

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	410C311	1	5

Plotting Date: 03/22/2022

STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED

**PROJECT 410C311**

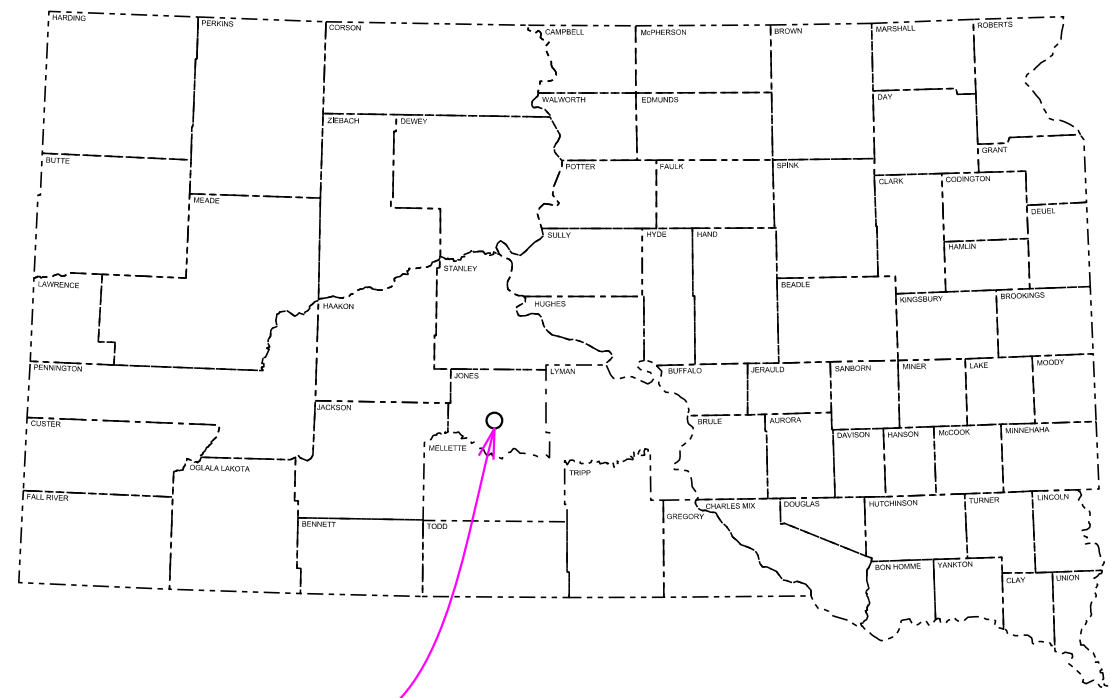
**MURDO MAINTENANCE YARD**

ASPHALT CONCRETE RESURFACING, CHIP SEAL and FOG SEAL

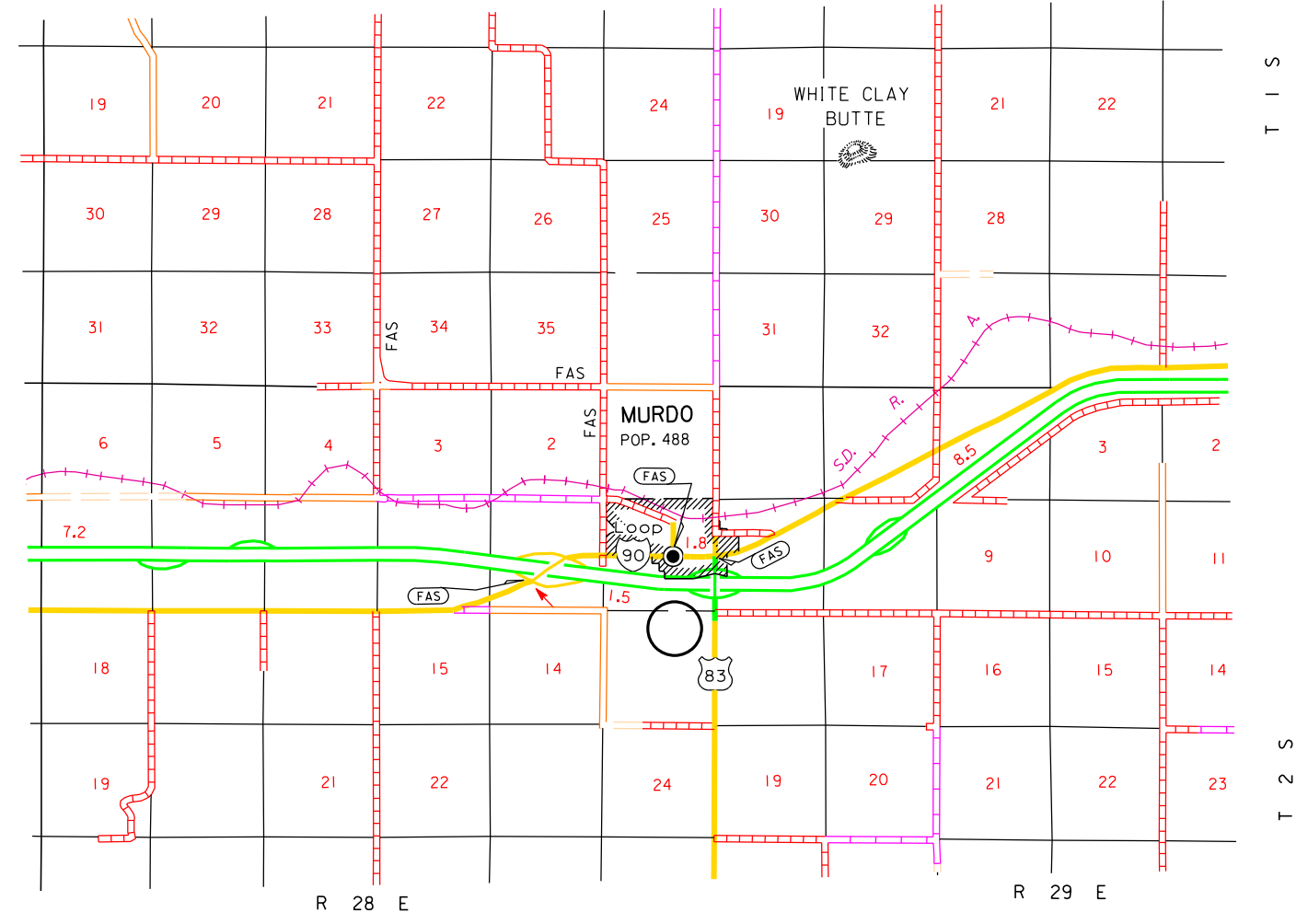
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INDEX OF SECTIONS

- Sheet No. 1 Title Sheet
- Sheet No. 2-4 Estimate of Quantities & Plan Notes
- Sheet No. 5 Murdo Yard Layout



PROJECT



STORM WATER PERMIT  
NO PERMIT REQUIRED

**PROJECT LOCATION IS DESIGNATED BY THE CIRCLE ON MAP ABOVE.**  
**○ = MURDO MAINTENANCE SHOP IN MURDO, SD**

PLOT SCALE -- 1:201.612

PLOTTED FROM -- TRW1INT20

PLOT NAME -- 1

FILE -- ...WORKING\TITLE.DGN

**ESTIMATE OF QUANTITIES**

**PROJECT 410C311 (MURDO MAINTENANCE YARD)**

**Non-Section Method**

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
120E0100	Unclassified Excavation, Digouts	30	CuYd
320E1200	Asphalt Concrete Composite	1,447.5	Ton
330E0300	SS-1h or CSS-1h Asphalt for Fog Seal	2.9	Ton
332E0010	Cold Milling Asphalt Concrete	4,791	SqYd
360E0042	CRS-2P Asphalt for Surface Treatment	11.6	Ton
360E1200	Modified Cover Aggregate	106.0	Ton

**SPECIFICATIONS**

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

**UTILITIES**

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

**ENVIRONMENTAL COMMITMENTS**

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

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

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

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

**COMMITMENT E: STORM WATER**

Construction activities constitute less than 1 acre of disturbance.

