

CITY OF ANN ARBOR  
INVITATION TO BID



Pavement Marking Maintenance - FY2021

ITB No. 4631

Due Date: Wednesday, May 27, 2020, 2:00 p.m. (Local Time)

Public Services Area  
Engineering

Issued By:

City of Ann Arbor  
Procurement Unit  
301 E. Huron Street  
Ann Arbor, MI 48104

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- City of Ann Arbor Prevailing Wage Declaration of Compliance Form*
- City of Ann Arbor Living Wage Declaration of Compliance Form and Ordinance Poster*
- City of Ann Arbor Vendor Conflict of Interest Disclosure Form*
- City of Ann Arbor Non-Discrimination Declaration of Compliance Form and Ordinance Notice*
- MDOT Certified Payroll Forms*

## **NOTICE OF PRE-BID CONFERENCE**

There will be no pre-bid conference held for this project.

# INSTRUCTIONS TO BIDDERS

## General

Work to be done under this Contract is generally described through the detailed specifications and must be completed fully in accordance with the contract documents. All work to be done under this Contract is located in or near the City of Ann Arbor.

Any Bid which does not conform fully to these instructions may be rejected.

## Preparation of Bids

Bids should be prepared providing a straight-forward, concise description of the Bidder's ability to meet the requirements of the ITB. Bids shall be written in ink or typewritten. No erasures are permitted. Mistakes may be crossed out and corrected and must be initialed and dated in ink by the person signing the Bid.

Bids must be submitted on the "Bid Forms" provided with each blank properly filled in. If forms are not fully completed it may disqualify the bid. No alternative bid will be considered unless alternative bids are specifically requested. If alternatives are requested, any deviation from the specification must be fully described, in detail on the "Alternate" section of Bid form.

Each person signing the Bid certifies that he/she is the person in the Bidder's firm/organization responsible for the decision as to the fees being offered in the Bid and has not and will not participated in any action contrary to the terms of this provision.

## Questions or Clarifications / Designated City Contacts

All questions regarding this ITB shall be submitted via email. Emailed questions and inquires will be accepted from any and all prospective Bidders in accordance with the terms and conditions of the ITB.

All questions shall be due on, or before, **Wednesday, May 20, 2020** by no later than **12:00 p.m. (Local Time)** and should be addressed as follows:

Specification/Scope of Work questions shall be e-mailed to **[ddykman@a2gov.org](mailto:ddykman@a2gov.org)**  
Bid Process and Compliance questions emailed to **[cspencer@a2gov.org](mailto:cspencer@a2gov.org)**

Any error, omissions or discrepancies in the specification discovered by a prospective contractor and/or service provider shall be brought to the attention of **David Dykman, P.E., Project Manager** at **[ddykman@a2gov.org](mailto:ddykman@a2gov.org)** after discovery as soon as possible. Further, the contractor and/or service provide shall not be allowed to take advantage of errors, omissions or discrepancies in the specifications.

## Addenda

If it becomes necessary to revise any part of the ITB, notice of the Addendum will be posted to Michigan Inter-governmental Trade Network (MITN) [www.mitn.info](http://www.mitn.info) and/or City of Ann Arbor web site [www.A2gov.org](http://www.A2gov.org) for all parties to download.

Each Bidder must in its Bid, to avoid any miscommunications, acknowledge all addenda which it has received, but the failure of a Bidder to receive, or acknowledge receipt of; any addenda shall not relieve the Bidder of the responsibility for complying with the terms thereof.

The City will not be bound by oral responses to inquiries or written responses other than written

addenda.

## Bid Submission

All Bids are due and must be delivered to the City of Ann Arbor Procurement Unit on, or before, **Wednesday, May 27, 2020 at 2:00 p.m. (Local Time)**. Bids submitted late or via oral, telephonic, telegraphic, electronic mail or facsimile **will not** be considered or accepted.

Each Bidder must submit one (1) original Bid and one (1) Bid copy in a sealed envelope clearly marked: **ITB No. 4631, Pavement Marking Maintenance Project - FY2021**.

### **Bids must be addressed and delivered to:**

City of Ann Arbor  
Procurement Unit,  
c/o Customer Services, 1st Floor  
301 East Huron Street  
Ann Arbor, MI 48107

All Bids received on or before the Due Date will be publicly opened and recorded immediately. No immediate decisions are rendered.

**The following forms provided within this ITB Document must be included in submitted bids.**

- **City of Ann Arbor Prevailing Wage Declaration of Compliance**
- **City of Ann Arbor Living Wage Ordinance Declaration of Compliance**
- **Vendor Conflict of Interest Disclosure Form**
- **City of Ann Arbor Non-Discrimination Ordinance Declaration of Compliance**

**Bids that fail to provide these forms listed above upon bid opening will be rejected as non-responsive and will not be considered for award.**

Hand delivered bids may be dropped off in the Purchasing drop box located in the Ann Street (north) vestibule of City Hall. The City will not be liable to any Bidder for any unforeseen circumstances, delivery or postal delays. Postmarking to the Due Date will not substitute for receipt of the Bid. Each Bidder is responsible for submission of their Bid.

Additional time for submission of bids past the stated due date and time will not be granted to a single Bidder; however, additional time may be granted to all Bidders when the City determines in its sole discretion that circumstances warrant it.

## Award

The City intends to award a Contract(s) to the lowest responsible Bidder(s). On multi-divisional contracts, separate divisions may be awarded to separate Bidders. The City may also utilize alternatives offered in the Bid Forms, if any, to determine the lowest responsible Bidder on each division, and award multiple divisions to a single Bidder, so that the lowest total cost is achieved for the City. For unit price bids, the Contract will be awarded based upon the unit prices and the lump sum prices stated by the bidder for the work items specified in the bid documents, with consideration given to any alternates selected by the City. If the City determines that the unit price for any item is materially different for the work item bid than either other bidders or the general market, the City, in its sole discretion, in addition to any other right it may have, may reject the bid as not responsible or non-conforming.

The acceptability of major subcontractors will be considered in determining if a Bidder is

responsible. In comparing Bids, the City will give consideration to alternate Bids for items listed in the bid forms. All key staff and subcontractors are subject to the approval by the City.

## Official Documents

The City of Ann Arbor officially distributes bid documents from the Procurement Unit or through the Michigan Intergovernmental Trade Network (MITN). Copies of the bid documents obtained from any other source are not Official copies. Addenda and other bid information will only be posted to these official distribution sites. If you obtained City of Ann Arbor Bid documents from other sources, it is recommended that you register on [www.MITN.info](http://www.MITN.info) and obtain an official Bid. Bidders do not need to be shown on the plan holders list provided by MITN to be considered an official plan holder.

## Bid Security

Each bid must be accompanied by a certified check or Bid Bond by a surety licensed and authorized to do business within the State of Michigan, in the amount of 5% of the total of the bid price.

## Withdrawal of Bids

After the time of opening, no Bid may be withdrawn for the period of sixty (60) days.

## Contract Time

Time is of the essence in the performance of the work under this Contract. The available time for work under this Contract is indicated on page C-1, Article III of the Contract. If these time requirements cannot be met, the Bidder must stipulate on Bid Form Section 3 - Time Alternate its schedule for performance of the work. Consideration will be given to time in evaluating bids.

## Liquidated Damages

A liquidated damages clause, as given on page C-2, Article III of the Contract, provides that the Contractor shall pay the City as liquidated damages, and not as a penalty, a sum certain per day for each and every day that the Contractor may be in default of completion of the specified work, within the time(s) stated in the Contract, or written extensions.

Liquidated damages clauses, as given in the General Conditions, provide further that the City shall be entitled to impose and recover liquidated damages for breach of the obligations under Chapter 112 of the City Code.

The liquidated damages are for the non-quantifiable aspects of any of the previously identified events and do not cover actual damages that can be shown or quantified nor are they intended to preclude recovery of actual damages in addition to the recovery of liquidated damages.

## Human Rights Information

All contractors proposing to do business with the City shall satisfy the contract compliance administrative policy adopted by the City Administrator in accordance with the Section 9:158 of the Ann Arbor City Code. Breach of the obligation not to discriminate as outlined in Section 5, beginning at page GC-2 shall be a material breach of the contract. Contractors are required to post a copy of Ann Arbor's Non-Discrimination Ordinance attached at all work locations where its employees provide services under a contract with the City.

## Wage Requirements

Section 4, beginning at page GC-1, outlines the requirements for payment of prevailing wages and for payment of a "living wage" to employees providing service to the City under this contract.

The successful bidder and its subcontractors must comply with all applicable requirements and provide proof of compliance.

Pursuant to Resolution R-16-469 all public improvement contractors are subject to prevailing wage and will be required to provide to the City payroll records sufficient to demonstrate compliance with the prevailing wage requirements. Use of the Prevailing Wage Form provided in the Appendix section or a City-approved equivalent will be required along with wage rate interviews.

For laborers whose wage level are subject to federal, state and/or local prevailing wage law the appropriate Davis-Bacon wage rate classification is identified based upon the work including within this contract. **The wage determination(s) current on the date 10 days before bids are due shall apply to this contract.** The U.S. Department of Labor (DOL) has provided explanations to assist with classification in the following resource link: [beta.SAM.gov](http://beta.SAM.gov).

For the purposes of this ITB the Construction Type of **Highway** will apply.

## Conflict of Interest Disclosure

The City of Ann Arbor Purchasing Policy requires that prospective Vendors complete a Conflict of Interest Disclosure form. A contract may not be awarded to the selected Vendor unless and until the Procurement Unit and the City Administrator have reviewed the Disclosure form and determined that no conflict exists under applicable federal, state, or local law or administrative regulation. Not every relationship or situation disclosed on the Disclosure Form may be a disqualifying conflict. Depending on applicable law and regulations, some contracts may be awarded on the recommendation of the City Administrator after full disclosure, where such action is allowed by law, if demonstrated competitive pricing exists and/or it is determined the award is in the best interest of the City. A copy of the Vendor Conflict of Interest Disclosure Form is attached.

## Major Subcontractors

The Bidder shall identify on Bid Form Section 4 each major subcontractor it expects to engage for this Contract if the work to be subcontracted is 15% or more of the bid sum or over \$50,000, whichever is less. The Bidder also shall identify the work to be subcontracted to each major subcontractor. The Bidder shall not change or replace a subcontractor without approval by the City.

## Debarment

Submission of a Bid in response to this ITB is certification that the Bidder is not currently debarred, suspended, proposed for debarment, and declared ineligible or voluntarily excluded from participation in this transaction by any State or Federal departments or agency. Submission is also agreement that the City will be notified of any changes in this status.

## Disclosures

After bids are opened, all information in a submitter's bid is subjected to disclosure under the provisions of Michigan Public Act No. 442 of 1976, as amended (MCL 15.231 et seq.) known as the "Freedom of Information Act." The Freedom of Information Act also provides for the complete disclosure of contracts and attachments thereto except where specifically exempted.

## Bid Protest

All Bid protests must be in writing and filed with the Purchasing Agent within five (5) business days of the award action. The bidder must clearly state the reasons for the protest. If a bidder contacts a City Service Area/Unit and indicates a desire to protest an award, the Service Area/Unit

shall refer the bidder to the Purchasing Agent. The Purchasing Agent will provide the bidder with the appropriate instructions for filing the protest. The protest shall be reviewed by the City Administrator or designee whose decision shall be final.

*Any inquiries or requests regarding this procurement should be only submitted in writing to the Designated City Contacts provided herein. Attempts by any prospective bidder to initiate contact with anyone other than the Designated City Contacts provided herein that the bidder believes can influence the procurement decision, e.g., Elected Officials, City Administrator, Selection Committee Members, Appointed Committee Members, etc., may lead to immediate elimination from further consideration.*

## Cost Liability

The City of Ann Arbor assumes no responsibility or liability for costs incurred by the Bidder prior to the execution of a contract with the City. By submitting a bid, a bidder agrees to bear all costs incurred or related to the preparation, submission and selection process for the bid.

## Reservation of Rights

The City of Ann Arbor reserves the right to accept any bid or alternative bid proposed in whole or in part, to reject any or all bids or alternatives bids in whole or in part and to waive irregularity and/or informalities in any bid and to make the award in any manner deemed in the best interest of the City.

## Idle Free Ordinance

The City of Ann Arbor adopted an idling reduction Ordinance that goes into effect July 1, 2017. The full text of the ordinance (including exemptions) can be found at: [www.a2gov.org/idlefree](http://www.a2gov.org/idlefree).

Under the ordinance, No Operator of a Commercial Vehicle shall cause or permit the Commercial Vehicle to Idle:

- (a) For any period of time while the Commercial Vehicle is unoccupied; or
- (b) For more than 5 minutes in any 60-minute period while the Commercial Vehicle is occupied.

In addition, generators and other internal combustion engines are covered.

(1) Excluding Motor Vehicle engines, no internal combustion engine shall be operated except when it is providing power or electrical energy to equipment or a tool that is actively in use.

## Environmental Commitment

The City of Ann Arbor recognizes its responsibility to minimize negative impacts on human health and the environment while supporting a vibrant community and economy. The City further recognizes that the products and services the City buys have inherent environmental and economic impacts and that the City should make procurement decisions that embody, promote, and encourage the City's commitment to the environment.

The City encourages potential vendors to bring forward emerging and progressive products and services that are best suited to the City's environmental principles.



## INVITATION TO BID

City of Ann Arbor  
Guy C. Larcom Municipal Building  
Ann Arbor, Michigan 48107

Ladies and Gentlemen:

The undersigned, as Bidder, declares that this Bid is made in good faith, without fraud or collusion with any person or persons bidding on the same Contract; that this Bidder has carefully read and examined the bid documents, including City Nondiscrimination requirements and Declaration of Compliance Form, Living Wage requirements and Declaration of Compliance Form, Prevailing Wage requirements and Declaration of Compliance Form, Vendor Conflict of Interest Form, Notice of Pre-Bid Conference, Instructions to Bidders, Bid, Bid Forms, Contract, Bond Forms, General Conditions, Standard Specifications, Detailed Specifications, all Addenda, and the Plans (if applicable) and understands them. The Bidder declares that it conducted a full investigation at the site and of the work proposed and is fully informed as to the nature of the work and the conditions relating to the work's performance. The Bidder also declares that it has extensive experience in successfully completing projects similar to this one.

The Bidder acknowledges that it has not received or relied upon any representations or warrants of any nature whatsoever from the City of Ann Arbor, its agents or employees, and that this Bid is based solely upon the Bidder's own independent business judgment.

The undersigned proposes to perform all work shown on the plans or described in the bid documents, including any addenda issued, and to furnish all necessary machinery, tools, apparatus, and other means of construction to do all the work, furnish all the materials, and complete the work in strict accordance with all terms of the Contract of which this Bid is one part.

In accordance with these bid documents, and Addenda numbered \_\_\_\_\_, the undersigned, as Bidder, proposes to perform at the sites in and/or around Ann Arbor, Michigan, all the work included herein for the amounts set forth in the Bid Forms.

The Bidder declares that it has become fully familiar with the liquidated damage clauses for completion times and for compliance with City Code Chapter 112, understands and agrees that the liquidated damages are for the non-quantifiable aspects of non-compliance and do not cover actual damages that may be shown and agrees that if awarded the Contract, all liquidated damage clauses form part of the Contract.

The Bidder declares that it has become fully familiar with the provisions of Chapter 14, Section 1:320 (Prevailing wages) and Chapter 23 (Living Wage) of the Code of the City of Ann Arbor and that it understands and agrees to comply, to the extent applicable to employees providing services to the City under this Contract, with the wage and reporting requirements stated in the City Code provisions cited. Bidder certifies that the statements contained in the City Prevailing Wage and Living Wage Declaration of Compliance Forms are true and correct. Bidder further agrees that the cited provisions of Chapter 14 and Chapter 23 form a part of this Contract.

The Bidder declares that it has become familiar with the City Conflict of Interest Disclosure Form and certifies that the statement contained therein is true and correct.

The Bidder encloses a certified check or Bid Bond in the amount of 5% of the total of the Bid Price. The Bidder agrees both to contract for the work and to furnish the necessary Bonds and insurance documentation within 10 days after being notified of the acceptance of the Bid.

If this Bid is accepted by the City and the Bidder fails to contract and furnish the required Bonds and insurance documentation within 10 days after being notified of the acceptance of this Bid, then the Bidder shall be considered to have abandoned the Contract and the certified check or Bid Bond accompanying this Bid shall become due and payable to the City.

If the Bidder enters into the Contract in accordance with this Bid, or if this Bid is rejected, then the accompanying check or Bid Bond shall be returned to the Bidder.

In submitting this Bid, it is understood that the right is reserved by the City to accept any Bid, to reject any or all Bids, to waive irregularities and/or informalities in any Bid, and to make the award in any manner the City believes to be in its best interest.

SIGNED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2020.

\_\_\_\_\_  
Bidder's Name

\_\_\_\_\_  
Authorized Signature of Bidder

\_\_\_\_\_  
Official Address

\_\_\_\_\_  
(Print Name of Signer Above)

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
Email Address for Award Notice

**LEGAL STATUS OF BIDDER**

(The Bidder shall fill out the appropriate form and strike out the other three.)

Bidder declares that it is:

\* A corporation organized and doing business under the laws of the State of \_\_\_\_\_, for whom \_\_\_\_\_, bearing the office title of \_\_\_\_\_, whose signature is affixed to this Bid, is authorized to execute contracts.

**NOTE: If not incorporated in Michigan, please attach the corporation's Certificate of Authority**

• A ~~limited~~ liability company doing business under the laws of the State of \_\_\_\_\_, whom \_\_\_\_\_ bearing the title of \_\_\_\_\_ whose signature is affixed to this proposal, is authorized to execute contract on behalf of the LLC.

\* A partnership, organized under the laws of the state of \_\_\_\_\_ and filed in the county of \_\_\_\_\_, whose members are (list all members and the street and mailing address of each) (attach separate sheet if necessary):

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\* An individual, whose signature with address, is affixed to this Bid: \_\_\_\_\_ (initial here)

**Authorized Official**

\_\_\_\_\_ **Date** \_\_\_\_\_, 2020

(Print) Name \_\_\_\_\_ Title \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

Contact Phone ( ) \_\_\_\_\_ Fax ( ) \_\_\_\_\_

Email \_\_\_\_\_

# BID FORM

## Section 1 - Schedule of Prices

Pavement Marking Maintenance - FY2021  
 File No. 2021-022  
 Bid No. 4631

<u>Line No.</u>	<u>Item No.</u>	<u>Item Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
5	1047051	_Certified Payroll Compliance and Reporting	LSUM	1.000	\$ _____	\$ _____
10	1507051	_Mobilization, Max. \$5,000.00	LSUM	1.000	\$ _____	\$ _____
15	8117001	_Pavt Mrkg, Longit, 6 inch or Less Width, Rem	Ft	2000.000	\$ _____	\$ _____
20	8117001	_Pavt Mrkg, Longit, Greater than 6 inch Width, Rem	Ft	150.000	\$ _____	\$ _____
25	8117001	_Pavt Mrkg, Polyurea, 12 inch, Cross Hatching, White	Ft	210.000	\$ _____	\$ _____
30	8117001	_Pavt Mrkg, Polyurea, 12 inch, Cross Hatching, Yellow	Ft	210.000	\$ _____	\$ _____
35	8117001	_Pavt Mrkg, Polyurea, 12 inch, Crosswalk	Ft	950.000	\$ _____	\$ _____
40	8117001	_Pavt Mrkg, Polyurea, 24 inch, Crosswalk	Ft	50.000	\$ _____	\$ _____
45	8117001	_Pavt Mrkg, Polyurea, 24 inch, Stop Bar	Ft	375.000	\$ _____	\$ _____
50	8117001	_Pavt Mrkg, Polyurea, 4 inch, White	Ft	15000.000	\$ _____	\$ _____
55	8117001	_Pavt Mrkg, Polyurea, 4 inch, Yellow	Ft	65000.000	\$ _____	\$ _____
60	8117001	_Pavt Mrkg, Polyurea, 6 inch, Crosswalk	Ft	225.000	\$ _____	\$ _____
65	8117001	_Pavt Mrkg, Polyurea, 6 inch, White	Ft	17500.000	\$ _____	\$ _____
70	8117001	_Pavt Mrkg, Sprayable Thermopl, 4 inch, White	Ft	25000.000	\$ _____	\$ _____
75	8117001	_Pavt Mrkg, Sprayable Thermopl, 4 inch, Yellow	Ft	125000.000	\$ _____	\$ _____
80	8117001	_Pavt Mrkg, Sprayable Thermopl, 6 inch, White	Ft	50000.000	\$ _____	\$ _____
85	8117001	_Pavt Mrkg, Thermopl, 12 inch, Cross Hatching, White	Ft	175.000	\$ _____	\$ _____
90	8117001	_Pavt Mrkg, Thermopl, 12 inch, Cross Hatching, Yellow	Ft	750.000	\$ _____	\$ _____
95	8117001	_Pavt Mrkg, Thermopl, 12 inch, Crosswalk	Ft	7500.000	\$ _____	\$ _____
TOTAL THIS PAGE						\$ _____

# BID FORM

## Section 1 - Schedule of Prices

<u>Line No.</u>	<u>Item No.</u>	<u>Item Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
100	8117001	_Pavt Mrkg, Thermopl, 24 inch, Crosswalk	Ft	12750.000	\$ _____	\$ _____
105	8117001	_Pavt Mrkg, Thermopl, 24 inch, Stop Bar	Ft	6500.000	\$ _____	\$ _____
110	8117001	_Pavt Mrkg, Thermopl, 4 inch, White	Ft	2500.000	\$ _____	\$ _____
115	8117001	_Pavt Mrkg, Thermopl, 4 inch, Yellow	Ft	2500.000	\$ _____	\$ _____
120	8117001	_Pavt Mrkg, Thermopl, 6 inch, Crosswalk	Ft	15000.000	\$ _____	\$ _____
125	8117001	_Pavt Mrkg, Thermopl, 6 inch, White	Ft	2500.000	\$ _____	\$ _____
130	8117001	_Pavt Mrkg, Thermopl, For On-Street Parking, 4 inch, White	Ft	175.000	\$ _____	\$ _____
135	8117001	_Recessing Pavement Markings, Longit	Ft	50000.000	\$ _____	\$ _____
140	8117010	_Pavt Mrkg, Polymer Cement Surface, Bike Lane Green	Sft	7500.000	\$ _____	\$ _____
145	8117010	_Recessing Pavement Markings, Transv	Sft	600.000	\$ _____	\$ _____
150	8117010	_Rem Spec Mrkg	Sft	750.000	\$ _____	\$ _____
155	8117050	_Call Back, Mobilization, Max. \$500.00	Ea	10.000	\$ _____	\$ _____
160	8117050	_Pavt Mrkg, Ovly Cold Plastic, Bike, Small Sym	Ea	10.000	\$ _____	\$ _____
165	8117050	_Pavt Mrkg, Ovly Cold Plastic, Direction Arrow Sym, Bike	Ea	10.000	\$ _____	\$ _____
170	8117050	_Pavt Mrkg, Ovly Cold Plastic, Sharrow Symbol	Ea	15.000	\$ _____	\$ _____
175	8117050	_Pavt Mrkg, Ovly Cold Plastic, Speed Hump Chevron, White	Ea	10.000	\$ _____	\$ _____
180	8117050	_Pavt Mrkg, Polyurea, Lt Turn Arrow Sym	Ea	10.000	\$ _____	\$ _____
185	8117050	_Pavt Mrkg, Polyurea, Only	Ea	15.000	\$ _____	\$ _____
190	8117050	_Pavt Mrkg, Polyurea, Railroad Sym	Ea	1.000	\$ _____	\$ _____
195	8117050	_Pavt Mrkg, Polyurea, Rt and Lt Turn Arrow Sym	Ea	1.000	\$ _____	\$ _____
					TOTAL THIS PAGE	\$ _____

# BID FORM

## Section 1 - Schedule of Prices

<u>Line No.</u>	<u>Item No.</u>	<u>Item Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
200	8117050	_Pavt Mrkg, Polyurea, Rt Turn Arrow Sym	Ea	10.000	\$ _____	\$ _____
205	8117050	_Pavt Mrkg, Polyurea, School	Ea	5.000	\$ _____	\$ _____
210	8117050	_Pavt Mrkg, Polyurea, Thru and Lt Turn Arrow Sym	Ea	1.000	\$ _____	\$ _____
215	8117050	_Pavt Mrkg, Polyurea, Thru and Rt Turn Arrow Sym	Ea	1.000	\$ _____	\$ _____
220	8117050	_Pavt Mrkg, Polyurea, Thru Arrow Sym	Ea	2.000	\$ _____	\$ _____
225	8117050	_Pavt Mrkg, Preformed Thermoplastic, Accessible Sym	Ea	5.000	\$ _____	\$ _____
230	8117050	_Pavt Mrkg, Thermopl, Lt Turn Arrow Sym	Ea	100.000	\$ _____	\$ _____
235	8117050	_Pavt Mrkg, Thermopl, Only	Ea	110.000	\$ _____	\$ _____
240	8117050	_Pavt Mrkg, Thermopl, Railroad Sym	Ea	2.000	\$ _____	\$ _____
245	8117050	_Pavt Mrkg, Thermopl, Rt and Lt Turn Arrow Sym	Ea	2.000	\$ _____	\$ _____
250	8117050	_Pavt Mrkg, Thermopl, Rt Turn Arrow Sym	Ea	35.000	\$ _____	\$ _____
255	8117050	_Pavt Mrkg, Thermopl, School	Ea	15.000	\$ _____	\$ _____
260	8117050	_Pavt Mrkg, Thermopl, Speed Hump Chevron, White	Ea	15.000	\$ _____	\$ _____
265	8117050	_Pavt Mrkg, Thermopl, Thru and Lt Turn Arrow Sym	Ea	10.000	\$ _____	\$ _____
270	8117050	_Pavt Mrkg, Thermopl, Thru and Rt Turn Arrow Sym	Ea	5.000	\$ _____	\$ _____
275	8117050	_Pavt Mrkg, Thermopl, Thru Arrow Sym	Ea	10.000	\$ _____	\$ _____
280	8117050	_Pavt Mrkg, Thermopl, Yield	Ea	4.000	\$ _____	\$ _____
TOTAL THIS PAGE						\$ _____
TOTAL FROM PAGE BF-1						\$ _____
TOTAL FROM PAGE BF-2						\$ _____
<b>TOTAL BASE BID</b>						<b>\$ _____</b>

# BID FORM

## Section 2 – Material, Equipment and Environmental Alternates

The Base Bid proposal price shall include materials and equipment selected from the designated items and manufacturers listed in the bidding documents. This is done to establish uniformity in bidding and to establish standards of quality for the items named.

If the Contractor wishes to quote alternate items for consideration by the City, it may do so under this Section. A complete description of the item and the proposed price differential must be provided. Unless approved at the time of award, substitutions where items are specifically named will be considered only as a negotiated change in Contract Sum.

If an environmental alternative is bid the City strongly encourages bidders to provide recent examples of product testing and previous successful use for the City to properly evaluate the environmental alternative. Testing data from independent accredited organizations are strongly preferred.

<u>Item Number</u>	<u>Description</u>	<u>Add/Deduct Amount</u>
--------------------	--------------------	--------------------------

If the Bidder does not suggest any material or equipment alternate, the Bidder **MUST** complete the following statement:

For the work outlined in this request for bid, the bidder does NOT propose any material or equipment alternate under the Contract.

Signature of Authorized Representative of Bidder \_\_\_\_\_ Date \_\_\_\_\_

# BID FORM

## Section 3 - Time Alternate

If the Bidder takes exception to the time stipulated in Article III of the Contract, Time of Completion, page C-2, it is requested to stipulate below its proposed time for performance of the work. Consideration will be given to time in evaluating bids.

If the Bidder does not suggest any time alternate, the Bidder **MUST** complete the following statement:

For the work outlined in this request for bid, the bidder does NOT propose any time alternate under the Contract.

Signature of Authorized Representative of Bidder \_\_\_\_\_ Date \_\_\_\_\_



# BID FORM

## Section 4 - Major Subcontractors

For purposes of this Contract, a Subcontractor is anyone (other than the Contractor) who performs work (other than or in addition to the furnishing of materials, plans or equipment) at or about the construction site, directly or indirectly for or on behalf of the Contractor (and whether or not in privity of Contract with the Contractor), but shall not include any individual who furnishes merely the individual's own personal labor or services.

Contractor agrees that all subcontracts entered into by the Contractor shall contain similar wage provision to Section 4 of the General Conditions covering subcontractor's employees who perform work on this contract.

For the work outlined in these documents the Bidder expects to engage the following major subcontractors to perform the work identified:

<u>Subcontractor (Name and Address)</u>	<u>Work</u>	<u>Amount</u>
---	-------------	---------------

If the Bidder does not expect to engage any major subcontractor, the Bidder **MUST** complete the following statement:

For the work outlined in this request for bid, the bidder does NOT expect to engage any major subcontractor to perform work under the Contract.

Signature of Authorized Representative of Bidder \_\_\_\_\_ Date \_\_\_\_\_

# BID FORM

## Section 5 – References

Include a minimum of three (3) references from similar project completed within the past five (5) years.

