

# Transportation Committee Meeting

July 8, 2014

1

## Agenda

- Hitec Rd (SF-336)

2

Hitec Rd



Hitec Rd





## Actions to Consider

- Potential Actions to Discuss
  - Place on pavement improvement project list and patch, level and overlay (doesn't meet criteria Sec. 26-5(c)1).
  - Obtain right-of-way, upgrade road to meet SCDOT standards, request project to be funded by C-Funds, and swap a section of state maintained road with SCDOT (County accept a section of Strawberry Farm Road (near Landfill) and SCDOT accept upgraded Hitec Road).
  - Do nothing.

5

## Will SCDOT consider a swap?

- Yes.
- Must comply with EDM 41.
  - "A road may be deleted and removed from the state highway system by exchanging it for equal or less mileage of other roads that have a higher traffic importance."
  - Both common "calculators" have determined an upgraded Hitec Road to be of higher traffic importance than Strawberry Farm Road.

6

## Potential Issues to Upgrade Hitec Road

- Obtaining Right-of-Way
- Right-of-Way greater than 50' impacts businesses
- Drainage Easements
- Coordinating Drainage Easements with the Railroad
- Utility relocations

7

## Professional Services to Upgrade Hitec Road

- Tasks include:
  - Surveys, Geotechnical Investigation, Roadway Design, Hydrology and Hydraulics Analysis, Railroad and Utility Coordination, Public Information Meeting, Permitting, Bidding, Construction Services and Administration, and Construction Engineering and Inspections.
- Schedule (from notice to proceed to construction complete) 15 months.
- Professional Services Not to Exceed Fee is \$371,050.

8



## Actions to Consider

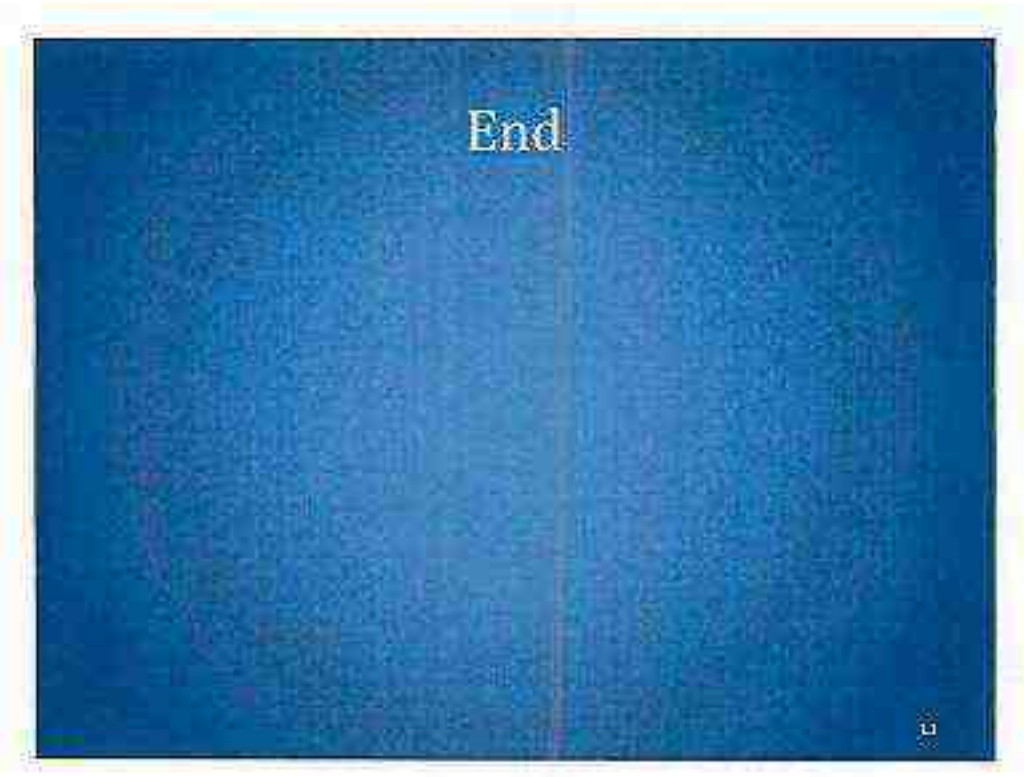
- Potential Actions to Discuss
  - Place on pavement improvement project list and patch, level and overlay (doesn't meet criteria Sec. 26-5(c)1).
  - Obtain right-of-way, upgrade road to meet SCDOT standards, request project to be funded by C-Funds, and swap a section of state maintained road with SCDOT (County accept a section of Strawberry Farm Road (near Landfill) and SCDOT accept upgraded Hitec Road).
  - Do nothing.


7

## Department Activity Update


- Summary Handout Provided

20





Oconee County  
Public Works



D. Mack Kelly, Jr.  
PE, PLS, CFM  
Director of Public Works  
County Engineer

Public Works Complex  
15022 Weis Highway  
Seneca SC 29678

Phone: 864-886-1072  
Fax: 864-886-1071

E-mail:  
mkelly@oconeesc.com

### Staff Report

To: Transportation Committee  
From: Mack Kelly, County Engineer  
Date: July 8, 2014  
Subject: Hitec Road (SE-336)

### Facts

Roads and Bridges staff was directed by the Transportation Committee at the April 8, 2014 meeting to contact SCDOT about swapping Strawberry Farm Road for Hitec Road.

The following summarizes the response:

- The SCDOT would be willing to accept an upgraded Hitec Road for a section of Strawberry Farm Road.

Additionally, Davis & Floyd was contacted to provide scope, not to exceed fee, and schedule under our Professional Services agreement to provide the professional services needed to upgrade Hitec Road to SCDOT standards.

