

**CONTRACT DOCUMENTS
FOR
LIBERTY STREET, HARVARD PLACE,
AND ARLINGTON BOULEVARD
SANITARY SEWER EXTENSIONS PROJECT**



SEPTEMBER 2014

FILE NO. 2014-030
ITB NO. 4345

PROJECT MANAGEMENT SERVICES UNIT
PUBLIC SERVICES AREA
CITY OF ANN ARBOR
301 E. Huron Street
Ann Arbor, MI 48104

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ADVERTISEMENT FOR THE
LIBERTY STREET, HARVARD PLACE, AND ARLINGTON BOULEVARD
SANITARY SEWER EXTENSIONS PROJECT
CITY OF ANN ARBOR, MICHIGAN

ITB No. 4345

Sealed Bids will be received by the City of Ann Arbor Customer Service Desk, First (1st) Floor, Guy Larcom City Hall, on or before Wednesday, August 20, 2014, by 10:00 AM for construction of the Liberty Street, Harvard Place, and Arlington Boulevard Sanitary Sewer Extensions Project. Bids will be publicly opened and read aloud at this time.

Work includes the installation of PVC SDR 26 sanitary sewer pipe and sanitary sewer service leads, removal and construction of manhole structures, removal and replacement of HMA pavement, placement of aggregate base and sand subbase, sidewalk removal and replacement, and all other related work.

Bid documents, specifications, plans and addenda shall be downloaded by vendors at either of the following web sites, Michigan Inter-governmental Trade Network (MITN) www.mitn.info or City of Ann Arbor web site www.a2gov.org. It is the bidder's responsibility to verify they have obtained all information before submitting a bid.

Each Bid shall be accompanied by a certified check, or Bid Bond by a recognized surety, in the amount of 5% of the total of the bid price. A Bid, once submitted, becomes the property of the City. In the sole discretion of the City, the City reserves the right to allow a bidder to reclaim submitted documents provided the documents are requested and retrieved no later than 48 hours prior to the scheduled bid opening.

The successful Bidder will be required to furnish satisfactory performance and labor and material bonds in the amount of 100% of the bid price and satisfactory insurance coverage.

Precondition for entering into a contract with the City of Ann Arbor: (i) compliance with Chapter 112 of Title IX of the Code of the City of Ann Arbor. (ii) compliance with applicable prevailing wage and living wage requirements of Chapter 23 of Title I of the Code of the City of Ann Arbor. Further information is outlined in the contract documents.

After the time of opening, no Bid may be withdrawn for a period of 90 days. The City reserves the right 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.

Any further information may be obtained from the Ann Arbor Procurement Office,
(734) 794-6500

CITY OF ANN ARBOR, MICHIGAN

NOTICE OF PRE-BID CONFERENCE

No pre-bid conference will be 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.

The City shall make available to all prospective Bidders, prior to receipt of the Bids, access to the area in which the work is to be performed. Advance notice should be given to the Administering Service Area/Unit in cases where access to the site must be arranged by the City.

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.

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 Clarification on ITB Specifications

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 are due on or before August 14, 2014, by 10:00 am and should be addressed as follows:

Specification/Scope of Work questions emailed to: ddykman@a2gov.org

Bid Process and HR Compliance questions emailed to: mberryman@a2gov.org

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 and/or City of Ann Arbor web site 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 Customer Service Desk on or Wednesday, August 20, 2014, by 10:00 am. 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 4345 – Liberty Street, Harvard Place, and Arlington Boulevard Sanitary Sewer Extensions Project.**

Bids must be addressed and delivered to:

City of Ann Arbor
Customer Service Desk
First (1st) Floor, Guy C. Larcom (City Hall) Building
301 East Huron Street
P.O. Box 8647
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.

Hand delivered bids will be date/time stamped/signed at the address above in order to be considered. Normal business hours are 8:00 a.m. to 4:00 p.m. Monday through Friday. 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 will not be granted to a single Bidder; however, additional time may be granted to all Bidders when the City determines 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.

Official Documents

The City of Ann Arbor shall accept no alternates to the bid documents made by the Bidder unless those alternatives are set forth in the "Alternate" section of Bid form.

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 and obtain an official Bid.

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 90 days, as specified in the Advertisement.

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 can not 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

Section 5, beginning at page GC-3, outlines the requirements for fair employment practices under City of Ann Arbor Contracts. To establish compliance with this Ordinance, the Bidder must complete and return with its bid completed copies of the Human Rights Division Contract Compliance Forms (Appendix A and B) or an acceptable equivalent.

In the event the Human Rights forms are not submitted with the bid, the bidder will have 24 hours to submit upon notice from the City.

Wage Requirements

Section 4, beginning at page GC-1, outlines the requirements for payment of prevailing wages or of a “living wage” to employees providing service to the City under this contract. The successful bidder must comply with all applicable requirements and provide documentary proof of compliance when requested.

Major Subcontractors

The Bidder shall identify 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 and the approximate dollar value of each subcontract.

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 bidder’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.

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.

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 Advertisement, Human Rights Division Contract Compliance Forms, 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 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 1:319 (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 further agrees that the cited provisions of Chapter 14 and Chapter 23 form a part of this Contract.

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 20TH DAY OF AUGUST, 2014.

E.T. MAURIZIE COMPANY

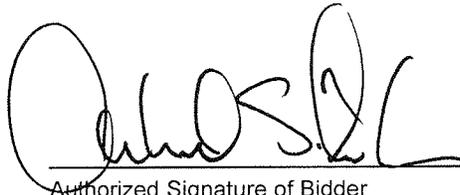
Bidder's Name

6400 JACKSON ROAD
ANN ARBOR, MI 48103

Official Address

(734) 761.5050

Telephone Number



Authorized Signature of Bidder

MICHAEL S. MAURIES

(Print Name of Signer Above)

BID FORM
Section 1 - Schedule of Prices

Liberty Street, Harvard Place, and Arlington Boulevard Sanitary Sewer Extensions Project
File No. 2014-030
Bid No. 4345

Item No.	Item Description	Unit	Estimated Quantity	Unit Price	Total Price
130	Protective Fencing	LF	550.000	\$ 4.00	\$ 2200.00
140	Exploratory Excavation (0-10' deep), Trench Detail - Type I Modified	Each	3.000	\$ 500.00	\$ 1500.00
144	Exploratory Excavation Add'l Depth	VF	10.500	\$ 100.00	\$ 1050.00
200	General Conditions, Modified, Maximum \$15,000	LS	1.000	\$ 15000.00	\$ 15000.00
201	Project Supervision, Modified, Maximum \$10,000	LS	1.000	\$ 10000.00	\$ 10000.00
202	Audiovisual Tape Coverage, Modified	LS	1.000	\$ 4522.25	\$ 4522.25
203	Minor Traffic Control, Modified, Maximum \$2,500	LS	1.000	\$ 2500.00	\$ 2500.00
204	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	Each	17.000	\$ 120.00	\$ 2040.00
205	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	Each	17.000	\$ 10.00	\$ 170.00
206	Channelizing Device, 42 inch, Furn	Each	53.000	\$ 22.00	\$ 1166.00
207	Channelizing Device, 42 inch, Oper	Each	53.000	\$ 1.00	\$ 53.00
208	Plastic Drum, High Intensity, Lighted, Furn	Each	31.000	\$ 25.00	\$ 775.00
209	Plastic Drum, High Intensity, Lighted, Oper	Each	31.000	\$ 1.00	\$ 31.00
210	Sign, Type B, Temp, Prismatic, Furn	SF	761.500	\$ 3.50	\$ 2665.25
211	Sign, Type B, Temp, Prismatic, Oper	SF	761.500	\$ 0.50	\$ 380.75
212	Sign, Type B, Temp, Prismatic, Speical, Furn	SF	309.375	\$ 4.00	\$ 1237.50
213	Sign, Type B, Temp, Prismatic, Special, Oper	SF	309.375	\$ 2.00	\$ 618.75
TOTAL THIS PAGE					\$ 45909.50

BID FORM
Section 1 - Schedule of Prices

Liberty Street, Harvard Place, and Arlington Boulevard Sanitary Sewer Extensions Project
File No. 2014-030
Bid No. 4345

<u>Item No.</u>	<u>Item Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
214	Sign, Portable, Changeable Message, Furn	Each	3.000	\$ <u>1200.00</u>	\$ <u>3600.00</u>
215	Sign, Portable, Changeable Message, Oper	Each	3.000	\$ <u>100.00</u>	\$ <u>300.00</u>
216	"No Parking" Sign	Each	3.000	\$ <u>50.00</u>	\$ <u>150.00</u>
217	Inlet Filter, Special	Each	9.000	\$ <u>150.00</u>	\$ <u>1350.00</u>
218	Pavt, Rem	SY	625.000	\$ <u>12.00</u>	\$ <u>7500.00</u>
219	Remove Concrete Curb or Curb & Gutter - Any Type, Modified	LF	409.000	\$ <u>8.50</u>	\$ <u>3476.50</u>
220	Remove Concrete Sidewalk, Ramp and Drives - Any Thickness, Modified	SF	862.000	\$ <u>1.00</u>	\$ <u>862.00</u>
221	Subgrade Undercutting - Type II, Modified	CY	75.000	\$ <u>40.00</u>	\$ <u>3000.00</u>
222	Machine Grading, Modified	Station	4.500	\$ <u>13500.00</u>	\$ <u>60750.00</u>
223	Subbase, CIP	CY	280.000	\$ <u>32.00</u>	\$ <u>8960.00</u>
224	Aggregate Base, 8 inch, Modified	SY	1010.000	\$ <u>16.00</u>	\$ <u>16160.00</u>
225	Maintenance Gravel	Ton	34.000	\$ <u>14.00</u>	\$ <u>476.00</u>
226	Shoulder, CI I	Ton	13.000	\$ <u>65.00</u>	\$ <u>845.00</u>
227	Approach, CI I	Ton	8.000	\$ <u>55.00</u>	\$ <u>440.00</u>
228	Manhole Tap, 8 inch	Each	1.000	\$ <u>2600.00</u>	\$ <u>2600.00</u>
229	Sewer Tap, 8 inch	Each	1.000	\$ <u>1.00</u>	\$ <u>1.00</u>
230	Underdrain, Subbase, 6 inch	LF	220.000	\$ <u>20.00</u>	\$ <u>4400.00</u>
TOTAL THIS PAGE					\$ <u>114870.50</u>

BID FORM
Section 1 - Schedule of Prices

Liberty Street, Harvard Place, and Arlington Boulevard Sanitary Sewer Extensions Project
File No. 2014-030
Bid No. 4345

<u>Item No.</u>	<u>Item Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
231	HMA, 4E3 - Pavement Base Course	Ton	30.000	\$ <u>180.00</u>	\$ <u>5400.00</u>
232	HMA, 4E3 - Pavement Leveling Course	Ton	30.000	\$ <u>180.00</u>	\$ <u>5400.00</u>
233	HMA, 5E3 - Pavement Top Course	Ton	23.000	\$ <u>325.00</u>	\$ <u>7475.00</u>
234	HMA, LVSP - Pavement Leveling Course	Ton	67.000	\$ <u>170.00</u>	\$ <u>11390.00</u>
235	HMA, LVSP - Pavement Top Course	Ton	67.000	\$ <u>170.00</u>	\$ <u>11390.00</u>
236	Concrete Curb or Curb & Gutter - Any Type	LF	337.000	\$ <u>50.00</u>	\$ <u>16850.00</u>
237	4" Concrete Sidewalk, Modified	SF	540.000	\$ <u>14.50</u>	\$ <u>7830.00</u>
238	6" Concrete Sidewalk, Ramp, Drive Approach, High Early	SF	359.000	\$ <u>17.50</u>	\$ <u>6282.50</u>
239	Concrete Type M Drive Opening, High Early	LF	74.000	\$ <u>47.00</u>	\$ <u>3478.00</u>
240	Adjust Structure Cover, Modified	Each	6.000	\$ <u>500.00</u>	\$ <u>3000.00</u>
241	Clean-Up & Restoration, Special	LS	1.000	\$ <u>1.00</u>	\$ <u>1.00</u>
242	SDR 26 PVC 45° Bend, 6"	Each	7.000	\$ <u>20.00</u>	\$ <u>140.00</u>
243	Granular Material, CI II	CY	75.000	\$ <u>13.00</u>	\$ <u>975.00</u>
305	SDR 26 PVC Pipe, 8", Trench Detail - Type I Modified	LF	349.000	\$ <u>165.00</u>	\$ <u>57585.00</u>
335	SDR 26 PVC Tee or Wye, 8" x 6"	Each	2.000	\$ <u>600.00</u>	\$ <u>1200.00</u>
350	SDR 26 PVC Riser, 6"	VF	35.000	\$ <u>3.50</u>	\$ <u>122.50</u>
353	SDR 26 PVC Service Lead, 6"	LF	167.000	\$ <u>155.00</u>	\$ <u>25885.00</u>
TOTAL THIS PAGE					\$ <u>164404.00</u>

BID FORM
Section 1 - Schedule of Prices

Liberty Street, Harvard Place, and Arlington Boulevard Sanitary Sewer Extensions Project
File No. 2014-030
Bid No. 4345

Item No.	Item Description	Unit	Estimated Quantity	Unit Price	Total Price
360	Type I Manhole (0-10' deep)	Each	5.000	\$ <u>4200.00</u>	\$ <u>21000.00</u>
361	Type I Manhole Add'l Depth	VF	6.000	\$ <u>75.00</u>	\$ <u>450.00</u>
370	Drop Connection, 8 inch	VF	12.000	\$ <u>215.00</u>	\$ <u>2580.00</u>
563	Structure Covers	Lbs	400.000	\$ <u>1.50</u>	\$ <u>600.00</u>
594	Hot-Applied, Thermoplastic Pavement Marking, 4" White	LF	258.000	\$ <u>3.50</u>	\$ <u>903.00</u>
595	Hot-Applied, Thermoplastic Pavement Marking, 4" Yellow	LF	698.000	\$ <u>3.50</u>	\$ <u>2443.00</u>
596	Hot-Applied, Thermoplastic Pavement Marking, 6" White	LF	220.000	\$ <u>4.50</u>	\$ <u>990.00</u>
703	Silt Fence	LF	500.000	\$ <u>3.50</u>	\$ <u>1750.00</u>
TOTAL THIS PAGE				\$	<u>30716.00</u>
TOTAL FROM PAGE BF-1				\$	<u>45909.50</u>
TOTAL FROM PAGE BF-2				\$	<u>114870.50</u>
TOTAL FROM PAGE BF-3				\$	<u>164404.00</u>
TOTAL BASE BID				\$	<u>355900.00</u>

BID FORM

Section 2 - Material and Equipment Alternates

The Base Bid 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.

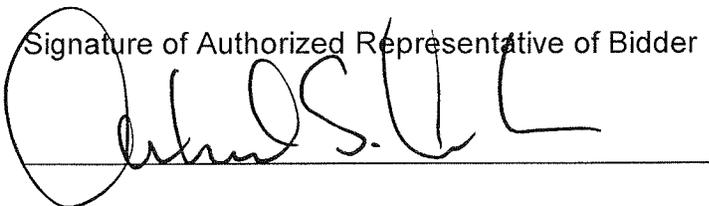
If the Contractor wishes to quote alternate items for consideration by the City, it may do so under this Section. A complete description of the item and the proposed price differential must be provided. Unless approved at the time of award, substitutions where items are specifically named will be considered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

<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



BID FORM

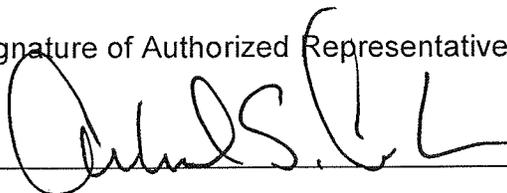
Section 3 - Time Alternate

If the Bidder takes exception to the time stipulated in Article III of the Contract, Time of Completion, page C-1, 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



BID FORM

Section 4 - 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.

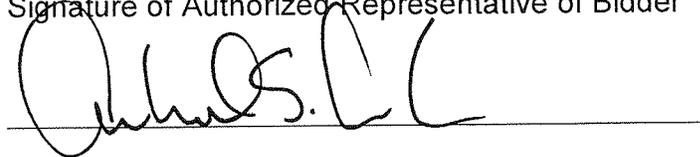
For the work outlined in these documents the Bidder expects to engage the following major subcontractors to perform the work identified.

<u>Subcontractor</u> (Name and Address)	<u>Work</u>	<u>Amount</u>
BARRETT PAVING	HMA	TBD
PARADISE 2000	A/U SURVEY	TBD

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



CONTRACT

THIS AGREEMENT is made on the 15th day of September, 2014, between the CITY OF ANN ARBOR, a Michigan Municipal Corporation, 301 E. Huron Street, Ann Arbor, Michigan 48104 (“City”) and E.T. MacKenzie Company (“Contractor”) a Michigan Corporation at 4248 W. Saginaw Hwy., Grand Ledge, MI 48837.

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 “Liberty Street, Harvard Place, and Arlington Boulevard Sanitary Sewer Extensions Project” 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:

Human Rights Division Contract Compliance Forms	General Conditions
Living Wage Declaration of Compliance Forms (if applicable)	Standard Specifications
Bid Forms	Detailed Specifications
Contract and Exhibits	Plans
Bonds	Addenda

ARTICLE II - Definitions

Administering Service Area/Unit means Project Management Services Unit

Supervising Professional means Project Management Services Unit Manager acting personally or through any assistants authorized by the Administrator/Manager of the Administering Service Area/Unit.

Project means Liberty Street, Harvard Place, and Arlington Boulevard Sanitary Sewer Extensions Project; ITB No. 4345

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 within scheduling requirements as specified in the Detailed Specifications.

- (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, an amount specified in Detailed Specification for Project Schedule and Payment shown on page DS-2. 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.

As an independent requirement, where the Detailed Specifications identify certain portions of the work to be completed within a shorter period of time and the Contractor fails to complete each portion within the shorter period specified for each portion, including any extension granted in writing by the Project Supervisor, the City is entitled to deduct from the monies due the Contractor, as liquidated damages and not as a penalty, the amount identified in the Detailed Specifications for each portion of the work not timely completed for each calendar day of delay in completion of each portion of the work.

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.

Liquidated damages under this section are in addition to any liquidated damages due under Section 5 of the General Conditions.

ARTICLE IV - The Contract Sum

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

Three Hundred Fifty-Five Thousand Nine Hundred and 00/100 Dollars (\$355,900.00)

- (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.

ARTICLE V - Assignment

This Contract may not be assigned or subcontracted without the written consent of 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.

ARTICLE IX - Indemnification

To the fullest extent permitted by law, Contractor shall indemnify, defend and hold harmless 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.

ARTICLE X - Entire Agreement

This Contract represents the entire understanding between the City and the Contractor and it supersedes all prior representations or agreements whether written or oral. Neither party has relied on any prior representations in entering into this Contract. This Contract may be altered, amended or modified only by written amendment signed by the City and the Contractor.

FOR CONTRACTOR

By _____

Its: _____

FOR THE CITY OF ANN ARBOR

By _____
John Hieftje, Mayor

By _____
Jacqueline Beaudry, City Clerk

Approved as to substance

By _____
Steven D. Powers, City Administrator

By _____
Craig Hupy, Public Services Area
Administrator

Approved as to form and content

By _____
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: **Liberty Street, Harvard Place, and Arlington Boulevard Sanitary Sewer Extensions Project** 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.

SIGNED AND SEALED this _____ day of _____, 20__.

(Name of Surety Company)

(Name of Principal)

By _____
(Signature)

By _____
(Signature)

Its _____
(Title of Office)

Its _____
(Title of Office)

Approved as to form:

Name and address of agent:

By _____
Stephen K. Postema, City Attorney

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 **Liberty Street, Harvard Place, and Arlington Boulevard Sanitary Sewer Extensions Project;** 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.

SIGNED AND SEALED this _____ day of _____, 20____.

(Name of Surety Company)

(Name of Principal)

By _____
(Signature)

By _____
(Signature)

Its _____
(Title of Office)

Its _____
(Title of Office)

Approved as to form:

Name and address of agent:

By _____
Stephen K. Postema, City Attorney

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."

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.

Further, to the extent that any employees of the Contractor providing services under this contract are not part of the class of craftsmen, mechanics and laborers who receive a prevailing wage in conformance with Section 1:319 of Chapter 14 of Title I of the Code of the City of Ann Arbor, the Contractor agrees to conform to Chapter 23 of Title I of the Code of the City of Ann Arbor, as amended, which in part states:

1:814. Applicability.

- (1) This Chapter shall apply to any person that is a contractor/vendor or grantee as defined in Section 1:813 that employs or contracts with five (5) or more individuals; provided, however, that this Chapter shall not apply to a non-profit contractor/vendor or non-profit grantee unless it employs or contracts with ten (10) or more individuals.
- (2) This Chapter shall apply to any grant, contract, or subcontract or other form of financial assistance awarded to or entered into with a contractor/vendor or grantee after the effective date of this Chapter and to the extension or renewal after the effective date of this Chapter of any grant, contract, or subcontract or other form of financial assistance with a contractor/vendor or grantee.

1:815. Living Wages Required.

- (1) Every contractor/vendor or grantee, as defined in Section 1:813, shall pay its covered employees a living wage as established in this Section.
 - (a) For a covered employer that provides employee health care to its employees, the living wage shall be \$9.42 an hour, or the adjusted amount hereafter established under Section 1:815(3).
 - (b) For a covered employer that does not provide health care to its employees, the living wage shall be \$10.91 a hour, or the adjusted amount hereafter established under Section 1:815(3).
- (2) In order to qualify to pay the living wage rate for covered employers providing employee

health care under subsection 1:815(1)(a), a covered employer shall furnish proof of said health care coverage and payment therefor to the City Administrator or his/her designee.

- (3) The amount of the living wage established in this Section shall be adjusted upward no later than April 30, 2002, and every year thereafter by a percentage equal to the percentage increase, if any, in the federal poverty guidelines as published by the United States Department of Health and Human Services for the years 2001 and 2002. Subsequent annual adjustments shall be based upon the percentage increase, if any, in the United States Department of Health and Human Services poverty guidelines when comparing the prior calendar year's poverty guidelines to the present calendar year's guidelines. The applicable percentage amount will be converted to an amount in cents by multiplying the existing wage under Section 1.815(1)(b) by said percentage, rounding upward to the next cent, and adding this amount of cents to the existing living wage levels established under Sections 1:815(1)(a) and 1:815(1)(b). Prior to April 1 of each calendar year, the City will notify any covered employer of this adjustment by posting a written notice in a prominent place in City Hall, and, in the case of a covered employer that has provided an address of record to the City, by a written letter to each such covered employer.

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 Section 209 of the Elliot-Larsen Civil Rights Act (MCL 37.2209). The Contractor further agrees to the nondiscrimination provisions of Chapter 112 of the Ann Arbor City Code and to take affirmative action to assure that applicants are employed and that employees are treated during employment in a manner which provides equal employment. The Contractor agrees to comply with the provisions of Section 9:161 of Chapter 112 of the Ann Arbor City Code and in particular the following excerpts:

9:161 NONDISCRIMINATION BY CITY CONTRACTORS

- (1) All contractors proposing to do business with the City of Ann Arbor shall satisfy the nondiscrimination administrative policy adopted by the City Administrator in accordance with the guidelines of this section. All contractors shall receive approval from the Director prior to entering into a contract with the City, unless specifically exempted by administrative policy. All City contractors shall take affirmative action to insure 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 race, national origin or sex.
- (2) Each prospective contractor shall submit to the City data showing current total employment by occupational category, sex and minority group. If, after verifying this data, the Director concludes that it indicates total minority and female employment commensurate with their availability within the contractor's labor recruitment area, i.e., the area from which the contractor can reasonably be expected to recruit, said contractor shall be accepted by the Director as having fulfilled affirmative action requirements for a

period of one year at which time the Director shall conduct another review. Other contractors shall develop an affirmative action program in conjunction with the Director. Said program shall include specific goals and timetables for the hiring and promotion of minorities and females. Said

goals shall reflect the availability of minorities and females within the contractor's labor recruitment area. In the case of construction contractors, the Director shall use for employment verification the labor recruitment area of the Ann Arbor-Ypsilanti standard metropolitan statistical area. Construction contractors determined to be in compliance shall be accepted by the Director as having fulfilled affirmative action requirements for a period of six (6) months at which time the Director shall conduct another review.

