

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

MDOT PROJECT MANAGER <b>Matt Chynoweth</b>			JOB NUMBER (JN) Various	CONTROL SECTION (CS) Various
DESCRIPTION IF NO JN/CS As Needed Design Surveys, Detroit TSC				
<b>MDOT PROJECT MANAGER:</b> Check all items to be included in RFP.  WHITE = REQUIRED GRAY SHADING = OPTIONAL			<b>CONSULTANT:</b> Provide only checked items below in proposal.	
Check the appropriate Tier in the box below				
<input type="checkbox"/> <b>TIER I</b> (\$25,000-\$99,999)	<input type="checkbox"/> <b>TIER II</b> (\$100,000-\$250,000)	<input checked="" 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"/>	<i>Safety Program</i>	
N/A	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Organization Chart	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Qualifications of Team	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 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)	19 pages (MDOT forms not counted)	Total maximum pages for RFP <b>not including key personnel resumes</b>	

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 \_\_\_\_\_

**Prequalified Services** – See page 1 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 Required with Proposal)**

**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.

**PROPOSAL SUBMITTAL INFORMATION**

REQUIRED NUMBER OF COPIES FOR PROJECT MANAGER 3	PROPOSAL/BID DUE DATE 3/23/10	TIME DUE 4:30 pm
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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

Matthew J. Chynoweth, P.E.  
Detroit TSC  
1400 Howard Street, Suite B  
Detroit MI 48216

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.)**

**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.

**Michigan Department of Transportation**

**SCOPE OF SERVICE  
FOR  
DESIGN SERVICES  
As Needed Design Surveys**

**CONTROL SECTION:** Various

**JOB NUMBER:** Various

**PROJECT LOCATION:** Various locations within the Metro Region.

**PROJECT DESCRIPTION:**

Services as part of this scope include, but are not limited to full survey, pick up survey, and topo for CPM and R&R projects within the Detroit TSC area.

MDOT reserves the right to request services on other projects located in the Region/TSC area under the conditions of this “As Needed” scope of services.

Full time services will not be required on all projects at all times. This scope is for “As Needed” services, based on the intermittent needs of MDOT. It must be noted that a consultant award under this contract is not a guarantee that MDOT will use the Consultant’s services.

The Consultant will be expected to provide experienced personnel for Design Survey services on an as needed basis for MDOT design projects. Such tasks would include but may not be limited to work in the following areas of survey: Road Design Survey, Hydraulics Survey, Structure Survey, and ROW Survey.

**PRIMARY PREQUALIFICATION CLASSIFICATION(S):**

Road Design Surveys

**SECONDARY PREQUALIFICATION CLASSIFICATION(S):**

Photogrammetric Ground Control Survey  
Structure Surveys  
Hydraulic Surveys  
Right-of-Way Surveys

**DBE REQUIREMENT:** N/A

## **MDOT PROJECT ENGINEER MANAGER:**

Matthew J. Chynoweth, P.E.  
Detroit TSC  
1400 Howard Street, Suite B  
Phone - 313-967-5216  
Fax – 313-965-6339  
chynowethm@michigan.gov

## **NUMBER OF CONSULTANTS & ESTIMATED CONTRACT COSTS**

One (1) consultant will be chosen for an “as-needed” contract up to \$500,000 for a period of no longer than 2 years. The number of projects assigned will be determined by future workloads.

## **CONSULTANT RESPONSIBILITIES:**

The Consultant will be expected to provide experienced personnel for Design Survey services on an as needed basis for MDOT design projects. Such tasks would include but may not be limited to work in the following areas of survey: Road Design Survey, Hydraulics Survey, Structure Survey, Photogrammetric Ground Control Survey and ROW Survey.

Full time services will not be required on all projects at all times. This contract is for “as needed” services, based on the intermittent needs of the MDOT Metro Region. It must be noted that a consultant award under this contract is not a guarantee of consultant Authorization.

The Project Manager will contact the Consultant for specific services through a **Request for Consultant Survey Staff Letter**, example Attachment B of this Scope of Services, stating the MDOT job number and control section, route, survey services needed, the project duration, and a timeframe in which the work shall be required for completion. The Consultant will then review this request and inform MDOT of their availability and willingness to work on this project, as well as the names of the Consultant’s personnel chosen to work on the project within two days of receiving the Request for Consultant’s Survey Staff. An estimated cost will also be submitted to MDOT prior to the Consultant beginning work. Every attempt will be made to submit requests at least one week prior to the need for personnel. If the Consultant accepts the MDOT work assignment a meeting will be set up between MDOT and the Consultant to review the information in the Request for Consultant Survey Staff Letter and the Consultant’s proposal and personnel.

