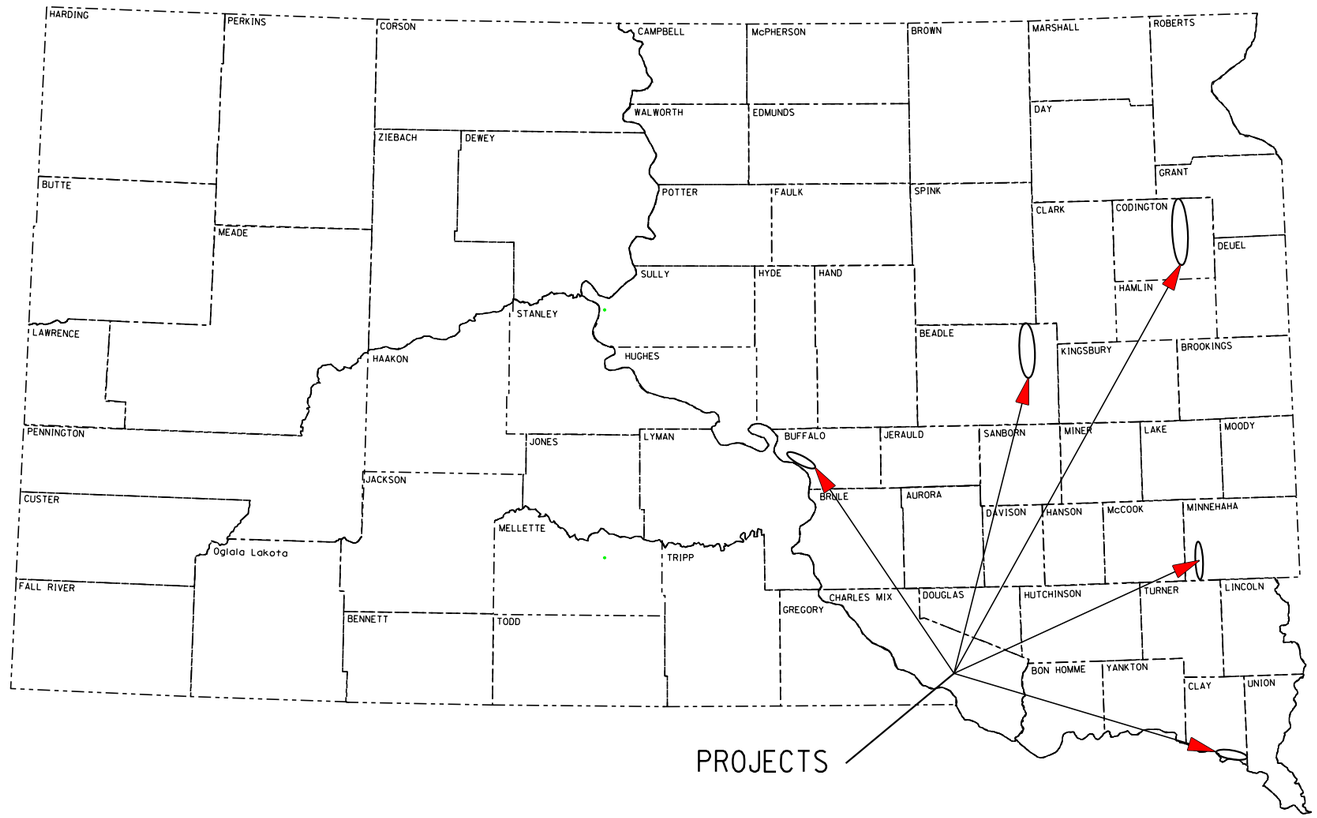
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PH 6187(05)	1	16
Plotting Date: 11/06/2015			

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED

PROJECTS PH 6187(05), PH 6127(06), PH 8014(34), PH 6353(15) & PH 6804(09)
BEADLE, CODINGTON, CLAY, MINNEHAHA & BUFFALO COUNTIES

RUMBLE STRIPES AND DURABLE PAVEMENT MARKINGS

PCNS 051G, 051J, 051D, 051E & 051F



INDEX OF SHEETS

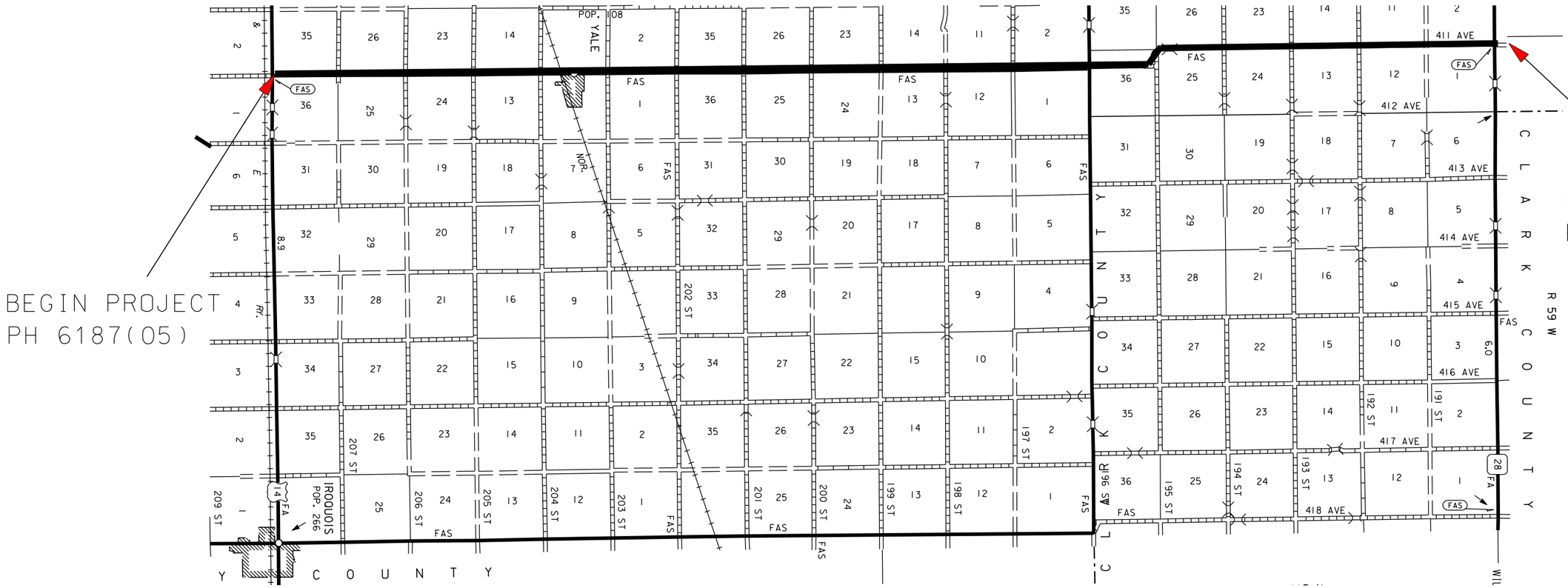
STORM WATER PERMIT
(NONE REQUIRED)

