



1459 Washington St.  
Muscatine, IA 52761-5040  
(563) 263-8933  
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**Public Works**

**City Transit**  
263-8152

**MEMORANDUM**

**Equipment Maintenance**  
**Roadway Maintenance**  
**Collection & Drainage**  
**Building & Grounds**  
**Engineering**

To: Gregg Mandsager, City Administrator

CC: Fran Donelson, Secretary

FROM: Randy Hill, Public Works Director

DATE: January 30, 2012

RE: Engineering Services Agreement – Connector Location Study from US 61 to Iowa 38

**INTRODUCTION:**

The City of Muscatine has requested Snyder and Associates to provide a Connector Location Study for the contemplated east/west connector between US 61 and Iowa 38.

**BACKGROUND:**

City Staff and City Council have been working on different scenarios for possible future expansion of the City's corporate limits. 1,200 acres between US 61/Iowa 38/180<sup>th</sup> Street is being considered as a potential growth area. If the city intends to further study this, then the cost and impact of extending infrastructure needs to be known. A roadway linking US 61 & IA 38 has been identified in the City's Capital Improvement Program. In January 2005 Snyder & Associates prepared a "US 61 Access Study" from IA 38 east for the Iowa Department of Transportation. As such they are familiar with the location and a logical fit for this proposed study.

**RECOMMENDATION/RATIONALE:**

The rationale justifying this study is a connector roadway corridor that will 1) provide for additional residential, commercial, and industrial growth; 2) provide an alternative route for desired traffic accessing Hwy 61, Hwy 38, and Hwy 22; 3) address existing land uses and improve traffic operations on key existing routes; and 4) provide for enhanced utility service to the area with an identified east/west corridor.

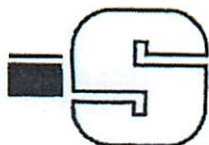
The cost is \$45,000. This will be funded from the roadway portion of the One Cent Local

**"I remember Muscatine for its sunsets. I have never seen any  
on either side of the ocean that equaled them" — Mark Twain**

Option Tax. If you have any questions, please contact me.

**BACKUP INFORMATION:**

1. Attached Agreement from Snyder & Associates
- 2.
- 3.
- 4.



# SNYDER & ASSOCIATES

ENGINEERS & PLANNERS

IOWA | MISSOURI | NEBRASKA | SOUTH DAKOTA | WISCONSIN

January 20, 2012

City of Muscatine  
Public Works Department  
Attn: Randy Hill, P.E. Public Works Director  
1459 Washington Street  
Muscatine, IA 52761-5040

RE: Engineering Services Agreement  
Connector Location Study from US 61 to Iowa 38

Dear Randy,

As a follow-up to our recent discussions I've enclosed three copies of an Engineering Services Agreement and Scope of Services (Exhibit A) for work related to the Connector Location Study from US 61 to Iowa 38. Snyder & Associates is looking forward to assisting in the development of this critical piece of infrastructure for the City of Muscatine.

Upon approval by the city council, please return two copies of the executed agreement to our office in Cedar Rapids. I will be serving as the project manager of the project and will utilize Darin Ligtenberg as a technical resource when necessary due to his previous work associated with the City of Muscatine. If you have any questions or would like to discuss this or any other project, please don't hesitate to contact Darin Ligtenberg (605-274-3345) or me.

Sincerely,

SNYDER & ASSOCIATES, INC.

Troy A. Culver, P.E.  
[taculver@snyder-associates.com](mailto:taculver@snyder-associates.com)  
Project Manager

## ENGINEERING SERVICES AGREEMENT

This agreement made between City of Muscatine

1459 Washington Street, Muscatine, IA 52761

the CLIENT and SNYDER & ASSOCIATES, INC., Consulting Engineers, The ENGINEER, for services concerning the following PROJECT:

Connector Location Study from US 61 to IA 38

SNYDER & ASSOCIATES, INC. agrees to perform the following professional services in connection with the PROJECT;

See Attached Exhibit "A"

The CLIENT hereby agrees to provide the ENGINEER all criteria, design and construction standards, and full information as to the CLIENT'S requirements for the PROJECT. Other terms and conditions of this contract, including time of performance are as follows:

See Attached Exhibit "A"

The CLIENT agrees to compensate the ENGINEER for the engineering services rendered under this agreement on the following basis:

See Attached Exhibit "A"

Progress payments shall be made in proportion to services as rendered and as indicated within this agreement, and shall be due and owing within 10 days of the ENGINEER'S submittal of his monthly statement. Past due amounts owed shall accrue interest at 1.5% per month from the 30th day. If the CLIENT fails to make monthly payments due the ENGINEER, the ENGINEER may after giving seven (7) days written notice to the CLIENT suspend services under this agreement.

