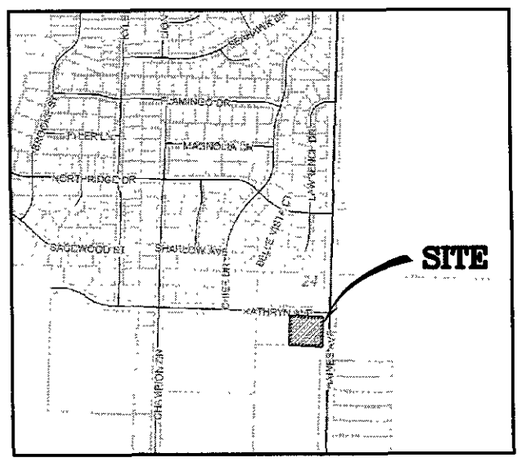
10PD032

LOT B OF TRACT E-3R OF McMAHON SUBDIVISION

EROSION AND SEDIMENT CONTROL PLANS

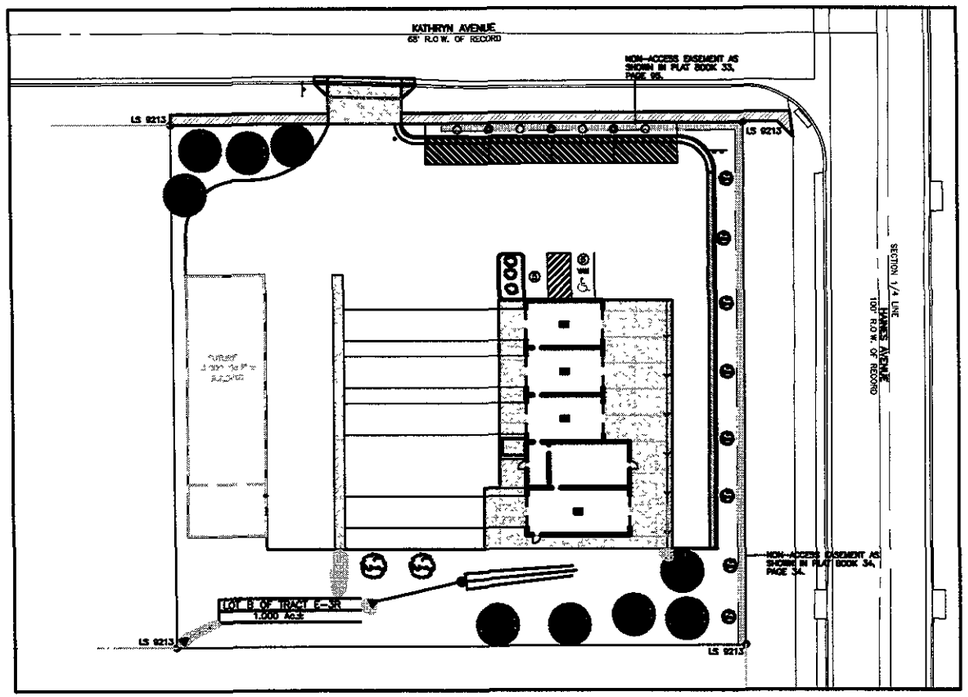
City of Rapid City

Pennington County, South Dakota



VICINITY MAP

SITE PLAN



INDEX OF SHEETS

UTILITIES

LOCATE UTILITIES: SOUTH DAKOTA ONE CALL
115 Evergreen Heights Drive
Pittsburgh PA 15229
(800) 781-7474

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNERS OR THEIR REPRESENTATIVES. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

ENGINEER'S CERTIFICATION
I hereby certify that these plans were prepared under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of South Dakota.

Date

Kale R. McNaboe, PE Reg. No. 7198

SPERLICH Consulting, Inc.

