

CHECKLIST TO DESIGNATE AREAS OF EVALUATION FOR REQUESTS FOR PROPOSAL (RFP)

MDOT PROJECT MANAGER Doug Adelman			JOB NUMBER (JN) JN 110797C	CONTROL SECTION (CS) Multiple
DESCRIPTION IF NO JN/CS Traffic Signal Modernization Design in Grand Region				
MDOT PROJECT MANAGER: Check all items to be included in RFP. WHITE = REQUIRED GRAY SHADING = OPTIONAL			CONSULTANT: Provide only checked items below in proposal.	
Check the appropriate Tier in the box below				
<input type="checkbox"/> TIER I (\$25,000-\$99,999)	<input checked="" type="checkbox"/> TIER II (\$100,000-\$250,000)	<input type="checkbox"/> TIER III (>\$250,000)		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Understanding of Service	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Innovations</i>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Safety Program</i>	
N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Organization Chart	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Qualifications of Team	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Past Performance	
Not required as part of official RFP	Not required as part of official RFP	<input type="checkbox"/>	Quality Assurance/Quality Control	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Location: The percentage of work performed in Michigan will be used for all selections unless the project is for on-site inspection or survey activities, then location should be scored using the distance from the consultant office to the on-site inspection or survey activity.	
N/A	N/A	<input type="checkbox"/>	Presentation	
N/A	N/A	<input type="checkbox"/>	Technical Proposal (if Presentation is required)	
3 pages (MDOT forms not counted) (No Resumes)	7 pages (MDOT forms not counted)	19 pages (MDOT forms not counted)	Total maximum pages for RFP not including key personnel resumes	

The Michigan Department of Transportation (MDOT) is seeking professional services for the project contained in the attached scope of services.

If your firm is interested in providing services, please indicate your interest by submitting a Proposal, Proposal/Bid Sheet or Bid Sheet as indicated below. The documents must be submitted in accordance with the latest "Consultant/Vendor Selection Guidelines for Service Contracts" and "Guideline for Completing a Low Bid Sheet(s)", if a low bid is involved as part of the selection process. **Referenced Guidelines are available on MDOT's website under Doing Business > Vendor/Consultant Services > Vendor/Consultant Selections.**

RFP SPECIFIC INFORMATION

BUREAU OF HIGHWAYS BUREAU OF TRANSPORTATION PLANNING ** OTHER

THE SERVICE WAS POSTED ON THE ANTICIPATED QUARTERLY REQUESTS FOR PROPOSALS

NO YES DATED _____ THROUGH _____

<input checked="" type="checkbox"/> Prequalified Services – See page 2 of the attached Scope of Services for required Prequalification Classifications.	<input type="checkbox"/> Non-Prequalified Services - If selected, the vendor must make sure that current financial information, including labor rates, overhead computations, and financial statements, if overhead is not audited, is on file with MDOT's Office of Commission Audits. This information must be on file for the prime vendor and all sub vendors so that the contract will not be delayed. (Form 5100J Required with Proposal)
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Qualifications Based Selection – Use Consultant/Vendor Selection Guidelines

For all Qualifications Based Selections, the section team will review the information submitted and will select the firm considered most qualified to perform the services based on the proposals. The selected vendor will be contacted to confirm capacity. Upon confirmation, that firm will be asked to prepare a priced proposal. Negotiations will be conducted with the firm selected.

****For RFP's that originate in Bureau of Transportation Planning only**, a priced proposal must be submitted at the same time as, but separate from, the proposal. Submit directly to the Contract Administrator/Selection Specialist, Bureau of Transportation Planning (see address list, page 2). The priced proposal must be submitted in a sealed envelope, clearly marked "**PRICE PROPOSAL.**" The vendor's name and return address **MUST** be on the front of the envelope. The priced proposal will only be opened for the highest scoring proposal. Unopened priced proposals will be returned to the unselected vendor(s). Failure to comply with this procedure may result in your priced proposal being opened erroneously by the mail room.

For a cost plus fixed fee contract, the selected vendor must have a cost accounting system to support a cost plus fixed fee contract. This type of system has a job-order cost accounting system for the recording and accumulation of costs incurred under its contracts. Each project is assigned a job number so that costs may be segregated and accumulated in the vendor's job-order accounting system.

Qualifications Review / Low Bid - Use Consultant/Vendor Selection Guidelines. See Bid Sheet Instructions for additional information.

For Qualification Review/Low Bid selections, the selection team will review the proposals submitted and post the date of the bid opening on the MDOT website. The notification will be posted at least two business days prior to the bid opening. Only bids from vendors that meet proposal requirements will be opened. The vendor with the lowest bid will be selected. The selected vendor may be contacted to confirm capacity.

Best Value - Use Consultant/Vendor Selection Guidelines. See Bid Sheet Instructions below for additional information. The bid amount is a component of the total proposal score, not the determining factor of the selection.

Low Bid (no qualifications review required - no proposal required.) See Bid Sheet Instructions below for additional instructions.

BID SHEET INSTRUCTIONS

A bid sheet(s) must be submitted in accordance with the "Guideline for Completing a Low Bid Sheet(s)" (available on MDOT's website). The Bid Sheet(s) is located at the end of the Scope of Services. Submit bid sheet(s) separate from the proposal, to the address indicated below. The bid sheet(s) must be submitted in a sealed manila envelope, clearly marked "**SEALED BID.**" The vendor's name and return address **MUST** be on the front of the envelope. Failure to comply with this procedure may result in your bid being opened erroneously by the mail room and the bid being rejected from consideration.

Notification
ARRA MONTHLY EMPLOYMENT REPORTS
Note: This Notification is only applicable for those projects/contracts funded with ARRA funds. If you have questions, please contact MDOT Contract Services Division at (517) 335-0071.

The American Recovery and Reinvestment Act of 2009 (ARRA), requires states receiving stimulus funds for highway projects to provide monthly reports to the Federal Highway Administration (FHWA) regarding the number of employees of the prime contractors, all-tier subcontractors and consultants on ARRA funded projects.

The cost for complying with this Notification must be borne by the prime contractor, and all-tiers of subcontractors and consultants, as part of their overhead and is deemed to be included in the payments made under this contract.