THIS AGREEMENT IS SUBJECT TO ALL THE TERMS AND CONDITIONS LISTED ON THE REVERSE SIDE OF THIS PAGE.

This agreement represents the entire and integrated agreement between the CLIENT and the ENGINEER and supersedes all prior negotiations, representations or agreements, either written or oral. This agreement may be amended only by written instrument signed by both the CLIENT and the ENGINEER.

\_\_\_\_\_  
FOR CITY OF MUSCATINE

\_\_\_\_\_  
FOR SNYDER & ASSOCIATES, INC.

\_\_\_\_\_  
DATE

\_\_\_\_\_  
DATE



1. In the event that any on-site observation of Contractors' work shall be included as a part of these services, the ENGINEER shall endeavor to guard the CLIENT against apparent defects and deficiencies in the permanent work constructed by the Contractor but does not guarantee or warrant the performance of the Contractor. The ENGINEER is not responsible for the construction means, methods, techniques, sequence or procedures, time of performance, programs, or for any safety precautions in connection with the construction work. The ENGINEER is not responsible for the Contractor's failure to execute the work in accordance with the construction contract, nor is the ENGINEER responsible for defects or omissions in work performed as part of any construction contract by the Contractor, or any Subcontractors or any of the Contractor's or Subcontractor's employees, or that of any person or entities responsible for performing such work.
2. All drawings, specifications and other work product of the PROJECT are instruments of service for this PROJECT only and shall remain the property of the ENGINEER whether the PROJECT is completed or not. Reuse of any of the instruments of service of the ENGINEER by the CLIENT on extensions of the PROJECT or on any other PROJECT without the written permission of the ENGINEER shall be at the CLIENT'S risk and the CLIENT agrees to defend and indemnify and hold harmless the ENGINEER from all claims, damages and expenses including attorney's fees arising out of such unauthorized reuse of the ENGINEER'S instruments of service by the CLIENT or by others acting through the CLIENT. Any reuse or adaptation of the ENGINEER'S instruments of service occurring after the written agreement of the ENGINEER shall entitle the ENGINEER to further compensation in amount to be agreed upon by the CLIENT and the ENGINEER.
3. Neither party shall hold the other responsible for damages or delay in performance caused by acts of God, strikes, walkouts, accidents, Government acts, or other events beyond the control of the other or the other's employees and agents.
4. The ENGINEER intends to render its services under this agreement in accordance with the generally accepted professional practices for the intended use of the PROJECT, and makes no warranty, either expressed or implied.
5. Any Opinion of the Construction Cost prepared by the ENGINEER represents his judgment as a design professional and is supplied for the general guidance of the CLIENT. Since the ENGINEER has no control over the cost of labor and material or over competitive bidding or market conditions, the ENGINEER does not guarantee the accuracy of such opinions as compared to Contractor bids or actual cost to the CLIENT.
6. The CLIENT will require any Contractor or Subcontractor performing work in connection with drawings and specifications produced under this agreement to hold harmless, indemnify and defend the CLIENT and the ENGINEER their consultants, and each of their officers, agents and employees from any and all liability claims, losses, or damages arising out of or alleged to arise from the Contractor's (or Subcontractor's) negligence in the performance of the work described in the construction contract documents.
7. Normal and customary engineering and related services do not include services defined as Additional Services. Additional Services shall be performed as requested in writing by the CLIENT and shall be billed to the CLIENT on an hourly basis at hourly fees set forth in the Standard Fee Schedule attached hereto or as set forth in a written Scope of Services defined by the CLIENT and the ENGINEER.
8. The CLIENT agrees to limit the liability of the ENGINEER to the CLIENT and to all construction contractors and subcontractors on the PROJECT due to the ENGINEER'S professional negligent acts, errors or omissions such that the total aggregate liability of the ENGINEER to those named shall not exceed the ENGINEER'S total fee for services on the PROJECT.
9. Any direct expenses in connection with submittal of fees to any and all regulatory agencies required by the PROJECT shall be paid for directly by CLIENT. Any and all soils or other testing and analysis performed by an independent testing laboratory shall be billed directly to the CLIENT for payment.
10. All services performed on an hourly basis shall be performed in accordance with the current fiscal year Snyder & Associates, Inc. Standard Fee Schedule in affect at the time of actual performance. All services quoted on a lump sum basis shall be valid for one year from the contract date.
11. If the CLIENT fails to pay the undisputed portion of the ENGINEER'S invoices within 30 days of presentation, the ENGINEER shall cease work on the project and the CLIENT shall waive any claim against the ENGINEER, and shall defend and hold the ENGINEER harmless from any claims for loss resulting from cessation of service. In the event of remobilization, the CLIENT and ENGINEER shall renegotiate appropriate terms and conditions of the AGREEMENT, such as those associated with budget, schedule or scope of service. In the event any bill or portion thereof is disputed by the CLIENT, the CLIENT shall notify the ENGINEER within ten (10) days of receipt of the invoice in question, and the CLIENT and ENGINEER shall work to resolve the matter within sixty (60) days of notification by the CLIENT of the dispute. If resolution is not attained within sixty (60) days, either party may terminate this AGREEMENT, in accordance with the Termination Section of this AGREEMENT.
12. The ENGINEER or CLIENT may, after giving seven (7) days written notice to the other party, terminate this agreement and the ENGINEER shall be paid for services provided to the termination notice date, including reimbursable expenses due, plus termination expenses. Termination expenses are defined as reimbursable expenses directly attributed to the termination.
13. In the event of any litigation arising from or related to the services provided under this Agreement, the prevailing party will be entitled to recovery of all reasonable costs incurred, including staff time, court costs, attorneys' fees and other related expenses. It is further agreed that any legal action between the Client and the Engineer arising out of this Agreement or the performance of the services shall be brought in a court of competent jurisdiction in the State of Iowa.
14. Neither the CLIENT nor the ENGINEER shall delegate, assign, or otherwise transfer his duties under this agreement without the written consent of the other.
15. In the event any provisions of this agreement shall be held to be invalid and unenforceable, the remaining provisions shall be valid and binding upon the parties. One or more waivers by either party of any provision, term, condition or covenant shall not be construed by the other party as a waiver of a subsequent breach of the same by the other party.
16. ENGINEER shall not be responsible or liable for compliance with any storm water discharge requirements at the site, if any, other than the preparation of the Notice of Intent for Storm Water Discharge Permit No. 2 applicable to the site and creation of the initial storm water pollution prevent plan (SWPPP) for the site. CLIENT shall be solely responsible for: a) the submittal of the Notice of Intent; b) the implementation, administration and monitoring of the initial plan; c) making modifications to the initial plan as needed; d) filing the Notice of Discontinuance; and, e) compliance with all NPDES and storm water discharge statutes, rules, regulations or ordinances applicable to the site.



