STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 6492(05)	1	23

FOR BIDDING PURPOSES ONLY

Project Location

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED

PROJECT P 6492(05)
COUNTY HIGHWAY 22 (164TH STREET)
CLARK COUNTY

PROCESS IN PLACE & ASPHALT CONCRETE SURFACING / BLOTTER SURFACING

PCN 6865

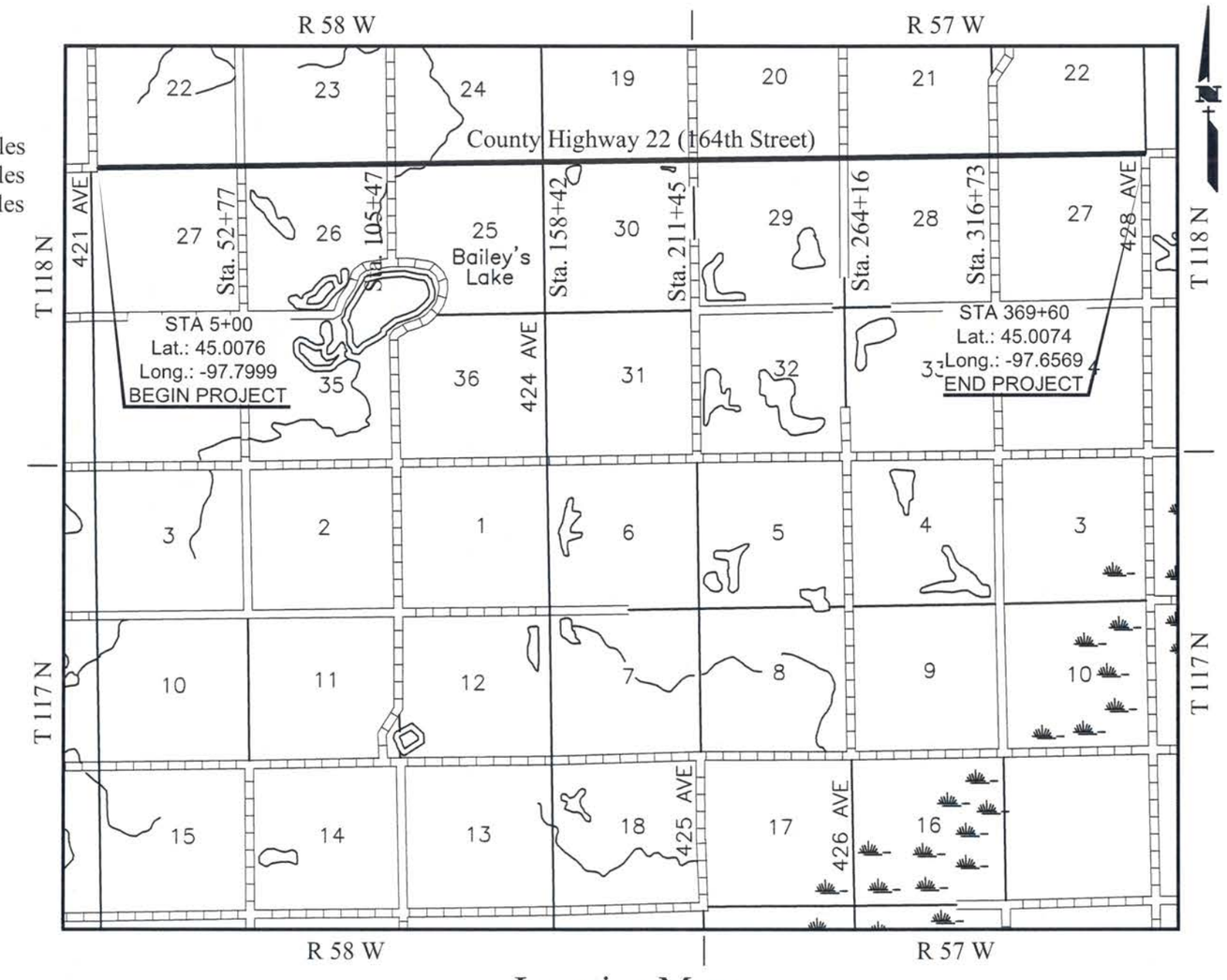
Gross Length	36,460	Feet	6.905	Miles
Length of Exceptions	-----	Feet	-----	Miles
Net Length	36,460	Feet	6.905	Miles

Storm Water Permit

Major Stream: Various Ponds
Area Disturbed: 20.36 Acres
Project Area: 37.33 Acres

Design Designation

ADT (2010)	70
ADT (2030)	92
DHV	13
d	50%
T DHV	3.9%
T ADT	8.6%



Location Map

Index of Sheets

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 10964
VANESSA L. VICTOR
SOUTH DAKOTA

9-5-14

3

CLARK ENGINEERING CORPORATION
Convention Center Plaza
1410 West Russell Street
Sioux Falls,SD 57104-1328
Phone: (605) 331-2505
Fax (605) 331-2602
siouxfalls@clark-eng.com
EOE

PLANS BY: CLARK ENGINEERING, SIOUX FALLS, SD

FOR BIDDING PURPOSES ONLY

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 6492(05)	2	23

ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
120E0100	Unclassified Excavation, Digouts	350	CuYd
260E1091	Base Course, County Furnished	15,467.3	Ton
280E0010	Process In Place Surfacing	101,278	SqYd
320E0004	PG 58-28 Asphalt Binder	585.7	Ton
320E1050	Class E Asphalt Concrete	10,273.6	Ton
320E3000	Compaction Sample	3	Each
330E0010	MC-70 Asphalt for Prime	125.8	Ton
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	12.1	Ton
330E1000	Blotting Sand for Prime	227.3	Ton
330E2000	Sand for Flush Seal	227.3	Ton
360E0020	AE150S Asphalt for Surface Treatment	60.9	Ton
360E1030	Type 2A Cover Aggregate	819.1	Ton
600E0200	Type II Field Laboratory	1	Each
633E1300	Pavement Marking Paint, White	238	Gal
633E1305	Pavement Marking Paint, Yellow	140	Gal
634E0010	Flagging	500.0	Hour
634E0020	Pilot Car	250.0	Hour
634E0100	Traffic Control	1,005	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0630	Temporary Pavement Marking	14.0	Mile
831E0200	Woven Geotextile Separator	900	SqYd
900E0010	Refurbish Single Mailbox	5	Each

SPECIFICATIONS

Standard Specifications for Roads and Bridges, 2004 Edition and Required Provisions, Supplemental Specifications and Special Provisions as included in the Proposal.

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
10964
VANESSA L.
VICTOR
SOUTH DAKOTA

PLANS BY: CLARK ENGINEERING, SIOUX FALLS, SD

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 C: WATER SOURCE

The Contractor shall not withdraw water with equipment previously used outside the State of South Dakota without prior approval from the SDDOT Environmental Office. Thoroughly wash all construction equipment before entering South Dakota to reduce the risk of invasive species introduction into the project vicinity.

The Contractor shall not withdraw water directly from streams of the James, Big Sioux, and Vermillion watersheds without prior approval from the SDDOT Environmental Office.

Action Taken/Required:

The Contractor shall obtain the necessary permits from the regulatory agencies such as the Department of Environment and Natural Resources (DENR) and the United States Army Corps of Engineers (COE) prior to executing water extraction activities.

COMMITMENT E: STORM WATER

Construction activities constitute 1 acre or more of earth disturbance.

Action Taken/Required:

The DENR and the US Environmental Protection Agency (EPA) have issued separate general permits for the discharge of storm water runoff. The DENR permit applies to discharges on state land and the EPA permit applies to discharges on federal or reservation land. The Contractor is advised this project is regulated under the Phase II Storm Water Regulations and must receive coverage under the General Permit for Construction Activities. A Notice of Intent (NOI) will be submitted to DENR a minimum of 15 days prior to project start by the DOT Environmental Office. A letter must be received from DENR that acknowledges project coverage under this general permit before project start. The Contractor is advised that permit coverage may also be required by off-site activities, such as borrow and staging areas, which are the responsibility of the Contractor.

The Contractor shall adhere to the "Special Provision Regarding Storm Water Discharges to Waters of the State".

A major component of the storm water construction permits is development and implementation of a Storm Water Pollution Prevention Plan (SWPPP), which is a joint effort and responsibility of the SDDOT and the Contractor. Erosion control measures and best management practices will be implemented in accordance with the SWPPP. The SWPPP is a dynamic document and is to be available on-site at all times.

Information on storm water permits and SWPPPs are available on the following websites:

SDDOT:
http://sddot.com/transportation/highways/environmental/stormwater/Default.aspx

DENR: http://www.denr.sd.gov/des/sw/stormwater.aspx

EPA: http://cfpub.epa.gov/npdes/home.cfm?program_id=6

Contractor Certification Form:

The "Department of Environmental and Natural Resources – Contractor Certification Form" (SD EForm – 2110LDV1-ContractorCertification.pdf) shall be completed by the Contractor or their certified Erosion Control Supervisor after the award of the contract. Work may not begin on the project until this form is signed.

The form certifies under penalty of law that the Contractor understands and will comply with the terms and conditions of the Surface Water Discharge General Permit for Storm Water Discharges Associated with Construction Activities for the Project.

The online form can be found at:
http://denr.sd.gov/des/sw/eforms/E2110LDV1-ContractorCertification.pdf

COMMITMENT H: WASTE DISPOSAL SITE

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

Action Taken/Required:

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

The waste disposal site(s) shall be managed and reclaimed in accordance with the following from the General Permit for Highway, Road, and Railway Construction/Demolition Debris Disposal Under the South Dakota Waste Management Program issued by the Department of Environment and Natural Resources.

The waste disposal site(s) shall not be located in a wetland, within 200 feet of surface water, or in an area that adversely affects wildlife, recreation, aesthetic value of an area, or any threatened or endangered species, as approved by the Project Engineer.

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
10964
VANESSA L.
VICTOR
SOUTH DAKOTA
4-18-14

FOR BIDDING PURPOSES ONLY

COMMITMENT H: WASTE DISPOSAL SITE (continued)

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.

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 10964
VANESSA L. VICTOR
SOUTH DAKOTA
9-5-14

FOR BIDDING PURPOSES ONLY

RATES OF MATERIALS

Mainline Base Course 3" Lift:

Sta. 5+00 to 369+60

The Estimate of Quantities is based on the following quantities of material per mile.

Base Course, County Furnished……..2,238.4 Ton

Water for Granular Material at the rate of 30 MGal per mile and shall be incidental to the contract unit price per ton for Base Course, County Furnished.

Mainline Blotter Surfacing:

Sta. 5+00 to 156+40

The Estimate of Quantities is based on the following quantities of material per mile.

MC-70 Asphalt for Prime…….....18.1 Ton
(applied 26 feet wide at 0.3 gallons per square yard)
Type 2A Cover Aggregate……..281.6 Ton
(applied 24 feet wide at 40 pounds per square yard)
AE150S Asphalt for Surface Treatment……20.9 Ton
(applied 24 feet wide at 0.35 gallons per square yard)

Mainline Class E Asphalt Concrete 3" Lift:

Sta. 156+40 to 369+60

The Estimate of Quantities is based on the following quantities of material per mile.

MC-70 Asphalt for Prime…….18.1 Ton
(applied 26 feet wide at 0.3 gallons per square yard)
Blotting Sand for Prime……56.3 Ton
(applied 24 feet wide at 8 pounds per square yard)

Crushed Aggregate……..……2,203.6 Ton
PG 58-28 Asphalt Binder…….125.6 Ton
Total……2,329.2 Ton

The exact proportion of these materials will be determined during construction.

SS-1h or CSS-1h Asphalt for Flush Seal…3.0 Ton
(applied 24 feet wide at 0.05 gallons per square yard)
Sand for Flush Seal…….....56.3 Ton
(applied 24 feet wide at 8 pounds per square yard)

TABLE OF ADDITIONAL QUANTITIES

Sta. 5+00 to 156+40

Number	Location	Type 2A Cover Aggregate	MC-70 Asphalt for Prime	AE150S Asphalt for Surface Treatment
1	Farm/Home Entrances	0.5 tons	0.0 tons	0.0 tons
13	Field Entrances / Approaches	2.5 tons	0.2 tons	0.2 tons
2	Intersecting Roads	8.5 tons	0.6 tons	0.7 tons
1	Mailbox Pullouts	0.2 tons	0.0 tons	0.0 tons
TOTALS		11.7 tons	0.8 tons	0.9 tons

Sta. 156+40 to 369+60

Number	Location	Class E Asphalt Concrete	PG 58-28 Asphalt Binder
4	Farm/Home Entrances	20.6 tons	1.2 tons
18	Field Entrances / Approaches	39.7 tons	2.3 tons
4	Intersecting Roads	337.4 tons	19.2 tons
3	Mailbox Pullouts	5.9 tons	0.4 tons
TOTALS		403.6 tons	23.1 tons

The tonnage shown in the Table of Additional Quantities for Class E Asphalt Concrete is based on an average compacted depth of 3 inches for Farm / Home Entrances, Field Entrances / Approaches, Intersecting Roads, and Mailbox Pullouts.

