

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

	REQUISITION NUMBER	DUE DATE	
MDOT PROJECT MANAGER	JOB NUMBER (JN)	CONTROL SECTION (CS)	
DESCRIPTION			
<b>MDOT PROJECT MANAGER:</b> Check all items to be included in RFP  WHITE = REQUIRED GRAY SHADING = OPTIONAL  Check the appropriate Tier in the box below		<b>CONSULTANT:</b> Provide only checked items below in proposal	
<input type="checkbox"/> <b>TIER I</b> (\$25,000-\$99,999)	<input type="checkbox"/> <b>TIER II</b> (\$100,000-\$250,000)	<input type="checkbox"/> <b>TIER III</b> (>\$250,000)	
<input type="checkbox"/>	<input 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"/>	Organizational Chart
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Qualifications of Team
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 type="checkbox"/>	<input type="checkbox"/>	<b>Location:</b> The percentage of work performed in Michigan will be used for all selections unless the project is for on-site p=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) ( <b>No Resumes</b> )	7 pages (MDOT Forms not counted)	14 pages (MDOT forms not counted)	Total maximum pages for RFP <b>not including key personnel resumes.</b> Resumes limited to 2 pages per key staff personnel.

**PROPOSAL AND BID SHEET EMAIL ADDRESS** – [mdot-rfp-response@michigan.gov](mailto:mdot-rfp-response@michigan.gov)

### 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 five (5) 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

**5100J** – Consultant Data and Signature Sheet (Required only for firms not currently prequalified with MDOT)

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

**REQUEST FOR PROPOSAL**

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 Services Contracts" and "Guideline for Completing a Low Bid Sheet(S)\*, if a low bid is involved as part of the selection process. **Reference 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 \_\_\_\_\_

**Prequalified Services** – See page \_\_\_\_ of the attached Scope of Services for required Prequalification Classifications.

**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 is required with Proposal for firms not currently prequalified with MDOT**

**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 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.

**Qualification 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. The vendor that has met established qualification threshold and 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**

Bid Sheet(s) must be submitted in accordance with the "Guidelines for Completing a Low Bid Sheet(s)\* (available on MDOT's website). Bid Sheet(s) are located at the end of the Scope of Services. Submit bid sheet(s) separate from the proposal, to the email address: [mdot-rfp-response@michigan.gov](mailto:mdot-rfp-response@michigan.gov). Failure to comply with this procedure may result in your bid being rejected from consideration.

**NOTIFICATION  
MANDATORY ELECTRONIC SUBMITTAL**

**Proposals submitted for this project must be submitted electronically.**

**The following are changes to the Proposal Submittal Requirements:**

- Eliminated the Following Requirements:
  - Safety Program
  - Communication Plan
  - Past Performance as *a separate section*
  - Separate section for DBE Statement of goals. Include information in Qualification of Team section
  
- Implemented the Following Changes:
  - All proposals require an Organization Chart
  - Resumes must be a maximum of two pages
  - Only Key (lead) staff resumes may be submitted
  - Tier III proposal reduced from 19 to 14 pages
  - Forms 5100D, 5100I, and 5100G combined – 5100D
  - Forms 5100B and 5100H combined – 5100B
  - RFP's will be posted on a weekly basis -- on Mondays

**The following are Requirements for Electronic Submittals:**

- Proposals must be prepared using the most current guidelines
- The proposal must be bookmarked to clearly identify the proposal sections (See Below)
- For any section not required per the RFP, the bookmark must be edited to include “N/A” after the bookmark title.  
**Example:** Understanding of Service – N/A
- Proposals must be assembled and saved as a single PDF file
- PDF file must be 5 megabytes or smaller
- PDF file must be submitted via e-mail to [MDOT-RFP-Response@michigan.gov](mailto:MDOT-RFP-Response@michigan.gov)
- MDOT's requisition number and company name must be included in the subject line of the e-mail. The PDF shall be named using the following format:
  - Requisition#XXX\_Company Name.PDF
- MDOT will not accept multiple submittals
- Proposals must be *received* by MDOT on or before the due date and time specified in each RFP

**If the submittals do not comply with the requirements, they may be determined unresponsive.**

The Consultant's will receive an e-mail reply/notification from MDOT when the proposal is received. Please retain a copy of this e-mail as proof that the proposal was received on time. **Consultants are responsible for ensuring the MDOT receives the proposal on time.**

**Required Bookmarking Format:**

- I. Request for Proposal Cover Sheet Form 5100D
  - A. Consultant Data and Signature Sheet, Form 5100J (if applicable)
- II. Understanding of Service
  - A. Innovations
- III. Qualifications of Team
  - A. Structure of Project Team
    - 1. Role of Firms
    - 2. Role of Key Personnel
  - B. Organization Chart
  - C. Location
- IV. Quality Assurance / Quality Control Plan
- V. Resumes of Key Staff
- VI. Pricing Documents/Bid Sheet (if applicable)

**2/14/12**

**MICHIGAN DEPARTMENT OF TRANSPORTATION**

**SCOPE OF SERVICE  
FOR  
DESIGN SERVICES**

**Revised as 7.16.12  
Added PPMS #3670**

**CONTROL SECTION(S):** 78042

**JOB NUMBER(S):** 103154C

**PROJECT LOCATION:**

The project is located on M-60 starting westerly village limits of Mendon and ending easterly village limits approximately 1.1 mile long, in the village of Mendon, St. Joseph County.

