



CITY OF RAPID CITY

Engineering Services Division

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MEMORANDUM

TO: Public Works Committee/Common Council

FROM: Dion Lowe, P.E.
Drainage Engineer

SUBJECT: Request Authorization to Seek Proposals for Engineering Services
Rapid City Major Drainage Overview Report

DATE: August 3, 2006

BACKGROUND:

Staff proposes to hire a consultant engineer to be responsible for providing a report which will summarize and partially update the drainage basin design plans. The consultant engineer will also perform a hydraulic analysis on an existing basin and compare those results to the old data. This report will be a useful tool for the City to use while managing projects, reviewing private and public plans, maintaining drainage facilities, and creating new projects.

A supplemental appropriation is requested from the Drainage Basin Fees to fund this project. The engineer's estimate is \$25,000 to \$50,000.

REQUESTED ACTION:

Staff requests that the Common Council authorize the issuance of a "Request for Proposals" for the creation of the Rapid City Major Drainage Overview Report and an existing basin hydraulic analysis comparison report.



EQUAL OPPORTUNITY EMPLOYER

**RAPID CITY MAJOR DRAINAGE FACILITIES OVERVIEW REPORT
REQUEST FOR PROPOSALS
AUGUST 4, 2006**

**CITY OF RAPID CITY DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION**

PROJECT DESCRIPTION

The City of Rapid City desires to review, summarize and partially update existing Drainage Basin Design Plans (DBDPs) within the City and platting jurisdiction. This review shall focus only on the major drainage facilities discussed in the DBDPs and the amendments to those plans.

The various DBDPs to be considered are: South Canyon Lime Creek, Old Lime Creek, Deadwood Ave., Morningside, Haines Ave., Knollwood, Perrine, Unnamed Tributary, Race Track, County Heights, East Hwy 79/Landfill, South Truck Route, South Robbinsdale, Meade-Hawthorne, Downtown, Jackson Blvd., Red Rock, and the Red Dale Drainage Basin Design Plan.

Data to be supplied to the Consultant includes hard copies and digital files, if available, of all the DBDPs listed above. The Consultant will have access to plans in the City of Rapid City archives and files for existing improvements in the basins.

SCOPE OF SERVICES REQUESTED

1. REVIEW PHASE:

- 1.1 The Consultant will review the recommendations in each DBDP. All existing and proposed conveyance, detention, or other stormwater management facilities shall be inventoried and current status identified. A condition evaluation shall be performed for existing facilities.

2. REPORT PHASE:

- 2.1. Provide a Major Drainage Facilities Overview Report which includes the following:
- 2.1.1. Identify drainage elements in such a manner as to easily reference those elements in the corresponding DBDP.
 - 2.1.2. Provide 11" x 17" maps bound in the report which identify all of the drainage elements and the major street network.
 - 2.1.3. Provide drainage element information in tabulation form.
 - A. Data for each element (existing and proposed) shall include but not limited to:
 - 1) Description
 - 2) Basin
 - 3) Year of Construction, if applicable
 - 4) Condition Evaluation, if applicable

- 5) General Location
 - 6) Estimated Cost
 - 7) The historic and design 2, 10, and 100-yr flows, as available
- 2.1.4. Provide recommended short term (5-yr) and long term (20-yr) goals, with explanation.
- 2.1.5. Provide a current cost estimate for the short term goals.
- 2.1.6. Provide a current cost estimate per basin.

2.2. Deliver the following:

- 2.2.1. Three (3) bound copies of the report. Pages shall be double-sided. Also, provide one (1) unbound copy of the original report, single-sided.
- 2.2.2. A digital Microsoft Word 2000 compatible file of the entire report with tables in Microsoft Excel 2000 file format.

3. RUNOFF/ROUTING ANALYSIS

All existing DBDPs have been prepared using the Colorado Urban Hydrograph Procedure for hydraulic analysis. The City desires to have a comparative evaluation of flows using the HEC-HMS analysis program. The selected Consultant will determine the runoff peaks and volumes for all sub-basins and elements in the South Canyon/Lime Creek Basin using HEC-HMS and compare the HEC-HMS output to the Colorado Urban Hydrograph Procedure output in the DBDP. Re-evaluate the drainage facility improvement recommendations in the South Canyon/Lime Creek DBDP based on the HEC-HMS analysis and provide a related cost estimate comparison. Deliver three (3) bound copies of this analysis. Also, provide one (1) unbound copy of the original analysis, single-sided.