### Potential Issues

- Obtaining donated right-of-way may be an issue.
- Right-of-way of more than 50' could impact businesses.
- Additional drainage easements will be required to properly control rainfall runoff water.
- Coordination of railroad right-of-way will be required to properly handle rainfall runoff water.
- Funding criteria requires a minimum of 50' right-of-way.
- SCDOT has not committed to the minimum required right-of-way.
- Some utility relocations would be required.

### Attachments

Engineering Directive Memorandum  
Fee Proposal from Davis & Floyd

cc: Mr. Scott Moulder



**South Carolina Department of Transportation**  
**Engineering Directive Memorandum**

Number: 41

Primary Department: Traffic Engineering

Referrals: South Carolina Code of Law 57-5-80, 57-5-120, 57-5-600

Subject: Removal of Roads from the State Highway System

In action taken at their June 21, 2007 meeting, the SCDOT commission recognized the need to reduce the size of the secondary road system maintained by SCDOT and implemented a new policy to begin this process. State law allows the removal of roads from the state highway system under specific circumstances. The basis for removal and the procedures outlined below are to ensure compliance with state law in the removal of roads from the state highway system. A request for the removal of a road from the state system must meet at least one of the criteria listed below and must follow the process detailed.

**BASIS FOR REMOVAL**

**Abandonment of Section of Relocated Highway**  
[S.C. Code Ann. Section 57-5-120 (Supp. 1997)]

This section of law allows SCDOT to abandon any section of highway that has been relocated. At its discretion, SCDOT may choose to retain such a relocated section when it serves as a needed connection to the new section or when it serves as a proper part of the state highway system. All other sections should be abandoned. Every section abandoned due to relocation reverts to the local government having jurisdiction (city or county) or is abandoned as a public way. Approval of the abandonment by the local government is not required. However, contact with the local government should be made by the district to advise them of the proposed action and to assess any strong objections to the abandonment.

**Deletion and Removal of Roads from Secondary System**  
[S.C. Code Ann. Section 57-5-80 (Supp. 1997)]

A road may be deleted and removed from the state highway system by exchanging it for equal or less mileage of other roads that have a higher traffic importance. The determination of higher traffic importance must be based on a comparison of traffic counts and/or functions (i.e., connector road, collector road, or a road serving a public facility such as a school or hospital). Ownership and maintenance responsibility for the removed road reverts to the local government having jurisdiction (city or county). Approval of the deletion and removal by the local government is not required. However, it is highly desirable when possible to get the local government to sign a Request for Removal of Road from State Highway System form. When a



road swap is proposed, approval for the road additions and deletions should be submitted for commission action at the same meeting.

Abandonment of Right-of-Way  
[S.C. Code Ann. Section 57-5-600 (Supp. 1997)]

A road may be removed from the state highway system through an abandonment of right-of-way. This includes requests from local governments, schools, and other government agencies for the transfer of a road from the SCDOT system to the local system. Right-of-way may be abandoned if it is determined that the right-of-way is not required for right-of-way purposes or if the right-of-way is not needed for departmental purposes. A removal of a road from the state highway system through an abandonment of right-of-way must be for public, not private, benefit. Therefore, a road removed through this means must not be transferred to a private individual, rather, it must be transferred to the local government or agency having jurisdiction.

**PROCEDURES FOR REMOVAL**

All requests for removal of a road or a portion of a road from the state highway system must follow the procedure outlined below:

1. The director of traffic engineering, director of construction, director of maintenance, director of planning, director of preconstruction, or district engineering administrator may make a request for removal. A request for removal may also be initiated by the local entity (county, city, or school district) having jurisdiction or by other government agencies, private firms, or individuals with property interest along the section of roadway. All requests for removal should be forwarded to the director of traffic engineering for appropriate action. Requests for removal must be submitted using the attached form entitled Request for Removal of Road from State Highway System. The director of traffic engineering will maintain records of each removal request with supporting documentation and record the action taken on each request.
2. The director of traffic engineering shall review the request for accuracy of description, location, and mileage, and shall verify the requested removal is in compliance with one of the bases for removal listed above. The director of traffic engineering shall also forward the request to the district engineering administrator for completion and concurrence as necessary, as well as to the director of rights-of-way for review and determination whether the right-of-way for the section proposed to be removed could generate revenue for the Department. If a Request for Removal of Road from State Highway System form or letter accepting maintenance responsibility is not attached to the request, the director of traffic engineering shall request the district engineering administrator to secure a completed form or letter.
3. Upon verification of the request for accuracy, compliance, and appropriate signatures, the director of traffic engineering shall forward the request to the deputy secretary for engineering in the form of a recommendation to the commission. Each

recommendation for removal shall include the person or entity requesting the removal (i.e., SCDOT, county, city, school district, government agency, private company, or individual), a description of the portion of road to be removed, and the basis for removal, along with the information required below:

- A. Abandonment of Section of Relocated Highway – no additional information.
  - B. Removal and Deletion of Roads from Secondary Road System – the roads to be added to the secondary system by exchange and the roads to be removed and deleted from the secondary road system. A statement of acceptance of maintenance responsibility by letter or form from the local government is desirable, but not required.
  - C. Abandonment of Right of Way – a statement of acceptance of maintenance responsibility by letter or form from the local government or entity (county, city, school district, or government agency).
4. Upon approval of the removal by the commission, the following actions shall be taken:
- A. The director of traffic engineering shall make the necessary adjustments in the official mileage records of the Department, including those records necessary for enforcement of the secondary road mileage limitation.
  - B. Based on the commission minutes or a copy of commission action furnished by the deputy secretary for engineering, the district engineering administrator shall remove all Department signs designating a road or route number (S-marker) from the section of road transferred to a local government or agency. If the road is to be totally abandoned, all Department signs should be removed. The appropriate government agency should be notified by mail of the action taken by the commission.
  - C. Based on the commission minutes or a copy of commission action furnished by the deputy secretary for engineering, the director of rights-of-way shall prepare and forward a quitclaim deed for the removed road to the local governmental entity having jurisdiction. The quitclaim deed shall, in addition to transferring the right of way, specifically transfer any bridge within the limits of the removed road, and transfer all future maintenance responsibility.

