

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

MDOT PROJECT MANAGER <b>Matt Chynoweth</b>	JOB NUMBER (JN) 85479C	CONTROL SECTION (CS) 82141
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DESCRIPTION IF NO JN/CS

**MDOT PROJECT MANAGER:** Check all items to be included in RFP.

**CONSULTANT:** Provide only checked items below in proposal.

WHITE = REQUIRED  
GRAY SHADING = OPTIONAL

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 checked="" type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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)	<b>Total maximum pages for RFP 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 \_\_\_\_\_

<input checked="" type="checkbox"/> <b>Prequalified Services</b> – See page <u>1</u> of the attached Scope of Services for required Prequalification Classifications.	<input type="checkbox"/> <b>Non-Prequalified Services</b> - 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.
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**Qualifications Based Selection** – Use Consultant/Vendor Selection Guidelines

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

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

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

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

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

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

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

## BID SHEET INSTRUCTIONS

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

**PROPOSAL SUBMITTAL INFORMATION**

REQUIRED NUMBER OF COPIES FOR PROJECT MANAGER 3	PROPOSAL/BID DUE DATE 3/20/09	TIME DUE 4:00 p.m.
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**PROPOSAL AND BID SHEET MAILING ADDRESSES**

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

- MDOT Project Manager  MDOT Other

Matthew J. Chynoweth, P.E.  
Detroit Transportation Service Center  
1400 Howard Street  
Detroit, Michigan 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

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

**Michigan Department of Transportation**

**SCOPE OF SERVICES  
FOR  
DESIGN SERVICES**

**CONTROL SECTION:** 82141

**JOB NUMBER(S):** 85479C

**PROJECT LOCATION:**

The project is located on M-102 (8 Mile Road) from M-5 (Grand River Avenue) to the Rouge River in the cities of Livonia, Farmington, Redford, Southfield, and Detroit, Wayne and Oakland Counties. The project length is 2.193 miles.

**PROJECT DESCRIPTION:**

This project consists of all work related to designing this project including but not limited to the following:

- A. Provide maintenance of traffic and staging plans
- B. Add count down pedestrian signals
- C. Add required pavement markings
- D. Add required traffic signal plans
- E. Add required traffic signing plans

As part of this project, the 3R mill and resurface, full depth concrete pavement repairs and ADA sidewalk upgrade portion will be designed by MDOT. MDOT will be responsible for packaging the maintenance of traffic, pavement marking, signing and signal plans into the overall project. The Consultant will be responsible for coordinating all work with MDOT work, and providing MDOT with plan sheets for incorporation into the final design package.

**ANTICIPATED START DATE:** **July, 2009**

**ANTICIPATED COMPLETION DATE:** **April 1, 2011**

**PRIMARY PREQUALIFICATION CLASSIFICATION(S):**

Maintaining Traffic Plans & Provisions

**SECONDARY PREQUALIFICATION CLASSIFICATION(S):**

Pavement Marking Plans

Permanent Non-Freeway Traffic Signing Plans

Traffic Signal Design

**Complex** Traffic Signal Operations

**Geotechnical Engineering Services**

**DBE REQUIREMENT:** 10 %

**MDOT PROJECT ENGINEER MANAGER:**

Matthew J. Chynoweth, P.E. EML 14.  
Detroit Transportation Service Center  
1400 Howard Street  
Detroit, Michigan 48216  
PH: (313) 967-5216  
Fax: (313) 965-6339  
Email: [chynowethm@michigan.gov](mailto:chynowethm@michigan.gov)

**CONSTRUCTION COST:**

- A. The estimated cost of construction is: \$9,800,000

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. Upon commencing the project, the MDOT Project Manager will advise the Consultant of the expected construction costs for the maintenance of traffic and staging plans, count down pedestrian signals, and required pavement markings.

**If at any time the estimated cost of construction varies by more than 5% of the allocated portion of the programmed amount as discussed above, 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 the Project Schedule section of this document for more information or questions.

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

## **CONSULTANT RESPONSIBILITIES:**

### **A. DESIGN SCOPE OF WORK**

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

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.

1. Prepare required plans, typical cross-sections, details, specifications and special provisions required for maintenance of traffic and staging plans
2. Compute and verify all plan quantities.
3. Prepare pavement marking plans and special provisions.
4. Prepare traffic signal plans and special provisions.
5. Prepare permanent signing plans and special provisions for non-freeway sign upgrading.
6. As part of this project, the roadway rehabilitation will be designed by MDOT. The consultant will be responsible for the coordination work required to incorporate the roadway design information into the project.
7. Provide solutions to any unique problems that may arise during the design of this project.
8. 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.
9. 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.