Within 10 days after the end of each month in which work is performed on this contract, all prime contractors and consultants must provide the Engineer a monthly report on MERS at <https://sso.state.mi.us/> providing employment information on each ARRA project, which will include, for work performed in that preceding month:

- The total number of employees who performed work on this contract.
- The total number of hours worked by employees who performed work on this contract.
- The total wages of employees who performed work on this contract.

Prime Consultants are responsible for reporting on all subconsultants' employment information in MERS, as the sub consultants will not have access to do so.

In addition, the prime contractor must provide a total payment amount made to any subcontractor who is a certified DBE in that preceding month.

This Notification shall be included as a part of each subcontract executed by the prime contractor, and all-tiers of subcontractors and consultants.

If necessary to conform to guidance provided by FHWA concerning the ARRA reporting requirements, the prime contractor, and all-tiers of subcontractors and consultants will revise their reporting as directed by the Engineer.

Failure to comply with the reporting requirements under ARRA would jeopardize the Department's continued receipt of ARRA funding.

Accordingly, if a contractor or any-tier of subcontractor or consultant fails to comply with this Notification, the Department may withhold contract payments until compliance is achieved. If the Department is compelled to incur costs because of such a breach, the amount of those costs may be deducted from payments otherwise to be made under this contract. Additional sanctions may include reduction or elimination of prequalification ratings and removal of bidding privileges.

**NOTIFICATION
REQUIRED CONTRACT PROVISIONS TO IMPLEMENT AMERICAN
RECOVERY AND REINVESTMENT ACT (ARRA) SECTIONS 902 AND 1515**

Note: This notification is only applicable for those projects/contracts funded with ARRA funds. If you have questions, please contact MDOT Contract Services Division at (517) 335-0071.

In accordance with requirements under section 902 of the American Recovery and Reinvestment Act of 2009 (ARRA), the following language is made a part of this contract and is to be made a part of all tier subcontracts or consultant contracts:

The U.S. Comptroller General and his representatives have the authority:

- (1) To examine any records of the contractor or any of its subcontractors, or any State or local agency administering such contract, that directly pertain to, and involve transactions relating to, the contract or subcontract; and
- (2) To interview any officer or employee of the contractor or any of its subcontractors, or of any State or local government agency administering the contract, regarding such transactions.

The Comptroller General and his representatives have the authority and rights provided under Section 902 of the ARRA with respect to this contract. As provided in section 902, nothing in section 902 shall be interpreted to limit or restrict in any way any existing authority of the Comptroller General.

In accordance with the requirements of section 1515(a) of the ARRA any representatives of the Inspector General have the authority:

- (1) To examine any records of the contractor or grantee, any of its subcontractors or sub-grantees, or any State or local agency administering such contract, that pertain to, and involve transactions relating to the contract, subcontract, grant, or sub-grant; and
- (2) To interview any officer or employee of the contractor, grantee, sub-grantee or agency regarding such transactions.

Nothing set forth in section 1515 of the ARRA shall be interpreted to limit or restrict in any way any existing authority of an inspector general.

PROPOSAL SUBMITTAL INFORMATION

REQUIRED NUMBER OF COPIES FOR PROJECT MANAGER 5	PROPOSAL/BID DUE DATE 8/26/10	TIME DUE 4:00 p.m.
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PROPOSAL AND BID SHEET MAILING ADDRESSES

Mail the multiple proposal bundle to the MDOT Project Manager or Other indicated below.

- MDOT Project Manager MDOT Other

Douglas Adelman, Signal Design Supervisor
Traffic & Safety Division, MDOT
Murray D. Van Wagoner Building
P.O. Box 30050, Lansing, MI 48909

Mail one additional stapled copy of the proposal to the Lansing Office indicated below.

Lansing Regular Mail**OR****Lansing Overnight Mail**

- Secretary, Contract Services Div - B470
Michigan Department of Transportation
PO Box 30050
Lansing, MI 48909

Secretary, Contract Services Div - B470
Michigan Department of Transportation
425 W. Ottawa
Lansing, MI 48933

- Contract Administrator/Selection Specialist
Bureau of Transportation Planning B470
Michigan Department of Transportation
PO Box 30050
Lansing, MI 48909

Contract Administrator/Selection Specialist
Bureau of Transportation Planning B470
Michigan Department of Transportation
425 W. Ottawa
Lansing, MI 48933

GENERAL INFORMATION

Any questions relative to the scope of services must be submitted by e-mail to the MDOT Project Manager. Questions must be received by the Project Manager at least four (4) working days prior to the due date and time specified above. All questions and answers will be placed on the MDOT website as soon as possible after receipt of the questions, and at least three (3) days prior to the RFP due date deadline. The names of vendors submitting questions will not be disclosed.

MDOT is an equal opportunity employer and MDOT DBE firms are encouraged to apply. The participating DBE firm, as currently certified by MDOT's Office of Equal Opportunity, shall be listed in the Proposal

MDOT FORMS REQUIRED AS PART OF PROPOSAL SUBMISSION

- 5100D** – Request for Proposal Cover Sheet
- 5100G** – Certification of Availability of Key Personnel
- 5100I** – Conflict of Interest Statement
- 5100J** - Consultant Data and Signature Sheet (Required only for Non-Prequalified Work)

(These forms are not included in the proposal maximum page count.)

Michigan Department of Transportation

**SCOPE OF SERVICE
FOR
TRAFFIC & SAFETY SERVICES
Traffic Signal Design**

CONTROL SECTION(S): Various

JOB NUMBER(S): 110797C

PROJECT LOCATIONS: See Attachment B for locations throughout the Grand Region

PROJECT DESCRIPTION:

Signal Modernization Design for intersections #4, 5, 6, 7, 8, 9, 13, 14 and 17, Overhead Flashing Beacon Modernization Design for intersections # 3, 10, 11, 12, 15, 18, and 21, Keep Right LED Case Sign Modernization Design for # 1 & 2 and Sign/Beacon Modernization Design for # 16, 19 & 20. Perform any survey and ramp design necessary to comply with MDOT design practices and ADA requirements at all locations.