- (3) In hiring for construction projects, contractors shall make good faith efforts to employ local persons, so as to enhance the local economy.
- (4) All contracts shall include provisions through which the contractor agrees, in addition to any other applicable Federal or State labor laws:
 - (a) To set goals, in conference with the Human Resources Director, for each job category or division of the work force used in the completion of the City work;
 - (b) To provide periodic reports concerning the progress the contractor has made in meeting the affirmative action goals it has agreed to;
 - (c) To permit the Director access to all books, records and accounts pertaining to its employment practices for the purpose of determining compliance with the affirmative action requirements.
- (5) The Director shall monitor the compliance of each contractor with the nondiscrimination provisions of each contract. The Director shall develop procedures and regulations consistent with the administrative policy adopted by the City Administrator for notice and enforcement of non-compliance. Such procedures and regulations shall include a provision for the posting of contractors not in compliance.
- (6) All City contracts shall provide further that breach of the obligation not to discriminate shall be a material breach of the contract for which the City shall be entitled, at its option, to do any or all of the following:
 - (a) To cancel, terminate, or suspend the contract in whole or part and/or refuse to make any required periodic payments under the contract;
 - (b) Declare the contractor ineligible for the award of any future contracts with the City for a specified length of time;
 - (c) To recover liquidated damages of a specified sum, said sum to be that percentage of the labor expenditure for the time period involved which would have accrued to minority group members had the affirmative action not been breached;

- (d) Impose for each day of non-compliance, liquidated damages of a specified sum, based upon the following schedule:

<u>Contract Amount</u>	<u>Assessed Damages Per Day of Non-Compliance</u>
\$ 10,000 - 24,999	\$ 25.00
25,000 - 99,999	50.00
100,000 - 199,999	100.00
200,000 - 499,999	150.00
500,000 - 1,499,999	200.00
1,500,000 - 2,999,999	250.00
3,000,000 - 4,999,999	300.00
5,000,000 - and above	500.00

- (e) In addition the contractor shall be liable for any costs or expenses incurred by the City of Ann Arbor in obtaining from other sources the work and services to be rendered or performed or the goods or properties to be furnished or delivered to the City under this contract.

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 13. 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

A. 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 from all claims for bodily injuries, death or property damage which may arise under this Contract; whether the acts were made by the Contractor or by any subcontractor or anyone employed by them directly or indirectly. The following insurance policies are required:

1. 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

2. Commercial General Liability Insurance equivalent to, as a minimum, Insurance Services Office form CG 00 01 07 98. The City of Ann Arbor shall be named as an additional insured. There shall be no added exclusions or limiting endorsements

including, but not limited to: Products and Completed Operations, Explosion, Collapse and Underground coverage or Pollution. Further, 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 Job General Aggregate

\$1,000,000 Personal and Advertising Injury

\$2,000,000 Products and Completed Operations Aggregate

3. Motor Vehicle Liability Insurance, including Michigan No-Fault Coverages, equivalent to, as a minimum, Insurance Services Office form CA 00 01 07 97. The City of Ann Arbor shall be named as an additional insured. There shall be no added exclusions or limiting endorsements. Coverage shall include all owned vehicles, all non-owned vehicles and all hired vehicles. 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.
 4. 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.
- B. Insurance required under Section A.2 and A.3 of this Contract 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.
- C. In the case of all Contracts involving on-site work, the Contractor shall provide to the City before the commencement of any work under this Contract documentation demonstrating it has obtained the above mentioned policies. Documentation must provide and demonstrate an unconditional 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; name of insurance company; name and address of the agent or authorized representative; name and address of insured; project name; policy expiration date; and specific coverage amounts; (b) any deductibles or self-insured retentions which shall be approved by the City, in its sole discretion; (c) that the policy conforms to the requirements specified. An original certificate of insurance may be provided as an initial indication of the required insurance, provided that no later than 21 calendar days after commencement of any work the Contractor supplies a copy of the endorsements required on the policies. Upon request, the Contractor shall provide within 30 days a copy of the policy(ies) 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 to the Administering Service Area/Unit at least ten days prior to the expiration date.

- D. Any Insurance provider of Contractor shall be admitted and 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-admitted insurance companies are not acceptable unless approved in writing by the City.

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 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.

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 Liberty Street, Harvard Place, and Arlington Boulevard Sanitary Sewer Extensions Project, 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 _____, 20____, it was awarded a contract by the City of Ann Arbor, Michigan to _____ under the terms and conditions of a Contract titled Liberty Street, Harvard Place, and Arlington Boulevard Sanitary Sewer Extensions Project.

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

All work under this contract shall be performed in accordance with the Public Services Department Standard Specifications in effect at the date of availability of the contract documents stipulated in the Advertisement. All work under this Contract which is not included in these Standard Specifications, or which is performed using modifications to these Standard Specifications, shall be performed in accordance with the Detailed Specifications included in these contract documents.

A copy of the Public Services Department Standard Specifications may be purchased from the Project Management Services Unit, (Fourth Floor, City Hall, Ann Arbor, Michigan), for \$35.00 per copy. In addition, a copy of these Standard Specifications is available for public viewing at the Project Management Services Unit office Monday through Friday between the hours of 8:30 a.m. and 4:00 p.m.

Copies of the Standard Specifications can also be downloaded from the web link:

http://www.a2gov.org/government/publicservices/project_management/privatedev/pages/standardspecification_sbook.aspx.

**DETAILED SPECIFICATION
FOR
PROJECT SCHEDULE AND PAYMENT**

1 of 3

DESCRIPTION

Examination of Plans, Specifications, and Work Site: Bidders shall carefully examine the Bid Form, plans, specifications and the work site until the Bidder is satisfied as to all local conditions affecting the contract and the detailed requirements of construction. The submission of the bid shall be considered prima facie evidence that the Bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and all requirements of the contract.

The entire work under this Contract shall be completed in accordance with, and subject to, the scheduling requirements as outlined below, and all other requirements of the Contract Documents.

1. The Contractor shall begin the work of this project on or before **September 22, 2014**, and only upon receipt of the fully executed Contract and Notice to Proceed. Appropriate time extensions shall be granted if the Notice to Proceed is delayed beyond this date.
2. This contract requires work to extend portions of the City of Ann Arbor's sanitary sewer system at the following separate locations: Arlington Boulevard, Harvard Place, and Liberty Street. This work shall be completed sequentially by location as listed below.
 - 1) Arlington Boulevard - The installation of the sanitary sewer at this location shall be completed within **seven (7) consecutive calendar days** after the issuance of the Notice to Proceed. The entire work at this location as required by this Contract, including the stabilization of all disturbed areas, and the removal of any and all traffic control devices shall be completed within **twenty-one (21) consecutive calendar days** after the issuance of the Notice to Proceed.
 - 2) Harvard Place – Work shall commence at this location within **two (2) consecutive calendar days** immediately following completion of work at the Arlington Boulevard location. The installation of the sanitary sewer at this location shall be completed within **seven (7) consecutive calendar days** after commencing with the work. The entire work at this location as required by this Contract, including the stabilization of all disturbed areas, and the removal of any and all traffic control devices shall be completed within **twenty-one (21) consecutive calendar days** after commencing with the work.
 - 3) Liberty Street – Work shall commence at this location in the spring of 2015 within **seven (7) consecutive calendar days** after seasonal weight restrictions have been removed or by **April 15, 2015**, if for some reason no seasonal weight restrictions are imposed. The installation of the sanitary sewer at this location shall be completed within **ten (10) consecutive calendar days** from commencing with the work. The entire work at this location as required by this Contract, including the stabilization of all disturbed areas, and the removal of any and all traffic control devices shall be completed within **forty-five (45) consecutive calendar days** after commencing with the work.

The Contractor is expected to be furnished with two (2) copies of the Contract, for his/her execution, on or before **September 1, 2014**. The Contractor shall properly execute both copies of the Contract and return them, with the required Bonds and Insurance Certificate, to the City within **ten (10) days**. The Contractor shall not begin the work before the applicable date(s) as describes herein without approval from the Project Engineer, and in no case before the receipt of the fully executed Contract. City Council approval is expected on **September 15, 2014**.

DS- 1

**DETAILED SPECIFICATION
FOR
PROJECT SCHEDULE AND PAYMENT**

2 of 3

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.

Prior to the start of any construction, the Contractor shall submit a detailed schedule of work for the Engineer's review and approval. Work shall not be started until a schedule is approved in writing by the Engineer. The proposed schedule must fully comply with the scheduling requirements contained in this Detailed Specification. The Contractor shall update the approved work schedule upon request by the Engineer and present it to the Engineer within seven days of said request.

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.

Failure to complete all work as specified herein within the times specified herein, 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 delays in the completion of the work for each and every calendar day beyond the "Calendar Days to Complete" for each sub-phase, as required by this Detailed Specification.

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.

MEASUREMENT AND PAYMENT

If the construction contract is not completed within the specified calendar day period 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.

**DETAILED SPECIFICATION
FOR
PROJECT SCHEDULE AND PAYMENT**

3 of 3

Costs for the Contractor to organize, coordinate, and schedule all of the work of the project, will not be paid for separately, but shall be included in the bid price of the Contract Item “General Conditions, Modified, Maximum, \$_____”

DS- 3

**DETAILED SPECIFICATION
FOR
COORDINATION AND COOPERATION WITH OTHERS
AND
WORK BY OTHERS**

1 of 1

The Contractor is reminded as to the requirements of article 104.07 of the 2012 edition of the MDOT Standard Specifications, "Cooperation by the Contractor."

The Contractor shall directly coordinate his/her work with individual City Departments/Divisions/Units.

The Contractor is hereby notified that the City of Ann Arbor Field Services Unit may be installing traffic control conduits, traffic signal sensors, and the like, at various locations.

No additional compensation will be paid to the Contractor, and no adjustments to contract unit prices will be made, due to delays and/or the failure of others in the performance of their work, nor for delays due to the encountering of existing utilities that are, or are not, shown on the Plans.

The following Utility Owners, and others not listed specifically, may have overhead and/or underground facilities located within the Right-of-Way/Public Easements:

The City of Ann Arbor
University of Michigan (UM)
Michigan Department of Transportation (MDOT)
AT&T
Comcast
DTE Energy - Detroit Edison Company (Edison)
DTE Energy - Michigan Consolidated Gas Company (Michcon)
Fiber Link Inc.
Light Core (Century Tel)
MCI Communications
Windstream Communications

On all projects:

"3 Working Days before you Dig - Call MISS DIG - Toll Free" Phone No. 1-800-482-7171.

The Owners of public or private utilities which will not interfere with the completed project and which do not present a hazard to the public or an extraordinary hazard to the Contractor's operations will not be required to move their facilities on or from the street right-of-way.

Stoppages created solely by the operations of the utility companies which delay utility revisions on any portion of this project may be considered as a basis of claim for an extension of time for project completion.

Costs for this work will not be paid for separately, but shall be included in the bid price of the Contract Item "General Conditions, Modified, Maximum, \$_____".

**DETAILED SPECIFICATION
FOR
MAINTENANCE OF TRAFFIC**

1 of 2

DESCRIPTION

Traffic shall be maintained in accordance with the City of Ann Arbor Public Services Department Standard Specifications and as specified in Sections 104.11, 812, and 922 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, the 2011 Michigan Manual of Uniform Traffic Control Devices (MMUTCD), and as described herein.

The Contractor shall furnish, erect, maintain and, upon completion of the work, remove all traffic control devices and barricade lights as required on the project for the safety and protection of local traffic. This includes, but is not limited to, temporary advance, regulatory, and warning signs; barricades and channelizing devices at intersections and on streets where traffic is to be maintained; barricades at the ends of the project and at right-of-way lines of intersecting streets, and traffic control devices for moving construction operations.

MATERIALS

The materials and equipment shall meet the requirements specified in the corresponding sections of the MDOT 2012 Standard Specifications for Construction and the 2011 MMUTCD.

Maintenance of Local Traffic

Unless otherwise indicated on the plans, all side roads shall not be closed to through traffic except during construction operations of short duration and only upon written approval of the Engineer.

Local access shall be maintained at all times for emergency vehicles, refuse pick-up, mail delivery, school buses, and ingress/egress to public and private properties.

Contractor must accommodate the safe access to the residential buildings and businesses located within construction area.

Driveways shall not be blocked for extended periods of time unless arrangements can be made with the affected property owner(s). When it becomes necessary to temporarily block driveways, the Contractor shall notify the affected property owners in advance to coordinate the work and allow sufficient time for vehicles to vacate from properties. It may be necessary to allow for vehicles to temporarily park in the roadway at locations that do not interfere with the Contractor's work. During these periods the owners of the respective vehicles must be available to, with proper notice, move their vehicles if it becomes necessary to accommodate the work.

At times, when it becomes necessary to temporarily obstruct local traffic during the performance of the work, the Contractor shall provide traffic regulator control in conformance with Chapter 6E of the MMUTCD, Sections 6E.01 thru 6E.08. A minimum of two traffic regulators are required. The cost of traffic regulator control shall be included in the contract pay item "Minor Traffic Control, Modified, Maximum \$ ____".

A lane-closure permit shall be obtained by the Contractor from the Project Management Services Unit, at least 48 hours in advance of any proposed lane or street closing.

No lane closures shall be permitted during the Labor Day and Memorial Day holiday periods, as defined by the Engineer.

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**DETAILED SPECIFICATION
FOR
MAINTENANCE OF TRAFFIC**

2 of 2

The hours of work on all Local streets are 7:00 a.m. to 8:00 p.m., Monday through Saturday, or as specified on the lane-closure permit. No equipment will be allowed in the street before or after these hours. Local streets may only be closed to through traffic (local access only) with written authorization of the Engineer. Work must be completed each day such that all streets are re-opened to through traffic by 8:00 p.m. unless otherwise specified, directed, or authorized in writing by the Engineer. All major changes in traffic control shall be made either between 9:30 a.m. and 3:30 p.m. or between 7:00 p.m. and 6:30 a.m. in order to minimize interference with rush-hour traffic. All traffic controls must be in-place and ready for traffic each day by 6:30 a.m. and 3:30 p.m.

The Contractor shall temporarily cover conflicting traffic and/or parking signs when directed by the Engineer.

The Contractor shall use quantities of dust palliative, maintenance aggregate, and cold patching/HMA mixtures for use as temporary base, surfacing, and dust control at utility crossings, side roads and driveways (wherever required to maintain traffic), and where directed by the Engineer to maintain local access. The cost for the use of dust palliative, maintenance aggregate, cold patch and/or hot mix asphalt 36A mixture, as required and directed by the Engineer for maintenance of traffic and local access, shall be included in contract pay item "General Conditions, Modified, Maximum, \$____", and it will not be paid for separately.

The work of maintaining and relocating existing warning, regulatory and/or guide signs; and of removing, salvaging and reinstalling existing signs and supports is included in the bid price for the contract pay item "Minor Traffic Control, Modified, Maximum \$____".

Mailboxes and newspaper boxes that are in the way of the construction shall be removed and reset immediately in a temporary location approved by the Engineer. Mail and paper delivery shall not be interrupted during the construction. Upon completion of the construction, all mailboxes and newspaper boxes, including their supports, shall be repositioned in their permanent locations as approved by the Engineer. This work shall be included the contract unit price for the contract pay item "General Conditions, Modified, Maximum, \$____", and it will not be paid for separately.

The Contractor shall perform the work of this Contract while maintaining traffic in accordance with the Contract Documents as specified herein. No traffic shall be allowed on newly placed asphalt surfaces until rolling has been satisfactorily completed and the surface has cooled sufficiently to prevent damage from traffic. This is to be accomplished by flag persons and by relocating traffic control devices to prevent traffic from entering the work area until such time that it can be safely maintained without damaging the new construction. The Contractor shall provide traffic regulators in sufficient number to maintain traffic as described herein, and to keep traffic off sections being surfaced, and provide for safe travel at all times as directed by the Engineer.

The Contractor shall furnish, erect, maintain, and upon completion of the work, remove any and all traffic control devices utilized on the project.

Each pressure distributor, paver and roller shall be equipped with at least one approved flasher light which shall be mounted on the equipment so as to give a warning signal ahead and behind.

**DETAILED SPECIFICATION
FOR
CONSTRUCTION SEQUENCING**

1 of 1

The Contractor must submit a detailed progress schedule at the Pre-construction meeting which is to be approved by the Engineer. Unless an alternative sequence is requested by the Contractor and approved in writing by the Engineer, the work shall be performed in the order as shown on the schedule. This outline does not detail the full range of materials and processes needed to complete the work under this Contract. At each location the Contractor shall:

1. Install required temporary traffic control devices in accordance with the construction plans, as detailed in the specifications, and as directed by the Engineer.
2. Install the soil erosion and sedimentation control measures in accordance with the plans and as directed by the Engineer.
3. Remove trees and vegetation in accordance with the plans and as directed by the Engineer.
4. Sawcut and remove; asphalt pavement, concrete curb and gutter, concrete sidewalk, and asphalt/concrete driveway approaches as in accordance with the plans and as directed by the Engineer. Leave existing pavement in place that is required for maintenance of traffic during sanitary sewer construction as directed by the Engineer.
5. Install sanitary sewer, manholes, and service leads in accordance with the plans and as directed by the Engineer.
6. Test sanitary sewers in accordance with City of Ann Arbor Standard Specifications for Construction, and upon completion of successful testing perform video inspection of sewers and service leads.
7. Remove pavement needed for maintenance of traffic as directed by the Engineer.
8. Excavate existing soils to the proposed subgrade limit. Shape, grade and compact subgrade soil in preparation for placement of sand subbase.
9. Place and compact; sand subbase and aggregate base courses in accordance with the plans and as directed by the Engineer.
10. Prepare aggregate base for proposed concrete curb and gutter, sidewalk and driveway approaches.
11. Prior to concrete placement, conduct pre-production meeting to discuss logistics of work (i.e., cure time requirements, placement of driveway approaches in conjunction with curb or one day immediately following, maintenance of pedestrian traffic on one side of street at minimum at all times, protection of work, etc.)
12. Place concrete items (curb and gutter, sidewalk, driveway approaches) in accordance with the plans, as discussed at the pre-production meeting, and as directed by the Engineer.
13. Finish grade aggregate base course, and place HMA base and/or leveling course pavement.
14. Adjust structures in roadway to finish grade elevation.
15. Place HMA top course pavement.
16. Place aggregate shoulders and driveway approaches, and permanent pavement markings.
17. Perform final cleanup and restoration.
18. Remove temporary soil erosion and sedimentation control measures, and all temporary traffic control devices.

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**DETAILED SPECIFICATION
FOR
ITEM #200 – GENERAL CONDITIONS, MODIFIED, MAXIMUM \$15,000**

1 of 2

DESCRIPTION

This item shall include all work described and required by the Plans and Specifications at each location for which no item of work is listed in the Bid Form, including but not limited to:

- Scheduling and organization of all work, subcontractors, suppliers, testing, inspection, surveying, and staking.
- Coordination of, and cooperation with, other contractors, agencies, departments, and utilities.
- Protection and maintenance of utilities.
- Placing, maintaining, and removing all soil erosion and sedimentation controls, including stone inlets filers (as shown on project plants).
- Maintaining drainage.
- Maintaining driveways drive openings, sidewalks, bike paths, mail deliveries, and solid waste/recycle pick-ups. This includes the placement and maintenance of gravel in driveway openings as directed by the Engineer.
- Storing all materials and equipment off lawn areas.
- Temporary relocation and final replacement/re-setting of mailboxes.
- Site clean-up.
- Coordination efforts to furnish various HMA mixtures as directed by the Engineer
- Coordination efforts to furnish and operate various-size vehicles/equipment as directed by the Engineer
- Furnishing and operating vacuum-type street cleaning equipment a minimum of once per week or more frequently as directed by the Engineer
- Furnishing and operating vacuum-type utility structure cleaning equipment
- Furnishing and operating both vibratory plate and pneumatic-type (“pogo-stick”) compactors
- Furnishing and operating a backhoe during all work activities
- Furnishing and operating a jackhammer and air compressor during all work activities
- Noise and dust control
- Mobilization(s) and demobilization(s).
- Furnishing submittals and certifications for materials and supplies
- Disposing of excavated materials and debris - The Contractor shall dispose of, at the Contractor’s expense, all excavated material. Costs for this work will not be paid for separately.
- All miscellaneous and incidental items such as overhead, insurance, and permits.
- Meeting all requirements relating to Debarment Certification, Davis Bacon Act, and Disadvantaged Business Enterprise, and providing the necessary documentation.

Data pertaining to existing soil borings and pavement sections which are included in Appendix B, of these Contract Documents are provided to help the Engineer and Contractor determine the soil conditions existing within the construction area. The City in no way guarantees existing conditions to be the same as shown in the data. The Contractor is solely responsible for any and all conclusions he/she may draw from the data.

Quantities as given are approximate and are estimated for bidding purposes. Quantities are not guaranteed and may vary by any amount. While it is the City's intent to complete the project substantially as drawn and specified herein, quantities may be changed or reduced to zero for cost savings or other reasons. **The City reserves the right to change the quantities, and no adjustment in unit price will be made for any change in any quantity.**

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**DETAILED SPECIFICATION
FOR
ITEM #200 – GENERAL CONDITIONS, MODIFIED, MAXIMUM \$15,000**

2 of 2

MEASUREMENT AND PAYMENT

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

The completed work as measured for this item of work will be paid for at the Contract Unit Price for the following Contract (Pay) Item:

PAY ITEM

PAY UNIT

General Conditions, Modified, Maximum \$15,000

Lump Sum

The unit price for this item of work shall include all labor, material, and equipment costs to perform all the work specified in the Standard Specifications and as modified by this Detailed Specification.

**DETAILED SPECIFICATION
FOR
ITEM #201 - PROJECT SUPERVISION, MODIFIED, MAXIMUM \$10,000**

1 of 3

DESCRIPTION

The Contractor shall designate a full-time Project Supervisor to act as the Contractor's agent/representative, and to be responsible for scheduling and coordination of all subcontractors, suppliers, other governmental agencies, and all public and private utility companies.

The Project Supervisor shall not be an active crew member of the Contractor, shall not be an active member or employee of any subcontractor's work force, and shall not perform general or specialized labor tasks.

The Project Supervisor shall work exclusively on this project, and shall put forth his/her full effort into the organization and coordination of the work of this project.

Prior to the pre-construction meeting, the Contractor shall designate a proposed Project Supervisor by name, and shall furnish the City with a current, thorough, detailed summary of the proposed Project Supervisor's work history, outlining all previous supervisory experience on projects of a similar size and nature. The detailed work history shall include personal and professional references (names and phone numbers) of persons (previous owners or agents) who can attest to the qualifications and work history of the proposed Project Supervisor. Proposed candidates for Project Supervisor shall have a demonstrated ability to work harmoniously with the City, the public, subcontractors, and all other parties typically involved with work of this nature. The Supervising Professional will have the authority to reject a proposed Project Supervisor whom he/she considers unqualified.