The above quantities are included in the Estimate of Quantities.

SURFACING QUANTITIES SUMMARY TABLE

Location	Class E Asphalt Concrete	PG 58-28 Asphalt Binder	Type 2A Cover Aggregate	MC-70 Asphalt for Prime
5+00 – 156+40	-	-	819.1 tons	52.7 tons
156+40 – 369+60	9,870.0 tons	562.6 tons	-	73.1 tons
TOTALS	9,870.0 tons	562.6 tons	819.1 tons	125.8 tons

Location	AE150S Asphalt for Surface Treatment
5+00 – 156+40	60.9 tons
6+40 – 369+60	-
TOTALs	60.9 tons

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
10964
VANESSA L.
VICTOR
SOUTH DAKOTA

9-5-14

FOR BIDDING PURPOSES ONLY

UTILITIES

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

Utilities are not planned to be affected on this project. If utilities are identified near the improvement area through the SD One Call Process as required by South Dakota Codified Law 49-7A and Administrative Rule 20:25, the Contractor shall contact the Engineer to determine modifications that will be necessary to avoid utility impacts.

SURFACING THICKNESS DIMENSIONS

Plans tonnage will be applied even though the thickness may vary from that shown in these plans.

At those locations where material must be placed to achieve a required elevation, plans tonnage may be varied to achieve the required elevation.

TYPE II FIELD LABORATORY

Substitution of a cellular telephone for the hard-wired touch-tone telephone is not allowed, as State personnel need the ability to download information over direct phone lines. The phone is intended for State personnel usage only. Contractor personnel are prohibited from using this phone unless pre-approved by the Engineer.

The lab shall be equipped with an internet connection such as DSL, cable modem, or other approved service. The internet connection shall be provided with a multi-port wireless router. The internet connection shall be a minimum speed of 512 Kb unless limited by the job location and pre-approved by the DOT. Prior to installing the wireless router, the Contractor shall submit the wireless router's technical data to the Area Office to check for compatibility with the State's computer equipment. The internet connection is intended for State personnel usage only. The Contractor's personnel are prohibited from using the internet connection unless pre-approved by the Engineer.

The Contractor shall submit a copy of each monthly bill for calls charged to this phone at the end of each month. The Engineer will then audit the bills to ensure all calls are legitimate and then initiate a Construction Change Order (CCO) to reimburse the Contractor for the actual phone calls made, including local and long distance calls. Reimbursement will not be made for fees associated with the purchase, installation, disconnection, monthly line charges, and incidentals involved in the installation, maintenance, and disconnection of the phone (including attachments). These items shall be incidental to the contract unit price per each for Type II Field Laboratory.

INTERSECTING ROADS AND ENTRANCES

Intersecting roads and entrances shall be satisfactorily cleared of vegetation, shaped, and compacted prior to placement of mainline surfacing. This work will be considered incidental to other contract items. Separate measurement and payment will not be made.

ASPHALT CONCRETE HOT PLANT OPERATION

A Special Use Permit must be obtained by the Contractor to operate an asphalt concrete hot plant within Clark County.

EXCAVATION OF UNSTABLE MATERIAL

Included in the Estimate of Quantities are **50** cubic yards per mile of Unclassified Excavation, Digouts for the necessary removal of unstable material.

Backfill shall be paid for at the contract unit price per ton for Base Course, County Furnished.

The digout shall be extended to the shoulder and the granular material backfill shall daylight to the inslope to allow water to escape the subgrade, or placing a drain tube at the bottom of the digout and providing an outlet to the closest available point.

WATER FOR COMPACTION

The cost for water for compaction of the granular material shall be incidental to the contract unit price for the various bid items. The moisture required at the time of compaction will be ±6% unless otherwise directed by the Engineer.

PROCESS IN PLACE SURFACING

There are miscellaneous areas along the project that contain asphalt surfacing. These areas are to be processed in place.

No additional payment will be made and the associated costs shall be incidental to the contract unit price per square yard for Process in Place Surfacing.

Proper drainage shall be maintained so water will not pond on the mainline granular surfacing or embankment. Proper drainage will be to the satisfaction of the Engineer.

The prime for surfacing shall closely follow the base finishing operation and at no time shall the prime operation be more than two (2) miles from the base finishing operation. The cure time for the processed base, prime, and blotter surfacing will be determined during construction by the Engineer.

SHOULDER PREPARATION

The Contractor shall remove the vegetation and accumulated materials from the shoulders prior to starting work.

Once construction operations are completed, this material is to be placed back on the inslopes.

Costs associated with these operations shall be incidental to other bid items.

BASE COURSE, COUNTY FURNISHED

The aggregate for the base course shall conform to the Specifications.

Included in the Estimate of Quantities is **100** tons per mile of Base Course, County Furnished for backfill of Unclassified Excavation, Digouts. The compaction shall be to the satisfaction of the Engineer.

This material is royalty to the Contractor. The Contractor will be required to pay the Excise and Use Tax on the total cost of furnished gravel. Furnish cost to the County for the Base Course, County Furnished is $2.10 per ton.

The Clark County gravel pit is located 2 miles south and 0.5 miles west of the intersection of 164th Street and 424th Avenue.

CLASS E ASPHALT CONCRETE

Mineral aggregate for Class E Asphalt Concrete shall conform to the requirements for Class E, Type 1.

The asphalt concrete shall be compacted to a specified density according to the Specifications.

All other requirements in the Specifications for Class E Asphalt Concrete shall apply.

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 6492(05)	7	23

FOR BIDDING PURPOSES ONLY

SS-1h OR CSS-1h ASPHALT FOR FLUSH SEAL

SS-1h or CSS-1h Asphalt for Flush Seal shall conform to the requirements of Section 330 of the Specifications.

Certified weight tickets for the distributor shall be received prior and subsequent to any use of SS-1h or CSS-1h off the project. If the Contractor fails to provide the Engineer with tickets, the amount of flush seal used on the project will be determined by the Engineer via shot records.

Application of Flush Seal shall be completed within ten (10) working days following completion of the asphalt concrete surfacing.

For each working day that the Flush Seal remains uncompleted after the ten (10) working day limitation, the Contractor will be assessed liquidated damages at the rate of $250.00 per calendar day.

The liquidated damages shall apply only up to the Contract Completion Date, as extended. After the Contract Completion Date, liquidated damages will be assessed in accordance with the schedule set forth in Section 8.7 of the Specifications.

Application of Flush Seal may be eliminated by the Engineer. If the paved surface remains tight, the Engineer shall notify the Contractor as soon as possible that the Flush Seal is unnecessary.

SAND FOR FLUSH SEAL

Sand for Flush Seal shall conform to the requirements of Section 330 of the Specifications.

The sand application shall be placed 11' wide in each lane, leaving 12" on center line and 6" on each edge line free of sand.

REFURBISH SINGLE MAILBOX

Existing mailboxes shall be removed, turnouts constructed, and mailboxes reset on new posts with support hardware for single mailbox assemblies. The local Postmaster will determine the recommended mounting height of the mailboxes. The Contractor shall coordinate with the Engineer on the proper postal representative to contact.

The Contractor will be responsible for maintaining a temporary mailbox until the mailbox is reset.

Cost for removing existing mailboxes, providing temporary mailboxes, and resetting mailboxes with new posts and support hardware shall be incidental to the contract unit price per each for Refurbish Single Mailbox.

TABLE OF REFURBISH SINGLE MAILBOX

(FOR INFORMATION ONLY)

Section	Station	Side	Single (Each)
26	99+53	R	1
30	190+34	R	1
30	194+94	R	1
30	210+89	R	1
21	312+93	L	1
	Totals:		**5**

TEMPORARY PAVEMENT MARKING

The total length of no passing zone on this project is estimated to be 1.5 miles.

It is estimated that seven (7) DO NOT PASS and seven (7) PASS WITH CARE signs will be required to mark the no passing zones, should the Contractor elect to use these signs.

Use of DO NOT PASS and PASS WITH CARE signs will be allowed for a two week duration.

Cost for furnishing, installing and removing the DO NOT PASS and PASS WITH CARE signs shall be incidental to the contract unit price per mile for Temporary Pavement Marking.

Temporary road markers shall be required on the top lift of asphalt surfacing. The Contractor shall remove and dispose of the markers after Permanent Pavement Marking is applied. Temporary road markers shall also be removed between asphalt lifts if used as temporary marking on the primed surface or interim asphalt lifts. Method of removal shall be nondestructive to the final road surface and shall be accomplished within one week of completion of the Permanent Pavement Marking.

Two applications of temporary pavement marking are included in the estimate of quantities for completion of the prime, the asphalt or blotter surfacing.

Temporary road markers shall be used. The Contractor shall remove and dispose of them 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.

Cost for furnishing, applying, uncovering, removing and disposing of the Temporary Road Markers shall be included in the contract unit price per mile for Temporary Pavement Marking.

In the absence of a signed lane closure or pilot car operation, 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 and removal of temporary road markers. The traffic control device used shall be moved intermittently to provide proper warning of the work operation. A ROAD WORK AHEAD (W20-1), a Workers 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.

Cost for the traffic control to install and remove the Temporary Road Markers shall be incidental to the contract unit price per mile for Temporary Pavement Marking.

PERMANENT PAVEMENT MARKING

Traffic Control shall be incidental to the cost of the application. The striper and advance or trailing warning vehicle shall be equipped with flashing amber lights or an advance warning arrow panel.

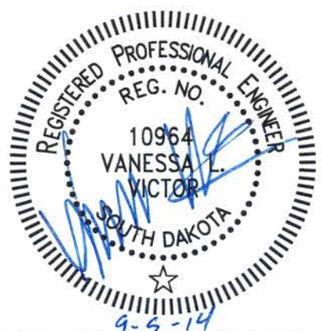
All materials shall be applied as per manufacturer's recommendations.

Glass beads shall be applied on the wet paint line at a minimum of eight pounds of glass beads per gallon of paint.

The Contractor shall advise the Engineer a minimum of two weeks prior to the application of the Permanent Pavement Marking to allow the County to check and mark the location of No Passing Zones. All materials shall be applied as per manufacturer's recommendations.

The application of Permanent Pavement Marking paint may not begin until two calendar days following completion of final surfacing and shall be completed within twelve (12) calendar days following completion of the final surfacing.

For each working day the application of Permanent Pavement Marking paint remains uncompleted beyond the time limits described in the preceding paragraph, the Contractor will be assessed liquidated damages at the rate of $250.00 per day.



PLANS BY: CLARK ENGINEERING, SIOUX FALLS, SD

PERMANENT PAVEMENT MARKING (continued)

The liquidated damages shall apply up to the Contract Completion Date, as extended. After the completion date, liquidated damages will be assessed in accordance with Section 8.7 of the Specifications, until the Permanent Pavement Marking is completed, even though the project may be open to traffic.

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 the requirements in 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. white: 41.5 and yellow: 41.5 when tested in accordance with FTMS 141c (method 4051.1).

WORK BY COUNTY

Clark County shall mark the No Passing Zones prior to striping.

The County shall place base course at farm/home entrances, field entrances, and intersecting roads after completion of the project.

TRAFFIC CONTROL

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

Storage of vehicles and equipment shall be as near the right-of-way line as possible. The Contractor's employees should mobilize at a location off the right-of-way and arrive at the work site in a minimum number of vehicles necessary to perform the work. Indiscriminate driving and parking of vehicles within the right-of-way will not be permitted. Any damage to the vegetation, surfacing, embankment, delineators, and existing signs resulting from such indiscriminate use shall be repaired and/or restored by the Contractor, at no expense to the County, and to the satisfaction of the Engineer.

Work activities during non-daylight hours are subject to prior approval. Windrows shall not be left in place overnight.

Work zones for asphalt paving operation, blotter surface treatment, and pilot car operation shall not exceed three (3) miles in length.

Traffic approaching the project from intersecting roadways, streets, 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.

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 three days. If the duration is more than three days, the signs shall be on fixed location, ground mounted, breakaway supports.

The Contractor shall provide documentation that all breakaway sign supports comply with FHWA NCHRP Report 350 or MASH crash-worthy requirements. The Contractor shall provide installation details at the preconstruction meeting for all breakaway sign support assemblies.

Traffic Control units, as shown in the Estimate of Quantities, are estimates. The Contractor's operation may require adjustments in the quantities, either more or less. Payment will be for those signs actually ordered by the Engineer and used.

BUMP SIGNS

An Advisory Speed Plate displaying 30 MPH shall be attached to all "Bump" signs used on the project. These speed plates are included in the Traffic Control table.

WOVEN GEOTEXTILE SEPARATOR

A bid item for Woven Geotextile Separator has been included in the plans for incidental unstable material.