10. If excavation is required, submit the excavation locations which may contain contamination. Project Manager then can proceed in requesting a Preliminary Project Assessment (PPA).
11. The Consultant shall be required to prepare and submit a CPM network for the construction of this project. See Attachment A for details.
12. 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. Upon MDOT review and approval, the Consultant shall also distribute the minutes to all meeting attendees. MDOT will provide and distribute official meeting minutes for the Plan Review Meeting.
13. Attend any project-related meetings as directed by the MDOT Project Manager.
14. Review and document the roadside safety related items (i.e. guardrail, barriers, attenuators, etc.) which need to be modified or included in the project. Documentation is to include location, existing type and condition, and the recommended treatment.
15. Attend information meetings (i.e., public hearings, open houses, etc.) with the public and public officials to assist in responding to concerns and questions. May require the preparation of displays such as maps, marked-up plans, etc.
16. 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.
17. Prepare and submit electronically (native format and Adobe PDF) any information, calculations, hydraulic studies, or drawings required by MDOT for acquiring any permit (i.e. NPDES, DEQ, etc.), approvals (i.e. County Drain Commission) and related mitigation. MDOT will submit permit requests.
18. The Consultant shall assist in the review of driveway and utility permit requests, incorporate the information in the design plans, and respond within 2 weeks from receipt of the permit.
19. 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.
20. Submit all design files electronically in native format, as well as Adobe .pdf, at all submittals.

**C. UTILITIES**

The Consultant shall be responsible for obtaining and showing on the plans the location and names of all existing utilities within the limits of the project. In the course of resolving utility conflicts, the Consultant shall make modifications to the plans or design details and provide assistance as directed by the MDOT Utility-Permits Engineer and/or Project Manager. The Consultant shall attend any utility meetings called to ensure that the concerns 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.

**D. TRAFFIC CONTROL AND MDOT PERMITS**

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

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.

**E. MONTHLY PROGRESS REPORT**

On the first of each month, the Consultant Project Manager shall submit a monthly progress report to Matt Chynoweth, MDOT Project Manager. The monthly progress report shall follow the guidelines in Attachment B.

**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.
- D. Supply information on existing pavement structure as necessary.
- E. Coordinate any necessary utility relocation.
- F. Furnish pavement core information (Consultant shall place information on plan sheets).

- G. Furnish soil boring information as necessary (Consultant shall place information on plan sheets).
- H. Pavement design.
- I. Furnish FTP site for software download and instructions for 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 Manger 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 in 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 each full size (24" x 36") and 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 will require a ratio (scale) of 1:40. Scale and layout of plan sheets will be discussed with MDOT Project Manager. The interval for plotting cross-sections and developing the grade book shall be 50 feet. The intervals for critical areas shall be 25 feet.

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 major intersections, ramp gores and critical areas.
- G. Paving details.
- H. Pavement marking plan(s).
- I. Culvert detail sheet(s).
- J. Vicinity and drainage map sheet.
- K. Alignment sheet.
- L. Witness and benchmark sheet(s).
- M. Soil boring log sheet(s).

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

All plans, specifications, and other project related items are subject to review and approval by MDOT.

### **PROJECT SCHEDULE**

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

	<b>MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST</b>	
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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.

**STUDY (EARLY PRELIMINARY ENGINEERING)**

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

# MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST

## PRELIMINARY ENGINEERING - DESIGN

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

# 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		
		<b><u>UTILITIES</u></b>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3610 Compile Utility Information	_/_/____
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3650 Coordinate RR Involvement for Grade Separations	_/_/____
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3655 Coordinate RR Involvement for At-Grade Crossings	_/_/____
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3660 Resolve Utility Issues	_/_/____
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>360M Utility Conflict Resolution Plan Distribution</i>	_/_/____
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>361M Utility Meeting</i>	_/_/____
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3670 Develop Municipal Utility Plans	_/_/____
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3672 Develop Special Drainage Structures Plans	_/_/____
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3675 Develop Electrical Plans	_/_/____
		<b><u>MITIGATION/PERMITS</u></b>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3710 Develop Required Mitigation	_/_/____
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3720 Submit Environmental Permit Applications	_/_/____
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3730 Obtain Environmental Permit	_/_/____
		<b><u>FINAL PLAN PREPARATION</u></b>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3821 Prepare/Review Final Traffic Signal Design Plan	_/_/____
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3822 Complete Permanent Pavement Marking Plan	_/_/____
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3823 Complete Non-Freeway Signing Plan	_/_/____
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3824 Complete Freeway Signing Plan	_/_/____
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3825 Prepare/Review Final Traffic Signal Operations	_/_/____
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3830 Complete the Maintaining Traffic Plan	_/_/____
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3840 Develop Final Plans and Specifications	_/_/____
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>380M Plan Completion</i>	04/07/2011
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3850 Develop Structure Final Plans and Specifications	_/_/____
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3870 Hold Omissions/Errors Check (OEC) Meeting	_/_/____
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>387M Omissions/Errors Checks Meeting</i>	05/02/2011
		<i>Plan/Proposal package with recommendations incorporated to MDOT</i>	5/16/2011
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>389M Plan Turn-In</i>	08/05/2011
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3880 CPM Quality Assurance Review	08/05/2011
		<i>Final Deliverables to MDOT</i>	02/01/2012

## MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST

### PRELIMINARY ENGINEERING – RIGHT OF WAY

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

### **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 one of following:

**Dennis Kelley: (517) 373-4614**

**Tonya Nobach: (517) 335-1927**

### **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.

## **CONSTRUCTION CRITICAL PATH NETWORKS**

### **ATTACHMENT A**

**CS 82141 – JN 85479C**

**M-102 (8 Mile Road) from M-5 (Grand River Ave.) to the Rouge River  
Cities of Livonia, Farmington, Redford, Southfield, and Detroit, Wayne and Oakland  
Counties**

**CONTROL SECTION: 82141**

**JOB NUMBER(S): 85479**

**PROJECT LOCATION:**

The project is located on M-102 (8 Mile Road) from M-5 (Grand River Avenue) to the Rouge River in the cities of Livonia, Farmington, Redford, Southfield, and Detroit, Wayne and Oakland Counties. The project length is 2.193 miles.

