

0 30' 60' 120'  
SCALE 1" = 60'  
CONTOUR INTERVAL = 1'

Prepared by



**RENNER & ASSOCIATES, LLC.**  
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SIOUX CITY OFFICE: 605/719-0016  
CITY HALL 1929



**LEGEND**

△	CONTROL POINT	—	CHAR LINK FENCE
○	MANHOLE	—	CURB & GUTTER
○	FIRE HYDRANT	—	WATER LINE
○	WATER VALVE	—	POWER LINE
○	CURB STOP	—	OVER HEAD POWER
○	ROOF DRAIN	—	TELEPHONE LINE
○	POWER POLE	—	SANITARY SEWER LINE
○	LIGHT POLE	—	STORM SEWER LINE
○	GRAB	—	CAS LINE
○	TRUCK	—	CABLE LINE
○	STUMP	—	FIBER LINE
○	PINE		
○	SHED		
○	MINOR CONTOUR (1')		
○	MAJOR CONTOUR (5')		
○	PROPERTY LINE		
○	ASPHALT SURFACE		
○	CONCRETE SURFACE		
○	GRAVEL		
○	LANDSCAPING		
○	COMPOST WATTLE, 12" DIA.		
○	SILT FENCE		
○	STABILIZED CONSTRUCTION ENTRANCE		
○	DEMOTES FOUND SURVEY MONUMENT		
○	DEMOTES 12" x 12" REBAR MARKED "RENNER-ASSOC. 9213"		
○	MEASURED THIS SURVEY		

**MINIMUM REQUIREMENTS:**

- EROSION BMPs SHOWN ARE TO BE TAKEN AS THE MINIMUM REQUIREMENT. STABILIZED CONSTRUCTION ENTRANCE LOCATIONS SHALL BE SELECTED BASED ON THE PHASE OF WORK AND ACTUAL ACCESS LOCATION BEING USED FOR CONSTRUCTION. ADDITIONAL EROSION/SEDIMENT CONTROL METHODS SHALL BE EMPLOYED BY THE CONTRACTOR AS NECESSARY TO INSURE THAT SEDIMENT/POLLUTANTS DO NOT LEAVE THE SITE. CONTRACTOR SHALL ADJUST HIS/HER EROSION AND SEDIMENT CONTROL MEASURES AS APPROPRIATE DURING THE COURSE OF THE WORK.

**DETAILS:**

REFER TO THE NEXT SHEET FOR EROSION CONTROL DETAILS

**STORM SEWER INLET PROTECTION**

DURING THE COURSE OF DEMOLITION AND CONSTRUCTION EXISTING AND PROPOSED STORM INLETS SHALL BE COVERED, PROTECTED, FILTERED, SEALED AS APPROPRIATE TO PREVENT SILT & POLLUTANTS FROM ENTERING RAPID CREEK VIA THE EXISTING AND PROPOSED STORM SEWER COLLECTION AND DISCHARGE PIPING

**PHASED CONSTRUCTION:**

APPROPRIATE EROSION CONTROL AND SILT COLLECTION METHODS SHALL BE EMPLOYED AT THE DOWN GRADIENT TERMINUS OF EACH PHASE OF CONSTRUCTION AS THE WORK PROGRESSES

STORMWATER TREATMENT/ATTENUATION PONDS SHALL BE CONSTRUCTED AT THE BEGINNING OF THE PROJECT AND SHALL BE USED AS SILT COLLECTION FACILITIES THROUGH THE COURSE OF CONSTRUCTION. INSTALL WATTLES ADJACENT TO RAPID CREEK AS SHOWN BEFORE BEGINNING EXCAVATION OF PONDS. PONDS SHALL BE RESTORED TO PLAN GRADES AND SEEDED AFTER SITE SURFACES ARE STABILIZED. INSTALL SILT FENCE AS SHOWN IMMEDIATELY AFTER STORMWATER PONDS ARE EXCAVATED.