**PROJECT DESCRIPTION:**

This project entails complete reconstruction of M-60 without widening through the village of Mendon in St. Joseph County. The project will include reconstruction of the existing 1.1 mile long roadway with replacement of storm sewer, water main and existing sidewalk.

**ANTICIPATED SERVICE START DATE:** 08/01/2012

**ANTICIPATED SERVICE COMPLETION DATE:** 12/31/14

**DBE REQUIREMENT:** 5%

**PRIMARY PREQUALIFICATION CLASSIFICATION(S):**

Roadway Rehabilitation & Rural Freeways

**SECONDARY PREQUALIFICATION CLASSIFICATION(S):**

Municipal Utilities

Subsurface Utility Engineering

Utility Coordination

Hydraulics

Maintaining Traffic Plans & Provisions

Pavement Marking Plans

Permanent Non-Freeway Traffic Signing Plans

Traffic Capacity Analysis/Geometric Studies

Road Design Surveys

**MDOT PROJECT ENGINEER MANAGER:**

Munawar Azam  
Southwest Region Office  
1501 E. Kilgore Road  
Kalamazoo, MI 49001  
Phone: (269) 337-3920  
E-Mail: [AzamM@michigan.gov](mailto:AzamM@michigan.gov)

All inquiries about this Request for Proposal should be directed to the MDOT Project Manager.

**ADDITIONAL INFORMATION:**

A scoping report was completed for this project in 2007. This report will be available to the selected consultant. A structure study was not included for the small bridge over the Little Portage River.

**REQUIRED MDOT GUIDELINES AND STANDARDS:**

Work shall conform to current MDOT, FHWA, and AASHTO practices, guidelines, policies, and standards (i.e., Road Design Manual, Standard Plans, Drainage Manual, Roadside Design Guide, A Policy on Geometric Design of Highways and Streets, Michigan Manual of Uniform Traffic Control Devices, etc.).

NOTE: A process change mandated by federal audit of MDOT’s design process puts the Omissions and Errors Check Meeting after the Plan Completion. Please keep this in mind when preparing your schedule. See MDOT Road Design Manual, Chapter 14 – Procedures – Section 14.54 for corroboration. See “For Your Information” contacts at the end of this document for more info or questions.

Consultant is required to use MDOT’s current version of Bentley MicroStation for CADD applications and Bentley GEOPAK for road design. Consultant shall comply with all MDOT CADD standards and file naming conventions.

**CONSULTANT RESPONSIBILITIES:**

**A. DESIGN SCOPE OF WORK**

Complete the design of this project including, but not limited to the following:

1. Meet with the MDOT Project Manager to review project, location of data sources and contact persons, and review relevant MDOT operations. The Consultant shall review and clarify project issues, data needs and availability, and the sequence of events and team meetings that are essential to complete the design by the project plan completion date. Attention shall be given to critical target dates that may require a large lead time, such as geotechnical requirements, ROW submittal dates, road surveys, utility conflict resolution, local agency meetings, etc.

2. Maintain a Design Project Record which includes a history of significant events (changes, comments, etc.) which influenced the development of the plans, dates of submittals and receipt of information.
3. A comprehensive design survey was completed in 2007 and will be available to the selected consultant. However, “Road Design Survey” secondary prequalification is added in the RFP for additional survey hours required for verification and update of the existing survey and any additional pickup survey required based on design requirements. The ROW staking task is to be performed as directed to delineate proposed ROW or existing ROW where the location of project impacts are to be reviewed. A complete electronic version of all survey data and reports shall be included in the project final deliverables. See Attachment C for the Survey Scope.
4. MDOT Guidelines for Plan Preparation” and “MDOT CADD Workstation Guides and Parameters – Interim Update” are to be used as guides to create the plans. Prominent topographical features such as parking lots, tree lines, isolated trees, driveways, field drives, watercourses, structures and houses with address numbers, and electrical transmission lines are to be traced into the plans using aerial images. They will be traced and labeled using CADD elements. Include these topographical features that are within 150 feet of the roadway centerline. Tracing of prominent topographical features outside the right-of-way onto the plans from aerial images is a CADD task that might be considered unique on this project. The scale for the plan sheets is 1 inch equals 20 feet.
5. The Consultant shall complete a drainage study. Hydraulic calculations shall be provided by the selected Consultant that shows the design flow and capacity of each existing and proposed pipe. The Consultant is to provide design alternatives and completed drainage designs to MDOT for draining the project area including water treatment BMPs. The Consultant is to include collection of MDEQ Permit information and modifying the proposed design to conform to permit requirements in the drainage design.
6. The concept for pavement design is to reconstruct existing composite and concrete pavement from POB to POE. The pavement design will be per the life cycle cost pavement design to be provided by MDOT. According to new LLCA process the consultant will be required to submit a Temporary Traffic Control Plan (TTCP) during LLCA approval process. The Consultant is to produce typical sections and proceed with other preliminary design activity and then refine the design to the final approved pavement design.
7. Design any geometric improvements as required by the 4R design criteria in the MDOT Road Design Manual. The Consultant is to provide a report listing each design criteria element, the standard value, and the existing values. The ideal design would have no design exceptions, however in case of an unavoidable design exception; the consultant shall provide all necessary submittals for the design exception.
8. ROW plans are required for this project. Grading permits and/or proposed ROW are expected for potential sidewalk improvements. A spreadsheet of drives is to be provided