The Project Supervisor shall be available 24 hours-per-day to provide proper supervision, coordination and scheduling of the project for the duration of the Contract. The Contractor shall furnish the City with telephone numbers of the Project Supervisor in order to provide 24 hour-per-day access during business and non-business hours, including weekends and holidays.

The Project Supervisor shall be equipped by the Contractor with a mobile telephone to provide the City with 24 hour-per-day access to him/her during daily construction activities, during transit to and from the construction site, and during all non-business hours including weekends and holidays.

The Project Supervisor shall be equipped with assistants as necessary to provide project supervision as specified herein, and in accordance with the Contract.

DUTIES AND RESPONSIBILITIES

The Project Supervisor work harmoniously with the City, the public, subcontractors, and all other parties typically involved with work of this nature.

The Project Supervisor shall have a thorough, detailed understanding and working knowledge of all construction practices and methods specified elsewhere herein, as well as the handling, placement, testing and inspection of aggregates, aggregate products, HMA concrete, and Portland cement concrete materials.

The Project Supervisor shall be responsible for all of the work of all of the Contractor's, subcontractors' and suppliers' work forces.

**DETAILED SPECIFICATION
FOR
ITEM #201 - PROJECT SUPERVISION, MODIFIED, MAXIMUM \$10,000**

2 of 3

The Project Supervisor shall be responsible for proper and adequate maintenance (emissions, safety, and general operation) of all of the Contractor's, subcontractors' and suppliers' equipment and vehicles.

The Project Supervisor shall be responsible for the legal, proper and safe parking/storage of all of the Contractor's, subcontractors' and suppliers' equipment, work vehicles, and employee's vehicles.

The Project Supervisor shall schedule and coordinate the work of all parties involved in the project, including utility companies, testing agencies, governmental agencies, all City departments (such as Utilities and Transportation), and City inspectors.

The Project Supervisor shall coordinate and schedule the work of any independent survey crews that may be retained by the City to witness and reset existing and new geographic/benchmark monuments. Failure to have existing monuments witnessed and reset may result in delays to the Contractor's work. Costs for such delays will be the Contractor's sole responsibility.

The Project Supervisor shall coordinate and schedule both testing inspectors and City inspectors in a timely manner, to assure proper and timely testing and inspection of the work.

The Project Supervisor shall review the Inspector's Daily Reports (IDRs) for accuracy, and shall sign all IDRs on a daily basis as the representative of the Contractor. Items to be reviewed include descriptions, locations and measurements of quantities of work performed, workforce, equipment, and weather. The Project Supervisor shall also be responsible for its subcontractors' review and initialing of IDRs containing work items performed by each respective subcontractor.

The Project Supervisor shall submit to the Engineer, an updated, detailed schedule of the proposed work on a weekly basis, and an update of all proposed changes on a daily basis, all in accordance with the Detailed Specification for Project Schedule contained elsewhere herein.

The Project Supervisor shall schedule and chair a weekly progress meeting with the Engineer and all subcontractors to discuss the work. Upon the completion of each meeting, the Project Supervisor shall prepare and distribute, to all present, a written summary of the meeting's minutes. Those in attendance shall review the minutes and, if necessary, comment on any deficiencies or errors prior to or at the next scheduled progress meeting.

ADDITIONAL PERFORMANCE REQUIREMENTS

If, in the sole opinion of the Supervising Professional, the Project Supervisor is not adequately performing the duties as outlined in this Detailed Specification, the following system of notices will be given to the contractor with the associated penalties:

First Notice – A warning will be issued in writing to the contractor detailing the deficiencies in the Project Supervision. The contractor must respond within 7 calendar days in writing with a plan to correct the stated deficiencies. Failure to respond within 7 calendar days will result in the issuing of a second notice.

**DETAILED SPECIFICATION
FOR
ITEM #201 - PROJECT SUPERVISION, MODIFIED, MAXIMUM \$10,000**

3 of 3

Second Notice – A second warning will be issued in writing to the contractor further detailing the deficiencies in the Project Supervision. The contractor must respond within 7 calendar days in writing with a plan to correct the stated deficiencies. Failure to respond within 7 calendar days will result in the issuing of a third notice. A deduction of 10% will be made from the original Project Supervision contract amount. At this time, the City reserves the right to meet with personnel with the necessary authority within the Contractor’s organization to discuss the deficiencies in the Project Supervision.

Third Notice – An additional deduction of 25% will be made from the original Project Supervision contract amount, and the Project Supervisor shall be removed from the project, and replaced immediately with another individual to be approved by the Supervising Professional.

Should, in the sole opinion of the Supervising Professional, the Project Supervisor fail to perform his/her duties and responsibilities as described herein to such a degree that the successful completion of the project is put in jeopardy, the above system of notices may be foregone, and the Contractor shall immediately replace the Project Supervisor upon receipt of written notice. Failure to provide adequate project supervision, as determined by the Engineer, shall be considered basis for the Supervising Professional to suspend work without extension of contract time or additional compensation.

MEASUREMENT AND PAYMENT

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

The completed work as measured for this item of work will be paid for at the Contract Unit Price for the following Contract (Pay) Item:

PAY ITEM

PAY UNIT

Project Supervision, Maximum \$10,000

Lump Sum

The unit price for this item of work shall include all labor, material, and equipment costs to perform all the work specified in the City Standard Specifications and as modified by this Detailed Specification.

**DETAILED SPECIFICATION
FOR
ITEM #202 – AUDIO VISUAL TAPE COVERAGE, MODIFIED**

1 of 3

DESCRIPTION

This work shall include digital audiovisual record of the physical, structural, and aesthetic conditions of the construction site and adjacent areas as provided herein. This work will be performed for the entire project limits prior to the start of construction.

The audio-visual filming shall be:

1. Of professional quality, providing a clear and accurate audio and visual record of existing conditions.
2. Prepared within the one (1) week period immediately prior to the start of construction.
3. Furnished to the Engineer prior to bringing any materials or equipment within the areas described in this Detailed Specification.
4. Carried-out under the supervision of the Engineer.

The Contractor shall furnish one (1) copy of the completed audiovisual record to the Engineer. An index of the footage shall be included, which will enable any particular area of the project to be easily found. **This includes indexing the files according to street and Station number as applicable.** The Contractor shall retain a second copy of the audiovisual record for his/her own use.

Any portion of the film determined by the Engineer to be unacceptable for the documentation of existing conditions shall be filmed again at the Contractor's sole expense prior to mobilizing onto the site.

PRODUCTION

The audio-visual filming shall be completed in accordance with the following minimum requirements:

1. DVD Format, No Editing - The filming shall be done in color using equipment that allows audio and visual information to be recorded. Splicing or editing of the tape shall not be allowed and the speed and electronics of the videotaping equipment and DVD shall be equal to that which is standard to the videotaping industry.
2. Perspective / Speed / Pan / Zoom - To ensure proper perspective, the distance from the ground to the camera lens shall not be less than 10 feet and the filming must proceed in the general direction of travel at a speed not to exceed 48 feet per minute. Pan and zoom rates shall be controlled sufficiently so that playback will ensure quality of the object viewed.
3. Display - The recording equipment shall have transparent time, date stamp and digital annotation capabilities. The final copies of the tape shall continuously and simultaneously display the time (hours:minutes:seconds) and the date (month/date/year) in the upper left-hand corner of the frame. Accurate project stationing, where applicable, shall be included in the lower half of the frame in standard format (i.e. 1+00). Below the stationing periodic information is to be shown, including project name, name of area shown, street address, direction of travel, viewing direction, etc. If in the event, the stationing has not been established on-site, refer to the plans and approximate the proposed stationing.

**DETAILED SPECIFICATION
FOR
ITEM #202 – AUDIO VISUAL TAPE COVERAGE, MODIFIED**

2 of 3

4. Audio Commentary / Visual Features. Locations relative to project limits and landmarks must be identified by both audio and video means at intervals no longer than 100 feet along the filming route. Additional audio commentary shall be provided as necessary during filming to describe streets, buildings, landmarks, and other details, which will enhance the record of existing conditions.
5. Visibility / Ground Cover - The filming shall be performed during a time of good visibility. Filming shall not be performed during periods of precipitation or when snow, leaves, or other natural debris obstruct the area being filmed. The Contractor shall notify the Engineer in writing in the event that the weather or snow cover is anticipated to cause a delay in filming.

COVERAGE

The audio-visual film coverage shall include the following:

1. General Criteria - This general criteria shall apply to all filming and shall include all areas where construction activities will take place or where construction vehicles or equipment will be operated or parked and or where materials will be stored. The filming shall extend an additional 50 feet outside of all areas. The filming shall include all significant, existing man-made and natural features such as driveways, sidewalks, utility covers, utility markers, utility poles, other utility features, traffic signal structures and features, public signs, private signs, fences, landscaping, trees, shrubs, other vegetation, and other similar or significant features.
2. Other Areas - The Contractor shall film at his sole expense other areas where, in his/her opinion, the establishment of a record of existing conditions is warranted. The Contractor shall notify the Engineer in writing of such areas.

The Engineer may direct the filming of other minor areas not specified herein at the Contractor's sole expense.

AUDIOVISUAL FILMING SERVICES

The following companies are known to be capable of providing the filming services required by this Detailed Specification and shall be utilized, unless the Contractor receives prior written approval from the Engineer to utilize another company of comparable or superior qualifications.

Construction Video Media
Midwest Company
Topo Video, Inc.
Video Media Corp.

MEASUREMENT AND PAYMENT

The completed work as measured for these items of work will be paid for at the Contract Unit Prices for the following Contract (Pay) Items:

<u>PAY ITEM</u>	<u>PAY UNIT</u>
Audiovisual Tape Coverage, Modified	Lump Sum

**DETAILED SPECIFICATION
FOR
ITEM #202 – AUDIO VISUAL TAPE COVERAGE, MODIFIED**

3 of 3

Audiovisual Tape Coverage shall include all labor, equipment, and materials required to perform the filming and to provide the finished videotape the Engineer. The unit price includes filming the entire project limits, for each and every street, as described above.

**DETAILED SPECIFICATION
FOR
ITEM #203 – MINOR TRAFFIC CONTROL, MODIFIED, MAXIMUM \$2,500**

1 of 5

DESCRIPTION

The work shall include, but is not limited to the following:

- The furnishing and operating of miscellaneous signs, warning devices, traffic regulators, flags, paddles, and cones;
- The operation of additional signs furnished by the City;
- Furnishing and installing meter bags;
- Coordinating with the City to have meter heads removed and reinstalled;
- Maintaining pedestrian traffic;
- Temporarily covering traffic controls;
- Temporarily covering existing signs as directed;
- Any and all other miscellaneous and/or incidental items which are necessary to properly perform the work.

This work shall consist of protecting and maintaining vehicular and pedestrian traffic, in accordance with Sections 104.11 and 812 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction; Part 6 of the 2011 Edition of the Michigan Manual of Uniform Traffic Control Devices (MMUTCD); and the City of Ann Arbor Standard Specifications for Construction, except as modified herein.

MATERIALS, EQUIPMENT, AND CONSTRUCTION METHODS

Materials and equipment shall meet the requirements specified in the above designated sections of the MDOT 2012 Standard Specifications for Construction.

The Contractor shall maintain two-way traffic on major streets, access for local traffic on local streets, and keep all intersections open to traffic at all times, unless specifically authorized in writing by the Engineer.

The Contractor shall maintain traffic such that no vehicle shall be required to drive into active work areas. Patch areas which extend more than halfway across the roadway shall be removed and replaced so as to provide a minimum of half the pavement width at all times for maintaining traffic.

The Contractor shall keep all driveways open at all times, unless specifically authorized in writing by the Engineer.

The Contractor shall maintain pedestrian traffic at all times. For maintaining normal pedestrian traffic while performing sidewalk and driveway repair, Plastic Drum, High Intensity, Lighted shall be placed by the Contractor as directed by the Engineer. The Contractor, when directed by the Engineer, shall place "Sidewalk Closed" and/or "Cross Here" signs and the cost shall be included in this pay item and will not be paid for separately.

All temporary traffic/pedestrian control devices furnished by the Contractor shall remain the property of the Contractor. The City shall not be responsible for stolen or damaged signs, barricades, barricade lights or other traffic maintenance items. The Contractor shall replace missing traffic control devices immediately, at no additional cost to the Contractor or City.

**DETAILED SPECIFICATION
FOR
ITEM #203 – MINOR TRAFFIC CONTROL, MODIFIED, MAXIMUM \$2,500**

2 of 5

All existing signs, and signs erected by the City of Ann Arbor on this project shall be preserved, protected, and maintained by the Contractor. The City will repair any existing City owned signs, at the Contractor's expense, which are damaged by the Contractor during the work.

The Contractor shall obtain a Traffic Detour or Lane Closure Permit from the City's Project Management Services Unit, at least 48 hours in advance of any proposed lane or street closing.

Traffic on major streets should not be impacted between the hours of 7:00 a.m. to 9:00 a.m. and from 3:30 p.m. to 6:00 p.m. without written permission from the Engineer or as specified on the Lane Closure Permit. All major changes in traffic control shall be made either between 9:00 a.m. and 3:30 p.m. or between 7:00 p.m. and 6:30 a.m. in order to minimize interference with rush hour traffic. All traffic controls must be in place and ready for traffic each day by 6:30 a.m. and 3:30 p.m.

The hours of work on all local streets are 7:00 a.m. to 8:00 p.m., Monday through Saturday, or as specified on the Lane Closure Permit. No equipment will be allowed in the street before or after these hours. Local streets may only be closed to through traffic (local access only) with written authorization of the Engineer. Work must be completed each day such that all streets are re-opened to through traffic by 8:00 p.m. unless otherwise specified, directed, or authorized in writing by the Engineer.

The Contractor shall temporarily cover conflicting traffic and/or parking signs when directed by the Engineer.

Parking violation citations issued to the Contractor, subcontractor, and material suppliers including each of their respective employees shall be enforced under appropriate City Code.

The Contractor shall replace missing or damaged traffic control devices as directed by the Engineer. When traffic control devices have been damaged by, or due to, the negligence of the Contractor, its subcontractors or material suppliers, the traffic control devices shall be replaced at the Contractor's expense.

The work for Minor Traffic Control, Modified shall include: furnishing and operating of miscellaneous signs and warning devices; furnishing cones; operating additional signs furnished by the City throughout the life of the Contract; furnishing and operating pedestrian traffic control devices; maintaining a safe trench during all non-working hours; maintaining access to all drives; covering conflicting existing signs and removal of these covers; and any and all other miscellaneous and/or incidental items which are necessary to properly perform the work.

Where there is metered parking, the Contractor shall either rent and install meter bags, or, with the Engineer's authorization, coordinate with the City Field Services to have meter heads removed and reinstalled.

The Contractor shall maintain vehicular and pedestrian traffic during the work by the use of traffic regulators, channelizing devices and signs as necessary, as directed by the Engineer, and in accordance with 2011 Edition of the MMUTCD. Typical applications for maintaining pedestrian traffic in accordance with the 2011 Edition of the MMUTCD are included in this detailed specification.

**DETAILED SPECIFICATION
FOR
ITEM #203 – MINOR TRAFFIC CONTROL, MODIFIED, MAXIMUM \$2,500**

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In order to maintain areas of on-street parking available for residents, the Engineer may direct the contractor to cover and uncover temporary “No Parking” signs within the project limits multiple times throughout the course of the project. Such repeated covering and uncovering of signs shall be included in this item of work and shall not be paid for separately.

MEASUREMENT AND PAYMENT

All temporary traffic/pedestrian control devices furnished by the Contractor shall remain the property of the Contractor. The City shall not be responsible for stolen or damaged signs, barricades, barricade lights or other traffic maintenance items. The Contractor shall replace missing traffic control devices immediately, at no additional cost to the City.

Costs for transporting barricades and other temporary traffic control devices shall be included in the bid prices for the individual items of work.

Minor Traffic Control, Modified, Maximum \$2,500 will be paid for on a pro rata basis with each progress payment. Measurement will be based on the ratio between work completed during the payment period and the total contract amount. When all of the work of this Contract has been completed, the measurement of this item shall be 1.0 Lump Sum minus any deductions incurred for inadequate performance as described herein. This amount will not be increased for any reason, including extensions of time, extras, and/or additional work.

The completed work as measured for these items of work will be paid for at the Contract Unit Price for the following Contract (Pay) Items:

PAY ITEM

PAY UNIT

Minor Traffic Control, Modified, Maximum \$2,500

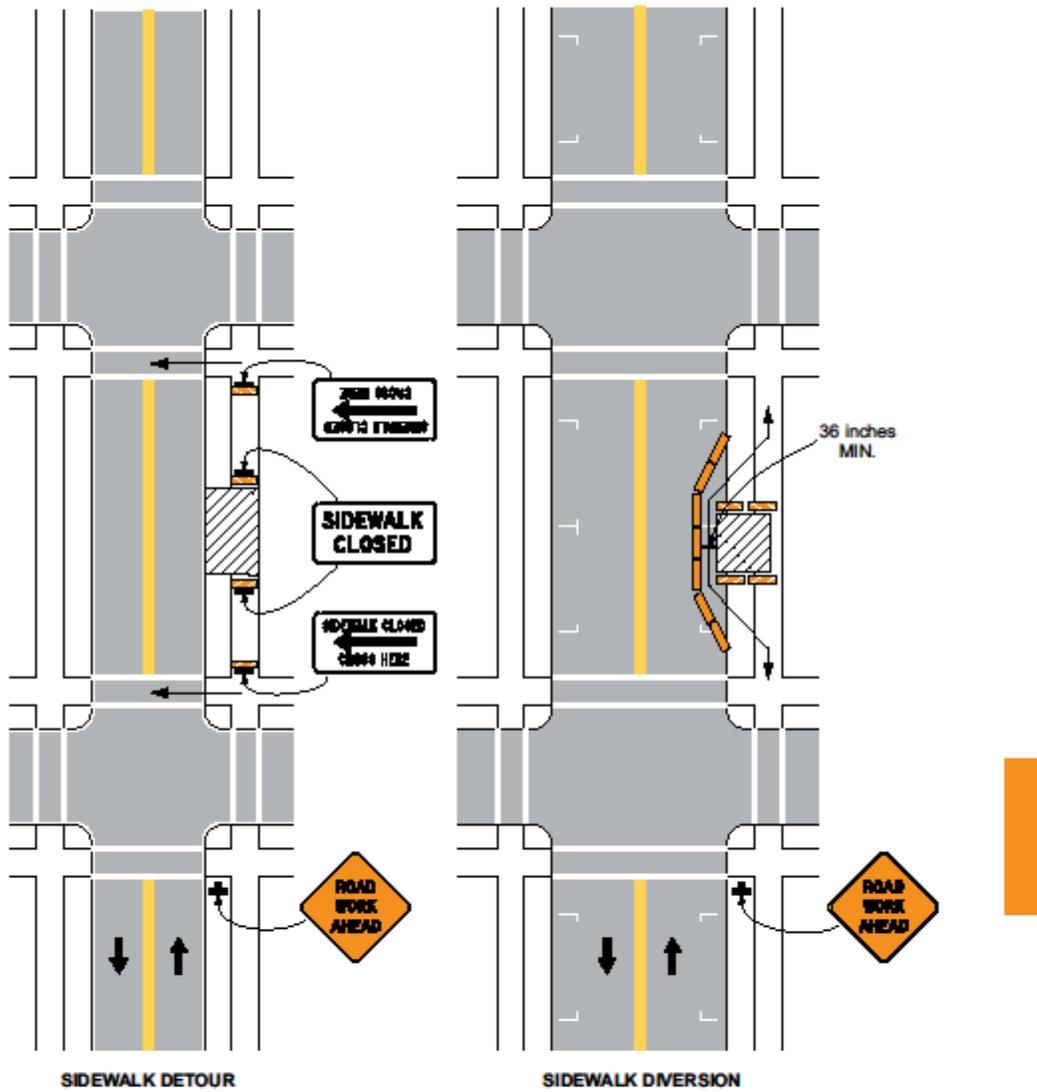
Lump Sum

The unit price for this item of work shall include all labor, material, and equipment costs to perform all the work specified in the MDOT and City Standard Specifications for Construction, and as modified by this Detailed Specification.

**DETAILED SPECIFICATION
FOR
ITEM #203 – MINOR TRAFFIC CONTROL, MODIFIED, MAXIMUM \$2,500**



Figure 6H-28. Sidewalk Detour or Diversion (TA-28)

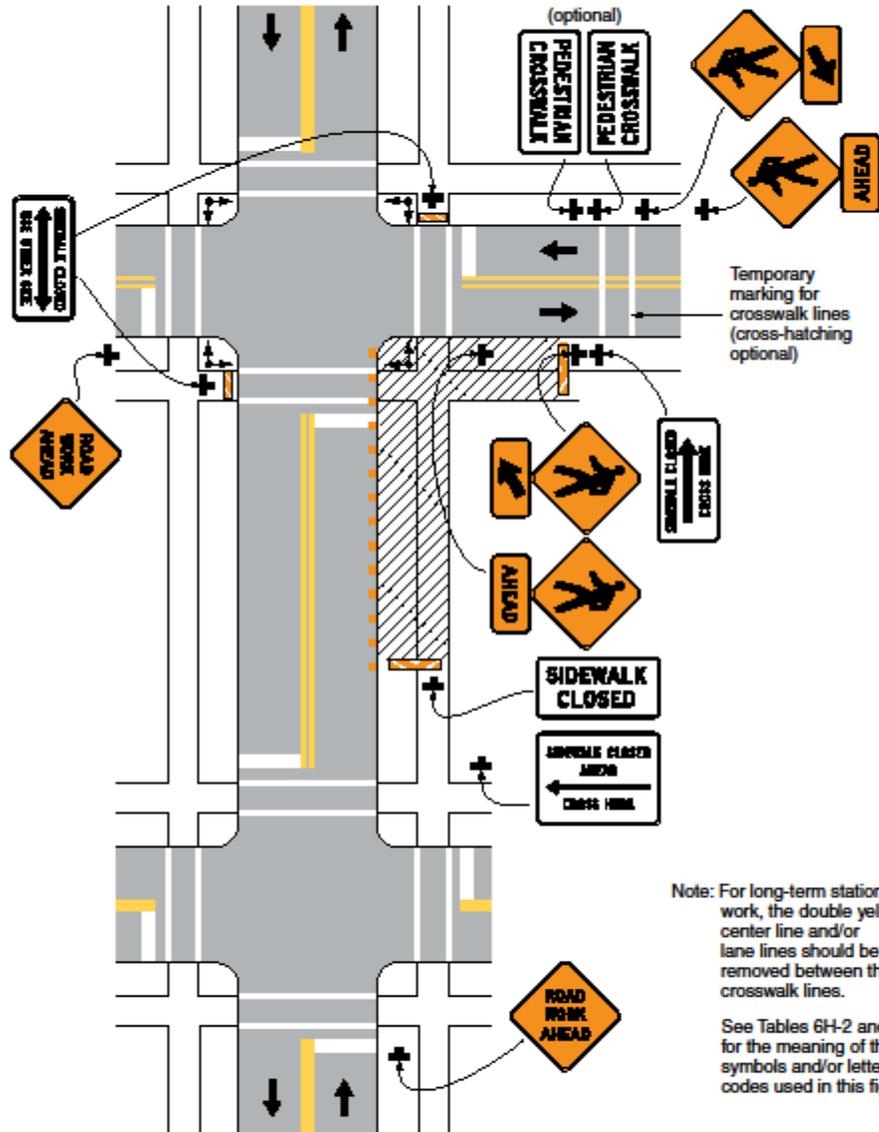


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Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

**DETAILED SPECIFICATION
FOR
ITEM #203 – MINOR TRAFFIC CONTROL, MODIFIED, MAXIMUM \$2,500**

Figure 6H-29. Crosswalk Closures and Pedestrian Detours (TA-29)



Typical Application 29

**DETAILED SPECIFICATION
FOR
ITEMS #204/205 – BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED,
LIGHTED, FURN/OPER
ITEMS #206/207 – CHANNELIZING DEVICE, 42 INCH, FURN/OPER
ITEMS #208/209 – PLASTIC DRUM, HIGH INTENSITY, LIGHTED, FURN/OPER
ITEMS #210/211 – SIGN, TYPE B, TEMP, PRISMATIC, FURN/OPER
ITEMS #212/213 – SIGN, TYPE B, TEMP, PRISMATIC, SPECIAL, FURN/OPER
ITEMS #214/215 – SIGN, PORTABLE, CHANGEABLE MESSAGE, FURN/OPER**

1 of 3

DESCRIPTION

This work shall consist of protecting and maintaining vehicular and pedestrian traffic in accordance with Sections 140.11, 812, and 922 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction; Part 6 of the 2011 Edition of the Michigan Manual of Uniform Traffic Control Devices (MMUTCD); and the City of Ann Arbor Standard Specifications for Construction, except as modified herein.

