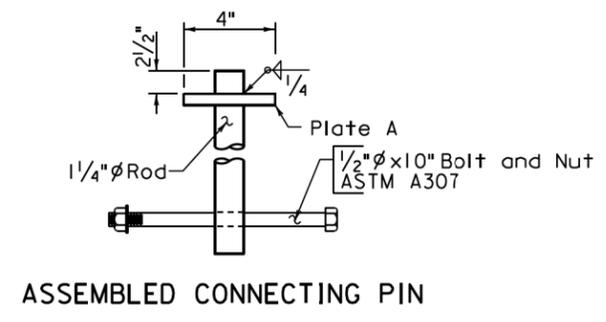
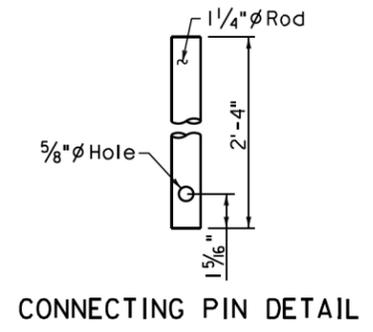
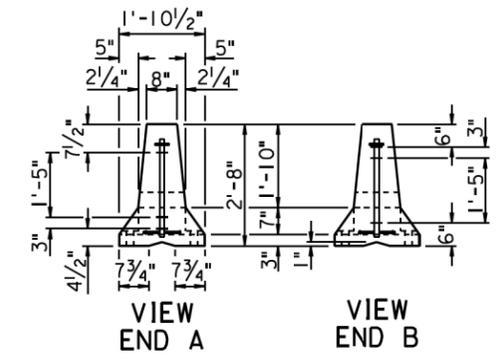
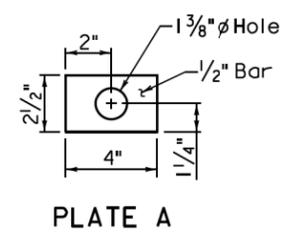
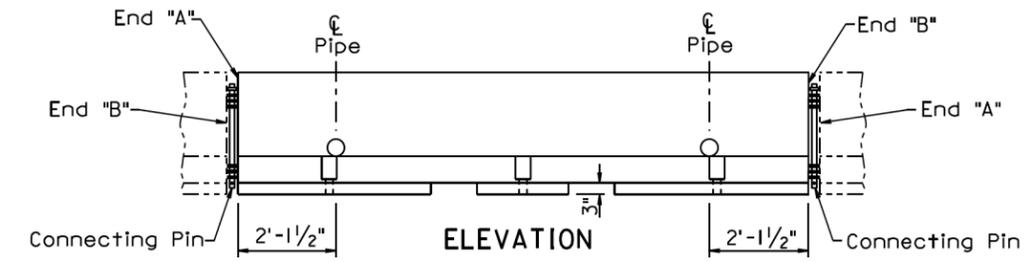
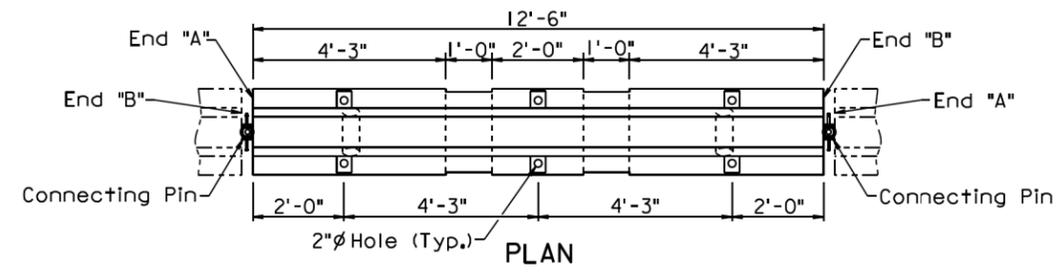
****MINIMUM 10 FT. LANE WIDTHS**

- KEY**
- WORK SPACE
 - TUBULAR MARKERS
 - REFLECTORIZED DRUMS

Plot Scale - 1:40

Plotted From - lrs12247

File - ...UrbanTypical(Deadwood Nighttime Operation).dgn



GENERAL NOTES:

The detailed drawings are for illustrative purpose and depicts the current version of the F shape concrete barrier. If new movable concrete barriers are requested on a project, they shall be constructed according to the F shape movable concrete barrier details on standard plate 628.10.

Each movable concrete barrier section weighs 5030 \pm pounds.

Each movable concrete barrier section is detailed to provide end "A" to end "B" connection by insertion of a pin through steel loops.

The Jersey shape or any version of the F shape traffic control movable concrete barriers may be used on a project, however, only the same type or version shall be used for each run of barriers.

Movable concrete barrier sections shall be placed to provide uniform bearing of the sections with the paved surface as approved by the Engineer.

Movable concrete barrier sections shall never be moved or lifted using the end loops.

Movable concrete barrier sections that have been damaged shall not be used. Barrier sections are considered damaged if the loops are end welded onto existing damaged loops, loops are fractured, or there is exposed rebar from fractured concrete.

All cost for transporting the barriers from the specified location to the project site, installing, and returning the barriers to the specified location shall be incidental to the contract unit price per each for "Traffic Control Movable Concrete Barrier".

