



Department of Management Services
Purchasing Division
241 West South Street
Kalamazoo, MI 49007-4796
Phone: 269.337.8020
Fax: 269.337.8500
www.kalamazoocity.org
purchasing@kalamazoocity.org

INVITATION FOR BIDS (IFB)

The City of Kalamazoo, Michigan is soliciting sealed bids for:

Project Name: 2022 Fall Tree Planting

Bid Reference #: 59575-034.0

IFB ISSUE DATE: July 22, 2022

BID DUE/OPENING DATE: August 24, 2022 @ 3:00 p.m. Local Time

Facsimile Bids Will Not Be Accepted.

MAILING ADDRESS & INSTRUCTIONS

Mail To:

Purchasing Division
241 W. South Street
Kalamazoo, MI 49007

Questions for this IFB should be directed to:

Department Contact: Anthony Ladd, PE,
Assistant Director, Public Works Division at
ladda@kalamazoocity.org or (269) 337-8717

Include on the Envelope the Project Name and Bid Reference Number. All Envelopes Must Be Sealed.

You are invited to submit a bid for this project. Specifications, terms, conditions and instructions for submitting bids are contained herein. This Invitation for Bids with all pages, documents and attachments contained herein, or subsequently added to and made a part hereof, submitted as a fully and properly executed bid shall constitute the contract between the City and the successful bidder when approved and accepted on behalf of the City by an authorized official or agent of the City. Please review the bid document as soon as possible and note the **DEADLINE FOR QUESTIONS** in the Instructions to Bidders.

All bidders shall complete and return the Bid and Award page(s) and submit all information requested herein in order for a bid to be responsive. The bid document shall be returned in its entirety, in a properly identified and sealed envelope to the Purchasing Division at the above address. **BIDS MUST BE RECEIVED BEFORE THE DUE DATE - LATE BIDS WILL NOT BE CONSIDERED.** The City reserves the right to postpone the bid opening for its own convenience.

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STATEMENT OF NO BID

NOTE: If you DO NOT intend to bid on this commodity or service, please complete and return this form immediately. Your response will assist us in evaluating all responses for this important project and to improve our bid solicitation process.

The Purchasing Division of the City of Kalamazoo wishes to keep its bidders list file up-to-date. If, for any reason you cannot supply the commodity/service noted in this bid solicitation, this form must be completed and returned to remain on the particular bid list for future projects of this type.

If you do not respond to this inquiry within the time set for the bid opening date and time noted, we will assume that you can no longer supply this commodity/service, and your name will be removed from this bid list.

- _____ Specifications too "tight", i.e. geared toward one brand/ manufacturer only (explain below).
- _____ Specifications are unclear (explain below).
- _____ We are unable to meet specifications.
- _____ Insufficient time to respond to the Invitation for Bid.
- _____ Our schedule would not permit us to perform.
- _____ We are unable to meet bond requirements.
- _____ We are unable to meet insurance requirements.
- _____ We do not offer this product or service.
- _____ Remove us from your bidders list for this commodity or service.
- _____ Other (specify below).

REMARKS: _____

SIGNED: _____ NAME: _____
(Type or Print)

TITLE: _____ DATE: _____

FIRM NAME: _____
(if any)

ADDRESS: _____
(Street address) (City) (State) (Zip)

PHONE: _____ FAX: _____

EMAIL: _____

SECTION I INSTRUCTIONS FOR BIDDERS

1. EXAMINATION OF BID DOCUMENT

Before submitting a bid, bidders shall carefully examine the specifications and shall fully inform themselves as to all existing conditions and limitations. The bidder shall indicate in the bid the sum to cover the cost of all items included on the bid form.

2. PREPARATION OF BID

The bid shall be legibly prepared in ink or typed. If a unit price or extension already entered by the bidder on the Bid and Award form is to be altered, it shall be crossed out and the new unit price or extension entered above or below and initialed by the bidder with ink. The bid shall be legally signed and the complete address of the bidder given thereon.

All bids shall be tightly sealed in an envelope plainly marked SEALED BID and identified by project name, bid opening date and time. Bids opened by mistake, due to improper identification, will be so documented and resealed. The Purchasing Division will maintain and guarantee confidentiality of the contents until the specified opening date and time. Bids submitted by Fax machine will not be accepted.

3. EXPLANATION TO BIDDERS

Any binding explanation desired by a bidder regarding the meaning or interpretation of the Invitation for Bid (IFB) and attachments must be requested in writing, **at least 5 business days before the bid opening** so a reply may reach all prospective bidders before the submission of bids. Any information given to a prospective bidder concerning the IFB will be furnished to all prospective bidders as an amendment or addendum to the IFB if such information would be prejudicial to uninformed bidders. Receipt of amendments or addenda by a bidder must be acknowledged in the bid by attachment, or by letter or fax received before the time set for opening of bids. Oral explanation or instructions given prior to the opening will not be binding.

4. CASH DISCOUNTS

Discount offered for payment of less than thirty (30) days will not be considered in evaluating bids for award. Offered discounts of less than thirty (30) days will be taken if payment is made within the discount period, even though not considered in evaluation of the bid.

5. WITHDRAWAL OF BIDS

Bids may be withdrawn in person by a bidder or authorized representative, provided their identity is made known and a receipt is signed for the bid, but only if the withdrawal is made prior to the exact time set for receipt of bid. No bid may be withdrawn for at least ninety (90) days after bid opening.