- by the Consultant that lists each driveway, the existing driveway type, existing surface, existing grade, proposed grade, proposed surface, and limits of proposed surface.
9. Non-Freeway signing plans for complete replacement of all signs are to be provided by the Consultant.
  10. All MOT work in the project is a Consultant task. The formation of MOT alternatives and the making of refinements to MOT concepts will be provided by the Consultant.
  11. Watermain design is to be included for the entire project. The usual duties required to coordinate the design with the local agency to include betterments, adjustments, and cost participation are to be included in the Consultant design. A watermain Study, per Road Design Manual Section 9.02.01C, is to be completed by the Consultant. Complete a similar study for sanitary sewer pipes within MDOT ROW.
  12. Public engagement activities are to be performed with this project. Production of displays and attendance at all public meetings is to be included in the Consultant authorization. Distribution of brochures that announce the meetings is an MDOT task but the production of distribution material will be prepared by the Consultant.
  13. A spreadsheet report that lists location, size, and type of unprotected trees within the clear zone and within MDOT ROW shall be produced by the Consultant. The MDOT Resource Specialist and MDOT Traffic and Safety Engineer will specify which trees to remove for safety purposes.
  14. The Consultant is responsible for the design of the soil erosion and sedimentation control measures. This design is to be provided on the preliminary plans. The Consultant is expected to make revisions in this design according to comments provided at the Plan Review.
  15. The design of sidewalk is included in this project. The consultant is to participate in engagement efforts made to understand the desires of the local agencies involved in this project. Providing design alternatives and refinements concerning sidewalk, drive access, and buffer space within the MDOT ROW is to be provided by the Consultant.
  16. Prepare required plans, typical cross-sections, details, and specifications required for design and construction.
  17. Prepare Right-of-Way and Marked Final Right-of-Way plans as required, to locate, verify, and purchase real estate and/or obtain construction access permits for this project.
  18. Compute and verify all plan quantities.
  19. Provide solutions to any unique problems that may arise during the design of this project.
  20. Attend any project-related meetings as directed by the MDOT Project Manager.

21. The Consultant representative shall record and submit typed minutes for all project related meetings to the MDOT Project Manager within one (1) week of the meeting. MDOT will distribute official meeting minutes for all meetings.
22. Attend information meetings (i.e., public hearings, open houses, etc.) with the public and public officials to assist in responding to concerns and questions. May require the preparation of displays such as maps, marked-up plans, etc.
23. If excavation is required, submit the excavation locations which may contain contamination. The MDOT Project Manager then can proceed in requesting a Preliminary Site Investigation (PSI).
24. The Consultant will provide to MDOT at the scheduled submittal dates, copies of the required specifications and plan set materials for distribution by MDOT for all reviews for this project with the exception of The Plan Review. The Consultant shall contact the project manager prior to the submittal dates for the exact number of copies that will be required for submittal.
25. Prepare and submit electronically (native format or Adobe PDF) any information, calculations, drainage studies, or drawings required by MDOT for acquiring any permit (ie. NPDES, DEQ, etc), approvals (i.e. county drain commission) and related mitigation. MDOT will submit permit requests.
26. The Consultant shall assist in the review of utility permit requests, incorporate the information in the design plans, and respond within two (2) weeks from receipt of the permit.
27. The MDOT Project Manager shall be the official MDOT contact person for the Consultant and shall be made aware of all communications regarding this project. The Consultant must either address or send a copy of all correspondence to the MDOT Project Manager. This includes all Subcontractor correspondence and verbal contact records.
28. The Consultant shall contact the MDOT Project Manager whenever discoveries or design alternatives have the potential to require changes in the scope, limits, quantities, costs, or right-of-way of the project.
29. The Consultant may be required to provide Design Services during the construction phase of this project. If Construction Assistance is required, then a separate authorization for those services will be issued.
30. The Consultant will be required to attend a Pre-Price Proposal Meeting to discuss the project, schedule, and survey requirements.
31. Maintain a Design Project Record which includes a history of significant events (changes, comments, etc.) which influenced the development of the plans, dates of submittals and receipt of information.

**B. PPMS TASKS**

Refer to Attachment A for the MDOT PPMS Task List.

For questions on specific tasks, refer to the PPMS Task Manual located on the MDOT Bulletin Board System. For assistance in accessing this manual, please contact:

Dennis Kelley  
Phone: (517) 373-4614  
E-Mail: [KelleyD2@michigan.gov](mailto:KelleyD2@michigan.gov)

**C. MONTHLY PROGRESS REPORT**

On the first of each month, the Consultant shall submit a monthly progress report to the MDOT Project Manager.