Woven Geotextile Separator shall meet the requirements in Section 831 of the Specifications.

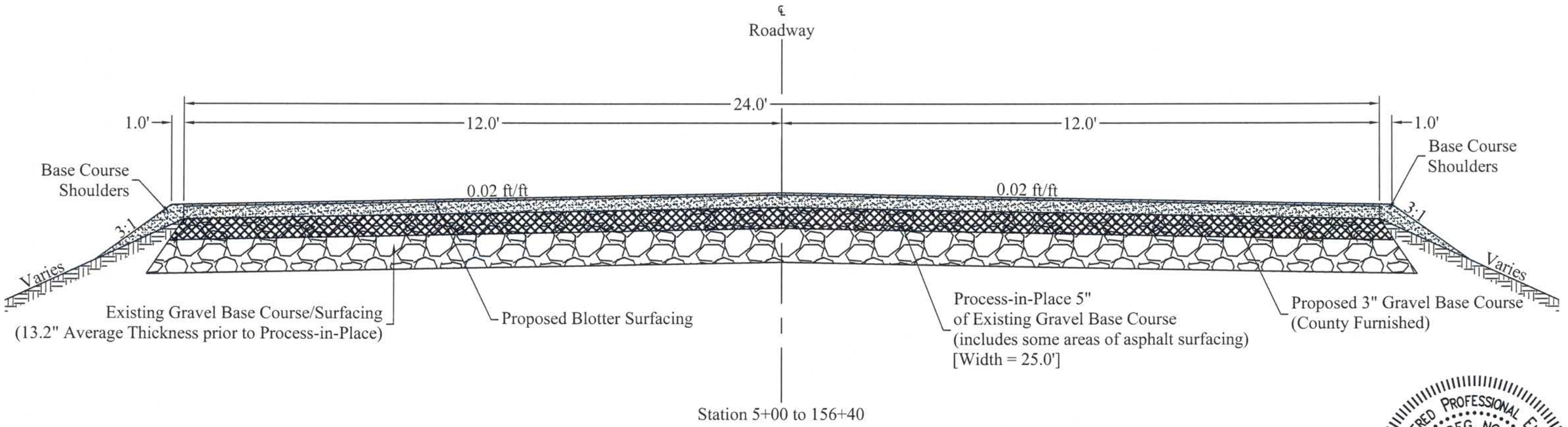
Measurement for Woven Geotextile Separator shall be per square yard of coverage and does not include overlaps. Woven Geotextile Separator shall be installed with the proper overlapping and stapling as recommended by the manufacturer.

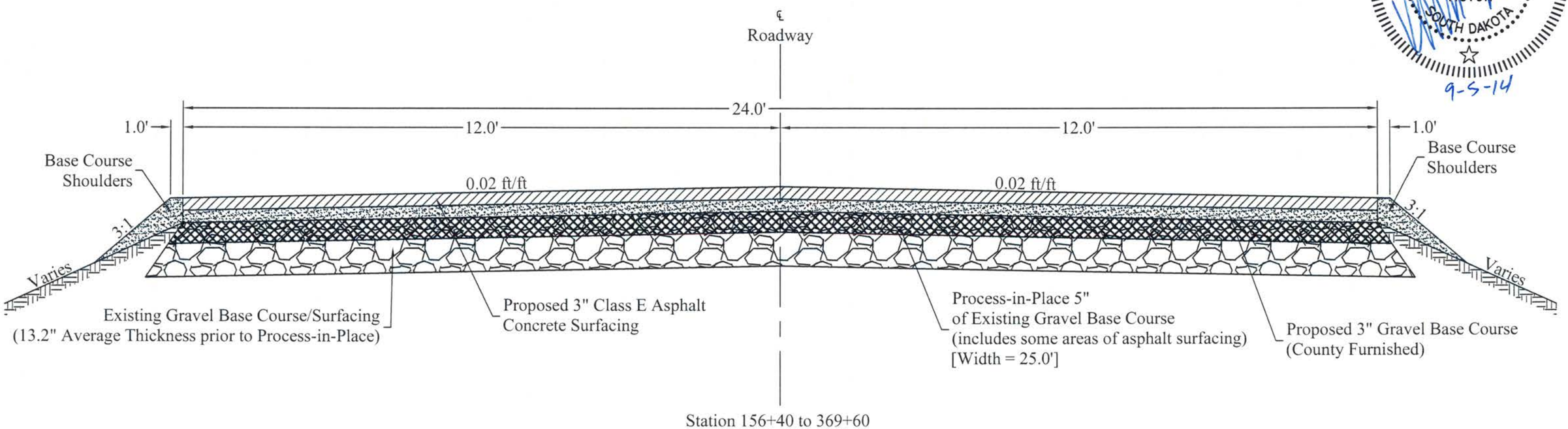
Locations for use are to be determined by the Engineer during construction. The process in place material will need to be moved to the adjacent lane in order for Woven Geotextile Separator installation on a level surface prior to placement of the process in place material and bae course. This will be considered incidental to the contract unit price per square yard for Woven Geotextile Separator.

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 6492(05)	9	23

Typical Sections

FOR BIDDING PURPOSES ONLY





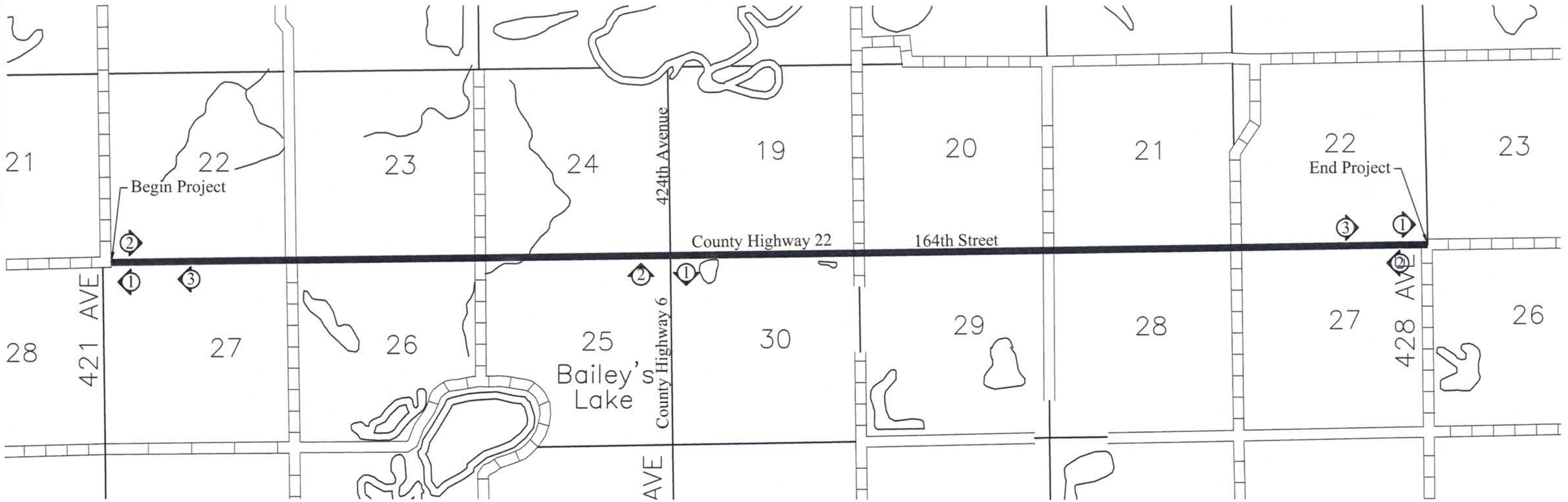
REGISTERED PROFESSIONAL ENGINEER
REG. NO.
10964
VANESSA L.
VICTOR
SOUTH DAKOTA
9-5-14

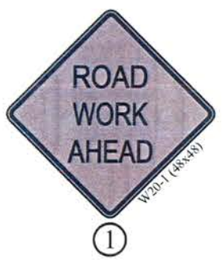
PLANS BY: CLARK ENGINEERING, SIOUX FALLS, SD

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 6492(05)	10	23

FOR BIDDING PURPOSES ONLY

Fixed Location, Ground Mounted, Breakaway Support Signs





SIGN CODE	SIGN SIZE	DESCRIPTION	NUMBER REQUIRED	UNITS PER SIGN	UNITS
G20-1	36" x 18"	ROAD WORK NEXT ## MILES	2	17	34
G20-2	36" x 18"	END ROAD WORK	9	17	153
W3-4	48" x 48"	BE PREPARED TO STOP	2	34	136
W8-1	36" x 36"	BUMP	4	27	108
W8-11	48" x 48"	UNEVEN LANES	2	34	68
W13-1	24" x 24"	ADVISORY SPEED PLATE	4	16	64
W20-1	48" x 48"	ROAD WORK #### FT. OR AHEAD	7	34	238
W20-4	48" x 48"	ONE LANE ROAD #### FT. OR AHEAD	2	34	68
W20-7	48" x 48"	FLAGGER	4	34	136
				TOTAL UNITS	**1005**

PLANS BY: CLARK ENGINEERING, SIOUX FALLS, SD

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 6492(05)	11	23

FOR BIDDING PURPOSES ONLY

STORM WATER POLLUTION PREVENTION PLAN CHECKLIST

*(The numbers right of the title headings are **reference numbers** to the GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES)*

❖ SITE DESCRIPTION (4.2 1)

- **Project Limits: See Title Sheet (4.2 1.b)**
- **Project Description: See Title Sheet (4.2 1.a.)**
- **Site Map(s): See Title Sheet and Plans (4.2 1.f. (1)-(6))**
- **Major Soil Disturbing Activities** (check all that apply)
  - ☐ Clearing and grubbing
  - ☐ Excavation/borrow
  - ☒ Grading and shaping
  - ☐ Filling
  - ☐ Cutting and filling
  - ☐ Other (describe):
- **Total Project Area (4.2 1.b.)**
- **Total Area To Be Disturbed (4.2 1.b.)**
- **Existing Vegetative Cover (%)**
- **Soil Properties:** AASHTO Soil Classification **(4.2 1. d.)**
- **Name of Receiving Water Body/Bodies:** Various Ponds **(4.2 1.e.)**

❖ ORDER OF CONSTRUCTION ACTIVITIES (4.2 1.c.)

(Stabilization measures shall be initiated as soon as possible, but in no case later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Initiation of final or temporary stabilization may exceed the 14-day limit if earth disturbing activities will be resumed within 21 days.)

- **Remove and store topsoil.**
- **Complete final grading.**
- **Complete final paving.**
- **Reseed areas disturbed by removal activities**.

❖ EROSION AND SEDIMENT CONTROLS (4.2 2.a.(1)(a)-(f))

(Check all that apply)

- **Stabilization Practices (See Detail Plan Sheets)**
  - ☐ Temporary Seeding (Cover Crop Seeding)
  - ☐ Permanent Seeding
  - ☐ Sodding
  - ☐ Planting (Woody Vegetation for Soil Stabilization)
  - ☐ Mulching (Grass Hay or Straw)
  - ☐ Hydraulic Mulch (Wood Fiber Mulch)
  - ☐ Soil Stabilizer
  - ☐ Bonded Fiber Matrix
  - ☐ Erosion Control Blankets or Mats
  - ☐ Vegetation Buffer Strips
  - ☐ Roughened Surface (e.g. tracking)
  - ☐ Dust Control
  - ☐ Other:
- **Structural Temporary Erosion and Sediment Controls**
  - ☐ Silt Fence
  - ☐ Floating Silt Curtain
  - ☐ Straw Bale Check
  - ☐ Temporary Berm
  - ☐ Temporary Slope Drain
  - ☐ Straw Wattles or Rolls
  - ☐ Turf Reinforcement Mat
  - ☐ Rip Rap
  - ☐ Gabions
  - ☐ Rock Check Dams
  - ☐ Sediment Traps/Basins
  - ☐ Inlet Protection
  - ☐ Outlet Protection
  - ☐ Surface Inlet Protection (Area Drain)
  - ☐ Curb Inlet Protection
  - ☐ Stabilized Construction Entrances
  - ☐ Entrance/Exit Equipment Tire Wash
  - ☐ Interceptor Ditch
  - ☐ Concrete Washout Area
  - ☐ Temporary Diversion Channel
  - ☐ Work Platform
  - ☐ Temporary Water Barrier
  - ☐ Temporary Water Crossing
  - ☐ Other:
- **Wetland Avoidance**

  Will construction and/or erosion and sediment controls impinge on regulated wetlands? Yes ☐ No ☐ If yes, the structural and erosion and sediment controls have been included in the total project wetland impacts and have been included in the 404 permit process with the USACE.
- **Storm Water Management (4.2 2.b., (1) and (2))**

  Storm water management will be handled by temporary controls outlined in "EROSION AND SEDIMENT CONTROLS" above, and any permanent controls needed to meet permanent storm water management needs in the post construction period. Permanent controls will be shown on the plans and noted as permanent.
- **Other Storm Water Controls (4.2 2.c., (1) and (2))**
  - **Waste Disposal**

    All liquid waste materials will be collected and stored in sealed metal containers approved by the project engineer. All trash and construction debris from the site will be deposited in the approved containers. Containers will be serviced as necessary, and the trash will be hauled to an approved disposal site or licensed landfill. All onsite personnel will be instructed in the proper procedures for waste disposal, and notices stating proper practices will be posted in the field office. The general contractor's representative responsible for the conduct of work on the site will be responsible for seeing waste disposal procedures are followed.
  - **Hazardous Waste**

    All hazardous waste materials will be disposed of in a manner specified by local or state regulations or by the manufacturer. Site personnel will be instructed in these practices, and the individual designated as the contractor's on-site representative will be responsible for seeing that these practices are followed.
  - **Sanitary Waste**

    Portable sanitary facilities will be provided on all construction sites. Sanitary waste will be collected from the portable units in a timely manner by a licensed waste management contractor or as required by any local regulations.