Engineering Directive Memorandum 41  
Page 4 of 4

Submitted by: Robert I. Pratt  
Director of Preconstruction

Submitted by: Richard B. Werts  
Director of Traffic Engineering

Recommended by: John V. Walsh  
Chief Engineer for Planning, Location, and Design

Recommended by: J. C. Watson  
Chief Engineer for Operations

Approved by: Tony L. Chapman  
Deputy Secretary for Engineering

Effective Date: September 15, 2008

Original signed by Deputy Secretary for Engineering Tony L. Chapman, P.E. September 15, 2008. All original engineering directives maintained by the Office of the Deputy Secretary for Engineering.



**REQUEST FOR REMOVAL OF ROAD  
FROM STATE HIGHWAY SYSTEM  
(REVISED 11-5-2007)**

**DESCRIPTION OF SECTION OF ROAD TO BE REMOVED**

COUNTY: \_\_\_\_\_ ROAD NUMBER: \_\_\_\_\_

ROAD NAME: \_\_\_\_\_

LENGTH TO BE REMOVED: \_\_\_\_\_ MILES

BEGINNING POINT: \_\_\_\_\_

ENDING POINT: \_\_\_\_\_

DESCRIPTION: (PLEASE ATTACH LOCATION MAP)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**ACCEPTANCE OF MAINTENANCE RESPONSIBILITY BY OTHER ENTITY**

IT IS REQUESTED THAT THE ABOVE DESCRIBED ROAD BE REMOVED FROM THE STATE HIGHWAY SYSTEM. OWNERSHIP AND MAINTENANCE OF THIS ROAD WILL BECOME THE RESPONSIBILITY OF \_\_\_\_\_.

(INSERT COUNTY/CITY/SCHOOL DISTRICT NAME)

**COUNTY/CITY/SCHOOL DISTRICT OR AGENCY OFFICIAL**

NAME: \_\_\_\_\_  
PLEASE TYPE OR PRINT

TITLE: \_\_\_\_\_  
PLEASE TYPE OR PRINT

SIGNED \_\_\_\_\_ DATE: \_\_\_\_\_

**NOTE TO DISTRICT ENGINEERING ADMINISTRATOR:**  
**THIS COMPLETED FORM AND MAP SHOULD BE FORWARDED TO:**

DIRECTOR OF TRAFFIC ENGINEERING  
SCDOT  
955 PARK STREET, P.O. BOX 191  
COLUMBIA, S. C. 29202

**BASIS FOR REMOVAL**  
**[TO BE COMPLETED BY SCDOT]**

**CHECK ONE OF THE (3) THREE OPTIONS BELOW AND COMPLETE**

1.  **ABANDONMENT OF SECTION OF RELOCATED HIGHWAY**

2.  **DELETION AND REMOVAL OF ROADS FROM THE SECONDARY SYSTEM (SWAP MILES ONLY)**

**ROADS TO BE ADDED IN SWAP OF MILES:**

<u>ROAD(S) NUMBER</u>	<u>ROAD MILEAGE</u>		<u>AVERAGE DAILY TRAFFIC (ADT)</u>	/	<u>NUMBER OF LANES</u>	=	<u>TRAFFIC IMPORTANCE</u>
_____	_____	x	_____	/	_____	=	_____
_____	_____	x	_____	/	_____	=	_____

**ROADS TO BE DELETED IN SWAP OF MILES:**

<u>ROAD(S) NUMBER</u>	<u>ROAD MILEAGE</u>		<u>AVERAGE DAILY TRAFFIC (ADT)</u>	/	<u>NUMBER OF LANES</u>	=	<u>TRAFFIC IMPORTANCE</u>
_____	_____	x	_____	/	_____	=	_____
_____	_____	x	_____	/	_____	=	_____

**NOTE: ROADS TO BE ADDED MUST BE OF HIGHER TRAFFIC IMPORTANCE THAN ROADS TO BE DELETED AS DETERMINED BY THE CALCULATIONS ABOVE.**

3.  **ABANDONMENT OF RIGHT-OF-WAY (REMOVAL OF ROADS FROM STATE HWY. SYSTEM ONLY)**

**DETERMINATION OF RIGHT-OF-WAY NEED (CHECK APPROPRIATE BOX(ES) BELOW)**

YES NO

- |                          |                          |  |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | PROPERTY IS REQUIRED FOR SCDOT RIGHT-OF-WAY.                   |
| <input type="checkbox"/> | <input type="checkbox"/> | PROPERTY IS REQUIRED FOR DEPARTMENT PURPOSES.                  |
| <input type="checkbox"/> | <input type="checkbox"/> | ABANDONMENT IS IN THE INTEREST OF THE PUBLIC AND SCDOT.        |
| <input type="checkbox"/> | <input type="checkbox"/> | ABANDONMENT ADVERSELY AFFECTS THE INDIVIDUAL RIGHTS OF OTHERS. |

**(ACCEPTANCE OF MAINTENANCE RESPONSIBILITY (ON PAGE 1) MUST BE COMPLETED OR LETTER ATTACHED.)**

REQUEST SUBMITTED BY: \_\_\_\_\_  
NAME SIGNATURE DATE

CONCURRENCE BY: \_\_\_\_\_  
NAME SIGNATURE DATE

**FOR PRIMARY ROUTES ONLY:**

APPROVAL BY: \_\_\_\_\_  
DIRECTOR OF TRAFFIC ENGINEERING DATE



June 11, 2014

D. Mack Kelly, Jr., PE, PLS, CFM  
Director of Public Works  
County Engineer  
Oconee County  
15022 Wells Highway  
Seneca, South Carolina 29678

**Re: HITec Road Improvements**

Dear Mr. Kelly:

Davis & Floyd, Inc. is pleased to provide this proposal for engineering services for the subject project. We understand that the ultimate goal of the project is to improve Hitec Road to meet SCDOT standards. Our understanding of the scope of services required for this project is outlined below and is based upon our discussions with you on June 3, 2014. If our understanding of the scope is inconsistent with yours please inform us as soon as practical so that we may enter into discussion to ensure we provide all services required.