**D. TRAFFIC CONTROL**

The Consultant will be responsible for all traffic control required to perform the tasks outlined in the Design Scope of Work.

**E. MDOT PERMITS/ UTILITIES**

The Consultant will be responsible for obtaining all up to date access permits and pertinent information for tasks in MDOT Right of Way.

The Consultant shall be responsible for obtaining and showing on the plans the location and names of all existing utilities within the limits of the project. In the course of resolving utility conflicts, the Consultant shall make modifications to the plans or design details and provide assistance as directed by the MDOT Utility Permits Engineer and/or Project Manager. The Consultant shall attend any utility meetings called to ensure that the concerns on the plans involving utilities are addressed. The Consultant shall assist in the review of utility permit requests to ensure compatibility with the project. The Consultant shall provide for the survey staking of various proposed facilities, and existing ROW so as to locate potential utility conflicts and aid in the completion of utility relocation plans for all municipal and private utility companies. The consultant shall verify any utility information (location, size, type, etc.) through researching historical as-built information for the project area (See Attachment C).

Any questions regarding MDOT permits and/or utilities should be directed to:

Daniel Roberts  
Utilities Engineer  
Kalamazoo TSC  
1501 Kilgore Rd.  
Kalamazoo, MI 49001  
Phone: (269) 375-8615  
E-Mail: [RobertsD8@michigan.gov](mailto:RobertsD8@michigan.gov)

## F. DELIVERABLES

Consultant is required to use MDOT's current version of Bentley MicroStation for drafting applications and Bentley GEOPAK for road design. Consultant shall comply with all MDOT drafting standards and file naming conventions.

The Consultant shall deliver all computer files associated with the project in their native format (spreadsheets, Microstation files, GEOPAK files, etc.) on DVD, CD, or uploaded to ProjectWise, as directed by the MDOT Project Manager. All Microstation/GEOPAK files shall be created and identified with standard MDOT file names as shown in Appendix A of the Road Design Manual. It is the Consultant's responsibility to obtain up to date MicroStation and GEOPAK seed/configuration files necessary to comply with MDOT's drafting standards which are posted to the bulletin board system. When the use of GEOPAK road design software is necessary to develop plans all pay items shall be placed into the Microstation file using GEOPAK's Design and Computation Manager so that Quantity Manager can be used to transfer pay item information to SAPW/Trns\*port. Any CADD/GEOPAK files that do not conform to MDOT standards will be returned to the Consultant for correction at the Consultant's expense.

Proposal documents shall be submitted in their native format with standard naming conventions as well as combined into one Adobe PDF file in the sequence specified by MDOT. To provide text search capabilities the combined proposal shall be created by converting native electronic files to PDF. Scanning to PDF is discouraged except in instances where it is necessary to capturing a legally signed document or a hard copy version of a document is all that exists. The use of digital signatures is encouraged when feasible.

Plan files shall be submitted in their native .dgn format with standard naming conventions as well as plotted into a combined Adobe PDF file. Plan sheets shall be plotted to Adobe PDF with full text search and bookmarks in half size (11" x 17") formats. A full size title sheet shall be plotted stamped and signed, then scanned for inclusion with the Adobe PDF set. The original title sheet will be sent to the MDOT Project Manager.

Stand Alone Proposal Estimator's Worksheet (SAPW) shall be used to generate the .txt and .csv files necessary for import into the Trns\*port bid letting software. The SAPW files shall be transmitted electronically by the method specified by the MDOT Project Manager.

The project construction, removal and profile sheets will require a ratio (scale) of **1:40**.

All design for this project will be done in **English Units**.

All plan sheets that are required for this project shall be completed by the Consultant. These include, but are not limited to the following plan sheets:

1. Title Sheet
2. Note Sheet(s)

3. Vicinity and Drainage Sheet(s)
4. Witness and Benchmark Sheet(s)
5. Alignment Sheet(s)
6. Project Specific Special Detail Sheet(s)
7. Typical Cross-Sections
8. Removal Sheet(s)
9. Construction Sheet(s)
10. Profile Sheet(s)
11. Detail Grade Sheet(s)
12. Construction Staging and Traffic Control Plans
13. Pavement Marking Sheet(s)
14. Temporary/Permanent Signing Sheet(s)
15. Soil Boring Log Sheet(s)

All plans, special provisions, estimates, and other project related items shall meet all MDOT requirements and detailing practices (i.e., format, materials, symbols, patterns, and layout) or as otherwise directed by the Project Manager. All plans, specifications, and other project related items are subject to review and approval by MDOT.

### **MDOT RESPONSIBILITIES:**

#### **A. MEETINGS**

Schedule and/or conduct the following:

1. Scope Verification
2. Base Plan Meeting
3. The Plan Review
4. Utility Coordination Meetings
5. Omissions, Errors, and Corrections (OEC)
6. Packaging of plans and proposal
7. All other project related meetings

#### **B. DELIVERABLES**

1. Special details and pertinent reference materials
2. As-built plans of project area
3. Provide MDOT Stand Alone Proposal Estimator's Worksheet (SAPW)
4. Information on existing pavement structure as necessary
5. Pavement design
6. Traffic Analysis

#### **C. RIGHT-OF-WAY**

MDOT Southwest Region Real Estate Division will be responsible for obtaining all Right-of-Way acquisitions.