❖ Maintenance and Inspection (4.2 3. and 4.2 4.)

- **Maintenance and Inspection Practices**
  - Inspections will be conducted at least one time per week and after a storm event of 0.50 inches or greater.
  - All controls will be maintained in good working order. Necessary repairs will be initiated within 24 hours of the site inspection report.
  - Silt fence will be inspected for depth of sediment and for tears in order to ensure the fabric is securely attached to the posts and that the posts are well anchored. Sediment buildup will be removed from the silt fence when it reaches $^1/_3$ of the height of the silt fence.
  - Sediment basins and traps will be checked. Sediment will be removed when depth reaches approximately 50 percent of the structure's capacity, and at the conclusion of the construction.
  - Check dams will be inspected for stability. Sediment will be removed when depth reaches ½ the height of the dam.
  - All seeded areas will be checked for bare spots, washouts, and vigorous growth free of significant weed infestations.
  - Inspection and maintenance reports will be prepared on form DOT 298 for each site inspection, this form will also be used to document changes to the SWPPP. A copy of the completed inspection form will be filed with the SWPPP documents.
  - The SDDOT Project Engineer and contractor's site superintendent are responsible for inspections. Maintenance, repair activities are the responsibility of the contractor. The SDDOT Project Engineer will complete the inspection and maintenance reports and distribute copies per the distribution instructions on DOT 298.

❖ Non-Storm Water Discharges (3.0)

The following non-storm water discharges are anticipated during the course of this project (check all that apply).

- ☐ Discharges from water line flushing.
- ☐ Pavement wash-water, where no spills or leaks of toxic or hazardous materials have occurred.
- ☐ Uncontaminated ground water associated with dewatering activities.

❖ Materials Inventory (4.2. 2.c.(2))

The following materials or substances are expected to be present on the site during the construction period. These materials will be handled as noted under the headings "EROSION AND SEDIMENT CONTROLS" and "SPILL PREVENTION" (check all that apply).

- ☐ Concrete and Portland Cement
- ☐ Detergents
- ☒ Paints
- ☐ Metals
- ☒ Bituminous Materials
- ☒ Petroleum Based Products
- ☐ Cleaning Solvents
- ☐ Wood
- ☐ Cure
- ☐ Texture
- ☐ Chemical Fertilizers
- ☐ Other:

❖ **Spill Prevention (4.2 2.c.(2))**

➢ **Material Management**

▪ Housekeeping

- Only needed products will be stored on-site by the contractor.
- Except for bulk materials the contractor will store all materials under cover and in appropriate containers.
- Products must be stored in original containers and labeled.
- Material mixing will be conducted in accordance with the manufacturer's recommendations.
- When possible, all products will be completely used before properly disposing of the container off site.
- The manufacturer's directions for disposal of materials and containers will be followed.
- The contractor's site superintendent will inspect materials storage areas regularly to ensure proper use and disposal.
- Dust generated will be controlled in an environmentally safe manner.
- Vegetation areas not essential to the construction project will be preserved and maintained as noted on the plans.

▪ Hazardous Materials

- Products will be kept in original containers unless the container is not resealable.
- Original labels and material safety data sheets will be retained in a safe place to relay important product information.
- If surplus product must be disposed of, manufacturer's label directions for disposal will be followed.
- Maintenance and repair of all equipment and vehicles involving oil changes, hydraulic system drain down, de-greasing operations, fuel tank drain down and removal, and other activities which may result in the accidental release of contaminants will be conducted on an impervious surface and under cover during wet weather to prevent the release of contaminants onto the ground.
- Wheel wash water will be collected and allowed to settle out suspended solids prior to discharge. Wheel wash water will not be discharged directly into any storm water system or storm water treatment system.
- Potential pH-modifying materials such as: bulk cement, cement kiln dust, fly ash, new concrete washings, concrete pumping, residuals from concrete saw cutting (either wet or dry), and mixer washout waters will be collected on site and managed to prevent contamination of storm water runoff.

➢ **Product Specific Practices (6.8)**

▪ Petroleum Products
All on-site vehicles will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled.

▪ Fertilizers
Fertilizers will be applied only in the amounts specified by the SDDOT. Once applied, fertilizers will be worked into the soil to limit the exposure to storm water. Fertilizers will be stored in an enclosed area. The contents of partially used fertilizer bags will be transferred to sealable containers to avoid spills.

▪ Paints
All containers will be tightly sealed and stored when not required for use. The excess will be disposed of according to the manufacturer's instructions and any applicable state and local regulations.

▪ Concrete Trucks
Contractors will provide designated truck washout areas on the site. These areas must be self contained and not connected to any storm water outlet of the site. Upon completion of construction washout areas will be properly stabilized.

➢ **Spill Control Practices (4.2 2 c.(2))**

In addition to the previous housekeeping and management practices, the following practices will be followed for spill prevention and cleanup if needed.

- For all hazardous materials stored on site, the manufacturer's recommended methods for spill clean up will be clearly posted. Site personnel will be made aware of the procedures and the locations of the information and cleanup supplies.
- Appropriate cleanup materials and equipment will be maintained by the contractor in the materials storage area on-site. As appropriate, equipment and materials may include items such as brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for clean up purposes.
- All spills will be cleaned immediately after discovery and the materials disposed of properly.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- After a spill a report will be prepared describing the spill, what caused it, and the cleanup measures taken. The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring, as well as clean up instructions in the event of reoccurrences.
- The contractor's site superintendent, responsible for day-to-day operations, will be the spill prevention and cleanup coordinator. The contractor is responsible for ensuring that the site superintendent has had appropriate training for hazardous materials handling, spill management, and cleanup.
-

➢ **Spill Response (4.2 2 c.(2))**

The primary objective in responding to a spill is to quickly contain the material(s) and prevent or minimize migration into storm water runoff and conveyance systems. If the release has impacted on-site storm water, it is critical to contain the released materials on-site and prevent their release into receiving waters. If a spill of pollutants threatens storm water or surface water at the site, the spill response procedures outlined below must be implemented in a timely manner to prevent the release of pollutants.

- The contractor's site superintendent will be notified immediately when a spill or the threat of a spill is observed. The superintendent will assess the situation and determine the appropriate response.
- If spills represent an imminent threat of escaping erosion and sediment controls and entering receiving waters, personnel will be directed to respond immediately to contain the release and notify the superintendent after the situation has been stabilized.
- Spill kits containing appropriate materials and equipment for spill response and cleanup will be maintained by the contractor at the site.
- If oil sheen is observed on surface water (e.g. settling ponds, detention ponds, swales), action will be taken immediately to remove the material causing the sheen. The contractor will use appropriate materials to contain and absorb the spill. The source of the oil sheen will also be identified and removed or repaired as necessary to prevent further releases.
- If a spill occurs the superintendent or the superintendent's designee will be responsible for completing the spill reporting form and for reporting the spill to SD DENR.
- Personnel with primary responsibility for spill response and clean-up will receive training by the contractor's site superintendent or designee. The training must include identifying the location of the spill kits and other spill response equipment and the use of spill response materials.
- Spill response equipment will be inspected and maintained as necessary to replace any materials used in spill response activities.

❖ **Spill Notification**

In the event of a spill, the contractor's site superintendent will make the appropriate notification(s), consistent with the following procedures:

➢ A release or spill of a regulated substance (includes petroleum and petroleum products) must be reported to DENR immediately **if any one of the following** conditions exists:

- The discharge threatens or is in a position to threaten the waters of the state (surface water or ground water).
- The discharge causes an immediate danger to human health or safety.
- The discharge exceeds 25 gallons.
- The discharge causes a sheen on surface water.
- The discharge of any substance that exceeds the ground water quality standards of ARSD (Administrative Rules of South Dakota) chapter 74:51:01.
- The discharge of any substance that exceeds the surface water quality standards of ARSD chapter 74:51:01.
- The discharge of any substance that harms or threatens to harm wildlife or aquatic life.
- The discharge of crude oil in field activities under SDCL (South Dakota Codified Laws) chapter 45-9 is greater than 1 barrel (42 gallons).

To report a release or spill, call DENR at 605-773-3296 during regular office hours (8 a.m. to 5 p.m. Central time). To report the release after hours, on weekends or holidays, call State Radio Communications at 605-773-3231. Reporting the release to DENR does not meet any obligation for reporting to other state, local, or federal agencies. Therefore, the responsible person must also contact local authorities to determine the local reporting requirements for releases. DENR recommends that spills also be reported to the National Response Center at (800) 424-8802.

❖ **Construction Changes (4.4)**

When changes are made to the construction project that will require alterations in the temporary erosion controls of the site, the Storm Water Pollution Prevention Plan (SWPPP) will be amended to provide appropriate protection to disturbed areas, all storm water structures, and adjacent waters. The SDDOT Project Engineer will modify the SWPPP plan (DOT 298) and drawings to reflect the needed changes. Copies of changes will be routed per DOT 298. Copies of forms and the SWPPP will be retained in a designated place for review over the course of the project.

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 6492(05)	13	23

FOR BIDDING PURPOSES ONLY

❖ CERTIFICATIONS

➢ **Certification of Compliance with Federal, State, and Local Regulations**

The Storm Water Pollution Prevention Plan (SWPPP) for this project reflects the requirements of all local municipal jurisdictions for storm water management and sediment and erosion control as established by ordinance, as well as other state and federal requirements for sediment and erosion control plans, permits, notices or documentation as appropriate.

➢ **South Dakota Department of Transportation**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____

Authorized Signature (See the General Permit, Section 6.7.1.C.)

➢ **Prime Contractor**

This section is to be executed by the General Contractor after the award of the contract. This section may be executed any time there is a change in the Prime Contractor of the project.

I certify under penalty of law that this document and all attachments will be revised or maintained under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____

Authorized Signature

❖ CONTACT INFORMATION

➢ **Contractor Information**:

- Prime Contractor Name:
- Contractor Contact Name:
- Address:
- Address:
- City: State: Zip:
- Office Phone: Field:
- Cell Phone: Fax:

➢ **Erosion Control Supervisor**

- Name:
- Address:
- Address:
- City: State: Zip:
- Office Phone: Field:
- Cell Phone: Fax:

➢ **SDDOT Project Engineer**

- Name:
- Business Address:
- Job Office Location:
- City: State: Zip:
- Office Phone: Field:
- Cell Phone: Fax:

➢ **SD DENR Contact Spill Reporting**
- Business Hours Monday-Friday (605) 773-3296
- Nights and Weekends (605) 773-3231

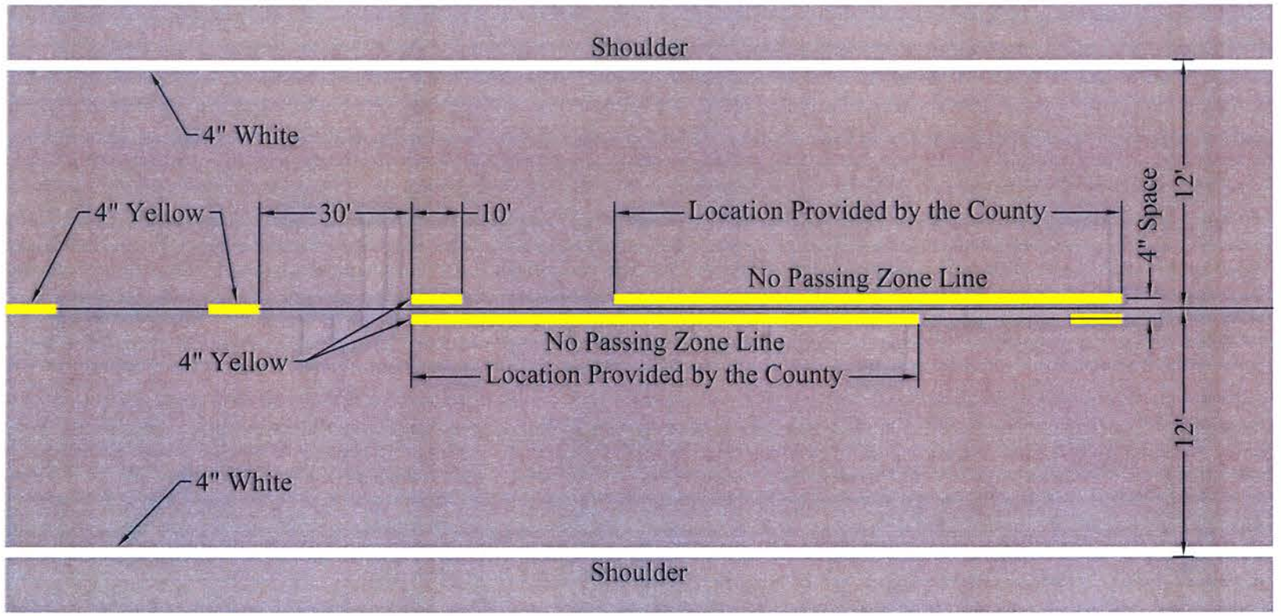
➢ **SD DENR Contact for Hazardous Materials.**
- (605) 773-3153

➢ **National Response Center Hotline**
- (800) 424-8802.