6. ALTERNATE BIDS

bidders are cautioned that any alternate bid, unless specifically requested or any changes, insertions or omissions to the terms and conditions, specifications or any other requirement of this IFB may be considered non-responsive, and at the option of the City, result in rejection of the alternate bid.

7. LATE BIDS

Any bid received at the office designated herein after the exact time specified for receipt will not be considered. (Note: The City reserves the right to consider bids that have been determined by the City to be received late due to mishandling by the City after receipt of the bid and no award has been made).

8. UNIT PRICES

If there is a discrepancy between unit prices and their extension, unit prices shall prevail.

**SECTION II
BID AND AWARD**

The undersigned having become thoroughly familiar with all of the bid/contract documents incorporated herein, the project site and the location conditions affecting the work, hereby proposes to perform everything required to be performed in strict conformity with the requirements of these documents, and to provide and furnish all the equipment, labor and materials necessary to complete, in a professional manner, the furnishing and installing of all of the following, meeting or exceeding the specifications as set forth herein for the prices as stated below.

2022 Fall Tree Planting

ITEM	ITEM CODE	DESCRIPTION	UNIT	PLAN QTY	UNIT PRICE	TOTAL
1	8150001	Site Preparation, Max. \$30,000.00	LS	1		
2	8150002	Watering and Cultivating, First Season, Min. \$10,000.00	LS	1		
3	8150002	Watering and Cultivating, Second Season, Min. \$10,000.00	LS	1		
4		SMALL TREES (HEIGHT OF LESS THAN 30' AT MATURITY)*	EA	189*		
5		MEDIUM TREES (HEIGHT OF 30' TO 45' AT MATURITY)*	EA	13*		
6		LARGE TREES (HEIGHT OF 45' OR MORE AT MATURITY)*	EA	98*		
PROJECT TOTAL						

* Planned Quantity to be decided by bidder while using the 2022 Fall Tree Planting Locations spreadsheet (*Appendix B*). Subject to change based on species availability and City preference.

Bidder shall provide all of the information as requested herein with their bid. Failure to do so and/or failure to provide post-bid requested information may be cause for rejecting the bid as non-responsive.

After receipt of Notice to Proceed, **work shall start no earlier than 9/12/2022**, unless otherwise agreed to by the Project Manager, and **shall be completed by 11/21/2022**.

Bidder/Contractor has examined and carefully studied the bidding documents and attachments, and acknowledges receipt of the following addenda:

Addendum No: _____

Date: _____

By my signature below, I certify that the firm bidding on this contract, when making hiring decisions, does not use a past criminal conviction as a bar to or preclude a person with a criminal conviction from being considered for employment with the bidding firm unless otherwise precluded by federal or state law. I further certify that I have read and agree to be bound by the provisions of the City’s Non-Discrimination Clause found in Appendix A as updated by City Ordinance 1856.

Signed: _____ Name: _____

Title: _____

CITY OF KALAMAZOO EX-OFFENDER POLICY CHECKLIST

As part of the City’s commitment to reducing unacceptable poverty, encouraging rehabilitation, reducing recidivism and strengthening families in Kalamazoo, the City has updated its Purchasing Policy to ensure that firms with whom the City does business share in this commitment by utilizing hiring practices that do not unfairly deny people with arrest and conviction records gainful employment. *(Important: This requirement also extends to any subcontractors the bidder intends to use to fulfill the contract for goods or services being sought from the City.)*

Part I: Proof that the bidder does not inquire about an individual’s past arrest or criminal history on the bidder’s employment application form

- Attach a copy of the current application for employment being used by the bidder

Part II: Certification that the bidder does not use an individual’s past arrest or criminal history to unlawfully discriminate against them by checking one or more of the following:

- That pursuant to federal or state law bidder is precluded from hiring persons with certain criminal records from holding particular positions or engaging in certain occupations by providing a cite to the applicable statute or regulation; if checking this box, provide a citation to the applicable statute or rule upon which the bidder is relying:_____
- That bidder conducts criminal history background checks only as necessary, and only after making a conditional offer of employment; that any withdrawal of an offer of employment to an individual because of a past criminal history is job-related and consistent with business necessity after the individual has been provided an individualized assessment opportunity to review and challenge or supplement the history of past criminal conduct being relied upon by the bidder.
- That the use by bidder of criminal history background checks complies with the U.S. Equal Employment Opportunity Commission’s Enforcement Guidance on the Consideration of Arrest and Conviction Records in Employment Decisions and that the bidder has not had a determination rendered against it in past 7 years that it discriminated against a person through the use of an individual’s arrest or criminal history

I CERTIFY THAT THE ABOVE STATEMENTS ARE TRUE.

Date

Signature

Printed Name

Position

CITY OF KALAMAZOO LOCAL PREFERENCE POLICY AND CERTIFICATION

The lowest responsive Kalamazoo County bidder whose bid is not low but falls within 2% of the lowest responsive bid is afforded the opportunity to become the successful bidder if it agrees to reduce its bid to match the lowest responsive bid. The City of Kalamazoo is the sole determiner whether a bidder is responsible, qualifies as a Kalamazoo County bidder, and if its bid is responsive to the City’s specifications, terms and conditions.

If the lowest Kalamazoo County bidder chooses not to match the lowest bid, the next lowest responsive Kalamazoo County bidder whose bid falls within 2% of the lowest bid, is given the opportunity to match the lowest responsive bid.