## D. PERMITS

MDOT will be responsible for submitting all required permits.

## E. COORDINATION

MDOT will provide coordination assistance with the following:

1. Utility Company & Railroad Company (if required)
2. Project Stakeholders
3. FHWA
4. Other MDOT divisions

### **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  
PPMS TASK LIST**

**STUDY (EARLY PRELIMINARY ENGINEERING)**

		<b>P/PMS TASK NUMBER AND DESCRIPTION</b>	<b>DATE TO BE COMPLETED BY</b>
<b>YES</b>	<b>NO</b>		<b>(mm/dd/yyyy)</b>
		<b><u>EPE SCOPING ANALYSIS</u></b>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	2120 Prepare Traffic Analysis Report	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	2130 Prepare Project Justification	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>213M Concurrency by Regulatory Agencies with the Purpose and Need</i>	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	2140 Develop and Review Illustrative Alternatives	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	2155 Request/Perform Safety Analysis	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	2160 Prepare and Review EIS Scoping Document	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>211M Public Information Meeting</i>	/ /
		<b><u>EPE DRAFT ANALYSIS</u></b>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	2310 Conduct Technical SEE Studies	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	2321 Prepare for Aerial Photography	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	2322 Finish/Print Aerial Photography	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	2330 Collect EPE Geotechnical Data	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	2340 Develop and Review Practical Alternatives	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>233M Aerial Photography Flight</i>	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	2360 Prepare and Review EA or DEIS	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>231M Draft Submission to FHWA</i>	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	2380 Circulate EA or DEIS	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>232M Public Hearing</i>	/ /
		<b><u>EPE FINAL ANALYSIS</u></b>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	2510 Determine and Review Recommended Alternative	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>250M Concurrency by Regulatory Agencies with Recommended Alternatives</i>	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	2525 Prepare and Review Engineering Report	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	2530 Prepare and Review Request for FONSI or FEIS	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>252M Final Submission to FHWA</i>	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	2550 Obtain FONSI or ROD	/ /
		<b><u>CONTAMINATION INVESTIGATION</u></b>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	2810 Project Area Contamination Survey (PCS)	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	2820 Preliminary Site Investigation (PSI) for Contamination	/ /

## PRELIMINARY ENGINEERING - DESIGN

		P/PMS TASK NUMBER AND DESCRIPTION	DATE TO BE COMPLETED BY
YES	NO		(mm/dd/yyyy)
		<b><u>DESIGN SCOPE VERIFICATION AND BASE PLAN PREPARATION</u></b>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3130 Verify Design Scope of Work and Cost	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3310 Prepare Aerial Topographic Mapping	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3320 Conduct Photogrammetric Control Survey	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3321 Set Aerial Photo Targets	/ /
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3330 Conduct Design Survey	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3340 Conduct Structure Survey	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3350 Conduct Hydraulics Survey	/ /
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3360 Prepare Base Plans	/ /
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>331M Utility Notification</i>	/ /
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3361 Review and Submit Preliminary ROW Plans	/ /
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>331M Preliminary ROW Plans Distributed</i>	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3370 Prepare Structure Study	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3375 Conduct Value Engineering Study	/ /
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3380 Review Base Plans	/ /
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>332M Base Plan Review (Pre-GI Inspection)</i>	/ /
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3390 Develop the Maintaining Traffic Concepts	/ /
		<b><u>PRELIMINARY PLANS PREPARATION</u></b>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3510 Perform Roadway Geotechnical Investigation	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3520 Conduct Hydraulic/Hydrologic and Scour Analysis	/ /
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3522 Conduct Drainage Study, Storm Sewer Design, and use Structural Best Management Practices	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3530 Conduct Structure Foundation Investigation	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3535 Conduct Structure Review for Architectural and Aesthetic Improvements	/ /
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3540 Develop the Maintaining Traffic Plan	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3551 Prepare/Review Preliminary Traffic Signal Design Plan	/ /
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3552 Develop Preliminary Pavement Marking Plan	/ /
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3553 Develop Preliminary Non-Freeway Signing Plan	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3554 Develop Preliminary Freeway Signing Plan	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3555 Prepare/Review Preliminary Traffic Signal Operations	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3570 Prepare Preliminary Structure Plans	/ /
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3580 Develop Preliminary Plans	/ /
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3581 Review and Submit Final ROW Plans	/ /
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>351M Final ROW Plans Distributed</i>	/ /
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3590 Review Preliminary Plans (Plan Review Meeting)	/ /
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>352M THE Plan Review (Grade Inspection)</i>	/ /