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 6492(05)	14	23

FOR BIDDING PURPOSES ONLY

Permanent Pavement Marking



Notes:

1. The Estimate of Quantities is based on the following application rates, all of which materials are to be furnished in placed by the Contractor:
   - Yellow Centerline (includes no passing lines) = ±20 gallons per mile
   - One White Edgeline = ±17 gallons per mile
   - Glass Beads = 8 pounds per gallon

2. Exact location of the NO PASSING ZONE lines will be determined in the field by the County.

3. Project centerline markings shall be applied using a three gun system.

4. The typical pavement markings as shown on this sheet are to be applied throughout the entire length of the Project.

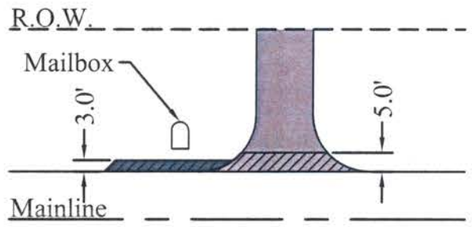
REGISTERED PROFESSIONAL ENGINEER
REG. NO. 10964
VANESSA L. VICTOR
SOUTH DAKOTA
9-5-14

PLANS BY: CLARK ENGINEERING, SIOUX FALLS, SD

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 6492(05)	15	23

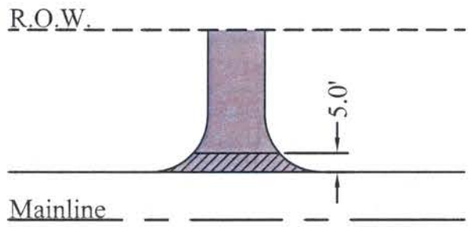
Surfacing Details

FOR BIDDING PURPOSES ONLY



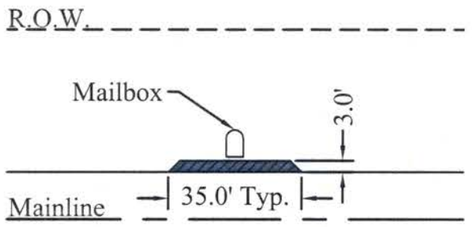
Driveway Entrance with Mailbox

5' / 3' from Edge of Mainline
Match Existing Entrance Width



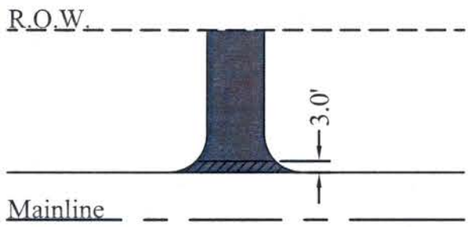
Driveway Entrance

5' from Edge of Mainline
Match Existing Entrance Width



Mailbox Pullout

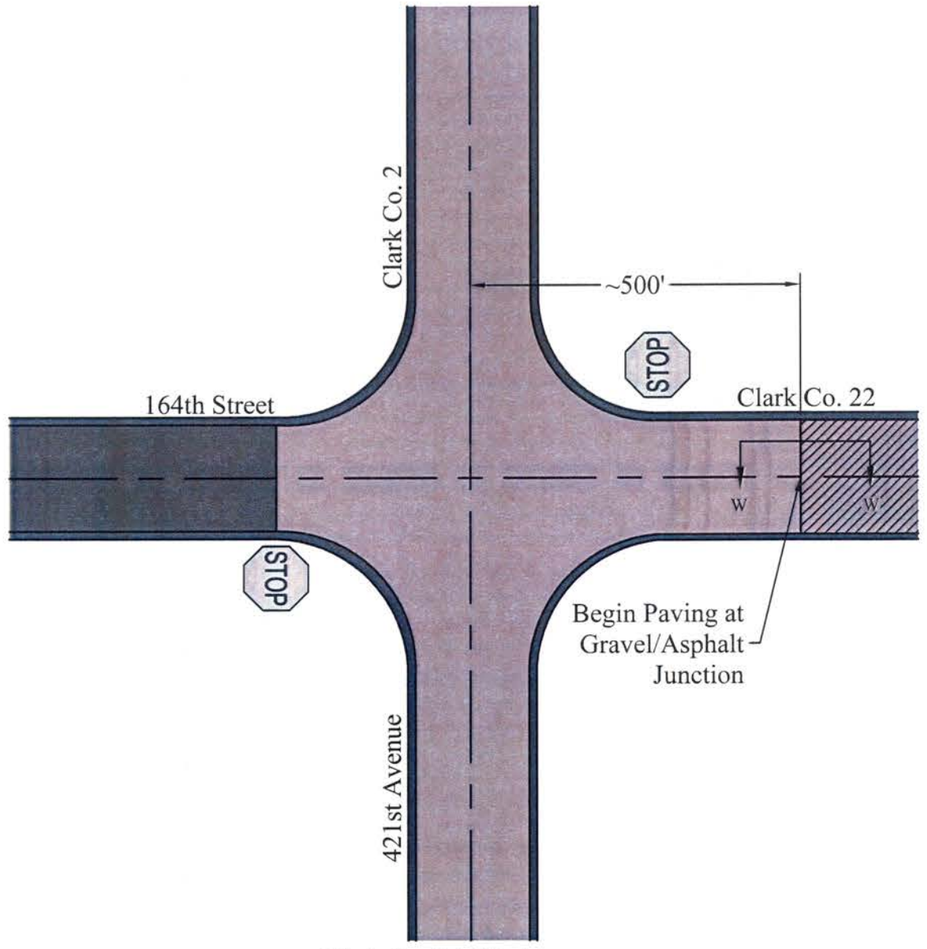
3' from Edge of Mainline



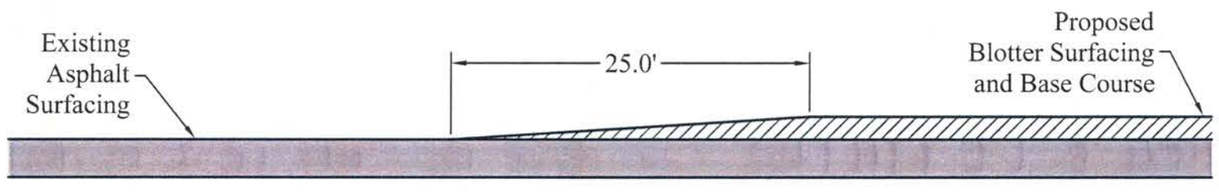
Field Entrance

3' from Edge of Mainline
Match Existing Entrance Width

Pull-out Details

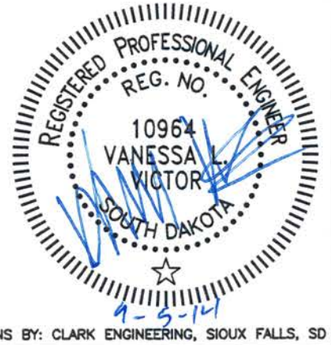


Clark Co. 2 / 421st Avenue
Detail



Section "W-W"

Existing Asphalt Surfacing
Proposed Asphalt or Blotter Surfacing
Existing Gravel Surfacing