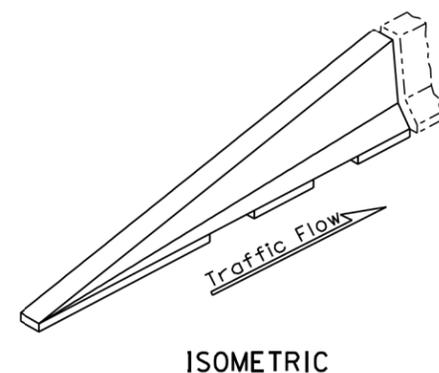
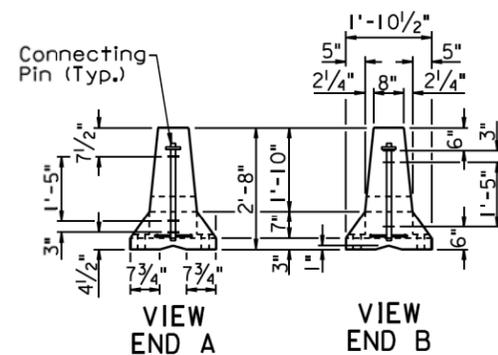
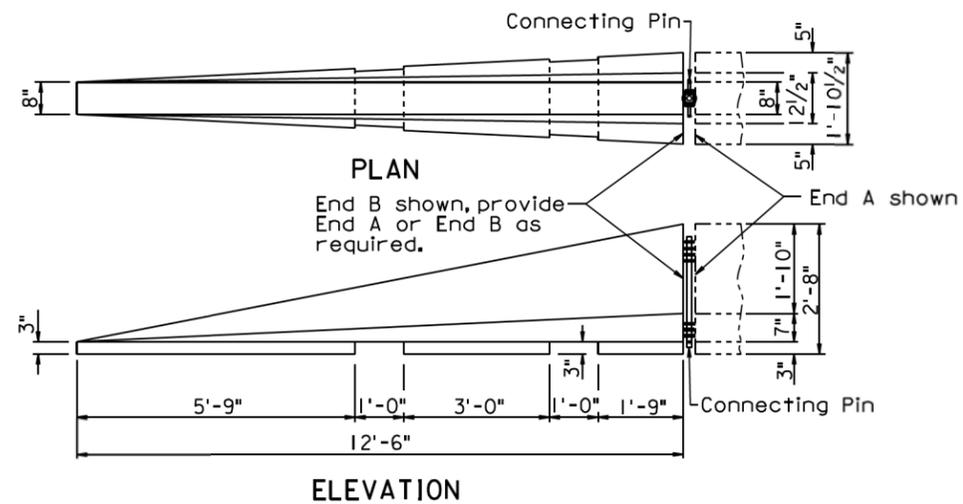
If the concrete barriers need to be moved and reset on the project, requiring the barriers to be transported by truck, all cost for removing, transporting, and resetting the barriers shall be incidental to the contract unit price per each for "Remove and Reset Traffic Control Movable Concrete Barrier". All cost for small shifts in alignment of the barriers, not requiring the barriers to be transported by truck, shall be incidental to various contract items.

June 26, 2009

Published Date: 2nd Qtr. 2014	S D D O T	TRAFFIC CONTROL MOVABLE CONCRETE BARRIERS (F SHAPE INTERIOR SECTION)	PLATE NUMBER 628.01
			Sheet 1 of 2

June 26, 2009

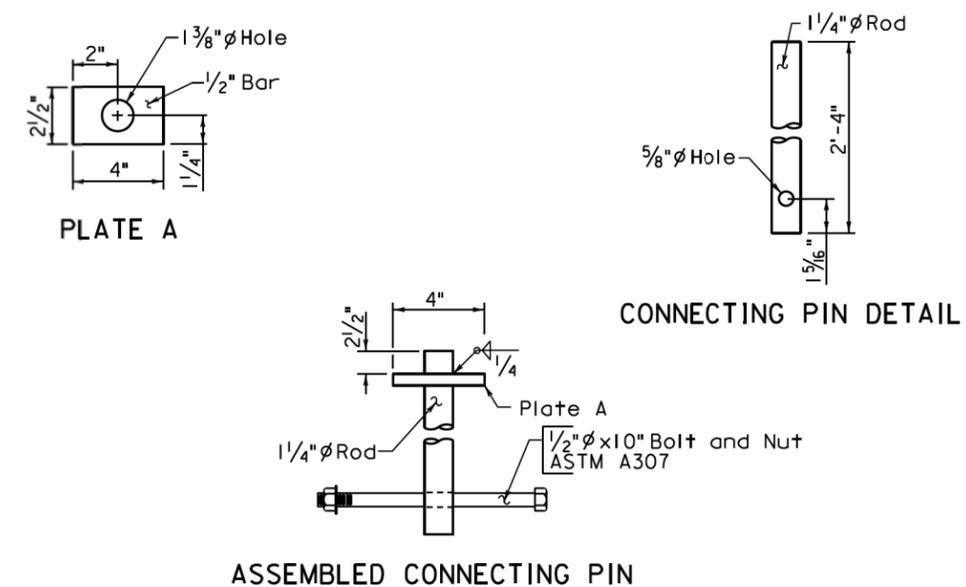
Published Date: 2nd Qtr. 2014	S D D O T	TRAFFIC CONTROL MOVABLE CONCRETE BARRIERS (F SHAPE INTERIOR SECTION)	PLATE NUMBER 628.01
			Sheet 2 of 2



June 26, 2009

S D D O T	TRAFFIC CONTROL MOVABLE CONCRETE BARRIERS (F SHAPE END SECTION)	PLATE NUMBER 628.02
		Sheet 1 of 2

Published Date: 2nd Qtr. 2014


GENERAL NOTES:

The detailed drawings are for illustrative purpose and depicts the current version of the F shape concrete barrier end section. If new concrete barrier end sections are requested on a project, they shall be constructed according to the F shape movable concrete barrier end section details on standard plate 628.11.

Each movable concrete barrier end section weighs 2450 ± pounds.

Each movable concrete barrier end section is detailed to provide end "A" to end "B" connection by insertion of a pin through steel loops.

The Jersey shape or any version of the F shape traffic control movable concrete barriers may be used on a project, however, only the same type or version shall be used for each run of barriers.

Movable concrete barrier sections shall be placed to provide uniform bearing of the sections with the paved surface as approved by the Engineer.

Movable concrete barrier end sections shall never be moved or lifted using the end loops.

Movable concrete barrier end sections that have been damaged shall not be used. Barrier sections are considered damaged if the loops are end welded onto existing damaged loops, loops are fractured, or there is exposed rebar from fractured concrete.

All cost for transporting the barriers from the specified location to the project site, installing, and returning the barriers to the specified location shall be incidental to the contract unit price per each for "Traffic Control Movable Concrete Barrier".

