



- LEGEND**
- AE
  - FLOODWAY
  - AO (1 FT)
  - AO (2 FT)
  - AO, (3 FT)
  - NONE
  - X
  - FEMA Q3 ZONE X500
  - FEMA Q3 ZONE A
  - BFE CONTOUR
  - INDEX CONTOUR
  - HEC-RAS CROSS SECTION LOCATIONS
  - STREAM FLOWPATH
  - INTERMEDIATE CONTOUR
  - BANK STATIONS
  - STURGIS CORPORATE LIMITS - AUG 2006

NEW WHITEWOOD ROAD BRIDGE IS REFLECTED IN MODEL. BRIDGE IS CURRENTLY UNDER CONSTRUCTION AND WILL BE COMPLETED BY THE TIME THIS FIS IS APPROVED.

COOK CANYON DIS OF DM&E RAILROAD ONLY HAS THE CAPACITY FOR APPROXIMATELY 100-150 CFS.  
ALL TOPOGRAPHY DIS OF DM&E RAILROAD RUNS EAST AND NOT NORTH. THEREFORE FLOW SPREADS QUICKLY AND FLOWS EASTWARD AT DEPTHS ASSUMED LESS THAN ONE (1) FOOT.

COOK CANYON CREEK DIS 100 1% CHANCE DISCHARGE = 1,145 CFS

COOK CANYON DISCHARGES BELOW THE DM&E RAILROAD AND FLOW EXPANDS AND RUNS DOWN NETWORK OF STREETS. ZONE X WAS USED TO CLASSIFY THIS FLOW. SIMILAR METHOD WAS USED IN ORIGINAL STUDY.

LIMIT OF DETAILED STUDY (LIMIT OF PROFILES)

COOK CANYON CREEK DIS 100 1% CHANCE DISCHARGE = 1,300 CFS

10% THRU 1% CHANCE FLOWS ROUTED THROUGH SHORT TRACK. IT HAS CAPACITY IN EXCESS OF 80 ACFT. SO IT IS VALID TO REDUCE DOWNSTREAM FLOWS. ORIGINAL MODEL DID THE SAME THING.

DIGITAL ORTHOQUADRANGLE OBTAINED FROM THE SOUTH DAKOTA GEOLOGICAL SURVEY. PHOTO DATE: AUGUST 2004. TOPO DATE: NOVEMBER 2001.  
ALL DATA SHOWN IS UTM ZONE 13, NORTH AMERICAN DATUM 1983 (NAD83). ELEVATIONS ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29).  
CORPORATE LIMITS WERE OBTAINED FROM MEADE COUNTY GIS IN AUGUST 2006. LIMITS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

**FINAL SUBMITTAL**

**EXHIBIT 4**  
STURGIS, SOUTH DAKOTA (460055)  
COOK CANYON CREEK  
UPSTREAM LIMIT TO  
BEAR BUTTE CREEK  
WORK MAP W/ DELINEATIONS  
OCTOBER 2006



PREPARED BY: DMM DATE PREPARED: 10-1-06