2'  
C1.8

**CENTRAL HIGH SCHOOL  
RENOVATIONS AND ADDITIONS**

RAPID CITY AREA SCHOOL DISTRICT #61-4  
RAPID CITY, SOUTH DAKOTA

**EROSION & SEDIMENT  
CONTROL PLAN**

PROJECT NO: 0814 DRAWING NO: CIVIL #2415  
DRAFTER: PMM DATE: 2/28/2010

**C1.8**

If this drawing is not 30" x 42" it is a reduced print.

EROSION AND SEDIMENT CONTROL PLAN NARRATIVE

**SITE NAME:** CENTRAL HIGH SCHOOL  
**OWNER/DEVELOPER:** RAPID CITY AREA SCHOOLS 54-1  
**ENGINEER:** RENNER & ASSOCIATES, LLC  
 616 SOUTH ST. RAPID CITY, SD 57701  
 605-721-7310  
**GENERAL CONTRACTOR:**

**PROJECT DESCRIPTION:**  
 THIS ADDITIONS AND RENOVATIONS PROJECT CONSISTS OF THE GRADING OF A TOTAL OF 19.0 ACRES OF THAT, 14.0 ACRES WILL BE IMPERVIOUS AND CONSIST OF SCHOOL BUILDING AND ASPHALT PARKING LOTS. THE REMAINING 5.0 ACRES WILL BE LANDSCAPED OR SEEDED, FERTILIZED, AND MULCHED.

**EXISTING SITE CONDITIONS:**  
 THE EXISTING CENTRAL HIGH SCHOOL SITE CONSISTS OF SCHOOL BUILDING AND ASPHALT PARKING, WITH MAINTAINED GRASS AND TREES COVERING THE BALANCE. THE SITE GRADUALLY SLOPES TOWARDS RAPID CREEK. THE IMPROVEMENTS WILL RESULT IN THE SAME GENERAL SITE MAKEUP AND SLOPE, BUT WILL RESULT IN ADDITIONAL IMPERVIOUS AREA.

**SIGNIFICANT STORMWATER IMPROVEMENTS:**  
 TWO STORMWATER TREATMENT AND ATTENUATION PONDS ARE INCLUDED IN THE DESIGN TO TREAT AND ATTENUATE THE STORMWATER RUNOFF FROM THE ENTIRE DEVELOPED SITE, INCLUDING THE EXISTING PAVING AND ROOFS.

**ADJACENT AREAS:**  
 NORTH THE SITE IS BOUNDED ON THE NORTH BY PAVED NORTH STREET WITH RESIDENTIAL USE NORTH OF THE STREET.

EAST: THE EAST SIDE IS BOUNDED BY N. MOUNT RUSHMORE ROAD, A CONCRETE-PAVED STREET, WITH THE CURB CENTER TO THE EAST.

SOUTH THE SITE IS BOUNDED ON THE SOUTH BY RAPID CREEK.

WEST: WEST OF THE SITE IS I-180 RUNNING NORTH TO I-90.

**SOILS:**  
 SEE AMERICAN ENGINEERING TESTING INC SOILS REPORT OF GEOTECHNICAL EXPLORATION AND REVIEW DATED SEPTEMBER 11, 2009.

**AREA AND VOLUME DISTURBED:**  
 TOTAL AREA DISTURBED BY THE PROPOSED WORK IS 19.0 ACRES. TOTAL VOLUME OF MATERIAL BEING MOVED IS 24,000 CY.

**EROSION AND SEDIMENT CONTROL MEASURES:**  
 THE EROSION AND SEDIMENT CONTROL PLAN SHOWS THE MINIMUM TYPE AND LOCATION OF THE EROSION AND SEDIMENT CONTROL MEASURES FOR THE GRADING OF THIS PROJECT.