If the concrete barriers need to be moved and reset on the project, requiring the barriers to be transported by truck, all cost for removing, transporting, and resetting the barriers shall be incidental to the contract unit price per each for "Remove and Reset Traffic Control Movable Concrete Barrier". All cost for small shifts in alignment of the barriers, not requiring the barriers to be transported by truck, shall be incidental to various contract items.

June 26, 2009

S D D O T	TRAFFIC CONTROL MOVABLE CONCRETE BARRIERS (F SHAPE END SECTION)	PLATE NUMBER 628.02
		Sheet 2 of 2

Published Date: 2nd Qtr. 2014

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

- 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.

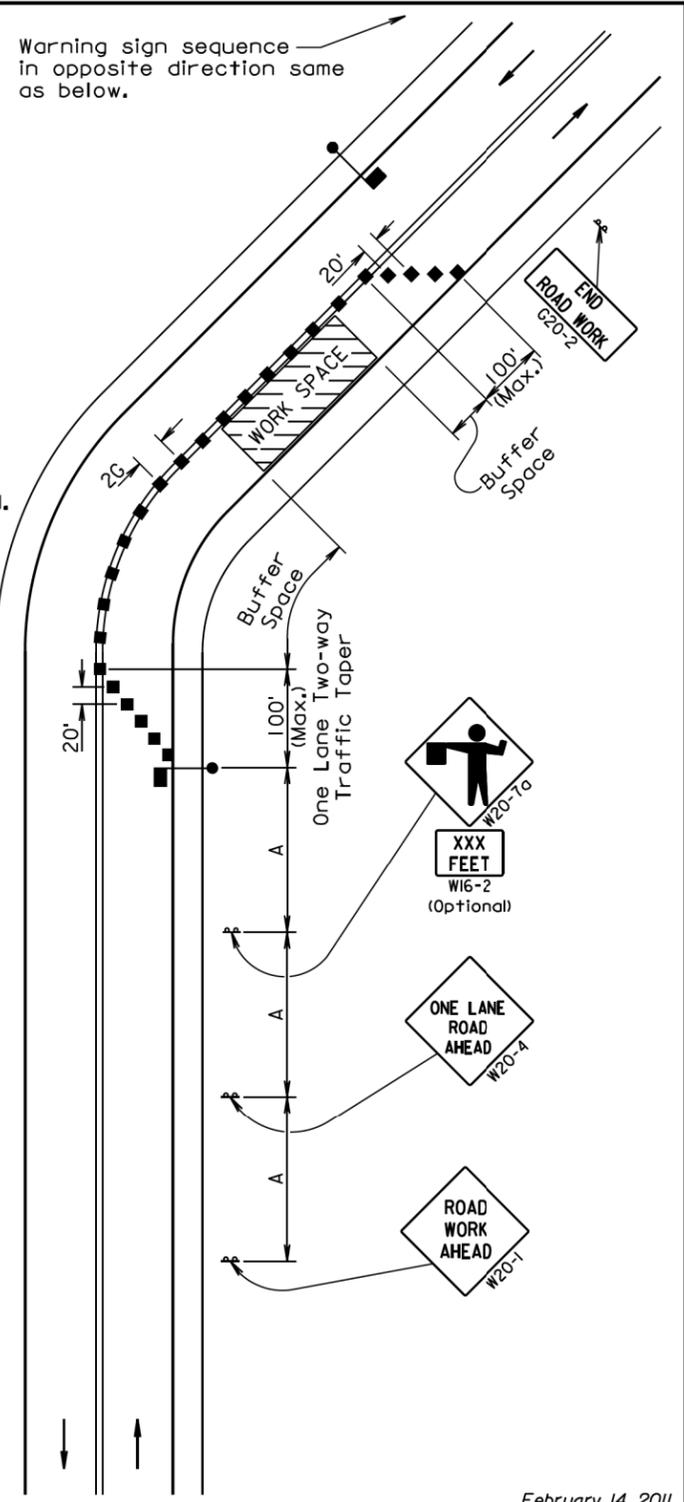
The channelizing devices shall be drums or 42" cones.

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



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

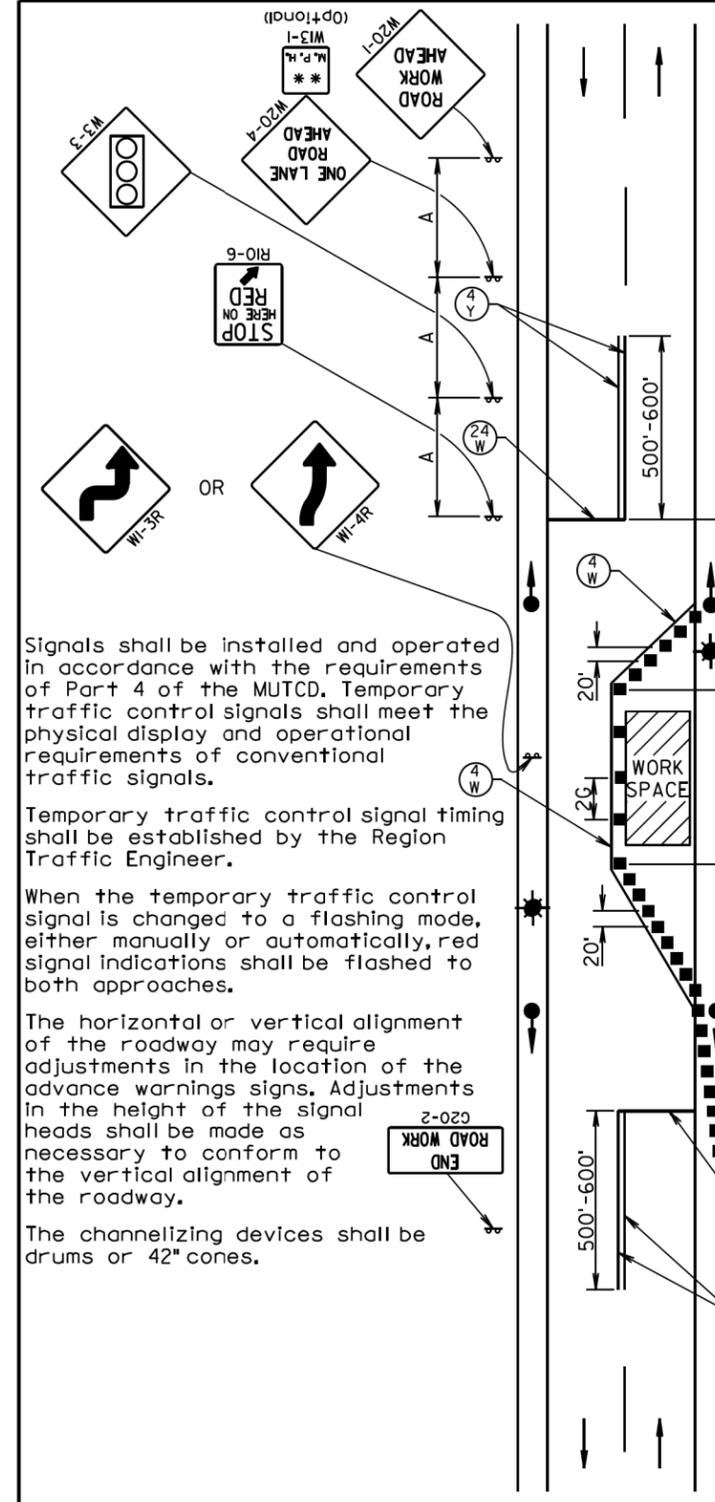
The buffer space should be extended so that the two-way traffic taper is placed before a horizontal or vertical curve to provide adequate sight distance for the flagger and queue of stopped vehicles.