**TASK ONE: PROJECT DEVELOPMENT (\$10,250.00)**

Project tasks will be scheduled based on the scope of services. Monthly status reports will be provided to report work completed, in progress, and anticipated. This report will keep stakeholders (County Council, County Staff, and SCDOT) informed and report project progress. Project Management will include coordination with County, SCDOT, sub-consultants, and preparation of meeting materials as needed. Updated construction cost estimates will be provided with preliminary, right of way, and construction submittals.

**TASK TWO: SURVEYS (\$20,680.00)**

The **CONSULTANT** will perform field surveys as outlined below to determine accurate elevations and locations of existing facilities, e.g., utilities, roadways, bridges, and culverts, for design purposes. All surveys shall conform to the SCDOT "Preconstruction Survey Manual" dated August 2003 (or latest edition).

**A. Project Assumptions:** The Hitec Road project corridor will consist of 1,800 LF along alignment extending 50 LF on each side of the side of center line between US 76/123 (Sandifer Boulevard) and S-488 (Wells Highway). The project limits will also include a strip survey for a storm drain outfall of estimated 500 LF long and 60 LF wide. No wetlands are anticipated with the project limits.

**B. Field Survey Outline:**

1. **CONSULTANT** will establish a control baseline along the proposed project corridor and tie to the SC State Plane coordinate system to be as a basis for all surveys required on the project (NAD 83 Horizontal Datum and NAVD 88 vertical datum).



2. **CONSULTANT** will perform plat and deed research of all parcels affected by the project. The plats and deeds will be used to create property strip maps.
3. **CONSULTANT** will field locate and survey detectable property monuments for the impacted parcels. The monuments that are found will be tied into the survey and mapping horizontal control.
4. **CONSULTANT** will perform detailed planimetric and topographic surveys along the project corridor. The detailed survey will gather all information necessary for design of the project.
5. **CONSULTANT** will perform surveys of existing drainage outfalls within the project area.
6. **CONSULTANT** will process acquired survey data and prepare base mapping to include breaklines that reflect field conditions. Each point of the processed survey will include Point ID, Description, and Elevation. Complete mapping and linework will be included displaying all planimetric information.
7. **CONSULTANT** will provide primary points of control for the proposed centerline.
8. **CONSULTANT** will field survey the horizontal location for geotechnical bore holes. A ground elevation will be established at each bore hole.
9. **CONSULTANT** will perform New and Existing Right of Way staking surveys on affected parcels within the project corridor as needed for acquisition purposes.
10. **CONSULTANT** will set and establish horizontal location and elevation for a total of 2 temporary benchmarks (TBM) along the proposed roadway alignments at approximately 800 to 1000 foot intervals, set approximately 100 feet from the proposed centerline.
11. **CONSULTANT** will maintain appropriate signage for traffic control purposes at all times when working within or near the existing traffic areas.

#### **TASK THREE: GEOTECHNIAL SERVICES (\$7,060.00)**

This task will include onsite investigations to walk the entire length of roadway identifying pavement areas which show signs of distress and would need to be repaired prior to pavement overlay and widening. Upon completion of our inspection, we will review the areas identified with county representatives for an explanation of what types of failures were noted and discuss possible repairs. Concurrent with this effort, we will take up to six (6) asphalt cores linearly spread along the project corridor. These shallow cores will provide subgrade characteristics and pavement thickness data. The total fee for this task includes the sub-contracted work as shown on the cost estimate spreadsheet in the amount of \$5,200.00.

#### **TASK FOUR: ROADWAY DESIGN - PRELIMINARY 50% (\$52,615.00)**

The **CONSULTANT** will prepare the conceptual roadway alignment for Hitec Road. Preliminary designs relating to the following activities will be developed:

- A. The **CONSULTANT** will prepare preliminary plans based on the preferred conceptual alignment that is selected. The preferred conceptual alignment will be approved by the **COUNTY** prior to beginning preliminary plans.
- B. The **CONSULTANT** will establish the roadway alignment and profile in sufficient detail and in the appropriate format, in order to clearly illustrate significant design features of the project.
- C. The preliminary plans shall contain sufficient details of pertinent physical features to illustrate the design that will include:
1. Typical sections;
  2. Geometric control (vertical and horizontal);
  3. Reference points;
  4. Horizontal and vertical alignments;
  5. Detail plan layout;
  6. Review of guardrail warrants and slope adjustments;
  7. Limits of existing right-of-way, easements and adjacent properties;
  8. Development of a preliminary storm drainage plan and type, size, invert elevation and location of major storm drainage features including outfall ditches, detention, sediment basins and roadway ditches;
  9. Type, size, and location of existing major utility facilities;
  10. Preliminary cross-sections at 50 feet intervals;
  11. Construction limits;
  12. Property lines, property parcel number, and ownership;
  13. Proposed right-of-way and easements
  14. Location and anticipated type of any necessary culverts, retaining walls, and other miscellaneous roadway structures
- D. Design standards will be in compliance with AASHTO's A Policy on Geometric Design of Highways and Streets, (2001), or latest edition; SCDOT Standard Drawings – Latest Edition; SCDOT Standard Specifications for Highway Construction 2007 Edition; Roadway and Bridge Design Standard as published by the SCDOT; SCDOT's Road Design Reference Material for Consultants Prepared Plans (latest edition); SCDOT's Plan Preparation Guide, latest edition; SCDOT Instruction Bulletins; SCDOT Engineering Directive Memos as appropriate; and SCDOT Highway Design Manual, latest edition.
- E. Preliminary plans (Design Field Review Submission) will be developed and serve as the base documents for further refinement into the final right-of-way plans.
- F. All plans will be prepared using MicroStation and GeoPak per SCDOT standards.

