

CITY OF ANN ARBOR
INVITATION TO BID



2019 Sidewalk Gap Elimination Project

ITB No. 4619

Due Date: March Tuesday, March 17, 2020, 10:00 a.m. (Local Time)

Public Services Area
Engineering

Issued By:

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

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ATTACHMENTS

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

NOTICE OF PRE-BID CONFERENCE

A pre-bid conference for this project will be held on **Wednesday, March 4, 2020** at **10:00 a.m.** in the 1st Floor, North, Conference Room of the Guy C. Larcom Municipal Building, formerly known as "City Hall", located at 301 E. Huron Street, Ann Arbor, Michigan 48104.

Attendance at this conference is highly recommended. Administrative and technical questions regarding this project will be answered at this time. The pre-bid conference is for information only. Any answers furnished will not be official until verified in writing by the Financial Service Area, Procurement Unit. Answers that change or substantially clarify the bid will be affirmed in an addendum.

INSTRUCTIONS TO BIDDERS

General

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

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

Preparation of Bids

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

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

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

Questions or Clarifications / Designated City Contacts

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

All questions shall be due on, or before, **Friday, March 6, 2020** by no later than **10:00 a.m. (Local Time)** and should be addressed as follows:

Specification/Scope of Work questions shall be e-mailed to **mnearing@a2gov.org**
Bid Process and Compliance questions emailed to **cspencer@a2gov.org**

Any error, omissions or discrepancies in the specification discovered by a prospective contractor and/or service provider shall be brought to the attention of **Michael G. Nearing, P.E., Senior Project Manager** at **mnearing@a2gov.org** after discovery as soon as possible. Further, the contractor and/or service provide shall not be allowed to take advantage of errors, omissions or discrepancies in the specifications.

Addenda

If it becomes necessary to revise any part of the ITB, notice of the Addendum will be posted to Michigan Inter-governmental Trade Network (MITN) www.mitn.info 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 Procurement Unit on, or before, **Tuesday, March 17, 2020 at 10:00 a.m. (Local Time.)** Bids submitted late or via oral, telephonic, telegraphic, electronic mail or facsimile **will not** be considered or accepted.

Each Bidder must submit one (1) original Bid and one (1) Bid copies in a sealed envelope clearly marked: **ITB No. 4619, 2019 Sidewalk Gap Elimination Project.**

Bids must be addressed and delivered to:

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

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

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

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

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

Hand delivered bids will be date/time stamped/signed by the Procurement Unit at the address above in order to be considered. Normal business hours are 9:00 a.m. to 3:00 p.m. Monday through Friday, excluding Holidays. The City will not be liable to any Bidder for any unforeseen circumstances, delivery or postal delays. Postmarking to the Due Date will not substitute for receipt of the Bid. Each Bidder is responsible for submission of their Bid.

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

Award

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

The acceptability of major subcontractors will be considered in determining if a Bidder is responsible. In comparing Bids, the City will give consideration to alternate Bids for items listed in the bid forms. All key staff and subcontractors are subject to the approval by the City.

Official Documents

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

Bid Security

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

Withdrawal of Bids

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

Contract Time

Time is of the essence in the performance of the work under this Contract. The available time for work under this Contract is indicated on page C-1, Article III of the Contract. If these time requirements 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

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

Wage Requirements

Section 4, beginning at page GC-1, outlines the requirements for payment of prevailing wages

and for payment of a “living wage” to employees providing service to the City under this contract. The successful bidder and its subcontractors must comply with all applicable requirements and provide proof of compliance.

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

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

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

Conflict Of Interest Disclosure

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

Major Subcontractors

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

Debarment

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

Disclosures

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

Bid Protest

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

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

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

Cost Liability

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

Reservation of Rights

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

Idlefree Ordinance

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

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

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

In addition, generators and other internal combustion engines are covered

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

Environmental Commitment

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

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

INVITATION TO BID

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

Ladies and Gentlemen:

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

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

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

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

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

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

ITB-1

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

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

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

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

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

SIGNED THIS _____ DAY OF _____, 2020.

Bidder's Name

Authorized Signature of Bidder

Official Address

(Print Name of Signer Above)

Telephone Number

Email Address for Award Notice

LEGAL STATUS OF BIDDER

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

Bidder declares that it is:

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

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

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

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

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

Authorized Official

_____ **Date** _____, 2020

(Print) Name _____ Title _____

Company: _____

Address: _____

Contact Phone () _____ Fax () _____

Email _____

BID FORM
Section 1 - Schedule of Prices

Company: _____

Project: 2019 Sidewalk Gap Elimination Project

XXXXXXX Denotes an Item of Work to be performed in accordance with the 2012 MDOT Standard Specifications for Construction

XXX7XXX Denotes an Item of Work to be performed in accordance with the project Detailed Specifications

<u>Item No.</u>	<u>Item Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Extension</u>
1047051	Audiovisual Recording	LSUM	1	\$ _____	\$ _____
1047051	Certified Payroll Compliance and Reporting	LSUM	1	\$ _____	\$ _____
1507051	General Conditions, Max. \$80,000	LSUM	1	\$ _____	\$ _____
2020006	Stump, Rem, 19 inch to 26 inch	Ea	1	\$ _____	\$ _____
2020008	Stump, Rem, 6 inch to 18 inch	Ea	25	\$ _____	\$ _____
2037001	Sewer, Any Size or Depth, Rem	Ft	32	\$ _____	\$ _____
2037050	Dr Structure, Any Size or Depth, Rem	Ea	5	\$ _____	\$ _____
2040050	Pavt, Rem	Syd	386	\$ _____	\$ _____
2040055	Sidewalk, Rem	Syd	342	\$ _____	\$ _____
2047001	Curb, Any Type or Size, Rem	Ft	2,113	\$ _____	\$ _____
2050041	Subgrade Undercutting, Type II	Cyd	25	\$ _____	\$ _____
2057002	Station Grading, Jackson Avenue	Sta	16.40	\$ _____	\$ _____
2057002	Station Grading, Washtenaw Avenue	Sta	15.29	\$ _____	\$ _____
2080036	Erosion Control, Silt Fence	Ft	3,154	\$ _____	\$ _____
2087050	Erosion Control, Inlet Filter	Ea	5	\$ _____	\$ _____
3027011	Aggregate Base, 8 inch, 21-AA	Syd	2,215	\$ _____	\$ _____
3027021	Subbase, CIP, Class II Granular Material, Modified	Cyd	354	\$ _____	\$ _____
4010094	Culv End Sect, Metal, 12 inch	Ea	4	\$ _____	\$ _____

Sub-total this page \$ _____

(Also to be entered on Page BF-4)

BID FORM
Section 1 - Schedule of Prices

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<u>Item No.</u>	<u>Item Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Extension</u>
4010675	Culv, CI F, CSP, 12 inch	Ft	152	\$ _____	\$ _____
4027001	Sewer, CI C-76 IV, 12 inch, Tr Det I, Modified	Ft	43	\$ _____	\$ _____
4037050	Adjust Structure Cover	Ea	12	\$ _____	\$ _____
4037050	Dr Structure Cover, Type B, Special	Ea	1	\$ _____	\$ _____
4037050	Dr Structure Cover, Type K, Special	Ea	5	\$ _____	\$ _____
4037050	Dr Structure, Single Inlet, 24 inch dia	Ea	5	\$ _____	\$ _____
4037050	Dr Structure, Manhole, Type III, 48 inch dia	Ea	1	\$ _____	\$ _____
5010005	HMA Surface, Rem	Syd	3,131	\$ _____	\$ _____
5010703	HMA, LVSP	Ton	416	\$ _____	\$ _____
8027001	Curb and Gutter, Conc, Det F4, Special	Ft	1,929	\$ _____	\$ _____
8037010	Dectable Warning Tiles	Sft	236	\$ _____	\$ _____
8037010	Sidewalk Ramp, Concrete, 8 inch, P-NC, ADA, Modified	Sft	1,285	\$ _____	\$ _____
8037010	Sidewalk, Concrete, 4 inch, Special	Sft	8,663	\$ _____	\$ _____
8037010	Sidewalk, Concrete, 6 inch, Special	Sft	16,737	\$ _____	\$ _____
8087001	Protective Fence, Orange, Plastic, 4 foot Ht.	Ft	2,727	\$ _____	\$ _____
8110110	Pavt Mrkg, Polyurea, 12 inch, Crosswalk	Ft	160	\$ _____	\$ _____
8110153	Pavt Mrkg, Sprayable Thermopl, 4 inch, White	Ft	2,064	\$ _____	\$ _____

Sub-total this page \$ _____

(Also to be entered on Page BF-4)

BID FORM
Section 1 - Schedule of Prices

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<u>Item No.</u>	<u>Item Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Extension</u>
8110153	Pavt Mrkg, Sprayable Thermopl, 4 inch, White	Ft	2,064	\$ _____	\$ _____
8110451	Recessing Pavement Markings, Transv	Sft	177	\$ _____	\$ _____
8117001	Pavt Mrkg, Modified Urethane, 4 inch, Blue	Ft	72	\$ _____	\$ _____
8117001	Pavt Mrkg, Modified Urethane, 4 inch, Cross Hatching, White	Ft	44	\$ _____	\$ _____
8117001	Pavt Mrkg, Modified Urethane, 4 inch, White	Ft	72	\$ _____	\$ _____
8117050	Pavt Mrkg, Preformed Thermoplastic, Accessible Pavement Marking Symbol	Ea	2	\$ _____	\$ _____
8120012	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	Ea	11	\$ _____	\$ _____
8120013	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	Ea	11	\$ _____	\$ _____
8120026	Pedestrian Type II Barricade, Temp	Ea	8	\$ _____	\$ _____
8120027	Pedestrian Type II Channelizer, Temp	Ft	8	\$ _____	\$ _____
8120140	Lighted Arrow, Type C, Furn	Ea	1	\$ _____	\$ _____
8120141	Lighted Arrow, Type C, Oper	Ea	1	\$ _____	\$ _____
8110210	Pavt Mrkg, Longit, 6 inch or Less Width, Rem	Ft	440	\$ _____	\$ _____
8120245	Pavt Mrkg, Wet Reflective, Type R, Tape, 4 inch, White, Temp	Ft	216	\$ _____	\$ _____
8120246	Pavt Mrkg, Wet Reflective, Type R, Tape, 4 inch, Yellow, Temp	Ft	250	\$ _____	\$ _____
8120250	Plastic Drum, High Intensity, Furn	Ea	178	\$ _____	\$ _____
8120251	Plastic Drum, High Intensity, Oper	Ea	178	\$ _____	\$ _____
8120310	Sign Cover	Ea	10	\$ _____	\$ _____

Sub-total this page \$ _____

(Also to be entered on Page BF-4)

BID FORM
Section 1 - Schedule of Prices

Company: _____

Project: 2019 Sidewalk Gap Elimination Project

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XXX7XXX Denotes an Item of Work to be performed in accordance with the project Detailed Specifications

<u>Item No.</u>	<u>Item Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Extension</u>
8120350	Sign, Type B, Temp, Prismatic, Furn	Sft	180	\$ _____	\$ _____
8120351	Sign, Type B, Temp, Prismatic, Oper	Sft	180	\$ _____	\$ _____
8120370	Traf Regulator Control	LSUM	1	\$ _____	\$ _____
8127050	No Parking Sign	Ea	20	\$ _____	\$ _____
8127051	Minor Traffic Devices, Max. \$20,000	LSUM	1	\$ _____	\$ _____
8137011	Riprap, Plain, Modified	Syd	10	\$ _____	\$ _____
8167011	Hydroseeding	Syd	3,434	\$ _____	\$ _____
8167011	Topsoil Surface, 4 inch	Syd	3,434	\$ _____	\$ _____
8167051	Project Clean-up and Restoration, Special	LSUM	1	\$ _____	\$ _____
8197001	Conduit, DB, Schedule 40 PVC, 3 inch	Ft	10	\$ _____	\$ _____
8197050	Electrical Handhole Assembly, Complete	Ea	1	\$ _____	\$ _____
8200106	Pedestal Fdn, Rem	Ea	2	\$ _____	\$ _____
8207050	Pedestrian Signal Pole, Fdn, Complete	Ea	1	\$ _____	\$ _____
8507010	Retaining Wall, Modular Block	Sft	190	\$ _____	\$ _____
8507050	Bollard, Complete	Ea	22	\$ _____	\$ _____
	Sub-total this page			\$ _____	
	Sub-total Page BF-1			\$ _____	
	Sub-total Page BF-2			\$ _____	
	Sub-total Page BF-3			\$ _____	
	Grand Total Bid			\$ _____	

BID FORM

Section 2 – Material, Equipment and Environmental Alternates

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

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

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

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

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

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

Signature of Authorized Representative of Bidder _____ Date _____

BID FORM

Section 3 - Time Alternate

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

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

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

Signature of Authorized Representative of Bidder _____ Date _____

BID FORM

Section 4 - Major Subcontractors

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

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

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

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

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

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

Signature of Authorized Representative of Bidder _____ Date _____

BID FORM

Section 5 – References

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

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

1) _____
Project Name Cost Date Constructed

_____ _____
Contact Name Phone Number

2) _____
Project Name Cost Date Constructed

_____ _____
Contact Name Phone Number

3) _____
Project Name Cost Date Constructed

_____ _____
Contact Name Phone Number

CONTRACT

THIS AGREEMENT is made on the _____ day of _____, 2020, between the CITY OF ANN ARBOR, a Michigan Municipal Corporation, 301 East Huron Street, Ann Arbor, Michigan 48104 ("City") and _____ ("Contractor")

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

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

ARTICLE I - Scope of Work

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

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

ARTICLE II - Definitions

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

Project means **2019 Sidewalk Gap Elimination Project; ITB No. 4619.**

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 One-hundred-fifty (150) consecutive calendar days.
- (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 as specified in the Detailed Specification entitled "Project Schedule" for each calendar day of delay in the completion of the required work. If any liquidated damages are unpaid by the Contractor, the City shall be entitled to deduct these unpaid liquidated damages from the monies due the Contractor.

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

ARTICLE IV - The Contract Sum

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

_____ Dollars (\$_____)

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

ARTICLE V - Assignment

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

ARTICLE VI - Choice of Law

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

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

ARTICLE VII - Relationship of the Parties

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

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

ARTICLE VIII - Notice

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

ARTICLE IX - Indemnification

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

ARTICLE X - Entire Agreement

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

FOR CONTRACTOR

By _____

Its: _____

FOR THE CITY OF ANN ARBOR

By _____
Christopher Taylor, Mayor

By _____
Jacqueline Beaudry, City Clerk

Approved as to substance

By _____
City Administrator

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

Approved as to form and content

Stephen K. Postema, City Attorney

PERFORMANCE BOND

(1) _____ of _____ (referred to as "Principal"), and _____, a corporation duly authorized to do business in the State of Michigan (referred to as "Surety"), are bound to the City of Ann Arbor, Michigan (referred to as "City"), for

\$ _____, the payment of which Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, by this bond.

(2) The Principal has entered a written Contract with the City dated _____, 2020, for: the 2019 Sidewalk Gap Elimination Project; City of Ann Arbor ITB No. 4619; City of Ann Arbor File No. 2019-034 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 _____, 2020.

(Name of Surety Company)

By _____
(Signature)

Its _____
(Title of Office)

Approved as to form:

Stephen K. Postema, City Attorney

(Name of Principal)

By _____
(Signature)

Its _____
(Title of Office)

Name and address of agent:

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 _____, 2020, for the 2019 Sidewalk Gap Elimination Project; City of Ann Arbor ITB No.4619; City of Ann Arbor File No. 2019-034; 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 _____, 2020.

(Name of Surety Company)

By _____
(Signature)

Its _____
(Title of Office)

Approved as to form:

Stephen K. Postema, City Attorney

(Name of Principal)

By _____
(Signature)

Its _____
(Title of Office)

Name and address of agent:

GENERAL CONDITIONS

Section 1 - Execution, Correlation and Intent of Documents

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

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

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

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

Section 2 - Order of Completion

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

Section 3 - Familiarity with Work

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

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

Section 4 - Wage Requirements

Under this Contract, the Contractor shall conform to Chapter 14 of Title I of the Code of the City of Ann Arbor as amended; which in part states "...that all craftsmen, mechanics and laborers employed directly on the site in connection with said improvements, including said employees of subcontractors, shall receive the prevailing wage for the corresponding classes of craftsmen,

mechanics and laborers, as determined by statistics for the Ann Arbor area compiled by the United States Department of Labor. At the request of the City, any contractor or subcontractor shall provide satisfactory proof of compliance with the contract provisions required by the Section.

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

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

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

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

Section 5 - Non-Discrimination

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

Section 6 - Materials, Appliances, Employees

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

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

Adequate sanitary facilities shall be provided by the Contractor.

Section 7 - Qualifications for Employment

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

Section 8 - Royalties and Patents

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

Section 9 - Permits and Regulations

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

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

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

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

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

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

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

Section 11 - Inspection of Work

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

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

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

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

Section 12 - Superintendence

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

Section 13 - Changes in the Work

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

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

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

Section 14 - Extension of Time

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

- (1) When work under an extra work order is added to the work under this Contract;
- (2) When the work is suspended as provided in Section 20;
- (3) When the work of the Contractor is delayed on account of conditions which could not have been foreseen, or which were beyond the control of the Contractor, and which were not the result of its fault or negligence;
- (4) Delays in the progress of the work caused by any act or neglect of the City or of its employees or by other Contractors employed by the City;
- (5) Delay due to an act of Government;
- (6) Delay by the Supervising Professional in the furnishing of plans and necessary information;
- (7) Other cause which in the opinion of the Supervising Professional entitles the Contractor to an extension of time.

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

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

Section 15 - Claims for Extra Cost

If the Contractor claims that any instructions by drawings or other media issued after the date of the Contract involved extra cost under this Contract, it shall give the Supervising Professional written notice within 7 days after the receipt of the instructions, and in any event before proceeding to execute the work, except in emergency endangering life or property. The procedure shall then be as provided for Changes in the Work-Section 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

- (1) The Contractor shall procure and maintain during the life of this Contract, including the guarantee period and during any warranty work, such insurance policies, including those set forth below, as will protect itself and the City from all claims for bodily injuries, death or property damage that may arise under this Contract; whether the act(s) or omission(s) giving rise to the claim were made by the Contractor, any subcontractor, or anyone employed by them directly or indirectly. Prior to commencement of any work under this contract, Contractor shall provide to the City documentation satisfactory to the City, through City-approved means (currently myCOI), demonstrating it has obtained the required policies and endorsements. The certificates of insurance endorsements and/or copies of policy language shall document that the Contractor satisfies the following minimum requirements. Contractor shall add registration@mycoitracking.com to its safe sender's list so that it will receive necessary communication from myCOI. When requested, Contractor shall provide the same documentation for its subcontractor(s) (if any).

Required insurance policies include:

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

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

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

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

- (c) Motor Vehicle Liability Insurance, including Michigan No-Fault Coverages, equivalent to, as a minimum, Insurance Services Office form CA 00 01 10 13 or current equivalent. Coverage shall include all owned vehicles, all non-owned vehicles and all

hired vehicles. The City of Ann Arbor shall be named as an additional insured. There shall be no added exclusions or limiting endorsements that diminish the City's protections as an additional insured under the policy. Further, the limits of liability shall be \$1,000,000 for each occurrence as respects Bodily Injury Liability or Property Damage Liability, or both combined.