Warning sign sequence in opposite direction same as below.

February 14, 2011

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES LANE CLOSURE WITH FLAGGER PROVIDED	PLATE NUMBER 634.23
	Published Date: 2nd Qtr. 2014	Sheet 1 of 1



Signals shall be installed and operated in accordance with the requirements of Part 4 of the MUTCD. Temporary traffic control signals shall meet the physical display and operational requirements of conventional traffic signals.

Temporary traffic control signal timing shall be established by the Region Traffic Engineer.

When the temporary traffic control signal is changed to a flashing mode, either manually or automatically, red signal indications shall be flashed to both approaches.

The horizontal or vertical alignment of the roadway may require adjustments in the location of the advance warning signs. Adjustments in the height of the signal heads shall be made as necessary to conform to the vertical alignment of the roadway.

The channelizing devices shall be drums or 42" cones.

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

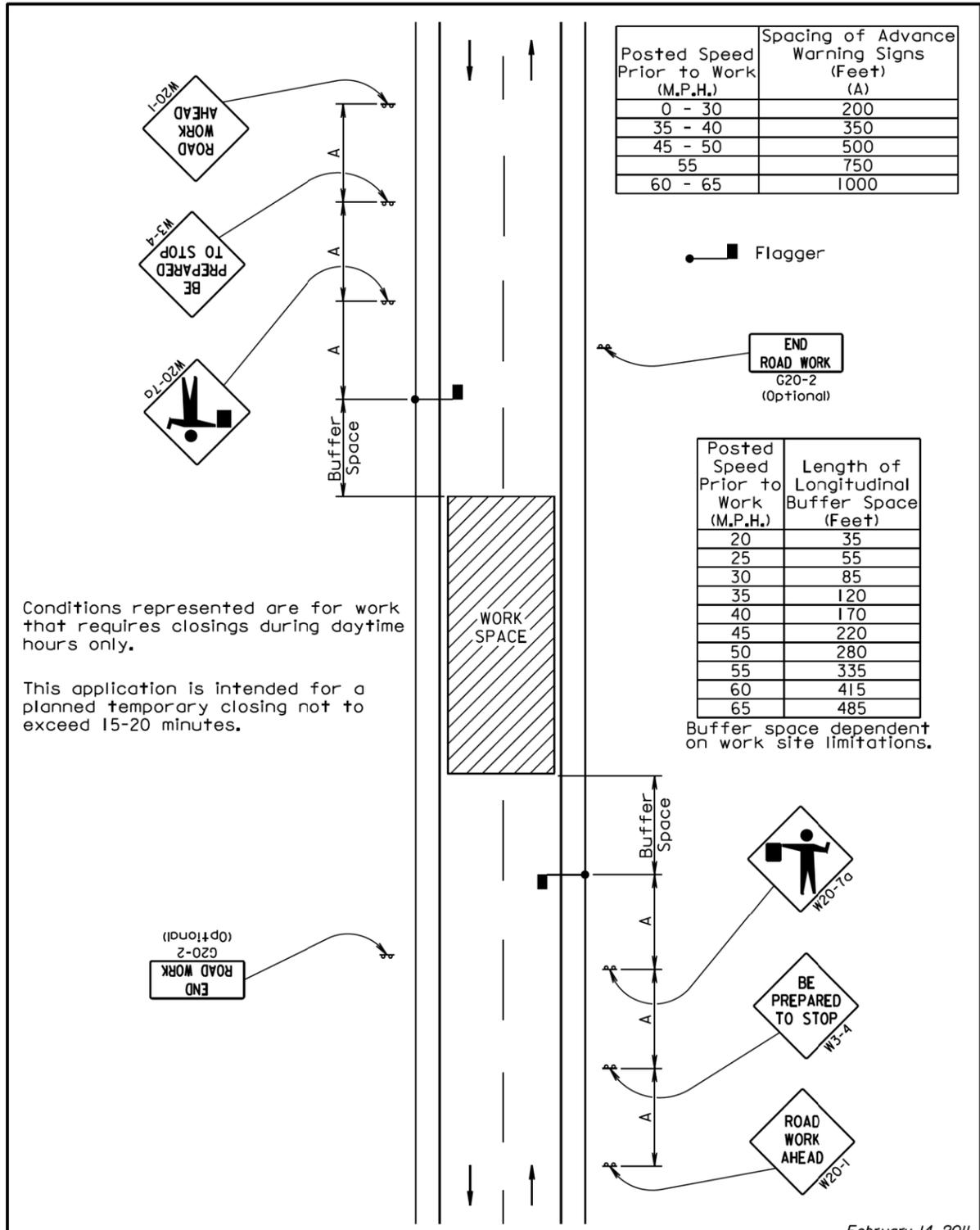
- END ROAD WORK G20-2
- 24" White Temporary Pavement Marking (24 W)
- 4" White Temporary Pavement Marking (4 W)
- 4" Yellow Temporary Pavement Marking (4 Y)
- Channelizing Device
- Traffic Signal
- Lighting (Optional)
- ** Need and safe speed to be determined at the site by the Engineer.