To qualify as a Kalamazoo County bidder, the bidder must meet both the following criteria:

1. Have a physical presence in Kalamazoo County by maintaining a permanent office, factory or other facility in Kalamazoo County with employees working in Kalamazoo County.
2. Have paid real or personal property taxes related to said business to the City of Kalamazoo, County of Kalamazoo or other municipal corporation within Kalamazoo County in the previous tax year, except that a non-profit entity need not meet this requirement.

This local preference policy applies only to purchases for materials, supplies, capital outlay, and services for maintenance, repair or operation of City facilities that are over \$25,000. If more than 50% of the contract is sub-contracted to firms located outside of Kalamazoo County that bid does not qualify for the local preference policy outlined above. The local preference policy will not apply if prohibited by law. The Purchasing Agent has the authority to finally determine if the bidder qualifies as a Kalamazoo County bidder as set forth herein. The Purchasing Agent may take into account the permanency of the business in Kalamazoo, and whether the business appears to be claiming to be a Kalamazoo County business solely or primarily to qualify as a Kalamazoo County business under this Resolution, and any other material factors.

CERTIFICATION

If you qualify as a Kalamazoo County bidder and wish to be considered for the local preference provisions as provided above please certify that fact by providing the information requested below and attesting to its accuracy.

Firm Name: _____

Street Address of Business: _____

City, State, and Zip Code: _____

Number of employees working in Kalamazoo County: _____

Name the city or township to which business real and/or personal property taxes are paid or provide non-profit status: _____

The above information is accurate:

**City of Kalamazoo – Invitation for Bids
2022 Fall Tree Planting**

Signature: _____

Date: _____

Title: _____

Revised April 2008

SUB-CONTRACTING INFORMATION

Using the table below provide information regarding the sub-contractors that will be working to fulfill the requirements of this contract. Submit as complete a list as possible at the time of your bid. You will have two business days after the bid opening to update the list as needed. The information provided will be used for evaluating your bid and to assist in determining if you qualify as a Kalamazoo County Bidder.

INSTRUCTIONS:

Nature of Contract - State a brief description of the work or product that will be provided.

BIDDER – Provide the percentage of services or construction activity that will be provided by your firm.

Subcontractors:

- Provide the Name and Address for each subcontractor providing services or construction activities for this contract.
- Indicate with **YES** or **NO** under the “Local?” box if they qualify as a “Kalamazoo County bidder” (see local preference certification page)
- Provide the percentage for the dollar amount of the contract work they will be performing.

If there are not enough lines in the table below make additional copies as needed.

Nature of Contract:		
Subcontractor Name/Address	Local?	% Of Total Contract
BIDDER		

Does this List of Subcontractors need to be updated after the bid opening? **Yes** __ **No** __

REFERENCE QUESTIONNAIRE

Please answer the following questions completely.

1. Firm name: _____
2. Established: Year _____ Number of Employees: _____
3. Type of organization:
 - a. Individual: _____
 - b. Partnership: _____
 - c. Corporation: _____
 - d. Other: _____
4. Former firm name(s) if any, and year(s) in business:

5. Provide at least 5 agencies of contracts for similar work performed over the last five (5) years with governments or utilities. Include: owner, contact person and phone number and description of work performed.
 - 5.1 Company Name: _____
Address: _____
Phone: _____
Contact: _____
Description of work or contract: _____
 - 5.2 Company Name: _____
Address: _____
Phone: _____
Contact: _____
Description of work or contract: _____
 - 5.3 Company Name: _____
Address: _____
Phone: _____
Contact: _____
Description of work or contract: _____

REFERENCE QUESTIONNAIRE (cont)

5.4 Company Name: _____
Address: _____
Phone: _____
Contact: _____
Description of work or contract: _____

5.5 Company Name: _____
Address: _____
Phone: _____
Contact: _____
Description of work or contract: _____

6. Provide a list of equipment to be used in performing this Tree Maintenance work.

Type of Equipment	Year	Make/Model
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____
6.	_____	_____
7.	_____	_____
8.	_____	_____
9.	_____	_____
10.	_____	_____

I hereby state that all of the information I have provided is true, accurate and complete. I hereby state that I have the authority to submit this bid which will become a binding contract if accepted by the City of Kalamazoo. I hereby state that I have not communicated with nor otherwise colluded with any other bidder, nor have I made any agreement with nor offered/accepted anything of value to/from an official or employee of the City of Kalamazoo that would tend to destroy or hinder free competition.

The firm's identification information provided will be used by the City for purchase orders, payment and other contractual purposes. If the contractual relationship is with, or the payment made to, another firm please provide a complete explanation on your letterhead and attach to your bid. Please provide for accounts payable purposes:

Tax Identification Number (Federal ID): _____

Remittance Address: _____

Financial Contact Name: _____ Financial Contact Phone Number: _____

Financial Contact Email Address: _____

I hereby state that I have read, understand and agree to be bound by all terms and conditions of this bid document.

SIGNED: _____ NAME: _____
(Type or Print)

TITLE: _____ DATE: _____

FIRM NAME: _____
(if any)

ADDRESS: _____
(Street address) (City) (State) (Zip)

PHONE: _____ FAX: _____

EMAIL ADDRESS: _____

FOR CITY USE ONLY - DO NOT WRITE BELOW

NOTE: This blanket addendum is for informational purposes only and does not need to be acknowledged by bidders in their submission.

COVID-19 ADDENDUM #2

January 1, 2022

TO: ALL Prospective Bidders
PROJECT: ALL Upcoming Projects

The purpose of this addendum is to clarify and/or modify the sealed bid delivery and bid opening process for all upcoming projects. All work affected is subject to all applicable terms and conditions of the Bidding and Contract Documents.