**[Refer also to Instructions to Bidders for additional requirements, if any]**

1) \_\_\_\_\_  
Project Name                                      Cost                                      Date Constructed

\_\_\_\_\_                                      \_\_\_\_\_  
Contact Name                                      Phone Number

2) \_\_\_\_\_  
Project Name                                      Cost                                      Date Constructed

\_\_\_\_\_                                      \_\_\_\_\_  
Contact Name                                      Phone Number

3) \_\_\_\_\_  
Project Name                                      Cost                                      Date Constructed

\_\_\_\_\_                                      \_\_\_\_\_  
Contact Name                                      Phone Number

# SAMPLE STANDARD CONTRACT

*If a contract is awarded, the selected contractor will be required to adhere to a set of general contract provisions which will become a part of any formal agreement. These provisions are general principles which apply to all contractors of service to the City of Ann Arbor such as the following:*

## CONTRACT

THIS AGREEMENT is made on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_, between the CITY OF ANN ARBOR, a Michigan Municipal Corporation, 301 East Huron Street, Ann Arbor, Michigan 48104 ("City") and \_\_\_\_\_ ("Contractor")

---

(An individual/partnership/corporation, include state of incorporation)

Based upon the mutual promises below, the Contractor and the City agree as follows:

### ARTICLE I - Scope of Work

The Contractor agrees to furnish all of the materials, equipment and labor necessary; and to abide by all the duties and responsibilities applicable to it for the project titled [Insert Title of Bid and Bid Number] in accordance with the requirements and provisions of the following documents, including all written modifications incorporated into any of the documents, which are incorporated as part of this Contract:

Living Wage and Non-Discrimination Ordinances Declaration of Compliance Forms (if applicable)	Bonds
Vendor Conflict of Interest Form	General Conditions
Prevailing Wage Declaration of Compliance Form (if applicable)	Standard Specifications
Bid Forms	Detailed Specifications
Contract and Exhibits	Plans
	Addenda

### ARTICLE II - Definitions

Administering Service Area/Unit means **Public Services Area – Engineering.**

Project means **Pavement Marking Maintenance - FY2021; ITB No. 4631.**

### ARTICLE III - Time of Completion

- (A) The work to be completed under this Contract shall begin immediately on the date specified in the Notice to Proceed issued by the City.
- (B) The entire work for this Contract shall be completed in accordance with the scheduling requirements outlined in the "Detailed Specification for Project Schedule" found in the Contract Documents.

- (C) Failure to complete all the work within the time specified above, including any extension granted in writing by the Supervising Professional, shall obligate the Contractor to pay the City, as liquidated damages and not as a penalty, the amount(s) specified in the "Detailed Specification for Project Schedule" found on page DS-1 of the Contract Documents for each calendar day of delay in the completion of all the work. If any liquidated damages are unpaid by the Contractor, the City shall be entitled to deduct these unpaid liquidated damages from the monies due the Contractor.

The liquidated damages are for the non-quantifiable aspects of any of the previously identified events and do not cover actual damages that can be shown or quantified nor are they intended to preclude recovery of actual damages in addition to the recovery of liquidated damages.

- (D) The term of this Contract shall extend until June 30, 2021, or until satisfactory performance of all services have been performed, whichever occurs first. Subject to the availability of funding, the Contract may be extended for one one-year term, subject to the same terms and conditions, including unit prices, in the original Contract and subject to agreement by the City and the Contractor. Between January 1 and March 31, 2021, the City may provide a written request for the one-year extension to the Contractor, after which the Contractor shall have 30 days to respond in writing that it agrees to the one-year extension. Failure to respond may result in the Contract being reissued for bid.

**ARTICLE IV - The Contract Sum**

- (A) The City shall pay to the Contractor for the performance of the Contract, the lump sum and unit prices as given in the Bid Form for the estimated bid total of:

\_\_\_\_\_ Dollars (\$\_\_\_\_\_)

- (B) The amount paid shall be equitably adjusted to cover changes in the work ordered by the Supervising Professional but not required by the Contract Documents. Increases or decreases shall be determined only by written agreement between the City and Contractor.

**ARTICLE V - Assignment**

This Contract may not be assigned or subcontracted any portion of any right or obligation under this contract without the written consent of the City. Notwithstanding any consent by the City to any assignment, Contractor shall at all times remain bound to all warranties, certifications, indemnifications, promises and performances, however described, as are required of it under this contract unless specifically released from the requirement, in writing, by the City.

**ARTICLE VI - Choice of Law**

This Contract shall be construed, governed, and enforced in accordance with the laws of the State of Michigan. By executing this agreement, the Contractor and the City agree to venue in a court of appropriate jurisdiction sitting within Washtenaw County for purposes of any action arising under this Contract. The parties stipulate that the venue referenced in this Contract is for convenience and waive any claim of non-convenience.

Whenever possible, each provision of the Contract will be interpreted in a manner as to be effective and valid under applicable law. The prohibition or invalidity, under applicable law, of any provision will not invalidate the remainder of the Contract.

## **ARTICLE VII - Relationship of the Parties**

The parties of the Contract agree that it is not a Contract of employment but is a Contract to accomplish a specific result. Contractor is an independent Contractor performing services for the City. Nothing contained in this Contract shall be deemed to constitute any other relationship between the City and the Contractor.

Contractor certifies that it has no personal or financial interest in the project other than the compensation it is to receive under the Contract. Contractor certifies that it is not, and shall not become, overdue or in default to the City for any Contract, debt, or any other obligation to the City including real or personal property taxes. City shall have the right to set off any such debt against compensation awarded for services under this agreement.

## **ARTICLE VIII - Notice**

All notices given under this Contract shall be in writing and shall be by personal delivery or by certified mail with return receipt requested to the parties at their respective addresses as specified in the Contract Documents or other address the Contractor may specify in writing. Notice will be deemed given on the date when one of the following first occur: (1) the date of actual receipt; or (2) three days after mailing certified U.S. mail.

## **ARTICLE IX - Indemnification**

To the fullest extent permitted by law, Contractor shall indemnify, defend and hold the City, its officers, employees and agents harmless from all suits, claims, judgments and expenses including attorney's fees resulting or alleged to result, in whole or in part, from any act or omission, which is in any way connected or associated with this Contract, by the Contractor or anyone acting on the Contractor's behalf under this Contract. Contractor shall not be responsible to indemnify the City for losses or damages caused by or resulting from the City's sole negligence. The provisions of this Article shall survive the expiration or earlier termination of this contract for any reason.

## **ARTICLE X - Entire Agreement**

This Contract represents the entire understanding between the City and the Contractor, and it supersedes all prior representations, negotiations, agreements, or understandings whether written or oral. Neither party has relied on any prior representations in entering into this Contract. No terms or conditions of either party's invoice, purchase order or other administrative document shall modify the terms and conditions of this Contract, regardless of the other party's failure to object to such form. This Contract shall be binding on and shall inure to the benefit of the parties to this Contract and their permitted successors and permitted assigns and nothing in this Contract, express or implied, is intended to or shall confer on any other person or entity any legal or equitable right, benefit, or remedy of any nature whatsoever under or by reason of this Contract. This Contract may be altered, amended or modified only by written amendment signed by the City and the Contractor.

## **ARTICLE XI – Electronic Transactions**

The City and Contractor agree that signatures on this Contract may be delivered electronically in lieu of an original signature and agree to treat electronic signatures as original signatures that bind them to this Contract. This Contract may be executed and delivered by facsimile and upon such delivery, the facsimile signature will be deemed to have the same effect as if the original signature had been delivered to the other party.

**FOR CONTRACTOR**

By \_\_\_\_\_

Its: \_\_\_\_\_

**FOR THE CITY OF ANN ARBOR**

By \_\_\_\_\_  
Christopher Taylor, Mayor

By \_\_\_\_\_  
Jacqueline Beaudry, City Clerk

**Approved as to substance**

By \_\_\_\_\_  
Tom Crawford, Interim City Administrator

By \_\_\_\_\_  
Craig A. Hupy, P.E., Public Services Area  
Administrator

**Approved as to form and content**

\_\_\_\_\_  
Stephen K. Postema, City Attorney

**PERFORMANCE BOND**

- (1) \_\_\_\_\_ of \_\_\_\_\_ (referred to as "Principal"), and \_\_\_\_\_, a corporation duly authorized to do business in the State of Michigan (referred to as "Surety"), are bound to the City of Ann Arbor, Michigan (referred to as "City"), for \$ \_\_\_\_\_, the payment of which Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, by this bond.
- (2) The Principal has entered a written Contract with the City dated \_\_\_\_\_, 20\_\_, for: \_\_\_\_\_ and this bond is given for that Contract in compliance with Act No. 213 of the Michigan Public Acts of 1963, as amended, being MCL 129.201 et seq.
- (3) Whenever the Principal is declared by the City to be in default under the Contract, the Surety may promptly remedy the default or shall promptly:
- (a) complete the Contract in accordance with its terms and conditions; or
  - (b) obtain a bid or bids for submission to the City for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, arrange for a Contract between such bidder and the City, and make available, as work progresses, sufficient funds to pay the cost of completion less the balance of the Contract price; but not exceeding, including other costs and damages for which Surety may be liable hereunder, the amount set forth in paragraph 1.
- (4) Surety shall have no obligation to the City if the Principal fully and promptly performs under the Contract.
- (5) Surety agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder, or the specifications accompanying it shall in any way affect its obligations on this bond, and waives notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work, or to the specifications.
- (6) Principal, Surety, and the City agree that signatures on this bond may be delivered electronically in lieu of an original signature and agree to treat electronic signatures as original signatures that bind them to this bond. This bond may be executed and delivered by facsimile and upon such delivery, the facsimile signature will be deemed to have the same effect as if the original signature had been delivered to the other party.

**SIGNED AND SEALED** this \_\_\_\_\_ day of \_\_\_\_\_, 2020.

\_\_\_\_\_  
(Name of Surety Company)  
By \_\_\_\_\_  
(Signature)  
Its \_\_\_\_\_  
(Title of Office)

\_\_\_\_\_  
(Name of Principal)  
By \_\_\_\_\_  
(Signature)  
Its \_\_\_\_\_  
(Title of Office)

Approved as to form:  
  
\_\_\_\_\_  
Stephen K. Postema, City Attorney

Name and address of agent:  
  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**LABOR AND MATERIAL BOND**

- (1) \_\_\_\_\_ of \_\_\_\_\_ (referred to as "Principal"), and \_\_\_\_\_, a corporation duly authorized to do business in the State of Michigan, (referred to as "Surety"), are bound to the City of Ann Arbor, Michigan (referred to as "City"), for the use and benefit of claimants as defined in Act 213 of Michigan Public Acts of 1963, as amended, being MCL 129.201 et seq., in the amount of \$ \_\_\_\_\_, for the payment of which Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, by this bond.
- (2) The Principal has entered a written Contract with the City, dated \_\_\_\_\_, 20\_\_\_\_, for \_\_\_\_\_; and this bond is given for that Contract in compliance with Act No. 213 of the Michigan Public Acts of 1963 as amended;
- (3) If the Principal fails to promptly and fully repay claimants for labor and material reasonably required under the Contract, the Surety shall pay those claimants.
- (4) Surety's obligations shall not exceed the amount stated in paragraph 1, and Surety shall have no obligation if the Principal promptly and fully pays the claimants.
- (5) Principal, Surety, and the City agree that signatures on this bond may be delivered electronically in lieu of an original signature and agree to treat electronic signatures as original signatures that bind them to this bond. This bond may be executed and delivered by facsimile and upon such delivery, the facsimile signature will be deemed to have the same effect as if the original signature had been delivered to the other party.

**SIGNED AND SEALED** this \_\_\_\_\_ day of \_\_\_\_\_, 2020.

\_\_\_\_\_  
(Name of Surety Company)

By \_\_\_\_\_  
(Signature)

Its \_\_\_\_\_  
(Title of Office)

Approved as to form:

\_\_\_\_\_  
Stephen K. Postema, City Attorney

\_\_\_\_\_  
(Name of Principal)

By \_\_\_\_\_  
(Signature)

Its \_\_\_\_\_  
(Title of Office)

Name and address of agent:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



# **GENERAL CONDITIONS**

## **Section 1 - Execution, Correlation and Intent of Documents**

The contract documents shall be signed in 2 copies by the City and the Contractor.

The contract documents are complementary and what is called for by any one shall be binding. The intention of the documents is to include all labor and materials, equipment and transportation necessary for the proper execution of the work. Materials or work described in words which so applied have a well-known technical or trade meaning have the meaning of those recognized standards.

In case of a conflict among the contract documents listed below in any requirement(s), the requirement(s) of the document listed first shall prevail over any conflicting requirement(s) of a document listed later.

(1) Addenda in reverse chronological order; (2) Detailed Specifications; (3) Standard Specifications; (4) Plans; (5) General Conditions; (6) Contract; (7) Bid Forms; (8) Bond Forms; (9) Bid.

## **Section 2 - Order of Completion**

The Contractor shall submit with each invoice, and at other times reasonably requested by the Supervising Professional, schedules showing the order in which the Contractor proposes to carry on the work. They shall include the dates at which the Contractor will start the several parts of the work, the estimated dates of completion of the several parts, and important milestones within the several parts.

## **Section 3 - Familiarity with Work**

The Bidder or its representative shall make personal investigations of the site of the work and of existing structures and shall determine to its own satisfaction the conditions to be encountered, the nature of the ground, the difficulties involved, and all other factors affecting the work proposed under this Contract. The Bidder to whom this Contract is awarded will not be entitled to any additional compensation unless conditions are clearly different from those which could reasonably have been anticipated by a person making diligent and thorough investigation of the site.

The Bidder shall immediately notify the City upon discovery, and in every case prior to submitting its Bid, of every error or omission in the bidding documents that would be identified by a reasonably competent, diligent Bidder. In no case will a Bidder be allowed the benefit of extra compensation or time to complete the work under this Contract for extra expenses or time spent as a result of the error or omission.

## **Section 4 - Wage Requirements**

Under this Contract, the Contractor shall conform to Chapter 14 of Title I of the Code of the City of Ann Arbor as amended; which in part states "...that all craftsmen, mechanics and laborers employed directly on the site in connection with said improvements, including said employees of subcontractors, shall receive the prevailing wage for the corresponding classes of craftsmen, mechanics and laborers, as determined by statistics for the Ann Arbor area compiled by the United States Department of Labor. At the request of the City, any contractor or subcontractor shall provide satisfactory proof of compliance with the contract provisions required by the Section.

Pursuant to Resolution R-16-469 all public improvement contractors are subject to prevailing wage and will be required to provide to the City payroll records sufficient to demonstrate compliance with the prevailing wage requirements. A sample Prevailing Wage Form is provided in the Appendix herein for reference as to what will be expected from contractors. Use of the Prevailing Wage Form provided in the Appendix section or a City-approved equivalent will be required along with wage rate interviews.

Where the Contract and the Ann Arbor City Ordinance are silent as to definitions of terms required in determining contract compliance with regard to prevailing wages, the definitions provided in the Davis-Bacon Act as amended (40 U.S.C. 278-a to 276-a-7) for the terms shall be used.

If the Contractor is a "covered employer" as defined in Chapter 23 of the Ann Arbor City Code, the Contractor agrees to comply with the living wage provisions of Chapter 23 of the Ann Arbor City Code. The Contractor agrees to pay those employees providing Services to the City under this Contract a "living wage," as defined in Section 1:815 of the Ann Arbor City Code, as adjusted in accordance with Section 1:815(3); to post a notice approved by the City of the applicability of Chapter 23 in every location in which regular or contract employees providing services under this Contract are working; to maintain records of compliance; if requested by the City, to provide documentation to verify compliance; to take no action that would reduce the compensation, wages, fringe benefits, or leave available to any employee or person contracted for employment in order to pay the living wage required by Section 1:815; and otherwise to comply with the requirements of Chapter 23.

Contractor agrees that all subcontracts entered into by the Contractor shall contain similar wage provision covering subcontractor's employees who perform work on this contract.

## **Section 5 - Non-Discrimination**

The Contractor agrees to comply, and to require its subcontractor(s) to comply, with the nondiscrimination provisions of MCL 37.2209. The Contractor further agrees to comply with the provisions of Section 9:158 of Chapter 112 of Title IX of the Ann Arbor City Code, and to assure that applicants are employed and that employees are treated during employment in a manner which provides equal employment opportunity.

## **Section 6 - Materials, Appliances, Employees**

Unless otherwise stipulated, the Contractor shall provide and pay for all materials, labor, water, tools, equipment, light, power, transportation, and other facilities necessary or used for the execution and completion of the work. Unless otherwise specified, all materials incorporated in the permanent work shall be new, and both workmanship and materials shall be of the highest quality. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

The Contractor shall at all times enforce strict discipline and good order among its employees and shall seek to avoid employing on the work any unfit person or anyone not skilled in the work assigned.

Adequate sanitary facilities shall be provided by the Contractor.

## **Section 7 - Qualifications for Employment**

The Contractor shall employ competent laborers and mechanics for the work under this Contract. For work performed under this Contract, employment preference shall be given to qualified local residents.

## **Section 8 - Royalties and Patents**

The Contractor shall pay all royalties and license fees. It shall defend all suits or claims for infringements of any patent rights and shall hold the City harmless from loss on account of infringement except that the City shall be responsible for all infringement loss when a particular process or the product of a particular manufacturer or manufacturers is specified, unless the City has notified the Contractor prior to the signing of the Contract that the particular process or product is patented or is believed to be patented.

## **Section 9 - Permits and Regulations**

The Contractor must secure and pay for all permits, permit or plan review fees and licenses necessary for the prosecution of the work. These include but are not limited to City building permits, right-of-way permits, lane closure permits, right-of-way occupancy permits, and the like. The City shall secure and pay for easements shown on the plans unless otherwise specified.

The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the work as drawn and specified. If the Contractor observes that the contract documents are at variance with those requirements, it shall promptly notify the Supervising Professional in writing, and any necessary changes shall be adjusted as provided in the Contract for changes in the work.

## **Section 10 - Protection of the Public and of Work and Property**

The Contractor is responsible for the means, methods, sequences, techniques and procedures of construction and safety programs associated with the work contemplated by this contract. The Contractor, its agents or sub-contractors, shall comply with the "General Rules and Regulations for the Construction Industry" as published by the Construction Safety Commission of the State of Michigan and to all other local, State and National laws, ordinances, rules and regulations pertaining to safety of persons and property.

The Contractor shall take all necessary and reasonable precautions to protect the safety of the public. It shall continuously maintain adequate protection of all work from damage and shall take all necessary and reasonable precautions to adequately protect all public and private property from injury or loss arising in connection with this Contract. It shall make good any damage, injury or loss to its work and to public and private property resulting from lack of reasonable protective precautions, except as may be due to errors in the contract documents or caused by agents or employees of the City. The Contractor shall obtain and maintain sufficient insurance to cover damage to any City property at the site by any cause.

In an emergency affecting the safety of life, or the work, or of adjoining property, the Contractor is, without special instructions or authorization from the Supervising Professional, permitted to act at its discretion to prevent the threatened loss or injury. It shall also so act, without appeal, if authorized or instructed by the Supervising Professional.

Any compensation claimed by the Contractor for emergency work shall be determined by agreement or in accordance with the terms of Claims for Extra Cost - Section 15.

## **Section 11 - Inspection of Work**

The City shall provide sufficient competent personnel for the inspection of the work.

The Supervising Professional shall at all times have access to the work whenever it is in preparation or progress, and the Contractor shall provide proper facilities for access and for inspection.

If the specifications, the Supervising Professional's instructions, laws, ordinances, or any public authority require any work to be specially tested or approved, the Contractor shall give the Supervising Professional timely notice of its readiness for inspection, and if the inspection is by an authority other than the Supervising Professional, of the date fixed for the inspection. Inspections by the Supervising Professional shall be made promptly, and where practicable at the source of supply. If any work should be covered up without approval or consent of the Supervising Professional, it must, if required by the Supervising Professional, be uncovered for examination and properly restored at the Contractor's expense.

Re-examination of any work may be ordered by the Supervising Professional, and, if so ordered, the work must be uncovered by the Contractor. If the work is found to be in accordance with the contract documents, the City shall pay the cost of re-examination and replacement. If the work is not in accordance with the contract documents, the Contractor shall pay the cost.

## **Section 12 - Superintendence**

The Contractor shall keep on the work site, during its progress, a competent superintendent and any necessary assistants, all satisfactory to the Supervising Professional. The superintendent will be responsible to perform all on-site project management for the Contractor. The superintendent shall be experienced in the work required for this Contract. The superintendent shall represent the Contractor and all direction given to the superintendent shall be binding as if given to the Contractor. Important directions shall immediately be confirmed in writing to the Contractor. Other directions will be confirmed on written request. The Contractor shall give efficient superintendence to the work, using its best skill and attention.

## **Section 13 - Changes in the Work**

The City may make changes to the quantities of work within the general scope of the Contract at any time by a written order and without notice to the sureties. If the changes add to or deduct from the extent of the work, the Contract Sum shall be adjusted accordingly. All the changes shall be executed under the conditions of the original Contract except that any claim for extension of time caused by the change shall be adjusted at the time of ordering the change.

In giving instructions, the Supervising Professional shall have authority to make minor changes in the work not involving extra cost and not inconsistent with the purposes of the work, but otherwise, except in an emergency endangering life or property, no extra work or change shall be made unless in pursuance of a written order by the Supervising Professional, and no claim for an addition to the Contract Sum shall be valid unless the additional work was ordered in writing.

The Contractor shall proceed with the work as changed and the value of the work shall be determined as provided in Claims for Extra Cost - Section 15.

## **Section 14 - Extension of Time**

Extension of time stipulated in the Contract for completion of the work will be made if and as the Supervising Professional may deem proper under any of the following circumstances:

- (1) When work under an extra work order is added to the work under this Contract;
- (2) When the work is suspended as provided in Section 20;

- (3) When the work of the Contractor is delayed on account of conditions which could not have been foreseen, or which were beyond the control of the Contractor, and which were not the result of its fault or negligence;
- (4) Delays in the progress of the work caused by any act or neglect of the City or of its employees or by other Contractors employed by the City;
- (5) Delay due to an act of Government;
- (6) Delay by the Supervising Professional in the furnishing of plans and necessary information;
- (7) Other cause which in the opinion of the Supervising Professional entitles the Contractor to an extension of time.

The Contractor shall notify the Supervising Professional within 7 days of an occurrence or conditions which, in the Contractor's opinion, entitle it to an extension of time. The notice shall be in writing and submitted in ample time to permit full investigation and evaluation of the Contractor's claim. The Supervising Professional shall acknowledge receipt of the Contractor's notice within 7 days of its receipt. Failure to timely provide the written notice shall constitute a waiver by the Contractor of any claim.

In situations where an extension of time in contract completion is appropriate under this or any other section of the contract, the Contractor understands and agrees that the only available adjustment for events that cause any delays in contract completion shall be extension of the required time for contract completion and that there shall be no adjustments in the money due the Contractor on account of the delay.

### **Section 15 - Claims for Extra Cost**

If the Contractor claims that any instructions by drawings or other media issued after the date of the Contract involved extra cost under this Contract, it shall give the Supervising Professional written notice within 7 days after the receipt of the instructions, and in any event before proceeding to execute the work, except in emergency endangering life or property. The procedure shall then be as provided for Changes in the Work-Section I3. No claim shall be valid unless so made.

If the Supervising Professional orders, in writing, the performance of any work not covered by the contract documents, and for which no item of work is provided in the Contract, and for which no unit price or lump sum basis can be agreed upon, then the extra work shall be done on a Cost-Plus-Percentage basis of payment as follows:

- (1) The Contractor shall be reimbursed for all reasonable costs incurred in doing the work, and shall receive an additional payment of 15% of all the reasonable costs to cover both its indirect overhead costs and profit;
- (2) The term "Cost" shall cover all payroll charges for employees and supervision required under the specific order, together with all worker's compensation, Social Security, pension and retirement allowances and social insurance, or other regular payroll charges on same; the cost of all material and supplies required of either temporary or permanent character; rental of all power-driven equipment at agreed upon rates, together with cost of fuel and supply charges for the equipment; and any costs incurred by the Contractor as a direct result of executing the order, if approved by the Supervising Professional;

- (3) If the extra is performed under subcontract, the subcontractor shall be allowed to compute its charges as described above. The Contractor shall be permitted to add an additional charge of 5% percent to that of the subcontractor for the Contractor's supervision and contractual responsibility;
- (4) The quantities and items of work done each day shall be submitted to the Supervising Professional in a satisfactory form on the succeeding day, and shall be approved by the Supervising Professional and the Contractor or adjusted at once;
- (5) Payments of all charges for work under this Section in any one month shall be made along with normal progress payments. Retainage shall be in accordance with Progress Payments-Section 16.

No additional compensation will be provided for additional equipment, materials, personnel, overtime or special charges required to perform the work within the time requirements of the Contract.

When extra work is required and no suitable price for machinery and equipment can be determined in accordance with this Section, the hourly rate paid shall be 1/40 of the basic weekly rate listed in the Rental Rate Blue Book published by Dataquest Incorporated and applicable to the time period the equipment was first used for the extra work. The hourly rate will be deemed to include all costs of operation such as bucket or blade, fuel, maintenance, "regional factors", insurance, taxes, and the like, but not the costs of the operator.

## **Section 16 - Progress Payments**

The Contractor shall submit each month, or at longer intervals, if it so desires, an invoice covering work performed for which it believes payment, under the Contract terms, is due. The submission shall be to the City's Finance Department - Accounting Division. The Supervising Professional will, within 10 days following submission of the invoice, prepare a certificate for payment for the work in an amount to be determined by the Supervising Professional as fairly representing the acceptable work performed during the period covered by the Contractor's invoice. To insure the proper performance of this Contract, the City will retain a percentage of the estimate in accordance with Act 524, Public Acts of 1980. The City will then, following the receipt of the Supervising Professional's Certificate, make payment to the Contractor as soon as feasible, which is anticipated will be within 15 days.

An allowance may be made in progress payments if substantial quantities of permanent material have been delivered to the site but not incorporated in the completed work if the Contractor, in the opinion of the Supervising Professional, is diligently pursuing the work under this Contract. Such materials shall be properly stored and adequately protected. Allowance in the estimate shall be at the invoice price value of the items. Notwithstanding any payment of any allowance, all risk of loss due to vandalism or any damages to the stored materials remains with the Contractor.

In the case of Contracts which include only the Furnishing and Delivering of Equipment, the payments shall be; 60% of the Contract Sum upon the delivery of all equipment to be furnished, or in the case of delivery of a usable portion of the equipment in advance of the total equipment delivery, 60% of the estimated value of the portion of the equipment may be paid upon its delivery in advance of the time of the remainder of the equipment to be furnished; 30% of the Contract Sum upon completion of erection of all equipment furnished, but not later than 60 days after the date of delivery of all of the equipment to be furnished; and payment of the final 10% on final completion of erection, testing and acceptance of all the equipment to be furnished; but not later than 180 days after the date of delivery of all of the equipment to be furnished, unless testing has been completed and shows the equipment to be unacceptable.

With each invoice for periodic payment, the Contractor shall enclose a Contractor's Declaration - Section 43, and an updated project schedule per Order of Completion - Section 2.

## **Section 17 - Deductions for Uncorrected Work**

If the Supervising Professional decides it is inexpedient to correct work that has been damaged or that was not done in accordance with the Contract, an equitable deduction from the Contract price shall be made.

## **Section 18 - Correction of Work Before Final Payment**

The Contractor shall promptly remove from the premises all materials condemned by the Supervising Professional as failing to meet Contract requirements, whether incorporated in the work or not, and the Contractor shall promptly replace and re-execute the work in accordance with the Contract and without expense to the City and shall bear the expense of making good all work of other contractors destroyed or damaged by the removal or replacement.

If the Contractor does not remove the condemned work and materials within 10 days after written notice, the City may remove them and, if the removed material has value, may store the material at the expense of the Contractor. If the Contractor does not pay the expense of the removal within 10 days thereafter, the City may, upon 10 days written notice, sell the removed materials at auction or private sale and shall pay to the Contractor the net proceeds, after deducting all costs and expenses that should have been borne by the Contractor. If the removed material has no value, the Contractor must pay the City the expenses for disposal within 10 days of invoice for the disposal costs.

The inspection or lack of inspection of any material or work pertaining to this Contract shall not relieve the Contractor of its obligation to fulfill this Contract and defective work shall be made good. Unsuitable materials may be rejected by the Supervising Professional notwithstanding that the work and materials have been previously overlooked by the Supervising Professional and accepted or estimated for payment or paid for. If the work or any part shall be found defective at any time before the final acceptance of the whole work, the Contractor shall forthwith make good the defect in a manner satisfactory to the Supervising Professional. The judgment and the decision of the Supervising Professional as to whether the materials supplied and the work done under this Contract comply with the requirements of the Contract shall be conclusive and final.

## **Section 19 - Acceptance and Final Payment**

Upon receipt of written notice that the work is ready for final inspection and acceptance, the Supervising Professional will promptly make the inspection. When the Supervising Professional finds the work acceptable under the Contract and the Contract fully performed, the Supervising Professional will promptly sign and issue a final certificate stating that the work required by this Contract has been completed and is accepted by the City under the terms and conditions of the Contract. The entire balance found to be due the Contractor, including the retained percentage, shall be paid to the Contractor by the City within 30 days after the date of the final certificate.

Before issuance of final certificates, the Contractor shall file with the City:

- (1) The consent of the surety to payment of the final estimate;
- (2) The Contractor's Affidavit in the form required by Section 44.

In case the Affidavit or consent is not furnished, the City may retain out of any amount due the Contractor, sums sufficient to cover all lienable claims.

The making and acceptance of the final payment shall constitute a waiver of all claims by the City except those arising from:

- (1) unsettled liens;
- (2) faulty work appearing within 12 months after final payment;
- (3) hidden defects in meeting the requirements of the plans and specifications;
- (4) manufacturer's guarantees.

It shall also constitute a waiver of all claims by the Contractor, except those previously made and still unsettled.

## **Section 20 - Suspension of Work**

The City may at any time suspend the work, or any part by giving 5 days notice to the Contractor in writing. The work shall be resumed by the Contractor within 10 days after the date fixed in the written notice from the City to the Contractor to do so. The City shall reimburse the Contractor for expense incurred by the Contractor in connection with the work under this Contract as a result of the suspension.

If the work, or any part, shall be stopped by the notice in writing, and if the City does not give notice in writing to the Contractor to resume work at a date within 90 days of the date fixed in the written notice to suspend, then the Contractor may abandon that portion of the work suspended and will be entitled to the estimates and payments for all work done on the portions abandoned, if any, plus 10% of the value of the work abandoned, to compensate for loss of overhead, plant expense, and anticipated profit.