For long-term operations the ends of the work space area shall be illuminated to clearly identify the ends of the work space area.

December 23, 2010

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES LANE CLOSURE USING TRAFFIC SIGNALS	PLATE NUMBER 634.26
	Published Date: 2nd Qtr. 2014	Sheet 1 of 1

Plot Scale - 1:200



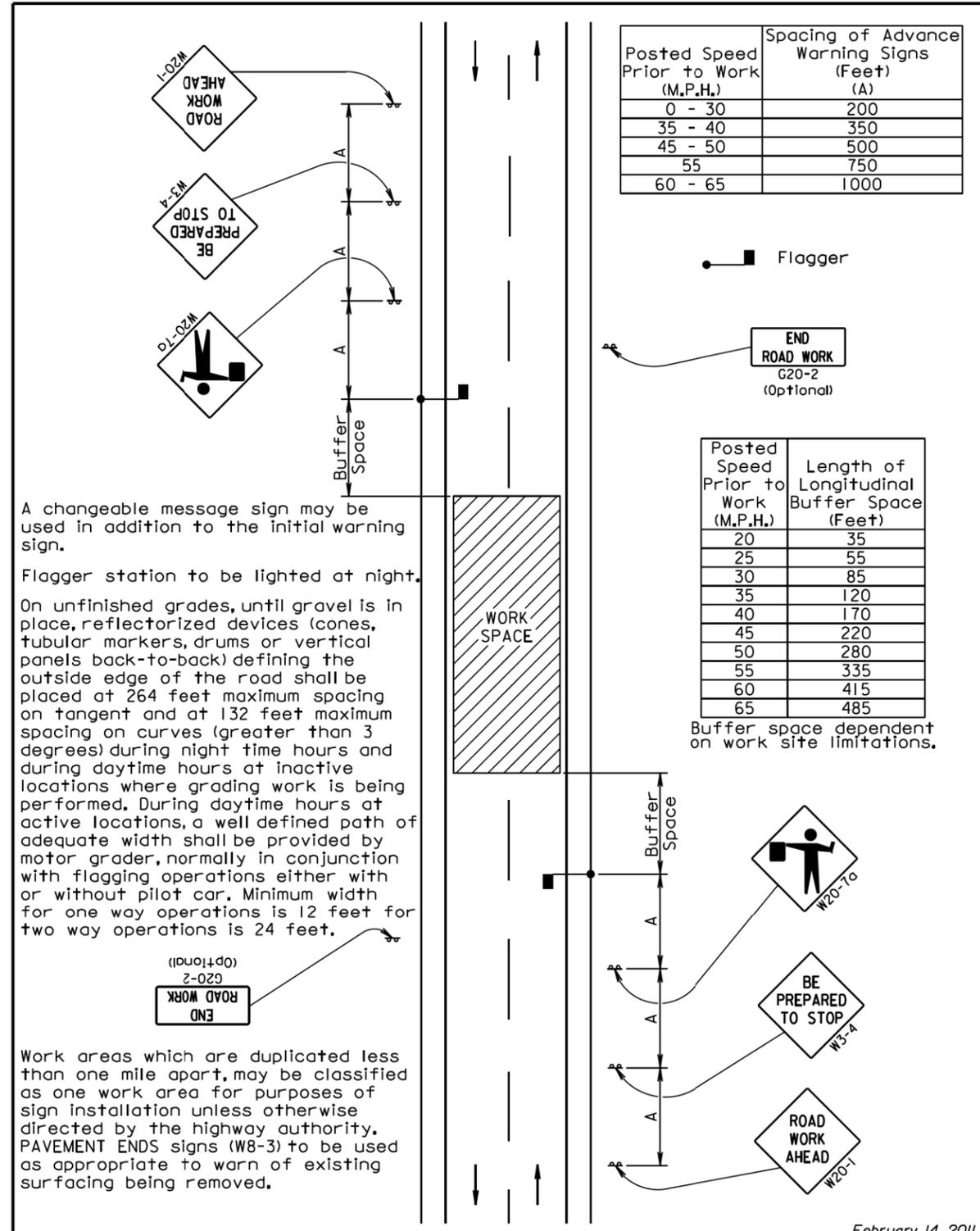
Conditions represented are for work that requires closings during daytime hours only.

This application is intended for a planned temporary closing not to exceed 15-20 minutes.

Buffer space dependent on work site limitations.

February 14, 2011

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES TEMPORARY ROAD WORK	PLATE NUMBER 634.30
	Published Date: 2nd Qtr. 2014	Sheet 1 of 1



A changeable message sign may be used in addition to the initial warning sign.

Flagger station to be lighted at night.

On unfinished grades, until gravel is in place, reflectorized devices (cones, tubular markers, drums or vertical panels back-to-back) defining the outside edge of the road shall be placed at 264 feet maximum spacing on tangent and at 132 feet maximum spacing on curves (greater than 3 degrees) during night time hours and during daytime hours at inactive locations where grading work is being performed. During daytime hours at active locations, a well defined path of adequate width shall be provided by motor grader, normally in conjunction with flagging operations either with or without pilot car. Minimum width for one way operations is 12 feet for two way operations is 24 feet.

Work areas which are duplicated less than one mile apart, may be classified as one work area for purposes of sign installation unless otherwise directed by the highway authority. PAVEMENT ENDS signs (W8-3) to be used as appropriate to warn of existing surfacing being removed.