- G. A constructability review may be performed between the **COUNTY** construction representatives and appropriate **CONSULTANT** members.

**Deliverables:** Three (3) scaled half size sets of preliminary plans

**TASK FIVE: ROADWAY DESIGN - RIGHT OF WAY 70% (\$16,195.00)**

The **CONSULTANT** will prepare right of way plans based upon approved preliminary plans.

- A. Right-of-Way will be set to cover all construction limits and outfall ditches. Right-of-way plans shall include:
1. Preliminary roadway plan revisions to incorporate proposed right-of-way and any easements.
  2. Computation of right-of-way areas and easements to be purchased for project construction.
  3. Updates of right-of-way strip maps if necessary.
  4. Review of sight distance considerations;
  5. Non-standard major driveway grades and tie-ins;
  6. Further refinement of quantities for construction estimates.
  7. Submittal of preliminary right-of-way plans to the **COUNTY** for approval.
  8. Incorporation of comments on preliminary right of way plans into final right of way plans for the acquisition of right-of-way
  9. Right of Way exhibits for each parcel that requires a permission or an obtain.

**Deliverables:** One (1) scaled full size set of final right-of-way plans  
Three (3) scaled half size sets of final right-of-way plans  
One (1) CD containing final right-of-way plan files

**TASK SIX: ROADWAY DESIGN - CONSTRUCTION 100% (\$35,670.00)**

Final Roadway Construction Plans shall be prepared as described herein. The approved ROW plans will be further developed into final roadway plans consisting of the following:

- A. A cover sheet showing a location map, project layout, and index of drawings, summary of estimated quantities;
- B. Typical roadway sections for the mainline and crossroads for each significant change in sections. These sections will show dimensions, a pavement schedule, and the stations over which the section applies. Also, the minimum Design Speed Criteria, and any exceptions (horizontal and vertical) to this criteria, will be shown in the box located in the lower right-hand corner of the first typical section sheet only;



- C. ROW acquisitions, and a tabulation of drainage structures and pipes;
- D. Details, including applicable SCDOT standards, and addition clarifying construction details;
- E. A general inclusion sheet of clarifying or explanatory construction notes;
- F. Roadway and drainage plan/profile sheets, at a maximum scale of 1 in. equals 50 ft horizontal, and 1 in. equals 10 ft vertical, showing existing conditions, existing utilities (from field survey or information received from utility owners), survey baseline, proposed centerline, edges of pavement, driveways, construction limits, storm drain pipes and other drainage features, right-of-way, control of access, and easements. Proposed horizontal and vertical geometry will also be shown.
- G. Traffic Control Plans, Pavement Marking/Signage Plans and Roadway Structure plans (culverts, retaining walls, etc) illustrating appropriate details for construction. The Construction Plans will follow the guidance of *The Manual on Uniform Traffic Control Devices (MUTCD): 2003 Edition, SCDOT Supplement to the MUTCD, and SCDOT Design Standards*. The plans will include a description of the sequential steps to be followed during construction and will include construction phasing of roadway ingress and egress to existing property owners and businesses, routing, signing and pavement markings, and detour quantity tabulations. Consideration will be given to the construction of the drainage systems so that positive drainage will be maintained at all times. Standard traffic control details will be incorporated into the plans for most work activities, but detailed staging plans may be required where impacts upon the normal traffic flow are significant. Quality control and quality assurance of the plans will be implemented as part of the scope.
- H. Cross sections, at 50-ft intervals at a scale of 1 in. equals 5 ft, showing the existing ground line, proposed template, pavement depth, and cut and fill earthwork volumes. The final roadway template should show the finished roadway surface on the appropriate cross slopes (normal crown, fully or partially super-elevated) and the level of the bottom of subgrade.
- I. Plans shall be neatly drawn and professionally prepared. Plans shall be fully checked by **CONSULTANT** before submittal to the **COUNTY** for review.

**Deliverables:** One (1) scaled full size set of final plans  
Three (3) scaled half size sets of final plans  
One (1) CD containing final plan files

**TASK SEVEN: HYDROLOGY & HYDRAULICS (\$43,310.00)**

- A. **CONSULTANT** will perform various aspects of the roadway drainage design and will follow all guidelines for roadway surface drainage and sediment and erosion control. The impacts to the existing hydrology due to the proposed project will be evaluated. Based on this evaluation, design alternatives to control flooding and manage the runoff associated with the project will be examined.

Designs will be performed for roadside ditches, storm sewer systems, cross line culverts and energy dissipaters as necessary. In addition, an erosion and sediment control plan will be provided to aid in controlling erosion during the construction of the project. The drainage will be designed in accordance with the SCDOT's hydraulic design publication "South Carolina Department of Transportation Requirements for Hydraulic Design Studies," latest edition. The design shall also comply with the "S.C. Storm Water Management and Sediment Reduction Regulations".