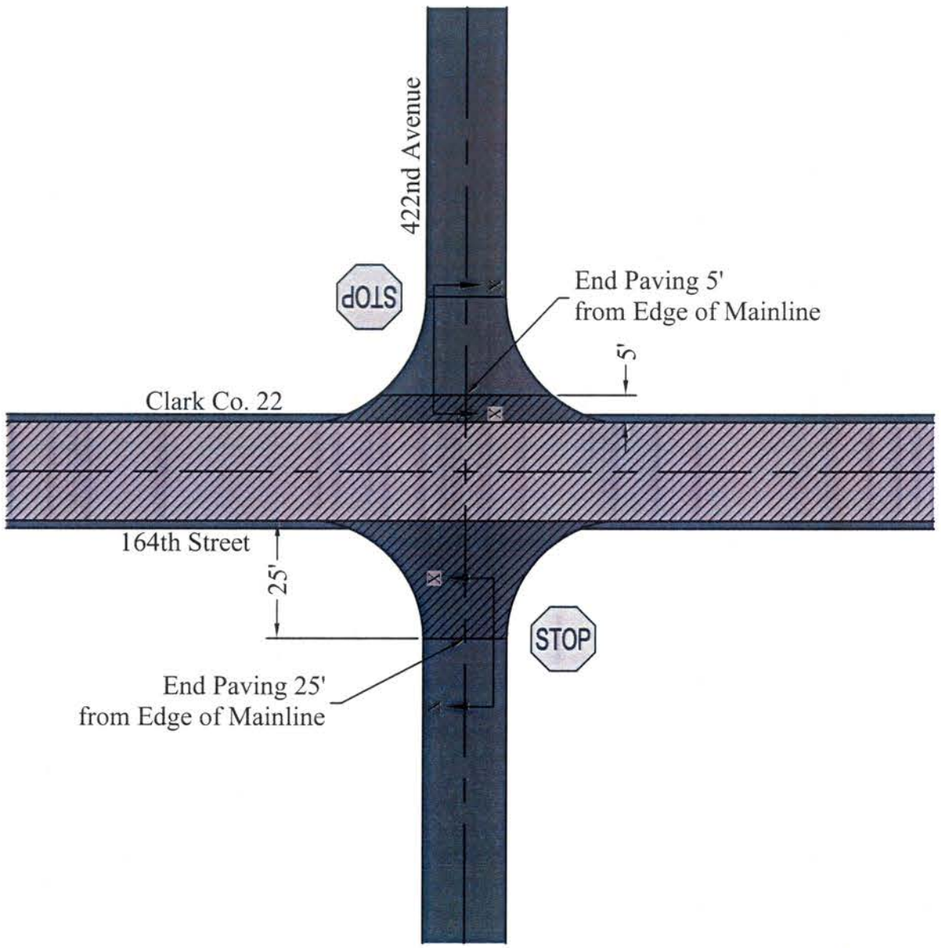


PLANS BY: CLARK ENGINEERING, SIOUX FALLS, SD

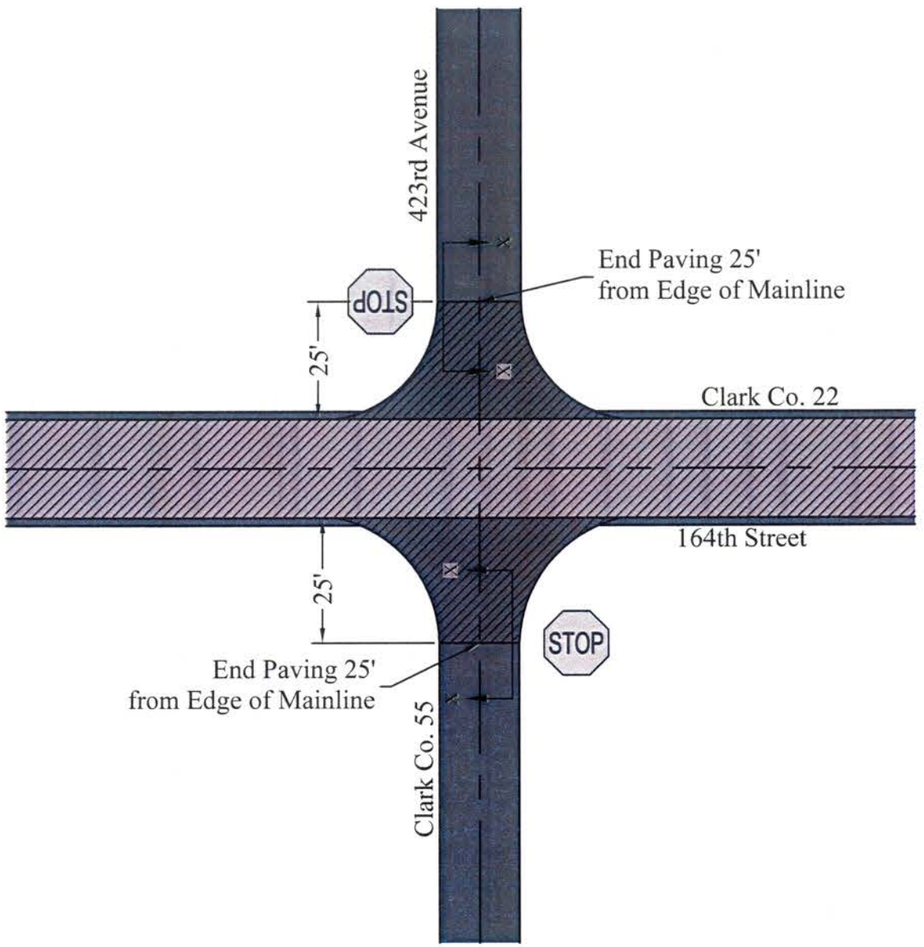
Surfacing Details

FOR BIDDING PURPOSES ONLY

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 6492(05)	16	23

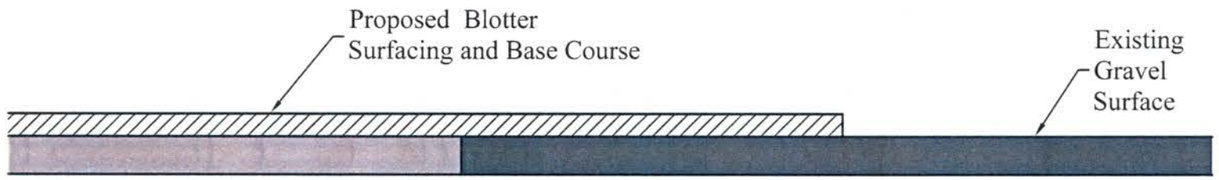


422nd Avenue Detail



423rd Avenue / Clark Co. 55
Detail

Existing Asphalt Surfacing
Proposed Asphalt or Blotter Surfacing
Existing Gravel Surfacing



Section "X-X"

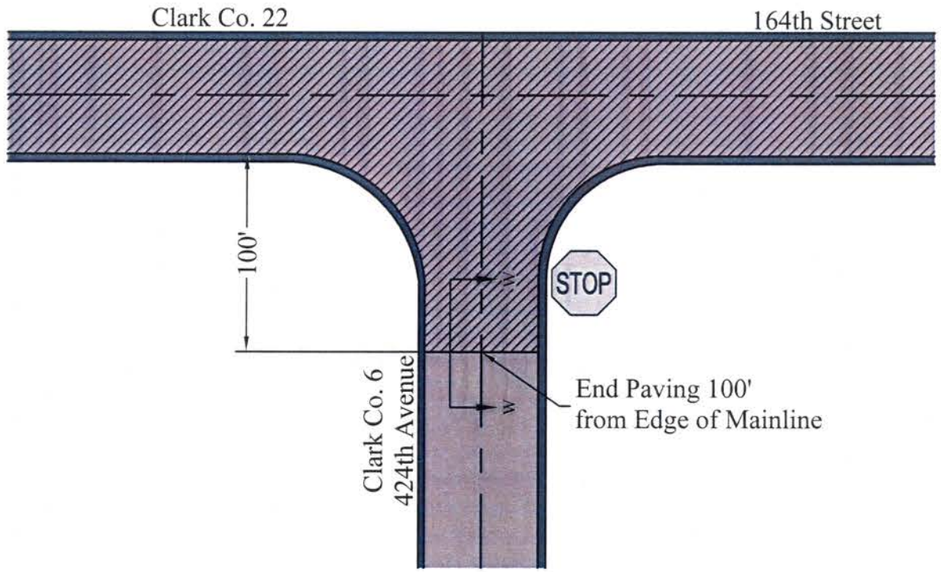
REGISTERED PROFESSIONAL ENGINEER
REG. NO.
10964
VANESSA L.
VICTOR
SOUTH DAKOTA
9-5-14

PLANS BY: CLARK ENGINEERING, SIOUX FALLS, SD

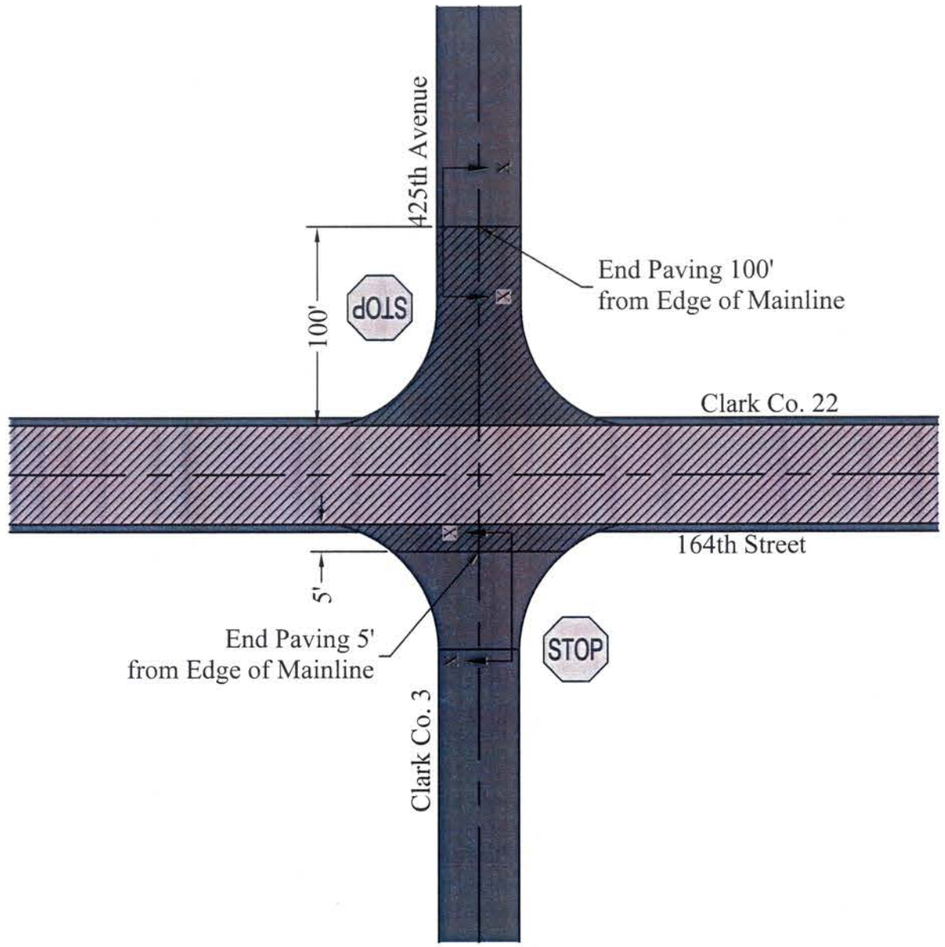
Surfacing Details

FOR BIDDING PURPOSES ONLY

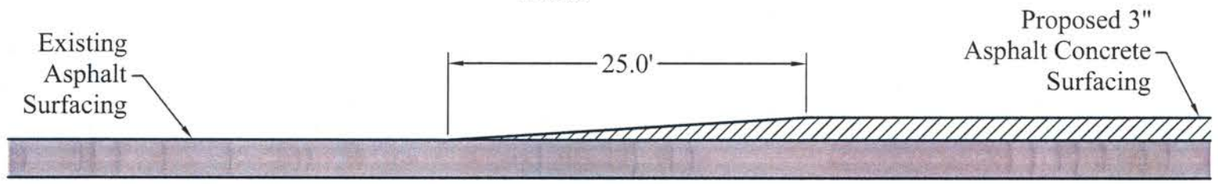
STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 6492(05)	17	23



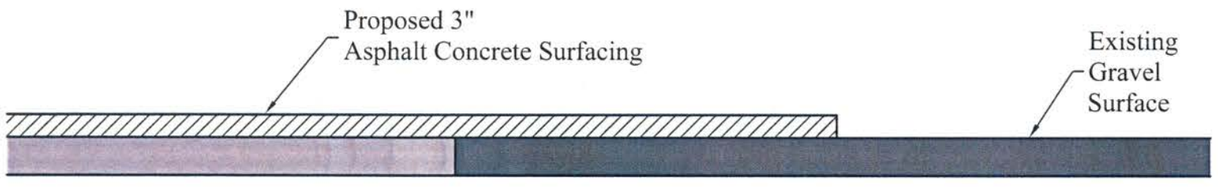
424th Avenue / Clark Co. 6
Detail



425th Avenue / Clark Co. 3
Detail



Section "W-W"



Section "X-X"

Existing Asphalt Surfacing
Asphalt or Blotter Surfacing
Existing Gravel Surfacing

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
10964
VANESSA L.
VICTOR
SOUTH DAKOTA