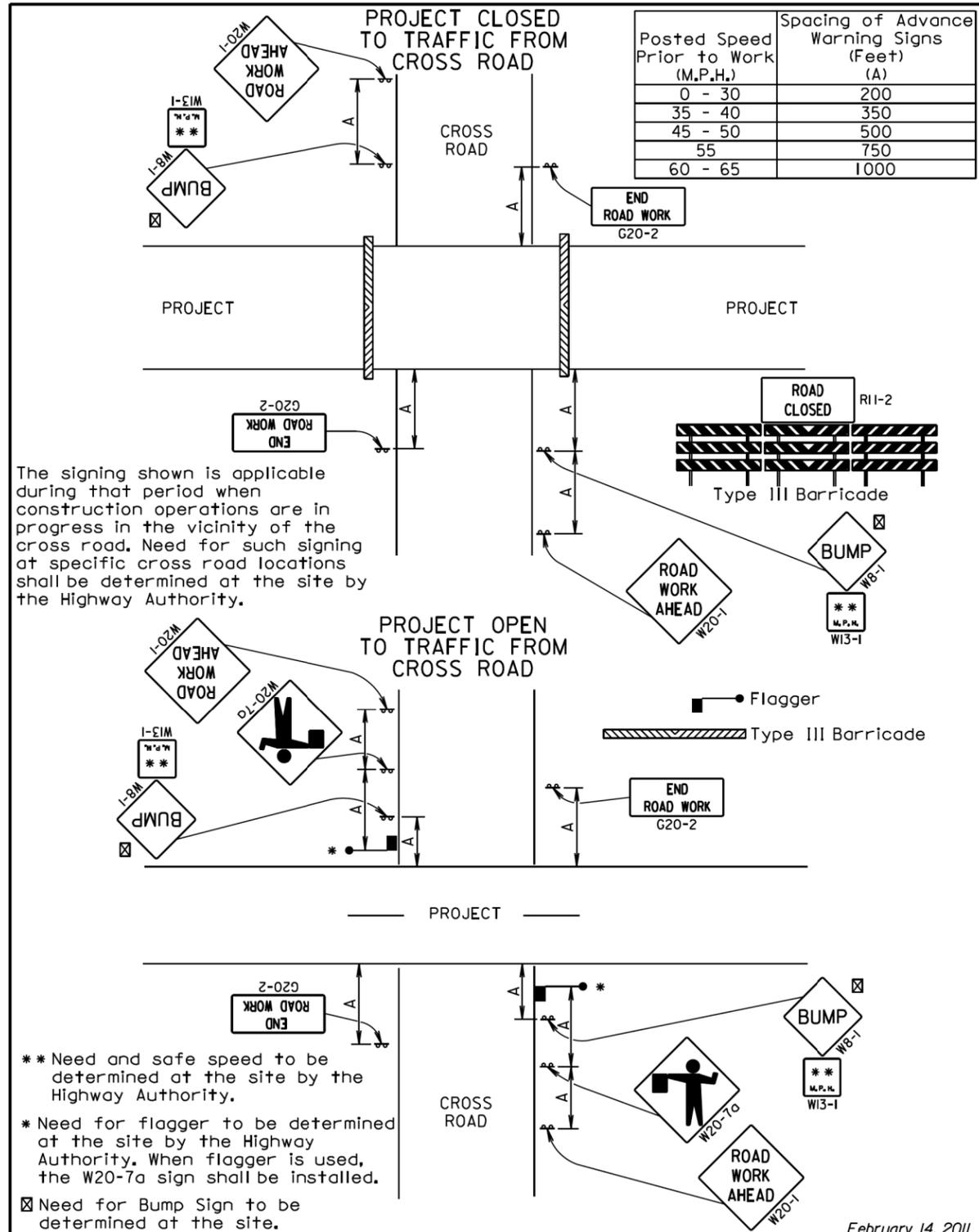
Buffer space dependent on work site limitations.

February 14, 2011

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES LONG TERM ROAD WORK	PLATE NUMBER 634.31
	Published Date: 2nd Qtr. 2014	Sheet 1 of 1