## **Section 21 - Delays and the City's Right to Terminate Contract**

If the Contractor refuses or fails to prosecute the work, or any separate part of it, with the diligence required to insure completion, ready for operation, within the allowable number of consecutive calendar days specified plus extensions, or fails to complete the work within the required time, the City may, by written notice to the Contractor, terminate its right to proceed with the work or any part of the work as to which there has been delay. After providing the notice the City may take over the work and prosecute it to completion, by contract or otherwise, and the Contractor and its sureties shall be liable to the City for any excess cost to the City. If the Contractor's right to proceed is terminated, the City may take possession of and utilize in completing the work, any materials, appliances and plant as may be on the site of the work and useful for completing the work. The right of the Contractor to proceed shall not be terminated or the Contractor charged with liquidated damages where an extension of time is granted under Extension of Time - Section 14.

If the Contractor is adjudged a bankrupt, or if it makes a general assignment for the benefit of creditors, or if a receiver is appointed on account of its insolvency, or if it persistently or repeatedly refuses or fails except in cases for which extension of time is provided, to supply enough properly skilled workers or proper materials, or if it fails to make prompt payments to subcontractors or for material or labor, or persistently disregards laws, ordinances or the instructions of the Supervising Professional, or otherwise is guilty of a substantial violation of any provision of the Contract, then the City, upon the certificate of the Supervising Professional that sufficient cause exists to justify such action, may, without prejudice to any other right or remedy and after giving the Contractor 3 days written notice, terminate this Contract. The City may then take possession of the premises and of all materials, tools and appliances thereon and without prejudice to any other remedy it



may have, make good the deficiencies or finish the work by whatever method it may deem expedient, and deduct the cost from the payment due the Contractor. The Contractor shall not be entitled to receive any further payment until the work is finished. If the expense of finishing the work, including compensation for additional managerial and administrative services exceeds the unpaid balance of the Contract Sum, the Contractor and its surety are liable to the City for any excess cost incurred. The expense incurred by the City, and the damage incurred through the Contractor's default, shall be certified by the Supervising Professional.

## **Section 22 - Contractor's Right to Terminate Contract**

If the work should be stopped under an order of any court, or other public authority, for a period of 3 months, through no act or fault of the Contractor or of anyone employed by it, then the Contractor may, upon 7 days written notice to the City, terminate this Contract and recover from the City payment for all acceptable work executed plus reasonable profit.

## **Section 23 - City's Right To Do Work**

If the Contractor should neglect to prosecute the work properly or fail to perform any provision of this Contract, the City, 3 days after giving written notice to the Contractor and its surety may, without prejudice to any other remedy the City may have, make good the deficiencies and may deduct the cost from the payment due to the Contractor.

## **Section 24 - Removal of Equipment and Supplies**

In case of termination of this Contract before completion, from any or no cause, the Contractor, if notified to do so by the City, shall promptly remove any part or all of its equipment and supplies from the property of the City, failing which the City shall have the right to remove the equipment and supplies at the expense of the Contractor.

The removed equipment and supplies may be stored by the City and, if all costs of removal and storage are not paid by the Contractor within 10 days of invoicing, the City upon 10 days written notice may sell the equipment and supplies at auction or private sale, and shall pay the Contractor the net proceeds after deducting all costs and expenses that should have been borne by the Contractor and after deducting all amounts claimed due by any lien holder of the equipment or supplies.

## **Section 25 - Responsibility for Work and Warranties**

The Contractor assumes full responsibility for any and all materials and equipment used in the construction of the work and may not make claims against the City for damages to materials and equipment from any cause except negligence or willful act of the City. Until its final acceptance, the Contractor shall be responsible for damage to or destruction of the project (except for any part covered by Partial Completion and Acceptance - Section 26). The Contractor shall make good all work damaged or destroyed before acceptance. All risk of loss remains with the Contractor until final acceptance of the work (Section 19) or partial acceptance (Section 26). The Contractor is advised to investigate obtaining its own builders risk insurance.

The Contractor shall guarantee the quality of the work for a period of one year. The Contractor shall also unconditionally guarantee the quality of all equipment and materials that are furnished and installed under the contract for a period of one year. At the end of one year after the Contractor's receipt of final payment, the complete work, including equipment and materials furnished and installed under the contract, shall be inspected by the Contractor and the Supervising Professional. Any defects shall be corrected by the Contractor at its expense as soon

as practicable but in all cases within 60 days. Any defects that are identified prior to the end of one year shall also be inspected by the Contractor and the Supervising Professional and shall be corrected by the Contractor at its expense as soon as practicable but in all cases within 60 days. The Contractor shall assign all manufacturer or material supplier warranties to the City prior to final payment. The assignment shall not relieve the Contractor of its obligations under this paragraph to correct defects.

## **Section 26 - Partial Completion and Acceptance**

If at any time prior to the issuance of the final certificate referred to in Acceptance and Final Payment - Section 19, any portion of the permanent construction has been satisfactorily completed, and if the Supervising Professional determines that portion of the permanent construction is not required for the operations of the Contractor but is needed by the City, the Supervising Professional shall issue to the Contractor a certificate of partial completion, and immediately the City may take over and use the portion of the permanent construction described in the certificate, and exclude the Contractor from that portion.

The issuance of a certificate of partial completion shall not constitute an extension of the Contractor's time to complete the portion of the permanent construction to which it relates if the Contractor has failed to complete it in accordance with the terms of this Contract. The issuance of the certificate shall not release the Contractor or its sureties from any obligations under this Contract including bonds.

If prior use increases the cost of, or delays the work, the Contractor shall be entitled to extra compensation, or extension of time, or both, as the Supervising Professional may determine.

## **Section 27 - Payments Withheld Prior to Final Acceptance of Work**

The City may withhold or, on account of subsequently discovered evidence, nullify the whole or part of any certificate to the extent reasonably appropriate to protect the City from loss on account of:

- (1) Defective work not remedied;
- (2) Claims filed or reasonable evidence indicating probable filing of claims by other parties against the Contractor;
- (3) Failure of the Contractor to make payments properly to subcontractors or for material or labor;
- (4) Damage to another Contractor.

When the above grounds are removed or the Contractor provides a Surety Bond satisfactory to the City which will protect the City in the amount withheld, payment shall be made for amounts withheld under this section.

## **Section 28 - Contractor's Insurance**

- (1) The Contractor shall procure and maintain during the life of this Contract, including the guarantee period and during any warranty work, such insurance policies, including those set forth below, as will protect itself and the City from all claims for bodily injuries, death or property damage that may arise under this Contract; whether the act(s) or omission(s) giving rise to the claim were made by the Contractor, any subcontractor, or anyone employed by them directly or indirectly. Prior to commencement of any work under this

contract, Contractor shall provide to the City documentation satisfactory to the City, through City-approved means (currently myCOI), demonstrating it has obtained the required policies and endorsements. The certificates of insurance endorsements and/or copies of policy language shall document that the Contractor satisfies the following minimum requirements. Contractor shall add registration@mycoitracking.com to its safe sender's list so that it will receive necessary communication from myCOI. When requested, Contractor shall provide the same documentation for its subcontractor(s) (if any).

Required insurance policies include:

- (a) Worker's Compensation Insurance in accordance with all applicable state and federal statutes. Further, Employers Liability Coverage shall be obtained in the following minimum amounts:

- Bodily Injury by Accident - \$500,000 each accident
  - Bodily Injury by Disease - \$500,000 each employee
  - Bodily Injury by Disease - \$500,000 each policy limit

- (b) Commercial General Liability Insurance equivalent to, as a minimum, Insurance Services Office form CG 00 01 04 13 or current equivalent. The City of Ann Arbor shall be named as an additional insured. There shall be no added exclusions or limiting endorsements specifically for the following coverages: Products and Completed Operations, Explosion, Collapse and Underground coverage or Pollution. Further there shall be no added exclusions or limiting endorsements that diminish the City's protections as an additional insured under the policy. The following minimum limits of liability are required:

- \$1,000,000 Each occurrence as respect Bodily Injury Liability or Property Damage Liability, or both combined.
  - \$2,000,000 Per Project General Aggregate
  - \$1,000,000 Personal and Advertising Injury
  - \$2,000,000 Products and Completed Operations Aggregate

- (c) Motor Vehicle Liability Insurance, including Michigan No-Fault Coverages, equivalent to, as a minimum, Insurance Services Office form CA 00 01 10 13 or current equivalent. Coverage shall include all owned vehicles, all non-owned vehicles and all hired vehicles. The City of Ann Arbor shall be named as an additional insured. There shall be no added exclusions or limiting endorsements that diminish the City's protections as an additional insured under the policy. Further, the limits of liability shall be \$1,000,000 for each occurrence as respects Bodily Injury Liability or Property Damage Liability, or both combined.

- (d) Umbrella/Excess Liability Insurance shall be provided to apply excess of the Commercial General Liability, Employers Liability and the Motor Vehicle coverage enumerated above, for each occurrence and for aggregate in the amount of \$1,000,000.

- (2) Insurance required under subsection (1)(b) and (1)(c) above shall be considered primary as respects any other valid or collectible insurance that the City may possess, including any self-insured retentions the City may have; and any other insurance the City does possess shall be considered excess insurance only and shall not be required to contribute with this insurance. Further, the Contractor agrees to waive any right of recovery by its insurer against the City for any insurance listed herein.

- (3) Insurance companies and policy forms are subject to approval of the City Attorney, which approval shall not be unreasonably withheld. Documentation must provide and demonstrate an unconditional and un-qualified 30-day written notice of cancellation in favor of the City of Ann Arbor. Further, the documentation must explicitly state the following: (a) the policy number(s); name of insurance company(s); name and address of the agent(s) or authorized representative(s); name(s), email address(es), and address of insured; project name; policy expiration date; and specific coverage amounts; (b) any deductibles or self-insured retentions which may be approved by the City, in its sole discretion; (c) that the policy conforms to the requirements specified Contractor shall furnish the City with satisfactory certificates of insurance and endorsements prior to commencement of any work. Upon request, the Contractor shall provide within 30 days a copy of the policy(ies) and all required endorsements to the City. If any of the above coverages expire by their terms during the term of this Contract, the Contractor shall deliver proof of renewal and/or new policies and endorsements to the Administering Service Area/Unit at least ten days prior to the expiration date.
- (4) Any Insurance provider of Contractor shall be authorized to do business in the State of Michigan and shall carry and maintain a minimum rating assigned by A.M. Best & Company's Key Rating Guide of "A-" Overall and a minimum Financial Size Category of "V". Insurance policies and certificates issued by non-authorized insurance companies are not acceptable unless approved in writing by the City.
- (5) City reserves the right to require additional coverage and/or coverage amounts as may be included from time to time in the Detailed Specifications for the Project.
- (6) The provisions of General Condition 28 shall survive the expiration or earlier termination of this contract for any reason.

## **Section 29 - Surety Bonds**

Bonds will be required from the successful bidder as follows:

- (1) A Performance Bond to the City of Ann Arbor for the amount of the bid(s) accepted;
- (2) A Labor and Material Bond to the City of Ann Arbor for the amount of the bid(s) accepted.

Bonds shall be executed on forms supplied by the City in a manner and by a Surety Company authorized to transact business in Michigan and satisfactory to the City Attorney.

## **Section 30 - Damage Claims**

The Contractor shall be held responsible for all damages to property of the City or others, caused by or resulting from the negligence of the Contractor, its employees, or agents during the progress of or connected with the prosecution of the work, whether within the limits of the work or elsewhere. The Contractor must restore all property injured including sidewalks, curbing, sodding, pipes, conduit, sewers or other public or private property to not less than its original condition with new work.

## **Section 31 - Refusal to Obey Instructions**

If the Contractor refuses to obey the instructions of the Supervising Professional, the Supervising Professional shall withdraw inspection from the work, and no payments will be made for work performed thereafter nor may work be performed thereafter until the Supervising Professional shall have again authorized the work to proceed.

## **Section 32 - Assignment**

Neither party to the Contract shall assign the Contract without the written consent of the other. The Contractor may assign any monies due to it to a third party acceptable to the City.

## **Section 33 - Rights of Various Interests**

Whenever work being done by the City's forces or by other contractors is contiguous to work covered by this Contract, the respective rights of the various interests involved shall be established by the Supervising Professional, to secure the completion of the various portions of the work in general harmony.

The Contractor is responsible to coordinate all aspects of the work, including coordination of, and with, utility companies and other contractors whose work impacts this project.

## **Section 34 - Subcontracts**

The Contractor shall not award any work to any subcontractor without prior written approval of the City. The approval will not be given until the Contractor submits to the City a written statement concerning the proposed award to the subcontractor. The statement shall contain all information the City may require.

The Contractor shall be as fully responsible to the City for the acts and omissions of its subcontractors, and of persons either directly or indirectly employed by them, as it is for the acts and omissions of persons directly employed by it.

The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractors to the Contractor by the terms of the General Conditions and all other contract documents applicable to the work of the subcontractors and to give the Contractor the same power to terminate any subcontract that the City may exercise over the Contractor under any provision of the contract documents.

Nothing contained in the contract documents shall create any contractual relation between any subcontractor and the City.

## **Section 35 - Supervising Professional's Status**

The Supervising Professional has the right to inspect any or all work. The Supervising Professional has authority to stop the work whenever stoppage may be appropriate to insure the proper execution of the Contract. The Supervising Professional has the authority to reject all work and materials which do not conform to the Contract and to decide questions which arise in the execution of the work.

The Supervising Professional shall make all measurements and determinations of quantities. Those measurements and determinations are final and conclusive between the parties.

## **Section 36 - Supervising Professional's Decisions**

The Supervising Professional shall, within a reasonable time after their presentation to the Supervising Professional, make decisions in writing on all claims of the City or the Contractor and on all other matters relating to the execution and progress of the work or the interpretation of the contract documents.

## **Section 37 - Storing Materials and Supplies**

Materials and supplies may be stored at the site of the work at locations agreeable to the City unless specific exception is listed elsewhere in these documents. Ample way for foot traffic and drainage must be provided, and gutters must, at all times, be kept free from obstruction. Traffic on streets shall be interfered with as little as possible. The Contractor may not enter or occupy with agents, employees, tools, or material any private property without first obtaining written permission from its owner. A copy of the permission shall be furnished to the Supervising Professional.

## **Section 38 - Lands for Work**

The Contractor shall provide, at its own expense and without liability to the City, any additional land and access that may be required for temporary construction facilities or for storage of materials.

## **Section 39 - Cleaning Up**

The Contractor shall, as directed by the Supervising Professional, remove at its own expense from the City's property and from all public and private property all temporary structures, rubbish and waste materials resulting from its operations unless otherwise specifically approved, in writing, by the Supervising Professional.

## **Section 40 - Salvage**

The Supervising Professional may designate for salvage any materials from existing structures or underground services. Materials so designated remain City property and shall be transported or stored at a location as the Supervising Professional may direct.

## **Section 41 - Night, Saturday or Sunday Work**

No night or Sunday work (without prior written City approval) will be permitted except in the case of an emergency and then only to the extent absolutely necessary. The City may allow night work which, in the opinion of the Supervising Professional, can be satisfactorily performed at night. Night work is any work between 8:00 p.m. and 7:00 a.m. No Saturday work will be permitted unless the Contractor gives the Supervising Professional at least 48 hours but not more than 5 days notice of the Contractor's intention to work the upcoming Saturday.

## **Section 42 - Sales Taxes**

Under State law the City is exempt from the assessment of State Sales Tax on its direct purchases. Contractors who acquire materials, equipment, supplies, etc. for incorporation in City projects are not likewise exempt. State Law shall prevail. The Bidder shall familiarize itself with the State Law and prepare its Bid accordingly. No extra payment will be allowed under this Contract for failure of the Contractor to make proper allowance in this bid for taxes it must pay.

## Section 43

### CONTRACTOR'S DECLARATION

I hereby declare that I have not, during the period \_\_\_\_\_, 20\_\_\_\_, to \_\_\_\_\_, 20\_\_\_\_, performed any work, furnished any materials, sustained any loss, damage or delay, or otherwise done anything in addition to the regular items (or executed change orders) set forth in the Contract titled \_\_\_\_\_, for which I shall ask, demand, sue for, or claim compensation or extension of time from the City, except as I hereby make claim for additional compensation or extension of time as set forth on the attached itemized statement. I further declare that I have paid all payroll obligations related to this Contract that have become due during the above period and that all invoices related to this Contract received more than 30 days prior to this declaration have been paid in full except as listed below.

There is/is not (Contractor please circle one and strike one as appropriate) an itemized statement attached regarding a request for additional compensation or extension of time.

\_\_\_\_\_  
Contractor

\_\_\_\_\_  
Date

By \_\_\_\_\_  
(Signature)

Its \_\_\_\_\_  
(Title of Office)

Past due invoices, if any, are listed below.

## Section 44

### CONTRACTOR'S AFFIDAVIT

The undersigned Contractor, \_\_\_\_\_, represents that on \_\_\_\_\_, 2020 \_\_\_\_, it was awarded a contract by the City of Ann Arbor, Michigan to \_\_\_\_\_ under the terms and conditions of a Contract titled \_\_\_\_\_. The Contractor represents that all work has now been accomplished and the Contract is complete.

The Contractor warrants and certifies that all of its indebtedness arising by reason of the Contract has been fully paid or satisfactorily secured; and that all claims from subcontractors and others for labor and material used in accomplishing the project, as well as all other claims arising from the performance of the Contract, have been fully paid or satisfactorily settled. The Contractor agrees that, if any claim should hereafter arise, it shall assume responsibility for it immediately upon request to do so by the City of Ann Arbor.

The Contractor, for valuable consideration received, does further waive, release and relinquish any and all claims or right of lien which the Contractor now has or may acquire upon the subject premises for labor and material used in the project owned by the City of Ann Arbor.

This affidavit is freely and voluntarily given with full knowledge of the facts.

\_\_\_\_\_  
Contractor

\_\_\_\_\_  
Date

By \_\_\_\_\_  
(Signature)

Its \_\_\_\_\_  
(Title of Office)

Subscribed and sworn to before me, on this \_\_\_\_ day of \_\_\_\_\_, 20\_\_  
\_\_\_\_\_, \_\_\_\_\_ County, Michigan

Notary Public

\_\_\_\_\_ County, MI

My commission expires on:



## STANDARD SPECIFICATIONS

Perform all work under this contract in accordance with the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction; the Michigan Manual of Uniform Traffic Control Devices (MMUTCD); and the MDOT Pavement Marking Standards, Pavement Marking Convoy Typical, and Non-Freeway Maintaining Traffic Typical, which are in effect at the date of availability of the contract documents stipulated in the Bid; and the MDOT Supplemental Specifications, and Special Provisions included in the contract. Any reference to the Michigan Department of Transportation (the "Department") in the aforementioned documentation shall also mean the City of Ann Arbor.

The Michigan Department of Transportation 2012 Standard Specification for Construction may be downloaded from the following web link:

<https://mdotjboss.state.mi.us/SpecProv/specBookHome.htm>

The MMUTCD can be downloaded from the following web link:

[http://mdotcf.state.mi.us/public/tands/Details\\_Web/mmutcdcompleteinteractive.pdf](http://mdotcf.state.mi.us/public/tands/Details_Web/mmutcdcompleteinteractive.pdf)

The MDOT Pavement Marking Standards can be downloaded from the following web link:

[http://mdotcf.state.mi.us/public/tands/Details\\_Web/mdot\\_pavemark\\_std.pdf](http://mdotcf.state.mi.us/public/tands/Details_Web/mdot_pavemark_std.pdf)

The MDOT Pavement Marking Convoy Typical can be downloaded from the following web link:

[http://mdotcf.state.mi.us/public/tands/Details\\_Web/mdot\\_pavmk\\_convoy\\_e.pdf](http://mdotcf.state.mi.us/public/tands/Details_Web/mdot_pavmk_convoy_e.pdf)

The MDOT Non-Freeway Maintaining Traffic Typical can be downloaded from the following web link:

[http://mdotcf.state.mi.us/public/tands/Details\\_Web/mdot\\_mt\\_nonfwy.pdf](http://mdotcf.state.mi.us/public/tands/Details_Web/mdot_mt_nonfwy.pdf)

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**CERTIFIED PAYROLL COMPLIANCE AND REPORTING**

AA:MGN/DD

1 of 2

03/10/18

**a. Description.** This specification covers all administrative requirements, payroll reporting procedures to be followed by Contractors performing work on City-sponsored public improvements projects, and all other miscellaneous and incidental costs associated with complying with the applicable sections of the City of Ann Arbor Code of Ordinances with regard to payment of prevailing wages and its Prevailing Wage Compliance policy.

The intent of this specification is **not** to include the actual labor costs associated with the payment of prevailing wages as required. Properly incorporate those costs in all other contract items of work bid for the project.

**b. General.** The Contractor will comply with all applicable sections of Federal and State prevailing wage laws, duly promulgated regulations, the City of Ann Arbor Code of Ordinances, and its Prevailing Wage Compliance Policy as defined within the contract documents. The Contractor shall provide the required certified payrolls, city-required declarations, and reports requested elsewhere in the contract documents within the timeline(s) stipulated therein.

The Contractor shall also provide corrected copies of any submitted documents found to contain errors, omissions, inconsistencies, or other defects that render the report invalid. Provide the corrected copies when requested by the Supervising Professional.

The Contractor shall also attend any required meetings as needed to fully discuss and ensure compliance with the contract requirements regarding prevailing wage compliance. The Contractor shall require all employees engaged in on-site work to participate in, provide the requested information to the extent practicable, and cooperate in the interview process. The City of Ann Arbor will provide the needed language interpreters in order to perform wage rate interviews or other field investigations as needed.

Submit certified payrolls on City-provided forms or forms used by the Contractor, as long as the Contractor forms contain all required payroll information. If the Contractor elects to provide its own forms, the Supervising Professional shall approve of their use prior to the beginning of on-site work.

**c. Unbalanced Bidding.** The City of Ann Arbor will examine the submitted cost for this item of work prior to contract award. If the City determines, in its sole discretion that the costs bid by the Contractor for complying with the contract requirements are not reasonable, accurately reported or contain discrepancies, the City reserves the right to request additional documentation that fully supports and justifies the price as bid. Should the submitted information not be determined to be reasonable or justify the costs, the City reserves the right to pursue award of the contract to the second low bidder without penalty or prejudice to any other remedies that it may have or may elect to exercise with respect to the original low-bidder.

The City will not extend the contract completion date as a result of its investigation of the as-bid amount for this item of work, even if the anticipated contract award date must be adjusted. The only exception will be if the Contractor adequately demonstrates that their costs were appropriate and justifiable. In such case, the City will adjust the contract completion date by the number of

calendar days commensurate with the length of its investigation if it cannot meet the published Notice to Proceed date of the work. The City will not allow adjustments to contract unit prices for all other items of work due to the adjustment of contract completion date.

**d. Measurement and Payment.** Measure and pay for the completed work, as described, at the contract unit price using the following pay item:

<u>Pay Item</u>	<u>Pay Unit</u>
Certified Payroll Compliance and Reporting .....	Lump Sum

Measure **Certified Payroll Compliance and Reporting** by the unit lump sum and pay for it at the contract unit price, which price includes costs for all supervisory, accounting, and administrative labor, and equipment and materials necessary to complete the work of monitoring, performing and maintaining compliance with the tasks required of this Detailed Specification.

Measurement will be on a pro rata basis at the time of each progress payment, and based on the ratio of work completed during the payment period and the total contract amount. When all of the work of this Contract is complete, the measurement of this item shall be 1.0 Lump Sum, less any deductions incurred for inadequate performance as described herein. This amount will not increase for any reason, including extensions of time, extras, and/or additional work.

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**MATERIAL AND SUPPLY SUBMITTALS AND CERTIFICATIONS**

AA:DAD

1 of 1

02/27/19

**a. Description.** This work includes submittal to the Engineer by the Contractor and its Subcontractors and prior to commencement of work; Michigan Department of Transportation Form 0501 (attached) showing all materials and supplies proposed for use on the project, and any product data information requested by the Engineer. It also includes furnishing certifications to the Engineer for review and approval a minimum of three business days prior to any scheduled delivery, installation, and/or construction of the same. The manufacturer or supplier shall certify the following materials and supplies are compliant with the contract specifications unless otherwise directed by the Engineer:

- Cement and lime
- Aggregates
- Admixtures and curing materials for concrete
- Asphaltic materials
- Steel reinforcement
- Structural steel
- Fencing materials
- Miscellaneous metal products
- Drainage products
- Geosynthetics
- Timber and lumber
- Masonry units
- Joint and waterproofing materials
- Bridge coating systems
- Erosion and sedimentation control materials
- Turf and landscaping materials
- Electrical and lighting materials
- Permanent traffic sign and support materials
- Permanent paving marking materials
- Permanent traffic signal materials
- Temporary traffic control materials
- Sanitary sewer materials
- Water main materials

**b. Materials.** None specified.

**c. Construction.** Not specified.

**d. Measurement and Payment.** Costs for this work will not be paid for separately, but shall be included in the Contract pay Item "General Conditions, Max \$\_\_\_\_".

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**PROJECT SCHEDULE**

AA:DAD

1 of 2

05/09/20

Complete the entirety of work under this Contract in accordance with, and subject to, the scheduling requirements as outlined below, and all other requirements of the Contract Documents.

Organize, coordinate and diligently execute the work at the locations directed by the City. This schedule details the requirements, if any, for the Start of Work (on or after dates specified), the Completion of Work (on or before dates specified), Restricted Dates and Maximum Calendar Days for Open to Traffic, if any, and the Liquidated Damages per Calendar Day for each and every calendar day the work remains incomplete beyond the date(s) specified.

The City expects to furnish the Contractor with two (2) copies of the Contract, for its execution, on or before **June 3, 2020**. The Contractor shall properly execute both copies of the Contract and return them, with the required Bonds and Insurance documentation, to the City by **June 24, 2020**. The Contractor shall not begin the work before the applicable date(s) as described herein without approval from the Project Engineer, and in no case before the receipt of the fully executed Contract and Notice to Proceed.

By no later than **July 1, 2020**, the Contractor shall submit a detailed schedule of work (progress schedule) for the Engineer's review and approval. The progress schedule must fully comply with the scheduling requirements contained in this Detailed Specification and shall include a beginning date and completion date for the project. The schedule shall clearly indicate, in detail, the start and the finish date of each work task on each street. The Contractor shall update the approved progress schedule each week and present it to the Engineer at the weekly progress meeting and must consult with the Engineer for review and approval of any proposed deviations from the most current, approved, schedule.

The Contractor shall begin the work of this project on or after **July 6, 2020**, and only upon receipt of the fully executed Contract, Notice to Proceed and approved Progress Schedule. The City will consider granting appropriate time extensions should delays prevent the Contractor from starting work on this date.

The City expects the Contractor will make multiple trips to complete the work in accordance with the approved Project Work Schedule. The entire project shall be completed on or before **June 30, 2021**.

Failure to complete all work as specified, within the times specified, including time extensions granted thereto as determined by the Engineer, shall entitle the City to deduct from the payments due the Contractor **\$500.00** in "Liquidated Damages", and not as a penalty, for each and every calendar day the work remains incomplete beyond the date specified.

Time is of the essence in the performance of the work of this Contract. The Contractor is expected to mobilize sufficient personnel and equipment and work throughout all authorized hours to complete the project by the final completion date. Should the Contractor demonstrate that they must work on some Sundays in order to maintain the project schedule, they may do so between the hours of 9:00 a.m. and 5:00 p.m. with prior approval from the City. There will be no additional compensation due to the Contractor for work performed on Sundays.

The Engineer may delay or stop the work due to threatening weather conditions. The Contractor shall not be compensated for unused materials or downtime due to rain, or the threat of rain. The Contractor is solely responsible for repairing all damages to the work and to the site, including road infrastructures, road subgrades, and any adjacent properties, which are caused as a result of working in the rain.

The Contractor shall not work in the dark except as approved by the Engineer and only when lighting for night work is provided as detailed elsewhere in this contract. The Engineer may stop the work, or may require the Contractor to defer certain work to another day, if, in the Engineer's opinion, the work cannot be completed within the remaining daylight hours, or if inadequate daylight is present to either properly perform or inspect the work. The Contractor will not be compensated for unused materials or downtime, when delays or work stoppages are directed by the Engineer for darkness and/or inadequate remaining daylight reasons. The Contractor is solely responsible for repairing all damages to the work and to the site, including road infrastructures, road subgrades, and any adjacent properties, which are caused as a result of working in the dark.

Liquidated Damages will be assessed until the required work is completed in the current construction season. If, with the Engineer's approval, work is extended beyond seasonal limitations, the assessment of Liquidated Damages will be discontinued until the work is resumed in the following construction season.

If the construction contract is not completed within the specified period(s) including any extensions of time granted thereto, at the sole discretion of the City of Ann Arbor, this Contract may be terminated with no additional compensation due to the Contractor, and the Contractor may be forbidden to bid on future City of Ann Arbor projects for a period of at least three (3) years. If the Engineer elects to terminate the Contract, contract items paid for on a Lump Sum basis shall be paid up to a maximum percentage equal to the percentage of the contract work that has been completed.

Costs for the Contractor to organize, coordinate, and schedule all of the project work will not be paid for separately, but shall be included in the bid price of other pay items under the contract.

CITY OF ANN ARBOR

DETAILED SPECIFICATION  
FOR

**PAVEMENT MARKING, METHYL METHACRYLATE ACRYLIC, BIKE LANE GREEN**

CON:FTCH/AA:DAD

1 of 2

05/10/20

**a. Description.** This special provision applies for the application of Methyl Methacrylate Acrylic (MMA) bike lane pavement markings as shown on the plans or as directed by the Engineer. The special provision includes all labor, equipment, and materials required for layout, surface preparation, and installation of MMA acrylic bike lane pavement markings. All work will be according to the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction and this special provision.

**b. Materials.** The MMA acrylic bike lane pavement marking material must be Methyl Methacrylate Acrylic material with Green pigment and anti-skid abilities.

1. Pigmented Resin. Transpo Color-Safe Bike Lane Green must be used as the pigmented MMA acrylic resin, or approved equal. The approved color pigmented resin shall comply with FHWA green color guidelines for bike lanes.

2. Anti-Skid Aggregate. Anti-skid aggregates shall be provided by the pavement marking supplier. Aggregate shall have a minimum Hardness of 7.0 per Mohs Scale.