TOTAL LENGTH 320,496 FEET 60.7 MILES

9

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PH 6187(05)	2	16
Plotting Date: 11/06/2015			

PROJECT PH 6187(05)
BEADLE COUNTY MAP
PCN 051G



LENGTH = 18.3 MILES

PLOT SCALE - 1:150

PLOT NAME - 2

FILE - ...\PLANS\BEADLE COUNTY MAP.DGN

PLOTTED FROM - TRAB17879

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PH 6127(06)	3	16
Plotting Date: 11/06/2015			

PLOT SCALE - 1:160

PLOT NAME - 3

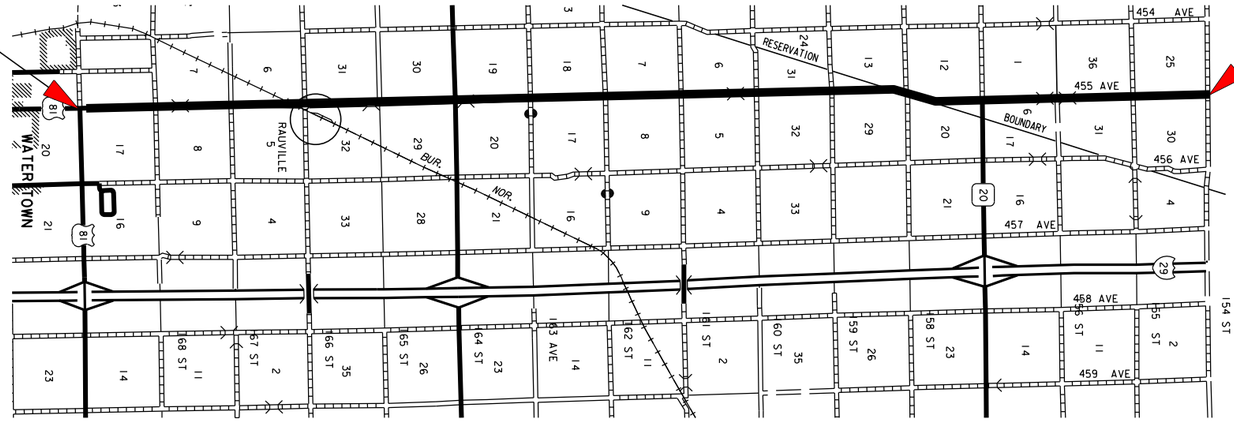
FILE - ...\PLANS\CODINGTON COUNTY MAP.DGN

PLOTTED FROM - TRAB17879

PROJECT PH 6127(06)
CODINGTON COUNTY MAP
PCN 051J

BEGIN PROJECT
PH 6127(06)

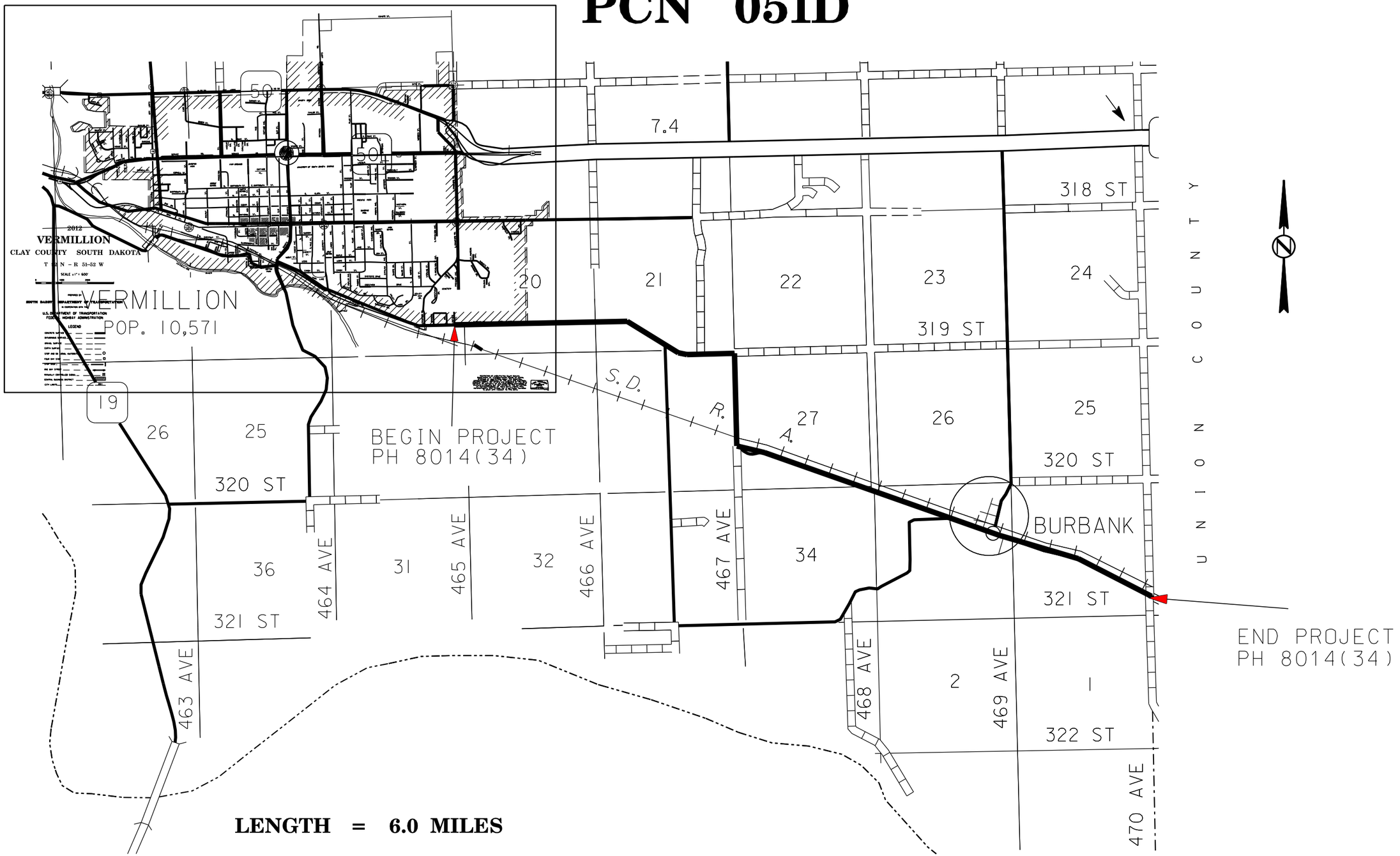
END PROJECT
PH 6127(06)