**Action Taken/Required:**

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

**COMMITMENT H: WASTE DISPOSAL SITE**

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

**Action Taken/Required:**

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

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

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

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

1. Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials will be buried in a trench separate from wood debris. The final cover over the construction and/or demolition debris will consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the Public ROW will be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor will control the access to waste disposal sites not within the Public ROW with fences, gates, and placement of a sign or signs at the entrance to the site stating, "No Dumping Allowed".
2. Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period not to exceed the duration of the project. Prior to project completion, the waste will be removed from view of the ROW or buried, and the waste disposal site reclaimed as noted above.

The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06. Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-1.31.

All costs associated with furnishing waste disposal site(s), disposing of waste, maintaining control of access (fence, gates, and signs), and reclamation of the waste disposal site(s) will be incidental to the various contract items.

**COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES**

State Historical Preservation Office (SHPO or THPO) concurrence has not been obtained for this project.

**Action Taken/Required:**

All earth disturbing activities not designated within the plans require a cultural resource review prior to scheduling the pre-construction meeting. This work includes, but is not limited to: Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas.

The Contractor will arrange and pay for a record search and when necessary, a cultural resource survey. The Contractor has the option to contact the state Archaeological Research Center (ARC) at 605-394-1936 or another qualified archaeologist, to obtain either a records search or a cultural resources survey. A record search might be sufficient for review if the site was previously surveyed; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor will provide ARC with the following: a topographical map or aerial view of which the site is clearly outlined, site dimensions, project number, and PCN. If applicable, provide evidence that the site has been previously disturbed by farming, mining, or construction activities with a landowner statement that artifacts have not been found on the site.

The Contractor will submit the cultural resources survey report to SDDOT Environmental Office, 700 East Broadway Avenue, Pierre, SD 57501-2586. SDDOT will submit the information to the appropriate SHPO/THPO. Allow 30 Days from the date this information is submitted to the Environmental Engineer for SHPO/THPO review.

In the event of an inadvertent discovery of human remains, funerary objects, or if evidence of cultural resources is identified during project construction activities, then such activities will immediately cease and the Project Engineer will be immediately notified. The Project Engineer will contact the SDDOT Environmental Office to determine an appropriate course of action.

The Contractor is responsible for obtaining any additional permits and clearances for Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas that affect wetlands, threatened and endangered species, or waterways. The Contractor will not utilize a site known or suspected of having contaminated soil or water. The Contractor will provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
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### SEQUENCE OF WORK

Mill existing asphalt as detailed on plan sheets  
 Complete digout repairs  
 Place tack  
 Place Asphalt Concrete Composite  
 Place Chip Seal  
 Place Fog Seal

Work at the Murdo Yard will be coordinated with Jim Lolley, Highway Maintenance Supervisor Murdo (605-669-2371) to ensure that construction has minimal interference with normal operations for SD DOT and Highway Patrol.

### SCOPE OF WORK

#### Murdo Maintenance Yard

**Zone 1:** Currently this area consists of asphalt concrete surfacing. The Contractor is to mill the asphalt concrete between the PCC Pavement and Concrete Gutter south of the main shop. Milling will be to a depth of 2 inches throughout Zone 1. The Contractor is to place 2 inches of Asphalt Concrete Composite throughout Zone 1. The Asphalt Concrete Composite will be placed in one lift. Care is to be taken to ensure that positive drainage exists as per direction of the Engineer. Zone 1 contains 1,283 Square Yards minus 44 SqYds for Zone 2. The area for cold milling asphalt concrete located inside Zone 1 is estimated to be 1,239 square yards.