**c. Construction.** Construction of bike lane pavement markings shall be in accordance with manufacturer application and installation procedures, MDOT 2012 Standard Specifications for Construction, and Engineer.

All pavement marking areas shall be laid out by the contractor and then reviewed by the Engineer. Marking layout shall be approved by the Engineer prior to placement of material.

Surface preparation shall include cleaning of the pavement surface using high pressure water, compressed air or sand-blasting and shall conform to ASTM D4263. All surface damage shall be corrected by the Contractor at the Contractor's expense, as directed by the Engineer. Manufacturer recommended pavement and air temperatures must be followed.

All markings on concrete surfaces shall receive a base coat application and shall be included in the pay item. Marking layout, material mixing, base coat application, and pigmented coat application shall comply with the manufacturer's installation procedures.

The Contractor shall protect the pavement markings from damage and allow them to fully cure prior to allowing traffic to drive over markings. Any damage shall be corrected by the Contractor at the Contractor's expense.

**d. Measurement and Payment.** Measure and pay for the completed work, as described, at the respective contract unit price using the following respective pay item:

<b>Pay Item</b>	<b>Pay Unit</b>
Pavt Mrkg, MMA Acrylic, Bike Lane Green .....	Square Foot

**Pavt Mrkg, MMA Acrylic, Bike Lane Green** will be measured in place by the square foot and will be paid for at the contract unit price per square foot, which price shall be payment in full for all labor, equipment, and materials as specified in this provision, and as directed by the Engineer to accomplish this work.



CITY OF ANN ARBOR

DETAILED SPECIFICATION  
FOR

**PAVEMENT MARKING, POLYMER CEMENT SURFACE, BIKE LANE GREEN**

AA:DAD

1 of 4

05/10/20

**a. Description.** This work consists of installing a polymer cement surface system (PCSS) on a prepared substrate in accordance with these specifications, the plans, and/or as directed by the Engineer for the purposes of delineating dedicated or shared bicycle lanes. The resulting surface may be patterned or monolithic as required by the design plans or directed by the Engineer. Perform the work utilizing the products, processes, equipment, and certifications of Endurablend™ Systems, or an approved equal. Approved equal materials must have proven in-place history over asphalt and/or concrete and meet all the material properties and be installed in accordance with this specification. Complete all work in accordance with section 811 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, as applicable, the manufacture’s requirements, and this special provision.

**b. Materials.** Use Endurablend™ System PCSS material manufactured by Pavement Surface Coatings, LLC, 81 Ball Road, Mountain Lakes, NJ 07046. (Telephone: 866-215-6120) or approved equal. Pre-approval of an equivalent product must meet the material property requirements shown below. The color will be green and must comply with FHWA standards for daytime and nighttime chromaticity values.

1. The daytime chromaticity coordinates for the color used for green colored pavement shall be as follows:

1	2	3	4
x	y	x	y
0.230	0.754	0.266	0.500
0.266	0.500	0.367	0.500
0.444	0.555		

2. The daytime luminance factor (Y) shall be at least 7, but no more than 35.

3. The nighttime chromaticity coordinates for the color used for green colored pavement shall be as follows:

1	2	3	4
x	y	x	y
0.230	0.754	0.366	0.540
0.450	0.500	0.479	0.520

4. PCSS Material Properties: The polymer cement surface or approved equal shall provide a skid and abrasion resistant surface and meet or exceed the requirements in Table 2.1.

<b>Table 2.1 - Polymer Cement Material Properties</b>		
Description	Test Method	Value
Compressive Strength, (at 28 days) 2" Cube <sup>1</sup>	ASTM C-109	>3,200 PSI
Tensile Strength <sup>1</sup>	ASTM C-190	>350 PSI
Bond Strength with Asphalt <sup>1,2</sup>	ASTM C-1583	>250 PSI

<b>Table 2.1 - Polymer Cement Material Properties (continued)</b>		
<b>Description</b>	<b>Test Method</b>	<b>Value</b>
Skid Resistance (at 60km/hr)	ASTM E-1911 ASTM E-274	>40 >40
Length Change <sup>1</sup>	ASTM C-157	<0.024%
Solar Reflectivity Index <sup>3,4</sup>	ASTM C-1549 ASTM E-1980	>0.29
Wet Mix Flowability <sup>7</sup>	ASTM C-939	20-45 sec
Wet Mix Air Voids <sup>7</sup>	Chase Meter	<6%
Total Air Content <sup>5</sup>	Microscope Analysis of Section	<5%
Flexibility <sup>6</sup>	1/2" Thick Beam under Static Load – Max. Deflection	≥1/2"

- 1) The data shown is representative of laboratory test 28 day cured samples at 50% humidity.
- 2) Prepare a test sample by overlaying 1/4" (6mm) of product on 12.5mm HMA sample.
- 3) Obtain an SRI of greater than 29 by using pigments or changing the color index of the aggregate. It is not applicable for requested color pigments.
- 4) Only applicable for projects where a LEED certification credit is a requirement of the surfacing or where specifications require a reflective surfacing.
- 5) Required to provide balance between flexibility, minimal permeability and therefore maximum durability.
- 6) Use the same loading rate as for the ASTM C-109 test above.
- 7) Quality assurance tests for site.

5. Chemical Admixtures/Pigments: The manufacturer shall approve the dosage rates and the conditions for use in the PCSS of any chemical admixtures and/or color pigments.

6. Delivery, Storage, and Handling: Deliver material to site in weatherproof containers and store in a covered and ventilated location.

**c. Construction.** Construct green bike lane pavement markings in accordance with manufacturer application and installation procedures, section 811 of MDOT 2012 Standard Specifications for Construction, as applicable, and as directed by the Engineer.

1. Equipment: Use equipment approved by the manufacturer or an approved installer. The installer shall demonstrate that the equipment is capable of handling materials, performing the work, maintaining proper material temperature, maintaining the minimum level of required productivity, and producing a product of the specified quality and be maintained in good mechanical condition. Provide sufficient equipment to enable the prosecution of the work in accordance with the project schedule and completion of the work in the specified time. Use equipment capable of handling and transferring the dry materials and liquids to the approved mixer without causing spillage, segregation, or contamination.

2. Mixing: The measuring and mixing operation shall be capable of producing a consistent homogeneous mix sufficient to maintain the production levels required for the work. Charge the water and dry blend into the mixer and blend to the desired consistency while maintaining effective temperatures to prevent flashing of the mix. Hand mixing in pails is not permissible.

### 3. Weather Limitations:

Follow manufacturer recommended pavement and air temperatures. Place PCSS only when all the following conditions are met:

- The pavement surface is dry.
- Ambient and substrate temperatures are 50° F (10° C) and rising and expected to remain above 50° F (10° C) for 6 hours
- There is no forecast of temperatures below 35° F (2° C) within 24 hours from the time of placement.
- The weather is not foggy or rainy. When rain appears imminent, all placement operations shall cease, and the work shall not resume until the threat of rain has passed.

When the ambient temperature is below 50° F (10° C), but will remain above 40° F (5° C) during paving and the substrate temperatures are 50° F (10° C) and rising, place the PCSS with the approval of Engineer and add manufacturer approved accelerators to the mix.

Take care when placing the PCSS if the substrate temperature exceeds 130° F (50° C). Closely monitor application temperatures of the substrate above 130° F (50° C) for performance during the course of application. Any observable defects occurring as a result of extreme temperature should be cause for immediate halting of placement operations.

Where the ambient paving air temperature is going to exceed 90° F (32° C) consider use of cold water and ice for the blending operation. Where the provision of cold water or replacing the part of the water requirement with ice is not possible, then use a retarder with the mix.

4. Surface Preparation and Condition: The substrate that is to receive the PCSS system shall be cleaned of sand, dirt, dust, rock, or any other debris that could prevent proper adhesion. Clean and prepare the surface by power broom, scraping, compressed air or sand-blasting, high pressure water, or other approved methods in conformance with ASTM D4263 as necessary to assure bonding between the PCSS surface course and the substrate. Do not start PCSS operations until the surface is in a condition as recommended by the manufacturer and approved by the Engineer. The Contractor at the its expense shall correct any/all surface damage resulting from cleaning/preparation work, as directed by the Engineer.

All substrate receiving PCSS shall be free of potholes, spalling, or other areas of structural deterioration. If identified in the plans, or directed by the Engineer, excavate all such areas to a depth where the substrate is structurally sound and repair with an approved method. Report structurally deficient areas not identified for repair in the plans to the Engineer.

5. Placement: The Contractor shall lay out all pavement marking areas and then for review by the Engineer. The Engineer shall approve the marking layout prior to placement of material.

Deposit PCSS uniformly on the substrate by roto-stator spray equipment. Use a spray apparatus device approved by the manufacturer and having the capability of mixing the materials at a rate to insure continuous spray operations.

Stenciled Pavement: This design requires a base coat of the material to be applied by squeegee or spray on top of asphalt or concrete pavement. Concrete pavement may require shot blasting to roughen the surface to ensure proper bonding. The base coat provides a grout line color plus seals the surface. Once the base coat has cured, apply the specified stencil pattern and spray the top coat. Remove stencil when the top coat has reached the proper consistency and allow coating to cure. Cure to traffic time is approximately 2 hours at 70 degrees. The total cured thickness should be between 1/8" and 3/16".

The stencils should be a plastic or paper pattern consistent with the design of the crosswalks.

Non-Patterned Application: This design uses a colored or base color coating without a decorative pattern. Apply the material to the asphalt or concrete pavement using roto-stator spray apparatus. Concrete pavement may require shot blasting to roughen the surface to ensure proper bonding. A smooth or textured surface can be created. A textured surface is achieved by adding aggregate to the mix or distributing a fine aggregate to the surface after application as specified in the plans. Cure to traffic time is approximately 2 hours at 70 degrees. The total cured thickness should be between 1/8" and 3/16".

6. Curing and Opening to Traffic: The Contractor shall take care to protect the PCSS surface course from traffic until the area is sufficiently cured. Curing time will vary depending on ambient and surface temperatures. Do not open the PCSS to traffic until it has reached sufficient compressive strength and vehicular traffic will not damage the surface. Obtain approval for opening from a representative of the manufacturer, the installer, or the Engineer. The Contractor at its expense shall correct any damage to the PCSS surface resulting from failure to protect it or open it to traffic without approval or proper cure.

**d. Measurement and Payment.** Measure and pay for the completed work, as described, at the respective contract unit price using the following respective pay item:

<b>Pay Item</b>	<b>Pay Unit</b>
Pavt Mrkg, Polymer Cement Surface, Bike Lane Green .....	Square Foot

**Pavt Mrkg, Polymer Cement Surface, Bike Lane Green** will be measured in place by the square foot and will be paid for at the contract unit price per square foot, which price shall be payment in full for all labor, equipment, and materials as specified in this provision, and as directed by the Engineer to accomplish this work.

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**PERMANENT PAVEMENT MARKINGS**

AA:DAD

1 of 13

05/10/20

**a. Description.** This work consists of providing and applying retroreflective permanent pavement markings in accordance with the Michigan Manual on Uniform Traffic Control Devices (MMUTCD). Provide markings, shapes, spacing, and dimensions that conform to the Michigan Department of Transportation (MDOT) Pavement Marking Standard Plans, and any special details included with this detailed specification unless directed otherwise by the Engineer.

**b. Materials.** Provide materials in accordance with the following requirements.

1. **Marking Materials.** Select pavement marking materials from the MDOT Qualified Product List.

Pavement marking materials must meet the general packaging and labeling requirements and applicable specific material requirements described below.

**A. General Packaging and Labeling.** Material containers or packages must be marked on the tops and sides, using a durable, weather-resistant marking. Include the following information:

- (1) Manufacturer's name and address,
- (2) Description of the material,
- (3) Product identification number,
- (4) Lot or Batch number,
- (5) Date of manufacture,
- (6) Volume and
- (7) Weight.

**B. Packaging and Labeling for Cold Plastic and Thermoplastic Markings.**

(1) **Cold Plastic.** Containers or packages of cold plastic material, and the core of each roll must be marked with the information specified above.

(2) **Thermoplastic.** In addition to the above requirements, thermoplastic material must be packaged in non-stick containers, and labeled with "heat to manufacturer-recommended temperature range," or a City of Ann Arbor approved equal.

2. **Glass Beads.**

**A. Glass Bead Packaging and Labeling.** Glass beads must be packaged in moisture resistant bags and labeled to include the following information:

- (1) Manufacturer's name and address,
- (2) Shipping point,
- (3) Trademark or name,
- (4) The wording "Glass Beads,"
- (5) Specification number,
- (6) Weight,

- (7) Lot or Batch number, and
- (8) Date of manufacture.

Glass beads must meet the general requirements of subsection B below, and the applicable requirements for specific applications of subsection A above.

**B. General Glass Bead Requirements.** Glass beads must meet the physical characteristics and gradation requirements specified in Table B-1, unless otherwise specified in subsection C below for specific applications.

<b>Table B-1 General Glass Bead Requirements</b>	
<b>Physical characteristics (MTM 711)</b>	
General Appearance	Transparent, clean, smooth, free from milkiness, pits, or excessive air bubbles
Shape	Spherical with $\geq 75\%$ true spheres
Color	Colorless, very light gray, very light gray tinge, or bright white
Index of Refraction	$\geq 1.50$
Alkalinity	$\leq 2.0$
<b>Gradation Requirements (MTM 711)</b>	
Sieve Size (No.)	Total Percent Passing
20	100
30	75-95
50	15-35
100	0-5

**C. Glass Bead Requirements for Specific Applications.** For specific applications, glass beads must be as follows:

(1) **Waterborne and Low Temperature Waterborne.** Standard glass beads for use with waterborne marking material and low temperature waterborne marking material require a moisture resistant coating and a silane coating.

(2) **Regular Dry.** Standard glass beads for use with regular dry marking material may have a moisture resistant coating, a silane coating, or both.

(3) **Thermoplastic.** Glass beads for thermoplastic marking material must have a moisture resistant coating.

(4) **Sprayable thermoplastic.** The type, gradation, and application rates for glass beads used with sprayable thermoplastic marking material must meet the thermoplastic manufacturer's recommendation.

(5) **Polyurea.** The type, gradation, and application rates for glass beads used with polyurea marking material must meet the thermoplastic manufacturer's recommendation.

Use a double drop system of large and standard glass beads, a double drop system of ceramic elements and standard glass beads, or an Engineer-approved alternate for recessed longitudinal markings. Ensure large glass beads meet federal specification TTB-1325 for a Type 4 glass bead.

Provide the Material Safety Data Sheets to the Engineer for required materials and supplies. Dispose of unused material and containers in accordance with the Federal Resource

Conservation Recovery Act (RCRA) of 1976 as amended, and 1994 PA 451, Part 111 Hazardous Waste Management.

Provide samples of permanent pavement marking materials on City of Ann Arbor request.

**c. Construction.**

1. **Equipment.** Apply longitudinal lines with certified self-propelled pavement marking equipment. The Engineer may approve other equipment for special markings or areas inaccessible to self-propelled pavement marking equipment.

Provide self-propelled equipment certified by the MDOT in accordance with the Equipment Certification Guidelines for Pavement Markings. Certification is effective for 2 years. Operate marking equipment at no greater than the certified speed. The Engineer will assume a striping, operating above the certified working speed, has operated at that speed for the entire day.

The City of Ann Arbor may inspect the equipment at any time.

Use equipment capable of uniformly applying material to the required length and width.

Provide equipment for placing centerlines, capable of applying three, 4-inch minimum width lines on a two-lane road in one pass. If applying multiple centerlines, use three spray guns positioned 6 inches on center. For two lane freeways, apply the lane line from the left lane. For freeways with at least three lanes, apply the right lane line with the right edgeline.

Use an easily adjusted, dashing mechanism to retrace existing lane or centerline markings.

Use a self-propelled pavement marker capable of marking pavement in either direction on a roadway. Use a continuous skip cycle. Do not zero or return the cycle control unit to the beginning or start of a new cycle.

Provide a distance meter to measure the length of each line.

The Engineer may check the calibration of metering devices at any time. If the Engineer determines the equipment is unsatisfactory, use other methods approved by the Engineer.

Use equipment for placing hot-applied thermoplastic and sprayable thermoplastic material that can maintain the temperature recommended by the material manufacturer.

Allow time for the Engineer to inspect traffic control devices as shown in the pavement marking convoy typicals. Correct traffic control devices not approved by the Engineer before continuing. If applying markings on a roadway closed to traffic, the traffic control devices specified in the pavement marking convoy typicals are not required, unless otherwise directed by the Engineer.

2. **General.** The City of Ann Arbor will not provide storage buildings or space for permanent pavement marking equipment or materials.

If specified on the plans, layout the permanent pavement markings. Otherwise, witness, log and lay out permanent pavement markings to replace in kind. When layout is complete, contact the Engineer to review the layout work before applying permanent pavement

markings.

Before applying pavement markings, ensure the pavement surface is clean and dry. Air blast to remove material that prevents pavement markings from adhering to the pavement surface. Remove debris or dead animals from the line track.

For solid lines, apply 4 inch and 6 inch lines, no greater than  $\frac{1}{4}$  inch wider than the required width. Apply solid lines with no gaps or spaces. Apply a double line as either two solid lines or one solid line and one broken line.

For new broken lines, apply 12 $\frac{1}{2}$ -foot long lines, no greater than 4 inches longer than the required length. Leave a 37 $\frac{1}{2}$ -foot gap between new broken lines. Continue this 50-foot cycle of broken line and gap, as shown on the plans. Apply new lines at the required location within a lateral tolerance of 1 inch.

When applying centerline and lane lines on new construction, retrace at least five existing adjacent skips to match the existing pavement marking cycle.

Retrace existing pavement markings using lines equal to the width and length of the original markings. For existing 4-inch, 6-inch, 8-inch, or 12-inch wide lines, retrace no greater than  $\frac{1}{4}$  inch wider than the existing line. If existing lines exceed the nominal widths, ensure the total line widths, existing and retraced, do not exceed 5 inches, 7 inches, 9 inches, and 13 inches.

For existing 12 $\frac{1}{2}$ -foot broken lines, place the retraced line to a longitudinal tolerance of no greater than 4 inches longer than the existing line. If existing lines exceed 12 $\frac{1}{2}$  feet long, ensure broken line lengths for existing and retraced lines do not exceed 13 feet.

Mix liquid materials during application. Do not thin materials. Uniformly apply pavement marking material at the rates shown in Table C-1.

The protection of wet markings shall be the responsibility of the Contractor, until such markings are sufficiently dry to permit traffic to travel upon them.

Prior to the start of each day's work, the Contractor **must** notify the Project Engineer, or authorized representative, of the general location where the pavement marking crew(s) will be working. No work is to begin without the Project Engineer or authorized representative on site or prior authorization to begin such work from the Project Engineer. If work has begun without notice to the Project Engineer, payment may not be made to the Contractor on items that were completed without authorization. Pavement Markings shall not be placed on Saturday, Sunday, or legal holidays unless the Project Engineer grants prior approval in writing.

The Contractor shall keep accurate daily records indicating streets marked, quantity marked, types of materials used, equipment used, and employees that worked. A copy of these records shall be provided to the City of Ann Arbor Project Engineer or authorized representative on site at the end of each work day.

**3. Traffic Control & Safety.** Proper traffic control is a mandatory requirement for working on the streets under the jurisdiction of the City of Ann Arbor. The design, placement and requirement for traffic control devices shall be those found in the current edition of the Michigan Manual of Uniform Traffic Control. The Contractor is solely responsible for maintaining traffic at all times for its operations. No work shall begin until the proper traffic



control devices are in place.

All vehicles used in the marking operations shall be equipped with fully functioning rotating or oscillating flashers, which are visible from both the front and rear of the vehicle. The pavement marking vehicle shall be equipped with an illuminated Target Arrow, Type B, capable of being visible from either the front or rear of the vehicle.

The trailing vehicle shall also be equipped with an appropriate sign visible from the rear indicating the following or equivalent legend "Wet Paint Do Not Cross Lines". The trailing vehicle shall also be equipped with an illuminated Target Arrow, Type B, which shall be visible from the rear of the vehicle.

Proper MIOSHA class safety vests shall be worn at all times according to task being performed.

The Engineer will determine the application rates by dividing the quantity of material used by the length of the line placed. The Engineer may check application rates at start up, and during work, without prior notice to the Contractor.

Load pavement marking materials on the pavement marking machine without interfering with, or delaying traffic. Operate striping equipment to prevent traffic from crossing the uncured markings. Prevent vehicles from being sprayed.

Position bead guns to direct beads into the line material and provide a uniform application of beads.

If applying markings in off-road areas open to traffic, maintain traffic to prevent vehicles from crossing the uncured markings.

Apply sharp, well-defined markings, free of uneven edges, overspray, or other visible defects, as determined by the Engineer. Ensure pavement marking lines are straight, or of uniform curvature. Pavement markings are subject to inspection by the Engineer in accordance with the Pavement Marking Inspection Guidelines. Remove pavement markings outside the required tolerances and re-apply in the correct locations. Re-apply unprotected pavement markings damaged by traffic and remove tracked lines at no additional cost to the City of Ann Arbor.

**4. Removal.** If required, remove existing longitudinal pavement markings on old pavement or curing compound on new concrete as described below.

Use a vacuum attachment operating concurrently with the blast cleaning operation to remove residue and dust when removing markings by blast cleaning within 10 feet of an open lane. Properly dispose of collected residue and dust.

**A. Removal of Less than 5,000 Feet of Pavement Markings.** Obtain the Engineer's approval for one of the following removal methods and minimize damage to the surface texture of the pavement during removal.

Use one or more of the following removal methods:

- (1) Sandblasting using air or water;
- (2) Shot blasting;
- (3) High-pressure water;
- (4) Steam or superheated water; or
- (5) Mechanical devices such as grinders, sanders, scrapers, scarifiers, and wire brushes.

Immediately clean up any debris generated. The City of Ann Arbor will not require continuous vacuuming equipment for pavement marking removal of less than 5,000 feet.

**B. Removal of Greater than 5,000 Feet of Pavement Markings.** Remove pavement markings using self-propelled truck mounted removal equipment. The equipment must be capable of continuously vacuuming up the removal debris. If the removal equipment cannot collect all removal debris, operate a self-propelled sweeper capable of continuously vacuuming up the removal debris immediately behind the removal equipment.

Obtain the Engineer's approval for one of the following removal methods and minimize damage to the surface texture of the pavement during removal:

- (1) Use self-propelled truck mounted removal equipment, except do not use water blasting for marking removal on asphalt pavement;
- (2) Use self-propelled truck mounted removal equipment for marking removal on concrete surfaces to be removed during construction; or
- (3) Use a self-propelled truck mounted water blaster for marking removal on concrete surfaces to remain in place.

If removing special markings, including legends, symbols, arrows, crosswalks, and stop bars, install the new markings within 5 working days.

If removing cold plastic markings, collect and dispose of removed material.

**5. Application, Temperature and Seasonal Restrictions.** Ensure the material application rates in Table C-1, the temperature and seasonal application restrictions in Table C-2, and the additional requirements detailed in this subsection for specific materials are met when applying any material, unless directed by the Engineer. Document moisture testing and provide results to the Engineer.

**A. Waterborne.** The Engineer will not decide the suitability of specific days for the application of waterborne paint. Re-apply lines washed away or otherwise damaged by rain at no additional cost to the City of Ann Arbor.

The Contractor may place waterborne pavement markings immediately on new Hot Mix Asphalt (HMA) pavement.

**B. Low Temperature Waterborne.** If seasonal limitations prevent placement of waterborne paint, the Engineer may approve low temperature waterborne paint.

Wait at least 30 days after placing the pavement surface before applying low temperature waterborne pavement markings to new HMA wearing surface. The Engineer may waive the 30-day waiting period.

Table C-1 Pavement Marking Material Application Rates per Mile (a, b)													
Binder Type	Thickness (mil)	Binder volume & Bead weight	Line Type										
			Broken					Solid					
			4 in	6 in	8 in	12 in	4 in	6 in	8 in	12 in			
Waterborne	15	Binder (gal)	4	6	8	12	16	24	32	48			
		Beads (lb)	32	48	64	96	128	192	256	384			
Low Temperature Waterborne	15	Binder (gal)	4	6	8	12	16	24	32	48			
		Beads (lb)	32	48	64	96	128	192	256	384			
Regular Dry	15	Binder (gal)	4	6	8	12	16	24	32	48			
		Beads (lb)	24	36	48	72	96	144	192	288			
Thermoplastic	90	Binder (gal)	435	653	870	1,305	1,740	2,610	3,480	5,220			
		Beads (lb)	50	75	100	150	200	300	400	600			
Sprayable Thermoplastic	30 (c)	Binder (gal)	140	210	280	420	560	840	1,120	1,680			
		Beads (lb)	50	75	100	150	200	300	400	600			
Polyurea	20	Binder (gal)	6	8	11	17	22	33	44	66			
		Beads (lb)											

a. Binder yield indicates the amount to produce the required mil thickness without drop on beads.

b. Bead yield indicates the amount of drop on beads required for the given binder.

c. Apply drop on beads for a final thickness of 40 mil.

As directed by the manufacturer

C. **Regular Dry Paint.** If seasonal limitations prevent the placement of waterborne paint, the Engineer may approve regular dry paint.

Wait at least 14 days after placing the pavement surface before applying regular dry pavement markings to new HMA wearing surface. The Engineer may waive the 14-day waiting period.

D. **Cold Plastic.** Prepare the pavement surface and apply the cold plastic tape in accordance with the manufacturer's specifications.

Remove curing compound from new concrete surfaces before applying cold plastic tape. For pavements with two or more layers of existing overlay cold plastic marking material or any other non-compatible materials, remove the existing marking material before installing the new cold plastic markings.

Install cold plastic tape legends, crosswalks, and stop bars, as shown on the standard plans, unless otherwise required in the plans.

(1) **With Contact Cement.** Apply contact cement recommended by the cold plastic marking manufacturer and approved by the City of Ann Arbor. Mix contact cement during application. Do not thin the contact cement. Allow time for solvents to evaporate from the adhesive before applying the cold plastic marking. Apply the contact cement by a method recommended by the manufacturer and ensure it is beneath the entire marking.

Provide non-adhesive backed cold plastic for stop bars and crosswalks. Provide adhesive backed cold plastic for all other special markings.

Immediately after placement, roll transverse and special markings at least four times with a roller weighing at least 200 pounds. The Engineer will not require additional rolling for longitudinal applications if the equipment for installing the line is equipped with a roller.

(2) **Primerless – Without Surface Preparation Adhesive.** Ensure dry weather for at least 24 hours, and a dry pavement surface before applying the primerless cold plastic tape marking. Clean the pavement surface using an air compressor with at least 185 cfm air flow and 120 psi. On all pavement surfaces, prevent damage to transverse and longitudinal joint sealers.

Immediately after placement, roll transverse and special markings at least six times with a roller weighing at least 200 pounds. The Engineer will not require additional rolling for longitudinal applications if the equipment installing the line is equipped with a roller.

(3) **Primerless – With Surface Preparation Adhesive.** Use surface preparation adhesive on all primerless cold plastic tape as recommended by the manufacturer or as shown on the plans.

Ensure dry weather for at least 24 hours, and a dry pavement surface before applying the primerless cold plastic tape marking. Clean the pavement surface using an air compressor with at least 185 cfm air flow and 120 psi. On all pavement surfaces,

prevent damage to transverse and longitudinal joint sealers.

Immediately after placement, roll transverse and special markings at least six times with a roller weighing at least 200 pounds. The Engineer will not require additional rolling for longitudinal applications if the equipment installing the line is equipped with a roller.

**E. Thermoplastic.** Ensure the pavement is free of excess surface and subsurface moisture that may affect bonding. The Engineer will not decide the suitability of specific days for the application of thermoplastic.

Heat and apply the thermoplastic material within the temperature range recommended by the manufacturer.

**F. Sprayable Thermoplastic.** Ensure the pavement is free of excess surface and subsurface moisture that may affect bonding. The Engineer will not decide the suitability of specific days for the application of thermoplastic.

Heat and apply the sprayable thermoplastic material within the temperature range recommended by the manufacturer.

**G. Polyurea.** Ensure the pavement is free of excess surface and subsurface moisture that may affect bonding. The Engineer will not decide the suitability of specific days for the application of thermoplastic.

Surface preparation requirements for special, and longitudinal polyurea pavement markings depend on surface conditions.

Prepare new HMA surfaces and HMA surfaces open to traffic for 10 days or less with no oil drips, residue, debris, or temporary or permanent markings, by cleaning the marking area with compressed air.

Prepare new PCC surfaces and PCC surfaces free of oil drips, residue, and debris, temporary, or permanent markings, by removing the curing compound from the area required for pavement markings.

Prepare existing HMA or PCC surfaces that do not have existing markings, but may have oil drip areas, debris, or both, by scarifying the marking area using non-milling grinding teeth or shot blasting. The Engineer will allow the use of water blasting to scarify the marking area on PCC surfaces.

Prepare existing HMA or PCC surfaces with existing non-polyurea markings by completely removing non-polyurea markings.

Prepare existing HMA or PCC surfaces with existing polyurea marking and that may have oil drip areas, debris, or both, by using the following methods:

- (1) Clean the marking area with compressed air if markings are replaced every 2 years and no visible oil drip areas or visible chipping or spalling of the existing marking exist;

(2) Scarify the marking area using non-milling grinding teeth or shot blast if markings are replaced every 2 years and visible oil drip areas, chipping or spalling of the existing markings exist; or

(3) Completely remove existing pavement markings if markings are replaced every 4 years.

<b>Material</b>	<b>Minimum Air Temperature (°F) (b)</b>	<b>Minimum Pavement Temperature (°F) (c)</b>	<b>Start Date</b>	<b>End Date</b>
Waterborne	50	50	May 1	Oct 15
Low Temperature Waterborne	35	35	Oct 1	May 1
Regular Dry	25	25	Oct 1	May 1
Cold Plastic Tape – with Contact Cement	60	60	May 1	Oct 15
Cold Plastic Tape – Primerless – without Surface Preparation Adhesive	60	60	Jun 1	Sep 1
Cold Plastic Tape – Primerless – with Surface Preparation Adhesive	40	40	Apr 15	Nov 15
Thermoplastic	50	50	May 1	Oct 15
Sprayable Thermoplastic	50	50	Apr 15	Nov 15
Polyurea	40	40	Apr 15	Nov 15
a. See text for more detailed information. b. Temperature must meet minimum and be rising. c. Pavement must be dry.				

