

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

	REQUISITION NUMBER		DUE DATE XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX
MDOT PROJECT MANAGER	JOB NUMBER (JN)	CONTROL SECTION (CS)	
DESCRIPTION			
MDOT PROJECT MANAGER: Check all items to be included in RFP WHITE = REQUIRED GRAY SHADING = OPTIONAL Check the appropriate Tier in the box below		CONSULTANT: Provide only checked items below in proposal	
<input type="checkbox"/> TIER I (\$25,000-\$99,999)	<input type="checkbox"/> TIER II (\$100,000-\$250,000)	<input type="checkbox"/> TIER III (>\$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"/>	Location: 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) (No Resumes)	7 pages (MDOT Forms not counted)	14 pages (MDOT forms not counted)	Total maximum pages for RFP not including key personnel resumes. Resumes limited to 2 pages per key staff personnel.

PROPOSAL AND BID SHEET EMAIL ADDRESS – 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. 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
- 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.**

****Contact Contract Services Division immediately at 517-373-4680 if you do not get an auto response****

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

**NOTIFICATION
E-VERIFY REQUIREMENTS**

E-Verify is an Internet based system that allows an employer, using information reported on an employee's Form I-9, Employment Eligibility Verification, to determine the eligibility of that employee to work in the United States. There is no charge to employers to use E-Verify. The E-Verify system is operated by the Department of Homeland Security (DHS) in partnership with the Social Security Administration. E-Verify is available in Spanish.

The State of Michigan is requiring, under Public Act 200 of 2012, Section 381, that as a condition of each contract or subcontract for construction, maintenance, or engineering services that the pre-qualified contractor or subcontractor agree to use the E-Verify system to verify that all persons hired during the contract term by the contractor or subcontractor are legally present and authorized to work in the United States.

Information on registration for and use of the E-Verify program can be obtained via the Internet at the DHS Web site: <http://www.dhs.gov/E-Verify>.

The documentation supporting the usage of the E-Verify system must be maintained by each consultant and be made available to MDOT upon request.

It is the responsibility of the prime consultant to include the E-Verify requirement documented in this NOTIFICATION in all tiers of subcontracts.

9/13/12

Michigan Department of Transportation

**SCOPE OF SERVICE
FOR
DESIGN SERVICES**

CONTROL SECTION(S): 11018

JOB NUMBER(S): 117756C

PROJECT LOCATION:

The project is located at the Watervliet Rest Area for I-94 westbound in Watervliet Township. The project length is 0.5 miles.

PROJECT DESCRIPTION:

Design of truck parking expansion, ramp reconstruction, swamp backfill, freeway lighting, drainage, freeway signing, and relocation of vehicle counting devices.

ANTICIPATED SERVICE START DATE: April 11, 2013

ANTICIPATED SERVICE COMPLETION DATE: July 2, 2014

PRIMARY PREQUALIFICATION CLASSIFICATION(S):

Roadway Rehabilitation & Rural Freeways

SECONDARY PREQUALIFICATION CLASSIFICATION(S):

Freeway Lighting
Geotechnical Engineering Services
Intelligent Transportation Systems – Design and System Manager
Maintaining Traffic Plans and Provisions
Pavement Marking Plans
Permanent Freeway Traffic Signing Plans
Road Design Surveys

DBE REQUIREMENT: 7%

MDOT PROJECT ENGINEER MANAGER:

Kyle Rudlaff, Transportation Engineer 13 Licensed Specialist
Region/TSC/Office: Southwest Region/Coloma TSC
Address: Coloma TSC, 3880 Red Arrow Highway, Benton Harbor, MI 49022
Phone Number: (269) 849-2347
Fax Number: (269) 849-1227
E-mail: rudlaffk@michigan.gov

CONSTRUCTION COST:

A. The estimated cost of construction is:

1. Ramp Paving	\$250,000
2. Parking Area Surface	\$190,000
3. Earthwork/Subbase/Agg Base/Restore	\$500,000
4. Drainage	\$ 65,000
5. Truck Parking Lighting	\$ 25,000
6. Maintaining Traffic	\$140,000
7. Pavement Markings/Signs/Gates/ITS	\$ 30,000
8. Mobilization & Staking	\$100,000
9. Miscellaneous/Inflation/Contingency	<u>\$100,000</u>

CONSTRUCTION TOTAL **\$ 1,400,000**

B. The estimated cost of real estate is:
\$0

The above construction total is the amount of funding programmed for this project. The Consultant is expected to design the project within the programmed amount.

If at any time the estimated cost of construction varies by more than 5% of the current programmed amount, then the Consultant will be required to submit a letter to the MDOT Project Manager justifying the changes in the construction cost estimate.

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.

GENERAL PROJECT INFORMATION AND CONSULTANT TASKS:

The design services requested consists of all design related to this truck parking expansion project. The below listed items provide a supplemental description of the project and deliverables to be provided by the Consultant. The project includes, but is not limited to the following items:

1. Design of the project work described in the Scope Verification Meeting Minutes. See Attachment B.
2. The I-94 exit ramp to the Watervliet Rest Area is to be reconstructed from the start of the taper adjacent to I-94 WB to the start of the car parking lot. The entrance to the truck parking area is also to be reconstructed. The truck parking expansion concept extends the existing truck parking area 310 feet to the east. Pavement designs will be provided by MDOT. The leading concept for the reconstructed exit ramp utilizes a "Parallel" type deceleration lane. Beyond the deceleration area, the MDOT "Geometric Design Guide for REST AREA GEO-500-C will be used to form the Ramp Geometry.
3. Existing plans show the eastern end of the existing truck parking area and adjacent ramp are constructed on swamp backfill. The layer of peat is expected to continue easterly under proposed truck parking expansion and ramp reconstruction. Existing peat shall be excavated and back filled in the project. Under the direction of the MDOT Southwest Region Soils Engineer, a grid of soil borings and muck probes shall be collected in this service to determine the extent of existing peat. Data collection shall be done in two phases. An initial wave of samples shall be collected, followed by an expected second wave of samples in consultation with MDOT. The first wave of samples consists of 20 soil borings for ramp reconstruction, truck parking expansion, new light foundations, and culvert bedding for the proposed sewer outlet. It will also start determining the layout of existing peat deposits. A second wave of 12 soil borings and 16 muck probes is expected to complete the layout work for the existing peat deposit.
4. The project shall clear existing trees from the proposed ramp alignment. The design survey shall collect existing tree information as specified in the MDOT Road Design Manual to provide clearing classifications in the plans. Coordination between MDOT Roadside Design Unit, Consultant and MDOT Safety Engineer is required to determine aesthetics of the proposed tree line, and determining the saving of individual trees along the proposed ramp. The proposed shape of the site terrain adjacent to the reconstruction activity will be directed by the MDOT Roadside Design Unit. Tree planting or other landscape work is not included in this service. The existing six foot tall chain link fence along the existing ramp shall be replaced with a new fence at a similar offset to the relocated ramp.
5. Existing site drainage pipes and channels shall be extended to accommodate the ramp relocation and truck parking expansion work. A special storm water treatment structure

shall be installed in the vicinity of the relocated outlet. The curb detail shall be transitioned to a roll type curb and a paved pad installed along the back of curb to provide a location for a maintenance vehicle to park while cleaning the structure. MDOT water quality staff will designate the specifications of the unit to be included in the project. An oil boom is also specified to be included in the project. It will be included in the project unless the structure can address the surface oil issue well enough to preclude it being required.

6. Overhead lighting of the truck parking expansion shall be extended “in-line” with the existing overhead lighting system. All light heads along the existing and proposed truck parking area will be converted to LED type. It is expected that the new light poles for the truck parking expansion can be wired off the existing circuit, since the efficiency of LED lights counteracts the added electrical load from additional light fixtures.
7. Two lanes of I-94 traffic shall be maintained during ramp reconstruction. Paving additional width of median shoulder and shifting traffic on it is the leading concept for maintaining two lanes of traffic during ramp reconstruction. Temporary concrete barrier will be used along the location to separate I-94 traffic from the work area. The rest area will be closed during the period of ramp reconstruction and truck parking expansion work. **A notice of rest area closure shall be provided east of the Galesburg Rest Area.** The MOT plans shall include graphic depictions of each work zone sign and its station location for each sign sequence required to construct the project. See Attachment C for Consultant traffic control requirements.
8. There is a 2013 Intelligent Transportation System project, JN 113689, to monitor truck parking at numerous locations along I-94. The installation includes vehicle detection devices mounted in the truck parking entrance pavement and an adjacent wireless signal relay device. These items shall either be salvaged or replaced along the new truck parking entrance. The ITS prequalification is included in this service to accomplish this task.
9. Attachment A, Survey Scope of Work, shows the expected area for full topographical and terrain mapping, and identifies areas for topographical mapping only. The project survey consists of, but is not limited to providing:
 - a. Terrain data, existing alignments, drainage information and etc. for truck parking expansion and ramp reconstruction.
 - b. Horizontal and vertical control for soil boring samples.
 - c. Topography graphics for project plans.
 - d. Tree classification of clearing areas on the plans.
 - e. Location, size, and species, for selected trees to be saved from the border of clearing areas.
 - f. Recording of wetland boundaries, to be shown on the plans, as they are marked in the field by MDOT Environmental Resource Staff.
 - g. Surface manifestations of existing utilities.