- Plotted From - trcs12247

File - ...Plans Related\StdPlate4.dgn



February 14, 2011

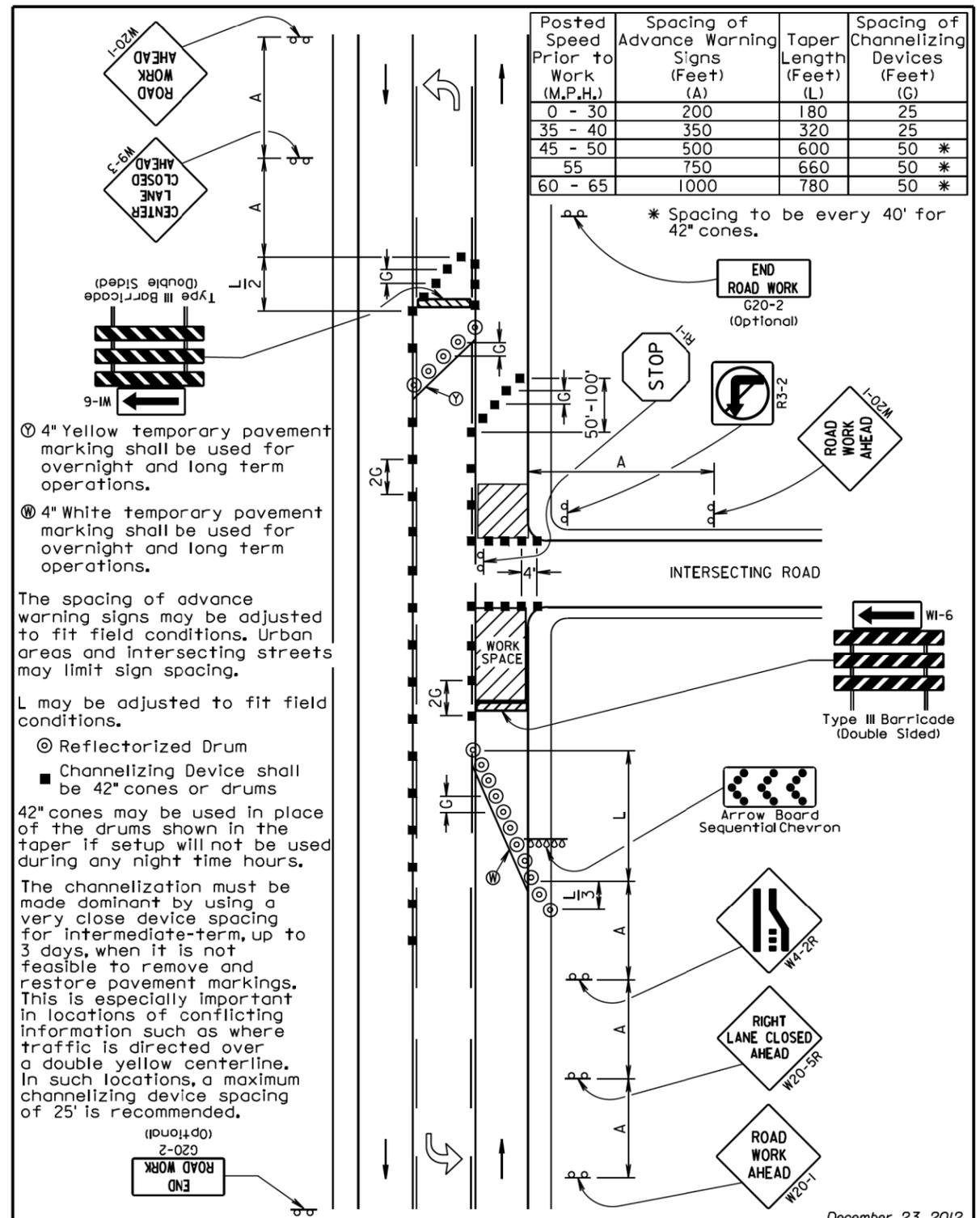
SDDOT

GUIDES FOR TRAFFIC CONTROL DEVICES CROSSROAD SIGNING

PLATE NUMBER 634.32

Sheet 1 of 1

Published Date: 2nd Qtr. 2014



December 23, 2012

SDDOT

GUIDES FOR TRAFFIC CONTROL DEVICES 3-LANE, OUTSIDE LANE CLOSED

PLATE NUMBER 634.53

Sheet 1 of 1

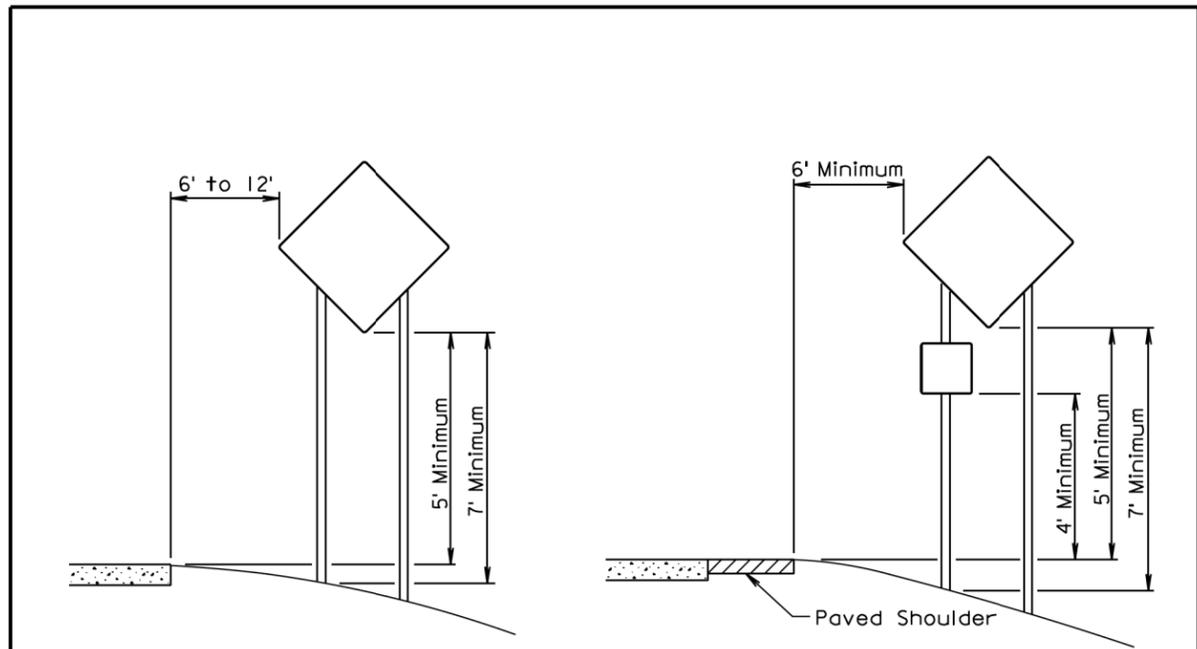
Published Date: 2nd Qtr. 2014

Plot Scale - 1:200

- Plotted From - trcs12247

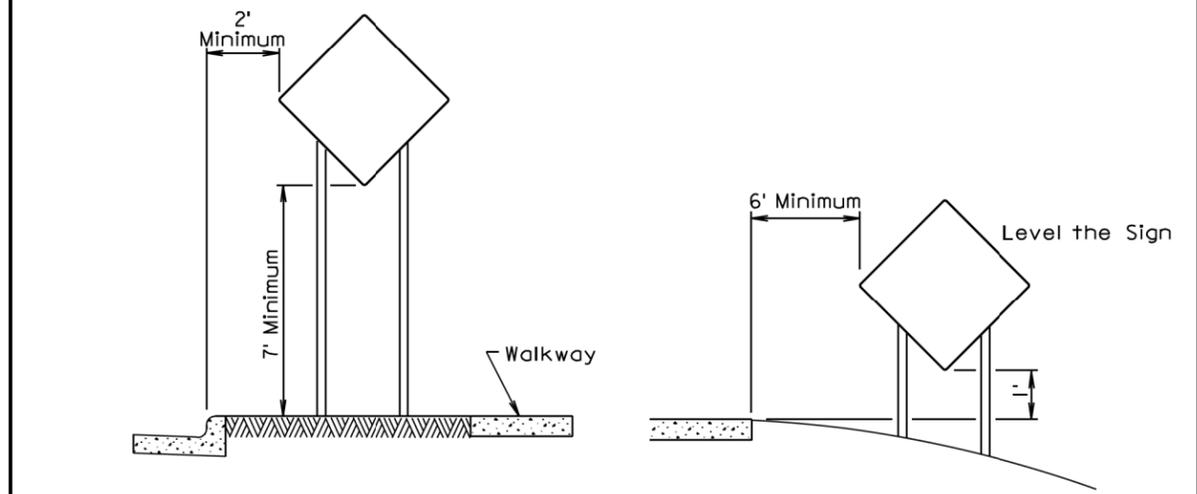
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Plot Scale - 1:200



