ALABAMA DEPARTMENT OF TRANSPORTATION

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July 14, 2008

MEMORANDUM

To: William F. Adams, P.E.
           Chief, Design Bureau

From: Adenrele Odutola, P.E. *AO*
           Roadway Design Engineer

By: David Ramsey, P.E.
           Hydraulic Specialist

Re: Departmental Hydrological/Hydraulic Software Programs

Hydrologic/hydraulic software and the status of other software are described below by categories:

HYDROLOGIC ESTIMATION: *HYDRO version 2.0.*
The Windows version 2.0 of the "HYDRO" program is the Departments primary hydrologic program for estimating runoff.

STORMSEWER DESIGN: *STORMCAD and HYDRA.*
The Haestead's STORMCAD software is the primary software to use for storm sewer design. The HYDRA version 5.0 software is recommended as an alternate program.

CROSS DRAIN DESIGN: *CULVERTMASTER and HY8 Windows version 7.1.*
The Haestad CULVERTMASTER is the primary crossdrain program. The latest version of HY8, the Windows version 7.1, is acceptable as a crossdrain program. The DOS HY-8 version 4.1 is to be retained as an alternate program to reproduce old files.

DETENTION POND DESIGN: *BRN version 5.0 and DOS HY-8 version 4.1.*
The Basin Runoff Networking (BRN) version 5.0 software is ALDOT's primary program for single and multiple detention pond design and analysis. The DOS HY-8 version 4.1 is the alternate program for single detention pond design and analysis.

ENERGY DISSIPATOR DESIGN: *ALDOT SPREADSHEETS and HY8 version 4.1.*
The spreadsheets are recommended as the primary tool for the design of energy dissipators such as riprap basins and aprons, USBR Type VI, and Contra Costa. The HY-8 version 4.1 is recommended as a secondary tool for design.

DITCH LINER DESIGN: *NAG and HYCHL.*
The approved programs for ditch liner design are the following:
For the design of Vegetative C & D liners and RECP's use the North American Green (NAG) company's Erosion Control Materials Design Software (ECMDS). For the design of Riprap and Concrete liners use HYCHL version 5.0.

CURB and GUTTER and INLET DESIGN: *INLETSOFTAL, HEC-12, and Quick HEC-12.*
INLETSOFTAL is ALDOT's primary Windows curb and gutter and inlet design program. HEC-12 and Haestead's Quick HEC-12 programs are still approved for use.
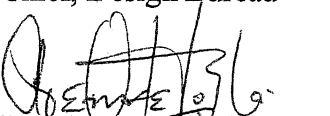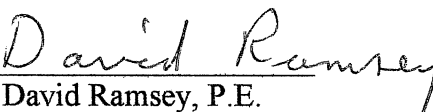
DRAFTING: *BENTLEY STORM and SANITARY.*
The Bentley Storm and Sanitary program is ALDOT's drafting program, but is not to be used for hydraulic computations.

SPECIAL HYDRAULIC PROGRAMS: *VARIOUS.*
These programs are: Circular pipe analysis, Critical depth, HY2, HY6, TR55, Trapezoidal channel analysis, Triangular channel analysis, Vertical (curve) station, Vertical (curve) whole, Volume irregular basin, Volume circular pipe, Volume rectangular basin, and Volume trapezoidal basin.

Approved: William F. Adams, P.E.
Chief, Design Bureau

Recommended for Approval: Adenrele Odutola, P.E.
Roadway Design Engineer

Submitted for Approval: David Ramsey, P.E.
Hydraulic Specialist

WFA/AOO/DR/JAM

Pc: Steve Walker
       Adenrele Odutola
       File