**6. Second Application.** If the contract requires a second application of permanent pavement markings, complete two applications regardless of initial pavement marking conditions. Complete the second application from 14 days to 60 days after initial application in the same calendar year.

The Contractor may apply the second application before the required 14 days if previously approved by the Engineer.

**7. Call Back Painting.** The Engineer will provide a list of locations and limits for call back pavement marking painting, and will direct the order that the Contractor may paint the locations.

Begin call back painting work within seven days of the Engineer's notification.

**8. Raised Pavement Marker (RPM) Removal.** Remove RPM with City of Ann Arbor-approved equipment. During removal, do not disturb pavement more than 3 inches below the surface or more than 3 inches from the perimeter of the marker casting. The Engineer will stop marker removal if damage to the pavement exceeds these limits.

The Engineer will require patching, regardless of milling requirements, unless the Engineer determines damaged areas do not pose a hazard to traffic. Use leveling mix to patch concrete and HMA pavement that require HMA overlay.

Use a prepackaged, hydraulic, fast-set material for patching structural concrete, from the Qualified Products List for patching concrete pavement not requiring overlay. Patch concrete pavement, not requiring overlay in accordance with the patch material manufacturer's specifications.

Patch HMA pavement, not requiring overlay, with the epoxy adhesive used to attach raised pavement markers to the pavement.

Clean and dispose of debris from RPM removal and patching operations.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay items:

<b>Pay Item</b>	<b>Pay Unit</b>
Pavt Mrkg, Waterborne, __ inch, (color) .....	Foot
Pavt Mrkg, Waterborne, 2nd Application __ inch, (color) .....	Foot
Pavt Mrkg, Waterborne, for Rest Areas, Parks, & Lots, __ inch, (color).....	Foot
Pavt Mrkg, Regular Dry, __ inch, (color).....	Foot
Pavt Mrkg, Regular Dry, 2nd Application, __ inch, (color).....	Foot
Pavt Mrkg, Ovly Cold Plastic, __ inch, (color).....	Foot
Pavt Mrkg, Ovly Cold Plastic, __ inch, Crosswalk.....	Foot
Pavt Mrkg, Ovly Cold Plastic, __ inch, Stop Bar .....	Foot
Pavt Mrkg, Ovly Cold Plastic, 12 inch, Cross Hatching, (color).....	Foot
Pavt Mrkg, Ovly Cold Plastic, (legend) .....	Each
Pavt Mrkg, Ovly Cold Plastic, (symbol).....	Each
Pavt Mrkg, Ovly Cold Plastic, Speed Hump Chevron, (color) .....	Each
Pavt Mrkg, Thermopl, __ inch, (color).....	Foot
Pavt Mrkg, Thermopl, __ inch, Crosswalk .....	Foot
Pavt Mrkg, Thermopl, __ inch, Stop Bar .....	Foot
Pavt Mrkg, Thermopl, __ inch, Cross Hatching, (color).....	Foot
Pavt Mrkg, Thermopl, (legend) .....	Each
Pavt Mrkg, Thermopl, (symbol).....	Each
Pavt Mrkg, Thermopl, Speed Hump Chevron, (color) .....	Each
Pavt Mrkg, Sprayable Thermopl, __ inch, (color).....	Foot
Pavt Mrkg, Polyurea, __ inch, (color).....	Foot
Pavt Mrkg, Polyurea, __ inch, Crosswalk .....	Foot
Pavt Mrkg, Polyurea, __ inch, Stop Bar .....	Foot
Pavt Mrkg, Polyurea, __ inch, Cross Hatching, (color).....	Foot
Pavt Mrkg, Polyurea, (legend) .....	Each
Pavt Mrkg, Polyurea, (symbol) .....	Each
Rem Curing Compound, for Spec Mrkg .....	Square Foot
Rem Curing Compound, for Longit Mrkg, __ inch.....	Foot
Rem Spec Mrkg .....	Square Foot
Pavt Mrkg, Longit, 6 inch or Less Width, Rem.....	Foot
Pavt Mrkg, Longit, Greater than 6 inch Width, Rem.....	Foot
Call Back, Mobilization .....	Each
Call Back, Intermediate Transportation.....	Mile
Rem Raised Pavt Marker .....	Each
Witness, Log, Layout, \$1,000.00 .....	Dollar

1. **General.** The Engineer will not measure the skips in dashed lines. The cost of traffic control and mobilization is included in the unit prices for other pavement marking

placement pay items unless it is specified elsewhere in the Contract to be paid separately.

The cost of collecting and disposing of residue generated by the removal of cold plastic pavement markings and curing compound is included in the unit prices for other removal pay items.

The cost of glass beads is included in the unit prices for other pavement marking material.

The City of Ann Arbor will not pay separately for the contact cement and adhesives for longitudinal lines, legends, symbols, arrows, crosswalks, or stop bars.

The City of Ann Arbor will not pay for markings placed by equipment operated at speeds higher than the certified speed.

The City of Ann Arbor will not assess liquidated damages if the 30-day waiting period for placing low temperature waterborne paint is in effect and the project is complete. The City of Ann Arbor will not assess liquidated damages if the 14-day waiting period for regular dry paint is in effect and the project is complete.

The unit price for **Rem Curing Compound** includes the cost of preparing new PCC for marker application by removing the curing compound.

The Engineer will calculate pay adjustment as required by the contract when regular dry paint or low temperature waterborne paint are substituted for waterborne paint due to seasonal limitations. The adjustment applies only to projects that have completion dates after October 1, or have approved extensions of time without liquidated damages beyond October 1. Contractors who are in liquidated damages after October 1 are not eligible for the price adjustment.

2. **Call Back.** The unit price for **Call Back, Mobilization** includes the cost of traveling to the first call back painting location.

The Engineer will measure **Call Back, Intermediate Transportation** based on the map distances. The unit price for **Call Back, Intermediate Transportation** includes the cost of traveling between intermediate locations.

3. **Pavement Marking Removal.** The Engineer will measure the full removal of special markings based on the MDOT Pavement Marking Standard Plans and any special details. The City of Ann Arbor will pay for partial removal of special markings based on the dimensions of the actual removal area. The City of Ann Arbor will pay for the removal of longitudinal markings as **Pavt Mrkg, Longit, Rem**, of the width required. If full removal of pavement markings is required, the unit prices for **Rem Spec Mrkg** or **Pavt Mrkg, Longit, 6 inch or Less Width, Rem**, and **Pavt Mrkg, Longit, Greater than 6 inch Width, Rem** include the cost of removing existing longitudinal permanent markings, including tapers, and transitions.

If the Contractor removes multiple layers of pavement marking materials, the City of Ann Arbor will not pay separately for material removed beyond the first layer.

4. **Material Deficiency.** The Engineer will compute the quantity of pavement marking material and glass beads applied per unit of measurement at the end of each work day. The Engineer may include an applied length of less than 10 miles in the next day's measurement.



The Engineer will determine the material usage based on field measurements and the required application rate specified in Table C-1.

The City of Ann Arbor will reduce the unit price for pavement marking material for material shortages in direct proportion to the deficient material quantity, up to 6 percent. If the daily deficiency of pavement marking material, or beads, is greater than 6 percent, the City of Ann Arbor will consider the day's work unsatisfactory and will direct the Contractor to reapply the day's markings to the thickness required by the contract, at no additional cost to the City of Ann Arbor.

## **APPENDIX**

- Michigan Department of Transportation (MDOT)
  - Special Provisions
  - MDOT Supplemental Specifications

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**PROGRESS SCHEDULE**

CFS:JJG

1 of 1

APPR:MB:LFS:01-09-18  
FHWA:APPR:03-01-18

**Delete the definition for Progress Schedule in subsection 101.03, on page 12 of the Standard Specifications for Construction, in its entirety and replace with the following:**

**Progress Schedule.** A sequential listing of all the controlling operations and the estimated time the operations will remain controlling. The progress schedule is submitted by the Contractor after award and prior to starting work and is reviewed and approved by the Department. When approved, the progress schedule, or updated progress schedule, will become part of the contract.

**Delete subsection 102.14, on page 22 of the Standard Specifications for Construction, in its entirety.**

**Delete the first sentence in the second paragraph of subsection 108.05, on page 74 of the Standard Specifications for Construction, in its entirety and replace with the following.**

Submit a critical path method (CPM) schedule if required in the contract documents. Submittal of a progress schedule will not be required as the CPM schedule will replace the progress schedule.

**Add the following paragraphs directly below the first paragraph of subsection 108.05.A.1, on page 74 of the Standard Specifications for Construction.**

The progress schedule is to be submitted by the Contractor to the Engineer within 7 calendar days of award and prior to starting work.

The Engineer will provide documented approval, comments, or rejection within 7 calendar days of receipt of the Contractor's submittal, resubmittal, or responses.

The Contractor must resolve all responses within 7 calendar days of receipt of any Engineer requests or rejections.

If the progress schedule is not approved within 30 calendar days of contract award, the Engineer may withhold all or part of contract payments until the progress schedule is approved.

**Delete the last sentence in the first paragraph of subsection 108.05.A.2, on page 74 of the Standard Specifications for Construction in its entirety.**

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**DEBRIS OR MATERIALS IN TRAFFIC LANES**

CFS:BRZ

1 of 1

APPR:EMB:DAJ:01-10-08  
FHWA:APPR:06-01-11

**Delete Subsection 104.07.B.2 on page 36 of the Standard Specifications for Construction, in its entirety and replace it with the following:**

- 2. Construction Safety Program.** Before beginning work on the project, the Contractor must submit a written "Construction Safety Program" that outlines the plan and procedures for preventing and mitigating accidents and fires on the project and meeting all health and safety requirements of the contract. Also in the program include provisions for meeting the requirements of subsection 812.03 and details for the materials and equipment that will be used to prevent construction related debris or materials from entering the open lanes of traffic and what actions, including traffic control measures, will be taken to immediately and safely remove the debris or material from the roadway. The Contractor must meet with the Engineer to discuss the "Construction Safety Program" and to develop mutual understandings to govern the administration and enforcement of the program.

**Replace the second sentence in the first paragraph of Subsection 104.07.C.3 on page 37 of the Standard Specifications for Construction with the following:**

The Contractor is responsible, at the Contractor's expense, to provide the necessary materials and equipment to prevent construction related debris or materials from entering the open lanes of traffic. This includes protection of traffic controls, removal of spilled materials or debris from the roadbed or drainage courses, and repair of damaged facilities necessary for public travel and safety.

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**HIGH VISIBILITY CLOTHING**

SSA:JDG

1 of 1

APPR:MWB:CRB:06-18-14  
FHWA:APPR:06-27-14

**Add the following, to the end, of subsection 104.07.B, Safety and Health Requirements, on page 36 of the Standard Specification for Construction:**

4. **Worker Visibility.** Effective November 24, 2008, all workers within the right-of-way who are exposed to traffic or to construction equipment within the work area, must wear high visibility clothing.

High visibility clothing or high visibility safety apparel is personal protective safety clothing that is intended to provide conspicuity during both daytime and nighttime usage. High Visibility safety apparel must meet the Performance Class 2 or 3 requirements of the American National Standards Institute/International Safety Equipment Association (ANSI/ISEA) 107-2004 for High-Visibility Safety Apparel and subsequent revisions thereof.

Costs incurred to comply with this requirement will be the responsibility of the Contractor.

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**HIGH VISIBILITY CLOTHING**

SSA:JDG

1 of 1

APPR:MWB:CRB:05-25-18  
FHWA:APPR:06-01-18

**Add the following, to the end, of subsection 104.07.B, Safety and Health Requirements, on page 36 of the Standard Specification for Construction:**

4. **Worker Visibility.** All workers must wear high-visibility safety apparel as specified in the MMUTCD.

Costs incurred to comply with this requirement will be the responsibility of the Contractor.

**Revise the second paragraph of subsection 812.03.G.8, on page 619 of the Standard Specification for Construction to read:**

Equip traffic regulators with the following:

- a. High-visibility safety apparel as specified in the MMUTCD;
- b. "Stop/Slow" or "Stop/Stop" sign paddles; and
- c. A two-way radio system and a standby back-up system, if traffic regulators are not visible to each other.

**Delete the subsection 922.11.B, on page 944 of the Standard Specification for Construction in its entirety and replace with the following:**

- B. **Traffic Regulator's High-Visibility Safety Apparel.** Traffic regulators must wear high-visibility safety apparel as specified in the MMUTCD.

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**TEMPORARY TRAFFIC CONTROL MATERIALS**

OFS:RAL

1 of 1

APPR:CRB:JFS:11-21-16  
FHWA:APPR:11-22-16

**Add the following subsection to subsection 105.01.B, on page 48 of the Standard Specifications for Construction:**

1. Temporary traffic control materials that are covered in the Materials Quality Assurance Procedures Manual, section 4.10 *Temporary Traffic Control Certification and Acceptance Procedure*, are not required to be listed in the *Materials Source List*.

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**CONSTRUCTION STAGING AREAS**

DES:LFS

1 of 1

APPR:JJG:KAS:10-06-11  
FHWA:APPR:10-11-11

**Add the following subsection to section 107, on page 70 of the 2012 Standard Specifications for Construction:**

**107.22 Construction Staging Areas.** The contractor must not use any public recreation area as a staging area, marshalling yard, storage facility, or for any other construction support unless it is defined in the contract.

Public recreation areas include: parks, trails, game areas, wildlife and waterfowl refuges, playgrounds, golf courses, athletic fields or similar areas which are publically owned by public school districts, local, state, or federal governments.

Any agreements negotiated between the Contractor and the owner of the public recreation area, before or after the award of the contract will not be considered valid by the Department.

If the Engineer determines the Contractor is in non-compliance with this subsection, penalties up to and including termination of the contract, in accordance with subsection 108.12, may be enacted as well as the immediate restoration of the public recreation area at the Contractor's cost.



MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**OPEN TO TRAFFIC**

CFS:JJG

1 of 1

APPR:MB:DBP:07-07-17  
FHWA:APPR:07-10-17

**Delete subsection 107.21, on page 69 of the Standard Specifications for Construction, in its entirety and replace with the following:**

**107.21. Open to Traffic.** The Contractor must not open the project or sections thereof to traffic until approved by the Engineer. Whenever the project or section thereof is in a condition suitable for traffic, the Engineer will determine if it is approved for traffic before project completion and the Contractor must open the project or section thereof to traffic as directed by the Engineer. To determine whether the project or section thereof is approved for traffic, the Engineer will verify that the surfacing material, shoulders, guardrails, signs, and other appurtenances are completed as required by the contract. The Engineer's approval of the project or section thereof for traffic does not constitute partial or final acceptance of the project or any part of it, or a waiver of any provision of the contract. The Contractor is not responsible for the costs of maintaining the section of the project opened for traffic.

If the Engineer approves the entire project or any section of it for traffic and the Contractor opens it to traffic before final acceptance and final payment, the Contractor must perform the remainder of the work in a manner that causes the least obstruction to traffic. The Contractor must make provisions for the safety of traffic as required by the contract. Legal weight restrictions, established by 1949 PA 300 as amended, local ordinances, or legal posting, apply to sections of the project opened to traffic.

Before the seasonal suspension, the Engineer will determine the work the Contractor must complete to bring the project to an acceptable condition for traffic and winter maintenance, including necessary traffic and erosion control measures. Until the Contractor completes this work, the Engineer will not designate the project as approved for traffic. On sections of the project opened to traffic, the Contractor must correct damage due to defective materials, to faulty workmanship, to operations of the Contractor, and to natural causes (except as provided in subsection 107.11 of the Standard Specifications for Construction), at no additional cost to the Department.

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**SCHEDULE OF LIQUIDATED DAMAGES FOR OVERSIGHT**

CFS:BED

1 of 1

APPR:MB:JJG: 07-15-16

FHWA:APPR:07-29-16

**Delete Table 108-1 in subsection 108.10.C.1, on page 83 of the Standard Specifications for Construction, in its entirety and replace with the following.**

<b>Table 108-1</b>		
<b>Schedule of Liquidated Damages for Oversight</b>		
<b>Original Contract Amount</b>		<b>Amount per Calendar Day, \$</b>
<b>From more than, \$</b>	<b>To and including, \$</b>	
0	100,000	400
100,000	500,000	700
500,000	1,000,000	950
1,000,000	5,000,000	1,350
5,000,000	15,000,000	2,300
Over 15,000,000		3,900

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**PROMPT PAYMENT**

CFS:JJG

1 of 4

APPR:JDM:DBP:06-29-15  
FHWA:APPR:07-16-15

**Add the following subsection to section 109, on page 106, of the Standard Specifications for Construction:**

**109.08 Prompt Payment.**

**A. Definitions.**

**Lower-tier subcontract.** An agreement between a subcontractor of any tier and any individual or legal entity to perform a part of the subcontract work.

**Lower-tier subcontractor.** The individual or legal entity that performs part of the subcontract work through a lower-tier subcontract with a subcontractor.

**Supplier.** The individual or legal entity that agrees to provide materials or services to the prime Contractor, a subcontractor, or a lower-tier subcontractor for the performance of their contract work.

**Sworn Statement.** A written verification under oath reflecting all persons or entities, which have furnished labor, equipment, services or materials to a subcontractor or lower-tier subcontractor for performance of work on the project. The written verification includes union fringe benefit funds, original contract amount, current amount due, amounts paid to date and balance to finish the work for each person or entity.

**Waiver of Lien.** A written release and waiver of any claim or right to payment for payments actually received for labor, equipment, services or materials furnished for performance of work on the project.

The sworn statement and waiver of lien documents are used by the prime Contractor and its subcontractors for verifying payments made to lower-tier subcontractors/suppliers and are not to be submitted to the Engineer unless requested as an aid in determining an alleged prompt payment violation. These documents can be found at the following website under the Construction Field Services - Forms heading:

[http://www.michigan.gov/mdot/0,1607,7-151-9622\\_11044\\_11367---,00.html](http://www.michigan.gov/mdot/0,1607,7-151-9622_11044_11367---,00.html)

**B. Progress Payments.** For the first payment, or for a one time payment, the prime Contractor agrees to pay each subcontractor for the work associated with their subcontract no later than 10 calendar days from the date the prime Contractor receives payment from the Department.

For the second and subsequent payments, the prime Contractor agrees to pay each

subcontractor for the work associated with their subcontract no later than 10 calendar days from the date the prime Contractor receives payment from the Department.

The Contractor is required to provide payment information for previous payments made to all first tier subcontractors and all DBE companies (sub-subcontractors, suppliers, truckers, etc.) at any tier before the Engineer will release the third and subsequent estimates. For all subsequent progress pay estimates if 1) the Engineer payment does not include any first tier subcontractors or any DBE company payments at any tier, and 2) the previously submitted payment reporting information remains unchanged, then payment reporting in the system is not required. Reporting is required when the prime contractor makes payments to any first tier subcontractors and any DBE companies at any tier. The payment information is provided through submittal of the information via the 2124A reporting system (MERS). System information can be found at the following web link.

[http://www.michigan.gov/documents/mdot/Prompt\\_Payment\\_2124A\\_Instructions\\_MERS\\_366314\\_7.pdf](http://www.michigan.gov/documents/mdot/Prompt_Payment_2124A_Instructions_MERS_366314_7.pdf)

The prime Contractor must bring any concerns about the satisfactory completion of subcontractor or lower-tier subcontractor work items, to the Engineer's attention as soon as the concern is discovered. If the work meets the requirements of satisfactory completion and the prime Contractor has been paid for that work, the Engineer must determine whether:

1. The prime Contractor has demonstrated a valid reason for withholding payment from the subcontractor or supplier, or
2. The subcontractor has demonstrated a valid reason for withholding payment from the lower-tier subcontractor or supplier.

If the Engineer determines the reason for withholding payment is valid, the Engineer will process a negative estimate to withdraw the amount involved in the complaint. If payment has not been made for the work related to the complaint, the Engineer will not include those items of work on an estimate until the issue has been resolved.

The prime Contractor remains responsible to make prompt payments on this project to their subcontractors and suppliers except as noted in subsection 109.08.D of this special provision, even if the prime Contractor is in violation of other contractual obligations and the Department is withholding payment from the prime Contractor for those violations.

The prime Contractor must include language in all subcontracts that the Department prohibits prime Contractors from holding retainage from subcontractors. All provisions of this prompt payment subsection apply to all subcontracts, lower-tier subcontracts, and supplier agreements and must be included in each subcontract for the contract, including all lower-tier subcontracts and agreements.

This prompt payment provision is a requirement of 49 CFR 26.29 and does not confer third-party beneficiary rights or other direct rights to a subcontractor against the Department. This provision applies to both DBE and non-DBE subcontractors/suppliers at all tiers.

**C. Satisfactory Completion.** Progress and partial payments for contract work are issued based on the satisfactory completion of work. Satisfactory completion, for purposes of this prompt payment provision, is defined as:

1. Upon preliminary review, the Engineer finds the work completed in accordance with the contract, plans, and specifications; and,
2. Required documentation, including material certifications, payrolls, submission of 2124A, etc., has been received and reviewed and found to be acceptable by the Engineer; and,
3. Required subcontractor sworn statements and waivers of lien have been provided to the prime Contractor. The prime Contractor must provide notice to the Engineer if sworn statements and waivers of lien have not been received for completed work.

The Engineer will determine if the work meets the standards of satisfactory completion.

**D. Less than full payment release.** The Engineer may give written approval to:

1. Delay or postpone payment from the time frames specified herein,
2. Process partial payment from the prime Contractor to a subcontractor or supplier,
3. Process partial payment from a subcontractor to a lower-tier subcontractor or supplier.

The unpaid portion will be held by the Department.

The parties may initiate whatever dispute resolution procedure is specified in their agreement or is available under Michigan law. If dispute resolution or litigation is selected, the actions by both parties must proceed in a timely manner. The result of the dispute resolution proceeding or litigation must be provided to the Engineer promptly upon the conclusion of the proceeding. The Engineer will release the disputed payment being held by the Department in accordance with the outcome of the proceedings.

**E. Non-Payment Claims.** The prime Contractor, subcontractor, lower-tier subcontractor or supplier must notify the alleged offending party in writing of any prompt payment violations within 30 calendar days of the date the payment was to be received. Copies of the notifications must be provided to the Engineer and the prime Contractor (only if the prime Contractor is not the offending party).

The alleged offending party must respond in writing to the claimant within 10 calendar days of receipt of the notification of failure to meet prompt payment provisions. Provide copies of the response to the Engineer, the prime Contractor (only if the prime Contractor is not the offending party), and the Engineer of Construction Field Services. The prime Contractor, subcontractor, or supplier must also provide the required sworn statements and waivers of lien from the affected subcontractor or supplier to the Engineer within 10 days of receipt of the notification. The Department will consider the failure of the alleged offending party to respond to the notification from the claimant as an admission of the prompt pay violation which may result in sanctions.

The Engineer will review the written notice and response and will verify in writing if there is a valid prompt pay violation.

Independent of all procedures and requirements in this special provision the non-payment claimant has the additional option of submitting a lien claim to the MDOT Contract Services Division. MDOT will notify the project surety of the non-payment issue. It is the responsibility of

the surety to ensure that all legitimately due payments are made. The submission of a lien claim will not nullify or affect any other requirements, obligations or procedures in this special provision.

F. **Remedies.** When the Engineer verifies a prompt payment violation, the prime Contractor within 5 days must propose one or a combination of any of the following actions items for review and approval by the Engineer:

1. Issue payment to the subcontractor.
2. Issue payments to a subcontractor in the form of joint checks to the subcontractor and the subcontractor's lower-tier subcontractors and/or suppliers.
3. Issue payment directly to the subcontractor's lower-tier subcontractors or suppliers.
4. Request a negative estimate to withdraw the amount confirmed in the prompt payment violation.

If the prime Contractor fails to submit a timely remedy request or obtain an approved course of action within the 5 day time period, the Engineer will direct a course of action or issue a negative estimate to withdraw the amount confirmed in the prompt payment violation.

If the prime Contractor fails to fulfill the approved or directed course of action the Engineer will impose sanctions until such time as the approved or directed course of action is completed.

Any payments to a subcontractor's lower-tier subcontractor or supplier will be issued in the amounts reflected upon the subcontractor's sworn statements or in amounts independently verified by the Engineer as being due the subcontractor's lower-tier subcontractors and suppliers for work completed. Payments to a lower-tier subcontractor or supplier will be considered payment to the subcontractor directly so that payment for the same work cannot be claimed.

Any other use of joint checks must follow current Department procedures.

G. **Sanctions.** Failure to comply with any of the prompt payment requirements by the prime Contractor, subcontractor, lower-tier subcontractor, or supplier may result in sanctions against the offending party. These sanctions may include, but are not limited to: withholding of estimates on projects where prompt payment violations are confirmed; reduction or removal of prequalification; and/or suspension of bidding privileges.

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**FORCE ACCOUNT BUSINESS TAXES**

CFS:RJC

1 of 1

APPR:JJG:JDM:04-14-15  
FHWA:APPR:04-17-15

**Delete subsection 109.05.D.8, on page 101 of the 2012 Standard Specifications for Construction in its entirety.**

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**FORCE ACCOUNT MARK-UP FOR BOND PREMIUM, INSURANCE AND PAYROLL  
TAXES**

CFS:JJG

1 of 1

APPR:LFS:MB:08-12-16

FHWA:APPR:08-18-16

**Delete subsection 109.05.D.4, on page 97 of the Standard Specifications for Construction, in its entirety.**

**Delete the first paragraph of subsection 109.05.D.3, on page 96 of the Standard Specifications for Construction, in its entirety and replace with the following:**

3. **Labor.** The Engineer will pay the Contractor an amount equal to the sum of the following labor costs, plus 55 percent of the sum (for road work) or 60 percent of the sum (for bridge work) to cover the costs of field and home office overhead, bond premium, insurance, payroll taxes and to provide for a reasonable profit.



MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**DELAY COSTS**

CFS:JJG

1 of 1

APPR:RJC:MB:02-22-17  
FHWA:APPR:02-27-17

**Delete subsections 109.05.E.1.a through 109.05.E.1.e, on page 102 of the Standard Specifications for Construction, in their entirety and replace with the following:**

- a. Proof of cost of project staff salaries, wages, payroll taxes and insurance.
- b. Proof of escalated cost for labor, equipment, and material.
- c. Proof of material storage costs.

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**RECESSED PAVEMENT MARKINGS**

PMK:MKB

1 of 2

APPR:MWB:MRB:02-05-19  
FHWA:APPR:02-21-19

**a. Description.** This work consists of providing all equipment and labor required to prepare (grooving) the pavement surface for recessed longitudinal, transverse, and guide line pavement markings in accordance with section 811 of the Standard Specifications for Construction, the plans, and this special provision.

**b. Materials.** None specified.

**c. Construction.** Install a recess (groove) in accordance with the pavement marking material manufacturer's installation instructions. Ensure all recessing configurations are in accordance with the *MMUTCD* and the Department Pavement Marking Standards.

1. Grooving Concrete and Hot Mix Asphalt Pavement. If there are no markings on the pavement, it is the Contractor's responsibility to provide layout for exactly where the permanent markings will be placed. If there are temporary painted pavement markings, use these layout lines as a template for the grooving operation. If there are existing permanent pavement markings in place, remove them in accordance with 12SP-812P - Longitudinal Pavement Marking Removal prior to grooving operations.

Use equipment and methods approved by the manufacturer of the pavement marking material to be recessed for forming grooves in pavement surfaces. Dry-cut the grooves in a single pass using stacked diamond cutting heads on self-vacuuming equipment capable of producing a finished groove ready for pavement marking material installation.

Ensure that the bottom of the groove has a fine corduroy finish. If a coarse tooth pattern results, increase the number of blades and decrease the spaces on the cutting head until the required finish is achieved.

2. Groove Dimensions. Ensure grooves for recessed pavement markings are in accordance with the following:

Longitudinal Markings

Groove Width:	Material width +1 inch, ( $\pm 1/8$ inch)
Groove Depth:	As recommended by the manufacturer, ( $\pm 5$ mils)
Groove Position:	Center/Lane Lines: 2 inches from joint line, ( $\pm 1/8$ inch) Edge Lines: On lane, 2-4 inches in from the joint line, ( $\pm 1/8$ inch) Edge Lines for 14 foot paved lanes: as directed by the Engineer

Transverse Markings - Stop Bars, Crosswalks, and Cross Hatching

Groove Width:	Material width +1 inch, ( $\pm 1/8$ inch)
Groove Depth:	As recommended by the manufacturer, ( $\pm 5$ mils)

Groove Position: In the exact location where the transverse marking will be placed

Transverse Markings - Legends

Groove Width: For legends groove a rectangle encompassing the entire legend. The size of the rectangle must be the legend dimensions +1 inch ( $\pm 1/8$  inch) on each side.

Groove Depth: As recommended by the manufacturer, ( $\pm 5$  mils)

Groove Position: In the exact location where the transverse marking will be placed

Transverse Markings - Symbols

Groove Width: When grooving for arrow heads use a grinding head not larger than 7 inches in width and match the shape of the arrow head as closely as possible. For arrow stems and other symbols groove to the material shape +1 inch ( $\pm 1/8$  inch) on each side. If the symbol shape cannot be followed, such as the bicycle and arrow symbols, determine an acceptable grooving layout with the Engineer.

Groove Depth: As recommended by the manufacturer, ( $\pm 5$  mils)

Groove Position: In the exact location where the transverse marking will be placed

Guide Line Markings

Groove Width: Material width +1 inch, ( $\pm 1/8$  inch)

Groove Depth: As recommended by the manufacturer, ( $\pm 5$  mils)

Groove Position: In the exact location where the guide line markings will be placed

3. Placing Recessed Pavement Markings. Place the pavement marking material in the grooves within 24 hours of the grooves being made. Ensure the grooves are clean and dry prior to placing pavement marking material. Locate the groove so the entire marking can be placed within the groove.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay items:

<b>Pay Item</b>	<b>Pay Unit</b>
Recessing Pavt Mrkg, Longit.....	Foot
Recessing Pavt Mrkg, Transv.....	Square Foot
Recessing Pavt Mrkg, Guide Line.....	Foot

**Recessing Pavt Mrkg, Longit; Recessing Pavt Mrkg, Transv; and Recessing Pavt Mrkg, Guide Line** includes layout of the pavement markings, when required, and all work as described in this special provision.