### **I. INTRODUCTION**

The Consultant is required to submit a Construction Critical Path Network at various points in the design process. Refer to the following:

PPMS TASK 3580 – DEVELOP PRELIMINARY PLANS

PPMS TASK 3830 – COMPLETE THE CONSTRUCTION ZONE TRAFFIC CONTROL PLAN

PPMS TASK 3840 – DEVELOP FINAL PLANS AND SPECIFICATIONS

Construction Critical Path Networks are often needed to develop the progress schedule for a project. They are required on any project designated to include an Incentive/Disincentive or Special Liquidated Damages clause. Construction Critical Path Networks are also recommended for projects with the following characteristics:

1. New construction.
2. Major reconstruction or rehabilitation on an existing roadway that will severely disrupt traffic.
3. Unique or experimental work.
4. More than one construction season.
5. Complex staging (multiple stages with traffic shifts).

As noted in MDOT's Construction and Technology Instructional Memorandum 1997-7, Progress Schedule Determinations/Critical Path Rates,

*“Preparation of Critical Path is a requirement on all Consultant-designed projects, regardless of the project type or complexity.”*

The MDOT Resident Engineer assigned to the project should be consulted when developing Construction Critical Path Networks.

MDOT requires the precedence diagramming method. The Consultant will submit this network in MPX version 4.0.

## **NETWORK DEVELOPMENT**

The network will be defined using the following steps.

1. Activity definition.
2. Activity sequencing.
3. Duration estimation.
4. Schedule development.

### **1. ACTIVITY DEFINITION**

The Consultant will define the specific activities in enough detail so that the proper objectives will be met. The Consultant must identify assumptions (those factors considered true, real or certain). Supporting detail for the activities should be documented and organized as needed to simplify the review of the activities by MDOT personnel.

The Consultant Critical Path Network must start with **Letting Date** as the first activity and terminate with the **End of Project** as the finish activity.

A sufficient number of activities will be required with sufficient detail so that the controlling construction operation(s) may be identified. Notation on each activity shall include a brief work description and activity time duration.

### **2. ACTIVITY SEQUENCING**

Activity sequencing involves identifying and documenting interactivity dependencies. The Consultant must sequence activities accurately to support later development of a realistic and achievable construction schedule. Two types of dependencies should be considered. Mandatory dependencies are inherent in the nature of the work being done, such as construction sequencing. Discretionary dependencies are based on a knowledge of the work to be done. Constraints are used to show how the activities relate to each. The Consultant must include documentation supporting all discretionary dependencies used in the project. All activities must lead to another activity. Only Start to Start, Finish to Finish and Finish to Start relationships will be allowed. All logic shall show how the given activity is dependent on its preceding activities.

### **3. DURATION ESTIMATION**

After the Consultant has sequenced the activities, the Consultant should determine the activity duration. Activity duration estimating involves assessing the number of work periods likely to be needed to accomplish each activity. Duration (working days): No activity will have durations greater than 20 working days unless approved by the Engineer. Activities that will be allowed to exceed 20 working days include, but are not limited to, working drawing approvals or other activities not under the control of the Contractor. If requested by the Engineer, the Consultant shall explain the reasonableness of activity time durations. The approved MDOT production rates will be used in estimating activity duration. These are available in the Supplemental Information section of this attachment. The Consultant must document and submit all assumptions made during the duration estimation to MDOT.

### **4. SCHEDULE DEVELOPMENT**

The activity sequencing, duration estimations and the calendars are combined to create the construction schedule. During the development of the schedule, the Consultant will verify:

1. The required schedule to build the project.
2. The constructability of the project.
3. If the maintaining traffic scheme will work.
4. If seasonal limitations will affect the construction.
5. Any other project specific considerations.

The MDOT Calendars will be used by the Consultant in developing the network. The calendars are based on a 4, 5 or 6 day work week. The MDOT Calendars are included in the Supplemental Information section of this attachment.

At this point, there should be no negative float in the network. If there is, there is an error in the network and the error must be corrected before network submittal.

All summary tasks shall be removed prior to submittal to MDOT Project Manager.

## **II. DELIVERABLES**

After this final step, the design Consultant will submit the finished CPM schedule to MDOT.

### **1. Documents**

- A. 11" x 17" PDF plot of network. The critical path shall be clearly identified on the plot. A larger plot may be required for complex networks.
- B. Work Day / Completion Date Determination Worksheet.

- C. List of any other assumptions or controlling factors used in creating the network. For example, permit or maintaining traffic restrictions.