- (d) Umbrella/Excess Liability Insurance shall be provided to apply excess of the Commercial General Liability, Employers Liability and the Motor Vehicle coverage enumerated above, for each occurrence and for aggregate in the amount of \$1,000,000.
- (2) Insurance required under subsection (1)(b) and (1)(c) above shall be considered primary as respects any other valid or collectible insurance that the City may possess, including any self-insured retentions the City may have; and any other insurance the City does possess shall be considered excess insurance only and shall not be required to contribute with this insurance. Further, the Contractor agrees to waive any right of recovery by its insurer against the City for any insurance listed herein.
- (3) Insurance companies and policy forms are subject to approval of the City Attorney, which approval shall not be unreasonably withheld. Documentation must provide and demonstrate an unconditional and un-qualified 30-day written notice of cancellation in favor of the City of Ann Arbor. Further, the documentation must explicitly state the following: (a) the policy number(s); name of insurance company(s); name and address of the agent(s) or authorized representative(s); name(s), email address(es), and address of insured; project name; policy expiration date; and specific coverage amounts; (b) any deductibles or self-insured retentions which may be approved by the City, in its sole discretion; (c) that the policy conforms to the requirements specified Contractor shall furnish the City with satisfactory certificates of insurance and endorsements prior to commencement of any work. Upon request, the Contractor shall provide within 30 days a copy of the policy(ies) and all required endorsements to the City. If any of the above coverages expire by their terms during the term of this Contract, the Contractor shall deliver proof of renewal and/or new policies and endorsements to the Administering Service Area/Unit at least ten days prior to the expiration date.
- (4) Any Insurance provider of Contractor shall be authorized to do business in the State of Michigan and shall carry and maintain a minimum rating assigned by A.M. Best & Company's Key Rating Guide of "A-" Overall and a minimum Financial Size Category of "V". Insurance policies and certificates issued by non-authorized insurance companies are not acceptable unless approved in writing by the City.
- (5) City reserves the right to require additional coverage and/or coverage amounts as may be included from time to time in the Detailed Specifications for the Project.
- (6) The provisions of General Condition 28 shall survive the expiration or earlier termination of this contract for any reason.

Section 29 - Surety Bonds

Bonds will be required from the successful bidder as follows:

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

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

Section 30 - Damage Claims

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

Section 31 - Refusal to Obey Instructions

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

Section 32 - Assignment

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

Section 33 - Rights of Various Interests

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

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

Section 34 - Subcontracts

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

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

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

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

Section 35 - Supervising Professional's Status

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

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

Section 36 - Supervising Professional's Decisions

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

Section 37 - Storing Materials and Supplies

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

Section 38 - Lands for Work

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

Section 39 - Cleaning Up

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

Section 40 - Salvage

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

Section 41 - Night, Saturday or Sunday Work

No night or Sunday work (without prior written City approval) will be permitted except in the case of an emergency and then only to the extent absolutely necessary. The City may allow night work

which, in the opinion of the Supervising Professional, can be satisfactorily performed at night. Night work is any work between 8:00 p.m. and 7:00 a.m. No Saturday work will be permitted unless the Contractor gives the Supervising Professional at least 48 hours but not more than 5 days notice of the Contractor's intention to work the upcoming Saturday.

Section 42 - Sales Taxes

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

Section 43

CONTRACTOR'S DECLARATION

I hereby declare that I have not, during the period _____, 20___, to _____, 20_____, performed any work, furnished any materials, sustained any loss, damage or delay, or otherwise done anything in addition to the regular items (or executed change orders) set forth in the Contract titled the 2019 Sidewalk Gap Elimination 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.

STANDARD SPECIFICATIONS

All work under this contract shall be performed in accordance with the Public Services Area Standard Specifications (Standard Specifications) in effect at the date of availability of the contract documents stipulated in the Bid. All work under this Contract which is not included in these Standard Specifications, shall be performed in accordance with the 2012 Michigan Department of Transportation Standard Specifications for Construction as noted in the contract documents. Any work which is not performed in accordance with the Standard Specifications or the 2012 Michigan Department of Transportation Standard Specifications for Construction, shall be performed in accordance with the Detailed Specifications included in these contract documents.

Standard Specifications are available online:

<http://www.a2gov.org/departments/engineering/Pages/Engineering-and-Contractor-Resources.aspx>

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General.- Traffic shall be maintained in accordance with Sections 104.11, 810, 811, 812, 919, and 920 of the Michigan Department of Transportation (MDOT), 2012 Standard Specifications for Construction and in accordance with the 2011 edition of the Michigan Manual of Uniform Traffic Control Devices (MMUTCD) as amended, except as herein provided.

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

Materials.- The materials and equipment shall meet the requirements specified in the sections designated of the MDOT 2012 Standard Specifications for Construction and all Special Provisions contained in these Contract Documents.

Cold Patching Material shall meet the requirements of the City of Ann Arbor Standard Specifications for Construction and be accepted for use by the Engineer.

Permits.- Prior to the start of construction, the Contractor shall obtain a "Right-of-Way" Permit from City of Ann Arbor Planning and Development Services and a "Lane Closure" Permit from City of Ann Arbor Project Management Services Unit. The fees for these permits will be waived. The lane closure permit must be obtained at least 48 hours in advance of any proposed street or lane closing.

Work Restrictions.- All tree removals and clearing must be performed between October 1st and March 31st to comply with environmental restrictions.

Construction Influence Area (CIA).- The CIA shall include the following areas:

- I. The road right-of-way of Jackson Avenue between Wagner Road and 500 feet east of Parklake Drive.
- II. The right-of-way of the Washtenaw Avenue Service Drive between S. Huron Parkway and Pittsfield Boulevard. The right-of-way of Pittsfield Boulevard from Washtenaw Avenue to Parkwood Avenue.

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The CIA shall also include the affected portions of the driveways along, and contiguous with these roadways that contain advance warning and/or regulatory signs, pavement markings, plastic drums, traffic delineators, and all other project related traffic maintenance items.

In addition, the CIA shall include the rights-of-way of all roadway segments used for detours and all locations where the Contractor's traffic control devices, pavement markings and signs are used. The CIA shall also include those portions of private property outside of the roadway Rights-of-way as shown in the plans within the "Water Main Easement" areas.

Police and Fire.- The Contractor shall notify local police, fire departments and emergency response units a minimum of three business days (72 hours) prior to the closure of any roads, or traffic shifts causing restricted movements of traffic or restricted access.

Work Performed by City of Ann Arbor Signs and Signals Unit.-

No additional or extra compensation will be paid for any delays caused by City of Ann Arbor Signs and Signals.

Signal Modifications

No signal modifications are anticipated for this construction. However, modification to pedestrian signal poles are required for the work to be performed on the Washtenaw Non-motorized Path component of this project. The Contractor will schedule and coordinate the needed disassembly, storage, and re-assembly operations with City of Ann Arbor Signs and Signals personnel.

To coordinate the needed pedestrian signal work, the Contractor shall notify the Signs and Signals Unit at least five (5) working days (Monday-Friday) in advance of when the work of removing the pedestrian signal pole will need to be completed. It is the responsibility of the Contractor to ensure that City of Ann Arbor Signs and Signals Unit is scheduled, kept apprised of the progress of construction, and notified a second time immediately (4 working hours) prior to the need to complete the pedestrian signal work. The removal and installation/reinstallation of the pedestrian signal pole shall be completed by the City of Ann Arbor Signs and Signals Unit.

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Sign Reinstallation

As necessary during construction, the Contractor shall be responsible for logging the legend and location of any signs that:

1. Must be removed to facilitate the construction process;
2. Are to be permanently removed, or;
3. Are to be permanently relocated.

City of Ann Arbor Signs and Signals will remove and store the signs. After construction is complete, but before opening any roadway to traffic, Signs and Signals will reinstall all signs in their proper, permanent location. To coordinate sign removal and installation/reinstallation, the Contractor shall notify the Signs and Signals Unit at least five (5) working days (Monday-Friday) in advance of when the sign work will need to be completed. It is the responsibility of the Contractor to ensure that City of Ann Arbor Signs and Signals Unit is scheduled, kept apprised of the progress of construction, and notified a second time immediately (4 working hours) prior to the need to complete the sign work. The removal and installation/reinstallation of all signs shall be completed by the City of Ann Arbor Signs and Signals Unit.

Maintenance of Traffic, General.- Unless otherwise indicated on the drawings, residential side streets shall not be closed to through traffic except during construction operations of short duration and only with written approval of the Engineer.

The Contractor shall continuously maintain through traffic as indicated on the Maintenance of Traffic sheets during the course of the Project's construction.

Mailboxes requiring relocation due to construction shall be removed and reset immediately by the Contractor in a temporary location approved by the Engineer and meeting the requirements of the United States Postal Service. This work shall be included in the contract pay item "General Conditions, Max. ____".

The Contractor shall not obstruct the traffic lanes in any manner from 7:00 to 9:00 a.m. and from 3:30 to 6:00 p.m. along Jackson or Washtenaw Avenues. The exception to this requirement is that certain construction operations require the use of lane closures to complete certain construction operations. When this work is to be performed, approved Lane Closure Permits shall have been previously obtained and the required traffic control

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devices must be in place to safely maintain traffic. These required lane closures must be scheduled by the Contractor and approved by the Engineer a minimum of seven (7) calendar days in advance in order to allow the Engineer to properly notify affected parties.

At other times the temporary obstruction of traffic for loading and unloading of trucks will be permitted if the Contractor provides traffic regulators (flag persons) in conformance with Part VI of the MMUTCD.

The Contractor shall coordinate his operations with all Utilities, Contractors and/or sub-Contractors performing work on this and other projects within, or adjacent to, the Construction Influence Area (CIA).

Maintenance.- A minimum of one (1) driveway shall be maintained at all times to all residences and businesses. Walks, driveways, and entrances to houses shall not be blocked. Vehicular and pedestrian access shall be maintained to all properties.

Exploratory Excavations, utility crossings, and all other openings created by the Work over which vehicular traffic will be maintained shall receive a minimum cover of 3 inches of Cold-Patching material that is thoroughly compacted in place. The cost of the cold patch material will not be paid for separately, but shall be included in the item(s) of work being performed.

Signs and Pavement Markings.- When lane closures are in place, the Contractor shall completely cover all conflicting warning, regulatory and guide signs in accordance with Section 812.03.D.2 of the Standard Specifications for Construction, 2012 edition, and all applicable details therein.

Sequence of Construction.- This special provision does not detail all the project work. It is intended to indicate major project requirements and assist the Contractor in developing, for the review and approval of the Engineer, the Progress Schedule for the project.

The Contractor shall notify the Engineer a minimum of seven (7) calendar days prior to the implementation of any detours, road closures, bridge closures, ramp or lane closures, and major traffic shifts. The Contractor shall also notify City of Ann Arbor Signs and Signals regarding signal work as specified in the section entitled "Work Performed by City of Ann Arbor Signs and Signals Unit."

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Jackson Avenue Sidewalk Construction. The following major work tasks are included in this work:

1. Initiate lane closure for eastbound Jackson Avenue. Implement the traffic control as shown on the project plans for this stage of the construction.
2. Install all needed soil erosion and sedimentation control measures. The Contractor shall install only those devices necessary to perform the work along Jackson Avenue to meet the appropriate Federal, State, or Local regulations.
3. Perform the needed tree removals, clearing and brush removal, and other similar preparatory work.
4. Coordinate with DTE Energy to relocate the guy wires located near sidewalk Station 5+00.
5. Perform culvert replacement as indicated on the plan sheets.
6. Remove topsoil and other undesirable soil to establish a platform from which the sidewalk construction can be performed. Construct the needed grade on which the sidewalk will be constructed.
7. Construct retaining wall as shown on the plan sheets.
8. Form and pour sidewalk and ramps as shown on the plan sheets.
9. Replace HMA driveways. Install aggregate base course and maintain access to all affected parcels during this work.
10. Perform the needed final grading and site restoration activities. Clean the project site of all construction debris.
11. Remove traffic control devices and re-open Jackson Avenue to traffic.

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Washtenaw Avenue Non-motorized Path Construction. The following major work tasks are included in this work:

Note: All work must be performed in accordance with the construction coordination requirements as shown on the plans.

1. Install traffic control devices within the Washtenaw Avenue Service Drive.
2. Install all needed soil erosion and sedimentation control measures. The Contractor shall install only those devices necessary to perform the work along Washtenaw Avenue to meet the appropriate Federal, State, or Local regulations.
3. Perform the needed tree removals as shown on the plans.
4. Remove only HMA surface necessary to complete the curb and gutter construction.
5. Remove conflicting storm sewer inlets and install proposed storm sewer and inlet structures.
6. Grade for, and install, the needed aggregate base course to facilitate the installation of the curb and gutter as shown on the plans.
7. Form and pour the curb and gutter within the service drive.
8. Coordinate and perform construction associated with the roadway connections between Washtenaw Avenue, the Washtenaw Avenue Service Drive, and Pittsfield Boulevard in accordance with the contract requirements.
9. Form and pour the non-motorized path as allowed by the needed construction coordination requirements.
10. Coordinate with the City of Ann Arbor Signs and Signals Unit with regard to the pedestrian pole relocation at the Pittsfield Boulevard intersection. Perform the needed conduit and handhole installation tasks and sidewalk construction in this area.

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11. Adjust any impacted structures to final grade. Place HMA base course within the service drive and roadway connections.
12. Perform the needed final grading and site restoration activities. Clean the project site of all construction debris.
13. Place final layer of HMA within the service drive and roadway connections.
14. Install needed pavement markings.
15. Install bollards as shown on the plan sheets and as directed by the Engineer.

Bituminous Paving.- The Contractor shall perform the work of this Contract while maintaining traffic in accordance 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 traffic regulators (flag persons) and by relocating traffic control devices to prevent traffic from entering the work area until such time that traffic 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.

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.

The paving of the top course shall be conducted under traffic by utilizing traffic regulators (flag persons), channelizing devices and signs in accordance with Part VI of the current edition of the Michigan Manual of Uniform Traffic Control devices (MMUTCD) as amended. The installation and removal of minor traffic control devices needed for the maintenance of traffic during the paving of final wearing course and the furnishing of traffic regulators shall be paid as "Minor Traf Devices" and "Traffic Regulator Control" as appropriate.

MAINTAINING TRAFFIC AND CONSTRUCTION SEQUENCING 103A

**CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
MAINTAINING TRAFFIC
AND
CONSTRUCTION SEQUENCING**

AA:MGN

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02/13/20

Measurement and Payment.- The estimated quantities for maintaining traffic is based on the maintenance of traffic plans. Any additional signing, traffic control devices, pavement markings, or the like required to expedite the construction, beyond that which is specified, shall be at the Contractor's sole expense.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
AUDIO-VISUAL RECORDING

AA:MGN

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02/06/20

a. Description.- This work shall include providing a recording of the physical, structural, and aesthetic conditions of the construction site and adjacent areas as provided herein.

The audio-visual recording shall be:

1. Of professional quality, providing a clear and accurate audio and visual record of existing conditions.
2. Prepared during the three (3) week period immediately prior to the preconstruction meeting.
3. Furnished to the Engineer a minimum of two (2) weeks prior to bringing any materials or equipment within the areas described in this special provision.
4. Furnished to the Engineer either at, or prior to, the preconstruction meeting.
5. Carried-out under the supervision of the Engineer.

The Contractor shall furnish two (2) copies of the completed recording to the Engineer at, or prior to, the preconstruction meeting. An index of the recording, which will enable any area of the project to be easily found on the recording, shall be included. The Contractor shall retain a third copy of the recording for his/her own use.

Any portion of the recording determined by the Engineer to be unacceptable for the documentation of existing conditions shall be recorded again, at the Contractor's sole expense, and submitted to the Engineer prior to mobilizing onto the site.

b. Production.- The audio-visual recording shall be completed in accordance with the following minimum requirements:

1. DVD Format / No Editing.- The audio-visual recording shall be performed using equipment that allows audio and visual information to be recorded simultaneously and in color. The recording shall be provided on compact discs in DVD format. The quality of the recording shall be equal to or better than the standard in the industry. The recording shall not be edited.
2. Perspective / Speed / Pan / Zoom.- To ensure proper perspective, the distance from the ground to the camera lens shall not be less than 12 feet and the recording must proceed in the general direction of travel at a speed not to exceed 48 feet per minute (0.55 miles per hour). Pan and zoom rates shall be controlled sufficiently so that playback will ensure quality of the object viewed.

CITY OF ANN ARBOR
 DETAILED SPECIFICATION
 FOR
AUDIO-VISUAL RECORDING

AA:MGN

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02/06/20

3. Display.- The recording equipment shall have transparent time, date stamp and digital annotation capabilities. The final copies of the recording 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 shall be included in the lower half of the frame in standard station format (i.e. 1+00). Below the stationing periodic information is to be shown, including project name, name of area shown, direction of travel, viewing direction, etc.

On streets or in areas where there is no project stationing, assumed stationing shall be used, starting with 0+00 and progressing from west to east or from north to south.

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 recording route. Additional audio commentary shall be provided as necessary during the recording to describe streets, buildings, landmarks, and other details, which will enhance the record of existing conditions.
5. Visibility / Ground Cover.- The recording shall be performed during a time of good visibility. The recording shall not be performed during periods of precipitation or when snow, leaves, or other natural debris obstruct the area being recorded.

c. Coverage.- The audio-visual recording coverage shall include the following:

1. General Criteria.- This general criteria shall apply to all recording 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 or through which they will be transported. The recording shall extend an additional 50 feet outside of all areas. The recording 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. Private Property.- Record all private property that may be utilized by the Contractor in conjunction with this project. These project areas must be

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
AUDIO-VISUAL RECORDING

AA:MGN

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02/06/20

disclosed by the Contractor prior to using them for the work of this project.

3. Road Construction Area.- The recording coverage shall:
 - a. Extend to 50 feet outside of the right-of-way and easements area as shown on the plans.
 - b. Extend 50 feet outside the construction limits on all streets, including side streets.

Both sides of each street shall be recorded separately.

4. Detour Route / Maintenance of Traffic Areas. The entire detour route and maintenance of traffic areas shall be recorded as indicated in this detailed specification except as follows:
 - a. The recording must proceed in the general direction of travel at a speed not exceeding 176 feet per minute (2 miles per hour).
 - b. The coverage area shall include the street and not go beyond the curb except in areas where there is a fair possibility that the detoured traffic will drive over the curb, such as at intersections.
 - c. The recording shall focus in particular at sidewalk ramps and other features likely to have been damaged or likely to be damaged as a result of existing traffic, temporary detoured traffic and or construction traffic. In these areas, recording may need to proceed much more slowly.

Only the side of street with the detoured traffic must be recorded. However, the Contractor is advised that portions of the detour routes may operate in opposite directions at different times. In these cases, both sides of the street shall be recorded separately.