MATERIALS, EQUIPMENT, AND CONSTRUCTION METHODS

Materials and equipment shall meet the requirements specified in the above designated sections of the MDOT 2012 Standard Specifications for Construction.

The Contractor shall maintain traffic such that no vehicle shall be required to drive into active work areas. Patch areas which extend more than halfway across the roadway shall be removed and replaced so as to provide a minimum of half the pavement width at all times for maintaining traffic.

The Contractor shall maintain pedestrian traffic at all times. For maintaining normal pedestrian traffic while performing sidewalk and driveway repair, Type III Barricades and/or Plastic Drums shall be placed by the Contractor, as directed by the Engineer. "Sidewalk Closed" and/or "Cross Here" signs shall be placed, by the Contractor, when directed by the Engineer.

All temporary traffic/pedestrian control devices furnished by the Contractor shall remain the property of the Contractor. The City shall not be responsible for stolen or damaged signs, barricades, barricade lights or other traffic maintenance items. The Contractor shall replace missing traffic control devices immediately, at no additional cost to the City.

All existing signs, and signs erected by the City of Ann Arbor on this project shall be preserved, protected, and maintained by the Contractor. Existing City owned signs which are damaged by the Contractor during the work will be repaired by the City at the Contractor's expense.

Parking violation citations issued to the Contractor, subcontractor, and material suppliers including each of their respective employees shall be enforced under appropriate City Code.

The Contractor shall replace missing or damaged traffic control devices, as directed by the Engineer. When traffic control devices have been damaged by, or due to, the negligence of the Contractor, his subcontractors or material suppliers, the traffic control devices shall be replaced at the Contractor's expense.

Lighted Plastic Drums, Type III Barricades, and Type B Temporary Signs

The Contractor shall furnish and operate these items as directed by the Engineer. Type III Barricades shall have standard orange-and-white stripes on both sides of the barricade.

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**DETAILED SPECIFICATION
FOR
ITEMS #204/205 – BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED,
LIGHTED, FURN/OPER
ITEMS #206/207 – CHANNELIZING DEVICE, 42 INCH, FURN/OPER
ITEMS #208/209 – PLASTIC DRUM, HIGH INTENSITY, LIGHTED, FURN/OPER
ITEMS #210/211 – SIGN, TYPE B, TEMP, PRISMATIC, FURN/OPER
ITEMS #212/213 – SIGN, TYPE B, TEMP, PRISMATIC, SPECIAL, FURN/OPER
ITEMS #214/215 – SIGN, PORTABLE, CHANGEABLE MESSAGE, FURN/OPER**

2 of 3

Sufficient signs shall be provided by the Contractor to insure the safety of the workers and the general public in accordance with the 2011 Edition of the MMUTCD.

"Construction Ahead" warning signs shall be placed, as indicated on the Plans, or as directed by the Engineer, prior to the start of work, regardless of the nature, magnitude or duration of the work.

MEASUREMENT AND PAYMENT

All temporary traffic control devices furnished by the Contractor shall remain the property of the Contractor. The City shall not be responsible for stolen or damaged signs, barricades, barricade lights or other traffic maintenance items. The Contractor shall replace missing traffic control devices immediately, at no additional cost to the City.

Costs for transporting barricades and other temporary traffic control devices shall be included in the bid prices for the individual items of work.

Barricade, Type III, High Intensity, Double Sided, Lighted, Furn/Oper

Payment for furnishing and operating lighted Type III barricades shall be for the maximum quantity in-place at any one time during the work of the entire project (all streets).

Channelizing Device, 42 inch, Furn/Oper

There will be a one-time payment for each street for the maximum number of channelizing devices in-place (operated) at any one time, as directed by the Engineer.

Plastic Drum, High Intensity, Lighted, Furn/Oper

There will be a one-time payment for each street for the maximum number of plastic drums in-place (operated) at any one time, as directed by the Engineer.

Sign, Type B, Temp, Prismatic, Furn/Oper and Sign, Type B, Temp, Prismatic, Special, Furn/Oper

Payment for temporary signs shall be for the maximum quantity used on each street.

Sign, Portable, Changeable Message, Furn/Oper

Payment for portable changeable message signs shall be for the maximum quantity used on each street.

**DETAILED SPECIFICATION
FOR
ITEMS #204/205 – BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED,
LIGHTED, FURN/OPER
ITEMS #206/207 – CHANNELIZING DEVICE, 42 INCH, FURN/OPER
ITEMS #208/209 – PLASTIC DRUM, HIGH INTENSITY, LIGHTED, FURN/OPER
ITEMS #210/211 – SIGN, TYPE B, TEMP, PRISMATIC, FURN/OPER
ITEMS #212/213 – SIGN, TYPE B, TEMP, PRISMATIC, SPECIAL, FURN/OPER
ITEMS #214/215 – SIGN, PORTABLE, CHANGEABLE MESSAGE, FURN/OPER**

3 of 3

The completed work as measured for these items of work will be paid for at the Contract Unit Price for the following Contract (Pay) Items:

<u>PAY ITEM</u>	<u>PAY UNIT</u>
Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	Each
Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	Each
Channelizing Device, 42 inch, Furn	Each
Channelizing Device, 42 inch, Oper	Each
Plastic Drum, High Intensity, Lighted, Furn	Each
Plastic Drum, High Intensity, Lighted, Oper	Each
Sign, Type B, Temp, Prismatic, Furn	Each
Sign, Type B, Temp, Prismatic, Oper	Each
Sign, Type B, Temp, Prismatic, Special, Furn	Each
Sign, Type B, Temp, Prismatic, Special, Oper	Each
Sign, Portable, Changeable Message, Furn	Each
Sign, Portable, Changeable Message, Oper	Each

**DETAILED SPECIFICATION
FOR
ITEM #216 – “NO PARKING” SIGN**

1 of 1

DESCRIPTION

This work shall consist of installing, maintaining and removing of "No Parking" signs and posts as outlined herein and as referenced on the plans. "No Parking" signs shall be installed in accordance with the Public Services Department Standard Specifications and the 2011 Michigan Manual of Uniform Traffic Control Devices (MMUTCD).

MATERIAL

All materials for this work shall conform to the requirements of the Public Services Department Standard Specifications.

CONSTRUCTION METHODS

Prior to the commencement of any construction activity, the Contractor shall place “No Parking” signs as directed by the Engineer. The Contractor shall obtain a permit for “Temporary Permission of Reserve Parking Lane for Work Related Purposes” from the City’s Project Management Services Unit. This permit shall be obtained a minimum of 5 business days prior to the posting of “No Parking” signs.

The City will furnish "No Parking" signs to the Contractor at no cost. The Contractor shall furnish the signposts and shall securely bolt the signs to the signposts as directed by the Engineer. The Contractor shall install the signposts at least two feet deep into the ground, and there shall be a minimum of six feet and maximum of seven feet of clearance maintained between the bottom of the sign and the ground. The signs are to be placed at intervals no more than 150 feet and as necessary to eliminate parking in the construction area.

The installation of "No Parking" signs shall be in accordance with the permit. "No Parking" signs shall be installed by the Contractor, as directed by the Engineer, at least 48 hours prior to the proposed start-of-work/enforcement date. "No Parking" signs shall be covered by the Contractor, thereby allowing on-street parking, until between 48 and 24 hours prior to the start of the work. "No Parking" signs shall be covered by the Contractor whenever there is no work being performed for a period of time longer than 72 hours. "No Parking" signs shall be returned to the City upon the completion of work. The cost of unreturned signs will be back charged to the Contractor.

MEASUREMENT AND PAYMENT

The unit price for this item of work shall include all labor, material, and equipment costs to perform all the work specified in the Standard Specifications and as modified by this Detailed Specification.

PAY ITEM

PAY UNIT

“No Parking” Sign

Each

"No Parking" signs will be measured as the maximum number installed on each street at any one time. The unit price includes the removal and return of "No Parking" signs to the City upon completion of the project. The Contractor shall be back charged for the replacement costs for damaged or unreturned signs.

**DETAILED SPECIFICATION
FOR
ITEM #217 – INLET FILTER, SPECIAL**

1 of 1

DESCRIPTION

This work shall consist of properly installing curb and gutter inlet filters, at locations indicated on the plans, and as directed by the Engineer, maintaining during the entire construction period, and removing at the end of construction. The curb and gutter inlet filters shall be constructed in accordance with the detailed plans.

MEASUREMENT AND PAYMENT

The unit price for this item of work shall include all labor, material, and equipment costs to perform all the work specified in the Standard Specifications, the project plans and as modified by this Detailed Specification.

Curb and gutter inlet filters will be paid for by the unit "Each". A filter will be paid for when initially installed at a particular structure. Payment will be for installing, maintaining, reinstalling, and, removing the filter at the end of construction and as directed by the Engineer.

PAY ITEM

Inlet Filter, Special

PAY UNIT

Each

**DETAILED SPECIFICATION
FOR
ITEM #218 - PAVT, REM**

1 of 2

DESCRIPTION

This work includes removal of HMA surface in accordance with Section 204 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications, except as modified herein, and as directed by the Engineer.

CONSTRUCTION METHOD

The Contractor shall remove HMA surfaces as shown on the Plans, as marked in the field, and as directed by the Engineer. The Engineer will measure the removal of HMA surface, any thickness, overlying a material designated for removal or that is required to remain in place, as Pavt, Rem. The Engineer will measure the removal of the underlying material separately.

If concrete or masonry pavements are encountered beneath the HMA surface being removed, the Engineer will measure each type of additionally encountered pavement at the unit price for Pavt, Rem.

Bricks/masonry units, if present, shall removed, salvaged, and neatly stacked/stockpiled by the Contractor, and later delivered by the Contractor to a City owned facility as directed by the Engineer.

The Contractor shall remove and properly dispose of all excavated material and debris, including all asphalt and concrete. The Contractor shall not stockpile excavated materials overnight on, or adjacent to, the site.

In areas where pavement removal is to be performed adjacent to existing pavement that is to remain in place, the pavement shall be sawcut prior to removal. Backhoe teeth, jackhammers equipped with spike points, milling machines, and backhoe mounted wheel cutters shall not be used.

Damage to adjacent pavement, pavement base, subbase, curb, curb and gutter, sidewalk, utility structures, or other site features, due to removal operations shall be repaired by the Contractor, at the Contractor's expense, as directed by the Engineer.

The Contractor shall remove pavements full depth unless other shown on the plans or directed by the Engineer.

The Contractor shall construct butt-joints, and trim butt-joints just prior to HMA paving as shown on the Plans, and as directed by the Engineer.

At various times throughout the work, the Engineer may direct the Contractor to use smaller and/or lighter equipment, and to defer certain work tasks, in order to protect the grade and/or adjacent areas. The Contractor shall not be entitled to any additional compensation for the use of smaller equipment, lighter equipment, or work task deferral.

MEASUREMENT AND PAYMENT

The areas to be removed shall be marked and measured prior to removal of any material. Measurement shall take place with both the Engineer and the Contractor (or their agents) present. Both parties shall come to an agreement regarding removal quantities prior to the actual removal of pavement.

**DETAILED SPECIFICATION
FOR
ITEM #218 - PAVT, REM**

2 of 2

The completed work as measured for these items of work will be paid at the Contract Unit Prices for the following Contract (Pay) Item:

PAY ITEM

PAY UNIT

Pavt, Rem

Square Yard

The unit prices for these items of work shall include all labor, material, and equipment costs to perform all the work specified in the Standard Specifications and as modified by this Detailed Specification.

**DETAILED SPECIFICATION
FOR
ITEM #219 - REMOVE CONCRETE CURB OR CURB & GUTTER –
ANY TYPE, MODIFIED
ITEM #220 - REMOVE CONCRETE SIDEWALK, RAMP AND DRIVES –
ANY THICKNESS, MODIFIED**

1 of 3

DESCRIPTION

This work shall consist of removing concrete curb, gutter, curb and gutter, integral curb, concrete pavement, sidewalk, sidewalk ramps, drive openings, and drive approach pavements as shown on the plans, as detailed in the Specifications, and as directed by the Engineer, in accordance with Section 204 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, except as specified herein, and as directed by the Engineer.

CONSTRUCTION METHODS

Curb, gutter, curb and gutter, sidewalk, sidewalk ramps, drive openings, and drives shall be replaced within 24 hours of their removal.

The Contractor shall remove concrete curb, gutter, curb & gutter, integral curb, pavement, sidewalk, sidewalk ramps, drive openings, and drives, all regardless of the type and thickness, and all as shown on the Plans, as detailed in the Specifications, and as directed by the Engineer.

Prior to the start of work, the Engineer and Contractor together shall identify and field measure all items to be removed. The Engineer shall approve of all removal limits prior to any removals being performed by the Contractor.

The Contractor shall perform full-depth saw cutting at removal limits, including those necessary to construct 2-foot wide MDOT Type M drive openings, and including those necessary to provide for the partial removal of existing drive approaches as shown on the Plans, as directed by the Engineer, and as marked for removal. The Contractor shall cut steel reinforcement bars as directed by the Engineer at all areas of removal. All saw cutting shall be performed under wet conditions to prevent excessive airborne dust. All resulting slurry and debris shall be cleaned up the satisfaction of the Engineer.

The Contractor shall excavate, cut, remove stumps, remove brush, grade, and trim as needed and as directed, and shall import, furnish, fill, place, grade, and compact granular material as needed to: construct new concrete items; to repair or replace existing concrete items; to relocate existing concrete items to their new specified/directed elevations/locations, including all necessary grading at elevation changes of curb and gutter, sidewalks and ramps; and at locations where existing concrete items are to be removed and turf is to be established in its place.

The Contractor shall coordinate with the City Forester prior to the removal of any tree roots.

At various times throughout the work, the Engineer may direct the Contractor to use smaller and/or lighter equipment, and to defer certain work tasks, in order to protect the grade and/or adjacent areas. The Contractor shall not be entitled to any additional compensation for the use of smaller equipment, lighter equipment, or work task deferral.

The Contractor shall shape, grade, and compact the existing roadbed materials to the cross-section(s) as indicated on the Plans, as detailed in the Specifications, and as directed by the Engineer.

**DETAILED SPECIFICATION
FOR
ITEM #219 - REMOVE CONCRETE CURB OR CURB & GUTTER –
ANY TYPE, MODIFIED
ITEM #220 - REMOVE CONCRETE SIDEWALK, RAMP AND DRIVES –
ANY THICKNESS, MODIFIED**

2 of 3

The Contractor shall use blade graders, maintainers, vibratory rollers, and/or other equipment as necessary, and as directed by the Engineer. The use of each specific piece of equipment is subject to the approval of the Engineer.

The Engineer may direct aggregate base materials to be either removed from or added to the job-site, to properly complete the work. Where the Engineer directs the addition of such materials, they shall be paid for as either the Item of Work: “Aggregate Base, ___ inch, Modified”. Where the Engineer directs such materials to be removed, they will not be paid for separately, but shall be included in the appropriate concrete removal item.

Concrete removal outside the edge-of-metal shall be paid for as the appropriate item of either “Remove Concrete Curb or Curb & Gutter - Any Type, Modified”, or “Remove Concrete Sidewalk, Ramp and Drives - Any Thickness, Modified”.

Where existing concrete curb or curb & gutter is to be replaced on a street with a concrete (or brick) base, the Engineer may direct the Contractor to remove a 1-to-2-foot wide, full-depth section of pavement and pavement base from immediately in front of the curb & gutter. As part of this pavement/base removal, the Contractor shall perform additional (double) full-depth saw-cutting along the entire removal limits, and shall take sufficient care so as not to damage and/or disturb any adjacent pavement, pavement base, and/or any other site feature, all as directed by the Engineer. The removals shall be to a sufficient width and depth to allow for the placement and removal of the curb & gutter formwork. After the removal of the formwork, the Contractor shall replace the concrete base to its original thickness and elevation(s).

Excavated/removal areas shall be adequately protected with barricades and/or fencing at all times.

Removed or excavated materials which are not incorporated into the work shall become the property of the Contractor and shall be immediately removed and properly disposed of off-site. Removed or excavated materials may not be stockpiled overnight on, or adjacent to, the site.

Subbase or subgrade materials removed without authorization by the Engineer shall be replaced and compacted by the Contractor at the Contractor's expense, with materials specified by the Engineer.

Sidewalk ramp removal shall be measured and paid for as “Remove Concrete Sidewalk, Ramp and Drives - Any Thickness, Modified”.

Integral curb and gutter that is removed as part of “Remove Concrete Pavement (Repair)” shall be measured and paid for by the square yard, along with the pavement removal quantity.

All sawcutting required for removals shall be included in the appropriate item of work, and will not be paid for separately. Payment for saw cutting to create or modify Type M openings and to allow for the partial removal of existing drives shall be included in the price of the item of work, “Remove Concrete Sidewalk, Ramp and Drives - Any Thickness, Modified”, and will not be paid for separately.

**DETAILED SPECIFICATION
FOR
ITEM #219 - REMOVE CONCRETE CURB OR CURB & GUTTER –
ANY TYPE, MODIFIED
ITEM #220 - REMOVE CONCRETE SIDEWALK, RAMP AND DRIVES –
ANY THICKNESS, MODIFIED**

3 of 3

MEASUREMENT AND PAYMENT

Concrete removal items shall be field measured and paid for at the Contract Unit Prices for their respective Contract (Pay) Items as follows:

<u>PAY ITEM</u>	<u>PAY UNIT</u>
Remove Concrete Curb or Curb & Gutter - Any Type, Modified	Lineal Foot
Remove Concrete Sidewalk, Ramp and Drives - Any Thickness , Modified	Square Foot

The unit prices for these items of work shall include all labor, material, and equipment costs to perform all the work specified in the Standard Specifications and as modified by this Detailed Specification.

**DETAILED SPECIFICATION
FOR
ITEM #221 - SUBGRADE UNDERCUTTING - TYPE II, MODIFIED**

1 of 2

DESCRIPTION

This work includes removal of unsuitable subgrade material(s) in the areas and limits identified by the Engineer in accordance with the City of Ann Arbor Standard Specifications for Construction and the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, except as herein specified.

MATERIALS

Materials will be in accordance with those specified in Section 902 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction.

CONSTRUCTION METHOD

After the pavement has been removed, and/or after rough/finish grading, and/or at the time of proof rolling, the Engineer may inspect the grade to determine the need for, and the limits of, undercuts. After undercut areas are excavated to the depths as directed by the Engineer, the areas shall be trimmed, shaped, evenly graded and re-compacted to not less than 95% of the soils maximum unit weight as determined by the AASHTO T-180 test. The Contractor shall properly dispose of all excess materials.

Subgrade Undercutting - Type II, Modified shall be backfilled with Granular Material, CI II as directed by the Engineer. The backfill material shall be compacted to not less than 98% of its maximum unit weight as determined by the AASHTO T-180 test. The fill material(s) for Subgrade Undercutting - Type II, Modified shall be paid at the Contract unit price for item of work Granular Material, CI II.

The Contractor shall remove, add to, re-shape, re-grade, and re-compact the existing roadbed materials, and shall construct the roadway to the cross-section(s) as indicated on the Plans, as detailed in the Specifications, and as directed by the Engineer. The Contractor shall use blade graders, maintainers, vibratory rollers, and/or other equipment as necessary, and as directed by the Engineer, for this work. Use of each specific piece of equipment is subject to the approval of the Engineer.

At various times throughout the work, the Engineer may direct the Contractor to use smaller and/or lighter equipment, and to defer certain work tasks, in order to protect the grade and/or adjacent areas. The Contractor shall not be entitled to any additional compensation for the use of smaller equipment, lighter equipment, or work task deferral.

MEASUREMENT AND PAYMENT

These items of work shall be measured for payment by calculating the volume of the undercut excavation prior to the placement of backfill.

The completed work as measured for these items of work will be paid for at the Contract Unit Price for the following Contract (Pay) Item:

PAY ITEM

PAY UNIT

Subgrade Undercutting - Type II, Modified

Cubic Yard

**DETAILED SPECIFICATION
FOR
ITEM #221 - SUBGRADE UNDERCUTTING - TYPE II, MODIFIED**

2 of 2

The unit price for this item of work shall include all labor, material, and equipment costs to perform all the work specified by this Detailed Specification.

**DETAILED SPECIFICATION
FOR
ITEM #222 – MACHINE GRADING, MODIFIED**

1 of 7

DESCRIPTION

The pay item “Machine Grading, Modified” shall be completed in accordance with Section 205 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction as shown on the plans, and as specified herein, with the exception that “Subgrade Undercutting - Type __, Modified” and “Infiltration Trench Undercutting” shall be paid for separately for the respective and applicable work when these pay items are included in the proposal. “Machine Grading, Modified” shall include all the work specified herein for which there is no separate pay item. This work shall consist of constructing earth grades by excavating, cutting, filling, trimming, and grading; general restoration, and sign removals in accordance with the Detailed Specifications elsewhere herein; and maintaining the work in a finished condition until such time that it is accepted by the Engineer.

CONSTRUCTION METHOD

- a. Soils Information - Soil information provided as part of the contract documents is for informational purposes only and shall not relieve the Contractor of the responsibility of investigating all local conditions before bidding.
- b. Materials - All materials and mixtures shall meet the requirements as specified in Section 205 of the MDOT 2012 Standard Specifications for Construction, except as specified herein.
- c. General Provisions - The Contractor shall:
 1. Maintain access to all drive entrances at all times.
 2. Maintain pick-up access for garbage and recycle vehicles at all times.
 3. Maintain access to all mail boxes for users and the U.S. Postal Service at all times. The Engineer may direct the temporary relocation of mail boxes. The Contractor may propose the temporary relocation of mail boxes, subject to the approval of the Engineer. In either case, the temporary relocation of mail boxes will not be paid for separately. There are 22 mailboxes located within the project grading limits that may need to be temporarily relocated and then re-established in their permanent locations.
 4. Grade around mailboxes, trees, light poles, power poles, and the like, which are to remain in place. The Contractor shall be responsible for any damage caused to such structures.
 5. Coordinate all work with utility companies and others that need to complete work within the project limits.
 6. Maintain the work in a finished condition until it is accepted by the Engineer.
- d. Pavement Sawcutting - The work shall include the full-depth saw-cutting of pavement at the construction limits, and elsewhere as required, if not paid for as part of another item of work. Pavement sawcutting will not be paid for separately.
- e. Removal of Trees and Vegetation - The Contractor shall remove and properly dispose of off-site all vegetation; brush; roots; and trees and stumps less than 8 inch in diameter, as shown on the plans, and as directed by the Engineer as required to complete the project.
- f. Removal and Salvaging of Topsoil - The removal, salvaging and stockpiling of topsoil, and all related work, shall be performed in accordance with Section 205.03.A.1 (Removing and Salvaging Topsoil) of the MDOT 2012 SSC and will not be paid for separately.