## 2. Electronic Format

This section sets the requirements for the electronic submittal of the Consultant's Construction Network. All networks shall be submitted on a 3.5 floppy disk (or via E-mail) using one of the following formats:

- A. **Standard Electronic Media Format:** This is a standard ASCH text file containing the data elements below, in the order specified. This file can be created using any text editor or word processing application (i.e., MS-Word, WordPerfect, Notepad, Write) but must be saved as an ASCII file.

The **first line** will provide a descriptive header describing the submittal and containing:

Control Section  
Job Number  
Route  
Consultant Name  
Date of Submittal

The next line will be **blank**, followed by multiple data lines.

Each **data line** will contain one record pertaining to one task of the job. Separate data fields by a comma. Fields within each task line are as follows:

(Note that the term "task" is synonymous with "activity". Leave fields that are not required blank).

- (1) Task # (Job # followed by a hyphen followed by this task's unique 4 digit task number. This is the Preceding Event Activity Code)
- (2) Description of Task, Milestone or Hammock, blank if this record is a constraint
- (3) Calendar (see attached list)
- (4) Duration of task, blank for constraints
- (5) Task # of the next task (Succeeding Event) – leave blank if this record is not a constraint or hammock
- (6) Type of constraint (FS, SS, FF) – leave blank if this record is not a constraint
- (7) Delay, if required
- (8) Original "Baseline" Start Date
- (9) Original "Baseline" Finish Date
- (10) Current (forecast) Start Date (early start)

- (11) Current (forecast) Finish Date (early finish)
- (12) Estimated completion date (if different from early start + current duration)
- (13) Late Start Date
- (14) Late Finish Date
- (15) Actual Start Date
- (16) Actual Finish Date

Example – each line contains the following:

Task # (preceding event), Description, Calendar, Duration, Next Task # (succeeding event), Constraint Type, Delay, Baseline Start, Baseline Finish, Early Start, Early Finish, Estimated Completion Date, Late Start, Late Finish, Actual Start, Actual Finish, Total Float.

B. **Primavera Project Planner(P3) 2.0 Export Procedure:** Users who have Primavera Project Planner(P3) version 2.0 can automatically create an export file by following the export procedure below. **Users having an older version of Primavera may use the applications export feature only if they are able to include all the data elements listed in the version 2.0 format.**

1. Choose Tools, Project Utilities, **EXPORT**.
2. Click **ADD**, then click **OK** to accept the next sequential ID number, or type a unique number to identify the specifications and click **OK**.
3. Enter a description for the specification in the Title field.
4. Specify data items to export.

**Activities**

- Select **Contents of List**

- Use the Description column to specify which data items to export  
 - To add items, click the right mouse button in the Description column and choose from the list. Suggested items include: **Activity ID, Activity Description, Actual Start, Actual Finish, Calendar ID, Early Start, Early Finish, Late Start, Late Finish, Original Duration.**

- Select **All Current, All Target, or All Target2**

- Set Description Length to 48

**OR**

**Constraints**

- Select **Successor relationships** – Choose this option to export Activity IDs and their corresponding successors only. Lags and relationship types will be displayed in this output file.

5. Click **FORMAT** in Export Dialog Box.
6. In the Output file, section, enter a new name and path (ex. A:\actexp or A:\conexp). Do not include a file extension.
7. In the type field, click the minimize button and choose the [**PRN**] – **ASCII** file format for the output file.
8. Select **CALENDAR** for Date Format.
9. Set ASCII Output Field Separation to **1** and Blank column width to **0**.
10. Click **RUN**.
11. In the Output Options dialog box, click on **OK**.

**NOTE: A COMPLETED FILE EXPORT WILL CONSIST OF 2 EXPORT FILES (ACTIVITIES & CONSTRAINTS).**

- C. **Microsoft Project Export Procedure:** Users of Microsoft Project Version 4.0 and above can create a Microsoft Project Exchange (MPX) file by following the procedure below.

1. Choose File, Save As from the main menu.
2. In the Save File as Type box, Select **MPS 4.0**.
3. On the drive box select a: or whichever drive is the 3.5” Floppy drive.
4. Click on **OK**.

This saves the file in MPX format.

- D. **Primavera Sure Track:** Users of Sure Track Version 2.0 and above can create a Microsoft Project Exchange (MPX) file by following the procedure below.

1. Choose File, Save As from the main menu.
2. In the filename box input a filename.
3. In the Save File as Type box, Select **MPS**.
4. On the drive box select a: or whichever drive is the 3.5” Floppy drive.
5. Click on **OK**.

This saves the file in MPX format.

- E. **Scitor Project Scheduler 7 Export Procedure:** Users of Scitor Project Scheduler Version 7 and above can create a Microsoft Project Exchange (MPX) file by following the procedure below.

1. Choose File, Save As from the main menu.
2. In filename box, select a filename.
3. In the Save File as Type box, Select **MPX**.

4. On the drive box select a: or whichever drive is the 3.5" Floppy drive.
  5. Click on **OK**.
- This saves the file in MPX format.

F. **Export Files with Other Scheduling Applications:** Most scheduling packages have export functions similar to those described above. If the Consultant chooses to use packages with export capabilities, they shall include all items listed in the Standard Media Format in a text or ASCII type file.