1. UPDATE TO SEALED BID DELIVERY AND BID OPENING POLICY:

Effective immediately and continuing until further notice, the City of Kalamazoo will return to IN-PERSON bid openings following City Hall guidelines, including Mask Mandate.

BIDS MUST BE RECEIVED BEFORE THE DUE DATE AND TIME – LATE BIDS WILL NOT BE CONSIDERED.

Bidders can submit sealed bids in one of the following ways:

- **Mail your bid**, to be received before the bid due date and time indicated in the bid document, to the City of Kalamazoo at the following address:
City of Kalamazoo
Purchasing Division
241 West South Street
Kalamazoo, MI 49007
- **Deliver your bid to the Treasurer’s Office Payment Drop Box** located in the northwest corner of City Hall before the bid due date and time indicated in the bid document.
- **Deliver your bid to City Hall In Person before** the bid due date and time indicated in the bid document.

All bids shall be tightly sealed in an envelope plainly marked SEALED BID and identified by project name, bid opening date and time. Bids opened by mistake, due to improper identification, will be so documented and resealed. The Purchasing Division will maintain and guarantee confidentiality of the contents until the specified opening date and time. Bids submitted by fax machine or email will not be accepted.

The Purchasing Division will post bid tabulations to the City of Kalamazoo website within 24 hours after the bid opening date and time at: <https://www.kalamazoo.org/bidopportunities>.

Questions regarding this sealed bid delivery and bid opening policy change related to the COVID-19 virus should be directed to the City of Kalamazoo at (269) 337-8020.

Sincerely,



Michelle Emig
Purchasing Division Manager

SECTION III CITY OF KALAMAZOO INDEMNITY AND INSURANCE

Contractor, or any of their subcontractors, shall not commence work under this contract until they have obtained the insurance required under this paragraph, and shall keep such insurance in force during the entire life of this contract. All coverage shall be with insurance companies licensed and admitted to do business in the State of Michigan and acceptable to the City of Kalamazoo within ten (10) days of the Notice of Award. The requirements below should not be interpreted to limit the liability of the Contractor. All deductibles and SIR's are the responsibility of the Contractor.

The Contractor shall procure and maintain the following insurance coverage:

Workers' Compensation Insurance including Employers' Liability Coverage, in accordance with all applicable statutes of the State of Michigan.

Commercial General Liability Insurance on an "Occurrence Basis" with limits of liability not less than \$1,000,000 per occurrence and aggregate. Coverage shall include the following extensions: (A) Contractual Liability; (B) Products and Completed Operations; (C) Independent Contractors Coverage; (D) Broad Form General Liability Extensions or equivalent, if not already included and (E) XCU coverage if the nature of the contract requires XC or U work.

Automobile Liability in accordance with all applicable statutes of the State of Michigan, with limits of liability not less than \$1,000,000 per occurrence, combined single limit for Bodily Injury, and Property Damage. Coverage shall include all owned vehicles, all non-owned vehicles, and all hired vehicles.

Additional Insured: Commercial General Liability and Automobile Liability, as described above, shall include an endorsement stating that the following shall be *Additional Insureds*: The City of Kalamazoo, all elected and appointed officials, all employees and volunteers, all boards, commissions, and/or authorities and board members, including employees and volunteers thereof. It is understood and agreed that by naming the City of Kalamazoo as additional insured, coverage afforded is considered to be primary and any other insurance the City of Kalamazoo may have in effect shall be considered secondary and/or excess.

To the fullest extent permitted by law the Contractor agrees to pay on behalf of, indemnify, and hold harmless the City of Kalamazoo, its elected and appointed officials, and employees against any claims, demands, suits, or loss, including all costs connected therewith, and for any damages which may be asserted, claimed, or recovered against or from the City of Kalamazoo, by reason of personal injury, including bodily injury or death and/or property damage, including loss of use thereof, caused in whole or part by any negligent act or omission by the Contractor, its employees, agents, or officers which arises out of, or is in any way connected or associated with, this contract.

INDEMNITY AND INSURANCE

Continued

Cancellation Notice: All policies, as described above, shall include an endorsement stating that it is understood and agreed that thirty (30) days, or ten (10) days for non-payment of premium, Advance Written Notice of Cancellation, Non-Renewal, Reduction, and/or Material Change shall be sent to: City of Kalamazoo, Purchasing Division, 241 W. South Street, Kalamazoo, MI 49007.

Proof of Insurance Coverage: The Contractor shall provide the City of Kalamazoo at the time that the contracts are returned by him/her for execution, or within 10 days of Notice of Award, whichever is earlier, a Certificate of Insurance as well as the required endorsements. In lieu of required endorsements, if applicable, a copy of the policy sections where coverage is provided for additional insured and cancellation notice would be acceptable. Copies or certified copies of all policies mentioned above shall be furnished, if so requested. If any of the above coverages expire during the term of this contract, the Contractor shall deliver renewal certificates and/or policies to City of Kalamazoo at least ten (10) days prior to the expiration date.

Scope of Coverage: The above requirements and conditions shall not be interpreted to limit the liability of the Contractor under this Contract, but shall be interpreted to provide the greatest benefit to the City and its officers and employees. The above listed coverages shall protect the Contractor, its employees, agents, representatives and subcontractors against claims arising out of the work performed. It shall be the Contractor's responsibility to provide similar insurance for each subcontractor or to provide evidence that each subcontractor carries such insurance in like amount prior to the time such subcontractor proceeds to perform under the contract.