This contract will cover “as needed” services for a period of 2 years from date of initial Authorization. The consultant may work on an “as needed” basis for up to \$500,000. The Consultant may not work on any more than one (1) “as needed” job at any given time, unless directed by the Project Manager.

## **TRAFFIC CONTROL**

The Consultant shall be responsible for all traffic control required to perform the tasks as outlined in this Scope of Design Services.

## **MDOT PERMITS**

The Consultant shall be responsible for obtaining up to date access permits and pertinent information for tasks in MDOT Right of Way (ROW). This information can be obtained through Joe Rios, Utilities/Permits Section, Real Estate Division at (517) 241-2103.

## **MONTHLY PROGRESS REPORT**

On the first day of each month, the Consultant shall submit a monthly project progress report to the MDOT Project Manager. The monthly progress report shall address the following items:

1. Work accomplished during the previous month.
2. Anticipated work and goals for the coming month.
3. Real problems which occurred during the month, and anticipated problems for the coming month.
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.

## **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: Photogrammetric Control Surveys, Road Design Surveys, Structure Surveys, Hydraulic Surveys, and/or Right-of-Way Surveys must be completed by a 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* and the MDOT QA/QC Checklist dated March, 2009. Please contact the Design Survey office to

clarify any specific questions regarding these standards.

5. The Consultant is responsible for using the latest MDOT CAiCE Feature Codes, files and tugboat (macro), available on the MDOT File Transfer Protocol (FTP) site. **The CAiCE software used must be Version 10.6 or newer. The Consultant must also use MicroStation Version 8.**
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 (Cors 96, Geoid 09), Appropriate Zone. All elevations must be based on the North American Vertical Datum of 1988 (NAVD88).
13. For a **Photo Control Survey, Road Design Survey, Hydraulic Survey, Structure Survey, or Right of Way Survey one complete portfolio and 3 CDs or DVD's** must be submitted to the Design Survey Unit in 10" by 12" divided portfolios with flap covers. For a **Structure Survey, two complete portfolios and a total of 3 CD's or DVD's** must be submitted. As many portfolios should be used as needed to contain all of the required documents and Compact Discs.
14. 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.

15. 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 one of the Design Survey Consultant Coordinators / Project Managers listed on page 1 or 2 of this document.

At the completion of this survey, all field survey notes (legible copies will suffice), 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, Consultant Coordinator / Survey Project Manager, P.O. Box 30050, Lansing, MI 48909. Please use MDOT's Form 222 entitled "SURVEY NOTES: RECEIPT AND TRANSMITTAL" for all transmittals.

NOTE: It is recommended that the project's horizontal and vertical control adjustments be submitted for review as soon as it is available.

### **WORK RESTRICTIONS**

The Consultant must notify the closest MDOT Transportation Service Center Traffic & Safety Engineer that has jurisdiction prior to submitting a priced proposal and prior to beginning work activities in the project area.

The MDOT TSC Traffic & Safety Engineer must be notified at least two weeks prior to shoulder or lane closures so advance notice can be posted on the Web site.

No work shall be performed or lane closures allowed during the Memorial Day, Independence Day, or Labor Day holiday periods. The holiday periods will be defined by the local Traffic and Safety Engineer which has jurisdiction over the project area.

All work on the road shall be conducted during daylight hours Monday through Friday only. Lane closures may only occur between the hours 9:00 am and 3:00 pm. Weekend work may be permitted, but only with the approval in advance from the MDOT Project Manager or Designate.

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/](http://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. Sign covers shall be placed over existing regulatory signs that are not applicable during Survey work.

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](http://www.mdot.state.mi.us/tands/plans.cfm)

The Consultant may also use MDOT Maintenance Work Zone Traffic Control Guidelines, found on line at [http://www.michigan.gov/documents/zonecontrol\\_112912\\_7.pdf](http://www.michigan.gov/documents/zonecontrol_112912_7.pdf)

All temporary signs shall be mounted at a 5 foot minimum bottom height in un-curved areas and 7 foot minimum bottom height in curbed or pedestrian areas. All temporary signs shall be constructed with legends and symbols flush to the sign’s face and not extending beyond the sign borders or edge.