5. Private Property bordering the project limits or work areas. Record all areas bordering the project where work is scheduled to occur or where construction traffic could damage the private property. This is to include buildings, driveways, decks, landscaping, trees, and all other similar features.
6. Other Areas.- The Contractor shall record 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 recording of other minor areas not specified herein at the Contractor's sole expense.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
AUDIO-VISUAL RECORDING

AA:MGN

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d. Audio-Visual Recording Services.- The following companies are known to be capable of providing the recording services required by this special provision 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.
- Paradigm 2000, Inc.
- Finishing Touch Photo and Video

e. Measurement and Payment.- The completed work shall be paid for at the contract unit price for the following contract item (pay item):

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Audio-visual Recording	Lump Sum

Audio-visual Recording shall include all labor, equipment, and materials required to perform the recording and to provide the finished recording the Engineer.

Payment will be made for Audio-visual Recording following the review and acceptance of the recording by the Engineer. Within 21 days following the receipt of the recording, the Engineer will either accept it and authorize payment or require that any discrepancies in the recording be addressed prior to making payment.

CERTIFIED PAYROLL COMPLIANCE AND REPORTING 104

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

AA:MGN

1 of 2

01/30/18

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

This specification is **not** intended to include the actual labor costs associated with the payment of prevailing wages as required. Those costs should be properly incorporated in all other items of work bid.

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

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

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

Certified Payrolls may be submitted on City-provided forms or forms used by the Contractor, as long as the Contractor's forms contain all required payroll information. If the Contractor elects to provide their own forms, the forms shall be approved by the Supervising Professional prior to the beginning of on-site work.

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

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01/30/18

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

The Contract Completion date will not be extended as a result of the City’s investigation of the as-bid amount for this item of work, even if the anticipated contract award date must be adjusted. The only exception will be if the Contractor adequately demonstrates that their costs were appropriate and justifiable. If so, the City will adjust the contract completion date by the number of calendar days commensurate with the length of the investigation, if the published Notice to Proceed date of the work cannot be met. The contract unit prices for all other items of work will not be adjusted regardless of an adjustment of the contract completion date being made.

d. Measurement and Payment.- 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:

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Certified Payroll Compliance and Reporting	Lump Sum

The unit price for this item of work shall include all supervisory, accounting, administrative, and equipment costs needed to monitor and perform all work related to maintaining compliance with the tasks specified in this Detailed Specification, the City of Ann Arbor Code of Ordinances, its Prevailing Wage Compliance policy and the applicable Federal and State laws.

Payment for this work will be made with each progress payment, on a pro-rata basis, based on the percentage of construction completed. When all of the work of this contract has been completed, the measurement of this item shall be 1.0 times the Lump Sum bid amount. This amount will not be increased for any reason, including extensions of time, extra work, and/or adjustments to existing items of work.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
GENERAL CONDITIONS, MAX. \$_____

AA:MGN

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02/06/20

a. Description.- This work shall consist of performing all needed preparatory work and operations needed to begin the work of the project. All elements of this item of work are to be performed in accordance with the City of Ann Arbor Standard Specifications for Construction (current edition), as shown on the plans, and as directed by the Engineer.

b. Materials.- None specified.

c. Methods of Construction.- This item shall include all work described and required by the Plans and Specifications 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, material testing, inspection, and construction surveying and staking;
- Coordination of, and cooperation with, other contractors, agencies, departments, and utilities;
- Coordination with City forces to stockpile and load used castings on City vehicles;
- Protection and maintenance of all existing utilities, including support, protection, capping, repair, replacement, connection or re-connection of existing pipes, and utilities damaged by the Contractor's operations;
- Maintaining and removing all soil erosion and sedimentation controls (as specified herein or as shown on project plans) for which no pay item exists;
- Maintaining the site, and all areas within the Construction Influence Area, in a well-graded and drained state at all times during the course of the project. De-watering and drainage of all excavations as required to maintain a stable, open hole;
- The continuous maintenance of the temporary road surface within the Construction Influence Area throughout the duration of the construction. This includes any needed grading to maintain the surface in a smooth condition free of potholes, ruts, bumps, or other objectionable conditions.
- Temporary sheeting, bracing, and shoring of excavations in accordance with the applicable MIOSHA Standards;

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
GENERAL CONDITIONS, MAX. \$_____

AA:MGN

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02/06/20

- Maintaining driveway openings, sidewalks, bike paths, mail deliveries, and solid waste/recycle pick-ups. This includes the placement and maintenance of maintenance aggregate in driveway openings and across sidewalk ramps all as needed and as directed by the Engineer;
- Using quantities of dust palliative, maintenance aggregate, and hot patching mixture for use as temporary base, surfacing, and dust control at utility crossings, side roads and driveways;
- Storing all materials and equipment off lawn areas;
- Temporary removal/re-location, storage, and re-installation/re-setting of existing street name, guide, and regulatory signs, mailboxes, newspaper tubes, etc. which conflict with the proposed construction;
- Coordination efforts to furnish the various required 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, if directed by the Engineer to prevent mud-tracking and fugitive dust issues;
- 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 in accordance with the applicable City of Ann Arbor Ordinances;
- Mobilization(s) and demobilization(s) of all needed materials, equipment, and personnel;

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
GENERAL CONDITIONS, MAX. \$ _____

AA:MGN

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02/06/20

- Furnishing of all required shop drawings, informational submittals, and material certifications for all needed materials and supplies incorporated into the project;
- The proper off-site disposal of all excavated materials and debris;
- Fencing to protect excavation over 1' in depth during non-work hours. The fencing must be a minimum of 48" high, be constructed of orange HDPE material, and reasonably secured to prevent unwanted access;
- All miscellaneous and incidental items such as overhead, insurance, and permits; and,
- Meeting all requirements relating to Debarment Certification, Davis Bacon Act, and Disadvantaged Business Enterprise, and providing the necessary documentation.

d. 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. 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 item (pay item):

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
General Conditions, Max. \$ _____	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 of Ann Arbor Standard Specifications for Construction and as modified by this Detailed Specification.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PROJECT SCHEDULE

AA:MGN

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02/20/20

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

The Contractor shall not begin the work of this project until receipt of the fully executed Contract and Notice-to-Proceed, which is anticipated to be provided on, or about, Wednesday, May 14, 2020.

The hours of work shall be as stated in the Public Services Area Standard Specifications, Division I, Section 1F.

The Jackson Avenue Sidewalk construction shall precede the planned work along Washtenaw Avenue.

This project contains an **Intermediate Completion** date of **Friday, July 3, 2020** for the work of constructing the Jackson Avenue Sidewalk. The work associated with constructing the sidewalk; performing the final grading, topsoil placement, seeding, and mulch blanket placement; placing the asphalt drive approaches; removal of all traffic control devices; re-opening Jackson Avenue to two lanes of vehicular traffic; and, opening the proposed sidewalk to foot traffic shall be completed by the above referenced Intermediate Completion Date.

The entire work under this Contract including, but not limited to; all Jackson Avenue Sidewalk construction activities; Washtenaw Avenue Non-motorized Path construction; final asphalt paving; pavement marking placement; topsoil, seed, and mulch blanket placement; bollard installation; all final clean-up; and the removal of any and all traffic control devices shall be completed by the **Final Completion** date of **Wednesday, October 14, 2020**.

The Contractor shall be furnished with 2 copies of the Contract, for their execution on, or about, Monday, April 13, 2020. The Contractor shall properly execute both copies of the Contract and return them, with the required Bonds and Insurance Certificates, to the City by no later than Friday, May 1, 2020. The Contractor shall not begin the work before the applicable date(s) as described herein without approval from the Engineer, and in no case before receipt of the fully executed Contract. City Council approval is expected Monday, May 4, 2020.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PROJECT SCHEDULE

AA:MGN

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02/20/20

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 the required overtime to complete the project within the specified dates of this Contract. The Contractor shall submit authorization requests for any Sunday work that is desired to be completed a minimum of 3 working days in advance of the day of the proposed work. There will be no additional compensation due the Contractor for work performed on Sundays.

Prior to the start of any construction, including mobilization and staging, the Contractor shall submit a detailed progress schedule of work for the Engineer's review and acceptance. Work shall not start until a schedule is accepted in writing by the Engineer. The proposed schedule must fully comply with the scheduling requirements contained herein and in other Detailed Specifications. The Contractor shall update the accepted work schedule upon changes, and upon request by the Engineer, and present it to the Engineer within 7 days of said request or change.

Failure to complete the work by the specified Intermediate Completion date as specified herein, including time extensions granted thereto as determined by the Engineer, shall entitle the City to deduct from the payments due the Contractor, **\$950.00** in Liquidated Damages, and not as a penalty, for delays in the completion of the work for each and every calendar day beyond the Intermediate Completion date as defined in this Detailed Specification.

Failure to complete the work by the specified Final Completion date as specified herein, including time extensions granted thereto as determined by the Engineer, shall entitle the City to deduct from the payments due the Contractor, **\$950.00** in Liquidated Damages, and not as a penalty, for delays in the completion of the work for each and every calendar day beyond the Final Completion date as defined in this Detailed Specification.

Liquidated Damages will be assessed until the required work is completed. There will be no seasonal suspension of Liquidated Damages for the work of this contract.

SEWER, ANY SIZE OR DEPTH, REM 203C
STRUCTURE, ANY SIZE OR DEPTH, REM 203C

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
SEWER, ANY SIZE OR DEPTH, REM
DR STRUCTURE, ANY SIZE OR DEPTH, REM

AA:MGN

1 of 2

02/06/20

a. Description.- This work shall consist of furnishing all labor, tools, equipment, and material to remove, and dispose of off-site, sewers, and/or drainage structures, in accordance with Section 203 of the 2012 Michigan Department of Transportation Standard Specifications for Construction, and as specified herein.

b. Materials.-

Granular Material, Class II.....Section 902

c. Construction Methods.- Sewers, manholes, and drainage structures shall be removed, and disposed of off-site, in such a manner as not to damage any new work, or work or material which is to remain in-place. The hole or trench resulting from the removal of the manhole, sewer, or drainage structure shall be backfilled with Granular Material, Class II, in maximum lifts of 12 inches, and be compacted to 95% of its maximum unit weight, if located within the public rights-of-way, railroad rights-of-way, or within the 1:1 influence line paved surfaces or structures. Otherwise, backfill shall be Engineer-approved native material, compacted to 90% of its maximum unit weight, in lifts of 12 inches or less, unless otherwise noted on the plans. The resulting hole left in a structure from a sewer to be removed shall be bulkheaded with bricks and mortar to provide a watertight seal and constructed such that the remaining flow in the manhole is not impeded.

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.

SEWER, ANY SIZE OR DEPTH, REM 203C
STRUCTURE, ANY SIZE OR DEPTH, REM 203C

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
SEWER, ANY SIZE OR DEPTH, REM
DR STRUCTURE, ANY SIZE OR DEPTH, REM

AA:MGN

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02/06/20

d. Measurement and Payment.- The completed work shall be paid for at the Contract Unit Price for the following Contract Items:

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Sewer, Any Size or Depth, Rem.....	Foot
Dr Structure, Any Size or Depth, Rem.....	Each

Payment for the above items shall include all labor, material and equipment to complete the work of removing sewers and drainage structures of any size or depth as detailed herein.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CURB, ANY TYPE OR SIZE, REM

AA:MGN

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02/06/20

a. Description.- This work shall consist of furnishing all labor, tools, equipment, and material to remove, and dispose of off-site, any concrete curb, curb and gutter, straight curb, or gutter; asphalt curb; or, any other type of curbing that may be encountered within the project limits in accordance with Section 204 of the 2012 Michigan Department of Transportation Standard Specifications for Construction, and as specified herein.

b. Materials.-

Granular Material, Class II.....Section 902

c. Construction Methods.- Curbing of any type shall be removed, and disposed of off-site, in such a manner as not to damage any new work, or work or material which is to remain in-place. Saw-cut all curbing to be removed at its removal limit. Retain a minimum of 2 feet of the existing reinforcing steel from concrete curbing to remain to serve as a method to tie the existing reinforcing steel to the steel reinforcement of the newly placed curb or curb and gutter.

The Contractor and the Engineer shall agree upon the removal limits of any curbing to be removed prior to its removal. If in the process of removing the existing curbing, the Contractor over-excavates for the removal the resulting hole or depression shall be backfilled with MDOT Class II Granular Material compacted to 95% of its maximum dry density at no additional cost to the project.

d. Measurement and Payment.- The completed work shall be paid for at the Contract Unit Price for the following Contract Items:

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Curb, Any Type or Size, Rem	Foot

Payment for the above item shall include all labor, material and equipment to complete the work of removing curbing of any type or size as detailed herein and preserving the existing reinforcing steel as required herein.

CITY OF ANN ARBOR
SPECIAL PROVISION
FOR
STATION GRADING

AA:MGN

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02/05/20

a. Description.- The pay item “Station Grading, ___” shall be completed in accordance with Section 205 of the Michigan Department of Transportation 2012 Standard Specifications for Construction (MDOT 2012 SSC) and shall include all work indicated in the MDOT 2012 Standard Specifications for Construction, as shown on the plans, and as specified herein, with the exception that “Subgrade Undercutting, Type ___,” and “Subgrade Manipulation,” shall be paid for separately when separate pay items for the respective items are included in the contract documents. “Station Grading, ___” shall include all the work specified herein for which there is no separate pay item.

The following abbreviated table of contents for Section 205 (Roadway Earthwork) of the MDOT 2012 SSC is provided for reference. It is not a complete table of contents for all Section 205 work required to complete the project.

<u>Section / Title</u>	<u>Page</u>
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205.04 Measurement and Payment	140

b. 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.

c. 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.

CITY OF ANN ARBOR
SPECIAL PROVISION
FOR
STATION GRADING

AA:MGN

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02/05/20

d. 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.
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.

e. 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.

f. 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 6 inch in diameter, as shown on the plans, and as directed by the Engineer as required to complete the project.

g. 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.

h. Miscellaneous Removals.- The removal of bituminous, aggregate, and/or concrete materials from around manholes, structures, and utility covers, and the removal of bituminous curbing, bituminous driveway wedges, bituminous surface on existing curb and gutter, and bituminous surfaces around other miscellaneous unremoved areas shall be paid for as "Station Grading, ____" and will not be paid for separately.

"Station 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.

CITY OF ANN ARBOR
SPECIAL PROVISION
FOR
STATION GRADING

AA:MGN

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02/05/20

“Station Grading, _____” includes the removal of maintenance gravel as directed by the Engineer that has become contaminated by construction operations, construction debris, weather, or other reasons that it is no longer deemed suitable for use on the project. The removal of this material may be in any size or volume without adjustment to the unit price for this item of work.

i. 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.

j. 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 “Station Grading, _____” or “Subgrade Undercutting, Type __,” whichever applies, will be considered as payment in full for this work.

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k. 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.

l. Foundation Preparation.- Foundation is defined as the original earth grade upon which sidewalk, non-motorized path, or 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.

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, Sidewalk, or Non-motorized Path Embankment Construction.- Roadway, Sidewalk, or Non-motorized path embankment is defined as the construction of earth on the prepared foundation to form the subgrade. Embankment construction 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.

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.

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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 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 roadway pavements, curb and gutter, driveways, sidewalks, non-motorized paths, other similar structures, 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 $\frac{3}{4}$ 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.

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.

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All requirements of this special provision with regard to protection of the subgrade shall remain in full force if it is necessary to remove a sand subbase layer of insufficient thickness.

o. Subgrade Undercutting.- “Subgrade Undercutting, Type ___” 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.

p. 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.

q. Fine Grading Aggregate Base Course.- The fine grading of the aggregate base course and/or sand sub-base and all accompanying work shall be performed in accordance with the requirements as outlined in the Detailed Specification entitled “Subbase and Aggregate Base” and will not be paid for separately.

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

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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 “Station Grading, ____.”

If the contract 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 embankment.

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 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.

“Station Grading, ____” 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

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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.- 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. Measurement and Payment.- The completed work as measured will be paid for at the contract unit price for the following contract items (pay items):

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Subgrade Undercutting, Type II	Cubic Yard
Station Grading, Jackson Avenue	Station
Station Grading, Washtenaw Avenue	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. “Station Grading, ____” will be measured once, and only once, along the centerline of the roadway or feature being constructed.

“Station Grading, ____” 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.

The Contractor shall include all of his/her costs to complete all of the Station Grading, ____” work in the Station Grading, ____” pay items and plan quantities included in the proposal. No additional payment will be made for Station Grading, ____” work which, although, shown on the plans and specified herein as work which needs to be completed, may not be included in a particular Station Grading pay item. Plan quantities will be paid

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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 "Station Grading, ____" 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.

CITY OF ANN ARBOR
 DETAILED SPECIFICATION
 FOR
SOIL EROSION CONTROL INLET FILTER

AA:MGN

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a. Description.- This work consists of installing and maintaining inlet filters in accordance with Section 208 of the 2012 Michigan Department of Transportation Standard Specifications for Construction and as shown on the plans. Filters shall be installed in existing and proposed inlets in order to minimize the erosion of soil and the sedimentation of water courses. The related work includes the installation, maintenance and removal of the filter cloth, cleaning as required during the performance of the project work, removing and disposing of accumulated sediment, and replacement of filters if required by the Engineer so as to provide a properly working inlet filter and a well-drained site.

b. Materials.- The inlet filters shall be in accordance with the REGULAR FLOW SILTSACK® manufactured by ACF Environmental (800) 448-3636; FLEXSTORM® Style FX manufactured by Advanced Drainage Systems, Inc. (800) 821-6710; CATCH-ALL® manufactured by Price & Company (866) 960-4300, or Engineer approved equal.

The Contractor shall submit product data sheets and a sample of the filter material for inlet filters for Engineer approval prior to ordering materials.

c. Methods of Construction.- The Contractor shall install, maintain, clean, and re-install and/or replace inlet filters in accordance with the manufacturer's specifications and as directed by the Engineer. The Contractor shall dispose of debris off-site.

d. Measurement and Payment.- The completed work of Soil Erosion Control Inlet Filter will be paid for at the contract unit price for the following contract items (pay items):

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Erosion Control, Inlet Filter	Each

"Erosion Control, Inlet Filter" will be measured by the unit installed and will be paid for at the contract unit price per each, for which price shall be payment in full for all labor, equipment, and materials needed to furnish, install, maintain, clean and remove the inlet filter, and re-install and/or replace the inlet filter as needed.

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DETAILED SPECIFICATION
FOR
SUBBASE AND AGGREGATE BASE

AA:MGN

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a. Description.- This work shall consist of constructing subbase and/or aggregate base courses, on either a prepared subgrade or subbase as indicated on the Plans or where directed by the Engineer. This work shall be performed in accordance with Sections 301, 302, and 307 of the 2012 MDOT Standard Specification for Construction except as specified herein.

b. Materials.- The material used for this work shall meet the requirements of Sections 301, 302, 307, and 902 of MDOT 2012 Standard Specification for Construction, except that the aggregate base shall be 21-AA limestone and the subbase shall be Class II Granular Material.

c. Construction Method.- Subbase and aggregate base courses shall not be placed when there are indications that the mixture may become frozen before the maximum unit weight is obtained, and in no case shall they be placed on a frozen subbase or subgrade.

The subbase and subgrade shall be shaped to the crown and grade specified on the plans and maintained in a smooth condition. The top of the subbase shall be placed to within $\pm\frac{1}{2}$ inch of the plan grade and crown. The top of the aggregate base shall be placed to within $\pm\frac{1}{2}$ inch of the plan grade and crown. Variations within this tolerance shall be gradual. If in the opinion of the Engineer, the Contractor's equipment is causing or will cause any ruts in or damage to the subbase or subgrade, the equipment shall not be permitted on the subbase or subgrade.