SECTION IV SPECIAL REQUIREMENTS

1. BID BOND/GUARANTEE

The bid must be accompanied by a bid bond which shall not be less than five (5%) percent of the total amount of the bid. No bid will be considered unless it is accompanied by the required guarantee. The bid guarantee shall ensure the execution of the bid and award, and the furnishing of a performance bond and a labor and material bond (A and B below) by the successful bidder. (Contractors Note: A cashier's or certified check in lieu of a bid bond is **NOT** acceptable.)

A. PERFORMANCE BOND

A performance bond shall be furnished in the full amount of the contract ensuring the City of faithful performance of all the provisions of the contract, and the satisfactory performance of any equipment required hereunder. The bond shall also ensure the City against defective workmanship and/or materials.

B. LABOR AND MATERIAL (PAYMENT) BOND

A labor and material (payment) bond shall be furnished for the period covered by the contract, in the full amount of the contract for the protection of labor and material suppliers and sub-contractors.

Bonds shall be secured by a guaranty or a surety company listed in the latest issue of the U.S. Treasury, circular 570, and licensed to do business in the State of Michigan, and written in favor of the City of Kalamazoo. The amount of such bonds shall be within the maximum amount specified for such company in said circular 570. The bonds shall be accompanied by a power of attorney showing authority of the bonding agent to sign such bonds on behalf of the guaranty or surety company. The cost of the bonds shall be borne by the Contractor.

Failure of the Contractor to supply the required bonds within ten (10) days after Notice of Award, or within such extended period as the Purchasing Agent may agree to, shall constitute a default and the City of Kalamazoo may either award this contract to the next lowest bidder or re-advertise for bids and may charge against the Contractor for the difference between the amount of the bid and the amount for which a contract for the work is subsequently executed, irrespective of whether the amount thus due exceeds the amount of the bid bond. If a more favorable bid is received by re-advertising, the defaulting bidder shall have no claim against the City of Kalamazoo for a refund.

2. WAIVERS OF LIEN

Upon completion of all work and request for final payment, the Contractor shall furnish a 100% waiver of lien from each supplier and sub-contractor covering all items of the work. Failure to supply waivers of lien for the entire job upon completion and final payment request will be considered grounds for withholding final payment.

3. SUBCONTRACTORS

- A. Contractors shall state on the Bid and Award page any and all subcontractors to be associated with their bid, including the type work to be performed. Any and all subcontractors shall be bound by all of the terms, conditions and requirements of the contract; however, the prime contractor shall be responsible for the performance of the total work requirements.

- B. The Contractor shall cooperate with the City of Kalamazoo in meeting its commitments and goals with regard to maximum utilization of minority and women business enterprise, and shall use its best efforts to ensure that minority and women business enterprises have maximum practicable opportunity to compete for subcontract work under this agreement.

SECTION V SPECIFICATIONS & SPECIAL CONDITIONS

1. INTENT

The intent of this contract is to perform necessary tree planting and maintenance of those trees in specific areas of Kalamazoo Neighborhoods. The purpose of this program is to protect the health and safety of the residents of the City of Kalamazoo.

2. SCOPE OF WORK

The contract and work shall be carried out in conformance with the MDOT Standard Specifications for Construction, Ordinances of the City of Kalamazoo, and these detailed specifications in effect on the date of Invitation for Bids. The Tree Ordinance for the City of Kalamazoo has been attached for review (*Appendix B*).

Trees will be planted in locations and specified by small, medium, and large species type required based on mature heights as listed in *Appendix B*.

- 2.1. **Plant Material Requirements:** Trees shall be obtained from a nursery or like vendor; recognized for using good arboriculture and horticulture practices. In addition, plant material shall have been grown in conditions of similar climate to hardiness zone 5 and 6. Trees shall be in good health and free from: disease, injury, general abrasions, disfigurement, freeze damage, sunscald, or insect infestation of any kind. Trees shall meet or exceed the recommendations and requirements set forth in ANSI Z60.1-2014 “American Standard for Nursery Stock.” The City of Kalamazoo reserves the right to inspect all nursery stock at the planting site for species, size, structure and vigor. The City of Kalamazoo reserves the right to reject plant material once delivered to the planting site as specified in MDOT Standards for Construction Section 815.

2.1.1 Plant material must be one of the following: container grown, balled and bur lapped, or tree spade stock. All trees are to have a minimum caliper of 2”; to be measured at 6” above the top of the root ball unless otherwise noted on the plant and location list. Plant material shall have been pruned to encourage single main stem growth, compact crowns, abundant lateral branching and symmetrical branch structure. No material with codominant stems will be accepted. Tree selection should be based on the site conditions, size, and follow general guidelines of “right tree right place.”

2.1.2 Tree selection should be varied and include hardwood and ornamental selections and be based upon conditions of planting site. No single species of tree planted can account for more than 30% of the total trees planted in its respective category. The presence of overhead or underground utilities at the planting site should be given appropriate consideration. Preference should be given to native species. Tree selection must also follow species guidelines listed in the attached City of Kalamazoo Tree Ordinance.

2.1.3 Root systems shall not be excessively root bound or have any kinked or circling root at the time of planting. The rooting medium will be free of

other plant material. Refer to ANSI Z60.1-2014 for root ball to caliper size requirements. Extreme care shall be used in the delivery process as to avoid wind damage or excess drying of the root system.