**PRELIMINARY ENGINEERING - DESIGN (cont'd)**

		<b>P/PMS TASK NUMBER AND DESCRIPTION</b>	<b>DATE TO BE COMPLETED BY</b>
<b>YES</b>	<b>NO</b>		<b>(mm/dd/yyyy)</b>
		<b><u>UTILITIES</u></b>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3610 Compile Utility Information	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3650 Coordinate RR Involvement for Grade Separations	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3655 Coordinate RR Involvement for At-Grade Crossings	/ /
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3660 Resolve Utility Issues	/ /
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>360M Utility Conflict Resolution Plan Distribution</i>	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>361M Utility Meeting</i>	/ /
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3670 Develop Municipal Utility Plans	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3672 Develop Special Drainage Structures Plans	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3675 Develop Electrical Plans	/ /
		<b><u>MITIGATION/PERMITS</u></b>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3710 Develop Required Mitigation	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3720 Submit Environmental Permit Applications	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3730 Obtain Environmental Permit	/ /
		<b><u>FINAL PLAN PREPARATION</u></b>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3821 Prepare/Review Final Traffic Signal Design Plan	/ /
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3822 Complete Permanent Pavement Marking Plan	/ /
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3823 Complete Non-Freeway Signing Plan	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3824 Complete Freeway Signing Plan	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3825 Prepare/Review Final Traffic Signal Operations	/ /
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3830 Complete the Maintaining Traffic Plan	/ /
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3840 Develop Final Plans and Specifications	/ /
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>380M Plan Completion</i>	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3850 Develop Structure Final Plans and Specifications	/ /
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3870 Hold Omissions/Errors Check (OEC) Meeting	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>387M Omissions/Errors Checks Meeting</i>	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>389M Plan Turn-In</i>	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3880 CPM Quality Assurance Review	/ /

**PRELIMINARY ENGINEERING – RIGHT OF WAY**

		<b>P/PMS TASK NUMBER AND DESCRIPTION</b>	<b>DATE TO BE COMPLETED BY</b>
<b>YES</b>	<b>NO</b>		<b>(mm/dd/yyyy)</b>
		<b><u>EARLY RIGHT OF WAY WORK</u></b>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	4120 Obtain Preliminary Title Commitments	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	4130 Prepare Marked Final Right Of Way Plans	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>413M Approved Marked Final ROW</i>	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	4140 Prepare Property Legal Instruments	/ /
		<b><u>ROW ACQUISITION</u></b>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	4411 Preliminary Interviews	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>441M Post-Decision Meeting</i>	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	4412 Real Estate Services Assignment Proposal and Fee Estimate (Form 633s) for Appraisal Work Authorization	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	4413 Appraisal Reports	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	4420 Appraisal Review Reports	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	4430 Acquire Right Of Way Parcels	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	4510 Conduct Right Of Way Survey & Staking	/ /
		<b><u>ROW RELOCATION</u></b>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	4710 Relocation Assistance	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	4720 Prepare Improvement Removal Plan	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>442M ROW Certification</i>	/ /

**ATTACHMENT B**

**M-60, Mendon**  
**M-60 approx. within village limits of Mendon**  
**CS: 78042 IN: 103154**

## ATTACHMENT C

### ATTACHMENT SURVEY SCOPE

**A. SURVEY PREQUALIFICATIONS:** Road Design Surveys and Right of Way surveys

**B. MAPPING LIMITS:** A PORTFOLIO as outlined in this section IS REQUIRED.

**C. NOTES:**

1. The Consultant shall discuss the scope of this survey with the MDOT Project Manager / Region Surveyor before submitting a Price Proposal:

- MDOT Project Manager: Munawar Azam  
(269) 337-3920

[azamm@michigan.gov](mailto:azamm@michigan.gov)

- MDOT Region Surveyor: Erik J. Schnepf, PS  
(269) 327-4499 ext 231

[SchnepfE@michigan.gov](mailto:SchnepfE@michigan.gov)

2. The Consultant surveyor must contact the Region Traffic & Safety Engineer for work restrictions and traffic control in the project area prior to submitting a proposal.

3. A **detailed Survey Work Plan** showing timeframe with a **spreadsheet estimate** of hours by specific survey task such as DTM creation, traversing, leveling, mapping, etc., **must** be included in the project Price Proposal. This hour estimate will be scored by the selections team to aid in determining the consultant understanding of service expected for this project. This hour estimate will be included by the consultant for scoring by the selection team.

4. 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.

5. At the end of the project a submittal meeting will be set up between the Southwest Region Surveyor and other MDOT staff to review the survey

**D. MONTHLY PROGRESS REPORT**

Every month the Consultant shall submit a project progress report to the Region surveyor and the MDOT project manager. The progress report shall address the following items:

1. Work accomplished during the previous weeks.

2. Anticipated work and goals for the coming weeks.

3. Real problems which occurred during the weeks, and anticipated problems for the coming weeks.

4. Any updates on the project schedule including explanations for any delays or changes in schedule, scope, or work plan.

5. Any early reviews or submittals such as adjustments, computations, or alignment. For this project the timeline is critical. It is important to meet the proposed schedule as listed above.