**AREA FOR STOCKPILES AND STORAGE:**  
 LONG-TERM STOCKPILING IS NOT ANTICIPATED. THERE IS A NET HAIL-OFF QUANTITY. STOCKPILE LOCATIONS SHALL BE DETERMINED DURING CONSTRUCTION AND SHALL BE APPROPRIATELY STABILIZED WITH A COMBINATION OF WATTLES AND SURFACE ROUGHENING SUFFICIENT TO PREVENT SEDIMENT FROM LEAVING THE SITE.

**EROSION AND SEDIMENT CONTROL CONSTRUCTION SEQUENCE:**  
 INSTALL VEHICLE TRACKING CONTROL.

CONSTRUCT THE TWO NEW DETENTION BASINS. THESE PONDS WILL ACT AS THE SEDIMENT BASIN DURING CONSTRUCTION AND SHALL BE RESTORED TO DESIGN GRADES, VOLUMES, AND CONFIGURATIONS AFTER SITE DEVELOPMENT IS COMPLETED AND THE PROJECT IS FINALIZED.

INSTALL SEDIMENT CONTROL COMPOST SOCKS AND SILT FENCE AND EMPLOY SURFACE ROUGHENING, SEEDING, FERTILIZING, AND MULCHING IMMEDIATELY FOLLOWING EMBANKMENT CONSTRUCTION.

INSTALL INLET AND OUTLET PROTECTION UPON CONSTRUCTION OF STORM INLETS AND PIPES. THIS MAY REQUIRE MULTIPLE INSTALLATIONS AT THE SAME LOCATION DUE TO CONSTRUCTION ACTIVITIES. REMOVE INLET PROTECTION AFTER ASPHALT SURFACING HAS BEEN INSTALLED.

UPON COMPLETION OF THE BUILDING CONSTRUCTION, APPLY SEED, FERTILIZER AND MULCH TO ALL AREAS NOT COVERED WITH GRAVEL SURFACING, HARD SURFACING, OR BUILDING.

UPON COMPLETION OF PLANNED DEVELOPMENT AND FINAL STABILIZATION, REMOVE COMPOST SOCKS AND OTHER TEMPORARY BMPs THAT MAY HAVE BEEN EMPLOYED AND FILE NOTICE OF TERMINATION WITH STATE.

**PERMANENT STABILIZATION MEASURES:**  
 PERMANENT STABILIZATION MEASURES INCLUDE OUTLET PROTECTION ON ALL PIPES, PERMANENT LANDSCAPING INCLUDING SEEDING, FERTILIZING, MULCHING, LANDSCAPING AND TREES. THE REMAINING AREA PAVED WITH ASPHALT SURFACING IS CONSIDERED STABILIZED WHEN THE ASPHALT SURFACING HAS BEEN INSTALLED.

**STORM WATER MANAGEMENT CONSIDERATIONS:**  
 TWO NEW DETENTION BASINS ARE BEING CONSTRUCTED TO ACHIEVE 80% REMOVAL OF TSS FROM THE FIRST 1/2 INCH OF RAIN ON THE SITE. THESE PONDS ALSO REDUCE THE PEAK STORM FLOW FROM THE ENTIRE SCHOOL SITE TO HISTORIC LEVELS. SEE THE DRAINAGE REPORT COMPLETED BY RENNER & ASSOCIATES FOR ADDITIONAL STORM WATER MANAGEMENT INFORMATION.

**MAINTENANCE:**  
 INSPECTION OF EROSION AND SEDIMENT CONTROL MEASURES SHOULD BE SCHEDULED WEEKLY AND FOLLOWING ANY STORM EVENT OF 0.5 INCHES OR GREATER. ALL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER. INSPECTION AND MAINTENANCE PROCEDURES WILL CONTINUE UNTIL ALL DISTURBED AREAS HAVE REACHED FINAL STABILIZATION.

PAVED STREETS ADJACENT TO THE SITE SHALL BE CLEANED AT THE END OF EACH WORKING DAY TO REMOVE SEDIMENT BUILDUP FROM CONSTRUCTION ACTIVITIES.