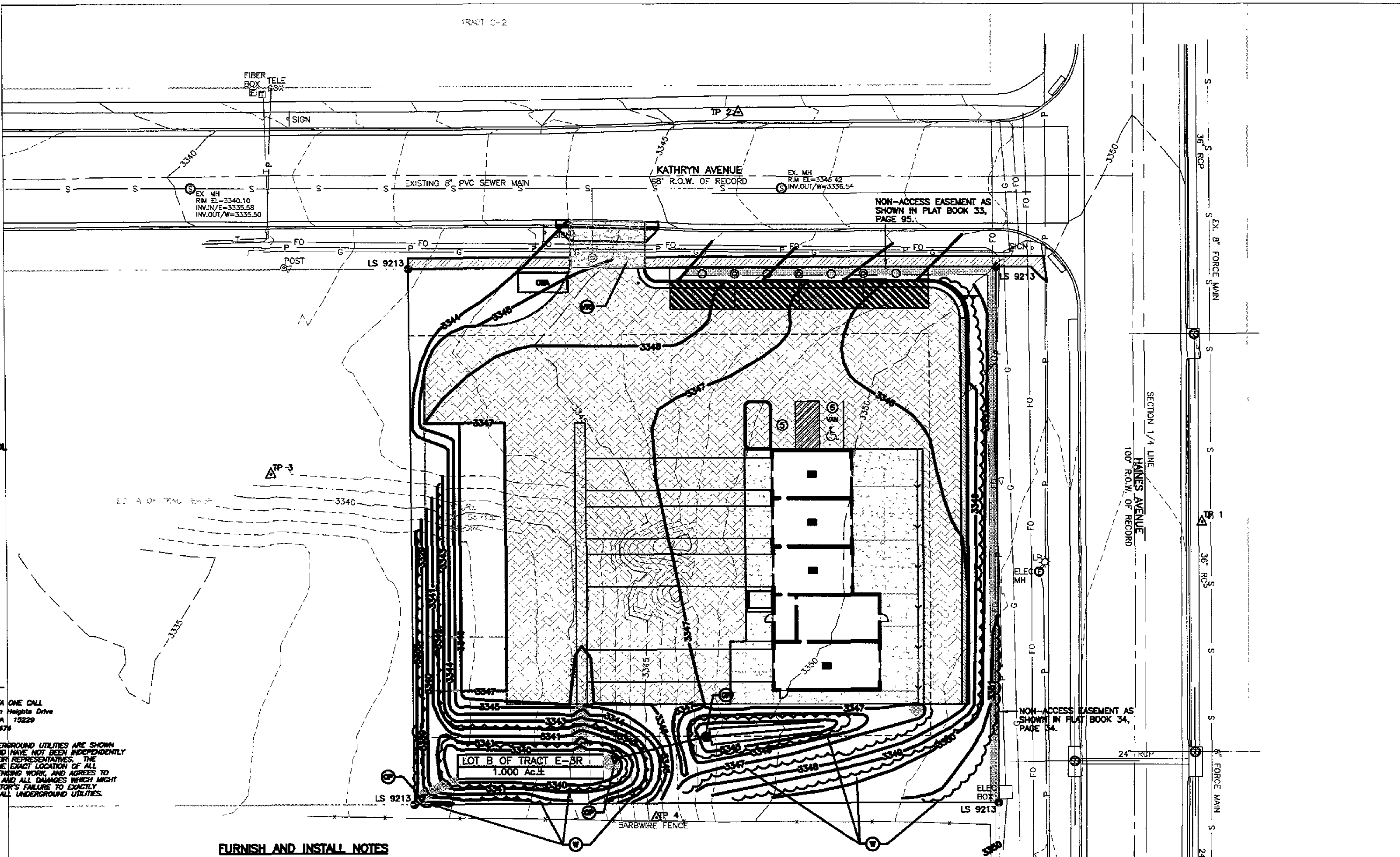
REVISIONS
REVISION
DATE

LEGAL DESCRIPTION:
Lot B OF TRACT E-3R McMAHON SUBDIVISION LOCATED IN THE SE1/4 OF THE NW1/4 AND THE NE1/4 OF THE SW1/4 OF SECTION 34, T2N, R7E, B.H.M. RAPID CITY, PENNINGTON COUNTY, SOUTH DAKOTA.
SURVEYED BY: SGT
DRAWN BY: CMP

EROSION AND SEDIMENT CONTROL PLAN
LOT B OF TRACT E-3R OF McMAHON SUBDIVISION
TITLE SHEET

PROJECT NUMBER 3194
SHEET 9 / 12

10PD032



LEGEND

- SF SILT FENCE
- W WATTLE
- OP OUTLET PROTECTION
- SR SURFACE ROUGHENING
- VTC VEHICLE TRACKING CONTROL
- CWA CONCRETE WASHOUT AREA