**B. The CONSULTANT will provide the roadway hydrological services listed below:**

1. Establish design criteria.
2. Perform field investigation(s) to:
  - a. Inventory the location and condition of the existing storm drainage appurtenances.
  - b. Determine the boundaries of tributary watersheds draining through the area.
  - c. Identify and evaluate the usability of drainage outfall ditches.
  - d. Determine preliminary location of inlets and catch basins.
  - e. Determine preliminary location of sediment and erosion control ponds
3. Data Collection
  - a. Land use data for existing and proposed developments.
  - b. Determine if there is any involvement in floodways or flood hazard areas.
  - c. Identify flooding problems associated with the project based on historical information.
  - d. Identify receiving stream(s) for the project and cross check with SC DHEC's most current 303(d) list and table for waterbodies with approved TMDL's.
  - e. Obtain plans of existing roads that will impact project.
4. Basic Engineering Services
  - a. Prepare the appropriate drainage basin map using existing topographic maps, information gathered from the field investigation(s) and available information from federal, state and local agencies.
  - b. Perform a hydrological study of the watershed(s) affected by the roadway improvements
  - c. Verify the adequacy of the existing storm drainage facilities for any additional flows caused by the proposed improvements.
  - d. Design alternatives to control flooding and manage the runoff associated with the project. The hydraulic analysis will determine the requirements for the proposed facilities required for storm water drainage.
  - e. Prepare a report summarizing the findings of the hydrological analysis and computations, including cost estimates for upgrading any undersized storm water appurtenances affected by the proposed improvements.
  - f. Attend DFR and PS&E meetings with COUNTY and Roadway design representatives.
  - g. Identify and incorporate necessary drainage improvements into the roadway and structural construction plans.
5. Erosion and Sediment Control and Storm Water Management Plan
  - a. Prepare an erosion and sediment control plan for inclusion in the roadway construction plans, outlining methods for the minimizing the amount of erosion and sedimentation

during construction. The plan will be detailed on the drainage sheets prepared for the project.

- b. Assist the **COUNTY** in obtaining necessary approvals from the South Carolina Department of Health and Environmental Control (SCDHEC).
- c. The **CONSULTANT** will provide the Erosion Control Data Sheet.
- d. The **CONSULTANT** will prepare the Notice of Intent (NOI).

#### **TASK EIGHT: RAILROAD AND UTILITY COORDINATION (\$45,620.00)**

This task will include making contact with the local utility and railroad providers to coordinate the proposed construction with potential conflicts with existing utilities and impacts to railroad right of way.

- A. The **CONSULTANT** shall contact any railroad providers that have RW within the project limits. Plans shall be developed to meet requirements of the railroad provider when proposed improvements are within railroad RW. Any proposed improvements that do not receive approval from the railroad provider before the letting should be coordinated with the **COUNTY**.
- B. The **CONSULTANT** shall have the responsibility of coordinating the project development with utilities that may be affected. Utility relocations shall be handled in accordance with the **SCDOT's** "A Policy for Accommodating Utilities on Highway Rights of Way".
- C. These services shall be performed by individuals skilled and experienced in utility coordination services.
- D. The **CONSULTANT** shall design the Project to avoid conflicts with utilities where possible, and minimize impacts where conflicts cannot be avoided. This may include, but is not limited to, utilizing all available utility data, whether obtained from SUE services, as-builts, or some other source. The **CONSULTANT** will be expected to determine utility conflict points, including all work to properly analyze each conflict point, and make recommendations for resolution of the conflict where possible.
- E. The **CONSULTANT** shall initiate early coordination with utility companies that are located within the project limits. Coordination shall include, but shall not be limited to, contacting each utility company to advise the company of the proposed project, providing preliminary plans to the utility company, obtaining copies of as-built plans for the existing utility facilities (if available), and determining the companies' requirements for the relocation of their facilities.
- F. The **CONSULTANT** shall provide the utility companies with design plans as soon as the plans have reached a level of completeness adequate to allow the companies to fully understand the project impacts. These plans shall contain available data that may be helpful to the utility in assessing the utility impact (stations and offsets, and etc.). The utility company may use the **CONSULTANT's** design plans for preparing Relocation Sketches. If a party other than the utility company or its agent prepares Relocation Sketches, there shall be a concurrence box on the plans where the utility company signs and accepts the Relocation Sketches as shown.
- G. The **CONSULTANT** shall coordinate and conduct a preliminary review meeting with the utility companies to assess and explain the impact of the Project to the companies. A representative from the **COUNTY** shall be invited in this meeting.

- H. The **CONSULTANT** shall research the prior rights of each utility company's facilities. If there is a dispute over prior rights with a utility, the **CONSULTANT** shall be responsible for making a recommendation to the **COUNTY** regarding resolution of the dispute. The **CONSULTANT** shall meet with the **COUNTY** to present the prior rights information gathered. The **COUNTY** shall have final approval authority as to the **CONSULTANT's** determination of whether the utility company has prior rights.
- I. The **CONSULTANT** shall prepare and submit to the **DEPARTMENT** a Preliminary Utility Report that includes a listing of utility companies located within the project limits and a preliminary recommendation as to the extent of each company's prior rights. This report shall also include a preliminary assessment of the impact to each company as can best be determined at the time, as well as a determination of the feasibility of early utility relocations that may begin prior to the start of construction.
- J. The **CONSULTANT** shall be responsible for collecting the following from each utility company that is located within the project limits: Relocation Sketches including letter of "no cost" where the company does not have a prior right; Utility Agreements including cost estimate and relocation plans where the company has a prior right; and Letters of "no conflict" where the company's facilities will not be impacted by the Project.
- K. The **CONSULTANT** shall ensure that there are no conflicts with the proposed highway improvements, and ensure that there are no conflicts between each of the utility company's relocation plans.
- L. The **CONSULTANT** shall prepare and submit to the **COUNTY** a Final Utility Report prior to the letting date that includes a listing of the utilities located within the Project limits, an explanation of the Project impacts to each of the utilities, prior rights supporting documentation, and a description of each utilities' relocation plans. As part of the report, the **CONSULTANT** shall assemble and submit to the **COUNTY** all Relocation Sketches, Utility Agreements, and Letters of "no conflict", as set forth in "I" above, for the Project. The report shall also contain the **CONSULTANT's** recommendation for approval of the Utility Agreements and Relocation Sketches and the **CONSULTANT's** recommendation that, from a utilities standpoint, the Project is ready to be let to contract.
- M. The **CONSULTANT** shall prepare and maintain a compilation of utility relocation plans on one set of the project plans. These plans (Utility Relocation sheets) will be used during the project development, and the final set may be included in the bid documentation for information only and will reference the actual relocation plans prepared by the utility.
- N. The **CONSULTANT** will attend a utility kickoff meeting for the project once the **COUNTY** gives approval for utility relocations.
- O. The utility companies shall not begin their relocation work until authorized in writing by the **COUNTY**.