Permanent pavement marking materials, temporary retroreflective pavement markings required for traffic control, and removal of existing permanent pavement markings will be paid for separately using the appropriate pay items.

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**WET REFLECTIVE LIQUID APPLIED PAVEMENT MARKINGS**

PMK:MKB

1 of 2

APPR:MWB:DBP:10-23-19

FHWA:APPR:10-29-19

**a. Description.** This work consists of furnishing and installing wet reflective (WR) optics and liquid applied pavement marking materials.

**b. Materials.**

1. WR Optics. Select WR optics from the Qualified Products List (QPL) (920.02C) or a Department approved alternative that meets the requirements in Table 1:

**Table 1: WR Markings**

Average Initial Retroreflectivity at 30 meter geometry in mcd/lux/m <sup>2</sup>		
Test Method	Color	
	White	Yellow
Dry ( <i>ASTM E 1710</i> )	700	500
Wet Recovery ( <i>ASTM E 2177</i> )	250	200
Wet Continuous ( <i>ASTM E 2832</i> )	100	75

Ship the material to the job site in sturdy containers marked in accordance with subsection 920.01.A of the Standard Specifications for Construction.

Submit to the Engineer prior to the start of work:

A. For materials other than WR waterborne and WR sprayable thermoplastic, submit the Manufacturer's recommended application rate of the beads, WR optics, and liquid applied pavement marking binder to be used on the project. If the Manufacturer's recommended application rate differs from the specified rate in Table 811-1 of the Standard Specifications for Construction, the Manufacturer's recommended rate supersedes the table values. For WR waterborne and WR sprayable thermoplastic, refer to section c. of this special provision for application rates.

B. Certification from the Manufacturer that when applied in accordance with their application recommendations the WR optics meet the requirements shown in Table 1 above.

2. Binder. Provide a liquid pavement marking product of the binder type specified in the contract documents from section 811 of the Qualified Products List or as specified by special provision, or use an alternative binder as approved by the Engineer.

**c. Construction.** For WR waterborne, place the material at a thickness of 18 mils while driving at a maximum rate of 8 miles per hour. Drop WR optics from the forward-most bead applicator gun at a rate of 4 pounds per gallon. Drop standard glass beads at a rate of 6 pounds per gallon from the rear bead applicator gun.

For WR sprayable thermoplastic, place the material at a thickness of 60 mils while driving at a maximum rate of 10 miles per hour. Drop WR optics from the forward-most bead applicator gun at a rate of 80 pounds per mile. Drop standard glass beads at the normal rate for sprayable thermoplastic from the rear bead applicator gun. While placing the WR sprayable thermoplastic, another follow truck is needed in addition to what is shown on the Pavement Marking Convoy Typical.

For all other materials place the binder, beads, and WR optics in accordance with the Manufacturers' recommendations and sections 811 and 920 of the Standard Specifications for Construction, except as noted above.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at contract unit prices using the following pay items:

<b>Pay Item</b>	<b>Pay Unit</b>
Pavt Mrkg, Wet Retrflec (binder), __ inch, (color) .....	Foot

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**WITNESS AND LOG OF PERMANENT PAVEMENT MARKINGS**

PMK:MKB

1 of 1

APPR:MWB:CRB:06-21-17  
FHWA:APPR:07-20-17

**Delete the second paragraph in subsection 811.03.B, on page 589 of the Standard Specifications for Construction, in its entirety and replace with the following:**

For any portion of the project that pavement marking plan sheets or details are included, layout the permanent pavement markings according to the pavement marking plans. If the contract documents call for Witness and Log, the Contractor must witness and log the existing markings in accordance with the following.

Provide a pavement marking layout plan consisting of aerial imagery, computer generated, and/or hand sketches with legibly handwritten or documented dimensions. When using aerial imagery, the pavement markings must be sketched in for any sections where they are not clearly visible. Required dimensions include turn lane storage lengths, taper lengths, stop bar location as measured from the centerline of the intersection or the crosswalk markings (if present), symbol and legend locations, crosshatching location and spacing, longitudinal line style changes, and any other dimensions required to return markings to the pre-construction configuration. The layout plan must additionally indicate lane widths of all lanes, shoulders, bike lanes, and other features at all transition points where these elements are added and/or removed and at every 1/2 mile interval where there are no changes to pavement widths and/or the pavement marking configuration.

Provide the pavement marking layout plan to the Engineer prior to pavement removal operations and/or any pavement markings being disturbed. If any changes are needed the Engineer will mark up a copy of the pavement marking layout plan and initial any changes. The Engineer will provide any mark ups and documented approval of the pavement marking layout plan to the Contractor within 10 calendar days of initial receipt.

**Revise the last pay item in the list of pay items in subsection 811.04, on page 598 of the Standard Specifications for Construction to read:**

Witness, Log, \$1000.00..... Dollar

MICHIGAN  
DEPARTMENT OF TRANSPORTATION  
  
SPECIAL PROVISION  
FOR  
**PERMANENT PAVEMENT MARKINGS**

PMK:MKB

1 of 3

APPR:MWB:CRB:02-05-19  
FHWA:APPR:02-21-19

**Add the following to the end of the list of materials in subsection 811.02, on page 588 of the Standard Specifications for Construction:**

Modified Urethane Pavement Marking Material .....	920
Preformed Thermoplastic Pavement Marking Material .....	920

Ensure preformed thermoplastic materials for surface applications have a thickness of 90 mils and preformed thermoplastic materials for recessed applications have a thickness of 125 mils.

**Add the following paragraph after the first paragraph of subsection 811.03.B, on page 589 of the Standard Specifications for Construction:**

If pavement marking plan sheets and/or Witness, Log are included in the project the markings will be laid out by the Contractor prior to the permanent markings being applied. Layout is considered incidental to placement of permanent pavement markings. Provide the Engineer documented notice at least 2 calendar days prior to the Contractor pavement marking crew arriving onsite to layout and place the permanent pavement markings to enable the Engineer or a representative being onsite for review of the layout prior to the marking application. Notify the Engineer if it is discovered during layout that the pavement width or geometry has been altered or is different from the planned or logged configuration. The Contractor and Engineer will discuss and document the resolution for marking layout in such areas. If pavement marking plans and/or Witness, Log are not in the project, it is the responsibility of the Engineer to provide layout for the permanent pavement markings.

**Add the following rows to Table 811-1 of subsection 811.03.B, on page 591 of the Standard Specifications for Construction:**

Polyurea	20	Binder (gal)	5.5	8.25	11	17	22	33	44	66
		Bead (lb)	As directed by the manufacturer							
Modified Urethane	20	Binder (gal)	5.5	8.25	11	17	22	33	44	66
		Bead (lb)	As directed by the manufacturer							

**Add the following paragraph after the fifth paragraph on page 592 of subsection 811.03.B, of the Standard Specifications for Construction:**

Beads are not to be placed in liquid shadow markings.

**Add the following subsections after the last paragraph of subsection 811.03.D.7.c, on page 595 of the Standard Specifications for Construction:**

- 8. **Modified Urethane.** Ensure the pavement is free of excess surface and subsurface moisture that may affect bonding. The Engineer will not decide the suitability of specific days for the application of modified urethane.

Surface preparation requirements for special, and longitudinal modified urethane pavement markings depend on surface conditions.

Prepare new HMA surfaces and HMA surfaces open to traffic for 10 days or less with no oil drips, residue, debris, or temporary or permanent markings, by cleaning the marking area with compressed air.

Prepare new PCC surfaces and PCC surfaces free of oil drips, residue, and debris, temporary, or permanent markings, by removing the curing compound from the area required for pavement markings.

Prepare existing HMA or PCC surfaces that do not have existing markings, but may have oil drip areas, debris, or both, by scarifying the marking area using non-milling grinding teeth or shot blasting. The Engineer will allow the use of water blasting to scarify the marking area on PCC surfaces.

Prepare existing HMA or PCC surfaces with existing pavement markings and that may have oil drip areas, debris, or both, by using the following methods:

- a. For existing liquid pavement markings, scarify the proposed marking area using non-milling grinding teeth or shot blast. Occasionally existing liquid pavement markings will require complete removal, which will be determined by the Engineer.
- b. For existing cold plastic markings, completely remove the existing markings.

- 9. **Preformed Thermoplastic.** Ensure the pavement is free of excess surface and subsurface moisture that may affect bonding. The Engineer will not decide the suitability of specific days for the application of preformed thermoplastic.

Heat and apply the preformed thermoplastic material as recommended by the manufacturer. Feather all edges of the material with a putty knife while the preformed thermoplastic is still soft.

**Modify the following row in Table 811-2 of subsection 811.03.D, on page 596 of the Standard Specifications for Construction to read as follows:**

Thermoplastic	50	50	May 1	Nov. 1
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**Add the following rows to Table 811-2 of subsection 811.03.D, on page 596 of the Standard Specifications for Construction:**



Modified Urethane	40	40	Apr. 15	Nov. 15
Preformed Thermoplastic	35	35	Apr. 15	Nov. 15

**Add the following pay items to the list of pay items in subsection 811.04, on page 598 of the Standard Specifications for Construction:**

Pavt Mrkg, Modified Urethane, (symbol).....	Each
Pavt Mrkg, Modified Urethane, (legend) .....	Each
Pavt Mrkg, Modified Urethane, __ inch, Crosswalk.....	Foot
Pavt Mrkg, Modified Urethane, __ inch, Stop Bar .....	Foot
Pavt Mrkg, Modified Urethane, __ inch, Cross Hatching, (color).....	Foot
Pavt Mrkg, Modified Urethane, __ inch, (color).....	Foot
Pavt Mrkg, Ovly Cold Plastic, __ inch, Shadow Tape, Black.....	Foot
Pavt Mrkg, Ovly Cold Plastic, __ inch, Wet Reflective, (color) .....	Foot
Pavt Mrkg, Preformed Thermoplastic, (symbol).....	Each
Pavt Mrkg, Preformed Thermoplastic, (route) Route Shield, __ foot by __ foot.....	Each
Pavt Mrkg, Preformed Thermoplastic, (legend).....	Each
Pavt Mrkg, Preformed Thermoplastic, __ inch, Crosswalk .....	Each
Pavt Mrkg, Preformed Thermoplastic, __ inch, Stop Bar .....	Foot
Pavt Mrkg, Preformed Thermoplastic, __ inch, Cross Hatching, (color) .....	Each
Pavt Mrkg, (binder), __ inch, Shadow Liquid, Black .....	Foot
Pavt Mrkg, Wet Reflective Waterborne, 2nd Application, __ inch, (color).....	Foot

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**ON-STREET PARKING PAVEMENT MARKINGS**

PMK:MKB

1 of 1

APPR:MWB:CRB:06-21-17  
FHWA:APPR:07-21-17

**a. Description.** This work consists of preparing the pavement surface and installing white on-street parking pavement markings of the appropriate width and length as specified in this special provision and on the pavement marking plans.

**b. Materials.** Provide a liquid pavement marking product of the binder type specified in the contract from section 811 of the Qualified Products List or as specified by special provision, or use an alternative binder as approved by the Engineer.

**c. Construction.** Complete this work in accordance with this special provision, the contract, applicable sections of the standard specifications, and as directed by the Engineer.

Prepare the surface in accordance with section 811 of the Standard Specifications for Construction, and place parking zone pavement markings as detailed in the pavement marking plans. Place the binder material and glass beads in accordance with section 811 of the Standard Specifications for Construction and the manufacturer's requirements.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

<b>Pay Item</b>	<b>Pay Unit</b>
Pavt Mrkg, (binder), For On-Street Parking, 4 inch, White .....	Foot

MICHIGAN  
DEPARTMENT OF TRANSPORTATION  
SUPPLEMENTAL SPECIFICATION  
FOR  
**ERRATA TO THE 2012 STANDARD SPECIFICATIONS**

1 of 30

03-04-19

Page	Subsection	Errata
N/A	N/A	In the very beginning of the book on the page where we list the MDOT publications included by reference delete the following manual. "Work Zone Safety and Mobility Manual"
N/A*	N/A	In the very beginning of the book on the page where we list the MDOT publications included by reference replace the Field Manual of Soil Engineering (out of Print) with the following manual. "Geotechnical Manual"
3	101.02	Modify the abbreviation reading "AIS" to read "AISI".
4*	101.02	Delete the following abbreviations and the long forms MDELEG MDNRE Add the following abbreviations and the long forms MDNR Michigan Department of Natural Resources <b>MDEGLE Michigan Department of Environmental Great Lakes, and Energy</b> MDLARA Michigan Department of Licensing and Regulatory Affairs NESC National Electrical Safety Code
27	103.02.B.2	Change the last sentence of the first paragraph to read "For decreases below 75 percent, the maximum allowable payment for work performed, including any adjustment, will not exceed an amount equal to 75 percent of the original contract quantity times the contract unit price."
34	104.05	The first sentence of this subsection should read "If the Contractor performs unauthorized work (work performed without the inspections required by the contract, extra work performed without Department approval, work performed contrary to the inspectors direction, or work performed while under suspension by the inspector), the Engineer may reject the unauthorized work."
46	104.12	Add the following to the end of the first paragraph "The use of right-of-way in wetlands and floodplains, or the crossing of water courses by construction equipment is prohibited."
53	105.09	Add the following to the end of the second paragraph "Any specifically produced material not purchased by the Department, will remain the

Page	Subsection	Errata		
		Contractors and must be removed from the project prior to final acceptance."		
56	107.02.B.2	This sentence should read "U.S.Army Corps of Engineers' Section 404, Dredge and Fill; and Section 10, Navigable Waterway."		
56*	107.02.B	Add the subsection reading as follows: "3. U.S. Coast Guard Section 9, Navigable Waterway."  Change "MDNRE" to "MDEGLE" in this subsection.		
64	107.12	Change the first sentence of the first paragraph to read: "For protection of underground utilities and in accordance with 2013 PA 174, the Contractor must notify Miss Dig at least 3 work days, excluding Saturdays, Sundays and holidays, before beginning each excavation in areas where public utilities have not been previously located."		
65*	107.15.A	Change "MDNRE" to "MDEGLE" in four instances in this subsection.		
66	107.15.A.3	Add the following to the end of the paragraph "Note that a burn permit from the MDNR is required for any open burning whenever the ground is not snow covered. Any individuals that allow a fire to escape will be in violation of the Natural Resources and Environmental Protection Act and will be required to reimburse the costs of suppressing the wild fire."		
67*	107.16	The third sentence should read "In State Forests, the Contractor must contact the local Unit Manager, Forest Management Division, MDNR, regarding the work to be performed within or adjacent to the forest land."  Delete the last sentence of the first paragraph of this subsection.		
80	108.08.F	Delete the second paragraph in its entirety.		
80	108.08.G	Add the following new subsection: "G. The Contractor may propose and the Engineer may approve another equitable method, supported by an acceptable rationale to determine time extensions for any of the excusable delays listed in subsection 108.08.		
83	108.10.C	Change the last sentence of the first paragraph to read: "The liquidated damages may contain one or more components of damages added together."		
83	108.10.C.1	In Table 108-1 delete the last row of the table and replace it with the following: <table border="1" style="margin-left: 40px;"> <tr> <td style="width: 60%;">≥50,000,000</td> <td style="width: 40%;">4,500</td> </tr> </table>	≥50,000,000	4,500
≥50,000,000	4,500			
102	109.05.E.1	Change the second sentence of the third paragraph to read: "Provide the content specified in subsection 109.05.D.11 for the applicable items in this statement and as follows:"		

Page	Subsection	Errata
107	150.04	Change the following pay item reading "Mobilization, Max ___" to read "Mobilization, Max (dollar)" at nine locations throughout the subsection.
112	201.03.A.3.b	Change "MDNRE" to "MDNR" in three instances in this subsection.
123	204.04	Change the following pay item reading "Structures, Rem" to read "Structures, Rem (Structure No.)"
123	204.04	Change the following pay item reading "Concrete Barrier, Rem" to read "Conc Barrier, Rem"
150*	208.01	Change "MDNRE" to "MDEGLE" in this subsection.
180	308.03.A	Change the first sentence of the second paragraph to read: "Do not operate equipment required to place backfill directly on geotextile products."
185	401.03.A	Change the first sentence of the second paragraph to read: Where unstable soil conditions, or obstructions other than rock, require excavation of the trench below the elevation detailed on the plans; undercut, backfill, and compact the trench as directed by the Engineer.
188	401.03.H	Change the second sentence of the paragraph to read "Jack steel pipes in place in accordance with subsection 401.03.G".
189	401.03.N	Add the following sentence to the end of the first paragraph "Where possible, maintain the stream flow thru a temporary channel or temporary culvert."  The second sentence of the second paragraph should read "Direct water from the dewatering operations through a filter bag before discharging to an existing drainage facility."
189	401.04	Change the fourth pay item from the end of the list to read as follows: "Culv, Reinf Conc Ellip, (shape) CI __, (rise) inch x (span) inch".
190	401.04	Change the fourth pay item from the end of the list to read as follows: "Steel Casing Pipe, __ inch, Tr Det __."
195	402.03.C	Change the third sentence of the first paragraph to read as follows: "Wrap pipe joints, with a diameter greater than 24 inches, using geotextile blanket."
200	402.04	Change the third pay item from the top of the list to read as follows: "Sewer, CI __, __ inch, Jacked in Place"
200	402.04.A	Change the last sentence of the subsection to read as follows: "The unit price for <b>Sewer</b> and <b>Sewer, Reinf Conc, Ellip</b> includes the cost of excavation, backfill, geotextile blanket and mandrel testing."

Page	Subsection	Errata
201*	402.04.H	Change the last sentence of the first paragraph to read "The Department will not make an adjustment in the pay items of <b>Minor Traf Devices</b> or <b>Traf Regulator Control.</b> "
208	403.04.D.3	Change the sentence to read: "Removing and replacing pavement adjacent to the adjusted cover per Standard Plan R-37 Series."
218	406.03.A.2	Change the first sentence of the first paragraph to read: "Design precast box culverts less than 10 feet in span length measured along the centerline of the roadway in accordance with current AASHTO LRFD Bridge Design Specifications and ASTM C 1577."  Add the following sentence to the end of the first paragraph: "Design precast box culverts greater than or equal to 10 feet in span length measured along the centerline of the roadway for HL-93 Modified live load."
219	406.03.B	Change the first sentence of the first paragraph to read: "Submit shop drawings for culverts greater than or equal to 10 feet in span length measured along the centerline of the roadway to the Engineer, for review and approval in accordance with subsection 104.02."
219	406.03.C.1	Change the second sentence of the first paragraph to read: "Before manufacture, perform load ratings on precast three-sided, arch or box culverts greater than or equal to 10 feet in span length measured along the centerline of the roadway, in accordance with the AASHTO Manual of Bridge Evaluation, Section 6, Part A, the Michigan Bridge Analysis Guide current at the time load rating is performed, and the Michigan Structure Inventory and Appraisal Guide."
223	406.03.G	Add the following after the first sentence of the second paragraph: "Where possible, maintain the stream flow thru the existing channel, temporary channel, or temporary culvert."
224	406.03.G	Replace the fifth paragraph of this subsection with the following: "The Contractor may use cast-in-place wing walls, headwalls, and aprons, as alternatives to precast wing walls, headwalls, and aprons. Attach cast-in-place wing walls or headwalls as shown on the shop drawings."
225	406.03.G.2	Change the third sentence of the first paragraph to read: "Before placing the open-graded aggregate 34R, compact the coarse aggregate 6A using at least three passes of a vibrating plate compactor."
226	406.03.G.2	Change the first sentence of the second paragraph of this subsection to read:

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		"Fill the space between the box culvert joints during placement of box sections with closed-cell rubber extrusion type gaskets in accordance with ASTM C 990."
226	406.04.A.9	Change the sentence to read: "Providing plan modifications including design, additional plan quantities and pay items to accommodate any changes to the precast units as shown on the plans."
226*	406.04.A	Add the following paragraph after the last paragraph of the subsection: "The substructure design is specific to the three-sided or arch culvert detailed on the plans. The Contractor must use approved MDOT service vendors qualified in Hydraulics, Geotechnical Engineering Services, and Short and Medium Span Bridges to perform the required design and plan modifications, as directed by the Engineer, if the Contractor selects a culvert shape different than shown on the plans."
227	406.04.B	Add the following new item in the list of items in this subsection: 2. Headwalls, wingwalls, aprons, and curtain walls, precast or cast-in-place;  Renummer the exist items 2 through 4 in this list to read 3 through 5.  Delete existing item numbered 5 and replace with the following: 6. Inserts for bars and connection hardware; and  Renummer the existing item 6 in this list to read 7.
227	406.04.B	Delete the first and second paragraphs following the list of items in this subsection and replace with the following: "The Department will pay separately for cast-in-place concrete, other than for culvert segments, wing walls, and headwalls; excavation; protective coating; providing and placing backfill material; by plan quantity in accordance with subsection 109.01.A."
239	501.03.C.6	The first sentence of this subsection should read "Except as specified in subsection 501.03.C.4, removing HMA surface applies to removing HMA overlying a material designated for removal or that is required to remain in place."
247	501.03.O	Change footnote e in Table 501-5 to read: "Flushing severe enough to significantly affect surface friction (Friction Number <35)."
249	501.04.H	The first sentence of this subsection should read "The Engineer will measure, and the Department will pay for removing HMA surface, no greater than 12 inches thick, overlying a material designated for removal or that is required to remain in place, as <b>HMA Surface, Rem.</b> "

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		The second paragraph of this subsection should read "The Engineer will measure, and the Department will pay for removing HMA surface, greater than 12 inches thick, overlying a material designated for removal or that is required to remain in place, as <b>Pavt, Rem</b> in accordance with subsection 204.04."
257	503.03.E	Delete this subsection in its entirety.
265	504.03.E.3	Delete this subsection in its entirety.
269	504.04.A	This subsection should read "The unit prices for <b>Micro-Surface</b> , regardless of the type required, include cleaning existing pavement; applying a bond coat; temporary pavement markings; stationing; corrective action; and traffic control to complete corrective action."
299	601.04	In table 601-2 delete the row for Grade P-NC concrete in its entirety.
300	601.04	In table 601-2, the first sentence of footnote b. should read: "Use coarse aggregate 6A, 6AA or 6AAA for Grades P1, P2 and M."  In table 601-2, footnote c. should read: "The mix design basis for bulk volume (dry, loose) of course aggregate per unit volume of concrete is 72% for Grade P1; 74% for Grade P2."
308	602.03.F	Note c. in Table 602-1 should read "Refer to Section D6 of the Materials Quality Assurance Procedures Manual for inspection procedure."
320	602.04.C.3	The last paragraph in this subsection should read "If the Engineer approves a substitution of a higher concrete grade for a lesser grade (e.g., P1 for P2), the Department will pay for the higher grade of concrete using the original bid and pay items of the lesser grade."
327	603.02	Change the second material in the list to read: "Concrete, Grade P-NC.....603"  Change the third material in the list to read: "Base Course Aggregate, 4G, 21AA, 22A.....902"
334	603.03.B.10	Change the last sentence of the second paragraph to read "Apply the required curing compound in two coats, at a rate of at least 1 gallon per 25 square yards for each coat."
342	603.04.G.3	Change "D1" to "W" in two instances in this subsection.
351	701.04	Replace Tables 701-1A and 701-1B with the Table 701-1 below.
362*	704.03.C	Change the last sentence in the first paragraph of this subsection to read: "The Engineer will consider approval after receiving applicable MDEGLE permits for the alternate method."



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372	705.03.C.1	Add the following sentence after the first paragraph of this subsection: "Do not drive piles within a radius of 25 feet of newly placed concrete until the concrete attains at least 75 percent of its specified minimum strength."
374	705.03.C.2.c	Change the last sentence of the second paragraph to read "Drive test piles to the minimum pile length or practical refusal, whichever is greater".
379	705.04	Change the fifth item down the list to read: "Pile, Galv (Structure No.)"
380	705.04	Change the last item in the list to read: "Pile Driving Equipment, Furn (Structure No.)"
383	706.02	The fourth paragraph following the list of materials should read "Provide AASHTO M 270, Grade 36 steel, meeting the requirements of ASTM A 786, galvanized in accordance with section 707, for expansion joint cover plates. Provide plates at least 3/8 inch thick. Use plates with a slip resistance equal to or greater than those meeting the requirements of ASTM A 786 and must be approved by the Engineer. Provide ASTM F 593 (Type 304) stainless steel, 3/4-inch or 1/2-inch diameter, flathead countersunk screws with 3/4-inch or 1/2-inch diameter inserts for use in expansion joint cover plates."
389	706.03.D.4.b	Change the first sentence of the fourth paragraph to read "Design forms, form supports, and attachments to carry dead loads, and resultant horizontal loads due to forming of cantilever overhangs."
390	706.03.E.4	Change the fourth sentence of the first paragraph to read: "Use wire ties to secure all bar intersections for the top mat. Use wire ties to secure all bar intersections for other mats where the product of the length and width of bar intersection spacing exceeds 120 square inches."
391	706.03.E.8	Change the first sentence of the second paragraph of this subsection to read: "Patch sawed or sheared ends and visible defects in accordance with ASTM A 775."
392	706.03.E.8	Change the last sentence of the third paragraph of this subsection to read: "Coat mechanical splices after splice installation in accordance with ASTM A 775 for patching damaged epoxy coating."
394	706.03.H.1	Delete the last paragraph on page 394 and replace it with the following: "Do not cast sidewalk, curb, or barrier pours until the deck concrete attains at least the minimum specified 7-day flexural or compressive strength, and after completion of the 7-day continuous wet cure. The

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		forming of succeeding portions may occur, provided the wet cure is maintained.”
406*	706.03.N.1.b	Add the following to the end of the last paragraph of the subsection: “Do not discontinue wet cure nor cast succeeding portions onto the bridge deck prior to completion of the 7-day two-phase continuous wet cure. Ensure excess or ponding cure water is removed prior to casting of succeeding structure portions.”
416	707.03.C.1	Change the title of the subsection from “Shop Plans to read “Shop Drawings”.  Change the second sentence of this subsection to read: “Do not use design drawings in lieu of shop drawings.”
426	707.03.C.17	Change the second sentence in the first paragraph of this subsection to read: "Tap oversized galvanized nuts in accordance with ASTM A 563 or AASHTO M 292 and meet Supplementary Requirement S1 of ASTM A 563 or AASHTO M 292."
430	707.03.D.7.b	Delete the first sentence of the last paragraph of this subsection.
430*	707.03.D.7.b	Change the title of the Table 707-4 to read: "Minimum Bolt Tension for ASTM F 3125 Grade A 325"
430	707.03.D.7.b	Change "104,000" to "103,000" in the last row under the column titled Minimum Bolt Tension.
431	707.03.D.7.c	Add the following sentence to the end of the first paragraph of this subsection: “If using impact wrenches, provide wrenches sufficient to tighten each bolt in approximately 10 seconds.”
431*	707.03.D.7.c	Change the first sentence of the second paragraph to read: "Do not reuse ASTM F 3125 Grade A 325 bolts and nuts.."
434	707.04.A	Change the first sentence of the first paragraph of this subsection to read: “The Engineer will measure structural steel by the calculated weight of metal in the finished structure, excluding filler metal in welding, as shown on the shop drawings or working drawings.”
438	708.03.A.2	Change the title of the subsection from “Shop Plans to read “Shop Drawings”.  Change the first sentence to read: “Submit shop drawings in accordance with subsection 104.02.”  Change the fourth sentence to read:

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		"Do not start production until the Engineer approves the shop drawings."
441*	708.03.A.11	Change the last sentence of the first paragraph to read "Cure concrete at temperatures from 70 °F to 150 °F until concrete attains the release strength shown on the shop drawings".
441	708.03.A.11	Change the fourth sentence of the fourth paragraph to read "Do not exceed a maximum concrete temperature of 150 °F during the curing cycle."
458	711.03.A	Change the first sentence in the first paragraph to read: "Shop drawings for structural steel and pipe railings are not required."
460	711.04.A	Change the second sentence of the first paragraph to read: "The unit price for <b>Bridge Barrier Railing</b> includes the cost of placing steel reinforcement, providing and placing concrete, constructing joints, and forming, finishing, curing and protecting the concrete."
461	711.04.F	The title of this subsection should read " <b>Reflective Marker, Permanent Barrier.</b> "
467	712.03.C	Add the following to the end of the third paragraph of the subsection: "Notify the Engineer of any saw cuts in the top flange. Saw cuts equal to or less than 1/32 inch deep in steel beams must be repaired by grinding, to a surface roughness no greater than 125 micro-inches per inch rms, and tapering to the original surface using a 1:10 slope. Saw cuts in excess of 1/32 inch deep in steel beams require a welded repair to be submitted to the Engineer for approval. Weld in accordance with subsection 707.03.D.8 and provide adequate notice to allow the Engineer to witness the repair work. Inspect and test all saw cut repairs (including grinding repairs) using ultrasonic testing in accordance with 707.03.D.8.c at no additional cost to the Department."
471	712.03.J	Add the following to the end of the second paragraph of the subsection: "Select adhesive anchor systems from the Qualified Products List."
471	712.03.J.1	Delete the first paragraph in this subsection and replace it with the following: "Propose complete details of drilling, cleaning, and bonding systems for anchoring reinforcement and submit for the Engineer's approval before use. The minimum embedment depth must be nine times the anchor diameter for threaded rod or bolt and twelve times the anchor diameter for reinforcing bar. Propose a drilling method that does not cut or damage existing reinforcing steel. Prepare at least three proof tests per anchor diameter and type in the same orientation in which they will be installed on the existing structure, on a separate concrete block, in the presence of the Engineer. The Engineer will proof test the proposed systems. The Engineer will base approval of the anchoring system on the following criteria:"
471	712.03.J.2	Change the third sentence of the first paragraph to read:

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		"Use a tension testing device for unconfined testing, in accordance with ASTM E 488."
473	712.03.L.2	Change the first sentence in the second paragraph of this subsection to read: "If using epoxy coated steel reinforcement, epoxy coat mechanical reinforcement splices in accordance with ASTM A 775."
473	712.03.L.3	Delete the existing first sentence in the first paragraph.
473	712.03.L.3	Change the third sentence of the first paragraph to read "Provide two test splices on the largest bar size."
473*	712.03.L.3	Change the sentence beginning "Demonstrate to the.... to read: "Demonstrate to the Engineer that splices have a tensile strength of 125 percent of the bar yield strength and high strength splices have a tensile strength of 150 percent of the bar yield strength."
488	713.02	Add the following as subsection 713.02.C: "C. <b>Structural Steel for Retrofitting and Welded Repairs.</b> Structural steel material used for retrofitting and welded repairs of primary members as defined in subsection 707.01.B must meet longitudinal Charpy V-Notch impact test requirements."
501	715.02	Add the following material reference above the two existing items: "Sealant for Perimeter of Beam Plates.....713"
508	715.03.D.1	Add the following sentence after the second paragraph of the subsection: "Apply sealant for perimeter of beam plates in accordance with subsection 713.03.F."
515	716.03.A	Delete the second paragraph of this subsection in its entirety.  Change the last sentence of the last paragraph of this subsection to read: "Provide a primer dry film thickness for the top flange between 4 mils and 10 mils."
519	716.04	Change the second sentence of the first paragraph of this subsection to read: "The unit price for <b>Field Repair of Damaged Coating (Structure No.)</b> includes the costs of making field repairs to the shop applied coating system; prime coat surfaces and exposed surfaces of bolts, nuts, and washers; and repairing stenciling."
521	717.04.B	This subsection should read "The unit price for <b>Drain Casting Assembly</b> includes the cost of providing and installing the downspout and, if necessary, the lower bracket to the drain casting."