Signal Modernization Design for the intersections # **4, 5, 6, 7, 8, 9, 13, 14 and 17** consists of the design for upgrading of the existing traffic signal equipment including but not limited to 16-Load Switch Base-Mounted ("EPAC" type controllers), Traffic and Pedestrian heads, Pedestrian push button actuated (if necessary), ADA Ramp Design (if necessary) embedded loop and/or camera design (if necessary), illuminated case signs, Box Span wire, signal support poles and supporting structures (if necessary). Radio Interconnect Design, Replace all existing traffic and pedestrian signal heads crossing all legs with 12" heads.

The existing drawings and Layout Request Form for the above mentioned intersections will be provided to the consultant.

Note: First option for signal design should be **"Box Span" design**. The signal designs should incorporate the use of LED technology. The consultant identifies and notes the existing posted speed limit on all approaches of the intersection(s) on the plan. Design for Radio Interconnect requires performing the Radio Survey and submitting the Signal Radio Survey Form. The Signal Radio Survey Form can be found via the following link: <http://www.mdot.state.mi.us/webforms>

Copy of Final Approved Electronic files of all signal plans must be submitted to Traffic Signal Unit.

ANTICIPATED SERVICE START DATE: October 29, 2010

ANTICIPATED SERVICE COMPLETION DATE: September 10, 2011

PRIMARY PREQUALIFICATION CLASSIFICATIONS:

Traffic Signal Design

SECONDARY PREQUALIFICATION CLASSIFICATION(S):

Right of Way Surveys (See attachment A)

Road Design Surveys (See attachment A)

Geotechnical Engineering Services

DBE REQUIREMENT: N/A

PROJECT MANAGER:

Douglas Adelman

Traffic and Safety Support Area

Michigan Department of Transportation

Murray D. Van Wagoner Building

P.O. Box 30050

Lansing, MI 48909

Ph: 517- 373-2363

Fax: 517- 373-2330

E-mail: adelmand@michigan.gov

General Requirements:

Design and develop traffic signal contract plans, proposal package, engineering documents, and related work necessary for new installation or modernization of electronic traffic signal control devices to be accomplished by contract bid letting. New traffic signal work typically includes installation of: signal support poles and/or pedestals, span wire, traffic and pedestrian signals, and traffic signal controller. Modernization traffic signal work typically includes the replacement, as needed, of: signal support poles and/or pedestals, span wire (if appropriate), traffic and pedestrian signals, traffic loops, handholes, and traffic signal control equipment.

If steel poles are required for a location, soil borings need to be taken. The first step is to request soil borings from the Region soils engineer (provide the proposed pole locations). The Region soils engineer will inform the consultant if existing soil boring data is available, or if the Region soils engineer can perform the borings, or if the consultant must perform the soil borings.

If it is determined during construction, the design is not constructible due to consultant design error; the signal design consultant will be responsible for correcting the design at no additional cost to MDOT. If the constructability is based on changes made by MDOT, the consultant will be compensated.

CONSULTANT RESPONSIBILITIES:

A) Specific Responsibilities:

- 1) The designer shall arrange for an on-site design meeting with, MDOT Grand Region Electrician (Rand Neff & Tom Cederquist), MDOT Lansing Signals Unit, Grand Rapids Traffic & Safety Engineer (Kara Stein), Grand Rapids Utility Engineer (Michael Lamancusa), Grand Rapids Delivery Engineer (Thomas Tellier), Grand Rapids Development Engineer (Art Green), Muskegon TSC Traffic & Safety Engineer (Timothy Terry), Muskegon TSC Utility Engineer (Leo Evans), Muskegon Delivery Engineer (Gregg Zack), Muskegon Development Engineer (LeighAnn Mikesell), Howard City TSC Traffic & Safety Engineer (Pam Augustine), Howard City TSC Utility/Permit Engineer (John Tanner), Howard City TSC Delivery Engineer (Kevin McReynolds) to review the proposed modernization design plans.

B) General Responsibilities:

- 1) **Any non-typical pedestrian detour plans must be developed as part of the proposal or plan sheets. MDOT will provide a typical pedestrian detour plan for the proposal.**
- 2) **Proposed plan views must have a 1"=30' scale when plotted to 11"x17".**
- 3) **Utility Coordination:**
 -) **Responsibility for utility coordination will be shared by MDOT staff and the consultant. The consultant will call in a design/survey Miss Dig at least two weeks prior to any design survey or design field visit. The consultant will include design/survey Miss Dig locates and all other utility information on the plans (both existing and proposed plans). MDOT will provide the consultant with all information received from soliciting the utility companies.**
 -) **The consultant will stake proposed foundation locations in the field prior to any field utility coordination meeting.**
 -) **The consultant will attend utility coordination meetings and on-site field meetings as required with the utility engineer and the affected utility companies in the area and make any necessary design and plan revisions. The consultant will actively work with MDOT personnel until utility conflicts are resolved.**
- 4) **Meetings:**
 -) **The consultant is responsible for scheduling, attending, and providing meeting minutes for the following meetings:**
 -) **Design kick off meeting**
 -) **Plan review meeting at preliminary plan stage**
 -) **Utility coordination meeting (coordinate scheduling with utility engineer)**
 -) **Utility coordination field meetings as required (coordinate scheduling with utility engineer)**
 -) **OEC meeting prior to plan completion.**
- 5) **Perform strain pole foundation design as required. The MDOT has developed a strain pole foundation design table for box span signals. This table can be found on the Traffic and Safety**

website in the signals correspondence and guidelines area. A special foundation design may be necessary depending on site specific soil properties and proposed signal layout and geometry.