UTILITIES

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FURNISH AND INSTALL NOTES

F&I: 1,305.2 L.F. 3" WATTLES

MARCH 26, 2010

SCALE: 1" = 20'

① NOTE: DISTURBED AREAS TO BE RE-SEEDED IMEDIATELY UPON COMPLETION OF THE GRADING WITH NON IRRIGATED LAWN MIX PER THE 2007 EDITION OF THE CITY OF RAPID CITY STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

GENERAL NOTE

① EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REMAIN IN PLACE UNTIL PERMANENT REVEGITATION IS ESTABLISHED.

② ALL PAVED STREETS ADJACENT TO THE SITE SHALL BE CLEANED AT THE END OF THE DAY IF MUD OR DEBRIS IS TRACKED ONTO THE STREET.

CONSTRUCTION SEQUENCE

① SITE GRADING PHASE:
COMPLETE MASS GRADING, INSTALL EROSION CONTROL, RE-SEED DISTURBED AREAS.

② INFRASTRUCTURE IMPROVEMENT PHASE:
Ⓐ OWNER IS RESPONSIBLE FOR EROSION CONTROL AS DEFINED FOR THEIR LOT.
Ⓑ EROSION CONTROL IS DEFINED ON THIS PLAN SHEET.

SPERLICH Consulting, Inc.

LEGAL DESCRIPTION:

SURVEYED BY: SCI
DRAWN BY: CAP

REVISIONS

DATE	REVISION

EROSION AND SEDIMENT CONTROL PLAN LOT B OF TRACT E-3R OF McMAHON SUBDIVISION

GRADING PLAN

PROJECT NUMBER 3194

SHEET 10 / 12

EROSION CONTROL REPORT 10PD032

1) PROJECT DESCRIPTION
This project consists:
A) A Commercial Development/Parking Lot. The project site is located at 1565 Haines Ave., Rapid City, South Dakota.

2) EXISTING SITE CONDITION
A) The is currently vacant

3) WETLANDS:
- Are wetlands an issue? No

4) ADJACENT AREAS
North is Kathryn Avenue (Paved)
West is Vacant lot
South is Commercial,
East is Haines Ave. (Paved)

5) SOILS
Predominant soils are: Clay

6) AREA AND VOLUME
A)Building #1-Area is 3,058 s.f.
B)Future Building #2-Area is 3,000 s.f.
C)Parking Lot-Area is 21,931 s.f.

7) EROSION AND SEDIMENT CONTROL MEASURES
The Erosion Control Plan shows the type and location of the erosion and sediment control measures for the grading of this site.

8) AREA FOR STOCKPILES AND STORAGE
On-site stockpiles shall not be allowed.

9) CONSTRUCTION SCHEDULE
Grading: Spring 2010
Temporary Cover Seeding: Spring 2010
Sanitary Sewer: Spring 2010
Water Main: Spring 2010
Building #1 Construction: Summer 2010

10) SOIL SURFACE STABILIZATION PRACTICES
After construction begins, soil surface stabilization shall be applied within 14 days to all disturbed areas that may not be at final grade but will remain dormant (undisturbed) for periods longer than an additional 21 calendar days. Within 14 days after final grade is reached on any portion of the site, permanent or temporary soil surface stabilization shall be applied to disturbed areas and soil stockpiles.

11) PERMANENT STABILIZATION PRACTICES
The graded lots will be maintained during the development process. Erosion control shall be maintained until final stabilization is achieved.

12) STORM WATER MANAGEMENT CONSIDERATIONS
1)Storm water from the Building Addition will enter existing Storm Sewer on Haines Ave. Stormwater will ultimately flow to the same downstream location after construction as it did before construction.

13) MAINTENANCE
Inspection of erosion and sediment control measures should be scheduled weekly and following any storm event of ½ inch or greater. All measures shall be maintained in good working order. Inspection and maintenance procedures shall continue until the disturbed areas achive final stabilization.

14) SPILL CONTROL PRACTICES
Chemical and Petroleum Product spills of toxic or hazardous material shall be reported to the appropriate state or local government agency. All spills shall be cleaned up immediately after discovery.