LENGTH = 15.0 MILES

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PH 8014(34)	4	16
Plotting Date: 11/06/2015			

PROJECT PH 8014(34)
CLAY COUNTY MAP
PCN 051D



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PLOT SCALE - 1:3750

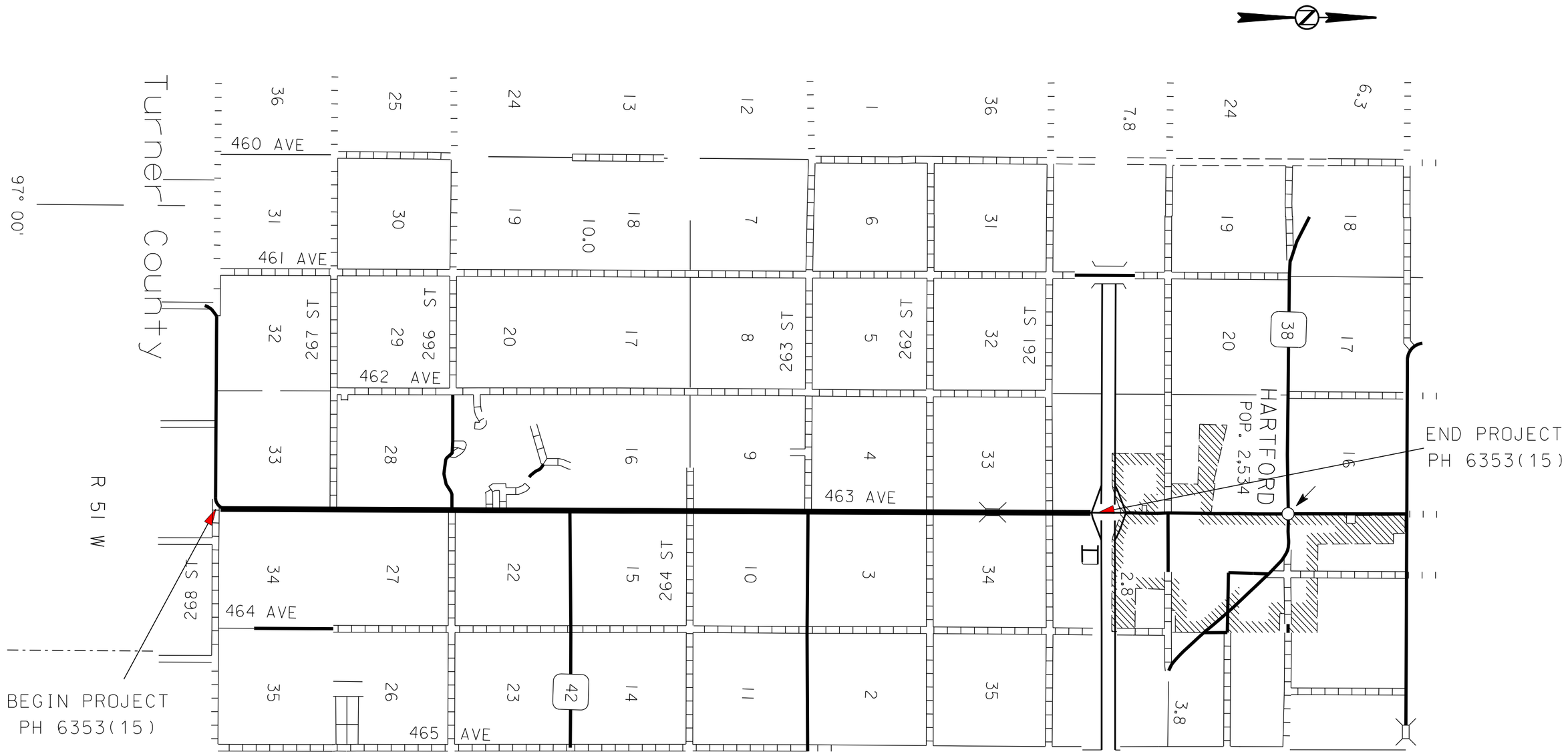
PLOTTED FROM - TRAB17879

PLOT NAME - 5

FILE - ...\PLANS\CLAY COUNTY MAP.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PH 6353(15)	5	16
Plotting Date: 11/06/2015			