Distances shown between construction warning, regulatory, and guide signs shown on the maintaining traffic typicals are approximate and may require field adjustments, as directed by the MDOT Project Manager or Designate.

The Consultant must have a vehicle with markings/logo that identifies the company within sight distance of survey activity whenever they are working on or near the road.

Traffic control on city streets is under the jurisdiction of the city where the project is located.

## **COORDINATION WITH OTHER CONTRACTS IN THE VICINITY**

The Consultant shall coordinate his operations with contractors performing work on other projects within the Metro Region.

MDOT maintenance crews and/or Contract Maintenance Agencies may perform maintenance work within or adjacent to the CIA. The Maintenance Division of MDOT and/or Contract Maintenance Agency will coordinate their operations with the MDOT Project Manager or Designate to minimize the interference to the Consultant.

The Consultant must contact the Detroit TSC Traffic & Safety Engineer, Georgina McDonald for information regarding project coordination.

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 authorization costs will be allowed on account of delay or failure of others to complete their work unit as scheduled.

## **FIELD SURVEY**

The purpose of a field survey is to obtain information and/or data required by / for the project design engineer, to leave horizontal and vertical 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 will be made aware of the scope for each “as needed” project through the use of Attachment C for specific detail. For the preferred methods, refer to the Standards of Practice dated March, 2009 or contact the Survey Consultant Project Manager. Any discrepancy or contradiction will be resolved by applying the following list in order of priority:

1. Written instructions from the Survey Consultant Project Manager or Region Surveyor
2. The scope of the project, or in this case, the Attachment B
3. MDOT Survey Standards of Practice, dated March, 2009
4. MDOT Design Survey Manual
5. Accepted Survey practice, documented in books from disinterested third parties or paper form from state or federal agencies

## **CONTROL**

A three dimensional control system must be established throughout the project area. This control shall be based on the Michigan State Plane Coordinate System NAD1983 (CORS) horizontal datum and NAVD 1988 vertical datum. All subsequent control must be based on the established control. Any traverse points or bench marks established must adhere to the Michigan Department of Transportation (MDOT) Design Surveys *Standards of Practice* dated March 2007 and be listed in the Control pocket of the portfolio. Contact the MDOT Survey Consultant Coordinator for existing control in the area.

OPUS positioning may be used as a check, and for positioning Primary Control as defined in the MDOT Standards of Practice for Design Survey March 2009. For any and all OPUS solutions, a RINEX format file with a minimum of two hours of GPS data must be included, as well as the OPUS solution (extended version) from NGS. All OPUS solutions must be verified within 0.20 foot, either by a separate OPUS solution from an independent occupation, or by a NGS/CORS adjustment.

If GPS-derived elevations are used, the Surveyor’s Report and the Witness List and Witness Sheet for the project must clearly state that the vertical datum is “NAVD 1988 GPS-derived from Geoid 03.”

A mapping control point that is a rebar in the ground should not be considered a benchmark. The elevation of a rebar that is a control point should be verified or re-

established prior to use as a benchmark.

The Witness list sheet for this project must have a formula for grid to ground conversion, and a statement that a mapping control point that is a rebar in the ground should not be considered a benchmark, and its elevation should be verified or re-established prior to use.

**All Witness lists, for horizontal control, benchmarks, government corners, and alignment points, must use all capital letters exclusively.** Capital letters are easier to read on half-size plan sheets.

## **GOVERNMENT CORNERS**

Any PLSS corners within the project limits must be recovered or established and tied to the project coordinate system. Any PLSS corners necessary for legal alignment determination and/or property ties for Right of Way issues must be recovered or established and tied to the project coordinate system.

All PLSS corners must be recorded in accordance with PA 74 of 1970, as amended, and all applicable administrative rules. A copy of each recorded Land Corner Recordation Certificate must be submitted to the MDOT Design Survey Office as part of the final report. All PLSS corners located in hard surface roads must be protected by a monument box, regardless of impending construction. The Consultant shall provide to the Survey Consultant Project Manager a list of any affected Government or Property Controlling Corners in the detailed work plan for discussion or approval.

The Consultant surveyor must contact the County Remonumentation Representative prior to beginning work on the project to inform him of proposed corner perpetuation activities, and to obtain information pertinent to PLSS corners and/or property controlling corners affected by project construction.

