

ENGINEERING ****

I. Scope of Engineering Services

A. PROVIDE HYDROLOGIC COMPARISON

Provide direct comparison between Corps of Engineers (COE) HEC-1 model study and Carter-Burgess (CB) HEC-1 model study for each drainage area within each creek basin. This will correlate the hydraulic length, slope and ultimate time peak to determine any discrepancies. This also will clarify any inconsistencies between the CB curve numbers (CN) and the COE % urban as previously calculated. If it is shown that the updated and/or revised % urbanization produces peak flow conditions that are less than 10% of the CB flow conditions, the HEC-1 model will be revised to reflect the COE methodology.

B. PRELIMINARY REVIEW OF WATER SURFACE PROFILES

Should it be determined that peak flow conditions as provided within the HEC-1 model referenced above are altered, the revised water surface elevations will be reviewed within the CB HEC-RAS model. This will provide the preliminary impact within each basin and assist with potential flooding locale of each basin.

C. REVISED FLOODPLAIN MAPPING

Should it be determined that revisions to the CB floodplain mapping are required, BA Engineering will review the FEMA mapping requirements to determine best available mapping conditions. Cost will be investigated at such time.

D. Coordination and Approval

II. Responsibility of Client

- A. Provide current boundary and topographic survey in digital format.
- B. Provide all working files from CB study to review conditions applied to study.
- C. Coordination and preparation of ALTA survey and/or detention survey.
- D. Specifications, supervision and/or inspection of site work.
- E. Governmental agency review fees.

III. Additional Services

- A. Any changes to the scope of work or additional services requested by the Client shall be billed at an hourly basis.
- B. Coordination of consultants including surveying, site observation, and construction coordination for FEMA approval during and subsequent construction.

The following services are examples of items to be considered additional work:

- Coordination of Environmental Survey, Traffic Survey and Geotechnical Consultants.
- Construction Administration.
- Construction Storm Water Observation Maintenance Reporting.
- Off-site roadway design or widening improvements.
- Detention pond surveys and/or construction approval.
- NPDES Permit, as required.
- Off-site utilities.
- Water distribution report.
- Zoning/rezoning of property.

IV. Standard Fee Schedule for Engineering Services

Project Manager	135.00
Senior Engineer	105.00
Design Engineer	90.00
Senior Technician	75.00
Technician/CADD/GIS	65.00
Administrative	35.00

IV. Approval Signature and Authorization to Proceed

Compensation for services will be invoiced on a monthly basis with payment due within 45 days of invoice delivery date. Reimbursement after the 45 day duration will result in a 1.5% late fee for each additional month after the due date. Payment for late collection or legal fees resulting from late collection will be incurred by Client. This contract is valid for a period of 30 days from date of signature.

Bernie Auld, PE Date
BA Engineering

Date