10. Impacted freeway signs shall be salvaged and relocated in this service. This includes the rustic "REST AREA" sign that will require unique details in the design. The salvaged "REST AREA" sign shall be placed on a repositioned new support. The existing rest area gate shall be removed and replaced. The replacement gate is to include prominent delineation in the open and closed position as hits on the gate have been recorded for both the open and closed position.
11. There are no public involvement events in the Consultant service.
12. One marked handicap truck parking space shall be created in this service located near the existing sidewalk ramp. Remarketing of some or all spaces is expected to accommodate the new space in the center of the area. The sidewalk ramp shall be upgraded. The sidewalk on the north edge of the truck parking area shall be extended to the eastern limit of the expanded truck parking area.
13. The Consultant shall provide information and diagrams for MDEQ permits required for wetland impacts and NPDES Notice of Coverage. MDOT will request the permits from MDEQ.
14. The Consultant shall post all existing utility information to the plans as provided by MDOT. The Consultant shall report to the MDOT PM any irregularities in information posted to the plans such as utility lines that end without explanation or undocumented surface manifestations. At the Plan Review step and thereafter, the Consultant shall provide a listing of all potential utility conflicts and unresolved irregularities. The utility verification step will be accomplished after the Plan Review and be used by MDOT to assist in communicating potential conflicts to the utility owners. The Consultant shall participate in utility coordination meetings and modify the design to minimize utility relocations as directed by the MDOT PM. The MDOT Utility Engineer shall direct utility relocations.
15. Drainage Vicinity, Alignment, Removal, Construction, Profile, Construction Staging, Maintaining Traffic, Pavement Marking, Signing, Electrical Lighting, ITS, and Soil Boring sheets are required in the plans.
16. The Consultant shall make electronic submission of material at design process steps, including Base Plans, Preliminary Plans, Utility Verification Plans, Pre-OEC Plans, OEC Plans, and Final Plans. The MDOT PM shall print and distribute paper plans as deemed necessary.
17. The project survey and all deliverables shall be submitted in 100% electronic format to the MDOT PM. A paper portfolio of the survey shall be provided for review by the MDOT Region Surveyor. Cross section files shall be provided in *.dgn and *.pdf format at Preliminary Plans and Final Plans. Paper materials may be provided, but not without the electronic copy.

CONSULTANT RESPONSIBILITIES:

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

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 and perform field operations in accordance with the Department's Personal Protective Equipment (PPE) policy as stated in the MDOT Guidance Document #10118.

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, Railroad coordination requirements, utility conflict resolution, local agency meetings, etc.

- A. Perform design surveys.
- B. Prepare required plans, typical cross-sections, details, and specifications required for design and construction.
- C. Compute and verify all plan quantities.
- D. Prepare staging plans and special provisions for maintaining traffic during construction.
- E. Provide solutions to any unique problems that may arise during the design of this project.
- F. 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.
- G. 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.
- H. If excavation is required, submit the excavation locations which may contain contamination. Project Manager then can proceed in requesting a Preliminary Project Assessment (PPA).
- I. The Consultant shall be required to prepare and submit a CPM network for the construction of this project.

- J. The Consultant representative shall record and submit type-written 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. MDOT will provide and distribute official meeting minutes for the Plan Review Meeting.
- K. The Consultant will provide to MDOT at the scheduled submittal dates, electronic files of the required specifications and plan set materials for distribution by MDOT for all reviews for this project. MDOT shall print and distribute all paper plan material as deemed necessary.
- L. Prepare and submit electronically (native format or Adobe PDF) any information, calculations, hydraulic 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.
- M. Attend any project-related meetings as directed by the MDOT Project Manager.
- N. The Consultant shall assist in the review of utility permit requests, incorporate the information in the design plans, and respond within 2 weeks from receipt of the permit.
- O. 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.
- P. 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.

UTILITIES

The Consultant shall be responsible 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 are addressed on the plans involving utilities. The Consultant shall assist in the review of utility permit requests to ensure compatibility with the project. The Consultant will be responsible for miscellaneous staking of utilities.

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

MDOT RESPONSIBILITIES:

- A. Schedule and/or conduct the following:
 - 1. Project related meetings.
 - 2. The Plan Review
 - 3. Utility Meetings.
 - 4. Quantity summary sheets and final item cost estimates.
 - 5. Packaging of plans and proposal.
- B. Furnish Special Details and pertinent reference materials.
- C. Furnish prints of an example of a similar project and old plans of the area, if available. Furnish the E.A.
- D. Obtain all permits for the project as outlined in previous section.
- E. Coordinate any necessary utility relocation.
- F. Furnish FTP site for software download and instructions for the MDOT Stand Alone Proposal Estimator's Worksheet (SAPW).

DELIVERABLES:

The Consultant shall deliver all computer files associated with the project in their native format (spreadsheets, CADD files, GEOPAK files, etc.) on DVD, CD or uploaded to ProjectWise, as directed by the MDOT Project Manager. All CADD/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 CADD 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 CADD 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.

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 level on/off capabilities 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 (English Units)**.

Other 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:

- A. The title sheet. MDOT will provide a map of the area on a disk in our workstation format. If the map is not available, MDOT will provide a map that could be used. The Consultant shall be responsible for any revisions to the title sheet and the title sheet and map shall meet MDOT format and layout guidelines.
- B. Note Sheet.
- C. Typical Cross-Sections.
- D. Project specific Special Details.
- E. Construction staging and traffic control plans.
- F. Detail grade sheets for critical areas.

- G. Pavement marking plan(s).
- H. Witness and benchmark sheet(s).
- I. Soil boring log sheet(s).
- J. Structure plan(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.

PROJECT SCHEDULE:

The Consultant shall use the following events to prepare the proposed implementation schedule as required in the Guidelines for the Preparation of Responses on Assigned Design Services Contracts. These dates shall be used in preparing the Consultant's Monthly Progress Reports.

MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST

Please indicate with a check in the box next to each task number whether you believe that task will require consultant involvement on the job. Milestones (a specific event at a point in time) are italicized and underlined. See the [P/PMS Task Manual](#) for more details. Scheduling assistance may be accomplished with estimated completion dates. While not part of P/PMS, an Authorization Milestone and Post-Design Tasks have been included for your reference.

STUDY (EARLY PRELIMINARY ENGINEERING)

		P/PMS TASK NUMBER AND DESCRIPTION	DATE TO BE COMPLETED BY (mm/dd/yyyy)
YES	NO	CONSULTANT CONTRACT AUTHORIZATION/EXECUTION	/ /
<u>EPE SCOPING ANALYSIS</u>			
<input type="checkbox"/>	X	2100 Scope Verification and Initiation of EPE Activities	/ /
<input type="checkbox"/>	X	<i><u>210M Program & Project Review Board Concurrence</u></i>	/ /
<input type="checkbox"/>	X	2115 Traffic Data Collection	/ /
<input type="checkbox"/>	X	2120 Prepare Traffic Analysis Report	/ /
<input type="checkbox"/>	X	2125 Traffic Capacity Analysis	/ /
<input type="checkbox"/>	X	2130 Prepare Project Justification	/ /
<input type="checkbox"/>	X	<i><u>213M Concurrence by Regulatory Agencies with the Purpose and Need</u></i>	/ /
<input type="checkbox"/>	X	2140 Develop and Review Illustrative Alternatives	/ /
<input type="checkbox"/>	X	2155 Request/Perform Safety Analysis	/ /
<input type="checkbox"/>	X	2160 Prepare and Review EIS Scoping Document	/ /
<input type="checkbox"/>	X	<i><u>211M Public Information Meeting</u></i>	/ /
<u>EPE DRAFT ANALYSIS</u>			
<input type="checkbox"/>	X	2310 Conduct Technical SEE Studies	/ /
<input type="checkbox"/>	X	2311 Cultural Resources Survey	/ /
<input type="checkbox"/>	X	2312 Recreational Survey – Section 4(f)/6(f)	/ /
<input type="checkbox"/>	X	2313 Endangered Species Survey	/ /
<input type="checkbox"/>	X	2314 Wetland Assessment	/ /
<input type="checkbox"/>	X	2315 Wetland Mitigation	/ /
<input type="checkbox"/>	X	2316 Other Technical Reports	/ /
<input type="checkbox"/>	X	2321 Prepare for Aerial Photography	/ /
<input type="checkbox"/>	X	2322 Finish/Print Aerial Photography	/ /
<input type="checkbox"/>	X	2330 Collect EPE Geotechnical Data	/ /
<input type="checkbox"/>	X	2340 Develop and Review Practical Alternatives	/ /