PROJECT PH 6353(15)
MINNEHAHA COUNTY MAP
PCN 051E



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PLOT SCALE - 1:4500

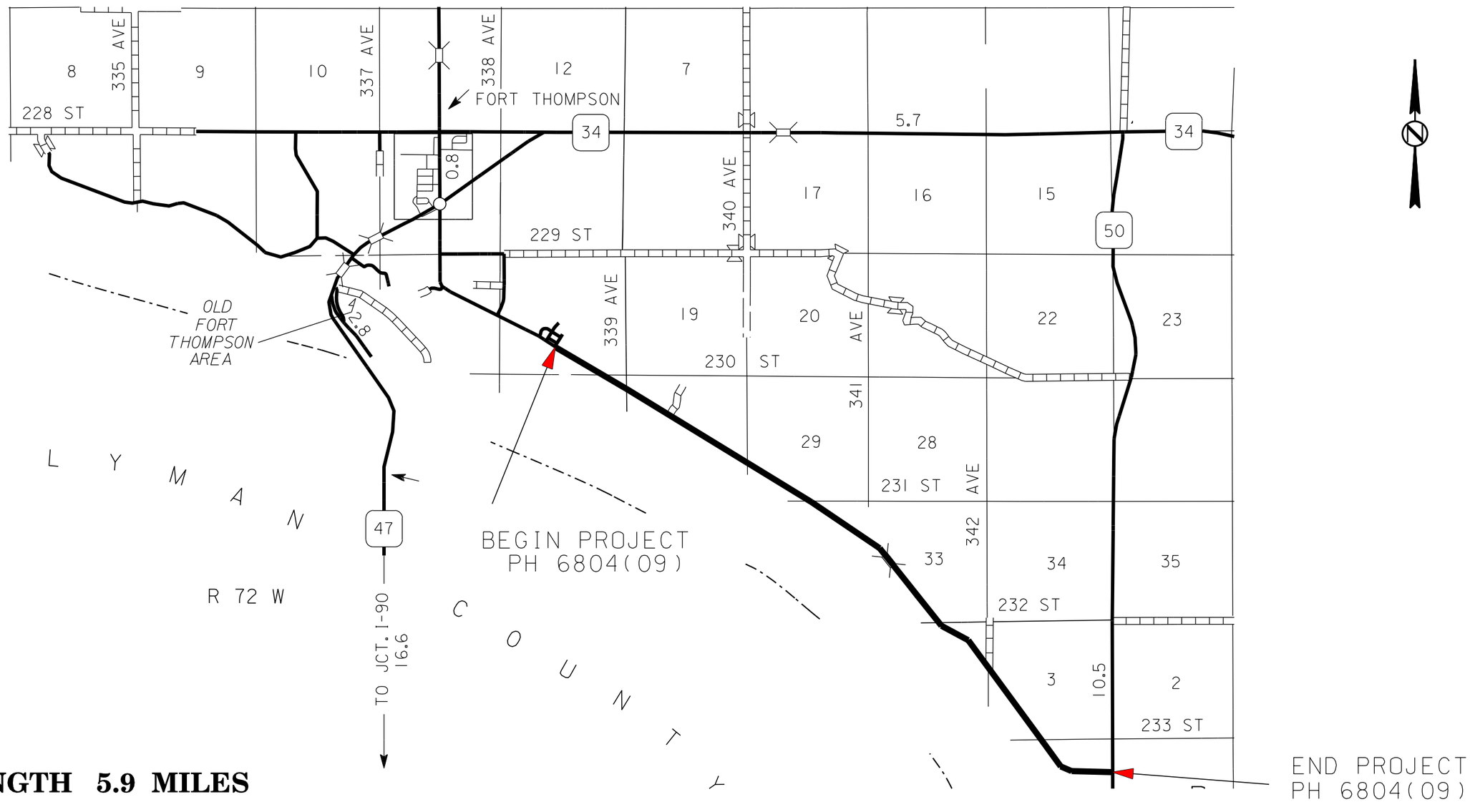
PLOTTED FROM - TRAB17879

PLOT NAME - 6

FILE - ...\PLANS\MINNEHAHA COUNTY MAP.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PH 6804(09)	6	16
Plotting Date: 11/06/2015			

PROJECT PH 6804(09)
BUFFALO COUNTY MAP
PCN 051F



LENGTH 5.9 MILES

PLOT SCALE - 1:14687.5

PLOTTED FROM - TRAB17879

PLOT NAME - 4

FILE - ...\PLANS\BUFFALO COUNTY MAP.DGN

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

ESTIMATE OF QUATITIES

PH 6187(05) PCN 051G

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
320E7008	Grind 8" Rumble Strip or Stripe in Asphalt Concrete	24.0	Mile
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	4.6	Ton
633E1200	Waterborne Pavement Marking Paint with High Grade Polymer, White	1,019	Gal
634E0010	Flagging	5.0	Hour
634E0110	Traffic Control Signs	170	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS

PH 6127(06) PCN 051J

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
320E7008	Grind 8" Rumble Strip or Stripe in Asphalt Concrete	30.0	Mile
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	5.8	Ton
633E1200	Waterborne Pavement Marking Paint with High Grade Polymer, White	834	Gal
634E0010	Flagging	5.0	Hour
634E0110	Traffic Control Signs	170	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS

PH 8014(34) PCN 051D

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
320E7008	Grind 8" Rumble Strip or Stripe in Asphalt Concrete	11.2	Mile
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	2.2	Ton
633E1200	Waterborne Pavement Marking Paint with High Grade Polymer, White	312	Gal
634E0010	Flagging	5.0	Hour
634E0110	Traffic Control Signs	170	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS

PH 6353(15) PCN 051E

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
320E7008	Grind 8" Rumble Strip or Stripe in Asphalt Concrete	14.8	Mile
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	2.9	Ton
633E1200	Waterborne Pavement Marking Paint with High Grade Polymer, White	411	Gal
634E0010	Flagging	5.0	Hour
634E0110	Traffic Control Signs	170	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS

PH 6804(09) PCN 051F

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
320E7008	Grind 8" Rumble Strip or Stripe in Asphalt Concrete	11.8	Mile
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	2.3	Ton
633E1200	Waterborne Pavement Marking Paint with High Grade Polymer, White	328	Gal
634E0010	Flagging	5.0	Hour
634E0110	Traffic Control Signs	170	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.

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.

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

COMMITMENT E: STORM WATER

Construction activities constitute less than 1 acre of disturbance.

Action Taken/Required:

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

COMMITMENT H: WASTE DISPOSAL SITE

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

Action Taken/Required:

Construction and/or demolition debris may not be disposed of within the roadway 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 designated option borrow 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.

WORK DESCRIPTION

The project consists of five sections:

Section 1 - PH 6187(05): 411th Ave from US14 to SD28 in Beadle County. Work shall include installing Rumble Stripes from US14 to 196th Ave and applying Waterborne Pavement Marking Paint with High Grade Polymer (White Edge line only) from US14 to SD28.

Section 2 - PH 6127(06): 455th Ave from US81 to Codington/Grant County Line in Codington County. Work shall include installing Rumble Stripes and applying Waterborne Pavement Marking Paint with High Grade Polymer (White Edge line only).

Section 3 - PH 8014(34): Burbank Rd from Natalie Court to 470th St in Clay County. Work shall include installing Rumble Stripes and applying Waterborne Pavement Marking Paint with High Grade Polymer (White Edge line only).

Section 4 - PH 6353(15): 463rd Ave from I-90 to the - Minnehaha/Turner County Line in Minnehaha County. Work shall include installing Rumble Stripes and applying Waterborne Pavement Marking Paint with High Grade Polymer (White Edge line only).

Section 5 - PH 6804(09): BIA Route 4 from Wind Road to SD50 in Buffalo County. Work shall include installing Rumble Stripes and applying Waterborne Pavement Marking Paint with High Grade Polymer (White Edge line only).

RUMBLE STRIPES

Rumble Stripes shall be installed in rural areas with posted speeds greater than 50 mph. They will not be required in urban areas or where there is development in close proximity to the highway. The Engineer shall provide the exact start and stop locations for the rumble stripe installation.

Water shall be used with the rumble stripe installation for dust control.

Rumble stripes shall not be placed on any bridge decks or approach slabs, or within 50 feet of any railroad crossings.

RUMBLE STRIPE ROADWAY CLEANING

The Contractor shall remove loose material from the driving surface and/or asphalt shoulders of the roadway on a daily basis. It shall be the Contractor's responsibility to ensure the loose material does not enter any vegetated areas and/or waterways.

All costs associated with this work shall be incidental to the contract unit price per mile for “Grind 8” Rumble stripe in Asphalt Concrete”.

PAVEMENT MARKING PAINT WITH HIGH GRADE POLYMER

All materials shall be applied as per manufacturer’s recommendations.