**SPILL PREVENTION:**  
 PETROLEUM PRODUCTS: ONSITE CONSTRUCTION EQUIPMENT WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE. CHEMICAL AND FERTILIZERS, THE USE OF FERTILIZERS IS ANTICIPATED DURING FINAL SEEDING.  
 CONCRETE TRUCKS: CONCRETE TRUCKS WILL NOT BE ALLOWED TO DISCHARGE SURPLUS CONCRETE ON THE SITE UNLESS A WASHOUT AREA HAS BEEN DESIGNATED.

**SPILL CONTROL PRACTICES:**  
 CHEMICAL AND PETROLEUM PRODUCT SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE FEDERAL, STATE OR LOCAL GOVERNMENT AGENCY. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.

**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 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.

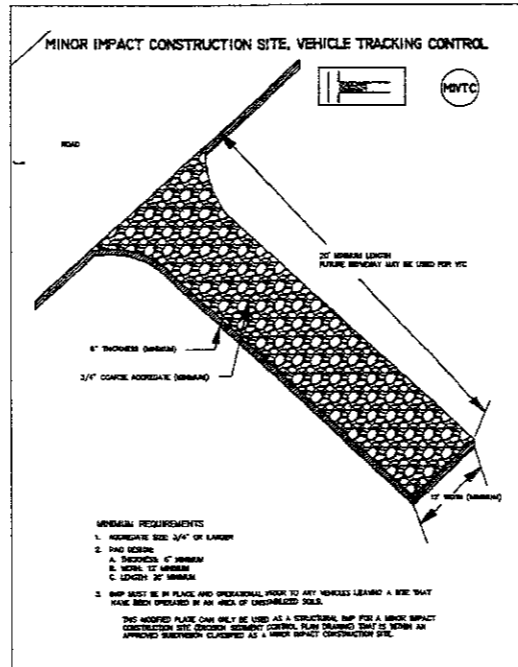
EROSION CONTROL METHOD	MAXIMUM ALLOWABLE PERIOD OF EXPOSURE (MONTHS)
SURFACE ROUGHENING	1
MULCHING	12
TEMPORARY REVEGETATION	12-24
PERMANENT REVEGETATION	24 OR MORE
SOIL STOCKPILE REVEGETATION	2
EARLY APPLICATION OF ROAD BASE	1

**SITE PLAN:**  
 EXISTING CONTOURS ARE SHOWN AT ONE-FOOT INTERVALS. THE PROPOSED ARE AT ONE-FOOT INTERVALS. THE GRADING DISTURBANCE LIMITS, COMPOST SOCKS, VEHICLE TRACKING CONTROL AND OUTLET PROTECTION ARE SHOWN ON THE PLAN.

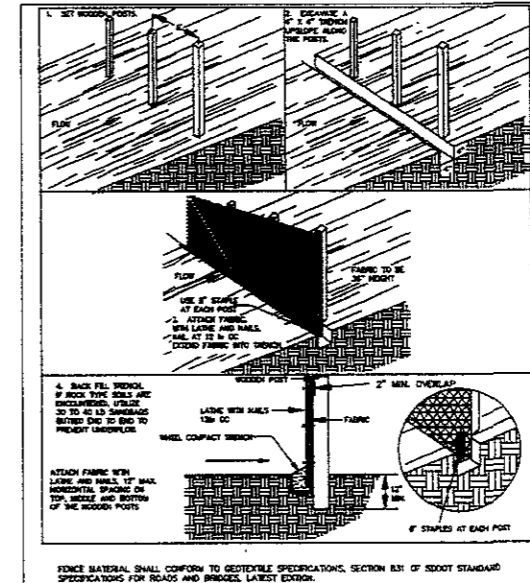
**NOTICE OF INTENT:**  
 A NOTICE OF INTENT (NOI) HAS BEEN FILED WITH SD-DENR. THE RESPONSIBLE PARTY IS RESPONSIBLE FOR FILING NOTICE OF TERMINATION WITH SD DENR.