- 6) Perform design service including the design and preparation of base plans, preliminary (75%) plans, **OEC plans**, final plans, “E proposal” package, specifications, wiring diagrams, interconnect drawings, bills of materials, measurement and payment items, and cost estimates for all construction work for this project, including necessary alterations to power, lighting, and interconnect facilities. Traffic signal work may include installation of: signal support poles and/or pedestals, span wire, traffic and pedestrian signals, and traffic signal controller, traffic loops, handholes, wireless interconnect, and video detection.
- 7) Perform Design Service for drilled shaft foundations as required including soil boring information, identification of any suspected contamination of the boring site, and preliminary foundation investigation. (Refer to MDOT's website.) The following information must be provided for proper analysis of strain pole foundations:
 -) Accurate pole location information
 -) Soil classification
 -) Standard penetration values every 2.5 feet (750 mm) extending 20 feet (6.1 m) below the ground surface elevation (blows/foot in accordance with ASTM D1586)
 -) Unconfined compressive shearing resistance (PSF, for cohesive soils)
 -) Ground water table elevation
- 8) The Consultant shall contact the Region Materials/Testing Engineer or Soils Engineer before proceeding with any geotechnical work and submit the results of the preliminary subsurface investigation for their review, approval, and recommendations for foundation design.
- 9) In the performance of design service, govern all project design and plan work by the applicable codes, standards, and practices of the Michigan Department of Transportation, hereinafter referred to as the department, and the current *Michigan Manual of Uniform Traffic Control Devices*.
- 10) Supply all materials necessary for completion of the projects, except as hereinafter described, including incidental prints required.
- 11) All documents prepared by the Consultant, including, drawings, estimates, specifications, field notes, investigation studies, etc., are the property of the department.
- 12) All plan sheets shall be developed using computer-aided drafting technology. The system shall be Intergraph Microstation, or one that processes data exactly as Intergraph will, no translations or system revisions being necessary by the department.
- 13) Refer to Suggested Traffic Signal Design Procedure: MDOT website.
- 14) Refer to Requirements for Preliminary Geotechnical Investigations for Signal Foundations: MDOT website.
- 15) Plans are to be designed using the 2003 Standard Specifications.

- 16) Perform any design/coordination tasks with any railroad company involved within the project limits, including (but not limited to):
 -) Determine railroad contact person(s)
 -) Complete any applications required by the railroad company to perform the proposed traffic signal work.
 -) Include related notes and special provisions as required in the proposal.
- 17) Any existing or proposed pedestrian pushbuttons and ramps must be accessible per ADA guidelines and MDOT design practices including:
 -) Pushbutton must be within 24" from edge of sidewalk
 -) The pushbutton must be located in the middle of a 4' pushbutton landing (maximum slope of 2%).
 -) ADA ramps are required at every crosswalk controlled by a pedestrian signal head.
 -) Sidewalk is required to connect ADA ramps on a quadrant.
- 18) Perform sidewalk and ramp design as needed to comply with MDOT design practices and ADA requirements. For all stop and go traffic signals, all ADA ramps will be replaced unless the existing ramps are compliant with MDOT design practices and ADA guidelines. For flashing signals, pedestrian ramps will not be replaced unless they are disturbed.
- 19) Perform survey as needed in compliance with MDOT survey practices and standards in accordance with attachment A.

Task 1: Base Plan Preparation

1. Design and develop contract base plans necessary for new installation or modernization of electronic traffic signal control devices to be accomplished by contract bid letting. Base plans include (but are not limited to):
 - . Existing road rights-of-way (ROW)
 - . Field measured/surveyed road and lane geometry and posted speed limits
 - . Field measured/surveyed locations of any visible utilities
 - . **Utility note sheet listing the contact names and phone numbers for each utility having facilities within the project limits.**
 - . **Field measured/surveyed locations of all utility markings from design/survey Miss Dig**
 - . **All utility information received from MDOT soliciting utility companies**
 - . Proposed types and locations of poles and controller
 - . Proposed traffic and pedestrian signal head types and locations
 - . Proposed pushbuttons, traffic loops, and antennas
 - . Proposed traffic signal removal (if required) and installation plan(s)
 - . Proposed phasing (as required)
 - . POCH diagram for proposed attachments to wood poles (not required for steel pole attachments)
2. Where applicable, the intersection and ADA ramp survey will be used to develop base plans

3. If existing or proposed equipment appear to be outside existing right-of-way, contact Douglas Adelman (517-373-2363), Traffic Signal Unit in Lansing.

Task 1: Deliverables (Base Plans)

1. All traffic signal plan and interconnect sheets (no details required) in the following formats:
 - . One 11x17 pdf file Distributed as follows:
 - . Traffic Signals Unit: Pdf file
 - . TSC Delivery Engineer: Pdf file
 - . TSC Traffic & Safety Engineer: Pdf file
 - . TSC Utilities Engineer: Pdf file
 - . Region Soils Engineer: Pdf file
 - . Region Traffic & Safety Engineer: Pdf file
 - . Maintaining Agency (if applicable): Pdf file
 - . Utility company supplying power: Pdf file

Task 2: Preliminary (75%) Plan Preparation

1. Design and develop preliminary (75%) contract plans necessary for new installation or modernization of electronic traffic control devices to be accomplished by contract bid letting. Preliminary (75%) plans include (in addition to base plan information):
 - () Location and types of utilities as provided by the utility companies and resulting from utility coordination meeting(s) as required.
 - () Separate Interconnect plan sheet (if the scope requires "Radio Interconnect Design")
 - () List of Materials and Quantities
 - () Wiring diagram
 - () ADA ramp and pushbutton design (including existing and proposed elevations)
 - () Point of Contact Height (POCH) diagram(s)
 - () Appropriate note blocks for contact persons, etc.
 - () Proper file names, levels, and text sizes
 - () Any additional right-of-way required for existing and proposed traffic signal appurtenances
 - () Soil boring information including depths, soil description, water level, and depth of foundation (if required)
2. Attend plan review meeting at the local TSC.

Task 2: Deliverables Preliminary (75%) Plans

- 1) **A summary spreadsheet listing utility conflicts by location and quadrant including the following:**
 -) **Specify utility conflicts as overhead or underground**
 -) **Specify utility and owner (if unknown label as such)**
 -) **Specify locations and utilities for which inadequate information was received**
- 2) All traffic signal plan and interconnect sheets including details.
- 3) All required special provisions, notices to bidders, and specifications in E-Proposal format including a draft progress clause, a draft coordination clause, and a draft special provision for maintaining traffic.