15) SPILL PREVENTION
Petroleum Products: Onsite construction equipment shall be monitored for leaks & receive regular preventive maintenance. Asphalt substances used onsite shall be applied according to City of Rapid City Specifications. 2007 Edition
Fertilizers: Fertilizers shall be used in conjunction with seeding at graded areas. Fertilizers shall not be stock piled on site.
Concrete Trucks: Concrete trucks shall not be allowed to wash out or discharge surplus concrete on the site. Washout shall be allowed only at the designated areas.

a) Regularly pickup and dispose of garbage and waste material.
b) Make sure all equipment and related processes are working properly and preventative maintenance is kept up with on both.
c) Routinely inspect equipment and processes for leaks or conditions that could lead to discharges of chemicals or contact of storm water with raw materials, intermediate materials, waste materials, or products used on site.
d) Assure all spill clean up procedures are understood by employees. Training of employees on proper clean up procedures shall be implemented.
e) Designate separate areas of the site for auto parking, vehicle refueling, and routine maintenance.
f) Clean up leaks, drips, and other spills immediately.
g) Cover and maintain dumpsters and waste receptacles.
h) Store containers, drums, and bags away from direct traffic routes to prevent accidental spills.
i) Stack containers according to manufacturer's instructions to avoid damaging the containers from improper weight distribution.
j) Store containers on pallets or similar devices to prevent corrosion of containers that results from containers coming in contact with moisture on the ground.
k) Store toxic or hazardous liquids within curbed areas or secondary containers.
l) Assign responsibility of hazardous material inventory to a limited number of people who are trained to handle such materials. In the event of spills of any dangerous or hazardous material, notify City of Rapid City and Department of Environment and Natural Resource.

The following preventative strategies are recommended where fluids are commonly present:
a) Identify all equipment that may be exposed to storm water, pollutants that may be generated and possible sources of leaks or discharges.
b) Perform regular maintenance of each piece of equipment to check for: proper operation, leaks, malfunctions, and evidence of leaks or discharge (stains). Develop a procedure for spill reporting, clean up, and repair.
c) Drain or replace motor oil or other automotive fluids in an area away from streams or storm or sanitary sewer inlets. Collect spent fluids and recycle or dispose of properly.
d) In fueling areas, clean up spills with dry clean up methods (absorbents).
e) Make sure employees are trained in spill prevention practices and adhere to them.

16) SITE PLAN
The Erosion Control Plan shows the erosion control devices to be installed. These items shall be installed as per City of Rapid City Standard Details and Specifications. 2007 Edition

17) NOTICE OF INTENT
A Notice of Intent (NOI) has NOT been filed with the Surface Water Discharge Program of the South Dakota Department of Environment and Natural Resources (DENR). The Primary Responsible Party is required to notify the EC Inspector when the site has reached final stabilization, and to file a Notice of Termination with DENR.

18) DEWATERING
If water from temporary dewatering shall be discharged to water of the state during construction, Contractor must first get coverage under DENR's General Permit for Temporary Dewatering. For more information, contact Al Spangler at (605) 773-3351. In addition, City of Rapid City may require a temporary BMP. Prior approval of which is required by City Engineering.(394-4154)

19) SITE INSPECTION
Contact Development Service Center at 394-4157 after intial erosion control is installed prior to any grading work. The devices to be installed shall be outlined in the construction sequence. Disturb only as necessary to install these devices. This shall include all perimeter erosion control and other items specified in this narrative or shown directly on the plan.
20) PROJECT INSPECTION PRIORITY: High

21) COMPLETION OF WORK
Upon completion of work contact Development Service Center for Inspection 394-4157

Table 12.1
Maximum Time Limits of Land Exposures
for Selection of Erosion Controls

Erosion Control Method	Exposure[1]
Surface Roughening	1 mo.
Mulching	12 mo.
Temporary Revegetation	12-24 mo.
Permanent Revegetation	24 mo. or more
Soil Stockpile Revegetation	2 mo.
Early Application of Road Base	1 mo.