**DETAILED SPECIFICATION
FOR
ITEM #222 – MACHINE GRADING, MODIFIED**

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- g. Miscellaneous Removals - The removal of HMA, aggregate, and/or concrete materials from around manholes, structures, and utility covers, and the removal of HMA curbing, HMA driveway wedges, HMA surface on existing curb and gutter, and HMA surfaces around other miscellaneous unremoved areas shall be paid for as “Machine Grading, Modified” and will not be paid for separately.

“Machine Grading, Modified” includes the removal of any surface feature located within the grading limits which must be removed and for which there is no specific pay item established in the proposal for its removal.

- h. Protection of the Grade - The work shall be kept well drained at all times. Foundation, roadway embankment or subgrade that becomes damaged by rain shall be undercut and backfilled, or otherwise remedied, by the Contractor, at his/her sole expense, as directed by the Engineer.

The Contractor shall be responsible for the maintenance of the foundation, roadway embankment, and subgrade. Any damage caused, by traffic or the Contractor’s operations, to the foundation, roadway embankment or subgrade, in the opinion of the Engineer, shall be remedied by the Contractor at his/her sole expense, as directed by the Engineer.

The Contractor shall not use rubber-tired equipment on the foundation, roadway embankment, or subgrade, when its use causes, in the opinion of the Engineer, unnecessary damage to the foundation, road embankment or subgrade. The Contractor shall conduct his/her operations and provide the necessary equipment to ensure the satisfactory completion of the work without damaging the foundation, roadway embankment or subgrade. This may require the transporting and movement of materials over additional distances.

At various times throughout the work, the Engineer may direct the Contractor to use smaller and/or lighter equipment, and to defer certain work tasks, in order to protect the grade and/or adjacent areas. The Contractor shall not be entitled to an extension of time or any additional compensation for the use of smaller equipment, lighter equipment, or work task deferral.

- i. Protection of Utilities - Utility lines may become exposed at, above, or below, the foundation or subgrade elevation during machine grading or subgrade undercutting operations. If this occurs, the Contractor shall excavate around, above and/or below the utility lines, as directed, to complete the machine grading or subgrade undercutting operations. Payment, at contract unit prices, for “Machine Grading, Modified” or “Subgrade Undercutting, Type __,” whichever applies, will be considered as payment in full for this work.
- j. Removal of Cable, Conduits and Pipe - The Contractor shall remove, and properly dispose of off-site, all abandoned cables, conduit, and pipe encountered at, or above the bottom of any earthwork excavation or undercut. Where the inverts of abandoned, or to be abandoned or removed, conduits or pipe are less than 16 inches below the bottom of any earth excavation or undercut, the conduits and/or pipe shall be removed and the resulting void filled with an Engineer approved material. The fill material shall be compacted to 95% of its maximum unit weight in lifts not exceeding 12 inches. No separate payment will be made for removal of conduit or pipe, or any of the work, described in this section.

**DETAILED SPECIFICATION
FOR
ITEM #222 – MACHINE GRADING, MODIFIED**

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- k. Foundation Preparation - Foundation is defined as the original earth grade upon which roadway embankment is placed. The foundation work shall be completed in accordance with Section 205.03.A (Preparing Roadway Foundation) of the MDOT 2012 SSC as shown on the plans, and as specified herein.
- l. The foundation shall be compacted to 95% of its maximum unit weight, as measured by the AASHTO T-180 method, to a depth of at least 10 inches. If this cannot be achieved, in the opinion of the Engineer, he/she will direct the Contractor to perform “Subgrade Undercutting, Type ___” or “Subgrade Manipulation,” as described herein, on the foundation.
- m. Roadway Embankment Construction - Roadway embankment is defined as the construction of earth on the prepared foundation to form the subgrade. Roadway embankment work shall be completed in accordance with Section 205.03 H (Roadway Embankment) of the MDOT 2012 SSC as shown on the plans, and as specified herein. Roadway embankment shall be compacted to a minimum of 95% of its maximum unit weight, as measured by the AASHTO T-180 method.
- n. Subgrade Construction - Subgrade is defined as the final earth grade which extends from grading limit to grading limit. The subgrade shall be constructed by performing earth excavation and roadway embankment work in accordance with Section 205.03.G (Earth Excavation) and Section 205.03 H (Roadway Embankment) of the MDOT 2012 SSC, as shown on the plans, and as specified herein.

The subgrade shall be constructed to the contours and cross-sections shown on the plans, as specified herein, and as directed by the Engineer. To achieve this, the work shall include, but not be limited to:

- 1. Removal and disposal off-site of any surplus or unsuitable materials.
- 2. Furnishing from off-site any additional Engineer approved fill materials necessary.
- 3. Moving existing and/or furnished materials longitudinally and transversely as necessary.
- 4. Cutting, placing, compacting, and trimming existing and/or furnished materials to construct the roadway embankment and subgrade to the specified tolerances.
- 5. Stockpiling, and moving again, any cut materials which cannot be immediately placed upon excavation due to construction staging.

The subgrade shall be graded to accommodate all subbases and aggregate bases wherever used, all bioswale and adjacent planting beds, all roadway pavements, curb and gutter, driveways, sidewalks, bicycle paths, other similar structures, bioswale planting mix, topsoil and any other features which the subgrade supports.

The subgrade shall be prepared so as to ensure uniform support for the pavement structure. The finished subgrade shall be placed to within 1 inch below and ¾ inch above plan grade. Variations within this tolerance shall be gradual.

The subgrade shall be compacted to a minimum of 95% of its maximum unit weight, as measured by the AASHTO T-180 method, to a depth of 10 inches. If this cannot be achieved, in the opinion of the Engineer, he/she will direct the Contractor to perform “Subgrade Undercutting, Type ___” or “Subgrade Manipulation” as described herein.

**DETAILED SPECIFICATION
FOR
ITEM #222 – MACHINE GRADING, MODIFIED**

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The Contractor shall use equipment and methods of construction best suited, in the opinion of the Engineer, to the earthwork operations being performed and the project requirements. The use of various equipment and methods of construction are subject to the approval of the Engineer. The Engineer may disallow the use of certain equipment and methods of construction and require the use of other equipment and/or methods of construction. No additional compensation or extensions of contract time will be allowed for additional measures that are required for the protection of the grade as specified herein.

- o. Test Rolling - The Contractor shall test-roll the foundation and/or subgrade with a pneumatic tired roller with a suitable body for ballast loading and a gross load capacity that can be varied from 25 and 40 tons. In lieu of this test roller, with the approval of the Engineer, the Contractor may use a fully loaded single axle or tandem axle dump truck.
- p. Subgrade Undercutting - “Subgrade Undercutting, Type __, Modified” shall be performed on the foundation or subgrade in accordance with Section 205.03.E (Subgrade Undercutting) of the MDOT 2012 SSC, as shown on the plans, as specified herein, and as directed by the Engineer.
- q. Subgrade Manipulation - “Subgrade Manipulation” shall be performed on the foundation or subgrade in accordance with Section 205.03.F (Subgrade Manipulation) of the MDOT 2012 SSC, as shown on the plans, as specified herein, and as directed by the Engineer.

Where subgrade manipulation is required, the foundation or subgrade shall be thoroughly scarified, blended, and mixed to a depth of 12 inches. The work shall be accomplished by means of a large diameter disc, motor grader, or other equipment approved by the Engineer. After the foundation or subgrade has been manipulated to the satisfaction of the Engineer and allowed to dry, the soil shall be compacted to 95% of its maximum dry density as measured by the AASHTO T-180 method. The time required for drying the soil will not be a basis for an extension of time.

The cost of Subgrade Manipulation shall be included in the cost of “Machine Grading, Modified” unless a pay item for “Subgrade Manipulation” is included in the Proposal.

- r. Rock Excavation - Rock excavation shall be performed in accordance with Section 205.03.B (Rock Excavation) of the MDOT 2012 SSC, as shown on the plans, and as directed by the Engineer.

The pay item “Rock Excavation” will apply only to boulders over ½ cubic yard in volume. Boulders will be measured individually and the volume computed from the average dimension measured in three directions. The removal of rocks, concrete and masonry less than ½ cubic yard in volume shall not be included in the pay item “Rock Excavation,” but shall be included in the pay item “Machine Grading, Modified.”

If the proposal does not include a pay item for “Rock Excavation,” rocks measuring over ½ cubic yard in volume shall be paid for as extra work.

- s. Lowering Structures.- Prior to cutting the subgrade, the Contractor shall remove structure covers, lower the structures to a point between 8 inches and 12 inches below the proposed subgrade, and cover the structures with a steel plate. Structures shall not be raised prior to placing roadway embankment.

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**DETAILED SPECIFICATION
FOR
ITEM #222 – MACHINE GRADING, MODIFIED**

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The steel plates for covering structure openings shall conform to the plan detail, be pegged and properly placed to prevent their movement under all traffic, be thick enough to carry all traffic, and prevent the infiltration of debris into the structures.

The Contractor shall lower valve boxes to a point between 8 inches and 12 inches below the proposed subgrade. Valve boxes shall not be raised prior to placing roadway embankment.

The void in the grade above the steel plates used for structure lowerings and valve box lowerings shall be backfilled, and compacted to 95% of its maximum dry density, with an Engineer approved coarse aggregate.

“Machine Grading, Modified” shall include all the work associated with lowering structures, including backfilling.

The Contractor shall coordinate the lowering of private utility structures with the private utility companies.

- t. Structure Covers - As directed by the Engineer and within two days of their removal, the Contractor shall stockpile on-site, in a location that is mutually agreeable to the Engineer and Contractor, the existing structure covers. The City of Ann Arbor’s forces will pick-up the structure covers at a time that is convenient to them and mutually agreeable to the Contractor. The Contractor shall provide the equipment and manpower to load the castings on the City’s vehicle(s) so that they can be removed from the site by the City.
- u. Structure and Sewer Cleanliness - All sewers, and structures, including manholes, gate wells, valve boxes, inlet structures and curbs shall be protected from damage and contamination by debris and construction materials. Structures shall be maintained clean of construction debris and properly covered at all times during the construction. The Contractor shall immediately clean any structures and/or sewers that become contaminated with construction debris. The Contractor shall be responsible for all direct and indirect damages which are caused by sewers or structures which have been made unclean or have been damaged by the Contractor.
- v. Contractor’s Calculations - Existing and proposed cross sections are provided in the plans. The Contractor shall perform his/her own computations and is responsible to inspect the site to determine his/her own estimate of the quantities of work involved. Deviations between the existing contours and the existing and proposed cross-sections shown on the plans shall not be cause for additional compensation.
- w. Estimated Earthwork Quantities - The table shown below contains the Engineer’s estimate of the earth excavation (cut), the embankment (fill), and topsoil stripping required to prepare the foundation as defined herein for the project. These quantities do not take into consideration the suitability of the soils for their intended use, their possible availability due to construction staging or storage limitations, bulking of the material upon excavation, changes in volumes due to moisture content or soil types, or other similar related issues. The Contractor shall remain responsible for determining the actual amount(s) of work to be performed to complete the project as shown on the plans and as specified herein.

**DETAILED SPECIFICATION
FOR
ITEM #222 – MACHINE GRADING, MODIFIED**

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Machine Grading Modified Item of Work	Est. volume of earth excavation (cut), cubic yards	Est. volume of embankment (fill), cubic yards	Topsoil and/or sub- soil to be stripped and removed*, cubic yards
Liberty Street	470	45	20
Harvard Place	400	50	15
Arlington Boulevard	525	10	15

*The estimated volume for topsoil and/or sub-soil stripping has been estimated based upon the assumption that approximately 6” of topsoil and other deleterious soils exist that must be removed prior to exposing suitable soils for road building or other similar purposes. The estimated thickness can, and will, vary throughout the project limits.

- x. Tree trimming - The Contractor shall coordinate with the City Field Services Unit to schedule trimming of trees by City forces or authorized subcontractor. The Contractor shall not be entitled to an extension of time or any additional compensation for the coordination of this work.

MEASUREMENT AND PAYMENT

Measurement for payment for the item “Machine Grading” shall be the computed in square yard quantity of excavated material (pavement, soil, rock, brick, etc.) from the top of existing grade down to the bottom of the excavation. Embankment, fill, subgrade protection/maintenance, drainage maintenance, topsoil, seeding, and restoration quantities will not be paid for separately, and are included in this item of work.

The completed work as measured for this item of work will be paid for at the Contract Unit Price for the following Contract (Pay) Item:

PAY ITEM

Machine Grading, Modified

PAY UNIT

Station

Subsection 205.04.G of the MDOT 2012 SSC, which reads “Machine Grading will be measured by length along the surface edge. The Engineer will measure each side of the road, where work is performed, separately.” is hereby deleted. “Machine Grading, Modified” will be measured once, and only once, along the centerline of the roadway or feature being constructed.

“Machine Grading, Modified” will be measured by length in 100 foot long stations, or portions thereof, along the centerline of the feature being constructed.

The various pay items included herein shall include all labor, materials and equipment required to complete the work.

**DETAILED SPECIFICATION
FOR
ITEM #222 – MACHINE GRADING, MODIFIED**

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The Contractor shall include all of his/her costs to complete all of the Machine Grading, Modified work in the Machine Grading, Modified pay item and plan quantities included in the proposal. No additional payment will be made for Machine Grading, Modified work which, although, shown on the plans and specified herein as work which needs to be completed, may not be included in a particular Machine Grading, Modified pay item. Plan quantities will be paid for the work, and will only be adjusted due to changes in the limits of the work, as directed by the Engineer, in writing.

The pay item “Machine Grading, Modified” shall include all the work specified herein, including, but not limited to, the removal and offsite disposal of any surplus or unsuitable materials and the furnishing from off-site any additional Engineer approved fill materials necessary to construct the embankment and subgrade to the contours and cross-sections shown on the plans.

The Contractor is advised that due to the phasing of the project and the probable unsuitability of some or all of the excavated material for use as approved fill material, there may be imbalances between the amount of earth cut which is suitable for reuse as fill, and the amount of earth needed to construct the lines and grades shown on the plans, or as directed by the Engineer. The Contractor shall make provisions for such imbalances and shall include in the bid price for this work the cost of importing/furnishing, placement, and compaction of the material, as well as the cost of stockpiling and re-handling of imported and/or on-site Engineer approved materials as necessary to complete the work of constructing the embankment and subgrade to the cross sections shown on the plans.

Subgrade Manipulation will be measured in square yards. Only areas designated by the Engineer as requiring subgrade manipulation will be measured for payment.

**DETAILED SPECIFICATION
FOR
ITEM #223 – SUBBASE, CIP**

1 of 1

DESCRIPTION

This work consists constructing a subbase course on a surface approved by the Engineer. Work will be performed in accordance with Section 301 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, and as directed by the Engineer.

MATERIALS

Subbase material will Granular Material Class II in accordance with that specified in Sections 301.02 and 902 of the MDOT 2012 Standard Specifications for Construction.

CONSTRUCTION METHODS

Subbase will be constructed in accordance with Section 301.03 of the MDOT 2012 Standard Specifications for Construction, and as directed by the Engineer.

MEASUREMENT AND PAYMENT

The completed work will be paid for at the contract unit price for the following contract item (pay item).

PAY ITEM

Subbase, CIP

PAY UNIT

Cubic Yard

Subbase will be measured by the unit ton in accordance with Section 301.04 of the MDOT 2012 Standard Specifications for Construction, and as directed by the Engineer, and will be paid for at the unit price per ton. The unit price for this contract item includes all labor, material, and equipment costs required to perform the work.

**DETAILED SPECIFICATION
FOR
ITEM #224 – AGGREGATE BASE, 8 INCH, MODIFIED**

1 of 1

DESCRIPTION

This work consists constructing an aggregate base course on a surface approved by the Engineer. Work will be performed in accordance with Section 302 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, and as directed by the Engineer.

MATERIALS

Aggregate Base material will be Dense-Graded Aggregate 21AA in accordance with that specified in Sections 302.02 and 902 of the MDOT 2012 Standard Specifications for Construction.

CONSTRUCTION METHODS

Aggregate Base will be constructed in accordance with Section 302.03 of the MDOT 2012 Standard Specifications for Construction, and as directed by the Engineer.

MEASUREMENT AND PAYMENT

The completed work will be paid for at the contract unit price for the following contract item (pay item).

PAY ITEM

PAY UNIT

Aggregate Base , 8 inch, Modified

Ton

Aggregate Base will be measured by the unit ton in accordance with Section 302.04 of the MDOT 2012 Standard Specifications for Construction, and as directed by the Engineer, and will be paid for at the unit price per ton. The unit price for this contract item includes all labor, material, and equipment costs required to perform the work.

**DETAILED SPECIFICATION
FOR
ITEM #225 – MAINTENANCE GRAVEL**

1 of 1

DESCRIPTION

This work consists placing maintenance gravel in accordance with Section 306 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, and as directed by the Engineer.

MATERIALS

Maintenance Gravel material will be Dense-Graded Aggregate 21AA in accordance with that specified in Sections 306.02 and 902 of the MDOT 2012 Standard Specifications for Construction.

CONSTRUCTION METHODS

Maintenance Gravel will be constructed in accordance with Section 306.03 of the MDOT 2012 Standard Specifications for Construction, and as directed by the Engineer.

MEASUREMENT AND PAYMENT

The completed work will be paid for at the contract unit price for the following contract item (pay item).

PAY ITEM

PAY UNIT

Maintenance Gravel

Ton

Maintenance Gravel will be measured by the unit ton in accordance with Section 306.04 of the MDOT 2012 Standard Specifications for Construction, and as directed by the Engineer, and will be paid for at the unit price per ton. The unit price for this contract item includes all labor, material, and equipment costs required to perform the work.

**DETAILED SPECIFICATION
FOR
ITEM #226 – SHOULDER, CL I
AND
ITEM #227 – APPROACH, CL I**

1 of 1

DESCRIPTION

This work consists constructing aggregate shoulders and approaches on a prepared subgrade or existing aggregate surface approved by the Engineer. Work will be performed in accordance with Section 307 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, and as directed by the Engineer.

MATERIALS

Aggregate Shoulder and Approach material will be Dense-Graded Aggregate 22A in accordance with that specified in Sections 307.02 and 902 of the MDOT 2012 Standard Specifications for Construction.

CONSTRUCTION METHODS

Aggregate Shoulders and Approaches will be constructed in accordance with Section 307.03 of the MDOT 2012 Standard Specifications for Construction, and as directed by the Engineer.

MEASUREMENT AND PAYMENT

The completed work will be paid for at the contract unit price for the following contract items (pay items).

<u>PAY ITEM</u>	<u>PAY UNIT</u>
Shoulders, Cl I	Ton
Approach, Cl I	Ton

Shoulder, Cl I and Approach, Cl I will be measured respectively by the unit ton in accordance with Section 307.04 of the MDOT 2012 Standard Specifications for Construction, and as directed by the Engineer, and will be paid for respectively at the unit price per ton. The unit prices for these contract items include all labor, material, and equipment costs required to perform the work.

**DETAILED SPECIFICATION
FOR
ITEM #228 –MANHOLE TAP, 8 INCH**

1 of 1

DESCRIPTION

This work shall include making a connection or tapping into an existing manhole as required by the Plans. All work shall be done in accordance with the City of Ann Arbor Public Services Department Standard Specifications, and as directed by the Engineer.

CONSTRUCTION METHODS

The Construction Methods shall meet all requirements of the City of Ann Arbor Standard Specifications.

Make connections to existing manholes in accordance with the plans. If tapping an existing manhole, cut an opening into the receiving structure at least equal to the outside diameter of the inlet pipe plus 6 inches and insert the pipe with an approved boot. . Pack a layer of mortar at least 3 inches thick around the inlet pipe and strike smooth with the inner wall of the receiving structure.

The Contractor shall take care not to cause undue damage to the existing manhole while coring the new opening. Repair or replacement of existing manhole(s) damaged by Contractor operations during tapping shall be at the Contractor's expense and shall not be at any additional cost to the City.

MEASUREMENT AND PAYMENT

Completed work as measured for these items of work will be paid for at Contract Unit Price for the following Contract (Pay) Item:

PAY ITEM

PAY UNIT

Manhole Tap, 8 inch

Each

**DETAILED SPECIFICATION
FOR
ITEM #229 – SEWER TAP, 8 INCH**

1 of 1

DESCRIPTION

This work shall include making a connection or tapping into an existing sewer as required by the Plans using a manhole to make the connection. All work shall be done performed in accordance with Section 402 and 403of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, the City of Ann Arbor Standard Specifications for Construction, and as directed by the Engineer.

MATERIALS

Materials will be in accordance with that specified in Sections 402.02 and 403.02 of the MDOT 2012 Standard Specifications for Construction, and the City of Ann Arbor Standard Specifications for Construction.

CONSTRUCTION METHODS

Sewer taps will be constructed in accordance with Section 402.03 of the MDOT 2012 Standard Specifications for Construction using a manhole structure, and as directed by the Engineer.

The Contractor shall take care not to cause undue damage to the existing sewer while connecting the new sewer. Repair or replacement of existing sewer pipe damaged by Contractor operations during tapping shall be at the Contractor’s expense and shall not be at any additional cost to the City.

MEASUREMENT AND PAYMENT

Completed work as measured for these items of work will be paid for at Contract Unit Price for the following Contract (Pay) Items:

<u>PAY ITEM</u>	<u>PAY UNIT</u>
Sewer Tap, 8 inch	Each

Sewer Tap, 8 inch will be measured by the unit each in accordance with Section 402.04 of the MDOT 2012 Standard Specifications for Construction, and as directed by the Engineer, and will be paid for at the unit price per each. The unit price for this contract item includes all labor, material, and equipment costs required to perform the work. The manhole structure will be paid separately at the contract unit price for Type I Manhole (0-10’ deep).

**DETAILED SPECIFICATION
FOR
ITEM #230 – UNDERDRAIN, SUBBASE, 6 INCH**

1 of 2

DESCRIPTION

The work shall include installing 6-inch geotextile-wrapped perforated or slotted underdrain in an 18-inch wide trench, using 2NS sand for bedding and backfill, compacted to 95% of its maximum unit weight

MATERIALS

The materials shall meet the requirements specified in Sections 404.02 and 902 and 909.07.B of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, and as specified herein:

Fine Aggregate, 2NS

Underdrain Pipe, Perforated or Slotted

Geotextile (Filter Fabric) - The geotextile fabric for encasing the pipe shall be an approved material such as nylon, polypropylene, fiberglass, or polyester and shall be either woven, heat bonded, knitted or of continuous fibers. The geotextile shall completely cover and be secured to the pipe. In an unstretched condition, knitted polyester fabrics shall weigh at least 3.0 ounces per square yard and all other geotextiles shall weigh at least 3.5 ounces per square yard. The fabric shall be strong and tough and have a porosity such that the fabric will retain soil particles larger than 0.106 mm (No. 140 sieve) and shall pass aggregate particles finer than 0.025 mm. Geotextiles shall be stored and handled carefully and in accordance with the manufacturer's recommendations and shall not be exposed to heat or direct sunlight to such extent as to significantly affect its strength or toughness. Torn or punctured geotextiles shall not be used.