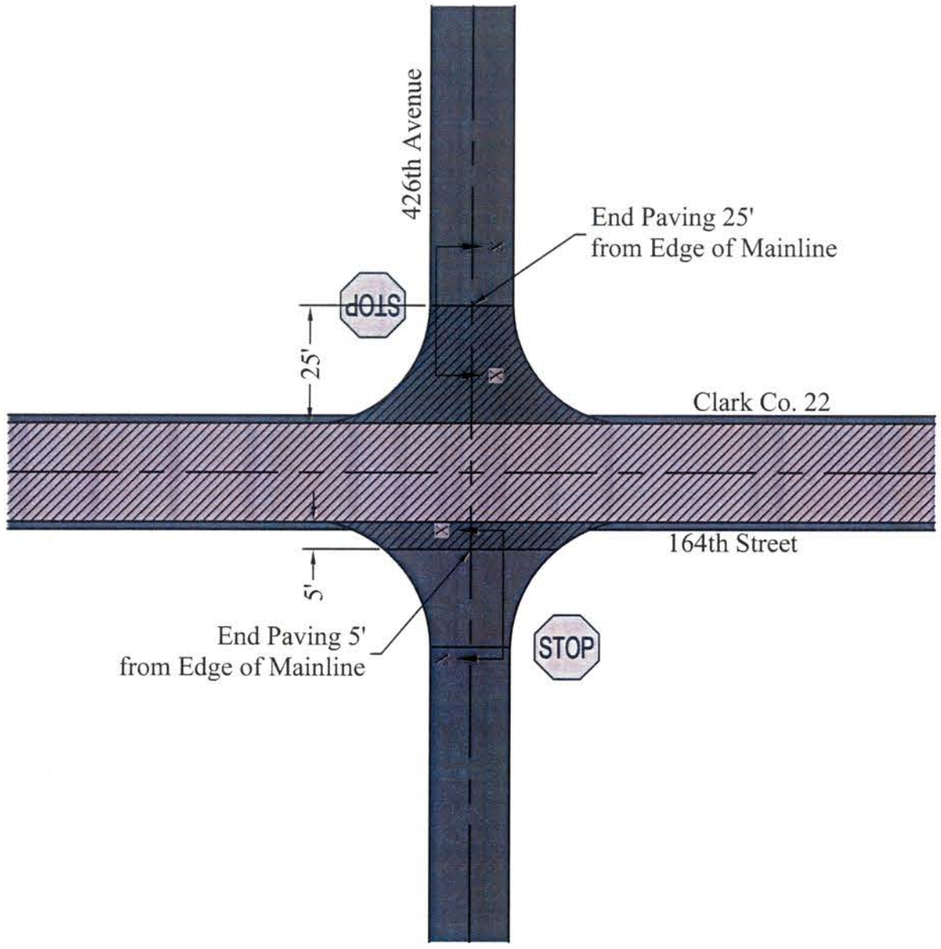
9-5-14

PLANS BY: CLARK ENGINEERING, SIOUX FALLS, SD

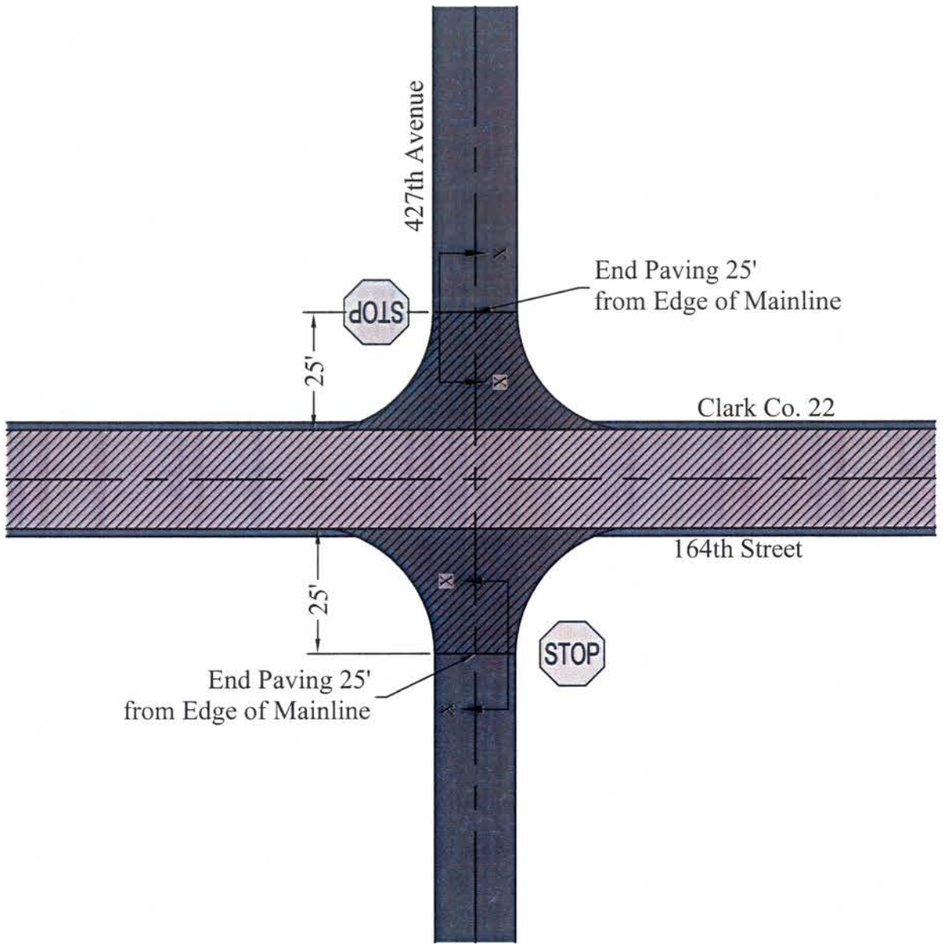
Surfacing Details

FOR BIDDING PURPOSES ONLY

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 6492(05)	18	23

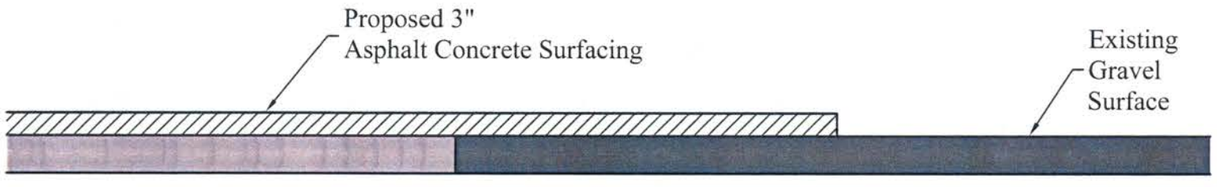


426th Avenue Detail



427th Avenue Detail

Existing Asphalt Surfacing
Asphalt or Blotter Surfacing
Existing Gravel Surfacing



Section "X-X"

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
10964
VANESSA L.
VICTOR
SOUTH DAKOTA

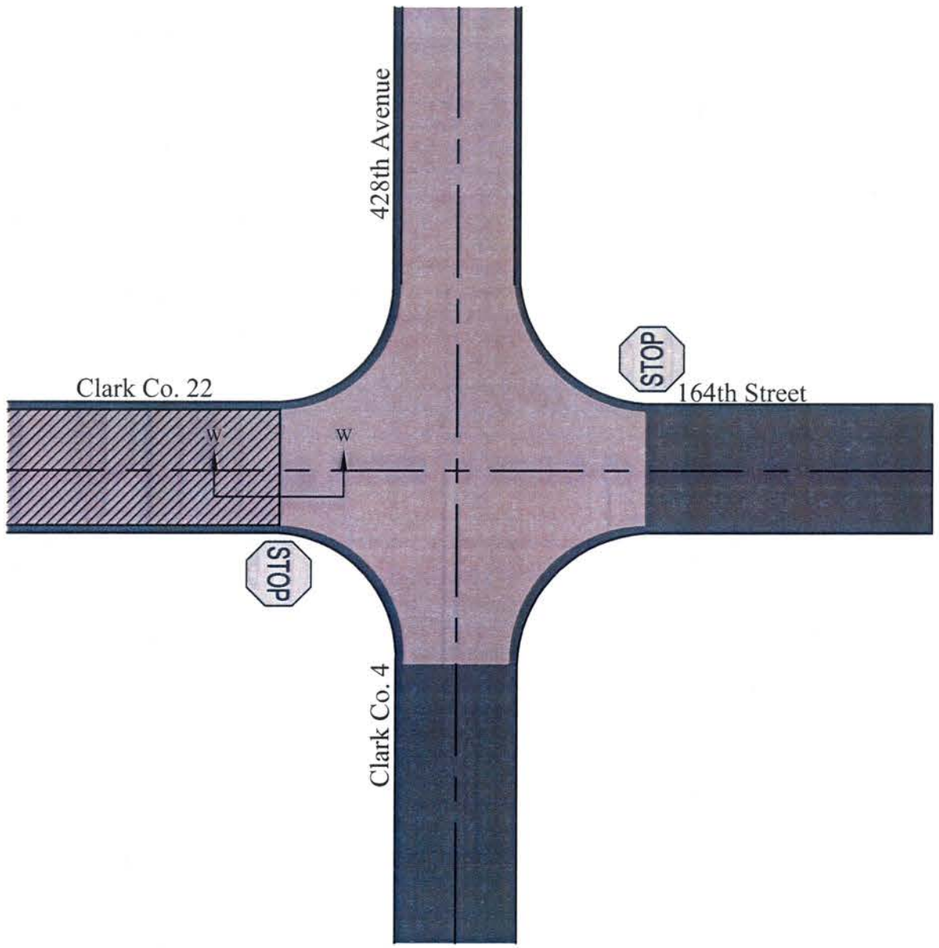
9-5-14

PLANS BY: CLARK ENGINEERING, SIOUX FALLS, SD

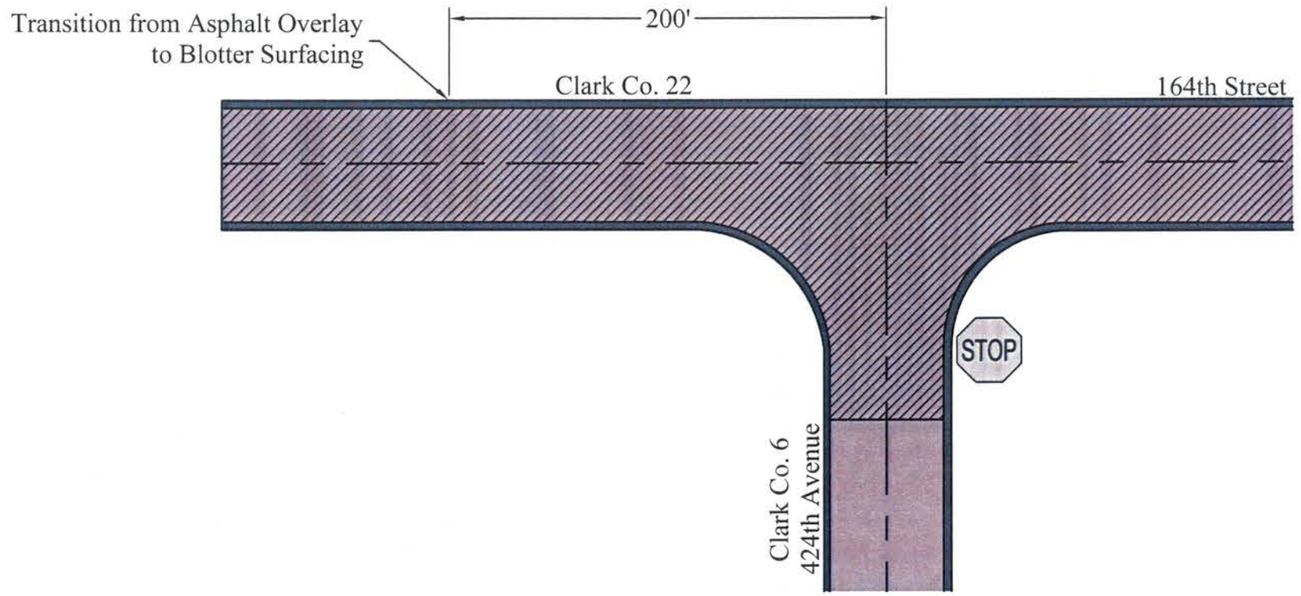
Surfacing Details

FOR BIDDING PURPOSES ONLY

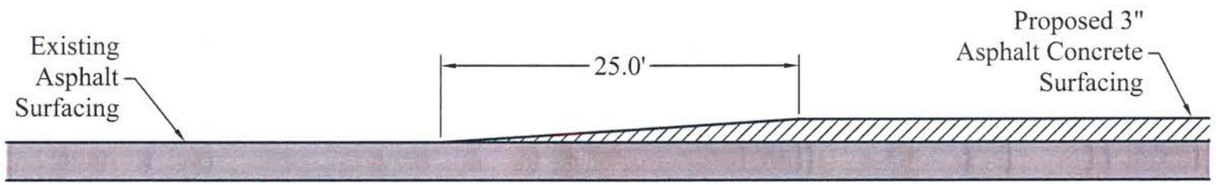
STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 6492(05)	19	23



428th Avenue / Clark Co. 4
Detail



Transition from Blotter Surfacing to
Asphalt Concrete Surfacing



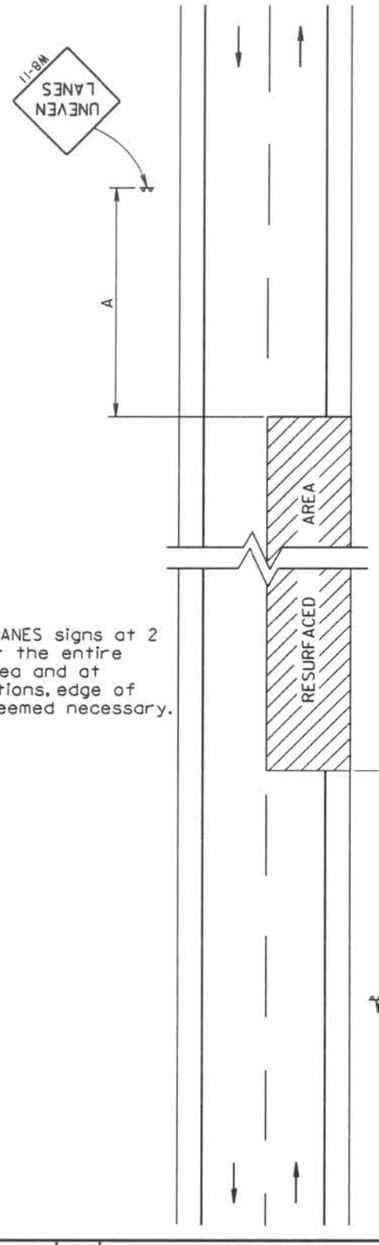
Section "W-W"

Existing Asphalt Surfacing
Proposed Asphalt or Blotter Surfacing
Existing Gravel Surfacing

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
10964
VANESSA L.
VICTOR
SOUTH DAKOTA
9-5-14

PLANS BY: CLARK ENGINEERING, SIOUX FALLS, SD

FOR BIDDING PURPOSES ONLY



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

Install additional UNEVEN LANES signs at 2 mile intervals throughout the entire length of the uneven area and at affected major intersections, edge of towns, and other sites deemed necessary.

July 1, 2005

Published Date: 3rd Qtr. 2014	SDDOT	GUIDES FOR TRAFFIC CONTROL DEVICES UNEVEN ROAD SURFACE	PLATE NUMBER 634.22 Sheet 1 of 1

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.

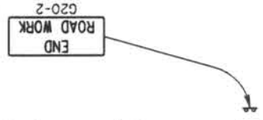
The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

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.