(1) Exposure is the Maximum Allowable Period of Exposure in Months

Owner:
Bill Brown
21749 Coyote Lane
Piedmont, SD 57769
(605)-391-6941

Primary Responsible Party:
Bill Brown
21749 Coyote Lane
Piedmont, SD 57769
(605)-391-6941

Engineer:
SPERLICH CONSULTING, INC.
821 Columbus St., Suite 1
Rapid City, SD 57701
(605) 721-4040
email: dougsperlich@rushmore.com

Contractors:
Project Not Currently Under Contract

OWNER'S CERTIFICATION
The Erosion Control Plan appears to fulfill the technical criteria for erosion and sediment control requirements of the City of Rapid City. We understand that additional erosion control measures may be needed if unforeseen erosion problems occur or if the submitted plan does not function as intended. The requirements of this plan shall run with the land and be the obligation of Bill Brown until such time as the plan is properly completed, modified or voided.

Date

Signed

Printed:
Bill Brown

ENGINEER'S CERTIFICATION
I hereby certify that these plans were prepared under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of South Dakota.

Date

Kale R. McNaboe, PE Reg. No. 7198

SPERLICH Consulting, Inc.

REVISIONS

DATE	REVISION

LEGAL DESCRIPTION:
SURVEYED BY: SCI
DRAWN BY: CAP

EROSION AND SEDIMENT CONTROL PLAN LOT B OF TRACT E-3R OF McMAHON SUBDIVISION
GENERAL NOTES

PROJECT NUMBER 3194
SHEET 11 / 12

10PD032

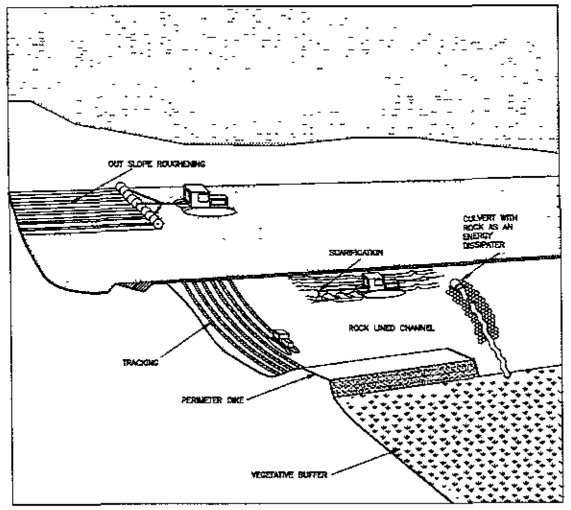
SURFACE ROUGHENING (SR)

DEFINITION:

PROVIDE A ROUGH SOIL SURFACE WITH HORIZONTAL DEPRESSIONS CREATED BY OPERATING A TILLAGE OR OTHER SUITABLE IMPLEMENT ON THE CONTOUR, OR BY LEAVING SLOPES IN A ROUGHENED CONDITION BY NOT FINE-GRADING THEM.

PURPOSES:

1. TO AID IN SEED BED PREPARATION AND ESTABLISHMENT OF VEGETATIVE COVER.
2. TO REDUCE RUNOFF VELOCITY AND INCREASE INFILTRATION.
3. TO REDUCE RUNOFF AND WIND EROSION AND PROVIDE FOR SEDIMENT TRAPPING



CITY OF RAPID CITY	PUBLIC WORKS DEPARTMENT
SURFACE ROUGHENING	DATE: 1-30-08 SEC - SHT. 146-4

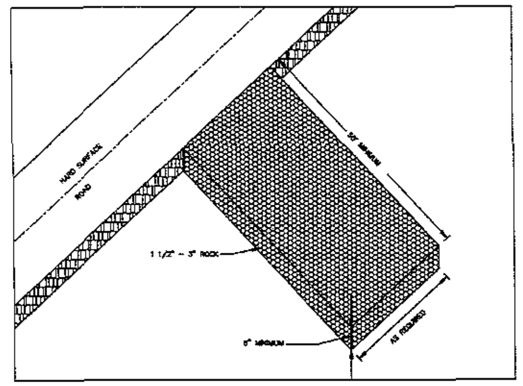
VEHICLE TRACKING CONTROL (VTC)

DEFINITION

A STONE STABILIZED PAD LOCATED AT POINTS OF VEHICULAR INGRESS AND EGRESS ON A CONSTRUCTION SITE.