CONSTRUCTION

Geotextile-wrapped underdrain for subbase drainage shall be installed as shown on the plans and as specified in Section 404.03 of the 2012 MDOT Standard Specifications for Construction, with the following exceptions and additions:

1. The trench shall be constructed to have a minimum width of 18 inches and the underdrain shall be installed at the line grade and depth as indicated on the plans. The contractor shall maintain line and grade by means of a laser. The Engineer will not set line, grade or provide staking.
2. The trench shall then be backfilled with 2NS Fine Aggregate compacted to 95% of its maximum unit weight. The first lift of backfill material shall be placed at a maximum thickness of 6 inches. The second and subsequent lifts, or portions thereof, shall be placed at a maximum thickness of 12 inches up to an elevation level with the bottom of the existing aggregate base course, or as directed by the Engineer.
3. Upgrade ends of the pipe shall be closed with suitable plugs to prevent entrance of any material. All couplings, tees and other fitting shall be manufactured and installed so as to prevent infiltration of any material. If during the course of construction, existing edge drains are encountered, their ends shall be plugged to the satisfaction of the Engineer such that material can not enter the pipe(s).
4. Downgrade ends of the pipe shall generally be tapped into existing or new drainage structures. However, it may be necessary to tap underdrain into either existing or new storm sewer, or into existing or new inlet leads as directed by the Engineer.

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**DETAILED SPECIFICATION
FOR
ITEM #230 – UNDERDRAIN, SUBBASE, 6 INCH**

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5. The trench bottom and edge drain shall be constructed to the percent of grade indicated on the plans or as determined by the Engineer, with the minimum percent of grade being 0.5%. In addition, the underdrain shall be constructed to have a minimum cover, from top of pipe to finished pavement grade, of 36 inches.
6. During the construction of underdrain runs, it may be necessary to terminate construction due to conflicts with buried obstructions or at such time when the minimum cover is reached. The Engineer will review conflicts on a case by case basis and make a decision on whether to continue installing pipe or terminate runs prematurely. The Contract Unit Price will not be adjusted, or additional payments made, for changes in the contract quantity due to Engineer ordered field changes associated when buried obstructions are encountered.

MEASUREMENT AND PAYMENT

The completed work as measured for "Underdrain, Subbase, 6 inch" will be paid for at the contract unit price for the following contract item (pay item):

PAY ITEM

Underdrain, Subbase, 6 inch

PAY UNIT

Lineal Foot

The unit price shall include the cost of the 6-inch perforated or slotted pipe, geotextile wrap, pipe fittings and/or plugs, 2NS granular bedding/trench backfill material, compaction, connections to existing under drain pipe, taps to new and existing drainage structures and storm sewers or inlet leads, all excavation, final trimming required to meet the dimensions of the typical and specific cross-sections, and the disposal of all surplus excavated materials.

**DETAILED SPECIFICATION
FOR
ITEM #231 – HMA, 4E3 - PAVEMENT BASE COURSE
ITEM #232 – HMA, 4E3 - PAVEMENT LEVELING COURSE
ITEM #233 – HMA, 5E3 - PAVEMENT TOP COURSE
ITEM #234 – HMA, LVSP - PAVEMENT LEVELING COURSE
ITEM #235 – HMA, LVSP - PAVEMENT TOP COURSE**

1 of 5

DESCRIPTION

Hot Mix Asphalt (HMA) pavement base, leveling, and top courses shall be constructed in accordance with Section 501 of the 2012 Michigan Department of Transportation (MDOT) Standard Specifications for Construction, except as modified herein, and as directed by the Engineer.

MATERIALS AND EQUIPMENT

The HMA mixtures to be used for this work shall be as follows:

<u>Item Description</u>	<u>HMA Mixture</u>	<u>MDOT Section</u>
HMA, 4E3 - Pavement Base Course	4E3	501
HMA, 4E3 - Pavement Leveling Course	4E3	501
HMA, 5E3 - Pavement Top Course	5E3	501
HMA, LVSP - Pavement Leveling Course	LVSP	501
HMA, LVSP - Pavement Top Course	LVSP	501

Binders for Superpave mixes 4E3 and 5E3 shall be PG 64-28, and for Superpave mix LVSP shall be PG 58-28 in accordance with the HMA Application Table shown on the Plans, and shall meet the requirements specified in Section 904 of the 2012 MDOT Standard Specifications for Construction, and any current supplemental MDOT specifications.

The Contractor shall have a 10-foot long straight-edge, backhoe, air-compressor and jackhammer available during all paving operations.

The Aggregate Wear Index (AWI) number for this project is 260. This AWI number applies to all aggregates used in all top course mixtures. Blending aggregates to achieve this AWI requirement is permitted in accordance with current MDOT Standards, and Supplemental Specifications.

Reclaimed Asphalt Pavement (RAP) in HMA Mixtures

The use of Reclaimed Asphalt Pavement (RAP) in HMA mixtures shall be in accordance with Section 501.02.A.2 of the 2012 MDOT Standard Specifications for Construction, and the City of Ann Arbor Standard Specifications.

All equipment shall conform to Section 501.03.A of the 2012 MDOT Standard Specifications for Construction, except as modified herein.

The Contractor shall have a 10 foot long straight edge, rubber-tired backhoe (Case 580 type, or equivalent), air-compressor with the ability to develop a minimum pressure of 100 pounds per square inch and continuous rated capacity of 150 cubic feet per minute of air flow, and jackhammer available during all paving operations. The Contractor shall be required to perform any miscellaneous cleaning, trimming, material removal, and other tasks as required by the Engineer in order to ensure the proper and orderly placement of all HMA materials on this project.

**DETAILED SPECIFICATION
FOR
ITEM #231 – HMA, 4E3 - PAVEMENT BASE COURSE
ITEM #232 – HMA, 4E3 - PAVEMENT LEVELING COURSE
ITEM #233 – HMA, 5E3 - PAVEMENT TOP COURSE
ITEM #234 – HMA, LVSP - PAVEMENT LEVELING COURSE
ITEM #235 – HMA, LVSP - PAVEMENT TOP COURSE**

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The Contractor shall provide sufficient rollers to achieve the specified asphalt densities.

At various times throughout the work, the Engineer may direct the Contractor to use smaller and/or lighter equipment, and to defer certain work tasks, in order to protect the grade and/or adjacent areas; including hauling units. The Contractor shall not be entitled to any additional compensation for the use of smaller equipment, lighter equipment, or work task deferral.

CONSTRUCTION METHODS

All concrete work shall be completed prior to placing HMA mixtures.

The Contractor shall place HMA wedges using the base, leveling, and top course mixtures specified herein, as directed by the Engineer, prior to placing the top course. Such wedging shall be measured and paid for at the respective unit price of the appropriate HMA Pavement item.

Cleaning and Bond Coat application- Cleaning and bond coat application shall be performed in accordance with Sections 501.03.C and 501.03.D of the 2012 MDOT Standard Specifications for Construction, except as modified herein, and as directed by the Engineer.

The Contractor shall furnish and operate throughout the construction period, vacuum-type street cleaning and utility structure cleaning equipment (Vac-All, Vactor, etc.) approved by the Engineer, and when directed by the Engineer, for street cleaning immediately prior to, and for street and utility structure cleaning after any and all paving. The cleaning equipment shall be of sufficient power to remove dust, dirt, and debris from the pavement and from utility structures in and adjacent to the construction area. The vac-all or similar equipment and shall be approved by the Engineer prior to beginning the work. The equipment used shall have an effective means for preventing any dust resulting from the operation from escaping into the air.

The bond coat shall be applied at a minimum rate of 0.05 gallons/yd². Before placing the bond coat, the existing pavement surface shall be thoroughly cleaned. The Contractor shall also thoroughly clean all joints, cracks, and edges to a minimum depth of one inch with compressed air, vac-all type equipment, or other approved mechanical or hand methods, to remove all dirt, debris, and all foreign material.

HMA Placement- Placement shall conform to Section 501.03.F of the 2012 MDOT Standard Specifications, except as modified herein, and as directed by the Engineer.

HMA placement shall not commence until a “Permit to Place” (no additional costs are required to obtain this permit) has been issued in writing by the Engineer. The Permit to Place shall be issued after the aggregate base course or the adjacent, underlying layer of pavement section has been approved by the Engineer.

The final structure adjustments must be approved by the Engineer prior to the issuance of the “Permit to Place” for the top course.

**DETAILED SPECIFICATION
FOR
ITEM #231 – HMA, 4E3 - PAVEMENT BASE COURSE
ITEM #232 – HMA, 4E3 - PAVEMENT LEVELING COURSE
ITEM #233 – HMA, 5E3 - PAVEMENT TOP COURSE
ITEM #234 – HMA, LVSP - PAVEMENT LEVELING COURSE
ITEM #235 – HMA, LVSP - PAVEMENT TOP COURSE**

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The top course shall be placed with a ¼” lip at the gutter edge of metal.

All HMA thickness dimensions are compacted-in-place.

Paving Operation Scheduling – The Contractor shall schedule the paving operation to avoid longitudinal cold joints that would be required to be left “open” over night.

In all cases, the Contractor shall pave the primary road’s through-traffic lanes (“main line”) first, from point-of-beginning to the point-of-ending. All other paving including, but not limited to; acceleration and deceleration lanes, intersection approaches, and center left-turn lanes shall be paved following completion of main line paving, unless authorized by the Engineer prior to the placement of any pavement.

Rate of Paver operation - The rate of the paver’s travel shall be maintained such that the paving operation will be continuous, resulting in no transverse cold joints, but shall never exceed the rate of 50 feet per minute.

The Contractor shall furnish and operate enough material, equipment, and hauling units so as to keep the paving machine(s) moving continuously at all times. Failure to do so shall be cause for the suspension of the paving operation until the Contractor can demonstrate to the satisfaction of the Engineer, that sufficient resources have been dedicated to perform the work in accordance with the project specifications.

Longitudinal and Transverse Joints- shall conform to Section 502.03.F of the 2012 MDOT Standard Specifications for Construction and as specified herein.

For mainline HMA paving, the width of the mat for each pass of the paver shall be not less than 10.5’, nor greater than 15’, except as noted in the plans and as directed by the Engineer. The Engineer will direct the layout of all HMA longitudinal joints during construction.

Prior to placing the adjacent paving pass on the leveling and top courses of HMA, the Contractor shall cut and remove 6” to 8” of the previously placed pavement at the free edge of the pavement by means of a coultter wheel. The Engineer reserves the right to reject any method(s) for cutting the pavement that does not provide a vertical and satisfactory edge, free of tearing, bending, or other deformations, as determined by the Engineer. Any method(s) employed by the Contractor shall be completely effective. The cut edge shall have a uniform bead of pavement joint adhesive applied to the full-height of the joint. The removal of this HMA material and resulting edge must be approved by the Engineer prior to proceeding with the placement of the succeeding pass of HMA. The base course of HMA and its vertical edge will have bond coat applied in accordance with Section 501.03.D. All costs associated with complying with these requirements will not be paid for separately, but shall be considered to be included in the HMA items of work.

Pavement joint adhesive shall be hot-applied, meet, or exceed, the following properties, and be approved by the Engineer prior to performing HMA placement:

**DETAILED SPECIFICATION
FOR
ITEM #231 – HMA, 4E3 - PAVEMENT BASE COURSE
ITEM #232 – HMA, 4E3 - PAVEMENT LEVELING COURSE
ITEM #233 – HMA, 5E3 - PAVEMENT TOP COURSE
ITEM #234 – HMA, LVSP - PAVEMENT LEVELING COURSE
ITEM #235 – HMA, LVSP - PAVEMENT TOP COURSE**

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Brookfield Viscosity, 400°F, ASTM D2669 – 4,000 to 10,000 cp
Cone Penetration, 77°F, ASTM D5329 – 60 to 100
Flow, 140°F, ASTM D5329 – 5mm maximum
Resilience, 77°F, ASTM D5329 – 30% minimum
Ductility, 77°F, ASTM D113 – 30 cm minimum
Ductility, 39.2°F, ASTM D113 – 30 cm minimum
Tensile Adhesion, 77°F, ASTM D5329 – 500% minimum
Softening Point, ASTM D36 - 170°F minimum
Asphalt Compatibility, ASTM D5329 – pass

Feather Joints – shall be constructed so as to vary the thickness of the HMA from zero inches to the required paving thickness at the rate of approximately 1.5” over a distance of 10 feet, or as directed by the Engineer. The Contractor shall rake the larger pieces of aggregate out of feather joints prior to compaction.

Butt Joints - Construction of butt joints, where directed by the Engineer, shall conform to Section 501.03.C.3 and 501.03.C.4 of the 2012 MDOT Standard Specifications for Construction, except as modified herein.

When a butt joint is specified or directed to be placed by the Engineer, remove the existing HMA surface to the thickness of the proposed overlay, or full-depth, as directed by the Engineer, for the full width or length of the joint. The HMA material shall be sawcut to the directed depth along the pavement edge or removal line to prevent tearing of the pavement surface. Cut joints that will be exposed in the completed surface must be cut with a saw or a cold-milling machine or other methods approved by the Engineer. Joints that will be covered by HMA must be cut with a saw, a cold-milling machine, or other methods approved by the Engineer.

Rakers- the Contractor shall provide a minimum of two rakers during the placement of all top and leveling courses.

Faulty Mixtures – The Contractor and Engineer shall carefully observe the paving operation for signs of faulty mixtures. Points of weakness in the surface shall be removed or corrected by the Contractor, at his/her sole expense, prior to paving subsequent lifts of HMA material. Such corrective action may include the removal and replacement of thin or contaminated sections of pavement, segregated HMA, and any sections that are weak or unstable. Once the Contractor or his representative is notified by the Engineer that the material being placed is out of allowable tolerances, or that there is a problem with the paving operation, the Contractor shall stop the paving operation at once, and shall not be permitted to continue placing HMA material until again authorized by the Engineer. Any costs associated with meeting the requirements specified herein shall not be paid for separately, but shall be included in the item(s) of work being performed at the time the faulty mixture was discovered.

**DETAILED SPECIFICATION
FOR
ITEM #231 – HMA, 4E3 - PAVEMENT BASE COURSE
ITEM #232 – HMA, 4E3 - PAVEMENT LEVELING COURSE
ITEM #233 – HMA, 5E3 - PAVEMENT TOP COURSE
ITEM #234 – HMA, LVSP - PAVEMENT LEVELING COURSE
ITEM #235 – HMA, LVSP - PAVEMENT TOP COURSE**

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MEASUREMENT AND PAYMENT

Measurement of these HMA paving items shall be by the ton, in place. Unused HMA remaining in trucks after the work is completed shall be returned to the plant and re-weighed, and the corrected weight slip shall be provided to the Engineer. No payment will be made for the unused HMA material. All weight slips must include the type of mixture (codes are not acceptable), as well as vehicle number, gross weight, tare weight and net weight.

Corrective action shall be enforced as described at Division 5 of the 2012 MDOT Standard Specifications for Construction and will be based on the City's testing reports.

All costs for furnishing and operating vacuum-type street cleaning equipment, backhoes, jackhammers, and air compressors shall be included in the bid prices for these items of work or in the item of work “General Conditions, Modified, Maximum, \$_____”.

All costs of meeting the requirements of this Detailed Specification shall be included in the bid prices for HMA items in the proposal and will not be paid for separately.

The completed work as measured for these items of work will be paid for at the Contract Unit Prices for the following Contract (Pay) Items:

<u>PAY ITEM</u>	<u>PAY UNIT</u>
HMA, 4E3 - Pavement Base Course	Ton
HMA, 4E3 - Pavement Leveling Course	Ton
HMA, 5E3 - Pavement Top Course	Ton
HMA, LVSP - Pavement Leveling Course	Ton
HMA, LVSP - Pavement Top Course	Ton

The unit prices for these items of work shall include all labor, material, and equipment costs to perform all the work specified in the Standard Specifications and as modified by this Detailed Specification.

**DETAILED SPECIFICATION
FOR
ITEM #236 – CONCRETE CURB OR CURB & GUTTER - ANY TYPE
ITEM #237 – 4” INCH CONCRETE SIDEWALK, MODIFIED
ITEM #238 – 6” CONCRETE SIDEWALK, RAMP OR DRIVE APPROACH, HIGH-EARLY
ITEM #239 - CONCRETE TYPE M DRIVE OPENING, HIGH-EARLY**

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DESCRIPTION

This work shall consist of constructing concrete items including curb, gutter, curb and gutter, sidewalks, drive approaches, and drive openings, all of any type and/or dimensions, all of either regular, fibermesh reinforced, and/or high-early concrete, in accordance with Sections 801, 802, and 803 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, except as specified herein, as shown on the Plans, as described in this Detailed Specification, and as directed by the Engineer.

The Contractor is responsible to construct all sidewalks, sidewalk ramps, curbs, and all other concrete items within ADAAG compliance. All sidewalks and curb ramps must be constructed in accordance with MDOT Standard Plan R-28-H or version of standard plan/detail in place at time of the bid letting if different.

In addition, all concrete items of work shall comply with the Detailed Specifications for Concrete Durability and Concrete Placement and Protection.

MATERIALS

Concrete mixtures shall be as follows (or as directed by the Engineer), and concrete materials shall meet the requirements specified in the referenced sections of the MDOT Standard Specifications for Construction:

<u>Item Description</u>	<u>Concrete Mixture</u>	<u>MDOT Section</u>
Concrete Curb or Curb & Gutter – Any Type	P1, S2	601, 701
4" Concrete Sidewalk, Modified	P1, P2, S2, S3	601, 701
6" Concrete Sidewalk, Ramp, Drive Approach, High-Early	P-NC	601
Concrete Type M Drive Opening, High-Early	P-NC	601

CONSTRUCTION METHODS

General

Curb, gutter, curb and gutter, sidewalk, sidewalk ramps, drive openings, and drives shall be replaced the same day they are removed.

Concrete items, including sidewalk, non-integral curb/gutter, drives, and structure adjustments shall be completed prior to the placement of pavement.

All subgrade work shall be completed prior to placing concrete items, unless directed or approved by the Engineer.

The subbase shall be trimmed to final elevation before placing curb. Curb shall not be placed on a pedestal or mound.

**DETAILED SPECIFICATION
FOR
ITEM #236 – CONCRETE CURB OR CURB & GUTTER - ANY TYPE
ITEM #237 – 4” INCH CONCRETE SIDEWALK, MODIFIED
ITEM #238 – 6” CONCRETE SIDEWALK, RAMP OR DRIVE APPROACH, HIGH-EARLY
ITEM #239 - CONCRETE TYPE M DRIVE OPENING, HIGH-EARLY**

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The Contractor shall excavate, cut, remove stumps, remove brush, remove pavement, grade, and trim as needed and as directed, and shall import, furnish, fill, place, grade, and compact Class II granular material and 21AA Aggregate material as needed to: construct new concrete items; to repair or replace existing concrete items; to relocate existing concrete items to their new specified/directed elevations/locations, including all necessary grading at elevation changes of curb and gutter, sidewalks and ramps; and at locations where existing concrete items are to be removed and turf is to be established in its place.

At locations where the subgrade, subbase or base becomes either disturbed, saturated or otherwise damaged, and where directed by the Engineer, the Contractor shall remove a minimum 6-inch thick layer of the subgrade, subbase or base, and replace it with approved 21AA Aggregate material, compacted in place.

The Contractor shall coordinate with the City Forester prior to the removal of any tree roots.

The Contractor is responsible for any damage to concrete items, including but not limited to vandalism; vehicular, pedestrian and/or miscellaneous structural damage; surface texture damage; and rain damage.

The Contractor shall maintain on-site at all times, a sufficient quantity of adequate materials to protect concrete items. The Engineer may suspend or defer concrete placement if rain protection is not available. The Contractor shall not be entitled to any additional compensation due to work suspension or deferral resulting from a lack of adequate rain protection.

The Contractor shall perform full-depth saw cutting at removal limits, including those necessary to construct 2-foot wide Type M drive openings, and including those necessary to provide for the partial removal of existing drive approaches, as shown on the Plans, as directed by the Engineer, and as marked for removal.

The subbase and adjacent concrete shall be sufficiently wet-down with water prior to placing concrete, to prevent water loss from the new concrete, and to form a better bond between old and new concrete. If a cold-joint becomes necessary, the existing concrete surface(s) shall be cleaned with compressed air to expose the aggregate in the concrete.

Where it is necessary to remove existing pavement to provide space for concrete formwork, a sufficient amount of the existing pavement shall be removed to allow for the use of a vibratory plate compactor in front of the curb.

Where concrete items are placed in areas adjacent to existing pavement that is beyond the general resurfacing (pavement removal and/or milling) limits, the adjacent pavement area shall be backfilled and permanently patched within 48-hours of the removal of concrete formwork. The backfill material shall be

MDOT 21AA aggregate compacted in place to 95%, up to the elevation of the proposed bottom of pavement. The pavement patching material(s) shall be as specified and as directed by the Engineer.

**DETAILED SPECIFICATION
FOR
ITEM #236 – CONCRETE CURB OR CURB & GUTTER - ANY TYPE
ITEM #237 – 4” INCH CONCRETE SIDEWALK, MODIFIED
ITEM #238 – 6” CONCRETE SIDEWALK, RAMP OR DRIVE APPROACH, HIGH-EARLY
ITEM #239 - CONCRETE TYPE M DRIVE OPENING, HIGH-EARLY**

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Where concrete items are placed adjacent to existing pavement that is within areas scheduled for subsequent pavement removal and/or milling, the adjacent pavement area shall, within 48-hours of the removal of concrete formwork, be backfilled with MDOT 21AA aggregate compacted in place to 95% up to the elevation of the bottom of the adjacent pavement.

Prior to compacting backfill in front of curb and gutter, the back of curb shall be backfilled with approved material and compacted by mechanical means to 95%.

At various times throughout the work, the Engineer may direct the Contractor to use smaller and/or lighter equipment, and to defer certain work tasks, in order to protect the grade and/or adjacent areas. The Contractor shall not be entitled to any additional compensation for the use of smaller equipment, lighter equipment, or work task deferral.

Restoration

The Contractor shall restore all disturbed areas to better than or equal to their original condition within two calendar days from the date of concrete placement. This includes the placement and compaction of 2.5 inches of topsoil, followed by the placement of grass seed, followed by the placement of 0.5 inches of topsoil, at all turf restoration locations, and at locations where concrete items are removed and turf is to be established. Restoration shall also include the replacement of any brickwork, decorative stone, or other adjacent materials. All restoration work and materials shall be in accordance with the City of Ann Arbor Standard Specifications for Construction.

Contraction Joints in Sidewalk

Contraction joints shall be placed at 5-foot intervals and may be tooled or sawed. The method of forming joints and spacing shall be approved by the Engineer prior to construction.

Expansion Joints in Sidewalks

¾-inch wide expansion joints shall be placed through concrete sidewalks in line with the extension of all property lines, at all expansion joints in the abutting curb, gutter, and combination curb and gutter, and as directed by the Engineer. Transverse expansion joints shall be placed through the sidewalks at uniform intervals of not more than 300-feet.

½-inch wide expansion joints shall be placed between the sidewalk and back of abutting curb or gutter, at the juncture of two sidewalks, between the sidewalk and buildings and other rigid structures, and as directed by the Engineer.