**Zone 2 (Located inside Zone 1):** Currently this area consists of PCC Pavement with an underground storage tank. Prior to this project the underground storage tank and PCC Pavement will be removed by others. This area will be backfilled and prepped for 6 inches of Asphalt Concrete by SDDOT Personnel. The Contractor shall place the Asphalt Concrete Composite in 2 lifts (1-4 inch and 1-2 inch lift). Care is to be taken to ensure that positive drainage exists as per direction of the Engineer. Zone 2 contains 44 Square Yards. The area for cold milling asphalt concrete located inside Zone 2 is estimated to be 0 square yards.

**Zone 3:** Currently this area consists of asphalt concrete surfacing. The Contractor is to mill the asphalt concrete adjacent to the concrete gutter. Milling will be to a depth of 2 inches at the Concrete Gutter to 0 inch depth at a distance of 20 feet from the Concrete Gutter. The Contractor is to then place 2 inches of Asphalt Concrete Composite throughout Zone 3. The Asphalt Concrete Composite will be placed in one lift. Care is to be taken to ensure that positive drainage exists as per direction of the Engineer. Zone 3 contains 2,288 Square Yards. The area for cold milling asphalt concrete located inside Zone 3 is estimated to be 693 Square Yards.

**Zone 4:** Currently this area consists of asphalt concrete surfacing. The Contractor is to mill the asphalt concrete adjacent to the PCC Pavement, Propane Tanks Area, Fuel Tank Access Area and along East Fence. Milling will be to a depth of 2" at the along the PCC Pavement, Propane Tank Area, Fuel Tank Access Area and along East Fence to a depth of 0" at a distance of 20' from these areas. The Contractor is to then place 2 inches of Asphalt Concrete Composite throughout Zone 4. The Asphalt Concrete Composite will be placed in one lift. Care is to be taken to ensure that positive drainage exists as per direction of the Engineer. Zone 4 contains 4,673 Square Yards. The area for cold milling asphalt concrete located inside Zone 4 is estimated to be 1,309 square yards.

**Zone 5:** Currently this area consists of asphalt concrete surfacing. The Contractor is to mill all of Zone 5. Milling will be to a depth of 6 inches. The Contractor will then repair any unstable areas as Unclassified Excavation, Digouts. The digouts will be backfilled with material generated from the cold milling. All costs for excavation and backfilling digouts including backfill material will be incidental to the contract unit bid item price "Unclassified Excavation, Digouts". The Contractor is to then place 6 inches of Asphalt Concrete Composite throughout Zone 5. The Asphalt Concrete Composite will be placed in 2-3 inch lifts. Care is to be taken to ensure that positive drainage exists as per direction of the Engineer. Zone 5 contains 967 Square Yards. The area for cold milling asphalt concrete located inside Zone 5 is estimated to be 967 square yards.

**Zone 6:** Currently this area consists of base course, salvaged and asphalt concrete surfacing. The Contractor is to mill all of Zone 6. Milling will be to a depth of 6 inches. The Contractor will then repair any unstable areas as Unclassified Excavation, Digouts. The digouts will be backfilled with material generated from the cold milling. All costs for excavation and backfilling digouts including backfill material will be incidental to the contract unit bid item price "Unclassified Excavation, Digouts". The Contractor is to then place 6 inches of Asphalt Concrete Composite throughout Zone 6. The Asphalt Concrete Composite shall be placed in 2-3 inch lifts. Care is to be taken to ensure that positive drainage exists as per direction of the Engineer. Zone 6 contains 583 Square Yards. The area for cold milling asphalt concrete located inside Zone 6 is estimated to be 583 square yards.

**The Contractors attention is drawn to the fact that the fuel island & fuel fills are present within the vicinity of Zone 4.** Care is to be taken to avoid damaging the items in these areas. Any damage to the concrete fueling island will be repaired by the Contractor, to the satisfaction of the Engineer, at no expense to the State.

### ASPHALT CONCRETE COMPOSITE

All work will be done in accordance with section 324 of the Standard Specifications for Roads & Bridges, 2015 Edition.

In place field densities will not be taken. Specified Roller Coverage shall apply.

Placement of Asphalt Concrete Composite will be accomplished with a self-propelled paver in all Areas except for areas adjacent to the building. The Engineer may allow alternate methods in the smaller areas provided a steel faced vibratory roller is used for compaction.