RURAL DISTRICT

RURAL DISTRICT WITH SUPPLEMENTAL PLATE

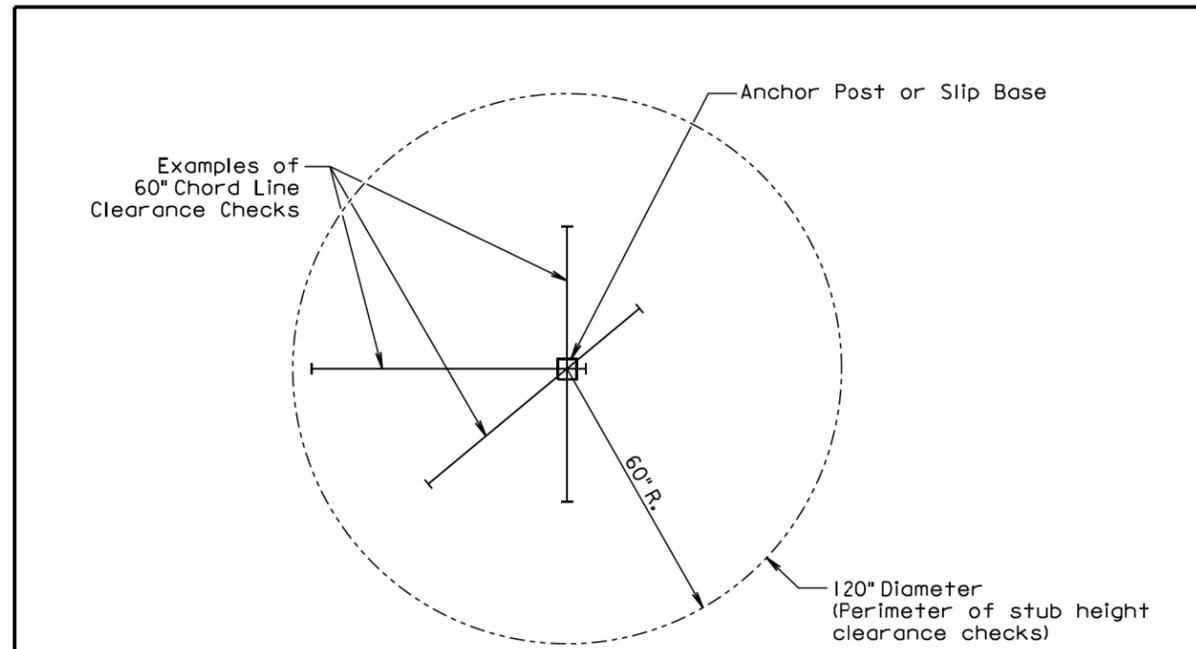


URBAN DISTRICT

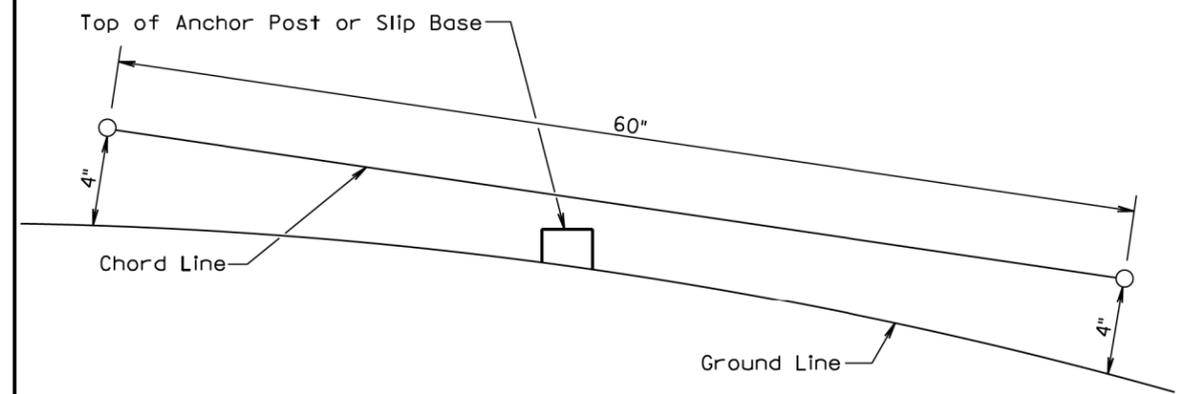
RURAL DISTRICT 3 DAY MAXIMUM

February 14, 2011

Published Date: 2nd Qtr. 2014	S D D O T	CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
			Sheet 1 of 1



PLAN VIEW
(Examples of stub height clearance checks)



ELEVATION VIEW

GENERAL NOTES:

The top of anchor posts and slip bases SHALL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.
 At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height shall be a maximum of 4" above the ground line at the localized area adjacent to the breakaway support stub.
 The 4" stub height clearance is not necessary for U-channel lap splices where the support is designed to yield (bend) at the base.

July 1, 2005

Published Date: 2nd Qtr. 2014	S D D O T	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
			Sheet 1 of 1

Plotted From - trcs12247

File - ...Plans Related\Std\Plate6.dgn