**WETLANDS:**  
 NO WETLANDS WILL BE IMPACTED WITH THIS PROJECT.

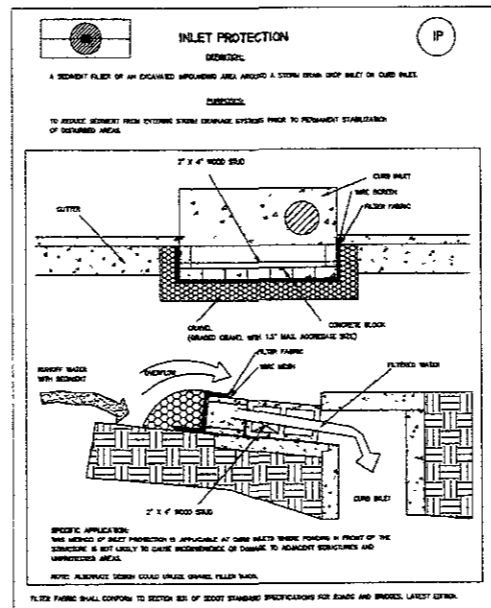
**DEWATERING:**  
 DEWATERING OPERATIONS ARE NOT EXPECTED. IF NEEDED A GENERAL DEWATERING PERMIT WILL BE OBTAINED FROM SD DENR.



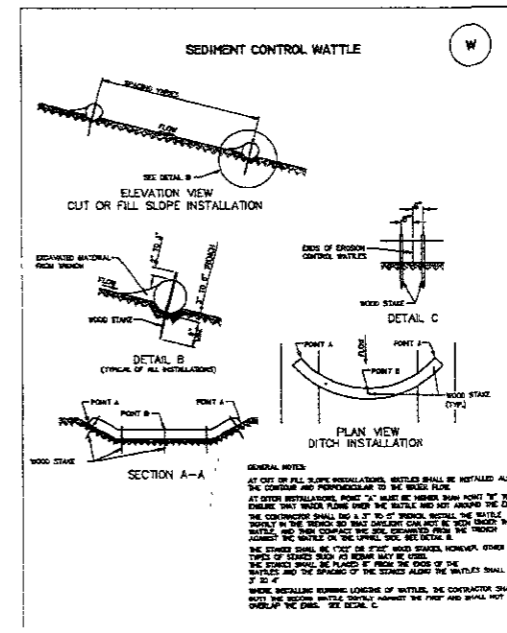
STABILIZED CONSTRUCTION ENTRANCE



SILT FENCE INSTALLATION NTS



INLET PROTECTION NTS



SEDIMENT CONTROL WATTLE NTS

EROSION AND SEDIMENT CONTROL PLAN CERTIFICATION

THIS EROSION AND SEDIMENT CONTROL NARRATIVE AND ATTACHED EROSION AND SEDIMENT PLAN, APPEARS TO FULFILL THE TECHNICAL CRITERIA AND THE CRITERIA FOR EROSION CONTROL AND THE REQUIREMENTS OF THE CITY OF RAPID CITY. I UNDERSTAND THAT ADDITIONAL EROSION AND SEDIMENT 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 THE RESPONSIBLE PARTY UNTIL SUCH TIME AS THE PLAN IS PROPERLY COMPLETED, MODIFIED OR VOIDED.

OWNER/DEVELOPER \_\_\_\_\_ DATE \_\_\_\_\_  
 GENERAL CONTRACTOR (OPTIONAL) \_\_\_\_\_ DATE \_\_\_\_\_

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.

ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

NEUMANN MONSON WICTOR  
 ARCHITECTS  
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 CITY HALL 1903



CENTRAL HIGH SCHOOL  
 RENOVATIONS AND ADDITIONS  
 RAPID CITY AREA SCHOOL DISTRICT #51-4  
 RAPID CITY, SOUTH DAKOTA

E.S.C.P. TEXT  
 AND DETAILS

PROJECT NO. 0814 DRAWING NO. CIVIL #2418  
 DRAFTER: PMM DATE: 2/26/2010

C1.9