- 4) **Preliminary pedestrian detour plans must be included as 8 ½"x11" sheets within the maintaining traffic special provision or in the plans as 11"x17" sheets.**
- 5) Format of Task 3 Deliverables
 -) One electronic 11x17 pdf file (filename: Job#PLANHALF.pdf)
 -) One electronic proposal pdf file (filename: Job#PROPOSAL.pdf)
- 6) Distribute Task 3 Deliverables as follows:
 -) Traffic Signals Unit
 -) TSC Delivery Engineer
 -) TSC Traffic & Safety Engineer
 -) TSC Utilities Engineer
 -) Region Soils Engineer
 -) Region Traffic & Safety Engineer
 -) Lansing Signal Shop
 -) Maintaining Agency (if applicable)
 -) Utility company supplying power

Task 3: OEC Plans and Proposal Preparation

- 1) Incorporate the department's comments on the plans and prepare complete detailed construction OEC plans, supplemental specifications, special provisions, measurement and payment items, estimates of quantities, span calculations, and engineer's estimates of cost for all necessary construction and related work included in this project.
- 2) During preparation of the OEC plans, make such alterations, corrections, and revisions to said plans and supporting materials as are deemed necessary and desirable by the department to insure conformance of plans to good design and standard practices and to have said plans and other material in proper form for receiving bids.
- 3) During preparation of the proposal, work with the appropriate MDOT personnel to obtain final bid proposal documents including progress clause, coordination clause, special provision for maintaining traffic, and utility relocation status (form 2286).
- 4) **Pedestrian detour plans must be included as 8 ½"x11" sheets within the maintaining traffic special provision or in the plans as 11"x17" sheets.**
- 5) Attend and provide electronic plans for the OEC meeting.

Task 3: Deliverables (OEC Plans and Proposal):

1. Deliver to the department electronic OEC plans, proposal and supporting documents compatible with **current "E- Proposal"** requirements (Refer to MDOT website: E-Proposal Training for MDOT Consultants Document).

Task 4: Final Plan and Proposal Preparation

- 1) Make any final changes necessary to the plans and proposal and supporting documents

Task 4: Deliverables (Final Plans):

1. Upon completion of design services for this project and final approval thereof by the department, deliver to the department final plans, proposal and supporting documents compatible with **current "E- Proposal"** requirements (Refer to MDOT website: E-Proposal Training for MDOT Consultants Document). **All CAD files must be "Intergraph Microstation Version 8 file format" and all PDF files must be Adobe Acrobat version 6.**

Format of Task 4 Deliverables (Final Plans):

-) One (1) 11"x17" paper copy of the title sheet with original stamps and signatures including a map of the area with work locations identified, a list of locations, and other items as determined by Traffic Signal Unit
-) **Final Approved Electronic files of all signal plans must be submitted to Traffic Signal Unit.**
-) Electronic (pdf) 11"x17" plan file (filename: Job#PLANHALF.pdf)
-) Electronic (pdf) proposal file (filename: Job#PROPOSAL.pdf)
-) Electronic (pdf) files of all required supporting documents
-) Editable electronic files of all supporting documents and of all files inserted into proposal document. For example, submit the progress clause as a word document in addition to the progress clause (pdf) which will also be inserted in the proposal pdf.
-) One set of estimates of cost of construction (8-1/2" x 11" paper copy).
-) One copy of all design computations as required for use by the department.
-) Upon request by the department, make available thereto all notes utilized in preparation of the plans, supplemental specifications, and cost estimates.
-) For all signal contracts, a "txt" or "csv" file compatible with Transport system detailing the materials used
-) Checklist of "typical" signal details to be used
-) All required checklists of MDOT Special Provisions extracted per E-Proposal format

Distribute Task 4 Deliverables to Lansing Traffic Signals Unit only as follows:

-) One (1) 11"x17" paper copy of the title sheet
-) All electronic files to be delivered on a compact disk (CD) and sent via email

MDOT RESPONSIBILITIES:

Utilities:

MDOT staff will:

- **Distribute plans to all the utility companies in the area**
- **Receive and pass on all utility information**
- **Assist in scheduling and conducting utility coordination meeting(s)**
- **Coordinate any necessary utility relocation**

Department Review:

The department will review and comment on the base plan, the preliminary (75%) plan, and the OEC plan submittals. Additional plan review may be required dependent on completeness and accuracy of the plans submitted.

Information services to be provided by the MDOT are:

- Control section numbers
- Job numbers
- Contact information for TSC/Region/C&T personnel
- Appropriate Traffic and Safety Notes
- Available signal design plans and/or layout drawings for each location
- Available signal phasing or operational information for each location
- A Proposal file will be made available to be used as a template
- Items available on MDOT's website - www.michigan.gov/mdot
(Select: Doing Business with MDOT, Traffic & Safety Services, Typical/Details/Guides)

1. Signal Details

- a.** MDOT Typical Signal Construction Detail Sheets
- b.** MDOT Typical Signal Information Note Sheet
- c.** MDOT Typical Signal Legend Sheet

2. Traffic Consultant Files

- a.** Cell libraries
- b.** Microstation information
- c.** CAD instructions for consultants
- d.** MDOT sample layouts
- e.** MDOT Suggested Traffic Signal Design Procedure
- f.** MDOT Requirements for Preliminary Geotechnical Investigations for Signal Foundations
- g.** Method of Measurement and Basis of Payment for Signal Contracts
- h.** Signal Span Calculation Program (non-disclosure statement required)

3. Traffic Guidelines

- Traffic Signal Head Placement Diagrams

Signal special provisions are now available on the Design IRS menu.

Reference Documents and Standards to be Used:

- *National Manual of Uniform Traffic Control Devices*
- *Michigan Manual of Uniform Traffic Control Devices (MMUTCD)*
- *Michigan Vehicle Code*
- Local and national electrical codes
- MDOT Standards, Specifications, and Construction Details
- MDOT Pay Item Code Book

From this list, the following documents can be ordered from MDOT Financial Services Division (517-335-2519). The Consultant must pay the cost.

- MMUTCD
- MDOT 2003 Standard Specifications for Construction
- MDOT Pay Item Code Book

PROJECT COORDINATION:

Coordinate design service with MDOT, Traffic and Safety Support Area, Traffic Signal Unit, Douglas Adelman (517-373-2363); overhead and/or underground utility/telephone companies.

PROJECT SCHEDULE:

Prepare and submit to the department a Gantt Chart schedule for each task and total calendar days for completing the project. The work shall be completed commencing from the date of work authorization to the Consultant. The time allocated for any necessary utility coordination meeting, soil boring investigations, and the department review shall be shown in the Consultant's work schedule. **For scheduling purpose, it is anticipated that this project will begin on October 29, 2010 and should be completed by September 10, 2011.**

PAYMENT SCHEDULE

Compensation for this Scope of Services shall be on an actual cost plus fixed fee basis.