**TASK NINE: PUBLIC INFORMATION MEETING (\$10,120.00)**

A public information meeting (1) may be held during the project development, once sufficient information has been collected to develop a base map and preliminary alternatives. This meeting will be part of the continuing effort to provide opportunities to the public to learn about the proposed projects and comment on

them. It is assumed that representatives from the **COUNTY** and the **CONSULTANT** will attend the meetings to help explain the project to the public.

- A. **CONSULTANT** shall coordinate the date and location of the meetings with the **COUNTY** personnel and will prepare the newspaper ad for the Public Notice.
- B. **CONSULTANT** shall prepare any and all related public meeting materials, (deliverables would include public information meeting displays, booklets and brochures).
- C. **CONSULTANT** shall prepare a summary of responses to comments received as a result of a public information meeting.

**TASK TEN: PERMITTING (\$3,265.00)**

This task will include submittal of the erosion control and stormwater management plan which will be required to address potential site erosion as a result of the proposed construction. We will develop a stormwater/erosion control report and NOI application to be submitted to SCDHEC. This task will also include an encroachment permit application for any proposed work within the SCDOT right of way to include the development of traffic control plans. Comments received from SCDHEC and SCDOT will be reviewed with the **COUNTY** and addressed as needed. Federal funding is not anticipated and preconstruction services will not be required to follow the NEPA standards.

**TASK ELEVEN: PROJECT BIDDING (\$5,140.00)**

This task will include advertising the project, submitting bid documents to interested general contractors, conducting a prebid conference, addressing questions during the bid process, producing addendums as necessary, conducting a bid opening and submitting to the county certified bid tabulation.

**TASK TWELVE: CONSTRUCTION SERVICES & ADMINISTRATION (\$4,510.00)**

This task will include conducting a preconstruction conference with the selected bidder to review the contract requirements including erosion control requirements. We will also review and approve change order requests, Request for information and pay requests. Upon completion of construction, we will provide a Certified Final Project Cost.

**TASK THIRTEEN: CONSTRUCTION ENGINEERING & INSPECTION (\$109,400.00)**

This task will include providing full time construction and inspection services using an SCDOT certified senior inspector over a twenty six week, forty hour per week construction schedule. We will monitor the contractor's daily activities for compliance with project specifications and provide accurate and timely documentation of these activities. We will monitor all construction activities including demolition, pavement repairs, culvert pipe installation, pavement base installation, pavement surface overly and concrete work as may be require

This task will also include providing a CEPSCI certified inspector to provide the mandatory erosion control inspections required by the DHEC permit specifically to inspect the installation, condition and maintenance



of the installed erosion control features. Each visit will be documented by an inspection report noting the overall condition of the site, deficient items and corrective measures. Any deficiencies will be noted onsite with the contractor so that needed repairs can be implemented prior to the next week's erosion control inspection.

Reimbursable expenses include mileage, hotel, subsistence and printing cost associated with our design efforts. These expenses are shown on the individual spreadsheets and will be invoiced separately from our survey, design and construction administration fees. The total not to exceed amount for this project including reimbursable expenses and sub-contracted work is **\$371,005.00**. See attached cost spreadsheet for hourly estimate.

The following would be the approximate project schedule:

**Notice to Proceed (NTP)**

Surveys Completed	1 month after NTP
Geotechnical Services	2 months after NTP
Roadway (30%)	3 months after NTP –including H&H and RR/Utility Coordination
Roadway (70%)	5 months after NTP –including H&H and RR/Utility Coordination
Public Meeting	6 months after NTP
Roadway (100%)	8 months after NTP –including H&H and RR/Utility Coordination, pending R/W
Permitting	9 months after NTP
Project Bidding	9 months after NTP
Construction Complete	15 months after NTP

Davis & Floyd, Inc. appreciates the opportunity to provide this proposal and looks forward to working with Oconee County on this project. The procurement of our services will be according to the Professional Services Agreement dated March 21, 2012 titled Category C Roadway and Bridge Services. We are ready to commence with our design services immediately. Please do not hesitate to call if you have any questions or comments.

Sincerely,

**DAVIS & FLOYD, INC.**



Brent P. Robertson, PE  
Vice President

Attachments: Cost Spreadsheet of Hourly Effort Estimate



CLIENT: Oconee County  
 PROJECT: Hitech Road

D&F JN: 110.00  
 CALC BY: ESD  
 DATE: 06/11/14

**Scope of Engineering Services:**

Task		
1	Project Development	9 Public Information Meeting
2	Surveys	10 Permitting
3	Geotechnical	11 Bidding
4	Roadway Design (Preliminary 50%)	12 Construction Services & Administration
5	Roadway Design (Right of Way 70%)	13 Construction Engineering & Inspections (CEI)
6	Roadway Design (Construction 100%)	
7	Hydrology & Hydraulics	
8	Railroad & Utility Coordination	