The Contractor will furnish, install and maintain "TRUCK CROSSING" signs. The location for this pair of signs will be determined in the field. Payment for these signs will be incidental to the various contract items.

It is estimated that 1,447.5 tons of Asphalt Concrete Composite will be needed overall to complete the paving of the designated areas. The depths and locations of the paving may be changed as per direction of the Engineer. Any additional Asphalt Concrete Composite will be placed at locations as directed by the Engineer.

### COLD MILLING ASPHALT CONCRETE

Asphalt Cold Milling Material generated from the Murdo Maintenance Yard will be stockpiled in the Murdo Maintenance Yard. The stockpile location shall be determined by Jim Lolley, Highway Maintenance Supervisor at Murdo (605-669-2371). Payment for stockpiling this material, estimated to be 770 Ton, shall be incidental to the Unit Bid Price per Square Yard for Cold Milling Asphalt Concrete.

Cold Milling will be completed to the satisfaction of the Engineer.

### ASPHALT FOR SURFACE TREATMENT

Modified Aggregate, CRS-2P Asphalt for Surface Treatment and SS-1h or CSS-1h Asphalt for Fog Seal shall be used for all Zones for this project.

CRS-2P Asphalt for Surface Treatment will be placed at a rate of 0.26 gallon per square yard.

Modified Cover Aggregate shall be placed at a rate of 20 pounds per square yard.

SS-1h or CSS-1h Asphalt for Fog Seal shall be placed at a rate of 0.05 gallon per square yard.

The asphalt for surface treatment that is delivered for use on this contract will be used in the order it is received. Storage of asphalt for surface treatment will only be allowed at the end of the work day. The material that is placed in storage will be the first material used the following day.

**MODIFIED COVER AGGREGATE**

Modified Cover Aggregate will be used for all Zones for this project.

A minimum of 14 days prior to construction, the Contractor will submit production sample test results and aggregate samples from each aggregate source used for the project to be tested by the Area Office. Project operations may not begin until production test results are received and informational samples are tested. The samples must be collected from the stockpile location. A passing sample is required from each source prior to use on the project.

Cover Aggregate will be screened over a 1-inch screen immediately prior to application.

Cover Aggregate will conform to the following gradation requirements:

Sieve Size	Percent Passing
3/8 inch	100
1/4 inch	25-70
No. 4	0 - 25
No. 8	0 - 5
No. 40	0 - 4
No. 200	0 - 1.3

The plasticity index specification may be waived if not more than 4% of the material passes the No. 40 sieve.

Application of the Modified Cover Aggregate will be maintained within 500 feet or have a time limit of 2 minutes between the application of the CRS-2P for Asphalt Surface Treatment and the application of the cover aggregate, whichever amounts to the shorter period of time.

The Contractor will continue chip spreader progress, forward, thru the asphalt application at any end where work will be temporarily shut down for a time greater than 5 minutes, to allow for satisfactory uniform rolling of the placed aggregate. The Contractor will not allow the chip spreader, trucks, or other equipment to lie dormant on the aggregate while transitioning between asphalt distributor loads and or any other temporary shutdown of production, before uniform rolling is complete.

All passes of the rollers will be completed within 8 minutes of application of the CRS-2P Asphalt for Surface Treatment.

All other requirements for Type 1A Cover Aggregate will apply.

**A cover aggregate gradation failure on the #200 sieve will cause all operations to cease immediately** and the Engineer will determine correction action(s), if necessary, prior to restarting operations.

**PROJECT BROOMING**

Brooming will be accomplished using a pickup broom. Material will be disposed of by the Contractor at a location as approved by the Engineer.