CONSULTANT PAYMENT – Actual Cost Plus Fixed Fee:

Compensation for this project shall be on an **actual cost plus fixed fee** basis. This basis of payment typically includes an estimate of labor hours by classification or employee, hourly labor rates, applied overhead, other direct costs, subconsultant costs, and applied fixed fee.

All billings for services must be directed to the Department and follow the current guidelines. The latest copy of the "Professional Engineering Service Reimbursement Guidelines for Bureau of Highways" is available on MDOT's website. This document contains instructions and forms that must be followed and used for billing. Payment may be delayed or decreased if the instructions are not followed.

Payment to the Consultant for services rendered shall not exceed the maximum amount unless an increase is approved in accordance with the contract with the Consultant. Typically, billings must be submitted within 60 days after the completion of services for the current billing. The final billing must be received within 60 days of the completion of services. Refer to your contract for your specific contract terms.

Direct expenses, if applicable, will not be paid in excess of that allowed by the Department for its own employees in accordance with the State of Michigan's Standardized Travel Regulations. Supporting documentation must be submitted with the billing for all eligible expenses on the project in accordance with the Reimbursement Guidelines. The only hours that will be considered allowable charges for this contract are those that are directly attributable to the activities of this project.

The use of overtime hours is not acceptable unless prior written approval is granted by the MDOT Region Engineer/Bureau Director and the MDOT Project Manager. Reimbursement for overtime hours that are

allowed will be limited to time spent on this project in excess of forty hours per person per week. Any variations to this rule should be included in the priced proposal submitted by the Consultant and must have prior written approval by the MDOT Region Engineer/Bureau Director and the MDOT Project Manager.

The fixed fee for profit allowed for this project is 11.0% of the cost of direct labor and overhead.

ATTACHMENT A

SURVEY SCOPE OF WORK

Survey is required at all traffic signal locations (both flashers and full traffic signals). The scope of survey includes intersection topographic, right-of-way, and ADA ramp survey (as required).

Intersection topographic survey limits include all utilities and structures within rights-of-way from existing curb and gutter (shots on back of curb, flow line, and edge of gutter at 5' intervals) to 10' behind existing rights-of-way. Survey limit extends 100' beyond the points of curvature.

A design/survey MISS DIG request must be submitted at least 2 weeks prior to beginning of survey to ensure that utility locates are marked and can be picked up by the survey. The MISS DIG utility marks are to be shot in and labeled as a MISS DIG locate.

ADA ramp survey limits include drainage structures (and any other utility located in or adjacent to the curb and gutter) near existing or proposed ADA ramps. Curb and gutter shots near existing or proposed ADA ramps must be taken every 3 feet. Both ends of sidewalk joints must be included to help define the limits of sidewalk replacement during ADA ramp design. If an ADA ramp exists, enough information must be collected to properly define the existing conditions.

Right-of-way survey limits must include all existing and proposed ADA ramps and traffic signal equipment. If additional right-of-way is required for existing or proposed design, sufficient data must be provided to enable MDOT to write a legal description..

PROJECT SURVEY LOCATIONS:

Grand Rapids TSC

- 1) M-37 (Alpine) @ Alpine Avenue (North), , Alpine Township, Kent County (41033-02-024)
- 2) M-11 (28th St.) @ Acquest Avenue, City of Kentwood, Kent County (41063-01-005)
- 3) M-11 (28th St.) @ Patterson Avenue, City of Kentwood, Kent County (41063-01-008)
- 4) M-11 (28th St.) @ N Outer Dr. Radcliff, City of Kentwood, Kent County (41063-01-013)
- 5) M-11 (28th St.) @ E Paris Avenue, City of Grand Rapids, Kent County (41063-01-014)
- 6) M-11 (28th St.) @ Lake East Brook BLVD, City of Grand Rapids, Kent County (41063-01-019)
- 7) M11 (28th St.) @ Englewood (GR Central Drive), City of Grand Rapids, Kent County (41063-01-020)
- 8) I-196 WB @ US131 NB & SB On Ramps, City of Grand Rapids, Kent County (41027-02-001) (add solar beacons on existing sign)
- 9) M-50 (92nd) @ M-50 (Alden Nash), Bowne Township, Kent County (41071-02-001)
- 10) M-45 (Lake Michigan Drive) @ M-45 (Fulton), City of Grand Rapids, Kent County (41081-02-018)

Muskegon TSC

11) M-46 (Apple) @ Getty Street, City of Muskegon, Muskegon County (61022-01-002)

12) US-31 NB Off Ramp @ M-120 (Holton), Muskegon Township, Muskegon County (61075-01-007)

13) M-37 @ Bailey Road, Casnovia Township, Muskegon County (61131-02-001)

14) M-82(Main) @ Market Avenue / Big Wheel Drive, City of Fremont, Newaygo County (62011-01-007)

15) US-31BS (State) @ US-31BS (Russell St.), Hart Township, Oceana County (64016-02-002)

Howard City TSC

16) US-131BR @ US-131BR (19 Mile Road), Green Township, Mecosta County (54012-02-014)

NOTES: The Selected Consultant shall discuss the scope of this survey with an MDOT Region Surveyor or an MDOT Lansing Design Surveyor before submitting a price proposal.

The Selected Consultant surveyor must contact the Region or TSC Traffic and Safety Engineer for work restrictions in the project area prior to submitting a price proposal.

A **detailed Survey Work Plan must** be included in the project proposal. A **spreadsheet estimate** of hours by specific survey task such as traversing, leveling, mapping, etc., **must** be included in the **priced proposal**.

It is the responsibility of the Professional Surveyor to safeguard all corners of the United States Public Land Survey System, published Geodetic Control and any other Property Controlling corners that may be in danger of being destroyed by the proposed construction project.

GENERAL REQUIREMENTS:

1. Surveys must comply with **all Michigan law** relative to land surveying.
2. Surveys must be done under the **direct supervision** of a Professional Surveyor licensed to practice in the State of Michigan.
3. Work in any of the following categories of survey: Road Design, Structure, Hydraulic, Right-of-Way, and/or Ground Control (Photogrammetric) must be completed by a survey firm which is pre-qualified by MDOT for that category.
4. Surveys must meet all requirements of the Michigan Department of Transportation (MDOT) Design Surveys *Standards of Practice* dated March 2008, the MDOT Design Survey Manual on-line, and the MDOT RTK guidelines. Please contact the Design Survey office to clarify any specific questions regarding these standards.