#### IV. SUPPLEMENTAL INFORMATION

##### A. MDOT CRITICAL PATH-CONSTRUCTION TIME ESTIMATES

###### Drainage

###### Cross Culverts

Rural Highways	44 yd./day
Expressways	55 yd./day
Large Headwalls	5 days/unit
Slab or Box Culverts	5 days/pour
Plowed in Edge Drain (production type project)	4921 yd./day
Open Graded Underdrain (production type project)	1312 yd./day

###### Sewers

0m-5m (up to 60 in. (1500mm))	44 yd./day
0m-5m (over to 60 in. (1500mm))	27 yd./day
5m-over (up to 60 in. (1500mm))	27 days/unit
5m-over (over to 60 in. (1500mm))	22 yd./day
Jacked-in-place	14 yd./day
Including excavation pit & set up	Min. 5 days
Tunnels	
Hand mining	9yd./day
Machine mining	22 yd./day
Including excavation pit & set up	Min. 5 days

###### Manholes

3 units/day

###### Catch Basin

4 units/day

###### Utilities

Water Main (up to 16 in. (400 mm))	109 yd./day
Flushing, Testing & Chlorination	4 days
Water Main (20 in. (500 mm) – 40 in. (1050 mm))	27 yd./day
Flushing, Testing & Chlorination	5 days
Order & Deliver 24 in. (600 mm) HP Water Main	50 days/order
Gas Lines	109 yd./day

**Earthwork and Grading**

Embankment (CIP)  
 Excavation and/or Embankment (Freeway)  
 Excavation and/or Embankment (Reconstruction)  
 Embankment (Lightweight Fill)  
 Muck (Excavated Waste & Backfill)  
 Excavation (Widening)  
 Grading (G & DS)  
 Subbase and Selected Subbase (up to 8 yd. (7.4 m))  
 Subbase and Selected Subbase (8 yd. (7.4 m) & over)  
 Subgrade Undercut & Backfill  
 Subbase & Open-Graded Drainage Course

**Metro Exp**

1962 yd.<sup>3</sup>/day  
 1962 yd.<sup>3</sup>/day  
 981 yd.<sup>3</sup>/day  
 392 yd.<sup>3</sup>/day  
 1962 yd.<sup>3</sup>/day  
 656 yd./day  
 820 yd./day  
 656 yd./day  
 492 yd./day  
 1962 yd.<sup>3</sup>/day  
 492 yd./day

**Rural**

6932 yd.<sup>3</sup>/day  
 12033 yd.<sup>3</sup>/day  
 4970 yd.<sup>3</sup>/day  
 785 yd.<sup>3</sup>/day

**Surfacing**

Concrete Pavement (8 ft. (7.3 m))  
     Including Forming & Curing  
 Bituminous Pavement (8 ft. (7.3 m))  
 Concrete Ramps (5.6 yd. (4.9 m))  
     Including Forming & Curing  
 Curb (1 side)  
 Concrete Shoulder-Median  
 Bituminous Shoulders (1 side per course)  
 Sidewalk  
 Sidewalk (Patching)

492 yd./day  
 Min. 7 days  
 1312 yd./day/course  
 328 yd./day  
 Min. 7 days  
 820 yd./day  
 1435 yd.<sup>2</sup>/day  
 820 yd./day  
 215 yd.<sup>2</sup>/day  
 78 yd.<sup>2</sup>/day

**Structures**

Sheeting (Shallow)  
 General Excavation at Bridge Site  
 Excavation for Substructure (Footings)  
 Piles (12 m)  
 Substructure (Piers & Abutments)  
 Order and Delivery of Beams  
     Plate Girders  
     Rolled Beams  
     Concrete Beams  
 Erection of Structural Steel  
 Bridge Decks  
     Form & Place Reinforcements (66 yd. (60 m)  
     Structure)  
     Pour Deck Slab (1-1/5 days/pour)  
     Cure  
 2 Course Bridge Decks  
     Add 9 days for Second Course Latex  
     Add 12 days for Second Course Low Slump  
 Sidewalks and Railings

33 yd./day  
 981 yd.<sup>3</sup>/day  
 1 unit/day  
 15 piles/day  
 15 days/unit  
 100-120 days/order  
 90-120 days/order  
 50 days/order  
 3 days/span  
 15 days  
 2 days/span  
 14 days

Sidewalks and Parapets	5 days/span
Slip Formed Barriers	2 days/span
Clean Up	10 days
Pedestrian Fencing	
Shop Plan Approval & Fabrication	1-2 months
Erection	1 week/bridge
Rip Rap Placement	
Bucket Dumped	504 yd. <sup>3</sup> /day
Bucket Dumped and Hand Finished	171 - 684 yd. <sup>3</sup> /day

<b>Retaining Walls</b>	1 Panel/day
	min. 10 days

### **Railroad Structures**

Grade Temporary runaround	981 yd. <sup>3</sup> /day
Ballast, Ties & Track	55 yd./day
Place Deck Plates	5 days/span
Waterproof, Shotcrete & Mastic	5 days/span

### **Railroad Crossing Reconstruction**

(depends on whether concrete base is involved) 10 – 15 work days

### **Temporary Railroad Structures**

Order & Deliver Steel	55 days/order
Erect Steel	1 day/span
Ties and Track	3 days/span