PURPOSES:

TO REDUCE THE AMOUNT OF MUD TRANSPORTED ONTO ROADS BY MOTOR VEHICLES OR RUNOFF



CITY OF RAPID CITY	PUBLIC WORKS DEPARTMENT
TEMPORARY VEHICLE TRACKING CONTROL	DATE: 1-31-08 SEC.-SHT 146-5

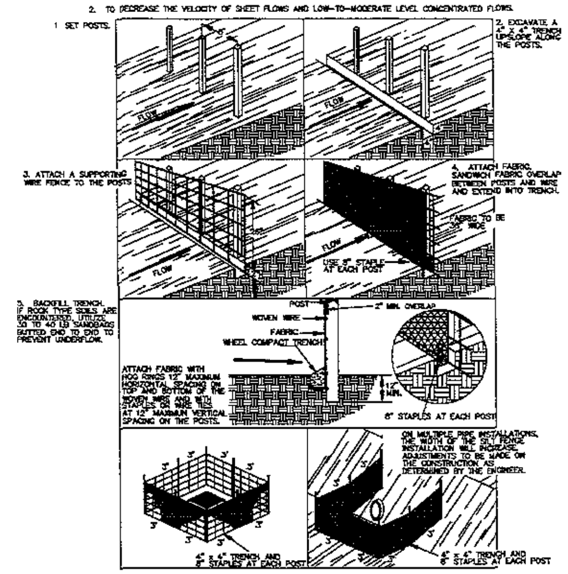
SILT FENCE (SF)

DEFINITION:

A TEMPORARY SEDIMENT BARRIER CONSISTING OF A FILTER FABRIC STRETCHED ACROSS AND ATTACHED TO SUPPORTING POSTS AND ENTRENCHED. THE SILT FENCE IS A TEMPORARY LINEAR BARRIER CONSTRUCTED OF SYNTHETIC FILTER FABRIC AND SUPPORTED BY WOODEN OR STEEL POSTS.

PURPOSES:

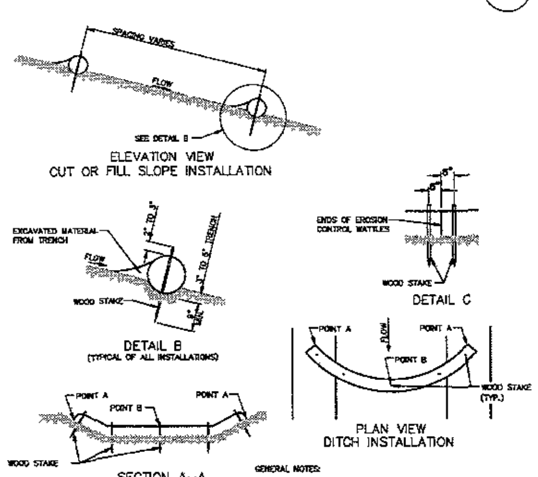
1. TO INTERCEPT AND DETAIN SMALL AMOUNTS OF SEDIMENT FROM DISTURBED AREAS DURING CONSTRUCTION OPERATIONS IN ORDER TO REDUCE SEDIMENT IN RUNOFF FROM LEAVING THE SITE.
2. TO DECREASE THE VELOCITY OF SHEET FLOWS AND LOW-TO-MODERATE LEVEL CONCENTRATED FLOWS.



FENCE MATERIAL SHALL CONFORM TO GEOTEXTILE SPECIFICATIONS, SECTION 831 OF SDDOT STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, LATEST EDITION

CITY OF RAPID CITY	PUBLIC WORKS DEPARTMENT
SILT FENCE (WOVEN WIRE)	DATE. 1-31-08 SEC.-SHT. 146-12

SEDIMENT CONTROL WATTLE (W)



GENERAL NOTES:

AT CUT OR FILL SLOPE INSTALLATIONS, WATTLES SHALL BE INSTALLED ALONG THE CONTOUR AND PERPENDICULAR TO THE WATER FLOW.

AT DITCH INSTALLATIONS, POINT "A" MUST BE HIGHER THAN POINT "B" TO ENSURE THAT WATER FLOWS OVER THE WATTLE AND NOT AROUND THE ENDS.