Application of permanent pavement marking paint shall be completed within 14 calendar days following the completion of the flush seal for the 8” rumble stripes. A minimum 5 day cure time shall be required for the flush Seal prior to pavement marking paint application.

This material shall be consist of a durable high build, low VOC, fast drying, waterborne traffic paint with an acrylic polymer emulsion and with reflective media adhered to the paint. The reflective media shall consist of glass beads as well as bonded core reflective elements.

The bonded core reflective elements shall contain either clear microcrystalline ceramic beads bonded to the outer surface. All microcrystalline ceramic beads bonded to reflective elements shall have a minimum index of refraction of 1.8 when tested using the liquid oil immersion method.

RATES OF MATERIALS FOR WATERBORNE PAVMENT MARKING PAINT WITH HIGH BUILD POLYMER

Solid 4” Line = 27.8Gals/Mile
Glass Beads – 5.3 Lbs/Gal
Composite Reflective Elements – 2.1 Lbs/Gal

All cost for materials, labor, and equipment necessary to furnish and install the pavement markings shall be incidental to the contract unit price per gallon for Waterborne Pavement Marking Paint with High Grade Polymer, White.

COLD WEATHER, WATERBORNE PAINT

Waterborne paint applied after October 15 shall be formulated as cold weather, waterborne paint, and shall be applied in accordance with manufacturer’s recommendations, including minimum temperature requirements.

There shall be no adjustment in the contract unit prices should cold weather formulated paint be required.

Cold weather, waterborne paint shall conform to section 980 of the specifications except for the following:

980.1 A - Resin Binder shall be Fastrack XSR manufactured by Dow, or approved equal.

980.1.1 Quantitative Requirements:

The Pigment, Percent By Weight for white: 60.0 – 63.0 and for yellow: 58.5-61.5.

The Pigment, Percent By Weight when tested in accordance with ASTM D3723 for white: 60.0-63.0 and for yellow: 56.1-59.2.

The Non-volatile Vehicle, percent by weight, min. for white: 41.5 and yellow: 41.5 when tested in accordance with FTMS 141c (method 4051.1)

FLUSH SEAL

The flush seal operation shall start within 14 calendar days following the start of grinding rumble stripes that disturb the existing pavement marking. If the flush seal operation has not started within this timeframe, rumble stripe installation at other locations along the project will not be allowed to proceed.

SS-1h or CSS-1h Emulsified Asphalt for Flush Seal shall be applied 1 feet wide at the rate of 0.05 gallons per square yard.

The seasonal restrictions of Section 330 of the Specifications shall be waived provided the temperature requirements are met.

TRAFFIC CONTROL

Traffic shall be maintained on the driving lanes. Use of the shoulder as a driving lane will not be permitted. Any damage to the shoulder due to rerouted traffic or Contractor's equipment shall be repaired at no additional cost to the State.

Removing, relocating, covering, salvaging and resetting of existing traffic control devices, including delineation, shall be the responsibility of the Contractor. Cost for this work shall be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any delineators and signs damaged or lost shall be replaced by the Contractor at no cost to the State.

Indiscriminate driving of vehicles within the right-of-way will not be permitted. Any damage to the vegetation, surfacing, embankment, delineators, and existing signs resulting from such indiscriminate use shall be repaired and/or restored by the Contractor, at no additional cost to the State, and to the satisfaction of the Engineer.

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 be on fixed location, ground mounted, breakaway supports.

Sufficient traffic control devices have been included in these plans to sign one set up for each project on 2-lane two way highways. If the Contractor elects to work on additional sites simultaneously, the cost for additional traffic control devices shall be incidental to the contract unit price per square foot for Traffic Control Signs. Cost for a mobile work space, including W21-3 ROAD MACHINERY AHEAD sign, shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous.

Cost of equipment and traffic control devices on equipment, including arrow panels and signs, shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous

TABLE OF TRAFFIC CONTROL

Table is for one project and all projects have the same quantities of signs.

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W20-1	ROAD WORK AHEAD	2	48" x 48"	16	32
W21-2	FRESH OIL	2	48" x 48"	16	32
G20-2	END ROAD WORK	2	36" x 18"	5	10
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			74

GENERAL NOTES

The Contractor shall be responsible for contacting each SDDOT Area Office 48 hours prior to each different construction activity starting. The Contact Information is as follows:

PH 6187(05) PCN 051G Beadle County:
Huron Area Office – Brad Letcher, Area Engineer – (605)353-7140

PH 6127(06) PNC 051J Codington County
Watertown Area –Matt Brey, Area Engineer – (605)626-7885

PH 8014(34) PCN 051D Clay County
Yankton Area – Rodney Gall, Area Engineer – (605)668-2929

PH 653(15) PNC 051E Minnehaha County
Sioux Falls Area – Travis Dressen, Area Engineer – (605)367-4970

PH 6804(09) PCN 051F Buffalo County
Mitchell Area – Jay Peppel, Area Engineer – (605)995-3340

WALL LAKE TRIATHLON

No work will be allowed on 463rd Ave in Minnehaha County during the Wall Lake Triathlon. All equipment and signs shall be removed from the roadway during the triathlon.

The date of the triathlon will be known by the preconstruction meeting.

Table of Quantities

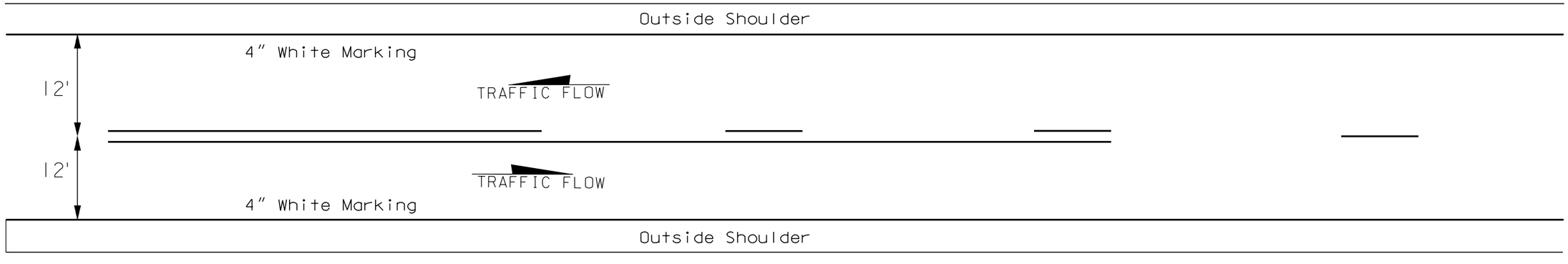
(for information only)