<input type="checkbox"/>	X	<u>233M Aerial Photography Flight</u>	/	/
<input type="checkbox"/>	X	2360 Prepare and Review EA	/	/
<input type="checkbox"/>	X	<u>231M Approval of EA by FHWA</u>	/	/
<input type="checkbox"/>	X	2370 Prepare and Review Draft EIS	/	/
<input type="checkbox"/>	X	<u>237M Approval of Draft EIS by FHWA</u>	/	/
<input type="checkbox"/>	X	2380 Distribute EA	/	/
<input type="checkbox"/>	X	<u>232M Public Hearing for EA</u>	/	/
<input type="checkbox"/>	X	2390 Distribute DEIS	/	/
<input type="checkbox"/>	X	<u>239M Public Hearing for DEIS</u>	/	/

MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST

STUDY (EARLY PRELIMINARY ENGINEERING) (cont'd)

		P/PMS TASK NUMBER AND DESCRIPTION	DATE TO BE COMPLETED BY (mm/dd/yyyy)	
YES	NO			
<u>EPE FINAL ANALYSIS</u>				
<input type="checkbox"/>	X	2510 Determine and Review Recommended Alternative	/	/
<input type="checkbox"/>	X	<u>250M Concurrence by Regulatory Agencies with Recommended Alternatives</u>	/	/
<input type="checkbox"/>	X	2525 Prepare and Review Engineering Report	/	/
<input type="checkbox"/>	X	2530 Prepare and Review Request for FONSI	/	/
<input type="checkbox"/>	X	<u>252M Approval of FONSI by FHWA</u>	/	/
<input type="checkbox"/>	X	2540 Prepare and Review FEIS	/	/
<input type="checkbox"/>	X	<u>254M Approval of FEIS by FHWA</u>	/	/
<input type="checkbox"/>	X	2550 Obtain ROD	/	/
<input type="checkbox"/>	X	<u>255M ROD Issued by FHWA</u>	/	/
<input type="checkbox"/>	X	2570 ITS Concept of Operations	/	/
<u>CONTAMINATION INVESTIGATION</u>				
<input type="checkbox"/>	X	2810 Project Area Contamination Survey (PCS)	/	/
<input type="checkbox"/>	X	2820 Preliminary Site Investigation (PSI) for Contamination	/	/

PRELIMINARY ENGINEERING - DESIGN

<u>DESIGN SCOPE VERIFICATION AND BASE PLAN PREPARATION</u>				
X	<input type="checkbox"/>	3130 Verify Design Scope of Work and Cost	04/18/2013	
<input type="checkbox"/>	X	3310 Prepare Aerial Topographic Mapping	/	/
<input type="checkbox"/>	X	3320 Conduct Photogrammetric Control Survey	/	/
<input type="checkbox"/>	X	3321 Set Aerial Photo Targets	/	/
X	<input type="checkbox"/>	3330 Conduct Design Survey	06/15/2013	
<input type="checkbox"/>	X	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	07/22/2013
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>311M</u>	<u>Utility Notification</u>	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3361	Review and Submit Preliminary ROW Plans	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>331M</u>	<u>Preliminary ROW Plans Distributed</u>	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3365	Pre-Conceptual ITS Design and Meeting	/ /
<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	7/30/2013
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>332M</u>	<u>Base Plan Review (Pre-GI Inspection)</u>	7/30/2013
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3390	Develop the Maintaining Traffic Concepts	7/22/2013

MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST

PRELIMINARY ENGINEERING - DESIGN (cont'd)

		P/PMS TASK NUMBER AND DESCRIPTION		DATE TO BE COMPLETED BY (mm/dd/yyyy)
YES	NO			
<u>PRELIMINARY PLANS PREPARATION</u>				
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3510	Perform Roadway Geotechnical Investigation	8/30/2013
<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	8/30/2013
<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	8/30/2013
<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	8/30/2013
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3553	Develop Preliminary Non-Freeway Signing Plan	/ /
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3554	Develop Preliminary Freeway Signing Plan	8/30/2013
<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	8/30/2013
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3581	Review and Submit Final ROW Plans	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>351M</u>	<u>Final ROW Plans Distributed</u>	/ /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3585	Final ITS Concept Design and Meeting	/ /
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3590	Review Preliminary Plans (Hold Plan Review Meeting)	10/1/2013
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>352M</u>	<u>THE Plan Review (Grade Inspection)</u>	10/1/2013
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3595	Conduct ITS Structure Foundation Investigation	/ /
<u>UTILITIES</u>				
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3610	Compile Utility Information	7/22/2013
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3615	Compile ITS Utility Information	7/22/2013

<input type="checkbox"/>	X	3650	Coordinate RR Involvement for Grade Separations	/ /
<input type="checkbox"/>	X	3655	Coordinate RR Involvement for At-Grade Crossings	/ /
<input type="checkbox"/>	X	3660	Resolve Utility Issues	10/1/2013
<input type="checkbox"/>	X	<u>360M</u>	<u>Utility Conflict Resolution Plan Distribution</u>	/ /
<input type="checkbox"/>	X	<u>361M</u>	<u>Utility Meeting</u>	/ /
<input type="checkbox"/>	X	3670	Develop Municipal Utility Plans	/ /
X	<input type="checkbox"/>	3672	Develop Special Drainage Structures Plans	1/6/2014
X	<input type="checkbox"/>	3675	Develop Electrical Plans	1/6/2014
<input type="checkbox"/>	X	3680	Preliminary ITS Communication Analysis	/ /
<input type="checkbox"/>	X	3690	Power Design (Power Drop in Field)	/ /

<input type="checkbox"/>	X	3710	Develop Required Mitigation	/ /
X	<input type="checkbox"/>	3720	Assemble Environmental Permit Applications	10/8/2012
<input type="checkbox"/>	X	3730	Obtain Environmental Permit	/ /

MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST

PRELIMINARY ENGINEERING - DESIGN (cont'd)

		P/PMS TASK NUMBER AND DESCRIPTION		DATE TO BE COMPLETED BY (mm/dd/yyyy)
YES	NO			
<u>FINAL PLAN PREPARATION</u>				
<input type="checkbox"/>	X	3821	Prepare/Review Final Traffic Signal Design Plan	/ /
X	<input type="checkbox"/>	3822	Complete Permanent Pavement Marking Plan	1/6/2014
<input type="checkbox"/>	X	3823	Complete Non-Freeway Signing Plan	/ /
X	<input type="checkbox"/>	3824	Complete Freeway Signing Plan	/ /
<input type="checkbox"/>	X	3825	Prepare/Review Final Traffic Signal Operations	/ /
X	<input type="checkbox"/>	3830	Complete the Maintaining Traffic Plan	/ /
X	<input type="checkbox"/>	3840	Develop Final Plans and Specifications	/ /
X	<input type="checkbox"/>	<u>380M</u>	<u>Plan Completion</u>	1/6/2014
<input type="checkbox"/>	X	3850	Develop Structure Final Plans and Specifications	/ /
X			Submit PRE-OEC Progress Plans, Specs, Estimates	12/2/2013
X			Attend PRE-OEC Review Meeting	12/12/2013
X	<input type="checkbox"/>	3870	Hold Omissions/Errors Check (OEC) Meeting	2/4/201
X	<input type="checkbox"/>	<u>387M</u>	<u>Omissions/Errors Checks Meeting</u>	2/4/2014
X	<input type="checkbox"/>	<u>389M</u>	<u>Plan Turn-In</u>	2/21/2014
<input type="checkbox"/>	X	3880	CPM Quality Assurance Review	/ /
<input type="checkbox"/>	X	3890	Final ITS Communication Analysis	/ /

FOR YOUR INFORMATION

For questions on specific tasks, refer to the P/PMS Task Manual located on the MDOT Bulletin Board System.

For assistance in accessing this manual, please contact
Dennis Kelley: (517) 373-4614

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

November 2012

SURVEY SCOPE OF WORK

Survey Limits: As needed for Design, Right of Way, and Construction. A description of survey limits detailing length, width and cross roads must be included in the Survey Work Plan.