Should the subgrade, subbase or aggregate base become damaged due to the Contractor's equipment or by local traffic, the subgrade, subbase, or aggregate base course shall be restored to the condition required by the Specifications without additional compensation to the Contractor.

No pavement course, concrete curb and gutter, or concrete driveway opening shall be placed until the subbase has been compacted to not less than 95 percent, and aggregate base course to not less than 98 percent of their respective maximum dry densities and until a "Permit to Place" has been issued by the Engineer.

Base course aggregate shall be handled and/or stockpiled on-site in a manner that minimizes segregation. Base course aggregate shall be deposited from trucks or through a spreader in a manner that will minimize segregation of material and that is approved by the Engineer. The re-handling of base course aggregate by the Contractor will not be considered sufficient cause to allow the material to become segregated. The Contractor

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may be required to wet the materials prior to and/or during placement to minimize segregation and to aid in compaction of the material should it be necessary.

All structures, including manholes, 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 may be charged for the cleaning by others of accumulated construction debris in the utility structures, and damages resulting from the uncleaned structures.

d. Measurement and Payment.- The completed work as measured will be paid for at the contract unit prices for the following contract items (pay items):

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Aggregate Base, 6 inch, 21-AA	Square Yards
Subbase, CIP, Class II Granular Material, Modified	Cubic Yards

“Aggregate Base, 6-inch, 21-AA” will be measured by area in square yards compacted in place. “Subbase, CIP, Class II Granular Material, Modified” will be measured by the area in cubic yards compacted in place. The items of work will be paid for at the contract unit prices, which shall be payment in full for all labor, material and equipment needed to accomplish this work.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
STORM SEWER, MODIFIED

AA:MGN

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a. Description.- This work shall consist of installing storm sewer in accordance with Section 402 of the Michigan Department of Transportation 2012 Standard Specifications for Construction and as specified herein. All newly constructed storm sewer shall be tested and video inspected in accordance with the requirements of this special provision unless the Engineer can access the manhole and/or drainage structure and visually inspect the work to determine if it has been acceptably completed.

The Contractor shall furnish all materials, equipment, tools, and labor necessary to perform the work required by this special provision and shall unload, haul, distribute, store, and install all pipe, fittings, and accessories.

The Contractor shall excavate all trenches and pits to the required dimensions; excavate the bell holes; sheet, brace, and properly support the adjoining ground or structures where necessary to comply with MIOSHA and other relevant safety standards; properly handle and remove all drainage or ground water so that the work can be completed in accordance with the specifications; install and test the pipe, fittings, and accessories; backfill and compact all fill materials within trenches and pits; and remove and properly dispose of surplus or unsuitable excavated material off-site.

b. Materials.- The materials used for this work shall be in accordance with Section 402.02 except as modified herein.

Bedding and backfill for Trench Detail I, Modified shall be Granular Material, Class II, meeting the requirements of Section 902. Bedding and backfill for Trench Detail V, Modified shall be Granular Material, Class II and Engineer-approved material for the backfill that is placed at an elevation greater than 1-foot above the top-of-pipe and/or outside the 1:1 influence line of paved areas.

All pipe shall be concrete, contain steel reinforcement, and shall be of the type, class, and size as shown on the plans.

Reinforced concrete pipe shall conform to the requirements for reinforced concrete pipe of ASTM Designation C 76, Class IV, unless otherwise designated on the Plans. For diameters larger than listed in ASTM Specifications, wall thickness and reinforcing steel shall be as shown in Section 909 Table 909-3 or 909-4 as applicable.

Reinforced elliptical concrete pipe shall conform to the requirements for reinforced concrete elliptical pipe of ASTM Designation C 507, Class as designated on the Plans.

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FOR
STORM SEWER, MODIFIED

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For diameters larger than listed in ASTM Specifications, wall thickness and reinforced steel shall be as shown in Section 909 Table 909-5.

Joints for reinforced concrete pipe shall meet ASTM C 443 and shall be rubber gasket for tongue and groove, full bell and spigot rubber O-ring gasket, or modified grooved tongue with rubber gasket. Joints for sewers over 36 inches in diameter shall have inside joints cement mortar pointed to their full depth and shall have the outside joints provided with a cement mortar collar.

Joints for reinforced concrete elliptical pipe shall be mastic compound with inside cement mortar pointing to full depth and outside cement mortar collar.

Lubricants used in making up joints shall be supplied by the pipe manufacturer and the joints shall be coupled in accordance with the manufacturer's requirements.

Class X concrete as described in this special provision shall consist of Portland Cement, coarse and fine aggregates, and water, proportioned with 282 lbs. cement (3 sacks) per cubic yard to produce a minimum 28-day compressive strength of 1000 psi.

c. Pipe Inspection and Delivery.- The following information shall be clearly marked on each length of pipe:

- a) The pipe designation and class (e.g., C 76, Class IV).
- b) The name or trademark of the manufacturer.
- c) Identification of the manufacturing plant.
- d) The date of manufacture.
- e) Testing lot number or testing lab stamp.
- f) Reinforced concrete pipe with elliptical reinforcement shall be clearly marked on the inside and the outside opposite walls along the minor axes of the elliptical reinforcing.
- g) Beveled pipe shall be marked with the amount of bevel and the point of maximum length shall be marked on the beveled end.

All pipe furnished shall be subject to inspection on arrival at the job site by the Engineer. The purpose of the inspection shall be to cull and reject pipe or fittings that, independent of physical tests specified under the standard specifications designated herein, fail to conform to the requirements of these Specifications.

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FOR
STORM SEWER, MODIFIED

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The Contractor shall notify the Engineer sufficiently in advance so that an Inspector may be on the job during the unloading of materials. A minimum notice of 24 hours is required for such unloading and inspection.

Concrete pipe of any type shall be subject to rejection on account of any of the following:

- a) Variation in any dimension exceeding the permissible variations given in the material specifications.
- b) Fractures or cracks passing through the wall.
- c) Defects that indicate imperfect proportioning, mixing, or molding.
- d) Surface defects indicating honeycombed or open texture.
- e) Variation of more than 1/16 inch per lineal foot in alignment of pipe intended to be straight.
- f) Insecure attachment of branches or spurs.
- g) Damaged ends, where in the judgment of the Engineer such damage would prevent making a satisfactory joint.

Rejected pipe shall be plainly marked by the Inspector and immediately removed from the site of the work by the Contractor without cost to the project.

All pipe furnished shall be accompanied by the manufacturer's certificate of test showing conformity with the Specifications. Each certificate shall identify a specific lot number, quantity of pipe, and show actual test results for the lot furnished. These certificates shall be submitted to the Inspector at the time of unloading.

d. Methods of Construction.- All construction shall be performed in accordance with Section 402.03 except as modified herein.

The Contractor shall fully comply with all laws and regulations governing construction methods and the furnishing and use of all safeguards, safety devices, protective equipment, and pollution controls. Where required to support the surfaces of adjacent roadways, structures, or excavations, or to protect the construction work, adjacent work, or workmen, the Contractor shall design and install sheeting, bracing, and shoring. The Engineer will not review the Contractor's design(s) or be responsible for the adequacy of the elements supporting the trench. The placing of such supports shall not release the Contractor of the responsibility for the sufficiency and integrity of the trench, trench opening, and the safety of all persons involved in the work. In the removing of sheeting and bracing after the construction has been completed, special

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care shall be taken to prevent any caving of the sides of the excavation and injury to the completed work or to adjacent property.

The bedding and backfill for Trench Detail I, Modified shall be MDOT Class II sand compacted to 95% of its maximum dry density. Compaction shall be performed as specified elsewhere in this special provision.

The bedding and backfill for Trench Detail V, Modified to a point 12 inches above the top of pipe, shall be MDOT Class II granular material compacted to 95% of its maximum dry density. The backfill above a point 12 inches above the top of pipe shall be Engineer-approved material, compacted to 90% of its maximum dry density. Compaction shall be performed as specified elsewhere in this special provision.

The Contractor shall proceed with caution in the excavation and preparation of the trench so that the exact location of underground structures, both known and unknown, may be determined, and the Contractor shall be held responsible for the repair of such structures when broken or otherwise damaged. The Contractor shall not intentionally remove existing storm sewer, storm sewer leads, or sanitary sewer leads in lieu of protecting and preserving them in order to expedite the proposed construction.

Excavation normally shall be by open cut from the surface, except as otherwise specified, or in special cases where crossing under trees, pavements, or structures. The Contractor may use tunnel methods if permitted in writing by the Engineer, provided his method of backfill is such, in the judgment of the Engineer, as to avoid any present or future injury to the tree, pavement, or structure. All excavation shall be in such manner as will provide adequate room for the construction and installation of the work to the lines, grades and dimensions shown on the Plans.

The trench shall be excavated to a minimum of four inches below the final location of the pipe. For reinforced concrete pipe 66" in diameter or larger, the trench will be excavated to a minimum of six inches below the pipe. This cut shall be filled to the level of the bottom quadrant of the pipe with Class II granular material as specified herein, shaped and compacted to the pipe barrel.

Bell holes shall be provided in the trench bottom at each joint to permit the joints to be made properly.

The Contractor shall dig-up and expose all utility crossings prior to laying any storm sewer pipe. This will allow the Engineer to adjust the grade of the storm sewer, if

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possible, to avoid the existing utilities. The costs of the exploratory excavation, and all related costs, shall be included in the unit price of the storm sewer. The Engineer may require that some dig-ups be performed out of the current construction stage or phase where the sewer work is taking place in order to aid in alignment decisions. Any required traffic control measures required to comply with this requirement shall be included in the costs of "Minor Traffic Devices, Max. \$____" and "Traf Regulator Control."

During the construction it may be necessary to cross under or over certain sewers, drains, culverts, water lines, gas lines, electric lines, and other underground structures or facilities, known or unknown. The Contractor shall make every effort to prevent damage to such underground structures and facilities. Wherever such structures or facilities are disturbed or broken, they shall be restored to a condition that is as good, or better than, that which existed prior to the disturbance and shall be acceptable to the owner and the City, at the Contractor's expense. These crossings shall be made with a minimum of twelve inches of vertical clearance between facilities.

Should the storm sewer conflict with abandoned sewers or water mains, the conflicting section of abandoned sewer or water main shall be removed and the remaining sections shall be (re)abandoned in accordance the Special Provision for "Water Main and Appurtenances, Abandon" and the Special Provision for "Sewer, Any Size or Depth, Abandon," except that flow filling the sewer will not be required. All the abandonment work shall be included in the cost of the storm sewer and will not be paid for separately.

Not more than 50 feet of trench shall be open at one time in advance of the pipe laying operation. At no time shall more than 200 feet of trench be opened and incompletely backfilled. At the end of each day, no more than 10 feet of trench may be left open, and access to all drives shall be restored. This opening shall be surrounded by fencing and barricades, or plated. The remainder of the trenching operation shall be available for safe vehicular and pedestrian traffic at all times.

All excavated material approved by the Engineer as backfill material and imported backfill material shall be piled in a manner that will not endanger the work and that will avoid obstructing sidewalks and driveways. All excavated material which is unsuitable for backfill shall be immediately removed from the site by the Contractor unless otherwise provided in the contract documents. Hydrants under pressure, manholes of any kind, valve boxes, curb stop boxes, fire and police call boxes, and other utility controls shall be left unobstructed and accessible until the work is completed. Gutters

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STORM SEWER, MODIFIED

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shall be kept clear, or other satisfactory provisions made, for street drainage, and natural water courses shall not be obstructed.

Each pipe shall be inspected for defects prior to being lowered into the trench. Inside of pipe and outside of spigot shall be cleaned of any earth or foreign matter.

Proper implements, tools, and facilities satisfactory to the Engineer shall be provided and used by the Contractor for the safe and convenient prosecution of the work. All pipe, manhole bases, manhole sections, and other similar items shall be carefully lowered into the trench piece by piece by means of suitable tools or equipment as recommended by the manufacturer, in such a manner as to prevent damage to them and their protective coatings and linings. Under no circumstances shall materials be dropped or dumped into the trench.

Construction of sewers shall begin at the outlet end and proceed up grade. Pipe shall be laid on the prepared pipe bedding with the bell ends facing the direction of laying, unless otherwise directed by the Engineer.

The Contractor shall take every precaution to prevent foreign material from entering the pipe while it is being placed in the line. During laying operations, no debris, tools, clothing or other materials shall be placed in the pipe. At times when pipe laying is not in progress, the open ends of pipe shall be closed by a watertight plug. This provision shall apply during the noon hours as well as overnight. If water is in the trench, the seal shall remain in place until the trench is pumped completely dry.

Pipe shall be jointed as specified elsewhere herein.

No pipe shall be laid until a cut sheet for that pipe has been approved by the Engineer. All pipe shall be laid at the correct line and grade as indicated by the grade stakes and offset line. The correct line and grade shall be maintained by the use of a laser alignment system. Each pipe, as laid, shall be checked by the Contractor to ensure that this result is obtained. The grade as shown on the Plans is that of the pipe invert for sewers and the work must conform to this profile. A variation of $\frac{1}{4}$ " from this profile grade will be deemed sufficient reason to cause the work to be rejected and re-laid. Sewer pipe alignment shall be maintained so as to not vary more than $\frac{1}{2}$ " from the correct line on pipes up to 36 inches in diameter nor more than 1" on pipes 42 inches in diameter and larger. Any pipe found out of line shall be re-laid properly by the Contractor.

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STORM SEWER, MODIFIED

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Mechanical means shall be used for pulling home all rubber-gasketed pipe regardless of trench condition where manual means will not result in pushing and holding the pipe home. When a trench box or liner is used, a cable shall be used to pull the joints home and hold them in position.

Where work is performed in wet trenches or trenches with running sand, the Contractor shall provide and use mechanical means for pulling the pipe home in making up the joint and for holding the pipe joints tight until completion of the line. Mechanical means shall consist of a cable placed inside or outside of the pipe with a suitable winch, jack, or come-along for pulling the pipe home and holding the pipe in position.

Where not required by these Specifications, manual means will be acceptable only if the joints can be pushed home and hold themselves securely in place.

All pipes shall be bed on a four inch or thicker layer of compacted Class II granular material (unless noted otherwise on the applicable trench details) unless pipe undercutting is required. Perform any required pipe undercutting as directed by the Engineer and in accordance with the Section 402.03.A.

Where Class II granular material used as pipe bedding is required by the plans, from the bedding to the pipe centerline backfill shall be carefully placed Class II granular material, placed in maximum lift thicknesses of six inches, loose measure. Each lift shall be thoroughly compacted by hand tamps, pneumatic "pogo-sticks", or other approved methods, to at least 95% of the material's maximum dry density at optimum moisture content. Each lift shall extend the full width of the space between the pipe and trench wall, and the fill shall be brought up evenly on both sides of the pipe. The backfill under the haunches of the pipe shall be consolidated by the use of a tee-bar.

When the pipe is greater than 48-inch diameter, or when permitted in writing by the Engineer, the Class II granular fill from the bedding to the centerline may be replaced by 6A, 17A, or 34R aggregate meeting the requirements of Section 902. A suitable geotextile separator, approved by the Engineer, shall be provided around and above the coarse aggregate to prevent intrusion of succeeding backfill materials.

Where Class II granular material used as pipe bedding is required by the plans, from the pipe centerline to the top of the pipe, backfill shall be Class II granular material placed in maximum lift thicknesses of six inches, loose measure. Each lift shall be

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thoroughly compacted by hand tamps, pneumatic "pogo-sticks", or other approved methods, to at least 95% of the material's maximum dry density.

From the top of the pipe to two feet above the top of the pipe backfill shall be Class II granular material uniformly spread and machine tamped. Machine tamping shall include manually operated vibrating plate compactors. The backfill material shall be compacted in lifts of twelve inches, loose measure.

From two feet above the top of the pipe to the grade shown on the Plans or to the subgrade of surface materials, or to the subgrade of surface structures, backfill shall be Class II granular material (Trench Detail I installations) uniformly spread and machine tamped. If machine tamping includes manually operated vibrating plate compactors or self propelled vibrating rollers the backfill material shall be compacted in lifts not exceeding twelve inches, loose measure. If a backhoe mounted compactor is employed, the backfill material shall be compacted in lifts of thirty-six inches, loose measure. Approval to use a particular machine tamping method will be withdrawn by the Engineer if the method causes injury to the pipe or adjacent structures or movement of the pipe. Each lift shall be thoroughly compacted to at least 95% of material's maximum dry density. The Engineer may give consideration to giving written permission to increase the thickness of the lifts specified in this paragraph if satisfactory compaction is achieved and no undesirable side effects occur.

From one foot above the top of the pipe to the grade shown on the Plans or to the subgrade of surface materials, or to the subgrade of surface structures, backfill shall be Engineer-approved material (Trench Detail V installations) uniformly spread and machine tamped. If machine tamping includes manually operated vibrating plate compactors or self propelled vibrating rollers the backfill material shall be compacted in lifts not exceeding twelve inches, loose measure. If a backhoe mounted compactor is employed, the backfill material shall be compacted in lifts of thirty-six inches, loose measure. Approval to use a particular machine tamping method will be withdrawn by the Engineer if the method causes injury to the pipe or adjacent structures or movement of the pipe. Each lift shall be thoroughly compacted to at least 90% of the material's maximum dry density.

All storm sewer shall be television inspected by the Contractor unless the Engineer can access the manhole and/or drainage structure and visually inspect the work performed to determine if it has been acceptably completed.

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The Contractor shall furnish all labor, equipment and materials necessary for the television inspection. The Engineer shall be given 24 hours notice so that an Inspector may witness the television inspection. All storm sewer lines are to be thoroughly cleaned prior to television inspection, by jetting of the lines or other approved methods. Television inspection shall consist of wetting the invert of the section by pouring clean water in the upstream manhole until it appears in the downstream manhole, and then, after the water has stopped flowing, passing a television camera through the section. The television camera shall be passed through the section of pipe from the downstream to upstream end. Any runs of sewer not televised in this manner shall be re-televised at the Contractor's expense. The camera shall be connected to a monitor and a digital video recorder capable of generating DVD format disks. The video inspection record shall indicate the date, the section tested, and the actual distance from the beginning manhole to the ending manhole and shall note each visible defect. The DVD shall be furnished to the Engineer for review.

The television inspection will be deemed satisfactory if no visible defects, including, but not limited to, dips or low spots, high spots, errors in horizontal or vertical alignment, joint offsets, leaks, cracks, standing water greater than ¼", or debris, are present. Only after all tests have been successfully completed, and acknowledged by the Engineer in writing, may the storm sewer be placed into service.

If a sewer repair is required as a result of damage during construction operations or television inspection failure, the Contractor shall expose the sewer pipe and perform the required correction(s), as specified herein and as directed by the Engineer.

If the repair is required due to the pipe being out of alignment or off grade, the pipe shall be adjusted so as to be placed in proper alignment and grade. Coarse-graded aggregate material shall be carefully placed under the haunches of the realigned pipe and compacted by the use of a tee-bar. From the haunches of the pipe, backfilling shall be performed in accordance with the requirements for backfilling as outlined elsewhere in this special provision.