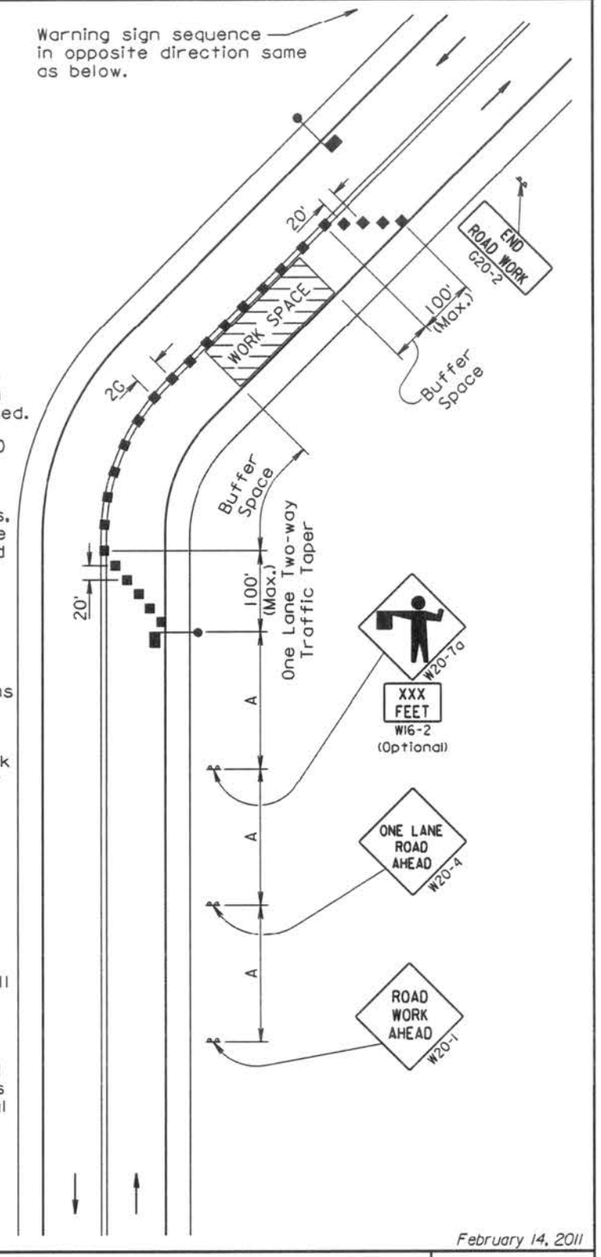
The channelizing devices shall be drums or 42" cones.

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.

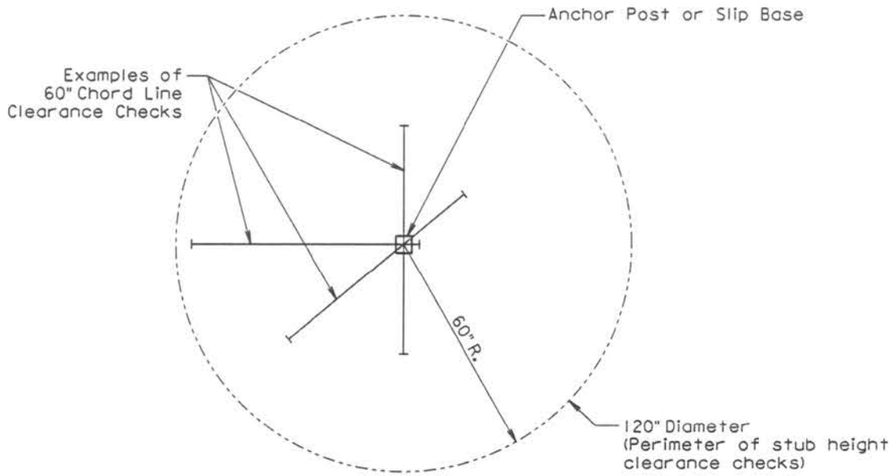
The buffer space should be extended so that the two-way traffic taper is placed before a horizontal or vertical curve to provide adequate sight distance for the flagger and queue of stopped vehicles.



February 14, 2011

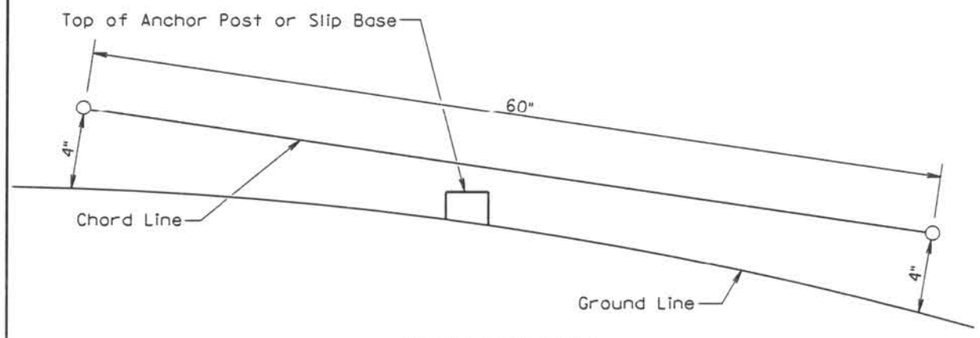
Published Date: 3rd Qtr. 2014	SDDOT	GUIDES FOR TRAFFIC CONTROL DEVICES LANE CLOSURE WITH FLAGGER PROVIDED	PLATE NUMBER 634.23 Sheet 1 of 1

FOR BIDDING PURPOSES ONLY



PLAN VIEW

(Examples of stub height clearance checks)



ELEVATION VIEW

GENERAL NOTES:

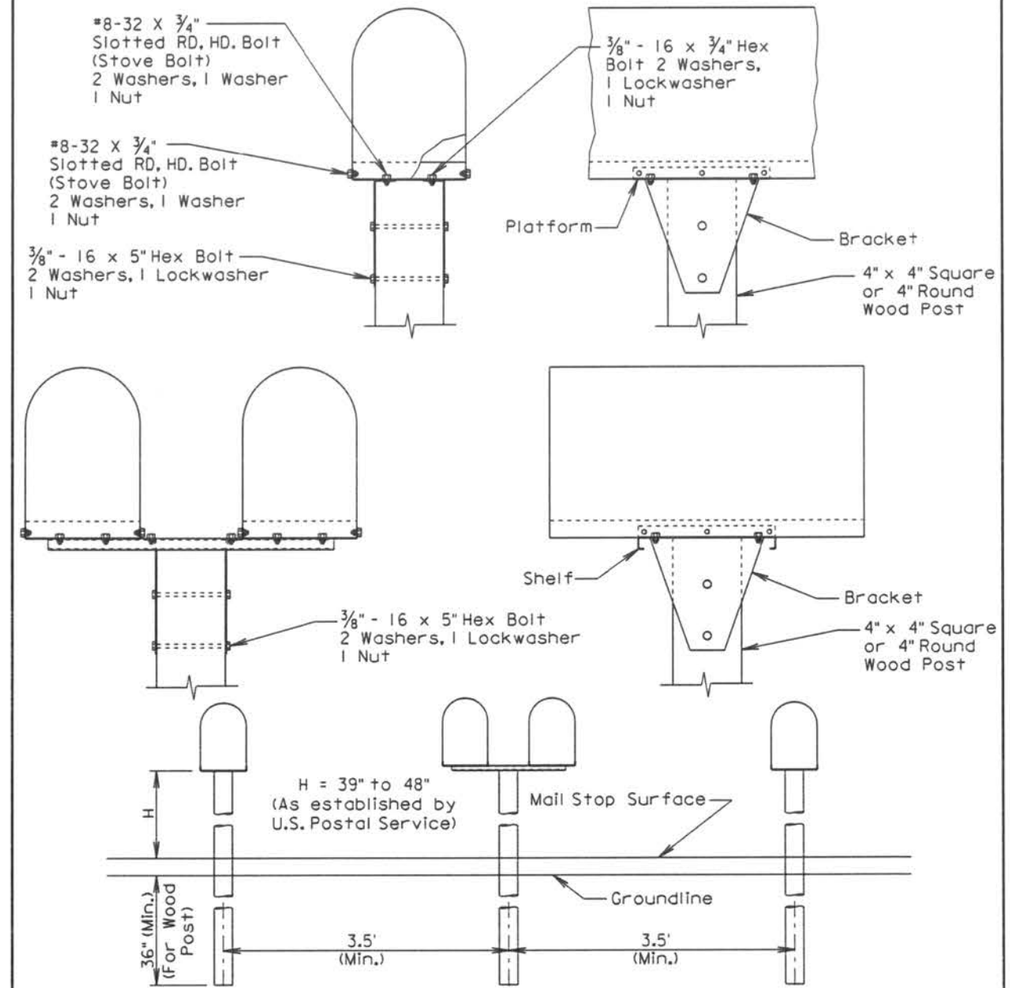
The top of anchor posts and slip bases SHALL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.

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: 3rd Qtr. 2014	SDDOT	**BREAKAWAY SUPPORT STUB CLEARANCE**	PLATE NUMBER 634.99 Sheet 1 of 1



SPACING FOR MULTIPLE POST INSTALLATION

GENERAL NOTES:

The post support assemblies provided should be consistant throughout the project.

Single and double mailboxes may be in any sequence.

Post support assemblies shall be one from the approved products list, a 4"x4" or 4" round wood post, or an alternate post support assembly that meets the test level 3 crash testing requirements of NCHRP 350 or MASH.

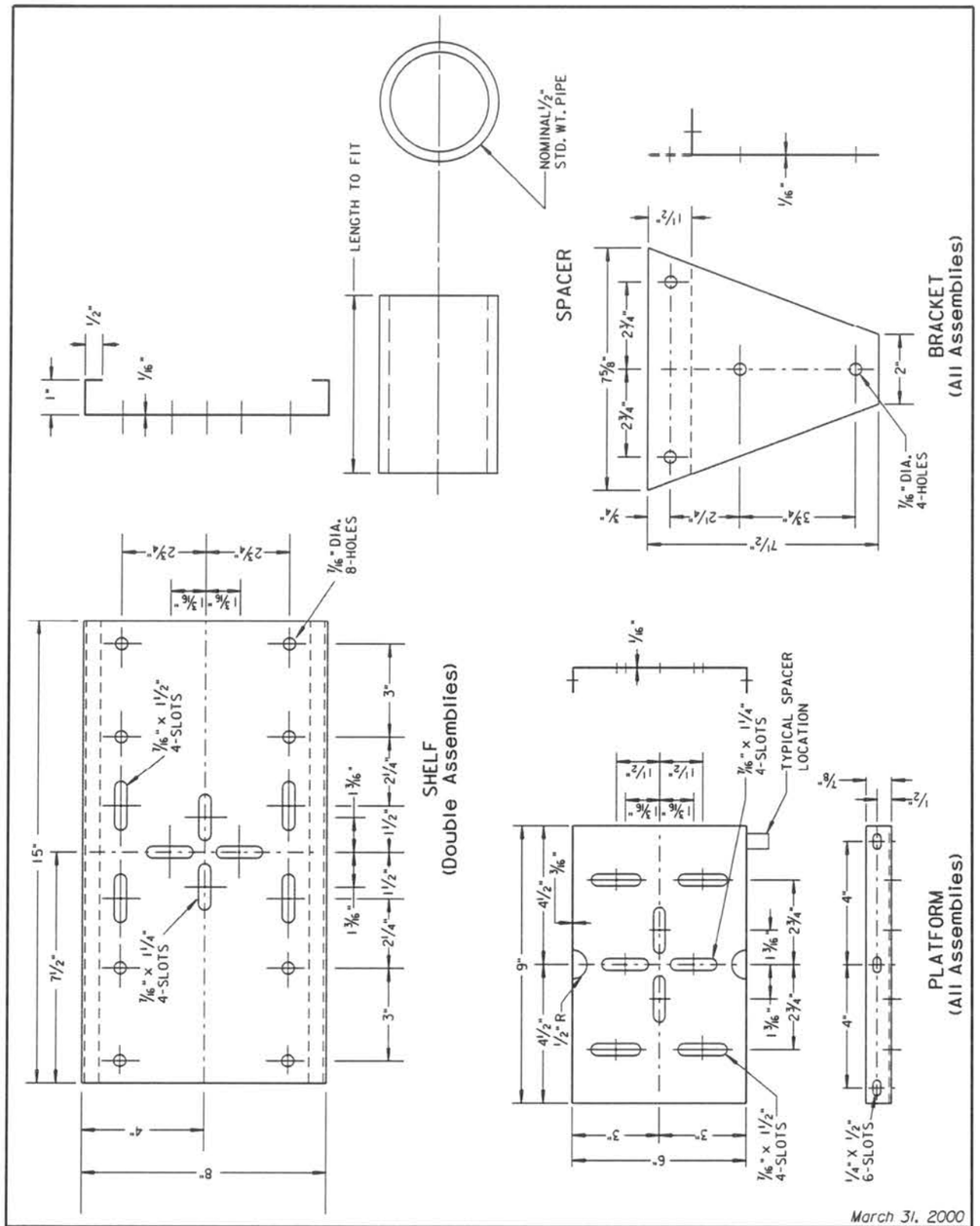
Alternate mailbox support assemblies shall be approved by the Engineer prior to installation. The Contractor shall provide the Engineer written certification that the mailbox support assembly has met the crash testing requirements and will be installed in accordance with the manufacturer's installation instructions.

September 6, 2013

Published Date: 3rd Qtr. 2014	SDDOT	**SINGLE AND DOUBLE MAILBOX ASSEMBLIES**	PLATE NUMBER 900.02 Sheet 1 of 1

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 6492(05)	23	23

FOR BIDDING PURPOSES ONLY



March 31, 2000

Published Date: 3rd Qtr. 2014	SDDOT	MAILBOX SUPPORT HARDWARE	PLATE NUMBER 900.03 Sheet 1 of 1

PLANS BY: CLARK ENGINEERING, SIOUX FALLS, SD