All **monument boxes** through the project area must be accounted for by the Consultant surveyor, shown on the project mapping, and have a recorded LCRC submitted in the survey portfolio.

## **ALIGNMENT**

Since most existing alignment points locate and define the boundary between the public Right of Way and private ownership, legal alignment points are considered Property Controlling Corners and must be recovered and recorded in accordance with PA 74 of 1970, as amended, and all applicable administrative rules. A copy of each recorded Land Corner Recordation Certificate must be submitted in the Property Section of the final portfolio.

The Consultant must clearly define in the Work Plan what type of alignment(s) is proposed, Legal or As Constructed, how the stationing will be established, and whether

or not the alignment(s) will be staked in the field.

An **alignment sheet** must be prepared and submitted that shows the alignment(s) with stationing and coordinates, and the source of stationing, curve data, and the alignment definition (As Constructed or Legal). All alignments must be **annotated** as in the following examples: As Constructed alignment for CS 45011 as surveyed in 2006, or Legal Alignment of 1952 for CS 38016 as surveyed in 2007. Showing government corners with distances along government lines to the alignment are also appropriate for this CADD drawing. MicroStation is the recommended format. Some tangents may be graphically shortened to “shrink” the drawing to fit paper size.

The Consultant must provide an **alignment control point list with witnesses** in ASCII format for all alignment points found or set. This list must include datum, point designations, descriptions, coordinates, combined Scale Factor, and witnesses. This list may be appended to the witness list for horizontal and vertical control points. Witness lists must use only uppercase letters.

All **monument boxes** through the project area must be accounted for by the Consultant surveyor, shown on the project mapping, and have a recorded LCRC submitted with the survey portfolio.

## **MAPPING**

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.

### **FINAL REPORT: DELIVERABLES**

The final report for this project shall include:

1. In the first pocket of the portfolio, labeled **ADMINISTRATIVE**, the following will appear:
  - a. MDOT’s Form 222(5/01) entitled “SURVEY NOTES: RECEIPT AND TRANSMITTAL”
  - b. The project’s Professional Surveyor’s Report on company letterhead consisting of:
    - i) A comprehensive synopsis of the work performed on this project, signed **and sealed** by the project’s Professional Surveyor.
    - ii) The source and methods used to establish the project horizontal and vertical control and alignment(s) for this project.
    - iii) A detailed explanation of anything discovered during the survey of this project that may create a problem for the designer or another surveyor.
  - c. CD or DVD with all documents scanned or converted into PDF files. Each page must be inserted in a master PDF file and bookmarked for easy retrieval. An example can be provided upon request.
  - d. MDOT QA/QC Checklist.
2. In the second pocket of the portfolio, labeled **ALIGNMENT**, the following will appear:
  - a. An annotated CADD drawing of the alignment(s), showing:
    - i) A statement defining the alignment(s) as **legal or as constructed**
    - ii) Stationing, source of stationing, and station equation to existing stationing
    - iii) Horizontal coordinates of P.I.’s, at a minimum

- iv) Curve data
  - v) Alignment points found or set
  - vi) Control points
  - vii) Reference lines and angles of crossing (if appropriate)
  - viii) Government corners and ties to government lines
- b. Witness list for the alignment points found or set, which shows coordinates, stationing and four witnesses for each alignment point. Witness lists must use only uppercase letters.
  - c. LCRC's for alignment points found.
3. In the third pocket of the portfolio, labeled **CONTROL**, the following will appear:
    - a. Documentation of horizontal and vertical datum sources.
    - b. OPUS documentation
    - c. Least squares adjustments for the horizontal and vertical control.
    - d. Text files in ASCII format, hard copy and on CD, which contain the witness lists for the horizontal alignment ties, horizontal control points, benchmarks and government corners. All witness lists must note the datum(s), a combined scale factor for state plane grid-to-ground conversion, and an example thereof. Witness lists must use only uppercase letters.
    - e. A MicroStation V8 file showing the data in d. above.
  4. In the fourth pocket of the portfolio, labeled **PROPERTY**, the following will appear:
    - a. Tax maps and descriptions with owner names, addresses and phone numbers, if Right of Way is to be acquired.
    - b. Maps, plats, and recorded surveys.
    - c. Documents such as plats, Act 132 Certificates and/or tax maps marked with point numbers as property ties, if Right of Way is to be acquired.
    - d. Legible **recorded** copies of all Land Corner Recordation Certificates (LCRC) filed for the government corners (PLSS corners and Property Controlling Corners) used for computations and/or in danger of obliteration by impending construction.
  5. In the fifth pocket of the portfolio, labeled **MAPPING**, the following will appear:
    - a. Mapping file in MicroStation V8 format, and also converted to .PDF format. Hardcopy signed and sealed. All point and line descriptions must use only upper case letters.
    - b. An archived CAiCE software file.
    - c. Geopak files.
    - d. All field survey notes and electronic mapping data used for the project. It is not necessary to submit electronic raw survey data in hardcopy form.
    - e. All supporting and supplemental information or data, such as drainage and utilities, electronically only if possible.
  6. In the sixth pocket of the portfolio, labeled **MISCELLANEOUS**, the following will appear:
    - a. Any photographs taken for clarity of an area
    - b. Any newspaper clippings related to the project