6. Copy of Verbal Contact Records for the period giving details for the item discussed and date.

## E. 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, Bridge, Hydraulic, Right-of-Way, Ground Control (Photogrammetric), and/or Geodetic control, must be completed by a survey firm which is pre-qualified by MDOT.
4. Surveys must meet all requirements of the Michigan Department of Transportation (MDOT) Design Surveys *Standards of Practice* dated January 2012. Please contact the Design Survey office to clarify any specific questions regarding these standards.
5. The Consultant is responsible for using the latest MDOT GeoPak Feature Codes, files and tugboat (macro), available on the MDOT File Transfer Protocol (FTP) site. **The Consultant must also use MicroStation Version 8i/ Power GeoPak with Data Acquisition or newer.**
6. Consultants must obtain all necessary permits required to perform this survey on any public and/or private property. This includes an up-to-date permit from the MDOT Utilities Coordination and Permits Section
7. Prior to performing the survey, the Consultant must contact all landowners upon whose lands they will enter. The contact may be personal, phone or letter, but must be documented. This notice must include the reasons for the survey on private land, the approximate time the survey is to take place, the extent of the survey including potential brush cutting, and an MDOT contact person (the MDOT Project Manager).
8. The Consultant must contact any and all Railroads prior to commencing field survey on railroad property. The cost for any permit, flaggers and/or training that is required by the Railroad will be considered as a direct cost, but only if included in the Consultant's proposal.
9. The Consultant must adhere to all applicable OSHA and MIOSHA safety standards, including the appropriate traffic signs for the activities and conditions for this job.
10. Consultants are responsible for a comprehensive and conscientious research of all records, including MDOT records, essential for the completion of this project.
11. Measurements, stationing, recorded data, and computations must be in International Feet.
12. Coordinate values must be based on the Michigan Coordinate System of 1983 (MCS 83), Appropriate Zone. All elevations must be based on the North American Vertical Datum of 1988 (NAVD88).
13. Specific requirements concerning the Control, Alignment, property, mapping, misc., of each survey portfolio is described below.
14. Current MDOT QA/QC CERTIFICATION CHECK LIST dated Jan. 2012 will be used. This can be obtained on the MDOT FTP site.
15. Current MDOT symbology must be used exclusively as shown on the MDOT FTP site. The FTP site for consultants is:  
<ftp://ftp.michtrans.net>  
username: survcons  
password: \$urvcon\$
16. All data, whether electronic or paper, must be recorded on non-rewritable Compact Discs (CD'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, and MicroStation must have separate access.

17. CD's must be labeled with the route, location, control section, job number, Consultant name, and data type.

18. Each category of survey must be packaged separately (i.e., Structure survey separate from Road survey). All sheets in a portfolio must be marked with the control section, job number, portfolio section name, and page number.

19. The Consultant representative shall record and submit typewritten minutes for all project related survey meetings to the MDOT Project Manager within two weeks of the meeting. The Consultant shall also distribute the minutes to all meeting attendees.

20. The MDOT Project Manager is the official contact for the Consultant. The Consultant must either address, or send a copy of all correspondence to the MDOT Project Manager. The MDOT Project Manager shall be made aware of all communications regarding this project. Any questions regarding this award or any subsequent project should be directed to the Region Surveyor.

21. Use static terrestrial laser scanning and mobile mapping (mobile terrestrial laser scanning or of LiDAR) methods may be used for completion of portions of this project providing a savings in schedule, time and costs, improved safety and reduced traffic control and costs, among other benefits can be shown. Any use of these technologies shall conform to and utilize the **2012 MDOT Standards of Practice for Design Surveys** and the existing terrestrial scanning standards in **Appendix E (MDOT Laser Scanning Standards and Guidelines** and the Specifications/Guidelines based on the **Caltrans Survey Manual Chapter 15 Terrestrial Laser Scanning Specifications** **Project deliverables and reports shall include the information, electronic files and reports. Project referred to in the Caltrans Specifications under MTLs Documentation.**

22. 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:

MDOT Design Division

Erik J. Schnepf, PS

1501 E. Kilgore,

Kalamazoo, MI. 49001

Please use MDOT's Form 222(3/99) 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.

#### **F. WORK RESTRICTIONS**

The Consultant must call the MDOT Region or TSC Traffic & Safety Engineer before submitting the Priced Proposal to inform him/her of surveying activity in the area. The Consultant must discuss a Traffic Control and Safety plan with the Traffic & Safety Engineer prior to submitting a proposal. A copy of the Traffic Control and Safety plan must be submitted with the Price Proposal and used as a basis of bid for traffic control devices by at least three sources.

Traffic shall be maintained by the Consultant throughout the project to the satisfaction of the Traffic & Safety Engineer at all times. Any deviation from the Traffic Control and Safety plan without the Traffic and Safety Engineer approval can result in project delays.

The Consultant must call the MDOT Region or TSC Traffic & Safety Engineer before beginning work to inform him or her of surveying activity in the area.

#### **G. 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.

#### **H. HORIZONTAL CONTROL**

There is existing control from a survey completed in May 2007 present within the project limits. This control will be given to the selected consultant. Any additional control that is set for the project will follow current MDOT standards.

#### **VERTICAL CONTROL**

There is existing control from a survey completed in May 2007 present within the project limits. This control will be given to the selected consultant. Any additional control that is set for the project will follow current MDOT standards.