If the pipe cannot be satisfactorily realigned or an open joint reset; or if the pipe is cracked, broken, or permanently deflected, the affected pipe shall be removed and replaced with the same pipe material. The pipe to be removed is to be sawed on each side of the damaged section in a neat and workmanlike manner without damage to the adjacent pipe. The replacement pipe section shall fit flush to the remaining pipe at each end. These sawed joints shall be coupled using a flexible pipe coupling and stainless steel shear ring. These joints shall be encased to the pipe centerline with Class X

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concrete one foot on either side of the flexible coupling. The remaining pipe backfill shall be performed in accordance with the applicable requirements for backfilling as outlined elsewhere in this special provision.

e. Measurement and Payment.- The completed work as measured will be paid for at the contract unit prices for the following contract items (pay items):

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Sewer, CI C 76 IV, _ inch, Tr Det I, Modified	Foot
Sewer, CI C 76 IV, _ inch, Tr Det V, Modified	Foot

The items of work listed above shall be paid for by the length of pipe actually installed. The unit price for this item of work shall include all labor, material, and equipment costs, including video inspection, and all needed items to properly complete the work as shown on the plans, as detailed in the Specifications, and as directed by the Engineer.

The herein specified dig-ups shall be included in the cost of the pipe and not paid for separately.

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a. Description.- This work shall consist of furnishing drainage structure covers as detailed on the plans and as specified herein.

<u>Type of Casting</u>	<u>MDOT Designation</u>	<u>Approx. Weight (lb)</u>	<u>East Jordan Iron Works Casting No.</u>	<u>Neenah Foundry Casting No.</u>
Manhole Flange and Cover	B	400 LB	1040 w/ Type A cover*	R-1642 w/ Type C cover*
Manhole Flange and Cover, Sanitary	Q	400 LB	1040 w/ Type A cover	R-1642 w/ Type C cover*
Barrier Curb Round Flange	K	500 LB	7045 w/ Type M2 grate	R-3031-B w/ Type S grate
Barrier Curb Double Inlet Round Flange	K	500 LB	7045 w/ Type M2 grate	R-3031-B w/ Type S grate
Gutter Inlet Round Flange	R	500 LB	7076 w/ Type M1 grate	R-3594w/ Type S grate
Gutter Double Inlet	R	N/A	N/A	N/A
Yard Drain (Bee Hive)	G	200 LB	1040, Type 02 grate	R-2560-E1
Operating Nut Access Frame and Cover	1-A	200 LB	1570Z, 2965A Cover	Equivalent (as approved)

*Frames and covers shall have machined bearing surfaces. Covers shall have two (2), 1 inch, vent holes located opposite each other and 6 inch from the edge of the cover, except for sanitary sewer manholes. Each cover shall have the word "SEWER", or the word "WATER", or a raised letter "W" cast in the surface, whichever is applicable.

b. Materials.- The materials used for this work shall conform to Section 908.05 of the Michigan Department of Transportation 2012 Standard Specifications for Construction except as specified herein.

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c. Construction Methods.- The construction methods shall be as specified in the related items of work for which the drainage structure covers are provided.

d. Measurement and Payment.- The completed work as measured shall be paid at the contract unit price for the following contract items (pay items):

<u>(Contract Item) Pay Item</u>	<u>Pay Unit</u>
Dr Structure Cover, Type ____, Special.....	Each

Payment for this item of work shall include all labor, materials and equipment needed to furnish the drainage structure cover.

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DETAILED SPECIFICATION
FOR
ADJUST STRUCTURE COVER

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a. Description.- This work shall include the final adjustment of structure covers in accordance with Section 403 of the Michigan Department of Transportation 2012 Standard Specifications for Construction, as shown on the plans, and as specified herein. The adjustment of existing valve wells, existing valve boxes, and monument boxes will also be included in this item of work.

The Contractor shall also be required to coordinate the adjustment of private utility structure covers and ensure that the adjustment has been properly performed with the respective utility prior to placing any final paving materials.

b. Materials.- In bituminous pavement areas, adjustments shall be made using MDOT P-NC concrete (658 lbs/cyd) as specified in Section 601 of the MDOT 2012 Standard Specifications for Construction. In areas of concrete pavement or sidewalks, adjustments shall be made at the time of paving and encased with the grade of concrete used in the roadway or sidewalk.

c. Methods of Construction.- Structure Covers, monument boxes, 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 lawn areas shall be performed in a one-step process. The adjusting of castings in a bituminous pavement area shall be performed 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 bituminous wearing surface. In areas of concrete pavement or sidewalk, the final adjustment of the structure to finish grade shall be made at the time of concrete pavement or sidewalk forming. All structures in areas of concrete pavement or sidewalk shall be approved by the Engineer prior to the placement of any concrete pavement or sidewalk.

There shall be a minimum of one, and maximum of three, 2" tall, concrete brick or pre-cast adjustment rings on manholes and vaults. If necessary, remove the cone, add or remove manhole sections and replace the cone to comply with these adjustment ring limits. If this work is necessary, it shall be paid for as "Additional Depth Structure, Adjust/Repair."

All structures final adjustment is 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 that is placed parallel, and then perpendicular to, the pavement

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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 manholes 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. It shall be the sole responsibility of the Contractor to ensure that this work is completed in a timely manner.

The Contractor shall replace all existing structures covers, top portions of valve boxes and monument boxes.

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.

All adjustments in areas of proposed bituminous pavement shall be backfilled with Grade P-NC concrete, from the depth of excavation necessary for adjustment, to an elevation 2 inches below the top flange or adjusted casting. This material shall be included in this item of work and will not be paid for separately.

Structure covers shall be adjusted to between flush and ¼ inch below final pavement surfaces.

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."

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d. Measurement and Payment.- The completed work as measured for "Adjust Structure Cover" will be paid for at the contract unit price for the following contract item (pay item):

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Adjust Structure Cover	Each
Additional Depth Structure Adjust/Repair.....	Each

"Adjust Structure Cover" 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.

Where the required adjustment on a structure is more than 15 inches below the proposed finished grade of the structure, valve box, control point, or monument box, the amount of the adjustment in excess of the upper 15 inches of the finished structure, shall be measured and paid for as "Additional Depth Structure Adjust/Repair." This shall also cover the repair of manholes and structures where, less than the substantial rebuilding of the structure, as determined by the Engineer, is required.

Payment for adjusting for new drainage structures, new manholes, new valves-in-wells and new valves-in-boxes shall be included in the respective items and will not be paid for under this item. The work for adjusting these items, however, shall be performed in accordance with this special provision.

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DETAILED SPECIFICATION
FOR
DRAINAGE STRUCTURES

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a. Description.- This work shall consist of constructing drainage structures in accordance with Section 403 of the Michigan Department of Transportation 2012 Standard Specifications for Construction, as shown on the plans, and as specified herein.

b. Materials.- The materials used for this work shall conform to Subsection 403.02 of the Michigan Department of Transportation 2012 Standard Specifications for Construction, except as specified herein.

Storm sewer drainage structures shall be constructed of precast or cast-in-place reinforced concrete sections, or concrete masonry units. All sanitary sewer manholes and gate wells (water main valve manholes) shall be constructed of precast reinforced concrete sections.

Precast reinforced concrete bases, bottom sections, manhole risers, grade adjustment rings, concentric cones, eccentric cones, and flat slab tops shall conform to the requirements of ASTM C-478. Joints on precast manholes used on all sanitary sewers shall meet ASTM C-443, rubber O-ring gasket.

Precast manhole tees and radius pipe sections shall conform to requirements for reinforced concrete pipe, ASTM C-76, Class IV. Joints shall conform to adjacent pipe. Tees and radius pipe shall conform to details indicated on drawings offered by the Concrete Pipe Association of Michigan, Inc., or Engineer approved equal.

If precast drainage structures are used, they shall be designed to accommodate HL-93 Modified Live Load requirements as determined by a Professional Engineer licensed by the State of Michigan, regardless of where they are to be installed. For the purposes of design, a HL-93 Modified Live Load shall consist of 1.2 times the design truck or 1.2 times a single 60 kip load, whichever produces the greater stresses.

If precast structures are used, the Contractor shall field verify inverts prior to fabricating precast units. No additional payment will be made to the Contractor for precast units that cannot be used due to existing inverts being different than shown on the plans, changes in vertical or horizontal alignment due to conditions found in the field, or similar unforeseen circumstances.

If the Contractor elects to use pre-cast drainage structures, or if portions of the drainage structures are constructed with pre-cast concrete elements, the Contractor shall submit to the Engineer for review and approval shop drawings in accordance with Section

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104.02 of the Michigan Department of Transportation 2012 Standard Specifications for Construction.

For each submittal or resubmittal, the Contractor shall allow at least 14 calendar days from the date of the submittal to receive the Engineer's acceptance or request for revisions. The Engineer's comments shall be incorporated into the submitted plans, calculations and descriptions. The Engineer's acceptance is required before beginning the work. Resubmittals shall be reviewed and returned to the General Contractor within 14 calendar days. Required revisions will not be a basis of payment for additional compensation, extra work, or an extension of contract time. The Contractor shall include time for this entire review process in his/her CPM network schedule.

Concrete masonry units shall conform to the requirements for concrete masonry units for catch basins and manholes, ASTM C-139.

Concrete brick shall conform to the requirements for concrete building brick, ASTM C-55, Grade N-1.

Slide gate assemblies for use on structures with weirs shall be designed to meet or exceed the current AWWA Standard C513. The slide plate, guide frame, and yoke pedestal shall be fabricated from minimum ¼" thickness 6061-T6 aluminum plate and shapes, and shall be designed to deflect no more than 1/360 of the span width under full design head. Slide gate upper seals shall be fabricated Ultra High Molecular Weight Polyethylene. Weir gate invert seals shall be fabricated from neoprene. All seals shall prevent leakage without requiring adjustments. Gate operators shall be non-rising stem type with a bronze operating nut supported by roller thrust bearings top and bottom secured in an accurately machined cast aluminum housing bolted to the pedestal. Stems shall be 1½" diameter stainless steel rod.

Where specified on the plans, use a PVC liner that is 30 mils thick. The PVC liner shall be seamless for its entire length and width in its installed position. Use resins to manufacture the PVC liner that are 100 percent first quality virgin polyvinyl chloride. The PVC liner must be resistant to ultraviolet degradation, construction damage and all forms of biological and chemical degradation normally encountered in highway construction applications. Satisfy the physical properties contained in the following table.

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PVC Liner Physical Requirements

Property	Test Method	Requirement
Thickness Tolerance	ASTM D 1593	5+/- percent
100 Percent Modulus	ASTM D 882	1000 psi (minimum)
Elongation @ Break	ASTM D 882	300 percent (minimum)
Dimensional Stability	ASTM D 1204 (212 degrees F, 15 minutes)	5 percent change (maximum)

With each material shipment, provide test data certification from the manufacturer which includes a certified report of quality control test results obtained from the lot(s) of material in the shipment. Label each unit of material to provide product identification sufficient for field identification and correlation to certified test results. Certify the specified physical properties as minimum average roll values (MARV).

Plastic coated manhole steps shall be injection molded of copolymer, polypropylene, encapsulating a 1/2 inch grade 60 steel reinforcing bar. Plastic-coated manhole steps shall meet the performance test described in ASTM C-478, Paragraph II, and shall have an impact resistance of 300 ft.-lbs. with only minor deflection and no cracking or breaking. The steps shall resist pull out forces of 1500 lbs.

c. Methods of Construction.- The construction methods used shall conform to Section 403.03 of the Michigan Department of Transportation 2012 Standard Specifications for Construction except as specified herein.

Where a structure currently exists and a new structure is required to be constructed in the same location, the Contractor shall excavate, remove, and dispose of the existing drainage structure included in the unit price for the structure to be constructed.

Excavation shall be carried to the depth and width required to permit the construction of the required base. The excavation width shall be greater than the base. The bottom of the excavation shall be trimmed to a uniform horizontal bed and be completely dewatered before any concrete is placed therein. Precast manhole bases and precast bottom sections are allowed.

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Concrete block construction shall only be allowed for storm sewer manholes and inlets and shall be built of the size and dimensions shown on the Plans. The block shall be clean, laid in a full bed of mortar, and thoroughly bonded by completely filling the vertical end grooves with mortar so as to interlock with the adjacent block. The mortar beds and joints shall not exceed $\frac{3}{4}$ " inch thickness. The vertical joints are to be completely filled with the joints on the inside face rubbed full of mortar and struck smooth as the manhole, inlet or structure is built up. The entire outside face of the structure shall receive a $\frac{1}{2}$ " thick mortar coat and struck smooth. All masonry materials, sand, and water shall be heated to over 50° F during freezing weather, and the completed work shall be covered and protected from damage by freezing.

Circular precast manhole sections shall be constructed in accordance with the details as shown on the plans. Manhole stack units shall be constructed on level poured-in-place bases, precast concrete bases, or precast concrete bottom sections.

Precast cone sections shall be constructed in accordance with the details as shown on the plans. These units shall be eccentric for all manholes, precast or block. All structures shall be topped with a minimum of one, and a maximum of three, 2" tall, brick or precast adjustment courses.

Manholes, inlets, gate wells and structures shall be constructed within 2½ inches of plumb.

Frames and cover castings shall be set in full mortar beds and pointed on the structure interior to a smooth, brushed finish. The covers shall be set flush with sidewalk, roadway pavement, or ground surfaces. The Engineer shall be notified prior to the final paving so as to allow inspection of the final casting adjustments for all utility structures. In gravel streets, covers shall be set six to eight inches below finished gravel surface.

Sewer pipes shall extend into structures a minimum of $\frac{1}{2}$ inch and a maximum of 3 inches.

Flow channels for sewer structures shall be finished in accordance with the details as shown on the plans. All flow channels shall be screeded and floated to a smooth, uniform surface and troweled to a hard surface finish.

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Stubs for future sewer connections shall be furnished and placed by the Contractor as shown on the Plans and as directed by the Engineer. Connections shall be properly supported and braced when not resting on original ground so that any settlement will not disturb the connection. Stubs shall consist of one length of sewer pipe, of the size indicated on the Plans, with a watertight plug.

The excavation shall be kept in a dry condition. All necessary dewatering shall not be paid for separately, but shall be included in the item of work being constructed at the time the dewatering is needed.

All necessary adjustments for new structures shall be included in the cost of the structure.

d. Measurement and Payment.- The completed work as measured shall be paid at the contract unit price for the following contract items (pay items):

<u>(Contract Item) Pay Item</u>	<u>Pay Unit</u>
Dr Structure, Manhole, Type I, ___ inch dia.....	Each
Dr Structure, Manhole, Type I, ___ inch dia, Add Depth.....	Foot
Dr Structure, Manhole, Type III, ___ inch dia.....	Each
Dr Structure, Manhole, Type III, ___ inch dia, with Weir.....	Each
Dr Structure, Manhole, Type III, ___ inch dia, Add Depth.....	Foot
Dr Structure, Single Inlet, ___ inch dia.....	Each
Dr Structure, Single Inlet, ___ inch dia, Add Depth.....	Foot
Dr Structure, Inlet-Junction Chamber.....	Each
Dr Structure, Inlet-Junction Chamber, Add Depth.....	Foot
Dr Structure, Double Inlet.....	Each
Dr Structure, Double Inlet, Add Depth.....	Foot

Payment for drainage structures includes furnishing the labor, equipment and materials for all necessary excavation, disposing of surplus excavated material, backfilling, and constructing the structure complete, including pipe connections and structure cleaning. A standard depth manhole shall be considered to be 8 feet or less in depth (including sump).

Payment for additional depth for drainage structures includes furnishing the labor, equipment, and materials for all necessary excavation, disposing of surplus excavated material, backfilling, and constructing the structure complete, including pipe connections

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and structure cleaning, for the portion of the structure which is deeper than 8 feet (including sump).

In addition to the above, payment for Dr Structure, Manhole, Type III, ___ inch dia, with Weir shall include all labor, equipment, and materials required to construct the weir, slide gate, and orifices as detailed on the plans.

Payment for adjusting of drainage structure covers shall be included in payment for the structure. Drainage structure covers will be paid for separately.

CONCRETE PLACEMENT AND PROTECTION 601B

CITY OF ANN ARBOR DETAILED SPECIFICATION FOR CONCRETE PLACEMENT AND PROTECTION

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a. Description.- This work shall consist of furnishing all labor, material, and equipment needed to furnish, place, and protect all concrete material in accordance with the requirements of this Special Provision. These requirements shall not apply to concrete bridge decks, unless otherwise noted.

b. Materials.- The Concrete shall meet the requirements of Sections 601 and 701 of the 2012 Michigan Department of Transportation Standard Specifications for Construction.

The Contractor shall propose specific concrete mix designs for the intended project purpose in accordance with the requirements of this Special Provision and other applicable Special Provisions and/or project requirements. The Engineer's acceptance of a mix design shall not relieve the Contractor of their responsibility for the manufacture of the concrete mixture(s), its placement, or performance.

c. Construction Methods.- The Contractor shall perform all concrete placement operations in weather that is suitable for the successful placement and curing of the concrete materials. Concrete shall not be placed during periods of active precipitation.

The Contractor shall complete all needed formwork, base and/or sub-base preparation, and any other related items that are deemed necessary for the proper completion of the work. The Contractor shall not commence the placement of concrete until they receive all needed approvals from the Engineer for placement. The Engineer's approval of the Contractor to place concrete shall not relieve the Contractor of their responsibility for the proper placement and protection of the concrete materials or its long-term performance.

During periods when precipitation is threatening, provide durable, plastic sheeting, approved by the Engineer, in sufficient quantity to cover and protect all freshly placed concrete such that precipitation does not come into contact with the concrete. The Contractor shall arrange the placement of the plastic sheeting such that the surface of any freshly placed concrete is not marred by contact with the plastic; any seams in the plastic sheeting shall be water tight. The Contractor shall place adequate supports along and over the freshly placed concrete to prevent contact of the plastic and concrete. The Contractor shall ensure that sufficient dams or barriers are placed along the edges of the freshly placed concrete to prevent erosion of the underlying materials or damage to the edges of the freshly placed concrete. All measures shall be effective.

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Any concrete damaged by precipitation shall be removed and replaced at the Contractor's expense. The Engineer shall decide if the concrete has been damaged and the limits of removal and replacement.

Concrete shall only be placed when the rate of surface evaporation at the site is less than 0.20 pounds per square foot per hour, according to Figure 706-1 of the 2012 Michigan Department of Transportation Standard Specifications for Construction. The Contractor shall provide approved equipment for determining the relative humidity and wind velocity at the site.

Water shall not be added to the placed concrete in order to aid finishing. Any water added to the concrete for slump adjustments shall be done by adding water to the mixing unit and thoroughly re-mixing the concrete for 30 revolutions of the mixing unit at mixing speed. Water shall not be added such that the design water-to-cement ratio of the concrete mixture or the design slump of the concrete mix is exceeded.

Concrete curing shall be performed in accordance with Section 602.03.M of the 2012 MDOT Standard Specifications for Construction. Curing operations shall take precedence over texturing operations and continued concrete placement. All curing compound applied shall provide uniform coverage over the entire surface being protected. The placement of curing compound shall be free of spots, blotches, or uncovered or non-uniformly covered areas. Should any areas be determined to exist by the Engineer, the curing compound shall be immediately re-applied by the Contractor at no additional cost to the project.

d. Weather Limitations.- The Contractor shall take all precautions when placing concrete to protect it from damage due to the elements. Concrete shall not be placed during precipitation events.