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

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

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

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

GENERAL REQUIREMENTS:

1. Surveys must comply with **all Michigan law** relative to land surveying.
2. Surveys must be done under the **direct supervision** of a Professional Surveyor licensed to practice in the State of Michigan, according to Public Act 299 of 1980.
3. Work in any of the following categories of survey: Road Design, Structure, Hydraulic, Right-of-Way, Photogrammetric Ground Control, and/or Geodetic Control must be completed by a survey firm which is pre-qualified by MDOT for that category.
4. Surveys must meet all requirements of the Michigan Department of Transportation (MDOT) Design Surveys *Standards of Practice* dated January 2012. Please contact the MDOT Design Survey office to clarify any specific questions regarding these standards.
5. Consultants must obtain all necessary permits required to perform this survey on any public and/or private property, including an up-to-date permit from the MDOT Utilities Coordination and Permits Section.

6. 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 (which must be minimized), and an MDOT contact person (the MDOT Project Manager or designate).
7. 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 priced proposal.
8. 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.
9. Consultants are responsible for a comprehensive and conscientious research of all records, including MDOT records, essential for the completion of this project.
10. Measurements, stationing, recorded data, and computations must be in **International Feet**, unless specified otherwise by the MDOT Project Manager.
11. Coordinate values shall be based upon the Michigan State Plane coordinate system NAD83. All elevations must be based upon the North American Vertical Datum of 1988 (NAVD88). The datums must be clearly stated in the Survey Work Plan.
12. **If paper copies are required**, the survey notes must be submitted to the Design Survey Unit in 10" by 12" divided portfolios with flap covers. As many portfolios should be used as are needed to contain all of the required documents and Compact Discs (CD's) or DVD's. Duplicate CD's must be included in the portfolio, with one set labeled "Region Surveyor". **Electronic submittal only unless specified otherwise.**
13. Each portfolio and CD must be labeled on the outside as in the following example:
Survey Notes for:
Route, Location and Project Limits [I-94 under Beaubien Street]
Control Section [S06 of 82024] Job Number [45197D] Date [*of submittal*]
By [*Name of Firm*]
Michigan Professional Surveyor [] License # []
14. Each submittal is to be divided into six sections. These sections are to be labeled as follows: **Administrative, Alignment, Control, Property, Mapping, and Miscellaneous.**
15. To be included in the Administrative section shall be a copy of the **Survey Project Portfolio QA/QC Check-off list**, January 2012 revision, available from the MDOT Survey Support Unit. This document shall be signed and certified by the Professional Surveyor responsible for the project QA/QC. 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 may result in the immediate return of the project portfolio for completion.**

16. **All data**, whether electronic or paper, **must be recorded on non-rewritable Compact Discs (CD's) or DVD's**. All paper files, including MicroStation files, must be scanned and/or converted to Adobe Acrobat .PDF format. It is not necessary to include raw survey data files in the Adobe file. 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 Microsoft Word and MicroStation must have separate access in native format outside of the .PDF file.
17. The MDOT Project Manager is the official contact for the Consultant. The Consultant must send a copy of all project correspondence to the MDOT Project Manager. The MDOT Project Manager shall be made aware of all communications regarding this project. Any survey related questions regarding this project should be directed to an MDOT Survey Consultant Project Manager or MDOT Region Surveyor. **The MDOT Project Manager must be copied on any and all correspondence.**

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

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

WORK RESTRICTIONS

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

No work shall be performed or lane closures allowed during the Memorial Day, July 4th, or Labor Day holiday periods, as defined by the MDOT Project Manager or representative specifically designated by the Project Manager (the Traffic & Safety Engineer at the MDOT TSC).

Work on weekends, if approved, shall be as directed by the MDOT Project Manager or Designate.

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

Traffic shall be maintained by the Consultant throughout the project in accordance with Sections 812, 922, 103.05 and 103.06 of the *Standard Specifications for Construction*, 2012 edition, <http://mdotwas1.mdot.state.mi.us/public/specbook/2012/> and any Supplemental Specifications currently in effect clarifying the Standard Specifications for Construction. All traffic control devices shall conform to the current edition, as revised, of the *Michigan Manual of Uniform Traffic Control Devices* (MMUTCD). All warning signs for maintenance of traffic used on this project shall be fabricated with prismatic retro-reflective sheeting, and shall be set up five feet above ground.

The Consultant shall use MDOT standard “maintaining traffic” typicals for any and all closures. Typical MDOT traffic control diagrams are available on line at <http://mdotwas1.mdot.state.mi.us/public/tands/plans.cfm>

COORDINATION WITH OTHER CONTRACTS IN THE VICINITY

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

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 Development Engineer at the nearest MDOT TSC for information regarding project coordination.

The Consultant’s attention is called to the requirements of cooperation with others as covered in Article 104.08 of the 2012 Standard Specifications for Construction. Other contracts or maintenance operations may occur during the life of the project.

No claim for extra compensation or adjustment in contract unit prices will be allowed on account of delay or failure of others to complete work unit scheduled.

Horizontal and Vertical Control.

The horizontal control will be Michigan State Plane Coordinates South Zone international Feet NAD 83. The control will be set following current MDOT standards.

There is existing vertical control from a prior aerial survey to the West of the project limits. This control will be given to the selected consultant. Additional Benchmarks will need to be set within the project limits following MDOT standards. Three additional benchmarks will need to

be set near the muck excavation area.

Alignment/Property

A legal alignment will need to be determined for I-94 from County Line Road till John Golf Road. The Northerly legal ROW line for parcel 8 will also be determined.

The existing Ramp and Truck construction alignments will also be calculated for the Rest Area parcel.

The Easterly parcel line for parcel C-20-S will be determined for the survey.

The following section corners will need to be located for the survey: K-9, K-10, L-9, L-10, M-9, M-10 of T3S, R17W and A-9 and A-10 of T3S, R16W.

Mapping

Mapping will be as shown on the attached plans for the Rest Area. This will be discussed with the selected consultant. All drainage structures and inverts will be obtained for the Rest Area. The sidewalk ramps are to be upgraded, so additional shots will need to be obtained in the ramp vicinity.

POST SURVEY CLEAN-UP

Once the survey is complete, all stakes must be removed from the MDOT median and ROW 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, and first directory on the CD, 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 a Master PDF file, named (JN)123456C_TaskXXXX. Each Section and sub-section of this PDF file must be bookmarked for easy retrieval. An example can be provided upon request.
 - d. MDOT QA/QC Portfolio Checklist (revised January 2012).

2. In the second pocket of the portfolio, and second directory on the CD, labeled **ALIGNMENT**, the following will appear:
 - a. An annotated MicroStation drawing of the alignment(s), showing:
 - i) A statement defining the alignment(s) as **legal or non-legal**, and a key box with description of type and origin of all alignments, such as 1958 Survey Alignment, 1966 Construction Alignment or, 2012 As Constructed Alignment
 - ii) Stationing, source of stationing, and station equation to existing stationing
 - iii) Curve data, including coordinates of P.I.s, P.C.s, and P.T.s.
 - iv) Physical alignment points found or set
 - v) Control points
 - vi) Reference lines and angles of crossing (if appropriate)
 - vii) Government corners with bearing and distance ties to alignment along the 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 UPPER CASE LETTERS.**
 - c. LCRC's for legal alignment points with physical monumentation, found or set.

3. In the third pocket of the portfolio, and third directory on the CD, labeled **CONTROL**, the following will appear:
 - a. Documentation of horizontal and vertical datum sources.
 - b. OPUS documentation, long version.
 - c. Least squares adjustments for the horizontal and vertical control.
 - d. It is not necessary to submit electronic raw survey data in hardcopy form, nor in the .PDF file.
 - e. Text files which contain the witness lists for the horizontal alignment points, 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.**
 - f. An MDOT-formatted Microsoft Word file, **SurveyInfoSheet.doc**, showing the data in e. above, using **ONLY UPPER CASE LETTERS.**

4. In the fourth pocket of the portfolio, and fourth directory on the CD, 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, or if riparian ownerships are required.
 - 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, and fifth directory on the CD, labeled **MAPPING**, the following will appear:

- a. Mapping file in MDOT MicroStation V8i format in the current MDOT workspace, and also converted to .PDF format. ALL POINT AND LINE DESCRIPTIONS MUST USE ONLY UPPER CASE LETTERS. Naming convention: 123456C_PL_3D.dgn
 - b. All Geopak design files produced by survey, including: .xml alignment files, triangle.dgn file, .dtm, .tin, and .gpk files.
 - c. 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, nor in the .PDF file.
 - d. All supporting and supplemental information or data, such as drainage and utilities, electronically only if possible.
6. In the sixth pocket of the portfolio, and sixth directory on the CD, 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

ATTACHMENT B
Scope Verification Meeting Agenda & Minutes
I-94 WB Truck Parking at Watervliet Rest Area



MEETING MEMORANDUM

DATE: October 31, 2012

FROM: Kyle Rudlaff
Coloma TSC Cost & Scheduling Engineer

SUBJECT: Scope Verification Meeting Minutes for I-94 Truck Parking Expansion

REF: CS 11018, JN 117756: I-94 WB at Watervliet Rest Area, Addition of 15 Truck Parking Spaces.