- 2.2. **Planting Procedures:** MISS-DIG shall be used on all planting sites. City of Kalamazoo will provide bidder with tree planting identification flags to help facilitate this process. If there is a stump at a planting site location; the City of Kalamazoo will remove it at no cost to the bidder.

2.2.1 Tree plantings shall be performed by experienced personnel, well versed in accepted horticultural practices, and under the supervision of a qualified tree planting foreman. Tree planting should closely follow ANSI A300 standards on Planting and Transplanting and MDOT Standards for Construction Section 815 (*Appendix C*).

2.2.2 Trees shall be placed in a position exactly vertical and at the depth where the base of the root flare is at or slightly above the finished grade. Excess soil from the root ball must be removed following installation. Any additional backfill soil shall, at the time of planting, be in a loose, friable condition. At no time shall the topsoil used on the job be stockpiled on turf. Plants shall be set so that they will be the same depth one (1) year later. The trunk of the tree is not to be used as a lever in positioning or moving the tree in the planting hole.

2.2.3 Any excess soils or debris shall be removed from the planting site immediately upon completion of each planting operation. At the completion of each planting, the tree must be straight, firmly in place, thoroughly watered and mulched.

- 2.3. **Additions or deletions to the Scope of Services.** The City may, at its own option, add services to or delete services from the work provided by this contract, to serve its best interest, or to respond to changes in property ownership during the course of the implementation of this contract.

All necessary traffic control, labor, materials, tools, equipment, and other items incidental to the work being performed shall be included in the Contractor's unit price for this contract. Such items will not be bid or paid for separately but shall be included in the overall unit price.

The bidder shall furnish all labor, supervision, supplies, tools, equipment, and other means necessary or proper for performing and completing the work. The bidder shall be responsible for the cleaning up of the job site and shall repair or restore all structures and property that may be damaged or disturbed during performance of the work to the satisfaction of the Public Services Department for the City of Kalamazoo. Drainage structure covers shall be salvaged and reused if in usable condition; otherwise, they shall be replaced. Where needed, all traffic control used for such operations as defined by the MMUTCD will be the responsibility of the bidder.

3. CONTRACT PERIOD AND RENEWALS

- 3.1 **The bidder shall install ALL trees designated for the fall planting by November 21, 2022.**
- 3.2 The contract shall be in effect for the duration of work.
- 3.3 The City may opt to extend this contract for up to twelve (12) one-month periods.

3.4 Renewals will be based upon mutual agreement, and the availability of funding.

4. AWARD CRITERIA

All of the following factors will be considered in evaluating bids received:

- Responsiveness to Invitation for Bids specifications
- Project cost
- Qualifications of firm
- References

5. UNIT PRICING

The unit price, including its pro rata share of overhead, multiplied by the quantity shown shall represent the total bid and shall be held firm for the life of this contract. Any bid not conforming to this requirement may be rejected as non-responsive.

6. SITE VISITS

Prospective bidders are strongly encouraged to look at the site locations prior to bid submittal and become acquainted with the requirements of this bid.

7. QUALIFICATIONS OF BIDDERS

Bids will be considered only from responsible organizations or individuals now or recently engaged in this type of service.

Bidders shall provide a listing of governments and/or utilities it has or had contracts with within the past five (5) years. With each listing, provide a short description of the contracted service.

The City reserves the right to inspect the equipment of all bidders prior to making the award.

8. TEMPORARY UTILITIES

- A. Temporary or construction water will NOT be available on the sites. The Contractor must provide for drinking water.
- B. Temporary toilets: To be supplied by the Contractor as may be necessary.

9. PROGRESS SCHEDULE

- 9.1 **After receipt of notification by Contractor of Notice to Proceed work shall start no earlier than September 12, 2022.**
- 9.2 **Project shall have a final completion date of November 21, 2022.**
- 9.3 Work of a similar nature may be added to this contract if agreed to by the City and the Contractor. In the event that work is added, the progress schedule for the existing work will remain unchanged. Any contract time added for additional work will be applied to that additional work only and cannot be added to items in the original contract. Any work done on the items in the original contract past the number of working days stated herein will be subject to liquidated damages regardless of any work that may be added at a later date.
- 9.4 The Contractor will be required to meet with the Public Services representatives to work out a detailed progress schedule. The schedule for this meeting will be within two weeks after contract award has been made.
- 9.5 The named sub-contractor(s) for all items shall also be present at the scheduled meeting and be required to sign the Progress Schedule to indicate their approval of

- the scheduled dates of work set forth in the Progress Schedule. If unable to attend the scheduled meeting, the sub-contractor shall, at a minimum, sign the Progress Schedule to indicate their approval of the dates of work. MDOT Form 1130 shall be used for schedule submission and signature of all parties.
- 9.6 The Progress Schedule shall include, as a minimum, the starting and completion dates for major items, and where specified in the bid document the date the project is to be opened to traffic as well as the final project completion date specified in the bid document. The Progress Schedule shall be coordinated with all aspects of the work occurring at the site.
- 9.7 Failure on the part of the Contractor to carry out the provisions of the Progress Schedule as established may be considered sufficient cause to prevent bidding future projects until a satisfactory rate of progress is again established.
- 9.8 The starting date and the contract time to the completion date for this project may be adjusted by Public Services without imposing liquidated damages upon the receipt of satisfactory documented evidence that unforeseen delayed delivery of critical materials will prevent the orderly prosecution of the work.
- 9.9 Any request extension of the completion date and satisfactory documented evidence of unforeseen delays shall be submitted via MDOT Form 1100A – Extension of Contract Time.
- 9.10 MDOT Standard Specifications for Construction Section 501.03.I.1, Weather Limitations, shall apply.