Concrete shall be protected from weather and temperature according to the requirements of Section 602.03.T. Concrete shall not be placed when the temperature of the plastic concrete mixture itself is greater than 90° F. In conditions where low temperature protection is required, the Contractor shall cover the concrete with insulated blankets, or other means as approved by the Engineer, to protect the concrete from damage. The concrete shall remain protected until it has reached a compressive strength of at least 1000 psi, or as directed by the Engineer.

CONCRETE PLACEMENT AND PROTECTION 601B

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e. Protection of Concrete from Construction Traffic, Vandalism and Graffiti.-

The Contractor shall take all needed precautions to protect any concrete placed from being damaged by foot traffic, vehicular traffic, Contractor's equipment and personnel, subsequent construction operations, vandalism, and the like.

The Contractor shall provide sufficient personnel to guard and protect newly placed concrete until such time as it has hardened sufficiently to prevent damage. Any concrete curing compound damaged by Contractor foot traffic or equipment shall be immediately recoated by the Contractor at the Engineer's request.

Any concrete which is marked by graffiti, cracks other than at joints, or otherwise damaged before it has sufficiently hardened to prevent damage shall be removed and replaced in accordance with the appropriate project specifications at the Contractor's sole expense.

f. Measurement and Payment.- All costs associated with the conformance to the requirements of this Special Provision will not be paid for separately, but shall be considered to be included in the respective items of work.

CONCRETE CURB AND DRIVEWAY OPENINGS 802A

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FOR
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a. Description.- This work shall consist of constructing concrete curb and gutter, and concrete curb openings in accordance with Section 802 of the MDOT 2012 Standard Specifications for Construction, as shown on the plans, and as specified herein.

b. Materials.- The materials shall meet the requirements as specified in Section 802.02 of the 2012 MDOT Standard Specifications and as specified herein:

Driveway Opening, Conc., Detail M, P-NC shall be Grade P-NC Concrete (658 lbs/cyd cement content). Driveway Opening, Conc, Detail L, P1 shall be Grade P1 Concrete (526 lbs/cyd cement content.).

All other concrete curb and gutter specified herein shall be grade P1. The Contractor may elect to add GGBFS to P1 mixtures in accordance with the requirements of the contract documents. No additional payment will be made for concrete mixtures containing GGBFS.

All concrete mixtures shall contain 6AA coarse aggregates which are either natural or limestone and meet the requirements of Section 902.

It shall be the Contractor's sole responsibility to propose specific concrete mix designs which meet the requirements of this Special Provision and the contract documents.

c. Construction Methods.- Curb and Gutter, Conc, Det F4, Special; Curb, Conc, E4; and Curb and Gutter, Conc, Det F6 shall be constructed as shown in the MDOT Standard Plans R-30 series, as detailed in this specification, and as shown in the plans.

All driveway openings shall be constructed in accordance with MDOT Standard Detail R-29-H for Concrete Driveway Openings, Details "L" and "M."

Expansion joints of the thickness shown on the details shall be placed as directed by the Engineer.

The preparation of the aggregate base course upon which the curb and gutter and drive openings are to be constructed shall be performed in accordance with the Special Provision entitled "Subbase, CIP, ____, Modified" and "Aggregate Base, 21AA, Modified".

CONCRETE CURB AND DRIVEWAY OPENINGS 802A

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DETAILED SPECIFICATION
FOR
CONCRETE CURB AND DRIVEWAY OPENINGS

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The concrete curb and gutter and/or driveway openings shall not be constructed on a pedestal or a mound. The aggregate base course shall be constructed the full width of the stage or phase in which concrete curb and gutter or driveway opening is to be constructed.

The concrete items being placed shall not be opened to construction or vehicular traffic until such time as the concrete has reached the required flexural strength. The Contractor shall cast beams in accordance with Section 603.03.B.10, and as approved by the Engineer, and obtain concrete flexural strength in accordance with the requirements of Section 104.11, Table 104-2. Beams cast for open to traffic determinations shall be cured in the same manner and environment as the concrete items which they represent.

Flexural strength beams shall be tested (broken) with a device meeting the approval of the Engineer and be in a state of good repair and shall be calibrated by an accredited testing laboratory or engineering company within a period of two years from the date of the test being performed. The Engineer **must** be present at the time the beams are broken. If the Engineer is not present at the time the flexural beams are broke, the results shall be considered **invalid** and will not be used for the purpose of determining Open to Traffic strength.

d. Measurement and Payment.- The completed work as measured shall be paid for at the contract unit price for the following contract items (pay items):

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Curb and Gutter, Conc, Det F4, Special.....	Foot
Curb and Gutter, Conc, Det F6, Special.....	Foot
Driveway Opening, Conc, Detail M, P-NC.....	Foot
Curb, Conc., E4.....	Foot

The pay items will be measured in length by the foot and will be payment in full for all labor, equipment and material needed to properly complete this work.

At curb openings for sidewalk ramps, the concrete curb and gutter (without the curb face) will be measured and paid for at the contact unit price for curb and gutter.

CONCRETE CURB AND DRIVEWAY OPENINGS 802A

**CITY OF ANN ARBOR
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CONCRETE CURB AND DRIVEWAY OPENINGS**

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Driveway Opening, Conc, Detail L, P 1 shall not be paid for separately, but shall be included in the concrete curb and gutter or concrete pavement with integral curb pay items.

Where the Engineer directs the use of high early strength concrete for pay items that are **not** designated as "P-NC," the additional cement shall be paid for separately. No additional payment will be made for cement for pay items that are designated "P-NC."

COONCRETE SIDEWALK, ADA RAMPS, AND DRIVEWAY APPROACHES 803A

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CONCRETE SIDEWALK, ADA RAMPS, AND DRIVEWAY APPROACHES

AA:MGN

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a. Description.- This work shall consist of constructing concrete sidewalk, ramp, or drive approaches of the types as indicated on the plan sheets, as detailed in the specifications, or as directed by the Engineer. All work shall be performed in accordance with Section 801 and 803 of the 2012 MDOT Standard Specifications for Construction and as specified herein.

All ADA ramps shall be installed with detectable warning tiles. Reference the Special Provision entitled "Detectable Warning Tiles" for additional requirements.

b. Materials.- The materials shall meet the requirements as specified in the 2012 MDOT Standard Specifications and as required herein. The grade of concrete for items designated as "P-NC" shall be Grade P-NC concrete (658 lbs/yd³ cement content) as specified in Section 601 of the 2012 MDOT Standard Specifications.

The grade of concrete for all remaining items covered by this Special Provision shall be grade P1 as specified in Section 601 of the 2012 MDOT Standard Specifications for Construction. The Contractor may elect to add GGBFS to P1 mixtures in accordance with the requirements of the contract documents. No additional payment will be made for concrete mixtures containing GGBFS.

All concrete mixtures shall contain 6AA coarse aggregates which are either natural or limestone and meet the requirements of Section 902 of the 2012 Michigan Department of Transportation Standard Specifications for Construction.

It shall be the Contractor's sole responsibility to propose specific concrete mix designs which meet the requirements of this Special Provision.

c. Construction Methods.- The Contractor is responsible to construct all sidewalk, sidewalk ramps, curbs, and all other concrete items within ADAAG compliance. All sidewalk and curb ramps must be constructed in accordance with MDOT Standard Detail R-28-j (or the version in effect at the time of Bid Letting.) The Contractor is solely responsible for ensuring compliance with ADAAG requirements.

Where concrete sidewalk and/or ADA compliant ramps are to be placed, they shall be placed on a minimum of 4 inches of Granular Material, Class II, compacted to 95% of its maximum dry density, or as shown on the appropriate typical section, whichever is thicker.

CONCRETE SIDEWALK, ADA RAMPS, AND DRIVEWAY APPROACHES 803A

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FOR
CONCRETE SIDEWALK, ADA RAMPS, AND DRIVEWAY APPROACHES

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Concrete drive approaches shall be placed on either aggregate base course or a sand sub-base as shown on the plans or as directed by the Engineer. The required density of the material underlying the concrete drive approach shall be that of the material on which it is placed and required by those specifications.

Prior to placing any concrete, the subgrade shall be completed and trimmed to final elevation. If a cold joint is required, the existing concrete is to be cleaned with compressed air to expose the aggregate in the concrete.

Where indicated on the plans to be performed, the Contractor shall also horizontally sawcut curbs to provide openings for sidewalk ramps as indicated. The Engineer shall define the extent of sawcutting both horizontally and vertically. This work will not be paid for separately, but shall be included in the corresponding price of the ADA ramp to be placed.

The concrete items being placed shall not be opened to construction or vehicular traffic until such time as the concrete has reached the required flexural strength. The Contractor shall cast beams in accordance with Section 603.03.B.10, and as approved by the Engineer, and obtain concrete flexural strength in accordance with the requirements of Section 104.11, Table 104-2. Beams cast for open to traffic determinations shall be cured in the same manner and environment as the concrete items which they represent.

Flexural strength beams shall be tested (broken) with a device meeting the approval of the Engineer and be in a state of good repair and shall be calibrated by an accredited testing laboratory or engineering company within a period of two years from the date of the test being performed. The Engineer **must** be present at the time the beams are broken. Any beams that are broke without the Engineer present will be considered **invalid** and the results will not be used for determining open to traffic strength.

All ADA ramps shall be installed with detectable warning units. Reference the Special Provision entitled "Detectable Warning Tiles" for additional requirements.

CONCRETE SIDEWALK, ADA RAMPS, AND DRIVEWAY APPROACHES 803A

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DETAILED SPECIFICATION
FOR
CONCRETE SIDEWALK, ADA RAMPS, AND DRIVEWAY APPROACHES

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d. Measurement and Payment.- The completed work as measured for the following pay items will be paid for at the contract unit prices for the following contract items (pay items):

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Sidewalk, Concrete, ___ inch, Special	Square Foot
Sidewalk Ramp, Concrete, ___ inch, P-NC, ADA, Modified...	Square Foot
Sidewalk Ramp, Concrete, ___ inch, ADA, Modified	Square Foot
Concrete Drive Approach, Non-Reinforced, P-NC, ___ inch..	Square Foot

The above items will be measured by area in square feet and be paid for at their respective contract unit price, which price shall be payment in full for all labor, equipment and material needed to accomplish this work. The unit price shall also include all costs associated with sawcutting curbs to provide openings for ADA sidewalk ramps as indicated on the plans.

Where the Engineer directs the use of high early concrete for pay items that are not designated as "P-NC," the additional cement shall be paid for separately. No additional payment will be made for cement for pay items that are designated "P-NC."

Excavation for placement of Granular Material, Class II, bedding material shall be included in the item of work "Station Grading, ____" and shall not be paid for separately.

Detectable warning units cast in place, shall be paid for in accordance with the Special Provision for Detectable Warning Tiles.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
DETECTABLE WARNING TILES

AA:MGN

1 of 3

02/06/20

a. Description.- This work shall consist of furnishing and installing cast in place detectable warning units in compliance to the Americans with Disability Act (ADA). All work shall be in accordance with the Detailed Specification entitled "Concrete Sidewalk, ADA Ramps, and Driveway Approaches," Section 803 of the MDOT 2012 Standard Specifications for Construction, MDOT Standard Detail R-28-I (or most current version in effect at the time of bidding), as indicated on the plans, and as modified herein.

b. Related Documents.- Americans with Disabilities Act (ADA) Title 49 CFR Transportation, Part 37.9 Standards for Accessible Transportation Facilities, Appendix A, Section 4.29.2 Detectable Warnings on Walking Surfaces

American Society for Testing and Materials (ASTM) Test Methods B117, C1028, D543, D570, D638, D695, D790, D2486, D2565, D5420, and E84.

c. Submittals.- Submit manufacturer's literature describing products, installation procedures and maintenance instructions. Provide cast-in-place detectable surface tiles and accessories as produced by a single manufacturer.

Samples for Verification Purposes: Submit two (2) tile samples minimum 6" x 8" of the kind proposed for use. Samples shall be properly labeled and shall contain the following information: Name of Project; Submitted by; Date of Submittal; Manufacture's Name; Catalog No.; and Date of Fabrication.

Material Test Reports: Submit current test reports from a qualified, independent, testing laboratory indicating that materials proposed for use are in compliance with requirements and meet the properties indicated. The required tests listed elsewhere in this Special Provision shall be performed by a certified and qualified independent testing laboratory on a cast-in-place tactile warning system. All test reports submitted shall be certified by the testing laboratory and shall clearly state that all tests were completed within 5 years of the date of the submittal. The manufacturer shall certify in writing that the materials provided to the project are manufactured with the same materials and manufacturing procedures as those used in the materials on which the test were performed.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
DETECTABLE WARNING TILES

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c. Materials.- The detectable warning tiles shall be colored as Federal Number 22144 (frequently referred to as “Colonial Red” or “Brick Red”). The detectable warning tiles shall meet the following material properties, dimensions, and tolerances using the most current test methods:

1. Water Absorption: Not to exceed 0.35% when tested in accordance with ASTM-D570
2. Slip Resistance: 0.80 minimum combined wet/ dry static coefficient of friction on top domes and field area, when tested in accordance with ASTM C1028.
3. Compressive Strength: 18,000 psi minimum, when tested in accordance with ASTM D695.
4. Tensile Strength: 10,000 psi minimum, when tested in accordance with ASTM D638.
5. Flexural Strength: 24,000 psi minimum, when tested in accordance with ASTM D790.
6. Chemical Stain Resistance: No reaction to 1% hydrochloric acid, urine, chewing gum, soap solution, motor oil, bleach, calcium chloride, when tested in accordance with ASTM D543 or D1308.
7. Wear Depth: 300 minimum, when tested in accordance with ASTM C501.
8. Flame Spread: 25 maximum, when tested in accordance with ASTM E84.
9. Gardner Impact: 50 in.-lbs. minimum, when tested in accordance with Geometry “GE” of ASTM D5420.
10. Accelerated Weathering of Tile when tested by ASTM-G155 or ASTM G151 shall exhibit the following result- $\Delta E < 6.0$ as well as no deterioration, fading or chalking of surface when exposed to 3000 hours minimum exposure.
11. Wheel Loading: The cast in place tile shall be mounted on a concrete platform with a ½” airspace at the underside of the tile top plate then subjected to the specified maximum load of 10,400 lbs., corresponding to an 8,000 lb individual wheel load and a 30% impact factor. The tile shall exhibit no visible damage at

CITY OF ANN ARBOR
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FOR
DETECTABLE WARNING TILES

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the maximum load of 10,400 lbs using AASHTO-HB17 single sheet HS20-44 loading "Standard Specifications for Highways and Bridges."

12. Salt and Spray Performance of Tile and Adhesive System when tested to ASTM-B117 not to show any deterioration or other defects after 100 hours of exposure

d. Construction Methods.- Installer's Qualifications: Engage an experienced Installer who has successfully completed tile installations similar in material, design, and extent to that indicated for this Project.

The Contractor shall follow manufacturer specifications for installation, except where they conflict with MDOT Standard Detail R-28-J (or most current edition in effect at the time of bidding), or other project requirements.

e. Measurement and Payment.- The completed work as measured for the following pay items will be paid for at the contract unit prices for the following contract items (pay items):

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Detectable Warning Tiles	Square Foot

The unit price for this item shall include all labor, material, and equipment costs required to complete the work.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PROTECTIVE FENCING

AA:MGN

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02/06/20

a. Description.- This work shall consist of taking all reasonable measures to protect all existing trees and vegetation designated to remain and be protected within the project limits and the construction influence area, in accordance with Sections 201.03.A.2 and Section 808 of the Michigan Department of Transportation 2012 Standard Specifications for Construction, except as specified herein. The work shall also consist of installing protective fencing at the limits of the construction area as shown on the plans or in areas directed by the Engineer.

b. Materials. - Fabric shall be orange, vinyl, snow fence material, 4 feet tall. Posts shall be 6 foot long, T-shaped, metal posts or 2 inch square hardwood stakes

c. Means and Methods of Protection.- Install protective fence at the limits of the construction area as shown on the plans or as directed by the Engineer.

The Contractor shall not operate equipment within the tree protection fence of any existing tree without the approval of the Engineer.

Construction material, supplies, or equipment shall not be stockpiled or stored within the limits of the tree protection fence.

Vehicles and personnel are not permitted within the limits of the tree protection fence.

The Contractor shall not attach chains, cables, ropes, nails, or other articles to any tree at any time.

Tree roots exposed during construction that are 1-1/2 inch or greater in diameter must be pruned the same work day in which the damage occurred. All pruning operations shall be reviewed and approved by the Engineer. All root pruning shall be performed with sharp tools and shall provide clean cuts that do not unnecessarily damage the remaining bark or root. The Contractor shall not perform any backfilling operations until all root maintenance has been performed.

Any damage to trees owned by the City of Ann Arbor or other trees designated to be protected due to the Contractor's activities or activities of the Contractor's subcontractors or suppliers shall be repaired under the direction of the City Forester by an approved forestry specialist. The costs of these repairs shall be the sole responsibility of the Contractor.

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DETAILED SPECIFICATION
FOR
PROTECTIVE FENCING

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Should the Contractor’s operations damage a plant’s roots to the extent that it must be removed, the Contractor shall either replace the plant with a commensurate number of plants, 2½” caliper trees of the species as determined by the City, or compensate the City of Ann Arbor for the cash value of the plant or tree as determined by the City of Ann Arbor’s Forester. The City of Ann Arbor shall be solely responsible for determining which compensation method is used.

The City Forester shall supervise the replacement of any trees at the sole expense of the Contractor.

Remove tree protection fence when directed by the Engineer.

d. Measurement and Payment.- The completed work shall be paid for at the contract unit price for the following contract items (pay items):

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Protective Fence, Orange, Plastic, 4 foot Ht.....	Foot

“Protective Fence, Orange, Plastic, 4 foot Ht.” will be measured in length, by feet of protective fence used, and will be paid for at the contract unit price which shall be payment in full for all labor, materials, and equipment needed to accomplish this work. No additional payment will be made for maintenance or reinstallation of fence during the construction period. No additional payment will be made for repair or replacement of vegetation as noted above.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

**DETAILED SPECIFICATION
FOR
PERMANENT PAVEMENT MARKINGS**

PMK:MKB

1 of 3

APPR:MWB:CRB:02-08-18

FHWA:APPR:03-01-18

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

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

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

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

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

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

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

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

Beads are not to be placed in liquid shadow markings.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- Pavt Mrkg, Modified Urethane, (symbol).....Each
- Pavt Mrkg, Modified Urethane, (legend)Each
- Pavt Mrkg, Modified Urethane, ___ inch, CrosswalkFoot
- Pavt Mrkg, Modified Urethane, ___ inch, Stop BarFoot
- Pavt Mrkg, Modified Urethane, ___ inch, Cross Hatching (color).....Foot
- Pavt Mrkg, Modified Urethane, ___ inch, (color).....Foot
- Pavt Mrkg, Ovly Cold Plastic, ___ inch, Shadow Tape, Black.....Foot
- Pavt Mrkg, Ovly Cold Plastic, ___ inch, Wet Reflective, (color)Foot
- Pavt Mrkg, Preformed Thermoplastic, (symbol)Each
- Pavt Mrkg, (binder), ___ inch, Shadow Liquid, Black.....Foot

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
MINOR TRAFFIC DEVICES, MAX. \$ _____

AA:MGN

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02/06/20

a. Description.- This work shall consist of protecting and maintaining vehicular and pedestrian traffic in accordance with the City of Ann Arbor Standard Specifications for Construction; Section 812 of the 2012 MDOT Standard Specifications for Construction; Part 6 of the Michigan Manual of Uniform Traffic Control Devices, Latest Revised Edition (MMUTCD); this Detailed Specification; and, as shown on the plans and as directed by the Engineer.