14. Each submittal is to be divided into six sections. These sections are to be labeled as follows: **Administrative, Alignment, Control, Property, Mapping, and Miscellaneous.**
15. **All data**, whether electronic or paper, **must be recorded on non-rewritable Compact Discs (CD's) or DVD's.** All paper files, including MicroStation files, must be scanned and/or converted to Adobe Acrobat .PDF format. CD's must be organized in the same manner as the portfolio, such as by Administrative section, Control section, etc. A Table of Contents in Adobe Acrobat format is required that has all .PDF pages of the CD bookmarked/linked so each place in the .PDF archive can be accessed with a single click of the computer mouse. Specified format files such as ASCII text, CAiCE and MicroStation must have separate access in native format outside of the .PDF file. CD's must be labeled with the control section, job number, data type and file names. It is not necessary to label each individual paper page in the portfolio.
16. Each category of survey must be packaged separately (i.e., Structure surveys separate from Road surveys and Hydraulic surveys). CD's must be labeled with the Control Section, Job Number, data type and file names.
17. The Consultant representative shall record and submit typewritten minutes for all project related meetings to the MDOT Project Manager within two weeks of the meeting. The Consultant shall also distribute the minutes to all meeting attendees.
18. The MDOT Project Manager is the official contact for the Consultant. The Consultant must send a copy of all project correspondence to the MDOT Project Manager. The MDOT Project Manager shall be made aware of all communications regarding this project. Any survey related questions regarding this project should be directed to a Survey Consultant Project Manager or MDOT Region Surveyor.

This Attachment A was prepared by:

Michael C. Barger, PS
MDOT Survey Consultant Project Manager
Michigan Department of Transportation
Van Wagoner Building
425 W. Ottawa Street, B220
P.O. Box 30050
Lansing, MI 48909
517-241-3431
bargerm@michigan.gov

At the completion of this survey for this project, legible copies of all field survey notes, all electronic data, and all research records obtained for this project will be considered the property of MDOT and **must be sent to** the MDOT, Design Support Area, Supervising Land Surveyor, P.O. Box 30050, Lansing, MI 48909. Please use MDOT's Form 222(5/01) entitled "SURVEY NOTES: RECEIPT AND TRANSMITTAL" for all transmittals. A copy of this transmittal form must also be sent to the MDOT Project Manager for Design.

Acceptance of this survey by the MDOT Supervising Land Surveyor and/or the MDOT Project Manager does not relieve the Consultant of any liability for the content of the survey.

WORK RESTRICTIONS

The Selected Consultant and the Selected Consultant only, is advised to discuss Traffic Control scenarios with the MDOT Traffic and Safety Engineer at the closest MDOT TSC prior to submitting a priced proposal.

Topics to be discussed with the Traffic and Safety Engineer include:

- The project limits extend 100 feet from the intersection.
- No survey work is required in the traveled roadway.
- Crew members will restrict the road crossings to the crosswalks.
- Topographic mapping begins at the inside edge of the curb and ends at the property line.

No work shall be performed or lane closures allowed during the Memorial Day, July 4th, or Labor Day holiday periods, as defined by the MDOT Project Manager or representative specifically designated by the Project Manager.

The Consultant must call the MDOT Region or TSC Traffic and Safety Engineer before beginning work to inform him or her of surveying activity in the area. The MDOT Region or TSC must be notified at least two weeks prior to lane closures so advance notice can be posted on the Web site.

Traffic shall be maintained by the Consultant throughout the project in accordance with Sections 812, 922, 103.05 and 103.06 of the *Standard Specifications for Construction*, 2003 edition, www.mdot.state.mi.us/specbook/, and Supplemental Specification 03SS001(2) Errata to the 2003 Standard Specifications and all other supplemental specifications currently in effect against the Standard Specifications for Construction. All traffic control devices shall conform to the current edition, as revised, of the *Michigan Manual of Uniform Traffic Control Devices* (MMUTCD). All warning signs for maintenance of traffic used on this project shall be fabricated with prismatic retro-reflective sheeting, and shall be set up five feet above ground.

The Consultant shall use MDOT standard “maintaining traffic” typicals for any and all closures. Typical MDOT traffic control diagrams are available on line at www.mdot.state.mi.us/tands/plans.cfm

COORDINATION WITH OTHER CONTRACTS IN THE VICINITY

The Consultant shall coordinate his operations with contractors performing work on other projects within or adjacent to the Construction Influence Area (CIA).

The Consultant’s attention is called to the requirements of cooperation with others as covered in Article 104.07 of the 2003 Standard Specifications for Construction. Other contracts or maintenance operations may occur during the life of the project.

No claim for extra compensation or adjustment in contract unit prices will be allowed on account of

delay or failure of others to complete work unit scheduled.

FIELD SURVEY

The purpose of the field survey is to obtain all information and data required by the project design engineer, to leave control in the field for future construction staking, and to provide a sufficient history of the area to enable the MDOT Design Survey Unit to perform dependable surveys in the future. The Consultant surveyor must discuss the scope of this survey with the project design engineer before initiating any work on this project. Notes of this meeting and a detailed Survey Work Plan with an estimate of hours broken down by specific survey task must be submitted to the MDOT Project Manager and Survey Consultant Project Manager within two weeks of this meeting.

CONTROL

The purpose of the mapping is for ADA ramp improvements and other upgrades to the intersection. No typical control is necessary. An assumed horizontal and vertical datum is adequate. Property irons either found or established would be appropriate to be used as project control. At least two horizontal and vertical control points are necessary for future layout.

GOVERNMENT CORNERS & PROPERTY

Any government corner that would help locate the property is required. Copies of plats in the area are required to be included in the PDF portfolio. MDOT Right of Way maps are to be used as a guideline only and not held as the final document. Copies of deeds in the four quadrants of an intersection is required and should serve as a basis of Right of Way location.

ALIGNMENT

No alignment is required.