- c. Any information not covered in this scope that will be of benefit to the designer or another surveyor

### **General Notes**

- a. It is the responsibility of the Consultant to insure that all electronic files submitted to MDOT conform to the required format and that all documents are legible.
- b. The Consultant must organize and label the various sections of the portfolio as required by the Standards of Practice for MDOT Design Surveys dated March 2007.
- c. All research documents are required to be scanned and placed on the CD.
- d. It is desirable to limit paper and to include as much electronic data as possible on Compact Disc or DVD, including scanned items, to facilitate future electronic storage and transmission of survey data. **Duplicate CD's must be included in the portfolio, with one set labeled "Region Surveyor".**

### **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.

**The hours provided are only an estimate. The Consultant will be reimbursed a proportionate share of the fixed fee based on the portion of the authorized total hours in which services have been provided to the Department. Fixed fee on “as needed” projects is computed by taking the percent of actual labor hours billed to labor hours authorized, then applying that percentage to the total fixed fee authorized.**

**ATTACHMENT "B"**  
**MDOT REQUEST FOR CONSULTANT SURVEY STAFF**

Date:

consultant

Attn: VIA: e-Mail

address

city, state, zip

MDOT requests consultant survey staff and services for the following project under the contract number and authorization number 20xx-xxxx (x), Scope of Services for Consultants "As Needed" Design Survey Services for Lansing Design Support Area Survey Unit.

JOB NUMBER: \*\*\*\*\*

CONTROL SECTION: \*\*\*\*\*

ROUTE: \*\*\*\*\*

TYPE OF SURVEY: Design Survey Tasks 3320, 3330, 3340, 3350, 4510

PROJECT DESCRIPTION: Complete topographic mapping along route between Road 1 and Road 2, including ramps.

**Research:** See attached.

**Control:** Two primary control monuments are to be located intervisible and in the project area as defined in the Mapping section of this document. At least four benchmarks are to be left in the field: one in each cardinal direction of the bridge located within the project area.

**Alignment:** None.

**Property:** None. Right of Way to be determined by visual inspection only: fence location or pacing from centerline.

**Mapping:** Topographic mapping is required for replacement of structure and redesign of ramps.

- Limits along US-23 are from Station 1171+00 to 1206+00 from ROW to ROW (fence to fence). The North abutment of the structure over the Huron River with detail for reference only. Abutments for Geddes Road Bridge must be properly depicted. All ramps and gore areas are included.
- Limits along Geddes Road begins 700 feet West of the Westerly ramp and ends 300 feet East of the intersection of Geddes Road and Dixboro Road from ROW to ROW. Limits also include 300 feet North and South of the Geddes Road intersection along Dixboro Road.

PROJECT DELIVERABLES:

The March 2009 Standards of Practice and the March 2009 MDOT QA/QC Checklist will be utilized as the **guidelines** for the project submittal.

PROJECT DUE DATE: ## WEEKS after final work authorization is issued.

**Receipt of this request requires the Consultant to notify the undersigned regarding the availability of the Consultant's staff to work on this project and acceptance of the above terms and conditions in writing within two working days. A detailed cost proposal with a breakdown of man hours and tasks will be required and reviewed prior to obtaining a final work authorization.**

\_\_\_\_\_  
Matthew J. Chynoweth, P.E.

Detroit TSC

Date: \_\_\_\_\_

\_\_\_\_\_  
Consultant Project Manager