Expansion Joints in Curb and Gutter

¾-inch wide expansion joints shall be placed at all street returns, at all expansion joints in an abutting pavement, at each side of all driveways (at radius points), elsewhere at 300-foot maximum intervals, and as directed by the Engineer.

Expansion joint material shall extend to the full depth of the joint. After installation, the top shall not be above the concrete nor be more than ½-inch below it. No reinforcing steel shall extend through expansion joints.

**DETAILED SPECIFICATION
FOR
ITEM #236 – CONCRETE CURB OR CURB & GUTTER - ANY TYPE
ITEM #237 – 4” INCH CONCRETE SIDEWALK, MODIFIED
ITEM #238 – 6” CONCRETE SIDEWALK, RAMP OR DRIVE APPROACH, HIGH-EARLY
ITEM #239 - CONCRETE TYPE M DRIVE OPENING, HIGH-EARLY**

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Plane of Weakness Joints in Curb and Gutter

Intermediate plane of weakness joints shall be placed to divide the structure into uniform sections, normally 10-feet in length, with a minimum being 8-feet in length, and shall be placed opposite all plane of weakness joints in the abutting concrete base course.

Plane of weakness joints shall be formed by narrow divider plates, which shall extend 3-inches into the exposed surfaces of the curb or curb and gutter. Plates shall be notched, if necessary, to permit the steel reinforcement to be continuous through the joint.

MEASUREMENT AND PAYMENT

The work of furnishing and installing mechanical anchors and hook bolts will be measured and paid for by the number of hook bolts installed.

All concrete pavement repair, including that which is installed with integral curb and gutter, will be measured and paid for by the area actually placed in square yards (SY).

No additional compensation will be paid for the construction of concrete items adjacent to existing concrete curb, gutter, pavement, or any other pavement or surface feature(s).

No additional compensation will be paid for the removal of a 6-inch thick layer of the subgrade, subbase or base, and replacement with approved 21AA aggregate material, compacted in place.

A deduction in length for catch basins and inlet castings will be made to measurements of Curb and Gutter.

Curb, gutter, and curb and gutter shall be paid as "Concrete Curb or Curb & Gutter – Any Type, Modified".

Restoration work, including backfilling, compacting, HMA patching adjacent to concrete items, topsoiling and seeding will not be paid for separately, but shall be included in the appropriate associated items of work.

Payment for saw cutting for Type M openings and for partial removal of existing drives shall be included in the price for the item of work, "Remove Concrete Sidewalk, Ramp and Drives - Any Thickness, Modified", and will not be paid for separately.

Payment for the removal of HMA pavement and aggregate base to provide space for concrete formwork and vibratory plate compactor shall be included in the price for the item of work, "Remove Concrete Curb or Curb and Gutter - Any Type, Modified", and will not be paid for separately.

**DETAILED SPECIFICATION
FOR
ITEM #236 – CONCRETE CURB OR CURB & GUTTER - ANY TYPE
ITEM #237 – 4” INCH CONCRETE SIDEWALK, MODIFIED
ITEM #238 – 6” CONCRETE SIDEWALK, RAMP OR DRIVE APPROACH, HIGH-EARLY
ITEM #239 - CONCRETE TYPE M DRIVE OPENING, HIGH-EARLY**

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Completed work as measured for these items of work will be paid for at Contract Unit Prices for the following Contract (Pay) Items:

<u>PAY ITEMS</u>	<u>PAY UNIT</u>
Concrete Curb or Curb & Gutter – Any Type	Lineal Foot
4” Concrete Sidewalk, Modified	Square Foot
6” Concrete Sidewalk, Ramp, Drive Approach, High Early	Square Foot
Concrete Type M Drive Opening, High Early	Lineal Foot

The unit prices for these items of work shall include all labor, material, and equipment costs to perform all the work specified in the Standard Specifications and as modified by this Detailed Specification.

**DETAILED SPECIFICATION
FOR
ITEM #240 – ADJUST STRUCTURE COVER, MODIFIED**

1 of 2

DESCRIPTION

This work shall consist of the final adjustment of existing public utility structure covers, including monument boxes, in accordance with Section 403 of Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, as herein specified, and as directed by the Engineer.

MATERIALS

The concrete used for encasing the final adjustment of all structure covers shall meet the requirements for P-NC concrete (658 lb/cyd) as specified in Section 601 of the MDOT 2012 Standard Specifications for Construction.

CONSTRUCTION METHODS

Manhole covers, water valve boxes and all other public utility underground access or control point covers shall be adjusted to conform to the finished surface section and elevation. The adjusting of castings in areas of concrete pavement or lawn shall be performed in a one-step process. The adjusting of castings in a HMA pavement area shall be done in two steps: step one is the lowering of the structure cover to below the subgrade elevation and plating of the structure; step two is the final adjustment to finish grade made prior to placing the HMA top surface.

All structures final adjustment are to be to the elevation, which results in their top surface being flush with the finished grade. The work is to be accomplished and checked by using a 10-foot straight edge parallel with the pavement centerline. Failure to meet these conditions will result in the readjustment of the structure and finish patching of the area, as directed by the Engineer, at the Contractor's expense.

All private utility manhole and valve covers (Edison, Gas, Ameritech, etc.) will be adjusted during this project by the Utility. It is the responsibility of the Contractor to coordinate with these private utilities by giving adequate notice and arranging for any adjustment of structures or valves by these utilities.

The transporting of replacement castings from and/or salvaged castings to the City of Ann Arbor Utilities Yard, at the W.R. Wheeler Service Center at 4251 Stone School Road, Ann Arbor, MI 48108, shall be considered included in the items of work "Drainage Structure Covers, Adjust, Modified". All salvaged covers and castings (of any type) shall be returned by the Contractor, at his expense, to the City's Yard at 2000 South Industrial Highway within two days from the date of their removal.

All drainage structures covers, utility covers, monuments, and gate valve boxes shall be backfilled with Grade HE concrete from the depth of excavation necessary for adjustment to an elevation 2" below the top flange or adjusted casting. This material shall be included in this item of work and will not be paid for separately.

The Contractor shall replace covers and/or castings, as directed by the Engineer.

There is a possibility that the Contractor may find hidden utility structures during the work. It is the Contractor's responsibility to inform the respective utility owner(s) of the findings. In such instances, the City may direct the Contractor to adjust the structure(s) to grade. This work will be paid as Adjust Structure Cover, Modified.

**DETAILED SPECIFICATION
FOR
ITEM #240 – ADJUST STRUCTURE COVER, MODIFIED**

2 of 2

MEASUREMENT AND PAYMENT

The completed work as measured for Adjust Structure Cover, Modified will be paid for at the contract unit price for the following contract item:

PAY ITEM

PAY UNIT

Adjust Structure Cover, Modified

Each

Adjust Structure Cover, Modified will be measured and paid for at the contract unit price for each structure that is adjusted, which price shall be payment in full for all labor, equipment and material needed to accomplish this work.

**DETAILED SPECIFICATION
FOR
ITEM #241 – CLEAN-UP & RESTORATION, SPECIAL**

1 of 2

DESCRIPTION

This item of work shall conform to Division IX, Section II, Item No. 891, Clean-Up & Restoration of the Public Services Area Standard Specifications, and Section 816 of Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, except as specified herein.

This work shall include the removal of all surplus materials from the site including; but not limited to; tools, dirt, rubbish, construction debris, and excess excavated material. This work shall also include the restoration of all existing lawn areas, road surfaces, culverts, drives, and sidewalks disturbed by the work. This work includes placing topsoil, fertilizer, seeding, and furnishing and installing mulch blankets on all disturbed areas as approved by the Engineer. Mulch blankets are required on all seeded areas.

MATERIALS

The materials shall meet the requirements specified in Sections 816.02 and 917 the Michigan Department of Transportation (MDOT) 2012 Standard Specifications as designated, as specified herein, and as approved by the Engineer:

- Topsoil. See Section 917.07.
- Seed mixture shall be THM. See Table 8 16-1 for description and rate of application, and Table 917-1 for purity, germination, and proportions.
- Fertilizers shall be a Class A. See Section 816.03.B for rate of application, and Section 917.10.B.1 for composition requirements.
- Water used shall be obtained from fresh water sources and shall be free from injurious chemicals and other toxic substances.
- Mulch blankets shall be High Velocity Straw Mulch Blankets as specified in Section 917.15.B.1b.

CONSTRUCTION, MAINTENANCE, AND ACCEPTANCE

Perform restoration and establish turf in accordance Section 816.03 of MDOT 2012 Standard Specifications for Construction.

It is the responsibility of the Contractor to establish a dense lawn of permanent grasses, free from mounds and depressions prior to final acceptance and payment of this project. Any portion of a seeded area that fails to show a uniform germination shall be reseeded. Such reseeded shall be at the Contractor's expense and shall continue until a dense lawn is established. The Contractor is responsible for restoring all areas disturbed by his construction.

The Contractor shall maintain all lawn areas until they have been accepted by the Engineer. Lawn maintenance shall begin immediately after the grass seed is in place and continue until final acceptance with the following requirements:

**DETAILED SPECIFICATION
FOR
ITEM #241 – CLEAN-UP & RESTORATION, SPECIAL**

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Lawns shall be protected and maintained by watering, mowing, and reseeded as necessary, until the period of time when the final acceptance and payment is made by the Engineer for the project, to establish a uniform, weed-free, stand of the specified grasses. Maintenance includes furnishing and installing additional topsoil, and reseeded all as may be required to correct all settlement and erosion until the date of final acceptance.

Damage to seeded areas resulting from erosion shall be repaired by the Contractor at the Contractor's expense. Scattered bare spots in seeded areas will not be allowed over three (3) percent of the area nor greater than 6"x 6" in size.

When the above requirements have been fulfilled, the Engineer will accept the lawn. Cleanup and Restoration must be performed upon the completion of each sub-phase of work (as described in the Detailed Specification for Project Schedule), and not as one single operation at the completion of the entire project.

MEASUREMENT AND PAYMENT

Measurement and payment for this item of work shall conform to Division IX, Section 2, Item No. 891, Clean-Up & Restoration of the Public Services Area Standard Specifications except as modified herein.

The completed work for "Clean-Up & Restoration, Special" will be paid for on a lump sum (LS) basis. 80% of said lump sum shall be paid upon completion and approval of the site by the Engineer. By May 31st of the year following the completion of the project, the Engineer will inspect the seeded turf to ensure that the end product is well established; weed free, and in a growing and vibrant condition. If the Engineer determines that the restored areas meet the project requirements, the remaining 20% of the lump sum will be paid. If the Engineer determines that the restored areas do not meet the project requirements, the Contractor will continue with any and all measures necessary to meet the project requirements. All costs associated with the remedial measures shall be borne entirely by the Contractor.

Pay Item

Pay Unit

Clean-Up & Restoration, Special

Lump Sum

**DETAILED SPECIFICATION
FOR
ITEM #242 –SDR 26 PVC 45° BEND, 6”**

1 of 1

DESCRIPTION AND MATERIALS

This work shall consist of installing 6 inch SDR 26 PVC 45°bends, as specified herein, as shown on the Plans, and as directed by the Engineer.

Materials shall meet the requirements of the City of Ann Arbor Standard Specifications.

CONSTRUCTION

The installation of 6 inch SDR 26 PVC 45 degree bends shall be in accordance with the City of Ann Arbor Standard Specifications and as shown on the plans or as directed by the Engineer.

MEASUREMENT AND PAYMENT

The completed work as measured for these items of work will be paid for at the Contract Unit Price for the following Contract (Pay) Items:

PAY ITEM

PAY UNIT

SDR 26 PVC, 45° bend, 6”

Each

The unit prices for these items of work shall include all labor, material, and equipment costs to perform all the work specified in the Standard Specifications and as modified by this Detailed Specification.

**DETAILED SPECIFICATION
FOR
ITEM #243 – GRANULAR MATERIAL, CL II**

1 of 1

DESCRIPTION

This work consists of placing Granular Material, Cl II as backfill for subgrade undercutting or for use as otherwise directed by the Engineer. Work shall be done in accordance with Section 205 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, and as directed by the Engineer.

MATERIALS

Material will be Granular Material Class II in accordance with that specified in Sections 205.02 and 902 of the MDOT 2012 Standard Specifications for Construction.

CONSTRUCTION METHODS

Maintenance Gravel will be constructed in accordance with Section 205.03 of the MDOT 2012 Standard Specifications for Construction, and as directed by the Engineer.

MEASUREMENT AND PAYMENT

The completed work will be paid for at the contract unit price for the following contract item (pay item).

PAY ITEM

Granular Material, Cl II

PAY UNIT

Cubic Yard

Granular Material, Cl II will be measured by the unit cubic yard in accordance with Section 205.04 of the MDOT 2012 Standard Specifications for Construction, and as directed by the Engineer, and will be paid for at the unit price per cubic yard. The unit price for this contract item includes all labor, material, and equipment costs required to perform the work.

**DETAILED SPECIFICATION
FOR
GENERAL CONSTRUCTION NOTES**

The following notes pertain to all Plan sheets issued as part of this Contract, and these notes shall be considered part of each Plan sheet or Detailed Information Sheet.

1. All work shall conform to latest revision of the City Standard Specifications.
2. The Contractor shall maintain access to all drives throughout the course of construction. Drives shall never be closed during non-working hours, unless otherwise authorized in writing by the Engineer.
3. The Contractor shall completely restore all existing site features to better than, or equal to, their existing condition.
4. The Contractor shall be aware that there are above-ground and below-ground utilities existing in and on these streets which include, but are not limited to: gas mains and service leads; water mains and service leads; storm sewer mains and service leads; sanitary sewer mains and service leads; telephone poles, wires, cables and conduits; electrical poles, wires, cables and conduits; cable television wires, cables and conduits, and other various utilities. The Contractor shall conduct all of its work so as not to damage or alter in any way, any existing utility, except where specified on the Plans or where directed by the Engineer. The City has videotaped and cleaned all sanitary and storm sewers, including storm sewer inlet leads, and has found all of these facilities to be in good condition, with the exception of those shown on the Plans for repairs or replacement.
5. The Contractor is solely responsible for any delays, damages, costs and/or charges incurred due to and/or by reason of any utility, structure, feature and/or site condition, whether shown on the Plans or not, and the Contractor shall repair and/or replace, at its sole expense, to as good or better condition, any and all utilities, structures, features and/or site conditions which are impacted by reason of the work, or injured by its operations, or injured during the operations of its subcontractors or suppliers.
6. No extra payments or adjustments to unit prices will be made for damages, delays, costs and/or charges due to existing utilities, structures, features and/or site conditions not shown or being incorrectly shown or represented on the Plans.

**DETAILED SPECIFICATION
FOR
DISPOSING OF EXCAVATED MATERIAL**

The Contractor shall dispose of, at the Contractor's expense, all excavated material. Costs for this work will not be paid for separately, but shall be included in the bid price of the Contract Item "General Conditions, Modified, Maximum, \$_____".

**DETAILED SPECIFICATION
FOR
PROTECTION OF UTILITIES**

Damages to utilities by the Contractor's operations shall be repaired by the utility owner at the Contractor's expense.

Delays to the work due to utility repairs are the sole responsibility of the Contractor.

The Contractor shall keep construction debris out of utilities at all times. The Contractor shall be back charged an amount of \$50.00 per day for each manhole/inlet/utility pipe that contains construction debris caused as a result of the Contractor's (including subcontractors and suppliers) work.

The Contractor is solely responsible for any damages to the utilities or abutting properties due to construction debris.

Certain sanitary and storm sewers within the influence of construction may have been cleaned and videotaped prior to construction. The City may also choose to videotape utility line(s) during or after the work of this Contract to inspect them for damages and/or construction debris. If such inspection shows damage and/or debris, then all costs of such inspection, cleaning, repairs, etc, shall be the Contractor's sole responsibility. If such inspection is negative, the City will be responsible for the costs of such inspection.

Costs for this work will not be paid for separately, but shall be included in the bid price of the Contract Item "General Conditions, Modified, Maximum, \$_____".

**DETAILED SPECIFICATION
FOR
SOIL EROSION AND SEDIMENTATION CONTROL MEASURES**

The Contractor shall furnish, place, maintain and remove soil erosion and sedimentation control measures, including but not limited to, fabric filters at all drainage structures, all in accordance with all applicable City (and other governmental agencies) codes and standards, as directed by the Engineer, as detailed in the Standard Specifications, and as shown on the Plans.

Costs for this work will not be paid for separately, but shall be included in the bid price of the Contract Item "General Conditions, Modified, Maximum, \$_____".

**DETAILED SPECIFICATION
FOR
VACUUM TYPE STREET AND UTILITY STRUCTURE CLEANING EQUIPMENT**

The Contractor shall furnish and operate throughout the construction period, vacuum type street cleaning and utility structure cleaning equipment (Vac-All, Vactor, etc.) approved by the Engineer, as and when directed by the Engineer for dust control, for dirt/debris control, and for street cleaning immediately prior to, and for street and utility structure cleaning after any and all paving. The cleaning equipment shall be of sufficient power to remove dust, dirt, and debris from the pavement and from utility structures in and adjacent to the construction area.

Costs for this work will not be paid for separately, but shall be included in the bid price of the Contract Item "General Conditions, Modified, Maximum, \$_____".

**DETAILED SPECIFICATION
FOR
MATERIALS AND SUPPLIES CERTIFICATIONS**

The following materials and supplies shall be certified by the manufacturer or supplier as having been tested for compliance with the Specifications:

- HMA materials
- Hot-poured Joint Sealants
- Cements, coatings, admixtures and curing materials
- Sands and Aggregates
- Steel and Fabricated metal
- Portland Cement Concrete Mixtures
- Reinforcing Steel for Concrete
- Reinforcing Fibers for Concrete
- Pre-cast Concrete products
- Sanitary Sewer Pipe
- Storm Sewer Pipe
- Water Main Pipe
- Corrugated Metal Pipe
- High Density Polyethylene Pipe
- Timber for retaining walls
- Modular Concrete Block for retaining walls
- Edge Drain and Underdrain Pipe
- Geotextile Filter Fabric and Stabilization Fabric/Grids

The Contractor shall submit all certifications to the Engineer for review and approval a minimum of three business days prior to any scheduled delivery, installation, and/or construction of same.

Costs for this work will not be paid for separately, but shall be included in the bid price of the Contract Item "General Conditions, Modified, Maximum, \$_____".

**DETAILED SPECIFICATION
FOR
CONCRETE DURABILITY**

1 of 6

DESCRIPTION

The Contractor shall furnish a Portland cement concrete mixture for this project that has been tested under this specification and shown to be resistant to excessive expansion caused by alkali-silica reactivity (ASR) and provides adequate air entrainment for freeze thaw durability. The Contractor shall construct the project with practices outlined in this specification.

MATERIALS

The materials provided for use on this project shall conform to the following requirements:

Portland cement	ASTM C 150
Fine Aggregate	ASTM C 33*
Coarse Aggregate	ASTM C 33*
Fly Ash, Class F	ASTM C 618
Slag Cement, Grade 100, 120	ASTM C 989
Silica Fume	ASTM C 1240
Blended Cements	ASTM C-595
Air Entraining Admixtures	ASTM C-260
Chemical Admixtures	ASTM C-494
White Membrane Cure	ASTM C-309 Type 2

* Fine and coarse aggregates shall consist of natural aggregates as defined in the Michigan Department of Transportation 2012 Standard Specifications for Construction Section 902.02.A.1.

The Contractor shall provide documentation that all materials to be incorporated into proposed mixed designs meet the requirements of this section.

Alkali-Silica Reactivity

The Contractor shall supply to the Engineer preliminary concrete mix designs including a list and location of all suppliers of concrete materials. The Contractor shall evaluate the mixtures for the potential for excessive expansion caused by ASR and provide documentation to the Engineer. The Contractor's evaluation shall include a review of any previous testing of the material sources intended to be used for both the fine and coarse aggregates for the concrete mixtures. The previous testing may be from other projects or records provided by the material suppliers.

Aggregates shall be tested under ASTM C-1260. If the expansion of the mortar bars is less than 0.10%, at 14 days, the aggregates shall be considered innocuous and there are no restrictions for ASR mitigation required with this material.

Previous aggregate test data may be used. If no previous test data is available, for the concrete mix, that shows that it is resistant to ASR, a concrete mixture that will mitigate the potential for ASR must be designed using either method 1 or 2 as described below.

Method 1. Substitution of a portion of the cement with Class F Fly Ash, Slag Cement Grade 100 or 120 or a ternary mix (blended cement) containing a blend of Portland cement and slag cement, or Class F fly ash, or silica fume.

**DETAILED SPECIFICATION
FOR
CONCRETE DURABILITY**

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The maximum substitution of cement with the fly ash permitted shall be 25% by weight of total cementitious material (cement plus fly ash). Additional requirements for the Fly Ash, Class F are that the Calcium Oxide (CaO) percent shall be less than 10 % and the available alkalis shall not exceed a maximum of 1.5%. A copy of the most recent mill test report shall be submitted to verify. Note: a Class C fly ash with a minimum total oxides ($\text{SiO}_2 + \text{Al}_2\text{O}_3 + \text{Fe}_2\text{O}_3$) of 66% and a minimum SiO_2 of 38% may be used in lieu of Type F fly ash.

The maximum substitution of cement with the Slag Cement permitted shall be 40% by weight of total cementitious material (cement plus Slag Cement). The minimum replacement rate with Slag Cement shall be 25%.

For a ternary blend the total replacement of supplementary cementitious materials is 40% with a blend consisting of a maximum of 15% type F fly ash, and/or 8% silica fume and/or slag cement.

For method 1, the effectiveness of the proposed mix combination to resist the potential for excessive expansion caused by ASR shall be demonstrated using current or historic data. To demonstrate the effectiveness of the proposed mix the Contractor shall construct and test mortar bars per ASTM C1567 (14 day test) using both the fine and coarse aggregate along with the proposed cementitious material for the concrete mixture. If a mortar bar constructed of these materials produces an expansion of less than 0.10%, concrete mixture will be considered to be resistant to excessive expansion due to ASR.

If a mortar bar constructed produces an expansion of 0.10% or greater, concrete mixtures containing these materials shall not be considered resistant to the potential for excessive expansion due to ASR and shall be rejected. Additional testing, including alternate proportions or different materials will be required.

Method 2. Use low alkali cement and maintain the total alkali content from the cementitious at no more than 3.0 lbs/cyd ($\text{Na}_2\text{O}_{\text{eq}}$). The total alkali contribution is calculated by the quantity contained in the Portland cement only.

Requirements for Low Alkali Cement are that the alkali content does not exceed 0.60% expressed as Na_2O equivalent. Equivalent sodium oxide is calculated as: (percent Na_2O + 0.658 x percent K_2O).

For either method 1 or 2, if the Contractor intends to change any component material supplied after the mix design has been approved all concrete work will be suspended with no cost to the project or extensions of time, unless approved, until evaluation of the new mixtures and testing of the new materials demonstrates that it is resistant to excessive expansion due to ASR.

The Engineer and Contractor shall monitor the concrete that is delivered to the project site so as to insure that the approved mix design is being followed. The supplier shall include on the delivery ticket for each batch of concrete delivered to the job, the identification and proportions of each material batched.

When concrete is placed during cold weather, defined for the purposes of this Detailed Specification to be, air temperatures below 40° F, the use of accelerators, heated aggregates, silica fume and/or additional forms of cold weather protection will be required. Cold weather will not eliminate the requirement for furnishing and placing a concrete mix that is considered resistant to ASR attack.