MAPPING

Mapping of the intersections includes the following detail:

- Curb (top back of curb) & gutter (at flow line and at edge) is to be collected through the curves with observations every 3 feet along the arc near existing or proposed ADA ramps. Outside existing or proposed ADA ramp areas, curb and gutter observations may be every 5 feet.
- Drainage structures (and any other utility located in or adjacent to the curb and gutter) near existing or proposed ADA ramps must be located because they can affect ADA ramp design.
- If an ADA ramp exists, enough information must be collected to properly define the existing conditions.
- Existing sidewalk joint ends must be mapped to help determine limits of sidewalk replacement.
- Locate all utilities that can be seen on site. No utility company contacts are required.
- ROW needs to be shown on the mapping. A distance should be noted from the back of sidewalk to the ROW line.

The Consultant must submit a **CAiCE software file, named MDOTjob#.zip**, utilizing CAiCE's built-in archive feature, of all survey mapping points and data files for the mapping area. If a Digital Terrain Model is needed for the project, it must be created in CAiCE and named EXRD. **The CAiCE software used must be Version 10.6 or newer.**

The Consultant is responsible for using the latest MDOT CAiCE Feature Codes, files and Plans Production tugboat (macro), available on the MDOT Design Survey File Transfer Protocol (FTP) site at <ftp://ftp.michtrans.net/>. The consultant Username is "survcons." The consultant Password is \$urvcon\$. The tugboat can also be used to convert CAiCE files into Geopak and MicroStation formats.

The Consultant must provide an electronic **MicroStation Intergraph Version 8 format file** of the mapping area. This must be named MDOTjob#pl.dgn, for example **79023Cpl.dgn**, and must be submitted **in a sub-directory outside of the CAiCE archive file** named "MicroStation." The MicroStation file will be a 2-D file of the planimetric features including contours. This file must be sized appropriately, utilize the seed file **seedrd_c.dgn** with working units of 1000, 1, and be compiled in standard MDOT format. The Consultant is responsible for using the latest MDOT Resource files, color table, and cell files, available on the MDOT File Library site under CAD_V8. Go to <http://mdotwas1.mdot.state.mi.us/public/bbs/>

For a comprehensive list of MicroStation level designations, contents and line attributes, refer to the "MDOTV8LEVEL.pdf" table located on the MDOT Design Survey File Transfer Protocol web site. This table replaces the former Attachments AA, C & D. Also in the ftp site, the Consultant should refer to the V8GROUP&ALPHA LIST.pdf file for Data Collection Codes.

The Consultant must also submit **files created from CAiCE that are formatted for design in Geopak** software. This can be accomplished by using the MDOT Plans Production CAiCE Tugboat available on the MDOT Design Survey FTP site. The Consultant must submit a 3D MicroStation Triangle file, a Survey Chain (TIN Boundary) around the edited Triangle file with the name and Feature "CLIP", a Job#.OBS file, a Job#.KCP file, a Job#.XYZ file and a Job#.ALI file. Each alignment must be computed separately and uniquely named to include the JN and a description, such as 79585_AsC_Wbd.ALI. These files must be submitted electronically **in a subdirectory outside of the CAiCE archive file** named "Geopak."

POST SURVEY CLEAN-UP

Once the survey is complete, all stakes must be removed to aid the maintenance crews and adjacent property owners. All benchmarks and control points and their witnesses must remain in place. The use of paint should be minimal to non-existent.

FINAL REPORT: DELIVERABLES

The final report for this project shall include:

- Provide three CD copies with the following information:
 - Administration
 - A copy of this portion of the Scope of Services

- Surveyor's Report
 - Properly named digital portfolio as an Adobe PDF file
- Control
 - Horizontal and vertical control sheets with coordinates in English units
- Alignment
 - None.
- Property
 - All plats, recorded surveys and deeds used to ascertain the ROW.
- Mapping
 - A printout of the above listed areas showing the elevations collected
 - A digital copy of the CAiCE zip file, MicroStation files and GeoPak files
- Miscellaneous
 - Any information that may help the designer understand field conditions

ATTACHMENT B

Grand Rapids TSC

- 1) M-37 (Alpine) @ Alpine Church St, Alpine Township, Kent County(41033-03-006)
- 2) M-37 @ N End of Medians of 11 Mile Road, Sparta Township, Kent County (41033-03-016)
- 3) M-37 (Alpine) @ Alpine Avenue (North), , Alpine Township, Kent County (41033-02-024)
- 4) M-11 (28th St.) @ Acquest Avenue, City of Kentwood, Kent County (41063-01-005)
- 5) M-11 (28th St.) @ Patterson Avenue, City of Kentwood, Kent County (41063-01-008)
- 6) M-11 (28th St.) @ N Outer Dr. Radcliff, City of Kentwood, Kent County (41063-01-013)
- 7) M-11 (28th St.) @ E Paris Avenue, City of Grand Rapids, Kent County (41063-01-014)
- 8) M-11 (28th St.) @ Lake East Brook BLVD, City of Grand Rapids, Kent County (41063-01-019)
- 9) M11 (28th St.) @ Englewood (GR Central Drive), City of Grand Rapids, Kent County (41063-01-020)
- 10) I-196 WB @ US131 NB & SB On Ramps, City of Grand Rapids, Kent County (41027-02-001) (add solar beacons on existing sign)
- 11) M-50 (92nd) @ M-50 (Alden Nash), Bowne Township, Kent County (41071-02-001)
- 12) M-45 (Lake Michigan Drive) @ M-45 (Fulton), City of Grand Rapids, Kent County (41081-02-018)

Muskegon TSC

- 13) M-46 (Apple) @ Getty Street, City of Muskegon, Muskegon County (61022-01-002)
- 14) US-31 NB Off Ramp @ M-120 (Holton), Muskegon Township, Muskegon County (61075-01-007)
- 15) M-37 @ Bailey Road, Casnovia Township, Muskegon County (61131-02-001)
- 16) M-37 @ Bailey Road, Casnovia Township, Muskegon County 61131-08-101)
- 17) M-82(Main) @ Market Avenue / Big Wheel Drive, City of Fremont, Newaygo County (62011-01-007)
- 18) US-31BS (State) @ US-31BS (Russell St.), Hart Township, Oceana County (64016-02-002)
- 19) US-31BS (State) @ Johnson St., City of Hart, Oceana County (64016-05-003)
- 20) US-31BS (State) @ Chataqua St., City of Hart, Oceana County (64016-08-004)

Howard City TSC

- 21) US-131BR @ US-131BR (19 Mile Road), Green Township, Mecosta County (54012-02-014)