### **Pumphouse**

Structure	30 days/structure
Order & Deliver Electrical & Mechanical Equipment	90 days
Install Electrical & Mechanical Equipment	30 days

### **Miscellaneous**

Removing Old Pavement	66 yd./day
Removing Old Pavement for Recycling (8 yd. (7.3m))	492 yd./day
Crushing Old Concrete for 6A or OGDC	1485 tons/day
Removing Trees (Urban)	15 units/day
Removing Trees (Rural)	30 units/day
Removing Concrete Pavement	538 yd. <sup>2</sup> /day
Removing Sidewalk	299 yd. <sup>2</sup> /day
Removing Curb & Gutter	492 yd. <sup>2</sup> /day
Removing Bituminous Surface	1914 yd. <sup>2</sup> /day
Conditioning Aggregate	984 yd./day
Bituminous Base Stabilizing	2990 yd. <sup>2</sup> /day
Ditching	656 yd./day

Trenching for Shoulders	820 yd./day
Station Grading	667 yd./day
Clearing	9568 yd. <sup>2</sup> /day
Restoration (Topsoil, Seeding, Fertilizer & Mulch)	1973 yd. <sup>2</sup> /day
Sodding	2512 yd. <sup>2</sup> /day
Seeding	47840 yd. <sup>2</sup> /day
Guard Rail	252 yd./day
Fence (Woven Wire)	394 yd./day
Fence (Chain Link)	164 yd./day
Clean Up	656 yd./day
Concrete Median Barrier	328 yd./day
Cure	Min. 7 days
Reroute Traffic (Add 4 days if 1 <sup>st</sup> . item)	1 day/move
Concrete Glare Screen	492 yd./day
Light Foundations	6 units/day
Order & Delivery	6 – 8 week/order
Remove Railing & Replace with Barrier (1 or 2 decks at a time)	4 days/side
Longitudinal Joint Repair	1750 yd./day
Crack Sealing	5249 yd./day
Joint and Crack Sealing	547 yd./day
Repairing Pavement Joints – Detail 7 or 8	219 yd./day
Seal Coat	6999 lane yd./day
Diamond Grinding/Profile Texturing Concrete	3947 yd. <sup>2</sup> /day
Rest Area Building	
Order Material	3 months
Construct Building	9 months
Tower Lights	
Order and Deliver Towers	100 days
Weigh-In-Motion	
Order and Deliver Materials	1 month – 6 weeks
O & D with Installation	3 months
Raised Pavement Markers	300 each/day
Attenuators	2 each/day
Shoulder Corrugations, Ground or Cut	5 – 6 mi./side/day
Aggregate Base	3468 yd. <sup>2</sup> /day
Aggregate Shoulders	345 yd. <sup>3</sup> /day
Freeway Signing – 3# Post Type	50 signs/day
<b>Concrete Joint Repair (High Production – Projects with &gt; 1000 patches)</b>	
Average (2 yd. (1.8m))	50 patches/day
Large (> 2 yd. (1.8m))	598 yd. <sup>2</sup> /day
<b>Bridge Painting</b>	108 yd. <sup>2</sup> /day
<b>Pin and Hanger Replacement</b>	3 beams/day
Order Pin & Hanger	60 days

## Bridge Repair

Scarifying (including Clean Up)	11960 yd. <sup>2</sup> /day
Joint Removal (including Clean Up Forming & Placement)	4 yd./day 3.8 yd./day
Hydro-Demolishing	328 yd./day
Barrier Removal	16 yd./day
Placement	49 yd./day
Hand Chipping (Other than Deck)	0.31 yd. <sup>3</sup> /person/day
Shoulder Corrugations, Ground or Cut	5 – 6 mi./side/day
Casting Latex Overlay	273 yd./day
Curing Overlay	
Regular	4 days
High Early	1 day
Thrie Beam Retrofit	33 yd./day
Beam End Repairs	
Welded Repairs	0.75 days/repair
Bolted Repairs	0.50 days/repair
Bolted Stiffeners (Pair)	0.25 days/repair
Grind Beam Ends	0.25 days/repair
Welded Stiffeners (Pair)	0.25 days/repair
H-Pedestal Repairs:	
Welded Repair	0.50 days/each
Replacement	1 day/each
Deck Removal	281 yd. <sup>2</sup> /day

## Surfacing - Bituminous

Metro-Primary (< (19800 tons (18000 mtons))	
Paving	594 tons/day
Joints	164 yd./day
Cold Milling	4066 yd. <sup>2</sup> /day
Aggregate Shoulders	990 tons/day
Metro-Primary (> (19800 tons (18000 mtons))	
Paving	594 tons/day
Joints	219 yd./day
Cold Milling	8970 yd. <sup>2</sup> /day
Metro Interstate (> (19800 tons (18000 mtons))	
Paving	1210 tons/day
Joints	394 yd./day
Aggregate Shoulders	990 tons/day
Urban Primary (< (19800 tons (18000 mtons))	
Paving	704 tons/day
Joints	109 yd./day
Cold Milling	2033 yd. <sup>2</sup> /day
Rubbilizing	2033 yd. <sup>2</sup> /day
Aggregate Shoulders	495 tons/day