Prior to cool weather placement, defined for the purposes of this detailed specification to be, air temperatures between 40° and 60° F, the set time of the proposed mix shall be verified under anticipated field conditions. This information shall be used when scheduling pours and saw crews.

**DETAILED SPECIFICATION
FOR
CONCRETE DURABILITY**

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Prior to cool weather placement, defined for the purposes of this detailed specification to be, air temperatures between 40° and 60° F, the set time of the proposed mix shall be verified under anticipated field conditions. This information shall be used when scheduling pours and saw crews.

Air Entrainment

Air entrainment shall be accomplished by addition of an approved air entraining agent. Air content as determined by ASTM C 231 or ASTM C 173, shall be determined on each day of production as early and as frequently as necessary until the air content is consistently acceptable. If during the period of time while adjustments are being made to the concrete to create a mixture that is consistently acceptable, concrete is produced that does not meet the requirements of this Detailed Specification, the Engineer may reject the material and direct it to be removed from the jobsite. Any rejected material shall be removed from the jobsite at the Contractor's sole expense. Quality Control testing performed by the Contractor to ensure compliance with the project specifications shall be performed on the grade ahead of the placement operation.

Paver placement: During production, the plastic concrete material shall be tested for acceptance at a point ahead of the paver. The air content of the concrete mixture that the Contractor shall provide shall be known as the Acceptance Air Content (AAC). The Contractor shall also provide additional entrained air in the concrete mixture to account for the air loss which occurs in the concrete mixture experienced during transportation, consolidation and placement of the concrete. The "air loss" shall be added to the air content of the concrete mixture as established on the approved concrete mix design. The AAC for the project will be 6.0% plus an amount equal to the air loss.

For up to the first four loads, the air content measured on-site prior to placement shall be at least 8.0% and no more than 12.0%. To establish the initial AAC on the first day of paving, the air content of the first load shall be tested at the plant. After initial testing at the plant the Contractor shall provide at least two sample sets to determine the actual air loss during placement. A sample set shall consist of two samples of concrete from the same batch, one taken at the point of discharge and the other from the in-place concrete behind the paver. The air loss from the two sample sets shall be averaged and added to 6.0% to establish the AAC (rounded to the next higher 0.5%). After the testing and adjustment procedure(s) have been completed, the project acceptance air tests shall be taken prior to placement. The Contractor shall provide concrete to the jobsite that has an air content of plus 2.0%, or minus 1.0%, of the AAC.

After the AAC has been established, it shall be verified and/or adjusted through daily checks of the air loss through the paver. The Contractor shall check the air loss through the paver a minimum of two times a day. A Revised AAC shall be required to be established by the Contractor if the average air loss from two consecutive tests deviates by more than 0.5% from the current accepted air loss. The testing operations performed by the Contractor to establish a revised AAC shall be performed to the satisfaction of the Engineer. The Contractor shall be solely responsible for any delays and/or costs that occur to the project while establishing revised AACs.

CONSTRUCTION METHODS

Aggregate Control

Gradation control – The supplier shall provide a detailed stockpile management plan, describing their process control procedure for shipping, handling, and stockpiling of each aggregate including workforce training.

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**DETAILED SPECIFICATION
FOR
CONCRETE DURABILITY**

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CONSTRUCTION METHODS

Aggregate Control

Gradation control – The supplier shall provide a detailed stockpile management plan, describing their process control procedure for shipping, handling, and stockpiling of each aggregate including workforce training.

Moisture control – All aggregate materials must be conditioned to a moisture content of not less than saturated surface dry (SSD) prior to batching. A watering process using an effective sprinkler system designed and operated by the Contractor shall be required on all coarse aggregate material stockpiles.

The Contractor shall provide verification that these processes have been performed by the supplier. The Engineer reserves the right to independently verify that the supplier has complied with these standards.

Mixing

Central mix plants - The total volume of the batch shall not exceed the designated size of the mixer or the rated capacity as shown on the manufacturer's rating plate.

Drum Mix Plants: After all solid materials are assembled in the mixer drum; the mixing time shall be a minimum of 60 seconds and a maximum of 5 minutes. The mixing time may be decreased if the ASTM C-94 11.3.3 mixer efficiency tests show that the concrete mixing is satisfactory. The Engineer may require an increase in the minimum mix time if the mixer efficiency test determines that the concrete is not being mixed satisfactorily. The minimum mixing time shall start after the mixer is fully charged. Mixers shall be operated at the speed recommended by the manufacturer as mixing speed. The mixer shall be charged so that a uniform blend of materials reached the mixer through out the charging cycle. Any additional slump water required shall be added to the mixing chamber by the end of the first 25% of the specified mixing time. Mixers shall not be used if the drum is not clean or if the mixing blades are damaged or badly worn

Ribbon mixers: After all solid materials are assembled in the mixer; the mixing time shall be a minimum of 30 seconds and a maximum of 2.5 minutes. The mixing time may be decreased if the ASTM C-94 11.3.3 mixer efficiency tests show that the concrete mixing is satisfactory. The Engineer may require an increase in the minimum mix time if the mixer efficiency test determines that the concrete is not being mixed satisfactorily. The minimum mixing time shall be indicated by an accurate timing device which is automatically started when the mixer is fully charged. Mixers shall be operated at the speed recommended by the manufacturer as mixing speed. The mixer shall be charged so that a uniform blend of materials reached the mixer through out the charging cycle. After any additional slump water is added to the mixing chamber the mixing shall continue for a minimum of 10 seconds. Mixers shall not be used if the mixer is not clean or if the mixing blades are damaged or badly worn.

**DETAILED SPECIFICATION
FOR
CONCRETE DURABILITY**

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Truck Mixers -The capacities and mixing capabilities shall be as defined in ASTM C 94, and each unit shall have an attached plate containing the information described therein. The plate may be issued by the Truck Mixer Manufacturer. The mixer capacity shall not be exceeded, and the mixing speeds shall be within the designated limits. Truck mixers shall be equipped with a reliable reset revolution counter. If truck mixers are used for mixing while in transit, the revolution counter shall register the number of revolutions at mixing speed.

An authorized representative of the concrete producer shall certify that the interior of the mixer drum is clean and reasonably free of hardened concrete, that the fins or paddles are not broken or worn excessively, that the other parts are in proper working order, and that the unit has been checked by the representative within the previous 30 calendar day period to substantiate this certification. The current, signed certification shall be with the unit at all times.

The required mixing shall be between 70 and 90 revolutions. The mixing shall be at the rate designated by the manufacturer and shall produce uniform, thoroughly mixed concrete.

The Engineer may inspect mixer units at any time to assure compliance with certification requirements, and removal of inspection ports may be required. Should the Engineer question the quality of mixing, the Engineer may check the slump variation within the batch. Should the slump variation between two samples taken, one after approximately 20% discharge and one after approximately 90% discharge of the batch, show a variation greater than 3/4 inch (20 mm) or 25% of the average of the two, whichever is greater, the Engineer may require the mixing to be increased, the batch size reduced, the charging procedure be modified or the unit removed from the work.

The practice of adding water on the site shall be discouraged. After the slump of the concrete in the first round of trucks has been adjusted on-site, the amount of water added at the plant shall be adjusted accordingly for that day's work. All additions of water on site shall be approved by the Engineer.

CURING

Apply liquid curing compound in a fine atomized spray to form a continuous, uniform film on the horizontal surface, vertical edges, curbs and back of curbs immediately after the surface moisture has disappeared, but no later than 30 minutes after concrete placement. With approval of the Engineer, the timing of cure application may be adjusted due to varying weather conditions and concrete mix properties.

The cure system shall be on site and tested prior to concrete placement.

Apply a curing compound at a rate of application not less than 2 gallons per 25 square yards. The Contractor shall keep the material thoroughly mixed per the Manufacturer's recommendations. The curing compound shall not be diluted.

The finished product shall appear as a uniformly painted solid white surface. Areas exhibiting a blotchy or spotty appearance shall be recoated immediately.

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**DETAILED SPECIFICATION
FOR
CONCRETE DURABILITY**

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COMPLIANCE WITH STANDARDS

The Engineer will review and approve all material test reports and mix designs supplied by the Contractor before any placement of concrete. The Engineer will visually inspect the placed concrete and review the concrete test reports prior to final acceptance.

Acceptance sampling and testing will be performed using the sampling method and testing option selected by the Engineer. Acceptance testing will be performed at the frequency specified by the Engineer. Quality control measures to insure job control are the responsibility of the Contractor. The Engineer's testing and/or test results will not relieve the Contractor from his/her responsibilities to produce, deliver, and place concrete that meets all project requirements. The Engineer's test results are for acceptance purposes only.

If the results of the testing are not in compliance with the project specifications, the Engineer shall determine appropriate corrective action(s). Time extensions will not be granted to the Contractor during the time that the Engineer is determining the necessary corrective actions.

If, in the Engineer's judgment, the rejected material must be replaced, the material in question will be removed and replaced at the Contractor's sole expense. The removal costs will be deemed to include all relevant and associated costs including, but not limited to; re-mobilization, traffic control, re-grading the aggregate base course, if required, placement of material meeting the project specifications, and all other expenses. Time extensions will not be granted to the Contractor for any required repair work to meet the requirements of this specification.

If the Engineer decides that the material in question can remain in place, an adjustment to the contract unit price(s) may be made of up to 100% of the bid price(s) for the affected items of work.

MEASUREMENT AND PAYMENT

The cost associated with complying with the requirements as described herein, including any required remedial action(s), shall be included in the cost of other items of work and shall not be paid for separately.

ATTACHMENTS

- 1) Instructions for Contractors for Completing Contract Compliance Form
- 2) Human Rights Contract Compliance Form – Entire Organization
- 3) Human Rights Contract Compliance Form – Local Office
- 4) Living Wage Ordinance Poster (2014-2015)
- 5) Living Wage Ordinance – Declaration of Compliance Form
- 6) Vendor Conflict of Interest Disclosure Form
- 7) Legal Status of Respondent
- 8) Bid Bond
- 9) Power of Attorney

City of Ann Arbor Procurement Office

INSTRUCTIONS FOR CONTRACTORS

For Completing CONTRACT COMPLIANCE FORM

City Policy

The “non discrimination in contracts” provision of the City Code, (Chapter 112, Section 9:161) requires contractors/vendors/grantees doing business with the City not to discriminate on the basis of actual or perceived race, color, religion, national origin, sex, age, condition of pregnancy, marital status, physical or mental limitations, source of income, family responsibilities, educational association, sexual orientation, gender identity or HIV status against any of their employees, any City employee working with them, or any applicant for employment. It also requires that the contractors/vendors/grantees include a similar provision in all subcontracts that they execute for City work or programs.

This Ordinance further requires that each prospective contractor/vendor submit employment data to the City showing current total employee breakdown by occupation, race and gender. This allows the Procurement Office to determine whether or not the contractor/vendor has a workforce that is reflective of the availability of women and under-represented minorities within the contractor’s labor recruitment area (the area where they can reasonably be expected to recruit employees). ***This data is provided to the City on the Human Rights Contract Compliance Forms (attached).***

To complete the form:

1) If a company has more than one location, then that company must complete 2 versions of the form.

- **Form #1** should contain the employment data for the **entire corporation.**
- **Form #2** should contain the employment data for those employees:
 - who will be working on-site;
 - in the office responsible for completing the contract; or,
 - in the case of non-profit grantees, those employees working on the project funded by the City grant(s).

2) If the company has only one location, fill out Form #1 only.

3) Complete all data in the upper section of the form including the name of the person who completes the form and the name of the company/organization’s president.

4) Complete the Employment Data in the remainder of the form. Please be sure to complete all columns including the Total Columns on the far right side of the form, and the Total row and Previous Year Total row at the bottom of the form.

5) Return the completed form(s) to your contact in the City Department for whom you will be conducting the work.

For assistance in completing the form, contact:

Procurement Office of the City of Ann Arbor
734/794-6576

If a contractor is determined to be out of compliance, the Procurement Office will work with them to assist them in coming into compliance.

**CITY OF ANN ARBOR PROCUREMENT OFFICE
HUMAN RIGHTS CONTRACT COMPLIANCE FORM**
Entire Organization (Totals for All Locations where applicable)

Name of Company/Organization: E.T. Mackenzie Co. Date Form Completed: 8/15/2014
 Name and Title of Person Completing this Form: Heather Hufnagel, HR Name of President: Erdmen T. Mackenzie
 Address: 4248 W. Saginaw Hwy. Grand Ledge, MI 48837 County: Eaton Phone #: 517.627.8408
 (Street address) (City) (State) (Zip) (Area Code)
 Fax#: 517.627.4470 Email Address: hh@mackenzieco.com
 (Area Code)

EMPLOYMENT DATA

Job Categories	Number of Employees (Report employees in only one category)														TOTAL COLUMNS A-L	
	Male							Female								
	White A	Black or African American B	Asian C	Hispanic or Latino D	Native Hawaiian or Other Pacific Islander E	American Indian or Alaska Native F	White G	Black or African American H	Asian I	Hispanic or Latino J	Native Hawaiian or Other Pacific Islander K	American Indian or Alaskan Native L				
Exec/Sr. Level Officials	3															3
Supervisors	15															15
Professionals	9					2										11
Technicians	1															1
Sales																
Admin. Support	6															6
Craftspeople	34			4												38
Operatives	33			3												36
Service Workers	10															10
Labors/Helper	14			2												16
Apprentices																
Other																
TOTAL	125	2		9												142
PREVIOUS YEAR TOTAL	119	2		5												132

**CITY OF ANN ARBOR PROCUREMENT OFFICE
HUMAN RIGHTS CONTRACT COMPLIANCE FORM**

Local Office: (Only those employees that will do local or on-site work, if applicable)

Name of Company/Organization: E.T. Mackenzie Co. Date Form Completed: 8/15/2014
 Name and Title of Person Completing this Form: Heather Hufnagel, HR. Name of President: Ermen F. Mackenzie
 Address: 10400 Jackson Rd. Ann Arbor MI 48103 County: Washtenaw Phone #: 734.761.5050
 (Street address) (City) (State) (Zip) (Area Code)
 Fax#: 734.761.5323 Email Address: h@mackenzieco.com
 (Area Code)

EMPLOYMENT DATA

Job Categories	Number of Employees (Report employees in only one category)												TOTAL COLUMNS A-L				
	Male						Female										
	White A	Black or African American B	Asian C	Hispanic or Latino D	Native Hawaiian or Other Pacific Islander E	American Indian or Alaska Native F	White G	Black or African American H	Asian I	Hispanic or Latino J	Native Hawaiian or Other Pacific Islander K	American Indian or Alaskan Native L					
Exec/Sr. Level Officials																	
Supervisors	2																2
Professionals	1																1
Technicians																	
Sales																	
Admin. Support																	
Craftspeople	2																2
Operatives	3																3
Service Workers																	
Laborers/Helper	2																2
Apprentices																	
Other																	
TOTAL	10																10
PREVIOUS YEAR TOTAL	10																10

Questions about this form? Call Procurement Offices: (734) 794-6576

**CITY OF ANN ARBOR
LIVING WAGE ORDINANCE**

RATE EFFECTIVE APRIL 30, 2014 - ENDING APRIL 29, 2015

\$12.70 per hour

If the employer provides health care benefits*

\$14.18 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
Mark Berryman at 734/794-6500 or mberryman@a2gov.org**

**ATTACHMENT C
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 employers providing services to the City or recipients of grants for financial assistance (in amounts greater than \$10,000 in a twelve-month period of time) pay their employees who are working on the City project or grant, a minimum level of compensation known as the **Living Wage**. This wage must be paid to the employees for the length of the contract/project.

Companies employing fewer than 5 persons and non-profits employing fewer than 10 persons are exempt from the Ordinance. If this exemption applies to your firm, please check below:

- _____ This **company** is exempt due to the fact that we employ or contract with fewer than 5 individuals.
_____ This **non-profit agency** is exempt due to the fact that we employ or contract with fewer than 10 employees.

The Ordinance requires that all contractors/vendors and/or grantees agree to the following terms:

- a) To pay each of its employees performing work on any covered contract or grant with the City, no less than the living wage, which is defined as \$12.70/hour when health care is provided, or no less than \$14.18/hour for those employers that do *not* provide health care. It is understood that the Living Wage will be adjusted each year on April 30, and covered employers will be required to pay the adjusted amount thereafter. The rates stated above include any adjustment for 2014.
- b) Please check the boxes below which apply to your workforce:
- Employees who are assigned to *any covered* City project or grant will be paid at or above the applicable living wage without health benefits Yes _____ No _____
- OR
- Employees who are assigned to *any covered* City project or grant will be paid at or above the applicable living wage with health benefits Yes No _____
- c) To post a notice approved by the City regarding the Living Wage Ordinance in every work place or other location in which employees or other persons contracting for employment are working.
- d) To provide the City payroll records or other documentation as requested; and,
- e) To permit access to work sites to City representatives for the purposes of monitoring compliance, investigating complaints or non-compliance.

The undersigned authorized representative hereby obligates the contractor/vendor or grantee to the above stated conditions under penalty of perjury and violation of the Ordinance.

E.T. Mackenzie Co.
Company Name

Heather Hufnagel
Signature of Authorized Representative

Heather Hufnagel, HR Admin
Type or Print Name and Title

8/15/2014
Date signed

6400 Jackson Rd, Ann Arbor MI 48103
Address, City, State, Zip

517.627.8408
Phone (area code)

hh@mackenzieco.com
Email address

**Questions about this form? Please contact:
Procurement Office City of Ann Arbor
Phone: 734/794-6500**



Vendor Conflict of Interest Disclosure Form

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 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.

Certification: I hereby certify that to my knowledge, there is no conflict of interest involving the vendor named 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:

Vendor Name	Vendor Phone Number
Conflict of Interest Disclosure *	
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 _____ <input type="checkbox"/> Interest in vendor's company _____ <input type="checkbox"/> Other _____

*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.

I certify that the information provided is true and correct by my signature below:

08.20.14
MICHAEL S. MARUS

Signature of Vendor Authorized Representative Date Printed Name of Vendor Authorized Representative

PROCUREMENT USE ONLY

- Yes, named employee was involved in Bid / Proposal process.
- No, named employee was not involved in procurement process or decision.

LEGAL STATUS OF RESPONDENT

(The Respondent shall fill out the appropriate form and strike out the other two.)

By signing below the authorized representative of the Respondent hereby certifies that:

The Respondent is:

- A corporation organized and doing business under the laws of the state of MICHIGAN, for whom MICHAEL S. MAZURAS bearing the office title of VP OF OPERATIONS, whose signature is affixed to this proposal, is authorized to execute contracts on behalf of respondent.*

*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 with the county of _____, whose members are (attach list including street and mailing address for each.)~~

- ~~An individual, whose signature with address, is affixed to this RFP.~~

Respondent has examined the basic requirements of this RFP and its scope of services, including all Addendum (if applicable) and hereby agrees to offer the services as specified in the RFP.

Signature

Date: 08.20.14

(Print) Name MICHAEL S. MAZURAS Title VP OF OPERATIONS

Firm: E.T. MACKENZIE COMPANY

Address: 6400 JACKSON ROAD, ANN ARBOR, MI 48103

Contact Phone (734) 761.5050 Fax (734) 761.5323

Email jnieemiec@mackenzieco.com



Interchange Corporate Center
450 Plymouth Road, Suite 400
Plymouth Meeting, PA. 19462-1644
Ph. (610) 832-8240

BID BOND

Bond Number: Bid Bond

KNOW ALL MEN BY THESE PRESENTS, that we E.T. MacKenzie Company 6400 Jackson Road, Ann Arbor, MI 48103, as principal (the "Principal"), and LIBERTY MUTUAL INSURANCE COMPANY, a Massachusetts stock insurance company, as surety (the "Surety"), are held and firmly bound unto City of Ann Arbor, 301 E Huron Street, Ann Arbor, MI 48104, as obligee (the "Obligee"), in the penal sum of Five Percent of Bid Dollars (\$ 5% of bid), for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents. WHEREAS, the Principal has submitted a bid for: #ITB 4345 Liberty Street, Harvard Place and Arlington Boulevard Sanitary Sewer Extensions Project

NOW, THEREFORE, if the Obligee shall accept the bid of the Principal within the period specified therein, or, if no period be specified, within sixty (60) days after opening, and the Principal shall enter into a contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or contract documents, or in the event of the failure of the Principal to enter into such contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference in money not to exceed the penal sum hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void; otherwise to remain in full force and effect. In no event shall the liability hereunder exceed the penal sum thereof.

PROVIDED AND SUBJECT TO THE CONDITION PRECEDENT, that any claim by Obligee under this bond must be submitted in writing by registered mail, to the attention of the Surety Law Department at the address above, within 120 days of the date of this bond. Any suit under this bond must be instituted before the expiration of one (1) year from the date of this bond. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall apply.

DATED as of this 20th day of August, 2014

WITNESS / ATTEST

Dotthe Peasley

E.T. MacKenzie Company
(Principal)
By: [Signature] (Seal)
Name: Michael S. Marks
Title: Vice President of Operations

LIBERTY MUTUAL INSURANCE COMPANY
(Surety)

By: [Signature] (Seal)
Robert G. Chapman Attorney-in-fact

THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON RED BACKGROUND.

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Certificate No. 6313926

American Fire and Casualty Company
The Ohio Casualty Insurance Company

Liberty Mutual Insurance Company
West American Insurance Company

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS: That American Fire & Casualty Company and The Ohio Casualty Insurance Company are corporations duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Cloyd W. Barnes; David G. Chapman; Marcia J. Miller; Nathan G. Chapman; Robert G. Chapman

all of the city of Lansing, state of MI each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 9th day of October, 2013.



American Fire and Casualty Company
The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

By: Gregory W. Davenport
Gregory W. Davenport, Assistant Secretary

STATE OF WASHINGTON ss
COUNTY OF KING

On this 9th day of October, 2013, before me personally appeared Gregory W. Davenport, who acknowledged himself to be the Assistant Secretary of American Fire and Casualty Company, Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Seattle, Washington, on the day and year first above written.



By: KD Riley
KD Riley, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS – Section 12. Power of Attorney. Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts – SECTION 5. Surety Bonds and Undertakings. Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes Gregory W. Davenport, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, David M. Carey, the undersigned, Assistant Secretary, of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 20th day of August, 2014.



By: David M. Carey
David M. Carey, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.

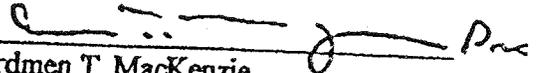
MINUTES OF THE SPECIAL MEETING
OF THE BOARD OF DIRECTORS OF
E. T. MACKENZIE COMPANY

The special meeting of the Directors of E. T. MacKenzie Company, was held at the Corporate Office of the Corporation at 4248 W. Saginaw, in the Township of Oneida, County of Eaton, State of Michigan, on May 2, 1996, at 8:30 o'clock in the forenoon, pursuant to a written waiver of notice of such meeting signed by the Director affixing the time, date and place of said meeting.

Erdmen T. MacKenzie, the sole director and sole shareholder of the Corporation, was present. Upon motion duly made, seconded and carried, the following resolution was adopted.

RESOLVED, that Michael S. Marks is hereby authorized for and on behalf of said corporation to sign contracts, bids, change orders and other documents relating to bids, and third parties may rely on the copy of these Minutes as evidence that Michael S. Marks is acting on behalf of the Corporation. There being no further business to be transacted, the meeting was, upon motion duly made, seconded and carried, adjourned.

Dated: May 2, 1996


Erdmen T. MacKenzie,
Sole Director, Chairperson and
Secretary of the Meeting