## **EXHIBIT "A"**

### **SCOPE OF SERVICES**

#### **CONNECTOR LOCATION STUDY FROM US 61 to IOWA 38 MUSCATINE, IOWA**

This scope of services is for an initial phase of a multi-phased transportation improvement project. Phase 1 includes a location study for the contemplated east/west connector between US Highway 61 and Iowa Highway 38.

The location study project will develop a concept design for an improved connection between the two highways, which has been identified in the Capital Improvement Program and remains a desired improvement for the City. The connector roadway corridor will:

- Provide for additional residential, commercial, and industrial growth.
- Provide an alternative route for desired traffic accessing Hwy 61, Hwy 38, and Hwy 22.
- Address existing land uses and improve traffic operations on key existing routes.
- Provide for enhanced utility service to the area with an identified east/west corridor.

Snyder & Associates, Inc. will be the lead consultant on the project and will subcontract with the following firms for specialty portions of the project:

Tallgrass Historians, L.C.      Cultural Resources

### **PROJECT SCOPE OF WORK**

The development of this project will include several phases. This will include study and concept development, design development, and finally construction. The following scope items are related to the study and concept development phase.

#### **TASK 1 – TOPOGRAPHIC SURVEY & BASE MAPPING**

##### **A.      AERIAL BASE MAP**

Available aerial photography will be used for base mapping for this phase of the project. Aerial information will be fortified with other available data such as as-built highway plans, USGS mapping and verification field survey.