Urban Primary (> (19800 tons (18000 mtons))	
Paving	1100 tons/day
Joints	131 yd./day
Cold Milling	2033 yd. <sup>2</sup> /day
Aggregate Shoulders	550 tons./day
Urban Interstate (> (19800 tons (18000 mtons))	
Paving	1320 tons/day
Joints	241 yd./day
Cold Milling	2033 yd. <sup>2</sup> /day
Rubbilizing	6937 yd. <sup>2</sup> /day
Aggregate Shoulders	704 tons/day
Rural Primary (< (19800 tons (18000 mtons))	
Paving	704 tons/day
Joints	131 yd./day
Cold Milling	649 tons/day
Crush & Shape	11960 yd. <sup>2</sup> /day
Aggregate Shoulders	704 tons/day
Rural Primary (> (19800 tons (18000 mtons))	
Paving	1210 tons/day
Joints	164 yd./day
Cold Milling	880 tons/day
Crush & Shape	11960 yd. <sup>2</sup> /day
Rural Interstate (> (19800 tons (18000 mtons))	
Paving	1329 tons/day
Joints	214 yd./day



**C. MDOT CALENDARS**

The following are the MDOT 4, 5 and 6 day calendars:

<b>CALENDAR</b>	<b>DESCRIPTION</b>	<b>START</b>	<b>FINISH</b>
1	Std – Apr 16 – Nov 15 – 4 day	APR 16	NOV 15
2	LP – Bit Stab – 4 day	MAY 15	OCT 15
3	UP – Bit Stab – 4 day	JUN 01	OCT 01
4	LP S of M-46 – Bit Pave – 4 day	MAY 05	NOV 15
5	LP N of M-46 – Bit Pave – 4 day	MAY 15	NOV 01
6	UP – Bit Pave – 4 day	JUN 01	OCT 15
7	LP – Bit Seal Coat – 4 day	JUN 01	SEP 15
8	LP – Bit Seal Coat – 4 day	JUN 15	SEP 01
9	Tree Planting – Deciduous – 4 day	MAR 01 OCT 01	MAY 15 NOV 15
10	Tree Planting – Evergreen – 4 day	MAR 01	JUN 01
11	South LP – Restoration – 4 day	MAY 01	OCT 10
12	North LP – Restoration – 4 day	MAY 01	OCT 01
13	UP – Restoration – 4 day	MAY 01	SEP 20
14	Full Year – Winter Work – 4 day	JAN 01	DEC 31
21	Std – Apr 16 – Nov 15 – 5 day	APR 16	NOV 15
22	LP – Bit Stab – 5 day	MAY 15	OCT 15
23	UP – Bit Stab – 5 day	JUN 01	OCT 01
24	LP S of M-46 – Bit Pave – 5 day	MAY 05	NOV 15
25	LP N of M-46 – Bit Pave – 5 day	MAY 15	NOV 01
26	UP – Bit Pave – 5 day	JUN 01	OCT 15
27	LP – Bit Seal Coat – 5 day	JUN 01	SEP 15
28	UP – Bit Seal Coat – 5 day	JUN 15	SEP 01
29	Tree Planting – Deciduous – 5 day	MAR 01 OCT 01	MAY 01 NOV 15
30	Tree Planting – Evergreen – 5 day	MAR 01	JUN 01
31	South LP – Restoration – 5 day	MAY 01	OCT 10
32	North LP – Restoration – 5 day	MAY 01	OCT 01
33	UP – Restoration – 5 day	MAY 01	SEP 20
34	Full Year – Winter Work – 5 day	JAN 01	DEC 31
35	Full Year – Expedited – 6 day	JAN 01	DEC 31

**ATTACHMENT B**  
**CS 82141 – JN 85479C**  
**M-102 (8 Mile Road) from M-5 (Grand River Ave.) to the Rouge River**  
**Cities of Livonia, Farmington, Redford, Southfield, and Detroit, Wayne and Oakland**  
**Counties**

**MONTHLY PROGRESS REPORTS**

The first two pages of this attachment are the necessary layout of the Monthly progress reports and the last three pages are a completed example.

**Control Section 00000**  
**Job Number 00000C**  
**Structure Number S00**  
**Date 00/00/00**

**MONTHLY PROGRESS REPORT**

- A. Work accomplished during the previous month.
- B. Anticipated work items for the upcoming month.
- C. Real or anticipated problems on the project.
- D. Update of previously approved detailed project schedule (attached), including explanations for any delays or changes.
- E. Items needed from MDOT.
- F. Copy of Verbal Contact Records for the period (attached).