Item	**PH 6187(05)** 411th Ave US14 - 196th St Beadle County	**PH 6187(05)** 411th Ave 196th St - SD28 Beadle County	**PH 6127(06)** 455th Ave US81 - Codington/ Grant County Line Codington County	**PH 8014(34)** Burbank Rd Natalie Court - 470th St Clay County	**PH 6353(15)** 463rd Ave I-90 EastBound - Minnehaha/Turner County Line Minnehaha County	**PH 6804(09)** Wind Road SD47/SD249 - SD25 Buffalo County	Total	Units
Mobilization	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	LS
Grind 8" Rumble Stripe in Asphalt Concrete	24		30.0	11.2	14.8	11.8	91.8	Mile
SS-1h or CSS-1h Asphalt for Flush Seal	4.6		5.8	2.2	2.9	2.3	17.8	Ton
Waterborne Pavement Marking Paint with High Grade Polymer, White	668	351	834	312	411	328	2,904	Gal
Traffic Control Signs	170		170	170	170	170	850	Unit
Traffic Control, Miscellaneous	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	LS
Flagging	5		5	5	5	5	30	Hr

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PH 618(05)	12	16
Plotting Date: 11/06/2015			

PAVEMENT MARKING LAYOUT

(TYPICAL 2-LANE)



PLOT SCALE - 1:200

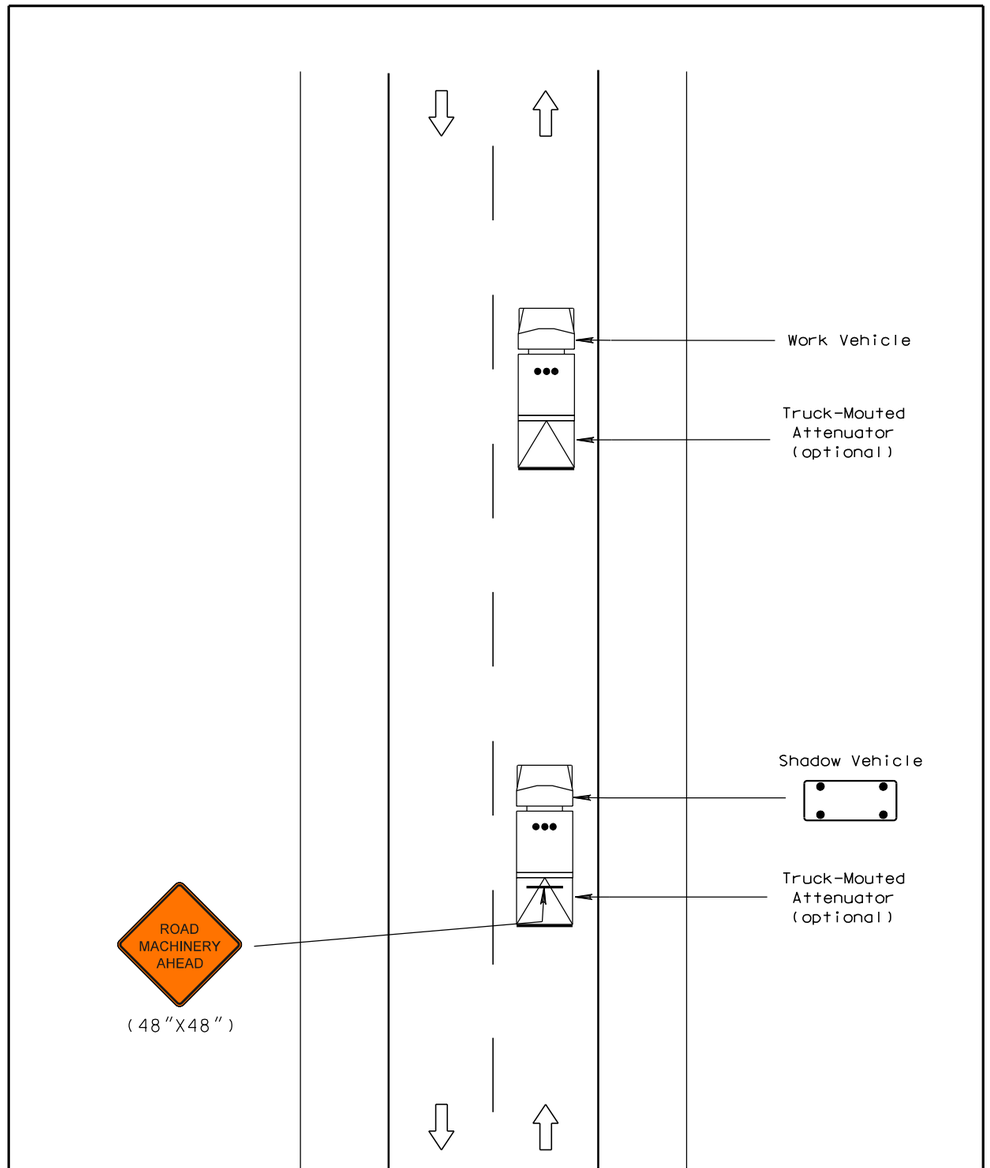
PLOTTED FROM - TRAB17879

PLOT NAME - 7

FILE - ...\PLANS\05IG_TYPICAL.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PH 6187(05)	13	16
Plotting Date: 11/13/2015			

MOBILE OPERATIONS ON TWO-LANE ROAD
(TYPICAL PAINT APPLICATION)



MOBILE OPERATIONS ON TWO-LANE ROAD

Notes for Mobile Operations on Two-lane Road (Typical)

Standard:

1. Vehicle-mounted signs shall be mounted in a manner such that they are not obscured by equipment or supplies. Sign legends on vehicle-mounted signs shall be covered or turned from view when work is not in progress.
2. Shadow and work vehicles shall display high-intensity rotating, flashing, oscillating, or strobe lights.
3. If an arrow board is used, it shall be used in the caution mode.

Guidance:

4. Where practical and when needed, the work and shadow vehicles should pull over periodically to allow vehicular traffic to pass.
5. Whenever adequate stopping sight distance exists to the rear, the shadow vehicle should maintain the minimum distance from the work vehicle and proceed at the same speed. The shadow vehicle should slow down in advance of vertical or horizontal curves that restrict sight distance.
6. The shadow vehicles should also be equipped with two high-intensity flashing lights mounted on the rear, adjacent to the sign.

Option:

7. The distance between the work and shadow vehicles may vary according to terrain, paint drying time, and other factors.
8. Additional shadow vehicles to warn and reduce the speed of oncoming or opposing vehicular traffic may be used. Law enforcement vehicles may be used for this purpose.
9. A truck-mounted attenuator may be used on the work vehicle and the shadow vehicle.
10. If the work and shadow vehicles cannot pull over to allow vehicular traffic to pass frequently, a DO NOT PASS sign may be placed on the rear of the vehicle blocking the lane.