**Engineering Cost Estimate**

Task	Principal	Proj. Mng.	PE/PLS	Spec Writer	Comp Tech	Survey Crew	Sr. Inspector	Designer	Clerical	Task Total
1	20	50	0	0	0	0	0	0	0	\$ 10,250.00
2	0	5	26	0	35	115	0	5	0	\$ 20,680.00
3	0	6	10	0	0	0	0	0	0	\$ 1,860.00
4	16	52	201	0	0	0	0	241	0	\$ 52,615.00
5	4	12	35	0	30	0	0	90	0	\$ 16,195.00
6	9	46	105	0	75	0	0	129	0	\$ 35,670.00
7	11	43	132	0	12	0	0	232	0	\$ 43,310.00
8	2	24	318	6	0	0	0	66	32	\$ 45,620.00
9	9	14	25	0	10	0	0	33	6	\$ 10,120.00
10	1	5	11	0	0	0	0	14	0	\$ 3,265.00
11	1	15	28	0	0	0	0	0	0	\$ 5,140.00
12	1	15	22	0	0	0	0	0	0	\$ 4,510.00
13	6	12	26	0	0	0	1040	0	0	\$ 109,400.00
										\$ -
										\$ -
										\$ -
<b>Total</b>	<b>80</b>	<b>299</b>	<b>939</b>	<b>6</b>	<b>162</b>	<b>115</b>	<b>1040</b>	<b>810</b>	<b>38</b>	<b>\$ 358,635.00</b>

Principal	80	@	\$ 175.00 / hour =	\$ 14,000.00
Project Manager	299	@	\$ 135.00 / hour =	\$ 40,365.00
Engineer	939	@	\$ 105.00 / hour =	\$ 98,595.00
Specifications Writer	6	@	\$ 130.00 / hour =	\$ 780.00
Computer Technician	162	@	\$ 70.00 / hour =	\$ 11,340.00
Survey Crew Chief	115	@	\$ 70.00 / hour =	\$ 8,050.00
Survey Field Technician	115	@	\$ 55.00 / hour =	\$ 6,325.00
Senior Inspector	1040	@	\$ 100.00 / hour =	\$ 104,000.00
Designer	810	@	\$ 90.00 / hour =	\$ 72,900.00
Clerical	38	@	\$ 60.00 / hour =	\$ 2,280.00

In-House Labor Sub Total = \$ 358,635.00  
 Sub-contracted work, Lump Sum = \$ 5,200.00  
 Total Labor = \$ 363,835.00  
 Expenses = \$ 7,170.00  
 Grand Total = \$ 371,005.00

Oconee County

Special Projects  
4/1/14 thru 6/30/14

Roads and Bridges Department

Roads and Bridges					Solid Waste				
Date	Job Description	Number of Staff	Staff Hours	Equipment Hours	Date	Job Description	Number of Staff	Staff Hours	Equipment Hours
4/1 & 4/16/2014	Florence-pick up tractor	2	40	20	4/2/2014	Bucket truck to Merf	5	10	2
4/1/14-6/17/14	Inspecting-Road Construction and Paving Contract	3	435	75	5/7/2014	Ebenezer MCC - culvert repair	3	24	12
4/22/2014	Mowing Crews-Anderson-Safety Class	4	40	2	6/24/2014	Move Bushhog from Five Forks to Solid Waste	1	3	3
5/14/2014	Hesse Hwy - Culvert Failure	6	48	16	<b>Total</b>				
6/4/2014	Coring roads for 2014-2015 Paving Contract	3	40	15					
6/4 & 6/11/2014	Tree removal for paving contract	6	144	56	<b>OLEC - New Detention Center</b>				
6/6/2014	Cutting in driveways for paving contract	3	24	16	Date	Job Description	Number of Staff	Staff Hours	Equipment Hours
6/9/2014	Camp-loading dirt for shoulder build	1	2	2	4/1/14-5/13/14	Grading & clearing for new building	18	4024	2414
<b>Total</b>		<b>28</b>	<b>773</b>	<b>202</b>	<b>Total</b>				
					<b>Golden Corner Commerce Park</b>				
					Date	Job Description	Number of Staff	Staff Hours	Equipment Hours
					5/20/14-6/30/14	Grading & building road	10	1800	1080
					<b>Total</b>				

**PRT**

Date	Job Description	Number of Staff	Staff Hours	Equipment Hours	Pine Street				
Date	Job Description	Number of Staff	Staff Hours	Equipment Hours	Date	Job Description	Number of Staff	Staff Hours	Equipment Hours
4/15/2014	South Cove-Bucket truck to check and change light bulb at tennis court	2	4	4					
4/28/2014	High Falls-Moving septic tank lid	1	2	2	12/16/2013-4/10/14	Administration Sign Project	4	193	115.5
6/18/2014	Port Bass Boat Ramp Tree Removal	5	40	24	5/17/14 & 5/19/14	Removing large tree	6	23	11.5
6/30/2014	South Cove-Remove tree overhanging campers	4	8	4	<b>Total</b>				
<b>Total</b>		<b>12</b>	<b>54</b>	<b>34</b>					

Sheriff's Dept		Number of Staff	Staff Hours	Equipment Hours
Date	Job Description			
6/11/2014	Rifle Range-skid steer work	1	8	8
<b>Total</b>		<b>1</b>	<b>8</b>	<b>8</b>

Emergency Services		Number of Staff	Staff Hours	Equipment Hours
Date	Job Description			
6/5/2014	Mtn Rest Fire Dept-hauled and spread gravel on driveway	1	3	3
<b>Total</b>		<b>1</b>	<b>3</b>	<b>3</b>

Pending Special Projects
• GCCP Access
• Detention Center Grading - Completed
• New Construction Contract 2013/2014
• Paving Contract 2013/2014
• Hesse Highway Culvert Replacement
• Paving Contract 2014/2015
• Coroner's Office Grading
• Mauldin Mill & Megee Rd Crossing Replacement
• Stribling Shoals & Lonely Rd Hydraulic Studies
• South Cove Park Office Grading and Retaining Walls
• Road Inventory and Assessment
• Land Bridge Replacement

<b>Total Staff Hours</b>	6915
<b>Percent of Hours worked on Special Projects</b>	53%