THE CONTRACTOR SHALL DIG A 3" TO 5" TRENCH, INSTALL THE WATTLE TIGHTLY IN THE TRENCH SO THAT DAYLIGHT CAN NOT BE SEEN UNDER THE WATTLE, AND THEN COMPACT THE SOIL EXCAVATED FROM THE TRENCH AGAINST THE WATTLE ON THE UPHILL SIDE. SEE DETAIL B.

THE STAKES SHALL BE 1"X2" OR 2"X2" WOOD STAKES, HOWEVER, OTHER TYPES OF STAKES SUCH AS REBAR MAY BE USED.
THE STAKES SHALL BE PLACED 6" FROM THE ENDS OF THE WATTLES AND THE SPACING OF THE STAKES ALONG THE WATTLES SHALL BE 3' TO 4'

WHERE INSTALLING RUNNING LENGTHS OF WATTLES, THE CONTRACTOR SHALL BUTT THE SECOND WATTLE TIGHTLY AGAINST THE FIRST AND SHALL NOT OVERLAP THE ENDS. SEE DETAIL C.

CITY OF RAPID CITY	PUBLIC WORKS DEPARTMENT
SEDIMENT CONTROL WATTLE	DATE: 1-30-08 SEC. - SHT 146-52

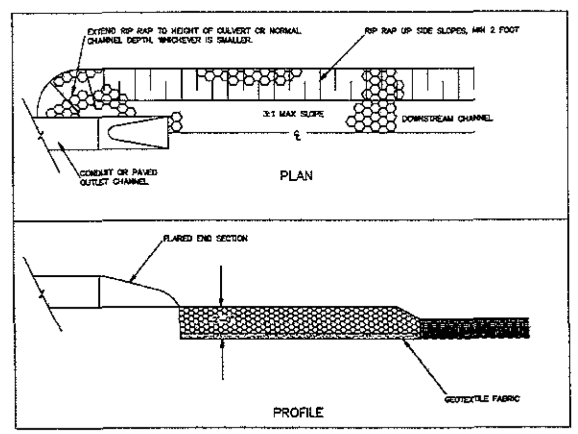
OUTLET PROTECTION (OP)

DEFINITION:

STRUCTURALLY LINED APRONS OR OTHER ACCEPTABLE ENERGY DISSIPATING DEVICES PLACED AT THE OUTLETS OF PIPES OR PAVED CHANNEL SECTIONS.

PURPOSES:

1. TO PREVENT SCOUR AT STORM WATER OUTLETS AND TO MINIMIZE THE POTENTIAL FOR DOWNSTREAM EROSION BY REDUCING THE VELOCITY OF CONCENTRATED STORM WATER FLOWS.



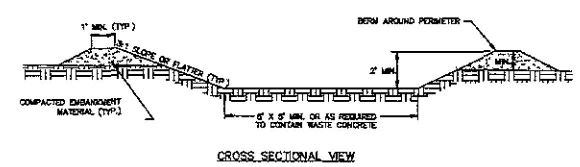
QUANTITY AND SIZE OF RIP RAP TO BE DETERMINED BY DESIGN.
ALL RIP RAP SHALL BE UNDERLAID BY A SUITABLE FILTER FABRIC.

CITY OF RAPID CITY	PUBLIC WORKS DEPARTMENT
OUTLET PROTECTION	DATE: 1-31-08 SEC.-SHT 146-17

CONCRETE WASHOUT AREA (CWA)

NOTES:

1. CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
2. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.
3. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN APPROVED WASTE SITE.
4. WHEN THE CONCRETE WASHOUT AREA IS REMOVED, THE DISTURBED AREA SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY THE INSPECTOR.



CROSS SECTIONAL VIEW

CITY OF RAPID CITY	PUBLIC WORKS DEPARTMENT
CONCRETE WASHOUT AREA	DATE: 1-31-08 SEC. - SHT. 146-31

SPERLICH Consulting, Inc.

REVISIONS — DATE — REVISION

LEGAL DESCRIPTION:

SURVEYED BY: SCT
DRAWN BY: CAP

EROSION AND SEDIMENT CONTROL PLAN LOT B OF TRACT E-3R OF McMAHON SUBDIVISION

STANDARD DETAILS

PROJECT NUMBER 3194

SHEET 12/12