Support:

11. Shadow vehicles are used to warn motor vehicle traffic of the operation ahead.

Standard:

12. Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity rotating, flashing, oscillating, or strobe lights.

DETAIL FOR TRAFFIC CONTROL MOBILE OPERATIONS INSTALL RUMBLE STRIPS/STRIPES ON SHOULDER (Grinding and Sealing)

* In situations where multiple work locations in a limited distance make it practical to place stationary signs, the distance between the advance warning sign and the work should not exceed 5 miles.

The ROAD WORK NEXT xx MILES sign may be used instead of the ROAD WORK AHEAD sign if the work locations occur over a distance of more than 2 miles.

An activated flashing yellow light shall be used on all vehicles and equipment.

Arrow board is required for mobile (intermittent and continuously moving) operations with no sight restriction and work exceeds 1 hour.

ROAD WORK AHEAD sign is required only when sight distance is restricted. (See Table)

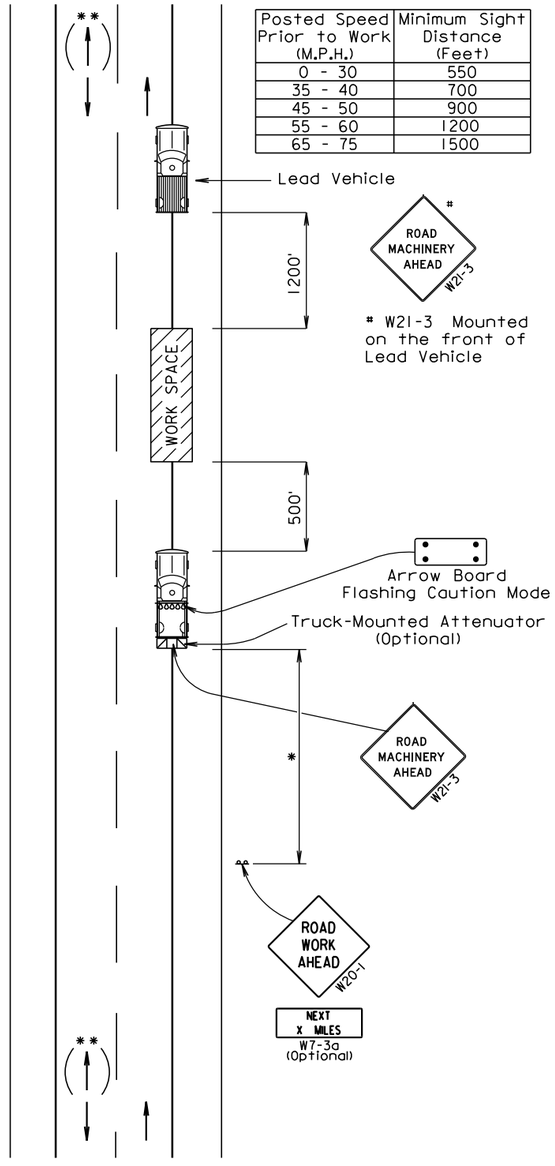
** If the work space is on a divided highway, an advance warning sign should also be placed on the left side of the directional roadway.

** Lead Vehicle not required on a 4-Lane divided or undivided highway.

Slow Moving Vehicle Emblem displayed on rear of Lead Vehicle when speed is less than 25 M.P.H.

For tack and/or flush seal operations, the FRESH OIL sign (W21-2) shall be displayed in advance of the liquid asphalt areas.

Posted Speed Prior to Work (M.P.H.)	Minimum Sight Distance (Feet)
0 - 30	550
35 - 40	700
45 - 50	900
55 - 60	1200
65 - 75	1500

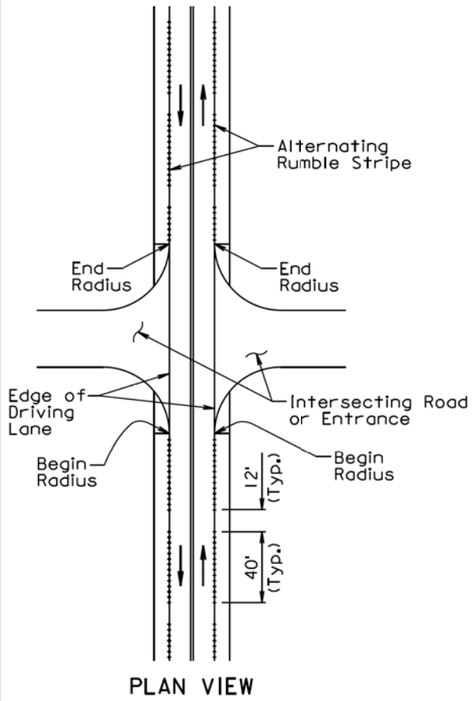


PLOT SCALE - 1:170

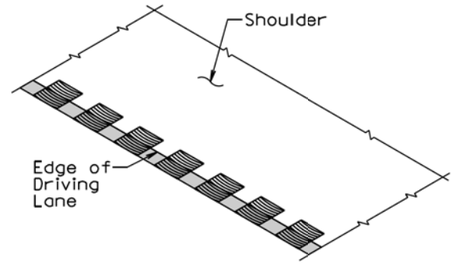
PLOT NAME - 9

FILE - ...\PLANS\RUMBLE STRIP TC.DGN

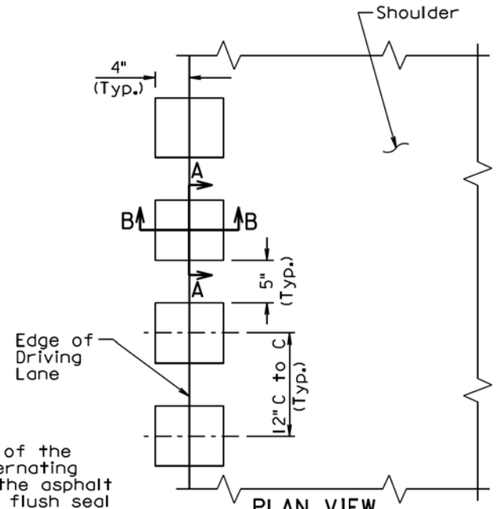
PLOTTED FROM - TRAB17879



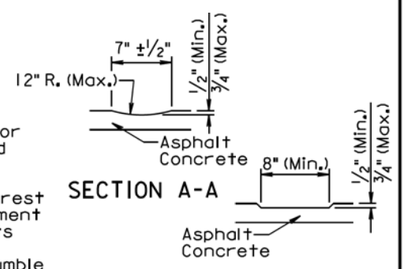
PLAN VIEW



PERSPECTIVE OF TYPICAL
RUMBLE STRIPE IN ASPHALT CONCRETE



PLAN VIEW
TYPICAL RUMBLE STRIPE
IN ASPHALT CONCRETE



SECTION A-A

SECTION B-B

GENERAL NOTES:

A rumble stripe shall be constructed on all of the asphalt concrete shoulders by grinding alternating patterns of 40' continuous indentations in the asphalt concrete. The rumble stripe shall receive a flush seal with the shoulder flush sealing or asphalt surface treatment.