This item of work shall include, but not be limited to:

- The furnishing and operating of miscellaneous signs, warning devices, flag-persons, and cones as required for the entire duration of the project;
- The operation of additional signs furnished by the City;
- Furnishing and installing meter bags (where required);
- Coordinating with the City to have meter heads removed and reinstalled (where required);
- Maintaining pedestrian traffic;
- Temporarily covering conflicting existing signs as directed by the Engineer with approved sign covers; and,
- Any and all other miscellaneous and/or incidental items that are necessary to properly and safely perform the work.

The Contractor shall maintain vehicular and pedestrian traffic during the work by the use of flag-persons, channelizing devices, and signs as necessary, as directed by the Engineer, and in accordance with MMUTCD.

Typical applications for maintaining pedestrian traffic in accordance with the MMUTCD are included in plan set for this project.

b. Materials.- Traffic maintenance material and equipment shall meet the requirements as specified in Section 812.02 of the 2012 MDOT Standard Specifications for Construction.

c. Construction Methods.- 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 and at no additional cost to the City.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
MINOR TRAFFIC DEVICES, MAX. \$ _____

AA:MGN

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02/06/20

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 that are damaged by the Contractor during the work will be repaired by the City at the Contractor's expense.

The Contractor shall temporarily cover conflicting traffic and/or parking signs when 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 sole expense.

The Contractor shall furnish and install the traffic control items as shown on the contract plan sheets and details included therein.

"Road Work 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.

Removable black pavement marking cover tape shall be used to cover conflicting pavement markings as directed by the Engineer.

Temporary pavement markings may be used within transition areas, if requested by the Contractor, and approved by the Engineer. All temporary pavement markings shall be removable.

d. 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.

The completed work as measured for this item of work shall be paid for at the contract unit price for the following contract item (Pay Item):

<u>Pay Item</u>	<u>Pay Unit</u>
Minor Traffic Devices, Max. ____	Lump Sum

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

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
NO PARKING SIGNS

AA:MGN

1 of 2

11/16/18

a. Description.- This work shall consist of installing No Parking signs furnished by the City of Ann Arbor for the purposes of prohibiting parking within the Construction Influence Area of the project. The work shall be performed in accordance with the requirements of Section 812 of the 2012 MDOT Standard Specifications for Construction; Part 6 of the Michigan Manual of Uniform Traffic Control Devices, Latest Revised Edition (MMUTCD) and this Detailed Specification.

b. Materials.- No Parking Signs shall be supplied by the City of Ann Arbor. Sign posts, mounting hardware, and all miscellaneous materials shall meet the requirements of Section 812 and 919 of the 2012 Michigan Department of Transportation Standard Specifications.

c. 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 of Ann Arbor Engineering. This permit shall be obtained a minimum of 5 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 2-feet deep into the ground, with a minimum 6-feet, and maximum 7-feet, clearance maintained between the bottom of the sign and the ground. The signs shall be placed at 75-foot intervals (or closer, if 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 returned to the City at the completion of the work. The cost of unreturned signs will be back-charged to the Contractor. Signs that are damaged by the Contractor during the work will be repaired, or replaced, by the City at the Contractor's expense

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
NO PARKING SIGNS

AA:MGN

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11/16/18

d. Measurement and Payment.- The completed work as measured for this item of work shall be paid for at the contract unit price for the following contract item (Pay Item):

Pay Item

Pay Unit

No Parking Signs..... Each

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

816A PROJECT CLEAN-UP AND RESTORATION, SPECIAL

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PROJECT CLEAN-UP AND RESTORATION, SPECIAL

AA:MGN

1 of 2

02/06/20

a. Description.- This work consists of performing on-going project clean-up work; daily sweeping of paved areas to remove soil and construction spoils; removing and disposing of miscellaneous packing materials and debris, including, but not limited to; soil erosion control fences, protective fences, fallen timber, logs, brush, rocks, boulders, and any other rubbish generated from the Contractor's operations within the project limits or areas impacted by their operations.

The Contractor shall perform final restoration and establish the turf areas as described in the Detailed Specification entitled "Turf Establishment", as indicated on the Drawings, and as directed by the Engineer.

b. Materials.- The materials shall meet the requirements specified in the 2012 edition of the MDOT Standard Specifications for Construction, except as specified herein:

c. Construction.- Provide project cleanup as an ongoing operation. Perform project cleanup within the right-of-way and any other areas impacted by the project work operations.

Fill all holes and ruts resulting from the work operations with Engineer-approved material. Compact and level all backfill materials and restore ruts and holes to the surrounding contour as directed by the Engineer.

The re-restoration of disturbed areas shall be performed in accordance with the applicable project specifications and as directed by the Engineer. Grade, spread topsoil, remove rocks over 2 inches in diameter, place additional topsoil (as needed), place permanent seeding, and furnish, place, and anchor erosion control straw mulch blanket in all areas disturbed by the Contractor's operations.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PROJECT CLEAN-UP AND RESTORATION, SPECIAL

AA:MGN

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Damage to seeded areas resulting from erosion or subsequent construction activities shall be repaired by the Contractor at the Contractor's expense. Scattered bare spots in seeded areas will not be allowed over 3 percent of the area nor greater than 6- by 6-inch in size. All work related to turf establishment shall be performed in accordance with the Detailed Specification entitled "Turf Establishment."

Clean existing culverts, ditches, depressions, or other areas that contain sediment or debris from the work operations.

Neatly fill any ruts or depressions resulting from removal of soil erosion control materials with existing materials after their removal. Maintenance of silt fencing and other soil erosion control materials until such time as they are no longer needed, then removal and proper disposal of them from the site, shall be included in the bid price for the related soil erosion control device.

The project site shall be left in a condition that is clean and free of all project-generated debris and to the satisfaction of the Engineer.

d. Measurement and Payment.- The completed work as measured shall be paid at the contract unit price for the following contract pay items:

<u>Contract Pay Item</u>	<u>Pay Unit</u>
Project Clean-Up and Restoration, Special.....	Lump Sum

The lump sum price for "Project Clean-Up and Restoration, Special" shall include all remaining project clean-up and restoration work, daily sweeping of paved areas, and includes all labor, material, and equipment costs required to complete the work as specified herein.

CITY OF ANN ARBOR
 DETAILED SPECIFICATION
 FOR
TURF ESTABLISHMENT

AA:MGN

1 of 3

02/06/20

a. Description.- This work shall consist of furnishing and placing Engineer-approved topsoil in thicknesses as specified, hydroseeding lawn areas, and furnishing and placing mulch blankets as indicated on the plans, as detailed in the specifications, or as directed by the Engineer.

The related work of preparing the earth bed, furnishing, and placing the topsoil, furnishing the seed mixtures, furnishing the fertilizer, sowing the seed, furnishing and installing the mulch blanket and watering shall conform to the requirements of this Special Provision and Section 816, Turf Establishment, of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction.

b. Materials.- The materials shall meet the requirements specified in Section 917 of the 2012 MDOT Standard Specifications for Construction except as specified herein:

- Seed shall be fresh, clean, dry, new-crop seed complying with the AOSA's "Rules for Testing Seed", tested for purity and germination tolerances.

Variety	Proportion By Weight	Purity	Germination
Baron Kentucky Bluegrass	25%	90	80
Kentucky Bluegrass 98/80	15%	98	80
Park Kentucky Bluegrass	15%	90	80
Omega III Perennial Ryegrass	20%	98	90
Creeping Red Fescue	25%	95	90

Maximum weed content shall be 0.30%.

- Fertilizers shall be a Class A. The percentages by weight shall be at a minimum 10N-10P-10K or as required and approved by the Engineer.
- The seed, fertilizer, and adhesive (mulch binder) shall be mixed together and applied at one time.
- Water used shall be obtained from fresh water sources and shall be free from injurious chemicals and other toxic substances.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
TURF ESTABLISHMENT

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- Mulch Blankets shall meet the requirements of Section 917.15.B.2.b of the 2012 MDOT Standard Specifications for Construction.

c. Maintenance and Acceptance.- It is the responsibility of the Contractor to establish a dense, vigorous, weed free 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 re-seeded. Such re-seeding shall be at the Contractor's expense and shall continue until a dense, vigorous and weed free lawn is established.

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 shall continue until final acceptance with the following requirements:

- Lawns shall be protected and maintained by watering, mowing, and reseeding as necessary, until the period of time when the final acceptance and payment is made. The Contractor shall establish a uniform, dense, vigorous, and weed-free stand of the specified grasses. Maintenance includes, but is not limited to; deposition of additional topsoil; re-seeding; watering; fertilizing; mowing, and any other work as required to correct all settlement, erosion, germination, and establishment issues until the date of final acceptance by the Engineer.
- 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.

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 DETAILED SPECIFICATION
 FOR
TURF ESTABLISHMENT

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d. Measurement and Payment.- The completed work shall be paid for at the contract unit price for the following contract items (pay items):

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Topsoil Surface, __ inch	Square Yard
Hydroseeding.....	Square Yard

"Topsoil Surface, __ inch" and "Hydroseeding" will be measured by area in square yards and will be paid for at the contract unit prices which shall be payment in full for all labor, materials, and equipment needed to accomplish this work.

Topsoil placement shall occur at the locations called for on the plans or, as directed by the Engineer. The unit price "Topsoil Surface, __ inch" shall include the grading of the area to receive the topsoil, preparing the earth bed, spreading and raking the topsoil to provide a uniform surface free of large clods, lumps, rocks, brush, roots, or other deleterious materials, as determined by the Engineer.

The "Hydroseeding" shall be placed on all lawn areas as called for on the plans, and shall include furnishing and installing seed, fertilizer, furnishing and installing mulch blankets, and all required watering necessary for the establishment of the turf. Watering will not be paid for separately.

Any damage or soiling to signs, fences, trees, pavements, or structures shall be repaired and/or cleaned by the Contractor at the Contractor's sole expense.

After initial placement of the topsoil and hydroseed mixture(s), fifty (50) percent of the total quantity placed for each item will be certified for payment. The remaining fifty (50) percent of the total quantities will be held by the Engineer until such time as all lawn areas have been established and accepted by the Engineer.

Final acceptance shall occur no sooner than June 15th of the year after the year in which the lawn areas were initially planted during the previous spring planting season; or, final acceptance will occur no sooner than November 1st of the year after the year in which the lawn areas were initially planted during the previous summer planting season.

In no case shall lawn areas be accepted in the same year in which they were planted.

ELECTRICAL AND COMMUNICATION HANDHOLES 819A

CITY OF ANN ARBOR DETAILED SPECIFICATION FOR ELECTRICAL AND COMMUNICATION HANDHOLES

AA:MGN

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02/06/20

a. Description.- This work shall consist of furnishing and installing traffic signal handholes and communication handhole assemblies at the locations shown in the Plans, or as directed by the Engineer. All work shall be completed in accordance with the current National Electric Code (NEC), Section 819 of the Michigan Department of Transportation 2012 Standard Specifications for Construction, except as specified herein.

b. Materials.- All materials shall be new and meet the requirements of the current IEEE, NEMA, ANSI Standards as applicable, and as specified herein.

The Contractor shall submit product data sheets for all handholes, covers and other parts for Engineer approval prior to ordering materials. The manufacturer "Quazite Composolite," referenced below, is located in Lenoir City, Tennessee.

c. Methods of Construction.- Handholes shall be placed at all junctions of traffic signal or electrical conduit, and as shown on the plans. Maximum distance between any two handholes shall be as shown on the Plans, but in no case shall exceed 500 feet.

The Pay Item Electrical Handhole Assembly, Complete shall include:

1. The complete work as shown on plans and in the details.
2. Excavation and disposal of excavated materials.
3. Placement of foundation material consisting of 4 inches of MDOT Class II sand compacted to 95% of its maximum unit weight.
4. Setting the handhole which shall consist of a "Quazite Composolite" box. The box shall be #PG1118BA12. The cover shall be, #PG1118HA41, a locking heavy-duty bolt-down type with a logo that reads "Street Lighting." The total depth of the handhole shall be 12 inches.
5. All work related to connecting handholes to new and existing conduits, whether shown on the plans or not.
6. MDOT Class II backfill compacted to 95% of its maximum unit weight around the perimeter of the handhole.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
ELECTRICAL AND COMMUNICATION HANDHOLES

AA:MGN

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The Pay Item Communication Handhole Assembly, Complete shall include:

1. The complete work as shown on plans and in the details.
2. Excavation and disposal of excavated materials.
3. Placement of foundation material consisting of 4 inches of MDOT Class II sand compacted to 95% of its maximum unit weight.
4. Setting the handhole which shall consist of two, stacked "Quazite Composolite" boxes. The lower box shall be #PG1730BB18. The upper box shall be #PG1730BA18. The cover shall be, #PG1730HA46, a locking heavy-duty bolt-down type with a logo that reads "Traffic Signal." The total depth of the handhole shall be 36 inches.
5. All work related to connecting handholes to new and existing conduits, whether shown on the plans or not.
6. MDOT Class II backfill compacted to 95% of its maximum unit weight around the perimeter of the assembly.

All conduits shall be connected to the handholes in accordance with the latest revision of Article 346 of the National Electrical Code (NEC).

d. Measurement and Payment.- The completed work shall be paid for at the contract unit price for the following contract items (pay items):

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Electrical Handhole Assembly, Complete	Each
Communication Handhole Assembly, Complete.....	Each

Electrical Handhole Assembly, Complete and Communication Handhole Assembly, Complete shall be paid for at their contract unit prices and shall include all labor, equipment, and materials to complete the work as specified herein.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PVC ELECTRICAL CONDUIT

AA:MGN

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02/06/20

a. Description.- This work shall include the excavation and proper disposal off-site of excess excavated material, the installation of conduits, the placement of MDOT Class II bedding and backfill compacted to 95% of its maximum unit weight, and the installation of pull strings and detection tape. All work shall be completed in accordance with Sections 819 and 918.01 of the MDOT 2012 Standard Specifications for Construction, as shown on the plans, as directed by the Engineer, and as modified herein.

b. Construction Methods.- Schedule 40 PVC conduit will be used in areas outside the influence of the roadway or where the conduit will be placed within concrete. Schedule 80 PVC conduit will be used for roadway crossings and in other areas as directed by the Engineer.

All conduits, including sweeps into handholes, and fittings shall be installed in accordance with the latest revision of Article 347 of the National Electric Code (NEC). The minimum sweep radius of the conduit shall measure at least 7 inches. After clearing the conduits, the Contractor shall install a pull line and install a plug or cap (suitable for removal at the time of future cable installation) for each conduit.

Detectable Marking Tape shall also be installed with the conduit which will allow for detection using an inductive method. The tape shall be pigmented polyolefin film with a printed message on one side. The ink used to print the material shall be permanent which cannot be removed by normal handling or upon underground burial. The polyethylene shall be chemically inert and shall not degrade when exposed to alkalies, acids and other destructive substances commonly found in soil. The tape shall be placed continuously, 6 to 8 inches above the buried conduits with overlap where splices are required. Over the conduit between the communication handhole assemblies, the tape shall be orange in color and shall read "Fiber Optic Cable - City of Ann Arbor Transportation." Over the conduit between the street lighting handholes, the tape shall be red in color and shall read "Caution—Buried Electrical Line."

A "Tracer Wire," 1/C #10 RHH/RHW/USE, shall be placed around the conduits that are to be utilized for future traffic signal interconnection. The tracer wire shall be continuous and run from handhole to handhole.

The Contractor shall push conduit under existing curb and gutter, sidewalks, driveway approaches, etc. which will remain in place.

CITY OF ANN ARBOR
 DETAILED SPECIFICATION
 FOR
PVC ELECTRICAL CONDUIT

AA:MGN

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02/06/20

The Contractor shall provide and install appropriate non-metallic sleeves and gasketed expansion couplings for each conduit if it is required to be installed in a bridge at each bridge joint. The Contractor shall submit catalog “cuts” of the proposed materials for review by, and approval of, the Engineer prior to ordering materials or performing any of the work.

c. Measurement and Payment.- The completed work shall be paid for at the contract unit price for the following contract items (pay items):

<u>Contract Items (Pay Items)</u>	<u>Pay Unit</u>
Conduit, Schedule 40 PVC, 2 inch, Special.....	Foot
Conduit, Schedule 40 PVC, 3 inch, Special.....	Foot
Conduit, Schedule 80 PVC, 2 inch, Special.....	Foot
Conduit, Schedule 80 PVC, 3 inch, Special.....	Foot
Conduit, DB, 1, Schedule 80 PVC, 3 inch	Foot
Conduit, DB, 2, Schedule 40 PVC, 2 inch	Foot
Conduit, DB, 2, Schedule 40 PVC, 3 inch	Foot
Conduit, DB, 2, Schedule 80 PVC, 3 inch	Foot

All work indicated herein shall be included in the unit prices for the above pay items and shall include all labor, materials and equipment required to complete the work.

Payment for “Conduit, Schedule 40 PVC, ___ inch, Special” and “Conduit, Schedule 80 PVC, ___ inch, Special” will be measured by length in feet and shall include all labor, equipment, fittings, elbows, sweeps, pull strings, end caps, sleeves, tracer wire, and expansion couplings, and other materials necessary for placing conduit at the proper location in the bridge deck and vehicle barrier footing where specified, as shown on the plans, and specified herein.

The per foot unit price for “Conduit, DB, 1, Schedule 80 PVC, ___ inch” shall include the installation of one conduit. Also included in the unit price shall be the labor, materials, and equipment costs associated with the installation of the conduit, including, but not limited to, excavation, furnishing and placement of backfill, compaction, proper disposal of excess material off-site, fittings, sweeps, pull strings, end caps, sleeves, tracer wire, marking tape, and all other materials necessary for placing conduit as shown on the plans, and specified herein.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PVC ELECTRICAL CONDUIT

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The per foot unit price for “Conduit, DB, 2, Schedule 40 PVC, ___ inch” shall include the installation of two adjacent conduits in a single bank. Also included in the unit price shall be the labor, materials, and equipment costs associated with the installation of the conduits, including, but not limited to, excavation, furnishing and placement of backfill, compaction, proper disposal of excess material off-site, fittings, sweeps, pull strings, end caps, sleeves, tracer wire, marking tape, and all other materials necessary for placing conduit as shown on the plans, and specified herein.