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522	718.02	Change the section number "906" in the third material in the list to read "919."
533	718.04	Delete the following pay item from the list: Temp Casing.....Foot
533	718.04.B.2	Delete this subsection in its entirety.
533	718.04.B.3	Renumber this subsection as follows: "2. <b>Permanent Casing.</b> "
540	802.04	Change "Non reinf" in the last pay item of the list with "Nonreinf".
545*	803.04.E	Change the second sentence of the second paragraph to read: "The unit price for <b>Railing for Steps</b> includes the cost of providing, fabricating, installing, and grouting the railing."
560	807.04	Delete the following pay item from the list: Guardrail Buffered End .....Each
560	807.04.B	Change the fifth paragraph of this subsection to read: "The Engineer will measure <b>Guardrail Salv</b> and <b>Guardrail, Mult, Salv</b> along the face of the rail (one face for multiple beams), including terminals and end shoes."
567	808.04.C	Change the first paragraph of this subsection to read: "The Department will not pay separately for protective fence required in accordance with subsection 104.07."
569	809.04.A	Change the first sentence to read: "The unit price for <b>Field Office, CI</b> __ includes the cost of setup, providing access, grading, maintaining, plowing snow, and utility hook-up charges."
570	809.04.B	Delete the existing second and third sentences in the first paragraph and replace them with the following: "The unit price for <b>Field Office, Utility Fees</b> includes the cost of monthly usage fees for electricity, gas, telephone service and charges, fuel for the stove, monthly water and sanitary service."
570	809.04.B	Change the existing fourth sentence in the first paragraph to read: "The Department will reimburse the Contractor for monthly usage fees for electricity, gas, telephone, water and sanitary charges incurred by the Department."
575	810.03.K	Change the subsection to read "K. <b>Drilled Piles for Cantilever and Truss Foundations.</b> Construct drilled piles for cantilever and truss foundations in accordance with section 718."

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578	810.03.N.2	Add the following sentence after the first sentence of the second paragraph on this page: "Mark each nut and bolt to reference the required rotation."
584	810.04	Delete the last pay item in the list: Truss Fdn Anchor Bolts, Replace.....Each
585	810.04.B.1	Change the second paragraph to read: "The unit prices for <b>Fdn, Truss Sign Structure Type</b> __, __ inch Dia, <b>Cased</b> and <b>Fdn, Cantilever Sign Structure Type</b> __, __ inch Dia, <b>Cased</b> include the cost of concrete, slurry, steel reinforcement, permanent casings, anchor bolts, excavation, and disposal of excavated material."
585	810.04.B.2	Change the second sentence of the first paragraph to read: "The unit prices for <b>Fdn, Truss Sign Structure Type</b> __, __ inch Dia, <b>Uncased</b> and <b>Fdn, Cantilever Sign Structure Type</b> __, __ inch Dia, <b>Uncased</b> include the cost of concrete, slurry, steel reinforcement, temporary casings, anchor bolts, excavation, and disposal of excavated material."
596	811.03.G	Delete this subsection in its entirety.
597*	811.03.H	Rename this subsection as follows: "G. <b>Raised Pavement Marker (RPM) Removal.</b> "
597*	811.04	Change "Crosshatching" in the last pay item of the list on this page to "Cross Hatching".
598*	811.04	Delete the following pay items from the list: Pavt Mrkg, (material), 4 inch, SRSM, (color).....Foot Pavt Mrkg, (material), 4 inch, SRSM, 2 <sup>nd</sup> Application, (color).....Foot  Add the following pay items to the list: "Pavt Mrkg, Polyurea, (legend).....Each Pavt Mrkg, Polyurea, (symbol).....Each"  Change the sixth item down the list to read: "Pavt Mrkg, Polyurea, __ inch, Cross Hatching, (color)"  Change the eleventh item down the list to read: "Rem Curing Compound, for Longit Mrkg, __ inch.....Foot"
599	811.04.B	Delete this subsection in its entirety.
599	811.04	Rename the following subsections as follows: "B. <b>Call Back.</b> C. <b>Pavement Marking Removal.</b> D. <b>Material Deficiency.</b> "

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602	812.03.D	Change the first sentence to read "Provide and maintain traffic control devices meeting the requirements in the ATSSA Quality Guidelines for Work Zone Traffic Control Devices and Features."
603	812.03.D.1	The last sentence on this page should read "Lay the sign behind the guardrail, with the uprights pointing downstream from the traffic, and place the support stands and ballasts close to the guardrail."
604	812.03.D.2	The first sentence of the fourth paragraph should read "Do not use burlap or similar material to cover Department or Local Government owned signs."
604	812.03.D.5	The fifth sentence of the first paragraph should read "Do not mix drums and cones within a traffic channeling sequence."
605	812.03.D.6.b	Change the first sentence of the first paragraph to read: "The Department will allow the nighttime use of 42-inch channelizing devices, in the tangent area only, on CPM and pavement marking of any duration where the use of plastic drums restricts proposed lane widths to less than 11 feet, including shy distance."
605	812.03.D.7	Add the following sentence after the first sentence of the first paragraph: "Place a shoulder closure taper in advance of the lighted arrows placed on the shoulders."
607	812.03.D.9	Delete the second paragraph of this subsection and replace with the following: "Link sections together to fully engage the connection between sections. Maintain the barrier with end-attachments engaged and within 2 inches of the alignment shown on the plans."
608	812.03.D.10.b	Delete the second sentence of the second paragraph of this subsection beginning with "Install sand module attenuators..."
608	812.03.D.10.b	Add the following sentence after the second paragraph of this subsection: "Install impact attenuation devices as shown on the plans, as directed by the Engineer, or both."
609	812.03.D.10.e	Delete the second paragraph of this subsection.
612	812.03.D.13	Delete the third paragraph of this subsection and replace it with the following: "Perform work on signals in accordance with the contract and to the requirements of NEMA TS-5 standard for those items not identified in the contract."
613*	812.03.D.14.a.iii	Change the sentence in this subsection to read "Place a terminal end shoe, in accordance with Standard Plan R-66-Series, and of appropriate type based on existing guardrail, on both blunt guardrail ends."

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615	812.03.F	The second sentence of the second paragraph of this subsection should read: "The Contractor may use a Type R temporary pavement marking cover, per subsection 812.03.D.12 when authorized by the Engineer."
616	812.03.F.2	The last sentence of the first paragraph should read: "If the removal equipment cannot collect all removal debris, operate a self-propelled sweeper capable of continuously vacuuming up the removal debris immediately behind the removal equipment."
617	812.03.G.3	The first sentence of the second paragraph should read: "Sweep the shoulder and remove debris prior to placing traffic on the shoulder and throughout the time the shoulder is used to maintain traffic."
617	812.03.G.4.a	Delete "48 inch by 48 inch" from the first sentence of this subsection.
618*	812.03.G.7	The first sentence of the first paragraph should read: "Clean barrier reflectors, plastic drums, 42 inch channelizing devices, tubular markers, signs, barricades, and attached lights in operation on the project to ensure they meet required luminosity."
619	812.03.G.8	The second sentence of the third paragraph from the end of the subsection should read: "Illuminate traffic regulator stations at night per subsection 812.03.H."
621	812.03.I.6	Delete "48 inch by 48 inch" from the second sentence of this subsection.
622*	812.03.J	The second paragraph should read "Apply one 2-inch wide horizontal stripe of red and white conspicuity tape along at least 50 percent of each side of, and across the full width of the rear of the vehicle or equipment."
622	812.04	Change the second item down the list to read: "Traf Regulator Control"
		Change the sixth item down the list to read: "Sign Cover, Type I"
626	812.04.I	Change the reference "812.04.E" in the first sentence to "812.04.D".
628	812.04.M.4	Add the following as the first sentence of this subsection: "The Engineer will not measure a temporary barrier ending move as <b>Conc Barrier Ending, Temp, Relocated</b> if it involves work defined in subsection 812.04.M.3."
629	812.04.N.1	Change the reference "811.04.D" in the second paragraph of this subsection to read "811.04.C".
630	812.04.S	Change the first sentence to read: "The Department will not make additional payments for traffic regulating, signing, arrow boards, and lighting systems for traffic regulator stations operated at night due to a temporary PTS system failure."



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634	813.03.C.3	Change the reference "903.07.A" in the paragraph of this subsection to read "907.07.B".
638	814.03.D	Change the second sentence to read: "Place the HMA mixture on the prepared base to a thickness of at least 2 inches, and to at least 220 pounds per square yard."
646	815.04	Change the first, third and fourth pay items in the list to read: "Site Preparation, Max (dollar) ..... Lump Sum Watering and Cultivating, First Season, Min (dollar)..... Lump Sum Watering and Cultivating, Second Season, Min (dollar) ..... Lump Sum"
646	815.04.C.1	Change the following pay item reading: "Watering and Cultivating, First Season, Min. (dollar)" to read "Watering and Cultivating, First Season, Min (dollar)" at two locations throughout the subsection.
646	815.04.C.1.b	Delete this subsection in its entirety.
646	815.04.C.1.c	Rename this subsection to read: "b. Removal and disposal of unacceptable plants."
646	815.04.C.2	Change the following pay item reading: "Watering and Cultivating, Second Season, Min. (dollar)" to read "Watering and Cultivating, Second Season, Min (dollar)" at three locations throughout the subsection.
647	815.04.C.2	Change the last paragraph of this subsection to read: "For each unacceptable plant identified, the Engineer will calculate a 50 percent reduction in the unit price for the relevant ( <b>Botanical Name</b> ) pay item, and will process a negative assessment for each unacceptable plant for that amount."
650	816.03.B	Delete the first paragraph of this subsection and replace with the following: "Conduct soil tests when called for in the contract or when directed by the Engineer. Provide soils tests results to the Engineer when testing is required. Provide and place fertilizer as indicated below and as indicated in the soils tests, if required."
650	816.03.B.1	Change the sentence to read: "For Class A fertilizer, evenly apply 176 pounds of chemical fertilizer nutrient per acre on a prepared seed bed."
650	816.03.B.2	Change the sentence to read: "For Class B fertilizer, evenly apply 120 pounds of chemical fertilizer nutrient per acre on a prepared seed bed."
650*	816.03.B.3	Change the sentence to read: "For Class C fertilizer, evenly apply 80 pounds of chemical fertilizer nutrient per acre on established turf."

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663*	819.01	<p>Delete the first paragraph in the subsection and replace it with the following:            “This work consists of providing operating electrical and lighting units; removing, salvaging, or disposing of existing electrical and lighting components; excavating, backfilling, restoring the site in accordance with section 816; and disposing of waste excavated materials. Complete this work in accordance with this section, section 820, and the contract and to the requirements of the NEC, the National Electrical Safety Code, and the MDLARA for those items not identified in the contract.”</p> <p>Change the third sentence of the second paragraph in this subsection to read:            “Contact the MDLARA for electrical service inspection and pay the applicable fees.”</p>
671	819.03.F.1	<p>Change the paragraph to read:            “Install light standard foundations as shown on the plans and the standard plans, as applicable.”</p>
673	819.03.G.4.b	<p>Change the last sentence of the first paragraph to read:            "Tighten the anchor bolts to a snug tight condition as described in the third paragraph of subsection 810.03.N.2 ensuring the lock washer is completely compressed."</p>
673	819.03.G.4.b	<p>Delete the first two sentences of the second paragraph and replace with the following:            "Tighten bolts connecting the pole to the frangible base to a snug tight condition. Snug tight is the tightness attained by a few impacts of an impact wrench, or the full effort of a person using an ordinary spud wrench. The lock washers must be fully compressed."</p>
678	819.04	<p>Change the ninth pay item in the list to read:            “DB Cable, 600V, 1/C# (size)..... Foot”</p>
678*	819.04	<p>Delete the last item in the list on this page reading:            “DB Cable, in Conduit, 600 Volt, (number) 1/C# (size) ..... Foot”</p>
679	819.04	<p>Change the first pay item in the list to read:            “DB Cable, in Conduit, 600V, 1/C# (size)..... Foot”</p>
679	819.04	<p>Change the sixth pay item in the list to read:            “Cable, P.J., 600V, 1, (size) ..... Foot”</p>
679	819.04	<p>Change the second pay item from the bottom of the list to read:            “Conc Pole, Fit Up, (type) ..... Each”</p>
680	819.04	<p>Change the first paragraph to read:            “Unless otherwise required, the unit prices for the pay items listed in this subsection include the cost of excavation, granular material, backfill,</p>

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		and disposal of waste excavated material. If the contract does not include pay items for restoring the site in kind in accordance with section 816, the Department will consider the cost of restoration included in the pay items listed in this subsection."
680	819.04.A	<p>Add the following paragraph after the first paragraph of the subsection.            "The unit prices for <b>Conduit, Rem</b> include the cost of removing the type, number, and size of conduit shown on the plans."</p> <p>Change the third paragraph of the subsection to read:            "The unit prices for <b>Conduit, (type), __ inch</b> and <b>Conduit, DB, (number), __ inch</b> include the cost of installing the type, number, and size of conduit shown on the plans, and installing marking tape."</p>
681	819.04.B	<p>Change the last paragraph of the subsection to read:            "The unit price for <b>DB Cable, in Conduit, Rem</b> includes the cost of removing all cables from the existing conduit measured per lineal foot of conduit."</p>
681	819.04.C	<p>Change the first paragraph of the subsection to read:            "The unit prices for <b>Cable, Rem</b> and <b>Cable, (type), Rem</b> include the cost of dead ending, circuit cutting, installing guying, work required to leave circuits operable, and disposing of the removed cables, wire, hardware, and other appurtenances."</p>
681	819.04.D	<p>Change the first paragraph of the subsection to read:            "The unit price for <b>Cable, Pole, (type), Disman</b> includes the cost of dismantling and off-site disposal of the following:"</p>
685	820.01.D	<p>Change the sentence to read:            "Excavate, backfill, restore the site in kind in accordance with section 816, and dispose of excess or unsuitable material;"</p>
688	820.03.C	<p>Change the seventh paragraph of this subsection to read:            "Tighten top anchor bolt nuts, snug, in accordance with the first four paragraphs of subsection 810.03.N.2, except beeswax will not be required."</p>
696	820.04	<p>Add the following pay items to the list:            "Pedestal, Pushbutton, Alum.....Each            Pedestal, Pushbutton, Rem.....Each"</p>
697	820.04.A.2	<p>Change the sentence to read:            "If the contract does not include pay items for restoring the site in kind in accordance with section 816, the Department will consider the cost of restoration included in the pay items listed in this subsection."</p>
698	820.04.B	Delete the second paragraph of this subsection found on this page.
698	820.04.C	Change " <b>Fdns</b> " to read " <b>Fdn</b> " in four instances in this subsection.

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701	820.04.J.3	Change the sentence to read: "Installing wires in the saw slots and to the handholes;"
701.	820.04.J	Add the following as a new subsection: "7. A 3/4 inch minimum flexible conduit (non-metallic and rated for underground use) from the pavement to the handhole."
706	821.01.B	Change the website address listed after the second paragraph on this page to read: <u>"<a href="http://www.ngs.noaa.gov/heightmod/GuidelinesPublications.shtml">http://www.ngs.noaa.gov/heightmod/GuidelinesPublications.shtml</a>"</u>
711	822.03.B	Change the second paragraph to read: "If corrugations are required on concrete shoulders and the method of installation is not shown on the plans or directed by the Engineer, construct corrugations by grinding, or cutting."
718*	823.03.U	<b>Change "MDNRE" to "MDEGLE" in four instances in this subsection.</b>
720	823.04	Change the pay item seventh from the bottom of the list to read: "Water Shutoff, Adj, Temp, Case ___"
730	824.03.Q	Change the third sentence of the fourth paragraph to read: "Ensure placement of monumentation in accordance with section 821."
730	824.03.Q	Change the first sentence of the last paragraph to read: "The Department will not pay for work dependent on lost or destroyed stakes until the Contractor replaces the stakes."
732	824.04	Change the first sentence of the first paragraph following the list of pay items to read: "If the Engineer determines the Contractor will perform staking as extra work, the Department will pay for staking in accordance with section 103."
733	824.04	Change the left column header in Table 824-2 to read: <b>"Percent of Original Contract Amount Earned"</b>
739	902.02	Change the last aggregate testing description to read: "Determining Specific Gravity and Absorption of Fine Aggregates.....MTM 321"
742	902.03.C.1.a	Change the sentence to read: "Coarse aggregate includes all aggregate particles greater than or retained on the 3/4-inch sieve."
742	902.03.C.2.a	Change the sentence to read: "Intermediate aggregate includes all aggregate particles passing the 3/4-inch sieve through those retained on the No. 4 sieve."

<b>Page</b>	<b>Subsection</b>	<b>Errata</b>
742	902.03.C.2.b.iii	Change the sentence to read as follows: "Maximum Loss by Washing per MTM 108 of 3.0 percent".
744	902.07	Delete the fourth paragraph of the subsection and replace it with the following: "The Engineer will only allow the use of granular material produced from crushed portland cement concrete for embankment and as trench backfill for non-metallic culvert and sewer pipes without associated underdrains. However, granular material produced from crushed portland cement concrete is not permitted as swamp backfill, nor within the top 3 feet below subgrade regardless of the application.
746*	902.11	Change the Item of Work by Section Number column in Table 902-1 for the 6AA row to read: "406, 601, 602, 706, 708, 806".  Change the Item of Work by Section Number column in Table 902-1 for the 6A row to read: "206, 401, 402, 406, 601, 602, 603, 706, 806".  Change the Item of Work by Section Number column in Table 902-1 for the 34R row to read: "401, 404, 406".
751*	902.11	Replace Table 902-6 with the Table 902-6 below.
751	Table 902-7	Under the Material column in the fourth row change the "FA2" to read "2FA".
751	Table 902-7	Under the Material column in the fifth row change the "FA3" to read "3FA".
752	Table 902-8	Under the Material column in the fourth row change the "FA2" to read "2FA".
752	Table 902-8	Under the Material column in the fifth row change the "FA3" to read "3FA".
761	Table 904-2	Delete the footnote f and any other reference to footnote f from the table.
767	905.03	Change the first sentence of the first paragraph to read: "Deformed bars, must meet the requirements of ASTM A 706, ASTM A 615, or ASTM A 996 (Type R or Type A only) for Grade 60 steel bars, unless otherwise required".
767*	905.03	Change the first sentence of the second paragraph to read: "Unless otherwise specified, spiral reinforcement must meet the requirements of plain or deformed Grade 40 steel bars of ASTM A 615, ASTM A 996 (Type A), or the requirements of cold-drawn wire of ASTM A 1064".
767	905.03	Change the first sentence of the third paragraph to read: "Bar reinforcement for prestressed concrete beams must meet the requirements of ASTM A 996 (Type R) for Grade 60 steel bars, except

Page	Subsection	Errata
		the Engineer will allow bar reinforcement that meets the requirements of ASTM A 615 or ASTM A 996 (Type A) for Grade 40 steel bars for stirrups in prestressed concrete beams”.
768	905.03.C	Change the first sentence in the subsection to read: "Epoxy coated steel reinforcement, if required, must be coated in accordance with ASTM A 775, with the following exceptions and additions."
768	905.03.C.3	Change the first sentence of this subsection to read: "Include written certification that the coated reinforcing bars were cleaned, coated, and tested in accordance with ASTM A 775 with the coating applicator."
768	905.05	Change the first sentence of the first paragraph to read: "Deformed steel bars must meet the requirements of ASTM A 706 or the requirements for Grade 40, Grade 50, or Grade 60 of ASTM A 615 or ASTM A 996 (Type R or Type A only)".
768	905.06	Delete this subsection in its entirety and replace it with the following: "Deformed wire fabric for prestressed concrete and fabric for concrete pavement reinforcement must meet the requirements of ASTM A 1064 and fabricated as required."
772*	906.07	Change the first paragraph to read: "High-strength bolt fasteners for structural joints must meet the requirements of ASTM F 3125 Grade A 325 Type 1 bolts. High-strength nuts for structural joints must meet the requirements of ASTM A 563 Grade DH or AASHTO M 292 Grade 2H. High-strength washers for structural joints must meet the requirements of ASTM F 436 Type 1 for circular, beveled, clipped circular, and clipped beveled washers."  Change the second sentence of the second paragraph of this subsection to read: "Galvanized nuts must be tapped oversize in accordance with ASTM A 563 and meet Supplementary Requirements S1, Lubricant and Rotational Capacity Test for Coated Nuts and S2, Lubricant Dye."
777*	907.03.D.2.a	Change the first sentence of the second paragraph to read: "Angle sections must be nominal 2½ inch by 2½ inch by ¼ inch."
777*	907.03.D.2.b	Change the first sentence of the first paragraph to read: "Angle section braces must be nominal 1¾ inch by 1¾ inch by ¼ inch or nominal 2 inch by 2 inch <sup>3</sup> / <sub>16</sub> inch."
782	908.04	Change the first sentence of the first paragraph of this subsection to read: "Steel castings for steel construction must meet the requirements of ASTM A 148 for Grade 60/90 carbon steel castings, as shown on the plans, unless the Engineer approves an alternate in writing."

Page	Subsection	Errata
784*	908.09.C	<p>Change this subsection to read:</p> <p>“C. <b>Hardware.</b> Railing anchor studs must meet the requirements of ASTM A 449 Type 1. Heavy hex nuts must meet the requirements of ASTM A 563. Bolts, used as rail fasteners, must meet the requirements of ASTM F 3125 Grade A 325, Type 1. Where called for, round head bolts must meet the requirements of ASTM A 449 Type 1. The material for the railing hand hole screws must meet the requirements of ASTM A 276, Type 304. All nuts must meet the requirements of ASTM A 563 Grade DH or AASHTO M 292 Grade 2H. All flat washers must meet the requirements of ASTM F 436. Lock washers must be steel, regular, helical spring washers meeting the requirements of ANSI B18.21.1 - 1972. Bolts, nuts, washers and other hardware must be hot-dip galvanized in accordance with AASHTO M 232. Galvanized nuts must be tapped oversize in accordance with ASTM A 563, and meet Supplementary Requirements S1, Lubricant and Rotational Capacity Test for Coated Nuts, and S2, Lubricant Dye.”</p>
784	908.11.A	<p>Change the first sentence of the first paragraph to read:</p> <p>“Steel beam sections, backup elements, terminal end shoes, and special end shoes must meet the requirements of AASHTO M 180, for Class A guardrail.”</p>
785*	908.11.B	<p>Change the second paragraph to read:</p> <p>"Bolts, nuts, and round washers for guardrail, other than at bridge barrier railings, must meet the requirements of ASTM A 307 (Grade A), ASTM A 563 (Grade A with Supplementary Requirements S1 of ASTM A 563), and ASTM F 436, respectively."</p> <p>Change the third paragraph to read:</p> <p>"Washers, other than round washers, for guardrail must meet the requirements for circular washers in ASTM F 436 except that the dimensions must be as shown on the plans."</p> <p>Change the fifth paragraph to read:</p> <p>"Bolts, nuts, and washers for connections at bridge barrier railings must conform to ASTM F 3125 Grade A 325 Type 1 galvanized high-strength structural bolts with suitable nuts and hardened washers."</p>
787	908.14.B	<p>Add the following sentence to the end of the third paragraph of this subsection:</p> <p>"Exposed threaded ends of anchor bolts must be galvanized a minimum of 20 inches."</p> <p>Change the sixth paragraph in this subsection to read:</p> <p>"Provide washers meeting the requirements of ASTM F 436 for circular washers."</p>
787	908.14.B	<p>Change the second sentence of the fourth paragraph to read “After coating, the maximum limit of pitch and major diameter for bolts with a</p>

Page	Subsection	Errata
		diameter no greater than 1 inch may exceed the Class 2A limit by no greater than 0.021 inch, and by no greater than 0.031 inch for bolts greater than 1 inch in diameter”.
787*	908.14.C	Change the first paragraph to read "Provide either four or six high strength anchor bolts per the contract plans, meeting the mechanical requirements of ASTM F 1554, for Grade 105, with each standard. Anchor bolts for traffic signal strain poles must meet the requirements of subsection 908.14.B with the following exceptions and additions:"
789	909.03	Change the second sentence of the second paragraph to read: "As an alternative to the AASHTO M 36 requirements for metal pipe, the Contractor may use gasket material meeting the low temperature flexibility and elevated temperature flow test requirements of ASTM C 990, excluding the requirements for softening point, flashpoint and fire point."
793	909.06	Change the first sentence of the second paragraph of this subsection to read: "Provide Corrugated Polyvinyl Chloride Pipe (CPV) and required fittings meeting the requirements of AASHTO M 304."
793*	909.05.D	Change the second sentence of the paragraph to read "Provide a continuous welded joint to create a watertight casing that is capable of withstanding handling and installation stresses. Perform field welding by the SMAW process using E7018 electrodes."
794*	909.08.A	Change the first sentence to read: "Provide bridge deck downspouts of PE pipe meeting the requirements of ASTM F 714, PE 4710, DR 26."
804	Table 909-9	In the note area at the bottom of the table change the designation of the second note from "c." to "b."
811	910.04	Add the following sentence to the end of this subsection: "Fabricate silt fence according to subsection 916.02."
814	Table 911-1	In the 4 <sup>th</sup> row of the 5 rows in the table change the Property listed as "Total Organic Content (TOC)" to read "Total Organic Carbon (TOC)".
829*	912.08.K	Replace Table 912-10 with the Table 912-10 below.
833*	913.03.B	Change the first sentence of the first paragraph to read: "Clay brick, to construct manholes, catch basins, and similar structures, must meet the requirements of ASTM C 32, for Grade MS."
837*	914.04	Add the following as subsection 914.04.C: "C. <b>Lubricant-Adhesive for Neoprene Joint Seals.</b> The lubricant-adhesive must be a single-component moisture-curing polyurethane and aromatic hydrocarbon solvent mixture meeting ASTM D 2835, Type



Page	Subsection	Errata
		I. Ship in containers plainly marked with the lot or batch number of the material and date of manufacture. Store at temperatures between 58 and 80°F. Do not exceed 12 months shelf-life prior to use."
840	914.08	Change the first sentence of the second paragraph to read: "Straight tie bars for end-of-pour joints must consist of bars of the diameter and length shown on the plans meeting the requirements of ASTM A 615, ASTM A 706, or ASTM A 996 (Type R or Type A only)".
840*	914.09.A	Change the first sentence of the first paragraph to read: "Straight tie bars for longitudinal pavement joints must consist of bars of the diameter and length shown on the plans meeting the requirements of ASTM A 615, ASTM A 706, or ASTM A 996 (Type R or Type A only)".
840	914.09.B	Change the first sentence of the first paragraph to read: "Bent tie bars for bulkhead joints must consist of bars of the diameter and length shown on the plans."
841*	914.13	In the first sentence of this subsection change "ASTM D 1248, for Type III, Class B" to read "ASTM D 4976, Group 2, Class 4, Grade 4".
844	916.01.A	Change the first sentence to read: "Cobblestone must consist of rounded or semi-rounded rock fragments with an average dimension from 3 inches to 10 inches."
845	916.01.D.1	Change the second sentence to read: "Checkdams for ditch grades 2 percent or greater must be constructed using cobblestone or broken concrete ranging from 3 inches to 10 inches in size."
851*	917.10.B.1	Delete the paragraph and replace it with the following: "1. <b>Class A.</b> Provide and apply Class A chemical nutrient fertilizer either according to MSU Soil Testing Lab Recommendations for Phosphorus Applications to Turfgrass, except the maximum single application rate of nutrient will be 48 pounds per acre, when soil tests are required or as indicated in subsections 917.10.B.1.a and 917.10.B.1.b."
851	917.10.B.1	Add the MSU Soil Testing Lab Recommendations for Phosphorus Applications to Turfgrass, found below, after the first paragraph of this subsection.
853	917.15.B.1	Change the second sentence of the subsection to read: "The net must meet the requirements of subsection 917.15.D and be capable of reinforcing the blanket to prevent damage during shipping, handling, and installation."
857	918.01	Add the following two paragraphs following the first paragraph of this subsection: "Wall thickness and outside diameter dimensions must conform to ASTM D 1785 for smooth-wall schedule 40 and 80 PVC conduit