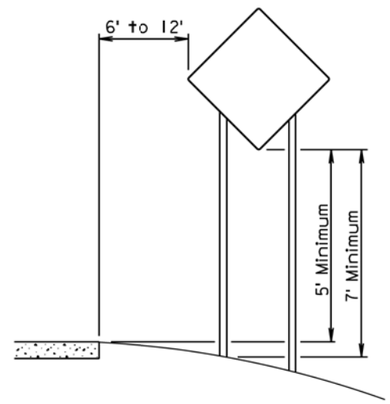
A rumble stripe shall not be constructed through intersecting roads, entrances, and turnouts. The lengths of the 40' segments with continuous indentations and the 12' segments without a rumble stripe adjacent to the intersecting roads, entrances, and turnouts shall be adjusted as approved by the Engineer.

Prior to constructing the rumble stripe the Contractor shall submit to the Engineer, for approval, the proposed method of constructing the rumble stripe.

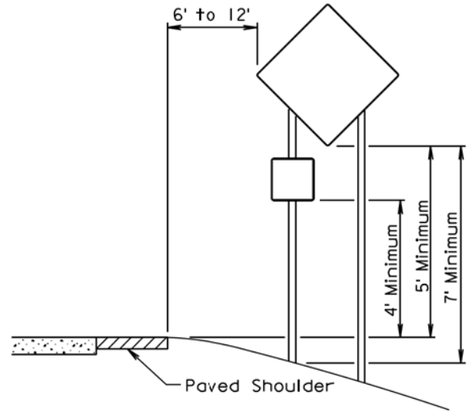
Measurement of the rumble stripe shall be to the nearest 0.1 of a mile for each shoulder. Measurement and payment of the rumble stripe shall include the 12' long segments without rumble stripes and the segments adjacent to intersecting roads, entrances, and turnouts without rumble stripes. Payment for constructing the rumble stripe shall be at the contract unit price per mile for "Grind 8" Rumble Strip or Stripe in Asphalt Concrete".

June 26, 2011

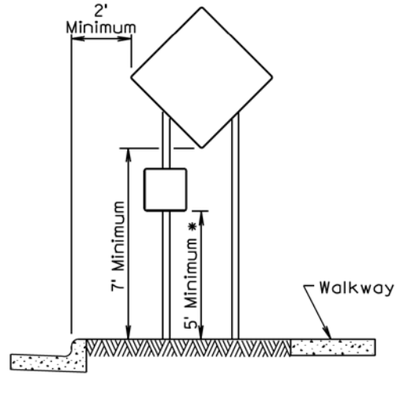
Published Date: 4th Qtr. 2015	SDDOT	8" RUMBLE STRIPE IN ASPHALT CONCRETE ON NONDIVIDED HIGHWAY SHOULDERS	PLATE NUMBER 320.20
			Sheet 1 of 1



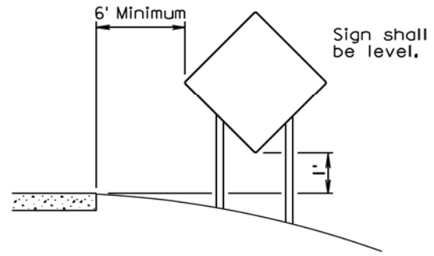
RURAL DISTRICT



RURAL DISTRICT WITH
SUPPLEMENTAL PLATE



URBAN DISTRICT

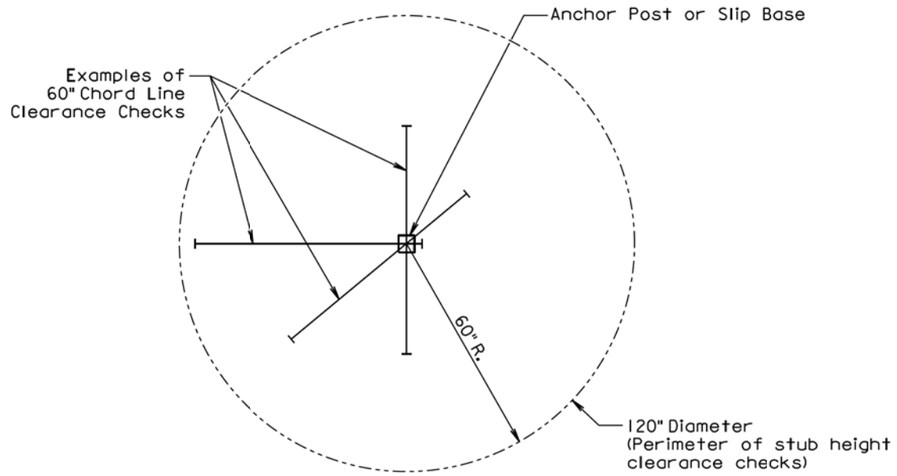


RURAL DISTRICT
3 DAY MAXIMUM
(Not applicable to regulatory signs)

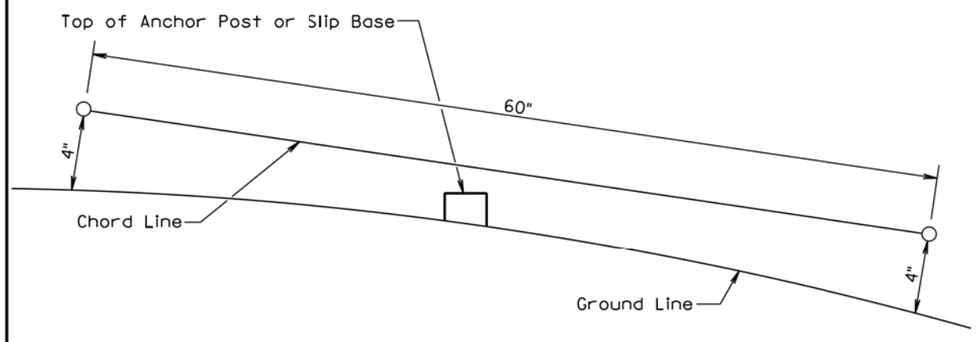
* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

September 22, 2014

Published Date: 4th Qtr. 2015	SDDOT	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: 4th Qtr. 2015	SDDOT	***BREAKAWAY SUPPORT STUB CLEARANCE***	*PLATE NUMBER* 634.99
			Sheet 1 of 1