Meeting Date: October 30, 2012
Meeting Time: 9:00 A.M.
Meeting Location: Coloma TSC Port Conference Room

Attendees: See Attached Attendance Roster

DISCUSSION

The meeting followed the agenda, discussion items are documented below:

1. Pertaining to the Scope, Budget, Schedule, and Project Limits.
 - a. Steve brought up that an ITS job, JN 113689, for installing a Truck Parking Information Management System, is to be constructed in the summer of 2013 at this site.
 - b. The deployed truck counter device is to be relocated easterly to match the relocated entrance ramp. No other devices will require relocation.
 - c. There are no other issues with the expected scope, budget, and limits.

2. Pavement Design

- a. Kyle will get with Greg to describe in the RFP geotechnical collection in two phases. Greg will direct further Consultant data collection after observing the phase one results.
 - b. The following preliminary pavement designs will be requested from Greg:
 - i. Ramp Pavement
 - ii. Ramp Shoulder and Gore Area.
 - iii. Truck Parking Pavement Section.
 - iv. I-94 median shoulder paving section for MOT.
 - c. Kyle indicated that after discussion with Bill Taylor, a parallel exit ramp a new location will replace the existing straight taper exit ramp.
3. Drainage
- a. The recommendation from Barbara Barton, Aquatic Resource Specialist for a storm water treatment unit is attached. Coreen Strzalka will be contacted for details on the storm water treatment unit.
4. Lighting
- a. Brian explained the an LED light upgrade on all Truck parking lights will improve energy efficiency and allow new lighting units to be installed without a wiring upgrade in the existing system.
 - b. Freeway Lighting Prequal will be used in the Consultant RFP for the lighting work.
5. Maintenance of Traffic:
- a. There was a question about Rest Area counts during the meeting. After the meeting Gary posted the counts to PW:
 pw:\\HCS591MDOTPA008.som.ad.state.mi.us:MDOTProjectWise\Documents\Southwest Region\Coloma
 TSC\117756\Traffic\JN117756_RestAreaCounts_July2012.pdf.
 - i. A pattern of high or low volume did not jump out of the counts.
 - ii. The summer car numbers were higher than spring or fall, but truck numbers were lower.
 - b. There was discussion on the Rest Area closure. The leading concept is to perform site clearing, peat excavation, and grading that can be done while keeping the rest area open. Chris indicated that an approximate two month closure period should be enough time to reconstruct the exit ramp, add the truck parking, and complete all other associated construction.
 - c. Discussion was held on prospect of closing the Rest Area for two months:
 - i. Advance notice needs to be provided to I-94 WB users all the way to east of Galesburg.
 - ii. Brian pointed out an assortment of electrical upgrades that should be done on the existing facility and car parking. These are not eligible to include in the project unless associated with truck parking.

- iii. Jeff will inquire within Roadside the opportunities for facility work that will be pursued during the closure.

6. Environmental.

- a. Nick is to be informed when survey activity is occurring. He will mark the boundary of existing wetland so survey staff can record it in the plans.
- b. The MDEQ Wetlands Permit information needs to be provided to Nick so he can achieve October 1, 2013 permit submission, and receive the permit before the scheduled OEC Meeting.
- c. Ann reported that the "Turtle" note will need to be in the plans.
- d. Kyle indicated that no public involvement activities are planned for this project.
- e. Pete reported that he would inform Watervliet Township of the upcoming activity in the Rest Area.
- f. Jeff indicated that if tree planting is included in the project, it will have to remain open for two additional years to complete tree establishment period. It was decided that earthwork in this project can be used create landscape shapes, as suggested by MDOT's Roadside Unit, but trees will not be planted in the Contract.
- g. Roadside should review the slope stake lines to determine if there are individual existing trees for them to designate to be saved on the edge of the area to be cleared.

7. Miscellaneous

- a. During the meeting discussion took place about various facility upgrades that could be made while the Rest Area is closed. Morrie reminded Kyle that the project funds are available only for uses associated with truck parking.
- b. Nick observed that the existing sidewalk terminates some distance before the end of the truck parking area. New sidewalk will be extended easterly along the back of curb to the end of the proposed truck parking area.
- c. Jeff recommended the existing Rustic Rest Area entrance sign be salvaged. A new sign foundation and support will be required. He will see if a Special Provision for that work can be obtained.
- d. Gary indicated that existing Freeway signs are to be salvaged. The next scheduled freeway sign project in 2015 will upgrade the signs.
- e. The existing Rest Area entrance gate will either be relocated or replaced at the new entrance point.
- f. Nick Van Woert recommended that a performance turf specification has been successful in providing the high quality turf desirable at a Rest Area.
- g. Next MDOT meetings on this project include the Consultant design kick-off in February 2013, that will be a reiteration of this meeting, and Base Plan Review Meeting expected in late summer 2013.



MEETING SIGN-IN

Type of Meeting Project Kick-Off Meeting		Meeting Location SW REGION OFFICE	Date 10-30-12
Project Description/Location I-94 WB WATERLIET REST AREA		Control Section/Job Number 8005 11018 JN 117756	Time 9:00
PRINT NAME	COMPANY AND TITLE	E-MAIL ADDRESS	PHONE NUMBER
KYLE RUDLAFF	MDOT/SW/COLUMBIA TSC	RUDLAFF@mi.gov	269-949-2347
CAROL BILLS	MDOT-SWR	bills_c1@michigan.gov	269-537-3949
SRIAN BARTONO	MDOT - STATE OF MI.	BARTONO@mi.gov	(517) 737-0733
Nick Vanhoert	MDOT - SWR	vanhoert@michigan.gov	269-337-3936
Paul Pfeiffer	11 CTSC	pfeiffer@mi.gov	269-849-1495
Chris Jacobs	MDOT CTSC	jacobs_c@michigan.gov	269-267-1928
JEFF BROWN	MDOT - DESIGN	brown_j@michigan.gov	517-373-0182
Sarah Woolcock	MDOT CTSC	woolcocks@mi.gov	269-849-2460
STEVE BRINK	MDOT - SWR	Brink_S@michigan.gov	269-337-3938
LEAH LINDIC	MDOT-Environmental	lawlic_l@michigan.gov	517-241-3954
MORRIS HOEVER	FHWV - Michigan	meesors_hoever@dot.gov	517-222-1834
JACK KLEE	MDOT-SWR-STATE	kleej@michigan.gov	269-337-3932
PAUL SOUTH	MDOT - SWR	southp@michigan.gov	269-876-2496
ANN LEXENE	MDOT - Columbia TSC	lexene@michigan.gov	(269) 849-2846

ATTACHMENT C
CONSULTANT TRAFFIC CONTROL

I-94 WB Truck Parking at Watervliet Rest Area

MINIMUM MERGING TAPER LENGTH "L" (FEET)											
OFFSET FEET	POSTED SPEED LIMIT, MPH (PRIOR TO WORK AREA)										
	25	30	35	40	45	50	55	60	65	70	TAPER LENGTH "L" IN FEET
1	10	15	20	27	45	50	55	60	65	70	
2	21	30	41	53	90	100	110	120	130	140	
3	31	45	61	80	135	150	165	180	195	210	
4	42	60	82	107	180	200	220	240	260	280	
5	52	75	102	133	225	250	275	300	325	350	
6	63	90	123	160	270	300	330	360	390	420	
7	73	105	143	187	315	350	385	420	455	490	
8	83	120	163	213	360	400	440	480	520	560	
9	94	135	184	240	405	450	495	540	585	630	
10	104	150	204	267	450	500	550	600	650	700	
11	115	165	225	293	495	550	605	660	715	770	
12	125	180	245	320	540	600	660	720	780	840	
13	135	195	266	347	585	650	715	780	845	910	
14	146	210	286	374	630	700	770	840	910	980	
15	157	225	307	400	675	750	825	900	975	1050	