B. TOPOGRAPHIC SURVEY

SNYDER & ASSOCIATES, INC. will utilize available LIDAR imagery for topographic terrain information. Additional information from aerial photography will be used to establish existing roadway widths and drainage features.

C. RESEARCH & DATA COLLECTION

SNYDER & ASSOCIATES, INC. will obtain prior plans, reports, and other applicable documents related to the project. These include land use plans, existing and committed roadway plans along with the future transportation plans for each area.

SNYDER & ASSOCIATES, INC. will obtain secondary source literature that will identify both natural and human environmental issues in the study area including the following:

- Utility Data
- Soils Data
- Land Use Inventory
- Property Information
- Public/Special Use Lands
- Water Resources/Floodplains
- Wetland Inventory
- Upland Habitat
- Cultural Resources
- Historical Resources
- Hazardous Waste Sites

SNYDER & ASSOCIATES, INC. will coordinate with Tallgrass Historians to complete a Archaeological Phase IA study. The Phase IA study will involve an assessment of the archaeological potential of the project corridor to identify known resources and evaluate the potential for additional resources of significance. The Phase IA will also identify areas in need of full Phase I investigation, if to be impacted, as well as areas that appear to have been either adequately surveyed by previous investigations or impacted by modern construction to the point that further investigation is not warranted. All available site records and reports will be examined to evaluate the archaeological potential of the project area, with historic plat maps and aerial photographs examined to evaluate the historic land-use of this area. The results of the Phase IA will be a report that summarizes these findings, identifies known sites, and pinpoints those areas having some potential for intact archaeological sites and warranting further investigation.

Beyond the Phase IA study, the report will reference other potential impacts that will require additional environmental, cultural, and resource study elements that will be necessary as the project develops.

## **TASK 2 – INTERGOVERNMENTAL COORDINATION**

### **A. LOCAL GOVERNMENT COORDINATION**

SNYDER & ASSOCIATES, INC. will prepare documentation and exhibits for the City's use in coordination with Muscatine County and Bi-State Planning as well as the governmental and quasi governmental interests in the project area – examples include the school district, the Chamber of Commerce, economic development, and Planning Commission.

### **B. STATE GOVERNMENT COORDINATION**

SNYDER & ASSOCIATES, INC. will coordinate with the Iowa DOT District 5 office and the Office of Local Systems for project requirements. Particular focus will be on funding opportunities and coordination with existing and proposed highway access locations.

SNYDER & ASSOCIATES, INC. will coordinate with state and local authorities including the Iowa DNR. Coordination and evaluation will be in regard to floodplain permitting and potential habitat concerns for the proposed Mad Creek crossing within the study area.

### **C. FEDERAL GOVERNMENT COORDINATION**

SNYDER & ASSOCIATES, INC. will evaluate existing hydraulic study and flood modeling data provided by the U.S. Army Corps Of Engineers (COE). The evaluation will also include Flood Insurance Rate Map information received from the City and County. Refer to Task 4.B for additional information.

## **TASK 3 – LAND USE STUDY & TRAFFIC SIMULATION**

SNYDER & ASSOCIATES, INC. will perform the following traffic planning/engineering elements based on existing transportation network and the land use study portion of the project:

- Gather existing and historical traffic count information from Iowa DOT or Bi-State Planning to understand growth trends in the community.
- Generate additional traffic volumes that can be expected with proposed land use such as existing, committed, or proposed business expansion. A single end year (ie 2040) scenario will be analyzed as it relates to the build out.
- Traffic forecasts will be developed for the viable alignment alternatives consistent with the projected land use and the anticipated future connections to the roadway.



- Opportunities for improved local traffic flow will be analyzed to determine advantages and disadvantages of alignment alternatives and connectivity of routes to the existing transportation network in the City.
- Evaluate access alternatives to existing businesses along Hwy 61 including the use of frontage/backage roadways.
- The City will provide land use (existing and future) data for planning purposes. The data will be utilized to assess traffic movements along the existing corridor and distribution to the study area.
- Develop projected daily and design hour traffic volumes, and vehicle type/demand (i.e. % trucks) for potential alternatives to establish design criteria for intersection/roadway geometry, pavement thickness, and lane arrangements.