**Structure Number – Control Section – Job Number**  
**Route, Location Description**  
 Design Schedule as of 00/00/00

**LIST TASKS, SUBMITTALS, APPROVALS AND MEETINGS AS OUTLINED IN SCOPE OF DESIGN SERVICES AS NEEDED. THIS LIST IS JUST AN EXAMPLE.**

Original Authorized Start Date	Original Authorized Finish Date	(Anticipated) or Actual Start Dates	(Anticipated) Finish Dates	Task	Task Description
00/00/00	<b>00/00/00</b>	00/00/00	<b>00/00/00</b>	??	Initial project meeting.
00/00/00	<b>00/00/00</b>	00/00/00	<b>00/00/00</b>	3330	Conduct Design Survey.
00/00/00	<b>00/00/00</b>	00/00/00	<b>00/00/00</b>	3360	Prepare Base Plans.
00/00/00	<b>00/00/00</b>	00/00/00	<b>00/00/00</b>		Submit Base Plans.
00/00/00	<b>00/00/00</b>	00/00/00	<b>00/00/00</b>	3580	Develop Preliminary Plans.
00/00/00	<b>00/00/00</b>	00/00/00	<b>00/00/00</b>	3390	Develop Construction Zone Traffic Control Concepts.
00/00/00	<b>00/00/00</b>	00/00/00	<b>00/00/00</b>	3540	Develop Construction Zone Traffic Control Plans.
00/00/00	00/00/00	00/00/00	<b>00/00/00</b>	3550	Develop Preliminary Traffic Operations Plan.
00/00/00	00/00/00	00/00/00	<b>00/00/00</b>	3351	Review & Submit of Preliminary Right-Of-Way Plans.
00/00/00	00/00/00	00/00/00	<b>00/00/00</b>		Submittal of The Plan Review Package.
00/00/00	00/00/00	00/00/00	<b>00/00/00</b>		Completion of the Plan Review Meeting.
00/00/00	00/00/00	00/00/00	<b>00/00/00</b>	3840	Develop Final Plans and Specifications.
00/00/00	00/00/00	00/00/00	<b>00/00/00</b>		Submittal of final plans/proposal package to MDOT for final review.
00/00/00	<b>00/00/00</b>	00/00/00	<b>00/00/00</b>	3870	Omissions/Errors Check (OEC) Meeting.
00/00/00	<b>00/00/00</b>	00/00/00	<b>00/00/00</b>		Consultant's Plan Completion: Final Construction Plan/Proposal package with recommendations incorporated to MDOT (two weeks after OEC meeting).
00/00/00	<b>00/00/00</b>	00/00/00	<b>00/00/00</b>		Final Deliverables to MDOT.

**MONTHLY PROGRESS REPORT**

- A. Work accomplished during the previous month.
  - 1. During the last month, we completed the Final Right of Way plans and submitted them to Thomas Nelson, Jr. on 05/01/99.
  
- B. Anticipated work items for the upcoming month.
  - 1. Submit the Preliminary Plans and related material on 03/11/99.
  - 2. Attend the meeting regarding the Ameritech lines on the bridge, scheduled for 03/12/99.
  
- C. Real or anticipated problems on the project.
  - 1. We foresee no problems at this time.
  
- D. Update of previously approved detailed project schedule (attached), including explanations for any delays or changes.
  - 1. The design is falling behind schedule because we had problems resolving the geometries of the ramps in relation to the bridge. The Preliminary Plan submittal will be the only task affected by this delay because we will make up the lost time prior to submitting the Final Plans and Specifications.
  
- E. Items needed from MDOT.
  - 1. Prior to final Plan submittal, we will need the latest Special Provisions and Supplemental Specification checklists.
  
- F. Copy of Verbal Contact Records for the period (attached).
  - 1. Discussed bridge and ramp geometries with Tom Myers of MDOT Traffic and Safety Division on 07-24-95.

**SN: S02 – CS: 12345 – JN: 11111C**  
**M-111, from There Village Limits to north of That Road**  
Design Schedule as of 07/31/95

Original Authorized Start Date	Original Authorized Finish Date	(Anticipated) or <b>Actual</b> Start Dates	(Anticipated) Finish Dates	Task	Task Description
01/12/95	01/12/95	<b>01/12/95</b>	<b>01/12/95</b>	??	Initial project meeting.
01/29/95	01/29/95	<b>01/30/95</b>	<b>01/30/95</b>	3330	Conduct Design Survey.
02/17/95	04/10/95	<b>02/17/95</b>	<b>04/20/95</b>	3360	Prepare Base Plans.
02/29/95	02/29/95	<b>02/29/95</b>	<b>02/29/95</b>	3390	Develop Construction Zone Traffic Control Concepts.
03/12/95	03/13/95	<b>03/12/95</b>	(03/30/95)	3540	Develop Construction Zone Traffic Control Plans.
03/20/95	03/19/95	<b>03/25/95</b>	(03/30/95)	3551	Develop/Review Preliminary Traffic Operations Plan.
07/01/95	07/01/95	(07/01/95)	(07/01/95)	3590	The Plan Review Meeting.
07/11/95	08/11/95	(07/11/95)	(08/11/95)	3821	Complete/Review Traffic Signal Plan.
09/15/95	09/15/95	(09/15/95)	09/15/95)	3830	Complete Construction Zone Traffic Control Plan.
09/16/95	09/16/95	(09/16/95)	(09/16/95)	3840	Develop Final Plans and Specifications.
09/25/95	09/23/95	(09/25/95)	(09/25/95)	3870	Omissions/Errors Check (OEC) Meeting.

## VERBAL CONTACT RECORD

**Control Section** 12345  
**Job Number** 11111C  
**Structure Number** S02  
**Date** 07/31/95

Joe Engineer talked to Tom Myers and decided to use a 0.05'/ft super on ramp A leading into the bridge.