10. LIQUIDATED DAMAGES

Liquidated Damages will be assessed per Section 108.10C of the MDOT Standard Specifications for Construction.

11. MAINTAINING TRAFFIC

- 11.1 This work shall be in accordance with the requirements of Section 812 of the MDOT Standard Specifications for Construction, the Maintaining Traffic special provision, and as specified herein. The Contractor is advised that the current Michigan Manual of Uniform Traffic Control Devices (MMUTCD) is hereby established as governing all work in connection with traffic control devices, barricade lighting, etc. required on this project.
- 11.2 The Contractor shall furnish, erect, maintain and, upon completion of the work, remove all traffic control devices and barricade 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 for intersecting streets which are to be closed with the first usable street on each side of the project. Traffic regulators, where required by the Engineer, are included.
- 11.3 Where the existing pavement or partial widths of new pavement are to be utilized for the maintenance of through and local traffic, channelizing devices will be required at 50' intervals or as directed by the Engineer for channeling and directing traffic through the construction area.
- 11.4 Through traffic shall be maintained utilizing sidewalk closures with detours and traffic shifts per MDOT traffic and safety details.

- 11.5 Protection of all pedestrian traffic shall be maintained at all times in accordance with the MMUTCD. Type II barricades and sidewalk detour signs shall be used in accordance with the MMUTCD at all intersections and ramps. Sidewalk detours shall direct pedestrians safely around closed sidewalk locations and shall be placed at the nearest pedestrian crossing locations still open to traffic.
- 11.6 Payment for furnishing and operating all temporary traffic control devices and traffic regulators shall be included in unit pricing for this contract and shall include all the temporary traffic control measures on all road segments.
- 11.7 Under Article 812.04.D "Operated Pay Items" the term 'Relocating' shall include the relocating of the item from any street covered by the contract to any other street covered by the contract.
- 11.8 No work shall be allowed on the following dates:
- | | |
|----------|-------------------|
| 9/5/22 | Labor Day Holiday |
| 11/11/22 | Veteran's Day |
| 11/24/22 | Thanksgiving |
| 12/25/22 | Christmas |
| 1/1/23 | New Year's Day |
- 11.9 Milled surfaces will not be allowed on travel lanes for longer than 72 hours unless approved by the Project Manager. Any traffic surface within the construction area containing a drop off at the edge of a pavement greater than two (2) inches shall not be allowed to be opened to the public without proper wedging of the edges according to the COK standard detail. Any areas not conforming to the road levelness and profile shall be signed appropriately in accordance with the MMUTCD and best management practices.
- 11.10 Once work is initiated that includes lane restrictions or detours, that work shall be continuous until complete. If work is suspended for more than three (3) continuous working days all lane restrictions and detours shall be removed at the Contractor's expense.

Special Restrictions: Access to frontage properties shall be maintained as much as practical. Emergency access shall be maintained at all times. The Contractor shall maintain two-way traffic with flag control as needed when the road is restricted to only one traffic lane.

12. COORDINATING

The Contractor's attention is called to Article 104.08 of the MDOT Standard Specifications for Construction entitled "Cooperation by Contractor".

13. WORK HOURS

All work shall be done between the hours of 7 am to 7 pm (Monday – Saturday). Work done outside of these times will be at the discretion of the Project Manager.

No work shall be done on Sunday, unless otherwise approved by the Project Manager in writing.

The Contractor shall conduct their work in such a manner that no excavations are left open overnight. If this is not possible, the Contractor shall provide and install a temporary fence to protect the excavation, at the Contractor's expense.

14. COMPLAINTS AND NON-PERFORMANCE

- 14.1 The contractor shall, within 24 hours after receipt of complaint, take all steps necessary to remedy the cause of the complaint and to notify the project manager of each disposition.
- 14.2 The contractor shall maintain a "Complaint log" registering all complaints and the action taken to remedy the situation.
- 14.3 Failure to remedy the cause of the complaint within the time limits set forth herein shall be considered a breach of the contract. For the purpose of computing damages caused thereby under the provisions of this section, it is agreed that the City may deduct from payments due or to become due to the contractor, the following amounts as liquidated damages:
 - 14.4 Failure to clean up debris/equipment as specified \$50 per incident/per day
 - Failure to properly manage traffic flow as specified \$100 per hour

15. QUESTIONS

Questions relative to the specifications may be addressed to Anthony Ladd, PE, Assistant Director, Public Works Division at ladda@kalamazoocity.org or (269) 337-8717. Questions relative to the terms and conditions and bidding procedures may be addressed to Craig Hull, Buyer, at 269-337-8444.

SECTION VI GENERAL CONDITIONS

1. PROJECT MANAGER’S STATUS

The City Engineer (Engineer) or his/her duly authorized representative shall be the City’s Project Manager and shall have the duties and responsibilities as provided in the contract.

The Project Manager shall have the authority to reject any work or materials which do not conform to the contract and to decide questions or interpretations which may arise from the contract documents.

The Contractor shall immediately report to the Project Manager any questionable or obvious error or omission which may be apparent in the contract documents and shall not proceed with work until the Project Manager has resolved the error or omission.