## **TASK 4 – CONCEPT DESIGN**

### **A. UTILITY COORDINATION**

SNYDER & ASSOCIATES, INC. will perform necessary research to gather appropriate information on existing utilities in the project area. In addition, inquiries shall be made regarding the future needs and plans of all utilities in the project area relative to repair or replacement of existing utilities or relative to future planned facilities in the area. Prepare an evaluation of a utility corridor, which will include extensions of the following:

- Sanitary sewer
- Water distribution
- Natural gas
- Electric
- Communications

### **B. HYDRAULIC ENGINEERING & WATERSHED ANALYSIS**

SNYDER & ASSOCIATES, INC. will review available data in regards to the crossing of the Mad Creek. This will include review of prior FEMA studies, and interpretation in areas where the FEMA information is unavailable. The proposed hydraulics of the bridge crossing will be analyzed to determine impacts to the adjacent land use.

Preliminary coordination will occur with the Iowa Department of Natural Resources and U.S. Army Corps of Engineers to address concerns with a new crossing of Mad Creek. The City will provide information related to the existing study of Mad Creek performed by the NRCS.

Analyze and study the watershed topography within the study area and identify any potential locations where regional detention may provide a positive impact on

the downstream drainage system. The location and cost of such improvements will be referenced within the report.

**C. PRELIMINARY LOCATION STUDY AND CONCEPT DESIGN**

SNYDER & ASSOCIATES, INC. will utilize the base maps prepared and the data collected to prepare a Location Study. The Location Study shall, at a minimum, include the following items:

- Perform location engineering for the proposed connection between Hwy 61/38. This effort will utilize the data collected in terms of areas of avoidance, and desirable alignment opportunities to create up to 3 alignment alternatives for the corridor.
- An alignment analysis will be done on University Ave and the connection between Hwy 61 and 180<sup>th</sup> St. This analysis will include route assessment only. Construction costs, environmental and cultural impacts, bridge possibilities, and utilities will not be reviewed during the assessment.
- The alternative corridors will be analyzed with respect to cost, constructability, impacts, and ability to service the traffic needs and land use of the adjacent area.
- A preferred corridor will be determined and detailed as a functional plan. The functional plan will identify a typical cross section, preliminary alignment and grade, and major drainage needs in addition to a preliminary bridge type, size and location.
- Opportunities for staged construction will be analyzed to determine if portions of the project should be phased for funding or other concerns.

Shuck-Britson Inc. (a subsidiary of Snyder & Associates, Inc.) will provide conceptual design for the proposed structure. The purpose of the conceptual design is to determine the approximate size of the structure so that a construction cost estimate can be obtained. Shuck-Britson will provide the following services in conceptual design:

- Utilize preliminary survey data or USGS maps to develop flood plain cross section.
- Calculate bridge hydraulics utilizing preliminary information.
- Determine required bridge length based on hydraulics, roadway elevation and skew angle for up to three alignment options.
- Prepare construction cost estimate for proposed bridge.

All exhibits shall be prepared on 11"x17" size proportion for ease of copying and distribution.

**D. TRAILS AND PEDESTRIAN ACCOMMODATIONS**

SNYDER & ASSOCIATES, INC. will utilize existing mapping and planning documents provided by the City to evaluate access and routing of trails and pedestrian accommodations within the study area.

**E. PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COST/FUNDING**

SNYDER & ASSOCIATES, INC. will prepare a preliminary opinion of total project cost and compare this to the City's current project budget. SNYDER & ASSOCIATES, INC. will, if necessary, make recommendations pertaining to modifications in the project in order to address budgetary constraints.

SNYDER & ASSOCIATES, INC. will assist the City of Muscatine in reviewing potential funding avenues including federal, state, and local sources.

**F. ADDITIONAL SERVICES**

SNYDER & ASSOCIATES, INC. will coordinate with the City and provide a detailed scope and fee for other services desired by the City, which were not included in this Scope.

- Field or boundary survey
- NEPA documentation
- Cultural, environmental, and natural resource impact assessment
- Interim year build out scenarios
- Highway 61 and 38 traffic analysis
- Geotechnical investigation
- Mad Creek Watershed analysis
- Analysis of Utility Systems for size and routing

**PROJECT SCHEDULE**

The proposed schedule for this phase of the project is as follows:

Contract	February 2012
Data Collection	March-April 2012
Alternative Identification	May 2012
Report Submittal	June 2012
Final Report	July 2012

**COMPENSATION**

Snyder & Associates, Inc. proposes a lump sum fee of \$45,000 for the above described work scope. Invoices will be submitted on a monthly basis as work progresses.