<b>Page</b>	<b>Subsection</b>	<b>Errata</b>
		material. The Department will allow no more than 3 percent deviation from the minimum wall thickness specified.
		Wall thickness range must be within 12 percent in accordance with ASTM D 3035 for smooth-wall coilable schedule 40 and 80 PE conduit.”
858	918.01.E	Delete the first three sentences of the second paragraph shown on page 858.
863	918.06.F.1	Delete the third paragraph in this subsection in its entirety and replace it with the following: "Provide smooth or deformed welded wire fabric in accordance with ASTM A 1064."
864	918.07.C	Change the first sentence of the first paragraph to read: "Provide anchor bolts, nuts, and washers meeting the requirements of subsection 908.14.A and subsection 908.14.B."
864	918.07.C	Delete the second sentence of the second paragraph.
864	918.07.C	Change the third sentence to read: "Provide anchor bolts threaded 4 inches beyond the anchor bolt projection shown on the plans."
867	918.08.C	Change the last sentence of the first paragraph on this page to read: "Galvanize bolts, nuts, washers, and lock washers as specified in subsection 908.14.B."
867	918.08.C	Change the last sentence of the subsection to read: "Provide each frangible base with manufacturer access covers as shown on the plans."
867*	918.08.D	Delete this subsection in its entirety and replace with the following: "Provide galvanized anchor bolts, studs, nuts, couplings, and washers in accordance with subsection 908.14."
879	918.10.J	Change the third sentence of the second paragraph of this subsection to read: "Provide anchor bolts and associated nuts, washers, and hardware meeting the requirements of subsection 908.14."
887	919.06	Change the second paragraph to read: "Shims must be fabricated from brass shim stock or brass strip meeting the requirements of ASTM B 36, for copper alloy UNS No. C26000, half-hard rolled temper, or fabricated from galvanized sheeting meeting the requirements of ASTM A 653, for Coating Designation G 90."
887	919.07.C	Change the sentence to read:

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		“Galvanized high-strength steel bolts, nuts, and washers for connecting arm connection flanges must meet the requirements of subsection 906.07.”						
903	921.03.D	Delete the last three sentences of the first paragraph of this subsection.						
914	921.05.D	Change the first sentence of this subsection to read: "Provide anchor bolts meeting the requirements of subsection 908.14.C, including elongation and reduction of area requirements."						
916	921.07	Change the first sentence of the first paragraph to read: "Provide LED case signs internally illuminated by LEDs and changeable message case signs internally illuminated with LED light sources."						
936	922.04.B	In the first sentence of the first paragraph change the "R-52" to "R-126".						
936	922.04.B	Add the following to the end of the first paragraph: “Hardware used to connect the end section to the barrier must meet the requirements of NCHRP 350 or MASH (Test Level 3 or higher).”						
936	922.04.B	In the first sentence of the second paragraph delete "R-52".						
936	922.04.B	Change the fourth paragraph of this subsection to read as follows: For all endings requiring impact attenuators provide a NCHRP-350 Test Level 3 or MASH Test Level 3 approved impact attenuation system, unless otherwise approved by the Engineer.						
952	Pay Item Index	Change the following pay items to read: <table border="0"> <tr> <td>“Conc Barrier, Rem .....</td> <td>123</td> <td>204”</td> </tr> <tr> <td>“Conc Pole, Fit Up, (type) .....</td> <td>679</td> <td>819”</td> </tr> </table>	“Conc Barrier, Rem .....	123	204”	“Conc Pole, Fit Up, (type) .....	679	819”
“Conc Barrier, Rem .....	123	204”						
“Conc Pole, Fit Up, (type) .....	679	819”						
953*	Pay Item Index	Delete the following pay item reading: “DB Cable, in Conduit, 600 Volt, (number) 1/C# (size) .....678 819”						
957	Pay Item Index	Delete the following pay item from the list: Guardrail Buffered End .....560 807						
960	Pay Item Index	Change the following pay item to read: “Mobilization, Max (dollar) .....107 150”						
961	Pay item Index	Delete the following pay items from the list: <table border="0"> <tr> <td>Pavt Mrkg, (material), 4 inch, SRSM, (color).....</td> <td>598.....</td> <td>811</td> </tr> <tr> <td>Pavt Mrkg, (material), 4 inch, SRSM, 2<sup>nd</sup> Application, (color).....</td> <td>598.....</td> <td>811</td> </tr> </table>	Pavt Mrkg, (material), 4 inch, SRSM, (color).....	598.....	811	Pavt Mrkg, (material), 4 inch, SRSM, 2 <sup>nd</sup> Application, (color).....	598.....	811
Pavt Mrkg, (material), 4 inch, SRSM, (color).....	598.....	811						
Pavt Mrkg, (material), 4 inch, SRSM, 2 <sup>nd</sup> Application, (color).....	598.....	811						
961	Pay Item Index	Change the following pay items in the list to read: Pavt Mrkg, Ovly Cold Plastic, 12 inch, Cross Hatching, (color) Pavt Mrkg, Polyurea, __ inch, Cross Hatching, (color)  Add the following pay items to the list:						

Page	Subsection	Errata		
		"Pavt Mrkg, Polyurea, (legend).....	598.....	811
		Pavt Mrkg, Polyurea, (symbol).....	598.....	811
		Pedestal, Pushbutton, Alum.....	696.....	820
		Pedestal, Pushbutton, Rem.....	696.....	820"
962	Pay Item Index	Change the following pay items in the list to read: "Pile Driving Equipment, Furn (Structure No.) Pile, Galv (Structure No.)"		
963	Pay Item Index	Change the following pay item to read: "Rem Curing Compound, for Longit Mrkg, __ inch .....	598	811"
964	Pay Item Index	Change the following pay item to read: "Sewer, CI __, __ inch, Jacked in Place .....	200	402"
		"Sign Cover, Type I.....	622	812"
965*	Pay Item Index	Change the following pay item in the list to read: "Steel Casing Pipe, __ inch, Tr Det __ Site Preparation, Max (dollar) .....	646	815"
966	Pay Item Index	Change the following pay item to read: "Structures, Rem (Structure No.).....	123	204"
966	Pay Item Index	Delete the following pay item form the list; Temp Casing.....	533.....	718
967*	Pay Item Index	Delete the following pay item from the list; Truss Fdn Anchor Bolts, Replace.....	584.....	810
967	Pay Item Index	Change the following pay item in the list to read: "Traf Regulator Control"		
968*	Pay item Index	Change the following pay item in the list to read: "Water Shutoff, Adj, Temp, Case __ Watering and Cultivating, First Season, Min (dollar).....	646	815
		Watering and Cultivating, Second Season, Min (dollar) .....	646	815"
993	General Index	Change "Shop Plans (see Plans and Working Drawings)" to read "Shop Drawings (see Plans and Working Drawings)".		

Table 701-1 Concrete Structure Mixtures													
		Slump (inches)				Minimum Strength of Concrete (f)							
Concrete Grade (e,h)	Section Number Reference (i)	Cement Content per cyd (b,c)		Type A, D or no Admixture	Type MR, F, or G Admixtures (g)			Flexural (psi)			Compressive (psi)		
		lb	sack		Before Admixture	After Admixture (Type MR)	After Admixture (Type F or G)	7 Day	14 Day	28 Day (Class Design Strength)	7 Day	14 Day	28 Day (Class Design Strength)
D (a)	706, 711, 712	658 (d)	7.0	0 - 3	0 - 3	0 - 6	0 - 7	625	700	725	3,200	4,000	4,500
S1	705	611	6.5	3 - 5	0 - 3	3 - 6	3 - 7	600	650	700	3,000	3,500	4,000
T	705, 706	611	6.5	3 - 7	0 - 4	3 - 7	3 - 8	550	600	650	2,600	3,000	3,500
S2 (a)	401, 705, 706, 712, 713, 801, 802, 803, 810	564	6.0	0 - 3	0 - 3	0 - 6	0 - 7	550	600	650	2,600	3,000	3,500
		526 (d)	5.6										
S3	402, 403, 803, 804, 806	517	5.5	0 - 3	0 - 3	0 - 6	0 - 7	500	550	600	2,200	2,600	3,000
		489 (d)	5.2										

a. Unless otherwise required, use Coarse Aggregate 6AA or 17A for exposed structural concrete in bridges, retaining walls, and pump stations.

b. Do not place concrete mixtures containing supplemental cementitious materials unless the local average minimum temperature for the next 10 consecutive days is forecast to be above 40 °F. Adjustments to the time required for opening to construction or vehicular traffic may be necessary. Cold weather protection may be required, as described in the quality control plan. The restriction does not apply to Grade S1 concrete in foundation piling below ground level or Grade T concrete in tremie construction.

c. Type III cement is not permitted

d. Use admixture quantities specified by the Qualified Products Lists to reduce mixing water. Admixture use is required for Grade D, Grade S2, and Grade S3, concrete with a reduced cement content. Use a water-reducing retarding admixture at the required dosage for Grade D concrete to provide the setting retardation required. When the maximum air temperature is not forecast to exceed 60 °F for the day, the Contractor may use a water-reducing admixture or a water-reducing retarding admixture. Ensure Grade D concrete in concrete diaphragms contains a water-reducing admixture, or a water-reducing retarding admixture. For night casting, the Contractor may use a water-reducing admixture in lieu of water-reducing retarding admixture, provided that the concrete can be placed and finished prior to initial set.

e. The mix design basis for bulk volume (dry, loose) of coarse aggregate per unit volume of concrete is 68% for Grade S1, and 70% for Grade D, Grade S2, Grade T, and Grade S3.

f. The Contractor may use flexural strength to determine form removal. Use compressive strength for acceptance in other situations.

g. MR = Mid-range.

h. The Engineer will allow the use of an optimized aggregate gradation as specified in section 604.

i. Section Number Reference:

401	Culverts	711	Bridge Railings	803	Concrete Sidewalk, Sidewalk Ramps, and Steps
402	Storm Sewers	712	Bridge Rehabilitation-Concrete	804	Concrete Barriers and Glare Screens
403	Drainage Structures	713	Bridge Rehabilitation-Steel	806	Bicycle Paths
705	Foundation Piling	801	Concrete Driveways	810	Permanent Traffic Signs and Supports
706	Structural Concrete Construction	802	Concrete Curb, Gutter and Dividers		

An asterisk (\*) indicates an entry which has been revised from an earlier version of this Supplemental Specification.

**Table 902-6  
Superpave Final Aggregate Blend Physical Requirements**

Est. Traffic (million ESAL)	Mix Type	Percent Crushed Minimum Criteria		Fine Aggregate Angularity Minimum Criteria		% Sand Equivalent Minimum Criteria		Los Angeles Abrasion % Loss Maximum Criteria		% Soft Particles Maximum Criteria (b)		% Flat and Elongated Particles Maximum Criteria (c)	
		Top & Leveling Courses	Base Course	Top & Leveling Courses	Base Course	Top & Leveling Courses	Base Course	Top & Leveling Courses	Base Course	Top & Leveling Courses	Base Course	Top & Leveling Courses	Base Course
< 0.3	LVSP	55/—	—	—	—	40	40	45	45	10	10	—	—
< 0.3	E03	55/—	—	—	—	40	40	45	45	10	10	—	—
≥0.3 -<1.0	E1	65/—	—	40	—	40	40	40	45	10	10	—	—
≥1.0 - < 3	E3	75/—	50/—	40(a)	40(a)	40	40	35	40	5	5	10	10
≥3 - <10	E10	85/80	60/—	45	40	45	45	35	40	5	5	10	10
≥10 - <30	E30	95/90	80/75	45	40	45	45	35	35	3	4.5	10	10
≥30 - <100	E50	100/10 0	95/90	45	45	50	50	35	35	3	4.5	10	10

- (a) For an E3 mixture type that enters the restricted zone as defined in Table 902-5, the minimum is 43. If these criteria are satisfied, acceptance criteria and associated incentive/disincentive or pay adjustment tied to this gradation restricted zone requirement included in contract, do not apply. Otherwise, final gradation blend must be outside of the restricted zone.
- (b) Soft particles maximum is the sum of the shale, siltstone, ochre, coal, clay-ironstone and particles that are structurally weak or are non-durable in service.
- (c) Maximum by weight with a 1 to 5 aspect ratio.

Note: "85/80" denotes that 85 percent of the coarse aggregate has one fractured face and 80 percent has at least two fractured faces.

An asterisk (\*) indicates an entry which has been revised from an earlier version of this Supplemental Specification.

<b>Table 912-10</b>				
<b>Minimum Retention Requirements</b>				
<b>Preservative</b>	<b>Minimum Retention, (pcf)</b>			<b>AWPA Standard</b>
	<b>Guardrail Posts</b>	<b>Sign Posts</b>	<b>Blocks</b>	
Pentachlorophenol	0.60	0.50	0.40	A6
CCA, ACZA	0.60	0.50	0.40	A11
ACQ (a)	0.60	Not Allowed	0.40	A11
CA-B (a)	0.31	Not Allowed	0.21	A11
CA-A (a)	0.31	Not Allowed	0.15	A11
Other Waterborne preservatives	AWPA Commodity Specification A, Table 3.0, Use Category 4B	Not Allowed	AWPA Commodity Specification A, Table 3.0, Use Category 4A	A11
a. Non-Metallic washers or spacers are required for timber and lumber treated with ACQ or CA placed in direct contact with aluminum. Do not use with sign posts.				

MSU Soil Testing Lab Recommendations for Phosphorus Applications to Turfgrass  
3/8/2012

		Sand based rootzone establishment	Golf greens and tees est. or mature; Kentucky bluegrass or perennial ryegrass athletic fields est. or mature; sand based rootzone mature	Lawns, golf course fairways; establishment or mature	Establishment without soil test
Bray P1, Mehlich 3 Soil Test Value (ppm): pH<7.4	Olsen Soil Test Value (ppm) pH>7.4	Recommendation (lbs. P <sub>2</sub> O <sub>5</sub> /1000 ft. <sup>2</sup> )	Recommendation (lbs. P <sub>2</sub> O <sub>5</sub> /1000 ft. <sup>2</sup> )	Recommendation (lbs. P <sub>2</sub> O <sub>5</sub> /1000 ft. <sup>2</sup> )	Recommendation (lbs. P <sub>2</sub> O <sub>5</sub> /1000 ft. <sup>2</sup> )
0	0	4.4	3.4	2.5	2.5 lbs. year (Maximum single application of 1.5 lbs.)
2	1.3	4.1	3.1	2.2	
4	2.7	3.9	2.7	1.9	
6	4	3.6	2.4	1.6	
8	5.3	3.4	2.0	1.3	
10	6.7	3.1	1.7	1.0	
12	8	2.8	1.4	0.7	
14	9.3	2.6	1.0	0.4	
16	10.7	2.3	0.7	0.1	
18	12	2.1	0.3	0.0	
20	13.3	1.8	0.0		
22	14.7	1.5			
24	16	1.3			
26	17.3	1.0			
28	18.7	0.8			
30	20	0.5			
32	21.3	0.2			
34	22.7	0.0			

Web resources: [www.turf.msu.edu](http://www.turf.msu.edu) or [www.bephosphorusmart.msu.edu](http://www.bephosphorusmart.msu.edu)





**CITY OF ANN ARBOR**  
**LIVING WAGE ORDINANCE DECLARATION OF COMPLIANCE**

The Ann Arbor Living Wage Ordinance (Section 1:811-1:821 of Chapter 23 of Title I of the Code) requires that an employer who is (a) a contractor providing services to or for the City for a value greater than \$10,000 for any twelve-month contract term, or (b) a recipient of federal, state, or local grant funding administered by the City for a value greater than \$10,000, or (c) a recipient of financial assistance awarded by the City for a value greater than \$10,000, shall pay its employees a prescribed minimum level of compensation (i.e., Living Wage) for the time those employees perform work on the contract or in connection with the grant or financial assistance. The Living Wage must be paid to these employees for the length of the contract/program.

*Companies employing fewer than 5 persons and non-profits employing fewer than 10 persons are exempt from compliance with the Living Wage Ordinance. If this exemption applies to your company/non-profit agency please check here [  ] No. of employees \_\_\_*

The Contractor or Grantee agrees:

- (a) To pay each of its employees whose wage level is not required to comply with federal, state or local prevailing wage law, for work covered or funded by a contract with or grant from the City, no less than the Living Wage. The current Living Wage is defined as \$13.91/hour for those employers that provide employee health care (as defined in the Ordinance at Section 1:815 Sec. 1 (a)), or no less than \$15.51/hour for those employers that do not provide health care. The Contractor or Grantor understands that the Living Wage is adjusted and established annually on April 30 in accordance with the Ordinance and covered employers shall be required to pay the adjusted amount thereafter to be in compliance with Section 1:815(3).

**Check the applicable box below which applies to your workforce**

Employees who are assigned to any covered City contract/grant will be paid at or above the applicable living wage without health benefits

Employees who are assigned to any covered City contract/grant will be paid at or above the applicable living wage with health benefits

- (b) To post a notice approved by the City regarding the applicability of the Living Wage Ordinance in every work place or other location in which employees or other persons contracting for employment are working.
- (c) To provide to the City payroll records or other documentation within ten (10) business days from the receipt of a request by the City.
- (d) To permit access to work sites to City representatives for the purposes of monitoring compliance and investigating complaints or non-compliance.
- (e) To take no action that would reduce the compensation, wages, fringe benefits, or leave available to any employee covered by the Living Wage Ordinance or any person contracted for employment and covered by the Living Wage Ordinance in order to pay the living wage required by the Living Wage Ordinance.

The undersigned states that he/she has the requisite authority to act on behalf of his/her employer in these matters and has offered to provide the services or agrees to accept financial assistance in accordance with the terms of the Living Wage Ordinance. The undersigned certifies that he/she has read and is familiar with the terms of the Living Wage Ordinance, obligates the Employer/Grantee to those terms and acknowledges that if his/her employer is found to be in violation of Ordinance it may be subject to civil penalties and termination of the awarded contract or grant of financial assistance.

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
Street Address

\_\_\_\_\_  
Signature of Authorized Representative

\_\_\_\_\_  
Date

\_\_\_\_\_  
City, State, Zip

\_\_\_\_\_  
Print Name and Title

\_\_\_\_\_  
Phone/Email address

# CITY OF ANN ARBOR LIVING WAGE ORDINANCE

**RATE EFFECTIVE APRIL 30, 2020 - ENDING APRIL 29, 2021**

**\$13.91 per hour**

If the employer provides health care benefits\*

**\$15.51 per hour**

If the employer does **NOT** provide health care benefits\*

Employers providing services to or for the City of Ann Arbor or recipients of grants or financial assistance from the City of Ann Arbor for a value of more than \$10,000 in a twelve-month period of time must pay those employees performing work on a City of Ann Arbor contract or grant, the above living wage.

## ENFORCEMENT

The City of Ann Arbor may recover back wages either administratively or through court action for the employees that have been underpaid in violation of the law. Persons denied payment of the living wage have the right to bring a civil action for damages in addition to any action taken by the City.

Violation of this Ordinance is punishable by fines of not more than \$500/violation plus costs, with each day being considered a separate violation. Additionally, the City of Ann Arbor has the right to modify, terminate, cancel or suspend a contract in the event of a violation of the Ordinance.

\* Health Care benefits include those paid for by the employer or making an employer contribution toward the purchase of health care. The employee contribution must not exceed \$.50 an hour for an average work week; and the employer cost or contribution must equal no less than \$1/hr for the average work week.

**The Law Requires Employers to Display This Poster Where Employees Can Readily See It.**

**For Additional Information or to File a Complaint contact  
Colin Spencer at 734/794-6500 or [cspencer@a2gov.org](mailto:cspencer@a2gov.org)**



<b>Vendor Conflict of Interest Disclosure Form</b>
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All vendors interested in conducting business with the City of Ann Arbor must complete and return the Vendor Conflict of Interest Disclosure Form in order to be eligible to be awarded a contract. Please note that all vendors are subject to comply with the City of Ann Arbor’s conflict of interest policies as stated within the certification section below.

If a vendor has a relationship with a City of Ann Arbor official or employee, an immediate family member of a City of Ann Arbor official or employee, the vendor shall disclose the information required below.

1. No City official or employee or City employee’s immediate family member has an ownership interest in vendor’s company or is deriving personal financial gain from this contract.
2. No retired or separated City official or employee who has been retired or separated from the City for less than one (1) year has an ownership interest in vendor’s Company.
3. No City employee is contemporaneously employed or prospectively to be employed with the vendor.
4. Vendor hereby declares it has not and will not provide gifts or hospitality of any dollar value or any other gratuities to any City employee or elected official to obtain or maintain a contract.
5. Please note any exceptions below:

<b>Conflict of Interest Disclosure*</b>	
Name of City of Ann Arbor employees, elected officials or immediate family members with whom there may be a potential conflict of interest.	<input type="checkbox"/> Relationship to employee <hr/> <input type="checkbox"/> Interest in vendor’s company <input type="checkbox"/> Other (please describe in box below)

\*Disclosing a potential conflict of interest does not disqualify vendors. In the event vendors do not disclose potential conflicts of interest and they are detected by the City, vendor will be exempt from doing business with the City.

<b>I certify that this Conflict of Interest Disclosure has been examined by me and that its contents are true and correct to my knowledge and belief and I have the authority to so certify on behalf of the Vendor by my signature below:</b>		
<b>Vendor Name</b>	<b>Vendor Phone Number</b>	
<b>Signature of Vendor Authorized Representative</b>	<b>Date</b>	<b>Printed Name of Vendor Authorized Representative</b>

Questions about this form? Contact Procurement Office City of Ann Arbor Phone: 734/794-6500, [procurement@a2gov.org](mailto:procurement@a2gov.org)

# CITY OF ANN ARBOR DECLARATION OF COMPLIANCE

## Non-Discrimination Ordinance

The "non discrimination by city contractors" provision of the City of Ann Arbor Non-Discrimination Ordinance (Ann Arbor City Code Chapter 112, Section 9:158) requires all contractors proposing to do business with the City to treat employees in a manner which provides equal employment opportunity and does not discriminate against any of their employees, any City employee working with them, or any applicant for employment on the basis of actual or perceived age, arrest record, color, disability, educational association, familial status, family responsibilities, gender expression, gender identity, genetic information, height, HIV status, marital status, national origin, political beliefs, race, religion, sex, sexual orientation, source of income, veteran status, victim of domestic violence or stalking, or weight. It also requires that the contractors include a similar provision in all subcontracts that they execute for City work or programs.

In addition the City Non-Discrimination Ordinance requires that all contractors proposing to do business with the City of Ann Arbor must satisfy the contract compliance administrative policy adopted by the City Administrator. A copy of that policy may be obtained from the Purchasing Manager

The Contractor agrees:

- (a) To comply with the terms of the City of Ann Arbor's Non-Discrimination Ordinance and contract compliance administrative policy, including but not limited to an acceptable affirmative action program if applicable.
- (b) To post the City of Ann Arbor's Non-Discrimination Ordinance Notice in every work place or other location in which employees or other persons are contracted to provide services under a contract with the City.
- (c) To provide documentation within the specified time frame in connection with any workforce verification, compliance review or complaint investigation.
- (d) To permit access to employees and work sites to City representatives for the purposes of monitoring compliance, or investigating complaints of non-compliance.

The undersigned states that he/she has the requisite authority to act on behalf of his/her employer in these matters and has offered to provide the services in accordance with the terms of the Ann Arbor Non-Discrimination Ordinance. The undersigned certifies that he/she has read and is familiar with the terms of the Non-Discrimination Ordinance, obligates the Contractor to those terms and acknowledges that if his/her employer is found to be in violation of Ordinance it may be subject to civil penalties and termination of the awarded contract.

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Company Name

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Signature of Authorized Representative

Date

---

Print Name and Title

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Address, City, State, Zip

---

Phone/Email Address

**Questions about the Notice or the City Administrative Policy, Please contact:**  
Procurement Office of the City of Ann Arbor  
(734) 794-6500

# CITY OF ANN ARBOR NON-DISCRIMINATION ORDINANCE

Relevant provisions of Chapter 112, Nondiscrimination, of the Ann Arbor City Code are included below.  
You can review the entire ordinance at [www.a2gov.org/humanrights](http://www.a2gov.org/humanrights).

**Intent:** It is the intent of the city that no individual be denied equal protection of the laws; nor shall any individual be denied the enjoyment of his or her civil or political rights or be discriminated against because of actual or perceived age, arrest record, color, disability, educational association, familial status, family responsibilities, gender expression, gender identity, genetic information, height, HIV status, marital status, national origin, political beliefs, race, religion, sex, sexual orientation, source of income, veteran status, victim of domestic violence or stalking, or weight.

**Discriminatory Employment Practices:** No person shall discriminate in the hire, employment, compensation, work classifications, conditions or terms, promotion or demotion, or termination of employment of any individual. No person shall discriminate in limiting membership, conditions of membership or termination of membership in any labor union or apprenticeship program.

**Discriminatory Effects:** No person shall adopt, enforce or employ any policy or requirement which has the effect of creating unequal opportunities according to actual or perceived age, arrest record, color, disability, educational association, familial status, family responsibilities, gender expression, gender identity, genetic information, height, HIV status, marital status, national origin, political beliefs, race, religion, sex, sexual orientation, source of income, veteran status, victim of domestic violence or stalking, or weight for an individual to obtain housing, employment or public accommodation, except for a bona fide business necessity. Such a necessity does not arise due to a mere inconvenience or because of suspected objection to such a person by neighbors, customers or other persons.

**Nondiscrimination by City Contractors:** All contractors proposing to do business with the City of Ann Arbor shall satisfy the contract compliance administrative policy adopted by the City Administrator in accordance with the guidelines of this section. All city contractors shall ensure that applicants are employed and that employees are treated during employment in a manner which provides equal employment opportunity and tends to eliminate inequality based upon any classification protected by this chapter. All contractors shall agree not to discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment, or a matter directly or indirectly related to employment, because of any applicable protected classification. All contractors shall be required to post a copy of Ann Arbor's Non-Discrimination Ordinance at all work locations where its employees provide services under a contract with the city.

**Complaint Procedure:** If any individual believes there has been a violation of this chapter, he/she may file a complaint with the City's Human Rights Commission. The complaint must be filed within 180 calendar days from the date of the individual's knowledge of the allegedly discriminatory action or 180 calendar days from the date when the individual should have known of the allegedly discriminatory action. A complaint that is not filed within this timeframe cannot be considered by the Human Rights Commission. To file a complaint, first complete the complaint form, which is available at [www.a2gov.org/humanrights](http://www.a2gov.org/humanrights). Then submit it to the Human Rights Commission by e-mail ([hrc@a2gov.org](mailto:hrc@a2gov.org)), by mail (Ann Arbor Human Rights Commission, PO Box 8647, Ann Arbor, MI 48107), or in person (City Clerk's Office). For further information, please call the commission at 734-794-6141 or e-mail the commission at [hrc@a2gov.org](mailto:hrc@a2gov.org).

**Private Actions For Damages or Injunctive Relief:** To the extent allowed by law, an individual who is the victim of discriminatory action in violation of this chapter may bring a civil action for appropriate injunctive relief or damages or both against the person(s) who acted in violation of this chapter.

THIS IS AN OFFICIAL GOVERNMENT NOTICE AND  
MUST BE DISPLAYED WHERE EMPLOYEES CAN READILY SEE IT.

## MICHIGAN DEPARTMENT OF TRANSPORTATION CERTIFIED PAYROLL

COMPLETION OF CERTIFIED PAYROLL FORM FULFILLS THE MINIMUM MDOT PREVAILING WAGE REQUIREMENTS

(1) NAME OF CONTRACTOR / SUBCONTRACTOR (CIRCLE ONE) (2) ADDRESS

(3) PAYROLL NO. (4) FOR WEEK ENDING (5) PROJECT AND LOCATION (6) CONTRACT ID

(a)	(b)	(c)	(d) DAY AND DATE							(e)	(f)	(g)	(h)	(i)	(j) DEDUCTIONS						(k)		
			HOURS WORKED ON PROJECT												TOTAL HOURS ON PROJECT	PROJECT RATE OF PAY	PROJECT RATE OF FRINGE PAY	GROSS PROJECT EARNED	GROSS WEEKLY EARNED	TOTAL WEEKLY HOURS WORKED ALL JOBS		FICA	FEDERAL
EMPLOYEE INFORMATION	WORK CLASSIFICATION	Hour Type								0			\$0.00									\$0.00	\$0.00
NAME:										0			\$0.00									\$0.00	\$0.00
ETH#GEN: ID #:	GROUP/CLASS #:	S								0			\$0.00									\$0.00	\$0.00
NAME:										0			\$0.00									\$0.00	\$0.00
ETH#GEN: ID #:	GROUP/CLASS #:	S								0			\$0.00									\$0.00	\$0.00
NAME:										0			\$0.00									\$0.00	\$0.00
ETH#GEN: ID #:	GROUP/CLASS #:	S								0			\$0.00									\$0.00	\$0.00
NAME:										0			\$0.00									\$0.00	\$0.00
ETH#GEN: ID #:	GROUP/CLASS #:	S								0			\$0.00									\$0.00	\$0.00
NAME:										0			\$0.00									\$0.00	\$0.00
ETH#GEN: ID #:	GROUP/CLASS #:	S								0			\$0.00									\$0.00	\$0.00
NAME:										0			\$0.00									\$0.00	\$0.00
ETH#GEN: ID #:	GROUP/CLASS #:	S								0			\$0.00									\$0.00	\$0.00
NAME:										0			\$0.00									\$0.00	\$0.00

Date \_\_\_\_\_

I, \_\_\_\_\_ (Name of Signatory Party) \_\_\_\_\_ (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

\_\_\_\_\_ on the \_\_\_\_\_ (Contractor or Subcontractor)  
 \_\_\_\_\_; that during the payroll period commencing on the \_\_\_\_\_ (Building or Work)  
 \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, and ending the \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_,  
 all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

\_\_\_\_\_ from the full \_\_\_\_\_ (Contractor or Subcontractor)

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

- in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

- Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION
REMARKS:	
NAME AND TITLE	SIGNATURE
THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.	