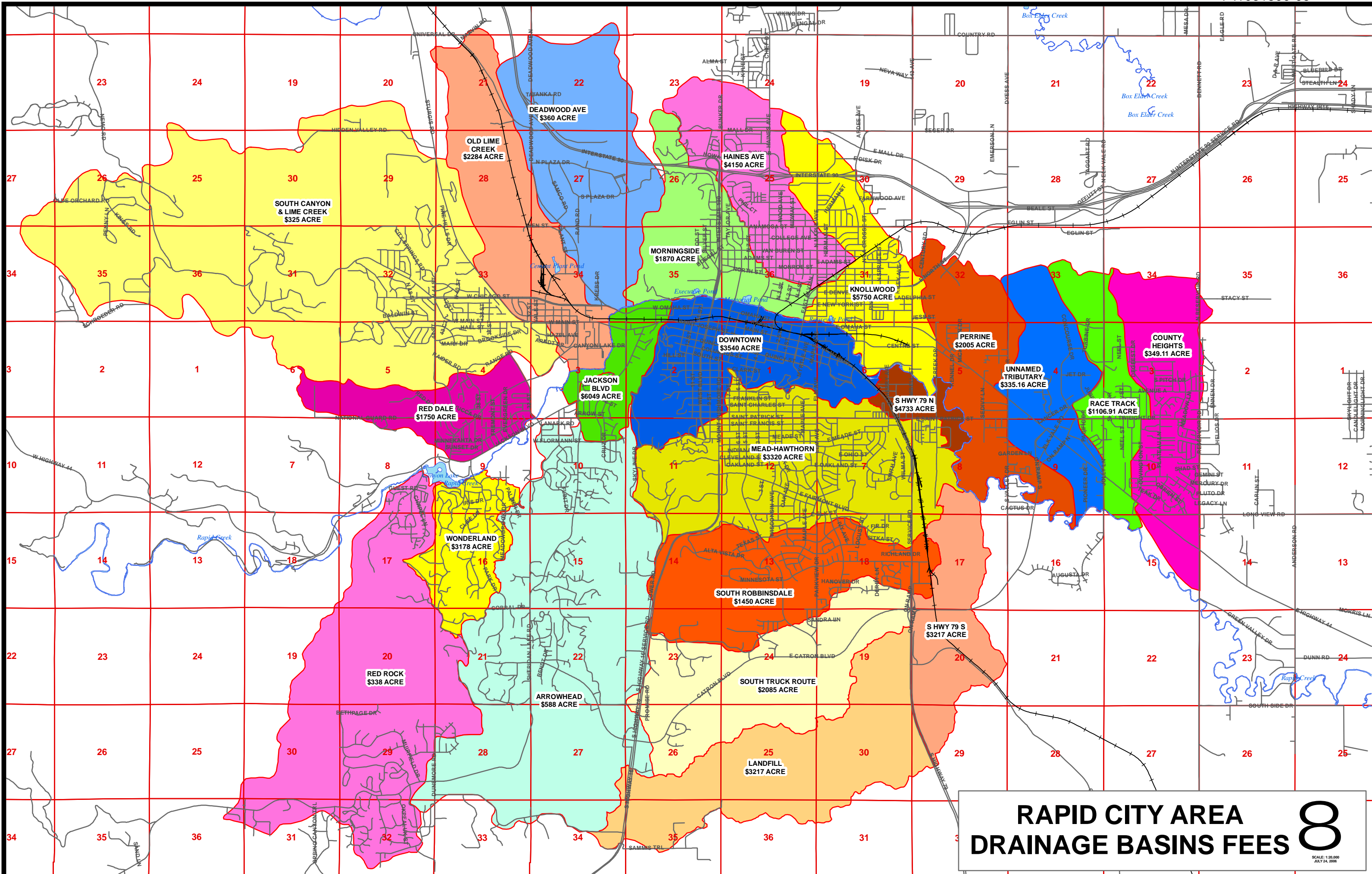
4. MEETINGS AND SUBMITTALS

- 4.1. Meetings requiring the Consultant's participation will include:
- 4.1.1 Kick-off meeting.
 - 4.1.2 Preliminary report presentation and discussion.
 - 4.1.3 Short and long term goal selection presentation and discussion.
 - 4.1.4 Final report presentation and discussion.
 - 4.1.5 Presentation to Council Public Works Committee.
 - 4.1.6 Presentation to City Council.

5. PROJECT SCHEDULE

Proposals shall be submitted by September 11, 2006 at 4:00 p.m. to the Engineering Services Division office in the City School Administration Building, 300 Sixth St, Rapid City, SD 57701.

Contract Negotiations Completed	October 2, 2006
Contract Submission	October 4, 2006
Notice to Proceed	October 17, 2006
Draft Report Submittal	February 19, 2007
Final Report Submittal	April 16, 2007



**RAPID CITY AREA
DRAINAGE BASINS FEES**

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SCALE: 1:20,000
JULY 24, 2006