THE FORMULAS FOR THE MINIMUM LENGTH OF A MERGING TAPER IN DERIVING THE "L" VALUES SHOWN IN THE ABOVE TABLES ARE AS FOLLOWS:

"L" = $\frac{W \times S^2}{60}$ WHERE POSTED SPEED PRIOR TO THE WORK AREA IS 40 MPH OR LESS

"L" = S x W WHERE POSTED SPEED PRIOR TO THE WORK AREA IS 45 MPH OR GREATER

L = MINIMUM LENGTH OF MERGING TAPER
 S = POSTED SPEED LIMIT IN MPH PRIOR TO WORK AREA
 W = WIDTH OF OFFSET

TYPES OF TAPERS

UPSTREAM TAPERS

MERGING TAPER
 SHIFTING TAPER
 SHOULDER TAPER
 TWO-WAY TRAFFIC TAPER

DOWNSTREAM TAPERS
 (USE IS OPTIONAL)

TAPER LENGTH

L - MINIMUM
 1/2 L - MINIMUM
 1/3 L - MINIMUM
 100' - MAXIMUM
 100' - MINIMUM (PER LANE)

 Michigan Department of Transportation TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL	TABLES FOR "L", "D" AND "B" VALUES
DRAWN BY: CON:AE:djf CHECKED BY: BMM FILE: K:/DCN/TSR/STDS/ENGLISH/MNTRF/M0020a.dgn	JUNE 2006 PLAN DATE: _____ M0020a REV. 08/21/2006

DISTANCE BETWEEN TRAFFIC CONTROL DEVICES "D"
AND LENGTH OF LONGITUDINAL BUFFER SPACE ON
"WHERE WORKERS PRESENT" SEQUENCES

"D" DISTANCES	POSTED SPEED LIMIT, MPH (PRIOR TO WORK AREA)									
	25	30	35	40	45	50	55	60	65	70
D (FEET)	250	300	350	400	450	500	550	600	650	700

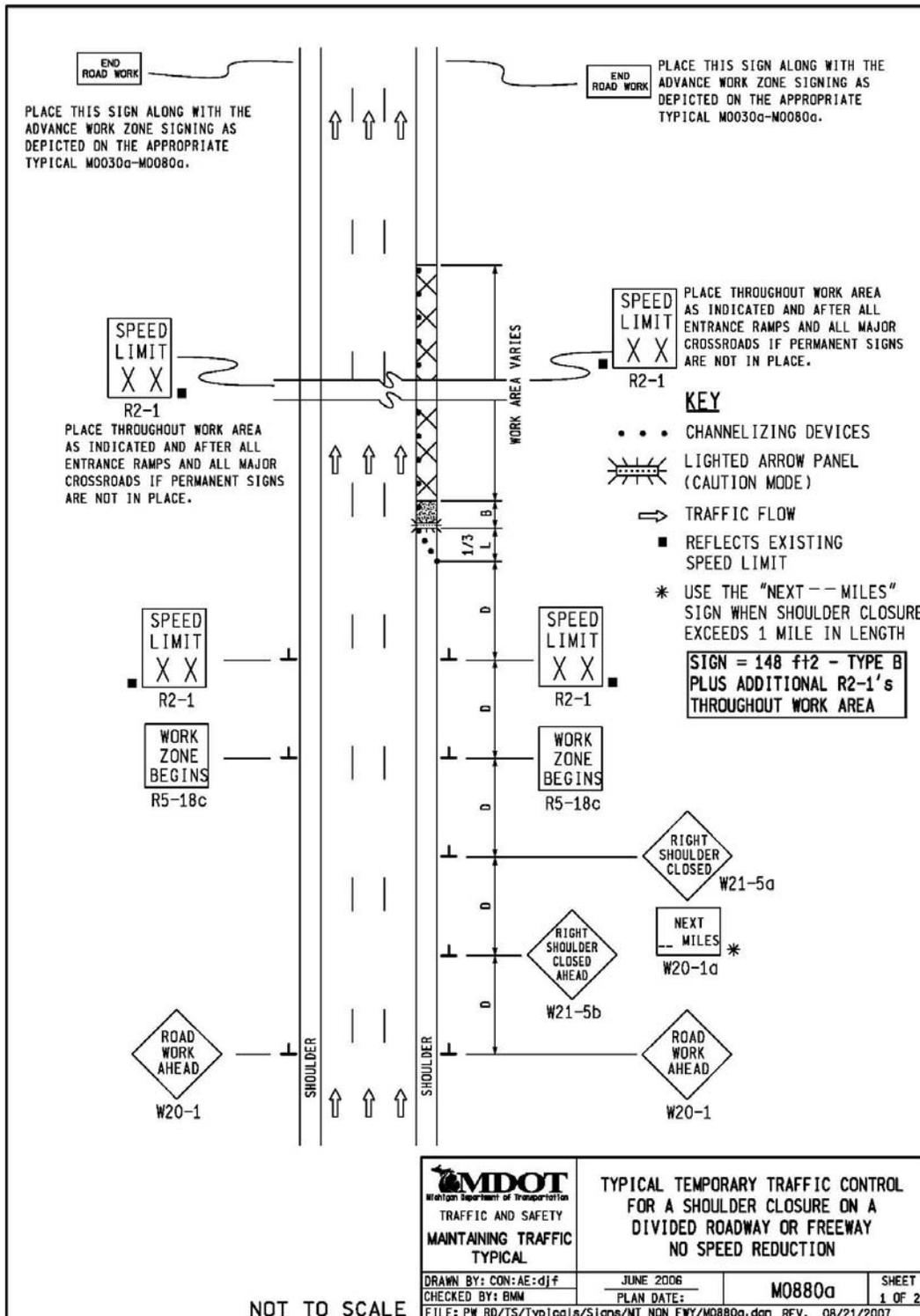
GUIDELINES FOR LENGTH OF
LONGITUDINAL BUFFER SPACE "B"

SPEED* MPH	LENGTH FEET
20	33
25	50
30	83
35	132
40	181
45	230
50	279
55	329
60	411
65	476
70	542

* POSTED SPEED, OFF PEAK 85TH PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED

1 BASED UPON AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) BRAKING DISTANCE PORTION OF STOPPING SIGHT DISTANCE FOR WET AND LEVEL PAVEMENTS (A POLICY ON GEOMETRIC DESIGN OF HIGHWAY AND STREETS), AASHTO. THIS AASHTO DOCUMENT ALSO RECOMMENDS ADJUSTMENTS FOR THE EFFECT OF GRADE ON STOPPING AND VARIATION FOR TRUCKS.

 Michigan Department of Transportation TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL	TABLES FOR "L", "D" AND "B" VALUES		
	DRAWN BY: CON:AE:djf CHECKED BY: BMN	JUNE 2006 PLAN DATE:	M0020a
FILE: K:/DCM/TSR/STDS/ENGLISH/MNTTRF/M0020a.dgn REV. 08/21/2006			