The per foot unit price for “Conduit, DB, 2, Schedule 80 PVC, ___ inch” shall include the installation of two adjacent conduits in a single bank. Also included in the unit price shall be the labor, materials, and equipment costs associated with the installation of the conduits, including, but not limited to, excavation, furnishing and placement of backfill, compaction, proper disposal of excess material off-site, fittings, sweeps, pull strings, end caps, sleeves, tracer wire, marking tape, and all other materials necessary for placing conduit as shown on the plans, and specified herein.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PEDESTRIAN SIGNAL FOUNDATION

AA:MGN

1 of 2

02/06/20

a. Description.- This work shall consist of forming, furnishing, placing, curing, and finishing the pedestrian signal pole foundations including required components in accordance with Section 820 of the MDOT 2012 Standard Specifications for Construction and as modified herein.

b. Materials.- All materials shall meet the requirements specified in Section 921.06 of the Michigan Department of Transportation 2012 Standard Specifications for Construction and as specified herein:

Concrete shall be Grade S2.

Anchor bolts shall be 0.625 inch diameter and be Electro- or Hot-dip galvanized, 18 inches long, with 3 inch hook.

c. Methods of Construction.- All work shall be performed in accordance with Section 920 of the Michigan Department of Transportation 2012 Standard Specifications for Construction and as detailed herein.

The City will inspect the augured hole and anchor bolt build-up, and provide written approval prior to the placement of the concrete. The bottom of the excavation shall be completely dewatered before any concrete is placed therein.

The anchor bolt build-up will be constructed such that the anchors are suspended and securely fastened to the formwork to prevent any movement during concrete placing operations.

The Contractor shall provide necessary conduit for the conductor entry. This work will not be paid for separately, but shall be included in the pay item "Pedestrian Signal Pole, Fdn, Complete".

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PEDESTRIAN SIGNAL FOUNDATION

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d. Measurement and Payment.- The completed work shall be paid for at the contract unit price for the following contract item (pay item):

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Pedestrian Signal Pole, Fdn, Complete	Each

“Pedestrian Signal Pole, Fdn, Complete” shall be paid for at the Contract unit price each and shall include all labor, equipment, and materials, including, but not limited to; construction of the cast-in-place concrete foundation as shown on the plans, cold-weather concrete protection; excavation and backfilling; furnishing and installing conduit sweeps of the diameter and radius as shown on the drawings; fittings; grounding equipment; anchor bolts; and, any other materials required for complete installation of the pedestrian signal pole foundation.

CITY OF ANN ARBOR
 DETAILED SPECIFICATION
 FOR
RETAINING WALL, MODULAR BLOCK

AA:MGN

1 of 4

02/10/20

a. Description.- This work shall consist of installing a complete Modular Block Retaining Wall System true to the lines and grades as shown on the Plans, or as directed by the Engineer. All work shall be performed in accordance with the manufacturer’s specifications and recommendations, as shown on the Plans, and as directed by the Engineer.

In case of conflict between this Detailed Specification and the manufacturer’s specifications, the Engineer shall determine which specification shall govern.

Select an approved Modular Block Wall system from Table 1. Other Modular Block Wall systems will not be allowed unless approved by the Engineer.

Table 1 Approved Modular Block Wall Systems and Styles

Manufacturer	Style
Keystone Retaining Wall Systems, Inc. 4444 West 78 th Street Minneapolis, MN 55435 (952) 897-1040 www.keystonewalls.com	Keystone® - Compac unit –“Straightface”
Rockwood Retaining Walls 325 Alliance Place NE Rochester, MN 55906 (888) 288-4045 www.rockwoodwalls.com	Classic 8® - “Straight- split” blocks
Unilock Michigan 12591 Emerson Drive Brighton, MI 48116 (248) 437-7037 www.unilock.com	Pisa2® Retaining Wall System

Color Options:

Color----- Scofield ‘Westwood Brown’ No. C-27 or Engineer approved equal.

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DETAILED SPECIFICATION
FOR
RETAINING WALL, MODULAR BLOCK

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b. Materials.- All materials shall be provided in accordance with the approved manufacturers specifications, as detailed on the design plans, and as approved by the Engineer.

At a minimum use portland cement concrete meeting the compressive strength and air content requirements for Grade S1 concrete according to Section 701 of the 2012 Michigan Department Standard Specifications for Construction. Provide a concrete mix design such that the compressive strength and air content requirements will be attained.

Color of concrete blocks shall be as indicated herein. Blocks shall be cast using integrally colored concrete through use of concrete coloring admixtures. Coloring applied to finished blocks will not be permitted.

The Contractor shall furnish sample blocks to verify color. If the sample block is not satisfactory to the Engineer, additional sample blocks shall be performed at no additional cost until the desired results are obtained. Accepted sample blocks shall provide visual standard for remaining work and shall remain through completion of work for use as a quality standard for finished work. Remove sample blocks when directed.

The Contractor shall check the geogrid upon delivery to ensure that the proper material has been received. All shipments of geogrids shall be accompanied by a mill certificate, or affidavit, signed by a legally authorized official from the company manufacturing the geogrid certifying that the material meets all stated chemical, physical, and manufacturing requirements. During all periods of shipment and storage, the geogrid shall be protected from direct sunlight, ultraviolet rays, temperatures greater than 140⁰ F, mud, dirt, dust, and debris. At the time of installation, the geogrid shall be rejected if it has defects, tears, punctures, flaws, deterioration, or damage incurred during manufacture, transportation, or storage.

c. Methods of Construction.- Any modular block wall system supplied shall be capable of being constructed within the available rights-of-way as currently established for the project. Any modular block wall system that cannot be constructed within the existing rights-of-way, including all necessary excavation to install the wall system and geogrid, if required, will be considered as a cause for rejection of the proposed wall system.

All areas immediately beneath the installation area for the geogrid shall be properly prepared true to the lines and grades as detailed on the plans, specified elsewhere within the specifications, or as directed by the Engineer.

In general, the geogrid shall be installed in accordance with the manufacturer's

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DETAILED SPECIFICATION
FOR
RETAINING WALL, MODULAR BLOCK

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recommendations. The geogrid shall be placed with the layers of the compacted soil as shown on the plans, or as directed by the Engineer.

The geogrid shall be placed in continuous longitudinal strips in the direction of main reinforcement and adjacent strips do not need to be overlapped. However, if the Contractor is unable to complete a required length with a single continuous length of geogrid, a joint may be made for the full width of the strip by interlacing over and under the main reinforcing strands using a solid rod or hollow pipe of similar material and strength. No end joints will be allowed in any two adjacent strips or within 10 feet of the face of the embankment, or in the case of a spill through slope, in front of the abutment. In the event that the required length of geogrid reinforcement is greater than the roll length, then end joints will be allowed in adjacent strips, but they cannot be within 65 feet of one another as measured along the length of the strip. Every effort should be made to keep the number of end joints to a minimum and widely spaced throughout the placement area.

Only that amount of geogrid required for immediately pending work shall be placed to prevent undue damage to the geogrid. After a layer of geogrid has been placed, the next succeeding layer of soil shall be placed and compacted as appropriate. After the specified soil layer has been placed, the next geogrid layer shall be installed. The process shall be repeated for each subsequent layer of geogrid and soil.

After a layer of geogrid has been placed, suitable means, such as pins or small piles of soil, shall be used to hold the geogrid in position until the subsequent soil layer can be placed. Under no circumstance shall a track-type vehicle be allowed on the geogrid before at least six inches of soil has been placed on the geogrid.

The overlapping of the geogrid shall be permitted as required by the plans, the manufacturer's recommendations, and these specifications.

When the roll width is greater than the width of geogrid required, the geogrid may be cut with a razor, knife, abrasion saw, or similar tool.

The retaining wall systems shall be constructed according to manufacturer recommendations. In case of conflict between this Detailed Specification and the manufacturer's specifications, the Engineer shall determine which specification shall govern.

An 8-inch, MDOT, 21-AA limestone base, with a 2NS sand leveling course (maximum thickness 1 inch) shall be placed true to line and grade as shown on the Plans or as directed by the Engineer. The 8-inch layer of 21-AA limestone base shall be compacted to 98% of

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FOR
RETAINING WALL, MODULAR BLOCK

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the materials maximum dry density. Geogrid of the type specified shall be placed in accordance with the plans.

The retaining wall system shall be backfilled in accordance with the details and specifications as shown on the plan sheets, and as detailed in this Detailed Specification. Underdrains shall be placed as shown on the plans and as directed by the Engineer. The modular block unit and the area 12 inches behind it shall be backfilled with MDOT 34R aggregate firmly tamped in place. The remaining excavated area shall be backfilled with MDOT Granular Material, Class II compacted to 95% of its maximum unit weight. Backfill shall be placed and compacted in 8-inch lifts. Cap units shall be placed after wall is constructed to plan grade. Provide a 1-inch reveal on all cap units placed. Cap units shall be bonded to the retaining wall with a manufacturer approved adhesive.

e. Measurement and Payment .- The completed work, as measured along the actual surface area of wall constructed, will be paid at the contract unit price for the following contract item (pay item):

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Retaining Wall, Modular Block	Square Foot

This item of work shall include all labor, materials, and equipment necessary to provide a complete installation of the retaining wall(s) as detailed on the plan sheets.

It shall also include, but not be limited to; all required excavation necessary to construct the proposed retaining wall; the removal of brush and trees less than 6 inch in diameter; the furnishing and placement of all needed retaining wall materials; the furnishing, placement, and compaction of all backfill materials as indicated on the plan sheets, details, and the specifications; the furnishing and installation of soil reinforcement geogrid, if needed; the furnishing and placement of geotextile filter fabric; constructing the wall true to lines and grades as shown on the plans, or as directed by the Engineer; and, the clean-up and proper removal off-site of all excess excavated materials at the completion of the retaining wall installation.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
BOLLARDS

AA:MGN

1 of 2

02/10/20

a. Description.- This work shall consist of furnishing and fabricating steel post bollards in locations as shown on the plans and as directed by the Engineer. All work shall be performed as shown on the Plans, as detailed in this specification, and as directed by the Engineer. The Contractor shall provide all needed labor, material, and equipment needed to complete the installation of the bollards.

b. Materials.- The steel bollard post shall be fabricated from 3.548-inch nominal inside diameter, 4.000-inch nominal outside diameter, standard weight, steel pipe. The overall finished length of the pipe shall be as shown on the plans and shall include the depth of bury needed to provide a stable installation.

At a minimum use portland cement concrete meeting the compressive strength and air content requirements for Grade S2 concrete according to Section 701 of the 2012 Michigan Department of Transportation Standard Specifications for Construction. Provide a concrete mix design such that the compressive strength and air content requirements will be attained.

Provide white membrane curing compound meeting the requirements of Section 903 of the MDOT Standard Specifications for construction. The concrete that protrudes from the top of the proposed bollards shall not be coated with curing compound material.

The steel bollards are to be coated with a zinc-based coating system. The coating system shall be chosen from the MDOT Qualified Products List and approved for use on the project prior to beginning any work. The color of the urethane protective coat shall be bright yellow, AMS-STD-595 color number 13591. The protective urethane top coat shall be high-gloss. Place the coating system on the concrete that is to protrude from the top of the bollard as shown on the plan sheets.

Provide concrete forming materials to maintain the vertical face of the existing concrete sidewalk during the concrete casting and curing process.

c. Methods of Construction.- The Contractor shall core a 12-inch diameter hole in the existing sidewalk full-depth to facilitate the installation of the bollard. Excavate the hole to the required depth and diameter. Place the steel pipe in the hole and firmly secure it such that it remains plumb during the entire concrete placement and curing period. Fill the concrete pipe with Grade S2 concrete and consolidate the material such that no voids exist within the pipe upon completion of concrete placement. Do not over-consolidate the

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
BOLLARDS

AA:MGN

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concrete. Place Grade S2 concrete around the bollard flush with the surface of the concrete sidewalk and provide a medium broom finish on the exposed concrete surface.

After the concrete has cured for a minimum of 48-hours, place the protective coating system on the steel bollards in accordance with the coating system’s manufacturer’s specifications. The Contractor shall take all necessary precautions to avoid overspray on concrete surfaces and/or nearby parked vehicles. Any precautionary measures taken by the Contractor shall be completely effective.

Protect both the concrete and coating system from vandalism, marring, or any other distress until such time as they are fully dry and capable of withstanding foot traffic or being damaged by contact. The Contractor shall re-place any affected posts that have been become out-of-plumb or have been damaged by unwanted graffiti or contact

e. Measurement and Payment .- The completed work will be paid at the contract unit price for the following contract item (pay item):

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Bollard, Complete	Each

This item of work shall include all labor, materials, and equipment necessary to provide a complete installation of each bollard as detailed on the plan sheets, as provided for in this specification, and as directed by the Engineer.

It shall also include, but not be limited to; coring the existing concrete surface; all required excavation necessary to construct the proposed bollards; forming the concrete sidewalk to provide a vertical face; the furnishing and placement of all needed steel pipe and concrete materials; the furnishing and placement of an approved zinc-based coating system; protecting the concrete and coating system from graffiti, damage, unwanted contact; and, the clean-up and proper removal off-site of all excess excavated materials and any other materials generated by the installation process.

APPENDIX

CITY OF ANN ARBOR
NOTICE TO BIDDERS

(1 of 2)

Utilities Coordination

The Contractor shall cooperate and coordinate construction activities with the owners of utilities as stated in Section 104.08 of the 2012 MDOT Standard Specifications for Construction. In addition, for the protection of underground utilities, the Contractor shall follow the requirements in Section 107.12 of the 2012 MDOT Standard Specifications for Construction.

For protection of underground utilities, the Contractor shall call "MISS DIG" toll free at 1-800-482-7171 or call 811 a minimum of three (3) working days prior to excavation within the project limits. The Contractor must also notify utility owners who may not be part of the the "MISS DIG" system.

The Contractor shall notify the City of Ann Arbor a minimum of three (3) days prior to beginning construction.

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.

Work by Others

During the life of this contract other public authorities and utility companies may be performing work adjacent to the project limits, including, but not limited to; utility relocations and adjustments; traffic control; street maintenance; etc. The Contractor shall cooperate and coordinate construction activities with these agencies in accordance with Section 104.08 of the Michigan Department of Transportation 2012 Standard Specifications for Construction.

The Contractor shall coordinate and cooperate with private utility owners for any necessary adjustment of utility lines within the roadway construction limits including, but not limited to, the following:

- i) The Contractor shall coordinate with DTE Energy during the work of the project for the relocation of the guy wires on the existing power pole located near 3415 Jackson Avenue. The Contractor shall work with DTE Energy to schedule and allow them to perform their work to avoid negative impacts to the construction schedule to the greatest extent practicable.

CITY OF ANN ARBOR
NOTICE TO BIDDERS

(2 of 2)

Existing Utilities, Site Features, and Investigations

The existing utilities structures, features, and site conditions above and underground are shown on the Contract Drawings from the best available information. These include, but are not limited to; pipelines, conduits, and the like.

It is the Contractor's sole responsibility to perform its own site investigations and research and to incorporate in its bid sufficient amounts for all utilities coordination work. If any utilities, structures, features and/or site conditions are discovered or suspected by the Contractor to be different than shown on the plans, the Contractor is obligated to notify the Engineer immediately in writing so an addendum may be issued and/or the bid date may be revised.

Agreements, Permits, Reports, and other Investigations and Information utilized in the development of the project are available for review by prospective bidders prior to submittal of their bid. Making this information available for review does not relieve the Contractor from the responsibility of performing its own site investigations, and the Contractor is responsible for any and all conclusions that are drawn from this data.

The Contractor's submittal of a bid shall be considered prima facie evidence that it has reviewed all available information and performed all needed investigations and that its bid contains the needed resources to complete the project for the lump sum and unit prices contained herein.

CITY OF ANN ARBOR
LIVING WAGE ORDINANCE DECLARATION OF COMPLIANCE

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

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

The Contractor or Grantee agrees:

- (a) To pay each of its employees whose wage level is not required to comply with federal, state or local prevailing wage law, for work covered or funded by a contract with or grant from the City, no less than the Living Wage. The current Living Wage is defined as \$13.61/hour for those employers that provide employee health care (as defined in the Ordinance at Section 1:815 Sec. 1 (a)), or no less than \$15.18/hour for those employers that do not provide health care. The Contractor or Grantor understands that the Living Wage is adjusted and established annually on April 30 in accordance with the Ordinance and covered employers shall be required to pay the adjusted amount thereafter to be in compliance with Section 1:815(3).

Check the applicable box below which applies to your workforce

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

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

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

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

Company Name

Street Address

Signature of Authorized Representative

Date

City, State, Zip

Print Name and Title

Phone/Email address

CITY OF ANN ARBOR LIVING WAGE ORDINANCE

RATE EFFECTIVE APRIL 30, 2019 - ENDING APRIL 29, 2020

\$13.61 per hour

If the employer provides health care benefits*

\$15.18 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
Colin Spencer at 734/794-6500 or cspencer@a2gov.org**



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

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

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

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 <hr style="border: 0; border-top: 1px solid black;"/> <input type="checkbox"/> Interest in vendor’s company <input type="checkbox"/> Other (please describe in box below)

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

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

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

CITY OF ANN ARBOR NON-DISCRIMINATION ORDINANCE

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

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

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

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

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

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

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

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

MICHIGAN DEPARTMENT OF TRANSPORTATION CERTIFIED PAYROLL

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

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

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

(a)	(b)	(c)	(d) DAY AND DATE							(e)	(f)	(g)	(h)	(i)	(j) DEDUCTIONS						(k)
															TOTAL HOURS ON PROJECT	PROJECT RATE OF PAY	PROJECT RATE OF FRINGE PAY	GROSS PROJECT EARNED	GROSS WEEKLY EARNED	TOTAL WEEKLY HOURS WORKED ALL JOBS	
EMPLOYEE INFORMATION	WORK CLASSIFICATION	Hour Type	HOURS WORKED ON PROJECT							TOTAL HOURS ON PROJECT	PROJECT RATE OF PAY	PROJECT RATE OF FRINGE PAY	GROSS PROJECT EARNED	GROSS WEEKLY EARNED	TOTAL WEEKLY HOURS WORKED ALL JOBS	FICA	FEDERAL	STATE	OTHER	TOTAL DEDUCT	TOTAL WEEKLY WAGES PAID FOR ALL JOBS
NAME:									0				\$0.00							\$0.00	\$0.00
ETH#GEN: ID #:	GROUP/CLASS #:	S							0											\$0.00	\$0.00
NAME:									0				\$0.00							\$0.00	\$0.00
ETH#GEN: ID #:	GROUP/CLASS #:	S							0											\$0.00	\$0.00
NAME:									0				\$0.00							\$0.00	\$0.00
ETH#GEN: ID #:	GROUP/CLASS #:	S							0											\$0.00	\$0.00
NAME:									0				\$0.00							\$0.00	\$0.00
ETH#GEN: ID #:	GROUP/CLASS #:	S							0											\$0.00	\$0.00
NAME:									0				\$0.00							\$0.00	\$0.00
ETH#GEN: ID #:	GROUP/CLASS #:	S							0											\$0.00	\$0.00
NAME:									0				\$0.00							\$0.00	\$0.00
ETH#GEN: ID #:	GROUP/CLASS #:	S							0											\$0.00	\$0.00
NAME:									0				\$0.00							\$0.00	\$0.00

Date _____

I, _____ (Name of Signatory Party) _____ (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

_____ on the _____ (Contractor or Subcontractor)
 _____; that during the payroll period commencing on the _____ (Building or Work)
 _____ day of _____, _____, and ending the _____ day of _____, _____,
 all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

_____ from the full _____ (Contractor or Subcontractor)

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

- in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

- Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NAME AND TITLE	SIGNATURE

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