# MURDO MAINTENANCE YARD PAVING LAYOUT

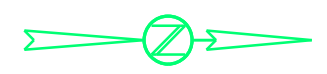
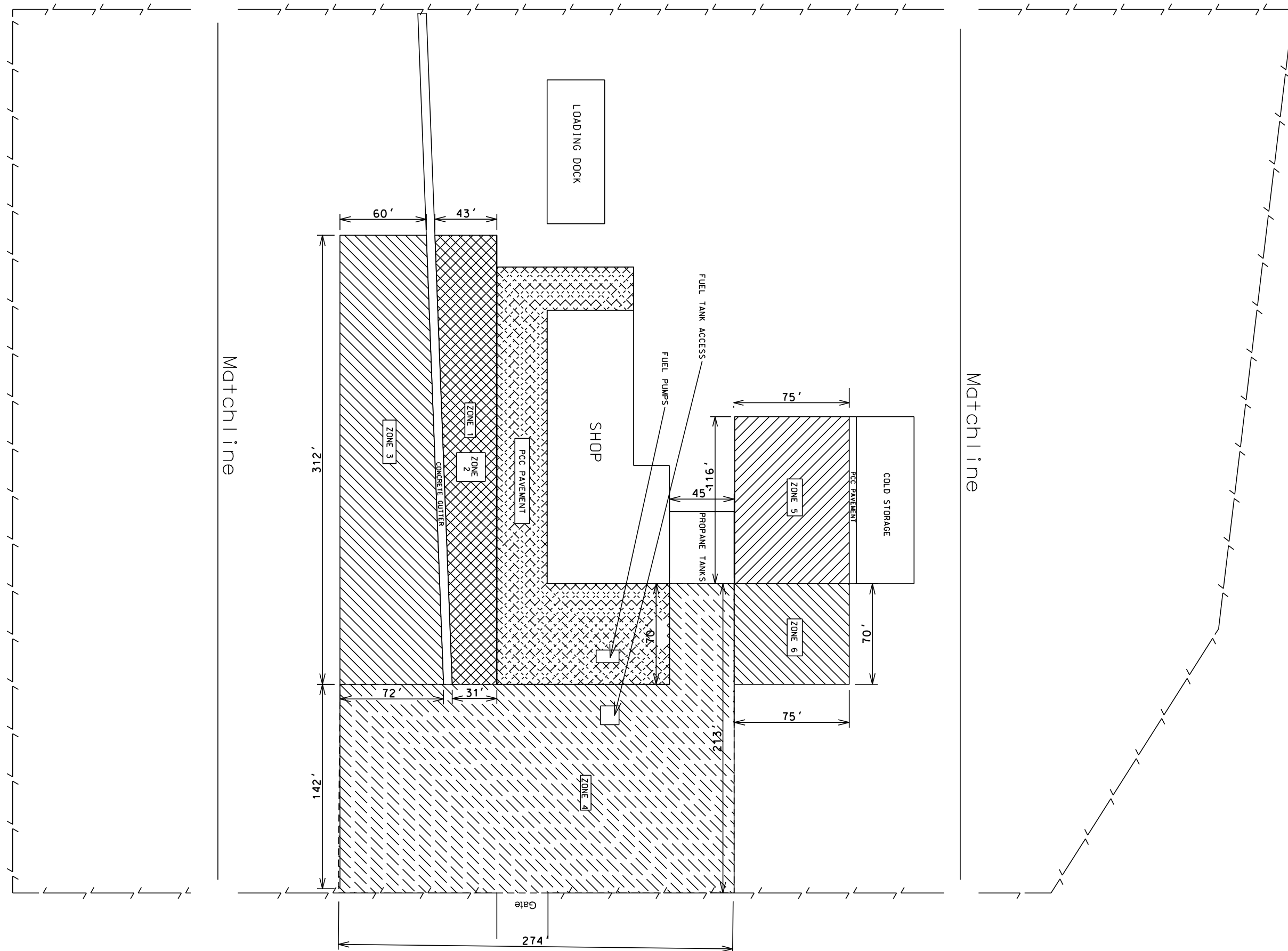
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	410C311	5	5

Plotting Date: 03/22/2022

PLOT SCALE - 1:70.3858

PLOT NAME - 1

FILE - ...WORKING\MURDO.DGN



PLOTTED FROM - TRW\INT20