NOTES

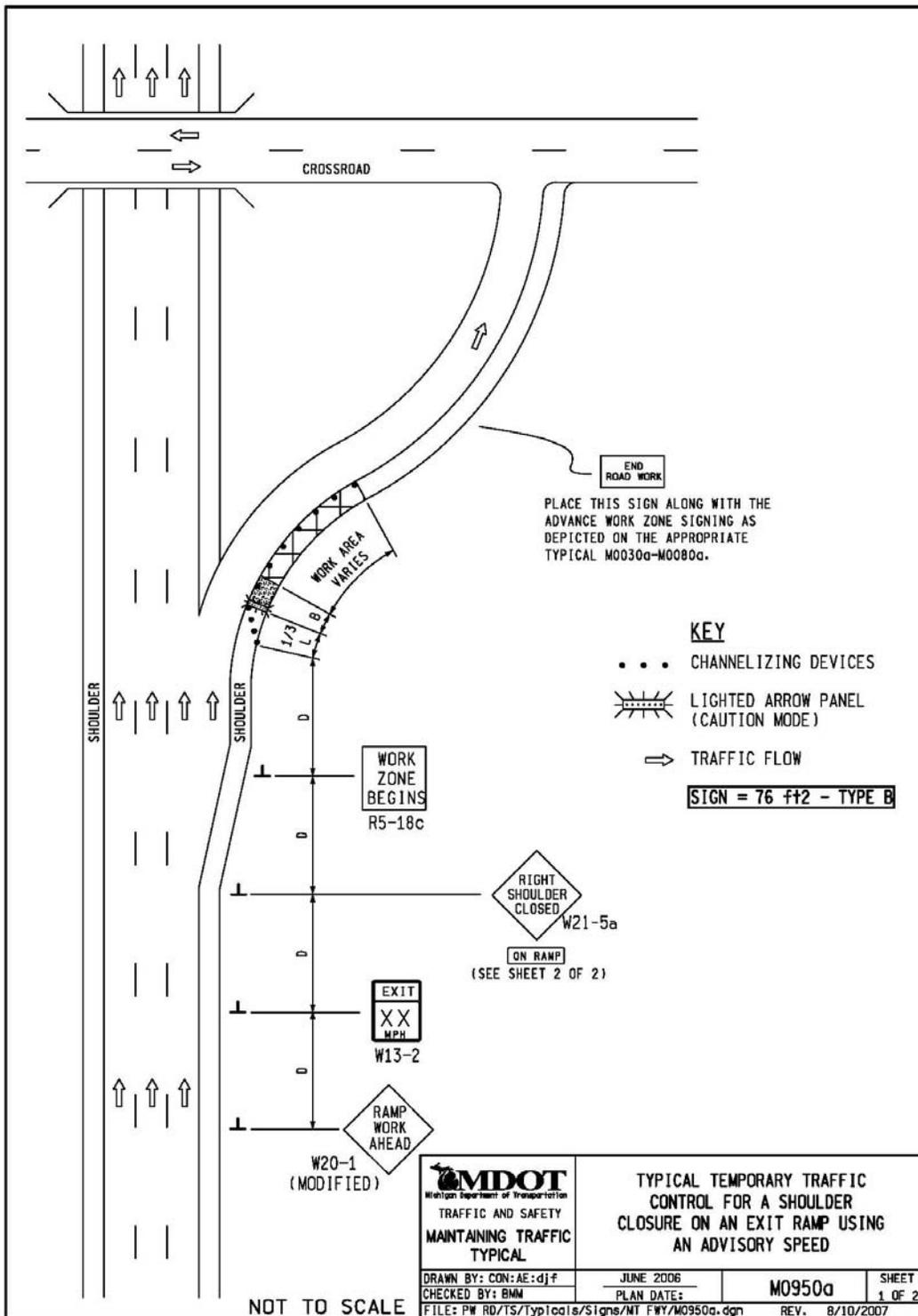
1. D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES
 1/3 L = MINIMUM LENGTH OF TAPER
 B = LENGTH OF LONGITUDINAL BUFFER
 SEE M0020a FOR "D," "L," AND "B" VALUES
2. ALL NON-APPLICABLE SIGNING WITHIN THE CIA SHALL BE MODIFIED TO FIT CONDITIONS, COVERED OR REMOVED.
3. DISTANCES BETWEEN SIGNS, THE VALUES FOR WHICH ARE SHOWN IN TABLE D, ARE APPROXIMATE AND MAY NEED ADJUSTING AS DIRECTED BY THE ENGINEER.
- 3A. THE "WORK ZONE BEGINS" (R5-18c) SIGN SHALL BE USED ONLY IN THE INITIAL SIGNING SEQUENCE IN THE WORK ZONE. SUBSEQUENT SEQUENCES IN THE SAME WORK ZONE SHALL OMIT THIS SIGN AND THE QUANTITIES SHALL BE ADJUSTED APPROPRIATELY.
- 4E. THE MAXIMUM RECOMMENDED DISTANCE(S) BETWEEN CHANNELIZING DEVICES SHOULD BE EQUAL IN FEET TO THE POSTED SPEED IN MILES PER HOUR ON TAPER(S) AND TWICE THE POSTED SPEED IN THE PARALLEL AREA(S).
5. FOR OVERNIGHT CLOSURES, CHANNELIZING DEVICES SHALL BE LIGHTED PLASTIC DRUMS.
6. WHEN CALLED FOR IN THE FHWA ACCEPTANCE LETTER FOR THE SIGN SYSTEM SELECTED, THE TYPE A WARNING FLASHER, SHOWN ON THE WARNING SIGNS, SHALL BE POSITIONED ON THE SIDE OF THE SIGN NEAREST THE ROADWAY.
7. ALL TEMPORARY SIGNS, TYPE III BARRICADES, THEIR SUPPORT SYSTEMS AND LIGHTING REQUIREMENTS SHALL MEET NCHRP 350 CRASHWORTHLY REQUIREMENTS STIPULATED IN THE 2005 EDITION OF THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS. ONLY DESIGNS AND MATERIALS APPROVED BY MDT WILL BE ALLOWED.
8. WHEN BUFFER AREAS ARE ESTABLISHED, THERE SHALL BE NO EQUIPMENT OR MATERIALS STORED OR WORK CONDUCTED IN THE BUFFER AREA.
- 29A. THE TYPE OF REFLECTIVE SHEETING USED FOR THE W20-1a PLAQUE SHALL BE THE SAME AS THE TYPE USED FOR THE PARENT SIGN.

SIGN SIZES

DIAMOND WARNING	- 48" x 48"
W20-1a PLAQUE	- 48" x 36"
R2-1 REGULATORY	- 48" x 60"
R5-18c REGULATORY	- 48" x 48"

NOT TO SCALE

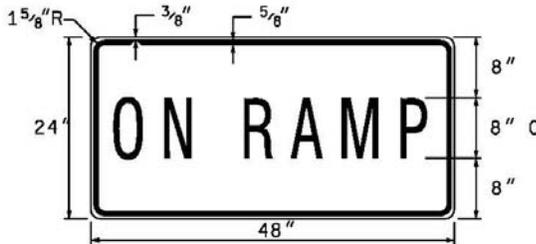
 TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL	TYPICAL TEMPORARY TRAFFIC CONTROL FOR A SHOULDER CLOSURE ON A DIVIDED ROADWAY OR FREEWAY NO SPEED REDUCTION		
	DRAWN BY: CON:AE:djf CHECKED BY: BMM	JUNE 2006 PLAN DATE:	M0880a
FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0880a.dgn REV. 08/21/2007			



NOTES

1. D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES
 1/3 L = MINIMUM LENGTH OF TAPER
 B = LENGTH OF LONGITUDINAL BUFFER
 SEE M0020a FOR "D," "L," AND "B" VALUES
2. ALL NON-APPLICABLE SIGNING WITHIN THE CIA SHALL BE MODIFIED TO FIT CONDITIONS, COVERED OR REMOVED.
3. DISTANCES BETWEEN SIGNS, THE VALUES FOR WHICH ARE SHOWN IN TABLE D, ARE APPROXIMATE AND MAY NEED ADJUSTING AS DIRECTED BY THE ENGINEER.
- 4E. THE MAXIMUM RECOMMENDED DISTANCE(S) BETWEEN CHANNELIZING DEVICES SHOULD BE EQUAL IN FEET TO THE POSTED SPEED IN MILES PER HOUR ON TAPER(S) AND TWICE THE POSTED SPEED IN THE PARALLEL AREA(S).
5. FOR OVERNIGHT CLOSURES, CHANNELIZING DEVICES SHALL BE LIGHTED PLASTIC DRUMS.
6. WHEN CALLED FOR IN THE FHWA ACCEPTANCE LETTER FOR THE SIGN SYSTEM SELECTED, THE TYPE A WARNING FLASHER, SHOWN ON THE WARNING SIGNS, SHALL BE POSITIONED ON THE SIDE OF THE SIGN NEAREST THE ROADWAY.
7. ALL TEMPORARY SIGNS, TYPE III BARRICADES, THEIR SUPPORT SYSTEMS AND LIGHTING REQUIREMENTS SHALL MEET NCHRP 350 CRASHWORTHY REQUIREMENTS STIPULATED IN THE 2005 EDITION OF THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS. ONLY DESIGNS AND MATERIALS APPROVED BY MDT WILL BE ALLOWED.
8. WHEN BUFFER AREAS ARE ESTABLISHED, THERE SHALL BE NO EQUIPMENT OR MATERIALS STORED OR WORK CONDUCTED IN THE BUFFER AREA.
29. THE TYPE OF REFLECTIVE SHEETING USED FOR THE "ON RAMP" PLAQUE SHALL BE THE SAME AS THE TYPE USED FOR THE PARENT SIGN.