The vertical component of this project must be based upon the North America Vertical Datum of 1988 (NAVD 88).

New bench marks must be set on massive structures outside the proposed construction area.

Each bench mark must be accurately described and its horizontal position referenced by measurement (Northing Easting) and by station plus and offset from the alignment stationing.

Additional benchmarks per MDOT guidelines will be required for this project. For this project the benchmarks should be set on a variety of items.

Any error of closure must be distributed throughout the level runs by means of a suitable least squares adjustment software program. Open level loops are NOT acceptable.

The methods used to establish the horizontal and vertical components of the project coordinate control system must be fully discussed in the Surveyor's Project Report.

The consultant will prepare a Survey Information Sheet showing the witnesses and control point locations in relation to the legal alignment.

#### **I. ALIGNMENT/ROW**

A legal alignment has already be determined for this project. The alignment is from station 627+15 to station 712+69.868. The legal ROW has also been determined from station 627+15 to station 696+40.

#### **J. GOVERNMENT CORNERS/PROPERTY**

Any government corner used to establish the legal alignment / legal ROW lines must meet the current MDOT's Design Survey Standards.

Any government corners/alignment points within the mapping limits will be located/witnessed following MDOT design survey standards.

#### **K. MAPPING**

1. Mapping for this project was completed previously by a consultant in the April/May of 2007. This mapping will be given to the selected consultant. The mapping will need to be verified in the field by the selected consultant prior to beginning design. Mapping in 2007 was completed from 628+60 to station 695+40. This survey will need to be updated to the current MDOT workspace.

2. A sample of features to be collected would include: edge of shoulder bit, pavement marking lines, sidewalks, driveways, piers, wingwalls, abutments, all terrain points/lines, drainage features, all visible utilities (overhead electric lines, gas line markers, hydrants, etc), sanitary manholes, guardrail, every cable barrier foundation, etc. This list is but a short sample of the possible features/codes located within the mapping limits.

#### **L. DRAINAGE / SEWER**

The following information is required for all surface and subsurface drainage and sewer structures:

1. The **station and offset, type, condition, location, size and invert elevation of each drainage structure and culvert**. End treatments must be noted for each culvert. This information must be printed on 8.5" x 11" sheets and submitted on a CD in **ASCII format or spreadsheet format**.
2. The **station and offset, type, condition, location, size and invert elevation of the pipes of each sanitary manhole**. This information must be printed on 8.5" x 11" sheets and submitted on a CD in **ASCII format or spreadsheet format**.
3. The **location and connectivity** of all catch basins, manholes, and culverts must be shown on the topographic map (PL.dgn). It may be necessary to prepare a separate plot to clearly show the surface drainage systems. Underground storm systems must be mapped to show the connectivity of the structures. Underground sewer lines must be mapped to show connectivity. This will be added to the CADD file and submitted on a separate topographic plot made specifically for this purpose.
4. **Photographs** must be submitted for each culvert, labeled by station and offset. Digital photographs are required.

#### **M. FINAL REPORT**

**One complete portfolio and four complete sets of CD's or DVD's** must be assembled and delivered in the format outlined in the *Standards of Practice* dated Jan. 2012. Scale will be 1"=40'. A copy of the MDOT Checklist dated Jan. 2012 must be included in the final report. This document shall be signed and certified by the Professional Surveyor responsible for the project. It is highly recommended that the consultant become familiar with this document prior to preparing the proposal and again prior to assembling the final portfolio. **Failure to use and include this document shall result in the immediate return of the project portfolio for completion.**

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/> The scale of the map will be 1 inch to 40'.

For a comprehensive list of MicroStation level designations, contents and line attributes, refer to the "MDOTV8LEVEL.pdf" table located on the MDOT ftp site at <ftp://ftp.michtrans.net/>. The consultant Username is "survcons." The consultant password is \$urvcon\$. 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.

Any information that would not be appropriately placed in the control, property or mapping sections should be included in this section. General photographs, local newspaper articles and projectrelated comments from residents are example of miscellaneous data.

The surveyor must describe, in the final report, the data included in this section.

The final report for this project shall meet the current guidelines outlined in the MDOT Survey Standards of Practice dated Jan. 2012.

#### **N. SURVEY INFORMATION SHEET**

The Consultant shall prepare a MDOT Survey Information Sheet in Microsoft Word (.doc) named 103154\_SURVEY.doc. The Survey Information Sheet shall include the following, as applicable:

Survey Notes (Coordinate system, Zone, Horizontal & Vertical Datum, etc.)

Control Points (Primary & Intermediate)

Control Point Witnesses

Benchmarks

Government Corners

Alignment(s) Points

The MDOT Survey Information Sheet template can be found here:

[http://www.michigan.gov/documents/mdot/MDOT\\_SURVEYINFOSHEET\\_302553\\_7.doc](http://www.michigan.gov/documents/mdot/MDOT_SURVEYINFOSHEET_302553_7.doc)



**M-60, Mendon**  
M-60 approx. within village limits of Mendon  
CS: 78042 JN: 103154