SIGN DETAIL



COLORS

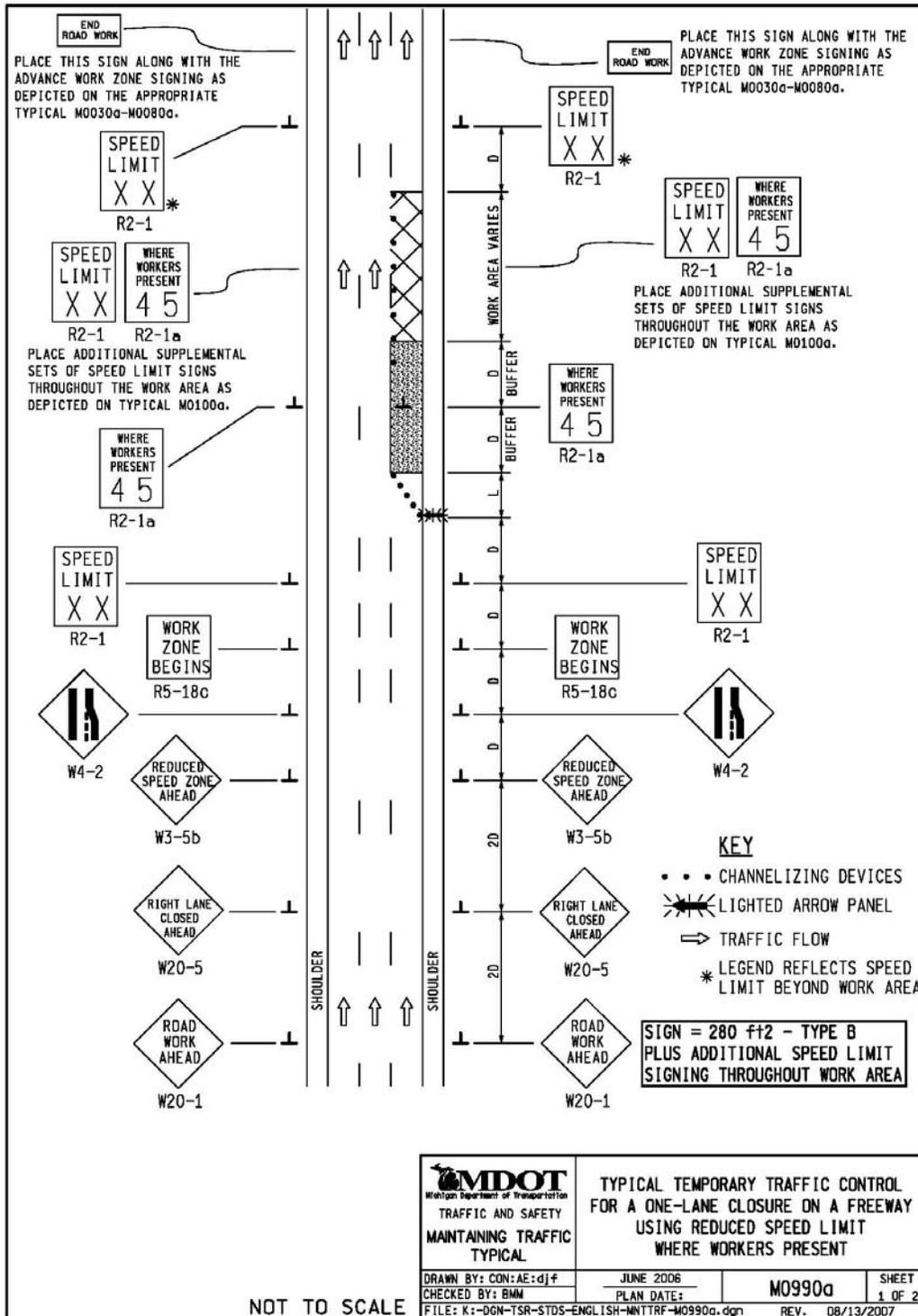
LEGEND AND BORDER - BLACK (NON-REFLECTORIZED)
 BACKGROUND - ORANGE (REFLECTORIZED)

SIGN SIZES

- DIAMOND WARNING - 48" x 48"
- W13-2 WARNING - 48" x 60"
- PLAQUE - 48" x 24"
- R5-18c REGULATORY - 48" x 48"

NOT TO SCALE

<p>TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL</p>	<p>TYPICAL TEMPORARY TRAFFIC CONTROL FOR A SHOULDER CLOSURE ON AN EXIT RAMP USING AN ADVISORY SPEED</p>		<p>SHEET 2 OF 2</p>
	<p>DRAWN BY: CON:AE:djf</p>	<p>JUNE 2006</p>	
<p>CHECKED BY: BMM</p>	<p>PLAN DATE:</p>	<p>REV. 8/10/2007</p>	
<p>FILE: PW RD/TS/Typicals/Signs/MT FWY/M0950a.dgn</p>			



NOTES

11. D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES AND LENGTH OF LONGITUDINAL BUFFERS
L = MINIMUM LENGTH OF TAPER
SEE M0020a FOR "D" AND "L" VALUES
2. ALL NON-APPLICABLE SIGNING WITHIN THE CIA SHALL BE MODIFIED TO FIT CONDITIONS, COVERED OR REMOVED.
3. DISTANCES BETWEEN SIGNS, THE VALUES FOR WHICH ARE SHOWN IN TABLE D, ARE APPROXIMATE AND MAY NEED ADJUSTING AS DIRECTED BY THE ENGINEER.
- 3A. THE "WORK ZONE BEGINS" (R5-18c) SIGN SHALL BE USED ONLY IN THE INITIAL SIGNING SEQUENCE IN THE WORK ZONE. SUBSEQUENT SEQUENCES IN THE SAME WORK ZONE SHALL OMIT THIS SIGN AND THE QUANTITIES SHALL BE ADJUSTED APPROPRIATELY.
- 4D. THE SPACING OF CHANNELIZING DEVICES SHOULD NOT EXCEED 45 FEET WHEN USED FOR TAPER CHANNELIZATION, AND SHOULD NOT EXCEED 90 FEET WHEN USED FOR TANGENT CHANNELIZATION.
5. FOR OVERNIGHT CLOSURES, CHANNELIZING DEVICES SHALL BE LIGHTED PLASTIC DRUMS.
6. WHEN CALLED FOR IN THE FHWA ACCEPTANCE LETTER FOR THE SIGN SYSTEM SELECTED, THE TYPE A WARNING FLASHER, SHOWN ON THE WARNING SIGNS, SHALL BE POSITIONED ON THE SIDE OF THE SIGN NEAREST THE ROADWAY.
7. ALL TEMPORARY SIGNS, TYPE III BARRICADES, THEIR SUPPORT SYSTEMS AND LIGHTING REQUIREMENTS SHALL MEET NCHRP 350 CRASHWORTHLY REQUIREMENTS STIPULATED IN THE 2005 EDITION OF THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS. ONLY DESIGNS AND MATERIALS APPROVED BY MDT WILL BE ALLOWED.
8. WHEN BUFFER AREAS ARE ESTABLISHED, THERE SHALL BE NO EQUIPMENT OR MATERIALS STORED OR WORK CONDUCTED IN THE BUFFER AREA.
- 16B. WHEN REDUCED SPEED LIMITS ARE UTILIZED IN THE WORK AREA, ADDITIONAL SPEED LIMIT SIGNS RETURNING TRAFFIC TO ITS NORMAL SPEED SHALL BE PLACED BEYOND THE LIMITS OF THE REDUCED SPEED AS INDICATED.
21. ALL EXISTING PAVEMENT MARKINGS WHICH ARE IN CONFLICT WITH EITHER PROPOSED CHANGES IN TRAFFIC PATTERNS OR PROPOSED TEMPORARY TRAFFIC MARKINGS, SHALL BE REMOVED BEFORE ANY CHANGE IS MADE IN THE TRAFFIC PATTERN. EXCEPTION WILL BE MADE FOR DAYTIME-ONLY TRAFFIC PATTERNS THAT ARE ADEQUATELY DELINEATED BY OTHER TRAFFIC CONTROL DEVICES.
26. THE LIGHTED ARROW PANEL SHALL BE LOCATED AT THE BEGINNING OF THE TAPER AS SHOWN. WHEN PHYSICAL LIMITATIONS RESTRICT ITS PLACEMENT AS INDICATED, THEN IT SHALL BE PLACED AS CLOSE TO THE BEGINNING OF THE TAPER AS POSSIBLE.

SIGN SIZES

DIAMOND WARNING - 48" x 48"
 RECTANGULAR REGULATORY - 48" x 60"
 R5-18c REGULATORY - 48" x 48"

NOT TO SCALE

 TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL	TYPICAL TEMPORARY TRAFFIC CONTROL FOR A ONE-LANE CLOSURE ON A FREEWAY USING REDUCED SPEED LIMIT WHERE WORKERS PRESENT		
	DRAWN BY: CON:AE:dj:f CHECKED BY: BMW	JUNE 2006 PLAN DATE:	M0990a
FILE: K:-DGN-TSR-STD5-ENGLISH-MNTTRF-M0990a.dgn REV. 08/13/2007			