2. CONSTRUCTION SCHEDULE AND COORDINATION

- 2.1 The Contractor shall supply the City with an agreeable construction schedule before commencing work on this contract. This schedule shall detail beginning and completion dates for each major component of the project.
- 2.2 The Contractor shall coordinate and cooperate with all other contractors who may be working on the site, to allow for the orderly progress of work being done.
- 2.3 The Contractor is required to keep the Project Manager fully informed of any proposed work which will tend to interfere with the existing operations at the site.
- 2.4 The Contractor shall schedule all work to accommodate the City's schedule. In the event the Contractor's schedule falls on weekends, nights or overtime work is required, no additional compensation will be allowed. All work shall be part of this contract without regard to when it is done.
- 2.5 The Contractor shall coordinate with other construction projects and contractors adjacent to the location of this project.
- 2.6 The Contractor shall notify, by door hanger/written flier (pre-approved by the Project Manager), affected residents and business of work and areas to be disturbed by construction at least 72 hours in advance. Work shall not commence until the affected residents/business have been notified and given advanced notice. The Contractor shall work to minimize impacts to those affected by the construction while still maintaining project schedule and objectives. For impacts to driveways or property access points that affect residents or businesses, resident/business shall be notified 24 hours in advance of the work taking place and coordinated with for parking and property access.

3. PROTECTION OF WORK

The Contractor shall maintain adequate protection of all his/her work from damage and shall protect all public and private abutting property from injury or loss arising in connection with this contract.

4. PROTECTION OF PROPERTY

- 4.1 The Contractor shall confine his/her equipment and operations to those areas of the work site necessary for the completion of the work, or as authorized by the Project Manager. The Contractor shall protect and preserve from damage any facilities, utilities or features including trees, shrubs and turf which are not required to be disturbed by the requirements of the work.
- 4.2 The Contractor shall be responsible to determine the location of and to protect from damage any utilities or other improvements.

5. REMOVAL OF RUBBISH

The Contractor shall daily remove all rubbish and accumulated materials due to his/her construction.

6. BRICK SIDEWALK OR PAVEMENT REMOVAL

When brick is removed from City of Kalamazoo sidewalk or pavement it shall be salvaged, unless otherwise stated in the contract. Brick to be salvaged shall be placed within the right-of-way (ROW) for pickup by the City. Brick shall not be placed or stored on any pavement, sidewalk, bike, or pedestrian areas but in ROW green space only; salvaged brick shall not be placed on private property without written approval given by the owner.

7. REMOVAL OF PERMANENT TRAFFIC SIGNS AND POSTS

The Contractor shall notify the Project Manager five (5) working days in advance of the time permanent signs must be removed to accommodate the construction. The Contractor shall remove and salvage any permanent signs that must be removed for construction.

8. PERMANENT TRAFFIC SIGN STAKING

The City shall stake the field locations for the new permanent traffic signs that the Contractor shall install under this contract. The Contractor shall call MISS DIG to arrange for staking prior to sign installation.

9. LAWN SPRINKLER SYSTEMS

- 9.1 Owners of known lawn sprinkler systems shall be notified by the contractor a minimum of 72 hours in advance of any work to be done that will affect those systems. Modifications to the systems are the responsibility of the owners and are not a part of this contract.
- 9.2 Owners of lawn sprinkler systems that were unknown to the contractor at the beginning of work and uncovered during the work for this contract, shall be notified as soon as possible and no later than 24 hours after discovery of the system. The Contractor shall coordinate with the owner for placement outside the immediate work area until modifications can take place. Modifications to the systems are the responsibility of the owners and are not a part of this contract.

10. SALVAGING DRAINAGE STRUCTURE COVERS

The City of Kalamazoo reserves the right to salvage any drainage structure covers or portions thereof which are to be removed as a result of work done under this contract. Any covers which are to be salvaged will be identified by the City. The contractor will set those items identified aside for pick up by City personnel.

11. REMOVING AND REPLACING CURB AND GUTTER

When the contract provides for streets to be milled and resurfaced, or when the existing base course is to remain in place, and replacement of curb and gutter is called for, milling or other surface removal operations will not take place until placement of the new curb and gutter, and adjacent concrete base course has been completed.

12. DRAINAGE INLET COVERS (K COVERS)

In compliance with the Clean Water Act, all inlet covers must have on their backs reminders against dumping waste into the drains.

13. FLY ASH USE IN CONCRETE ITEMS

The use of fly ash, as described in Section 901.07 of the MDOT Standard Specifications for Construction, shall not be allowed.

14. EXISTING WATER MAINS

The Contractor will be responsible for any damage to the existing water mains during the work required under this contract. This includes but is not limited to the construction of the proposed storm sewers, catch basins, leaching basins, leaching trenches, subgrade under drains, subgrade undercutting, full depth repairs, or other miscellaneous work.

15. GRADE INTERSECTIONS

All intersections are to be considered as complete units and their grades determined before construction is started.

16. UNDERGROUND UTILITIES

For protection of underground utilities, the Contractor shall dial Miss Dig at 1-800-482-7171 a minimum of 72 hours prior to excavating in the vicinity of utility lines. All “Miss Dig” participating members will thus be routinely notified. This does not relieve the Contractor of notifying utility owners who may not be part of the “Miss Dig” alert system.

17. ADJUSTING MONUMENT BOXES

It is the intent that all government corners on this project be preserved and that, where necessary, monument boxes be placed or adjusted whether shown or not.

18. PAVEMENT REMOVAL QUANTITIES

Pavement removal as called for in this proposal shall be at the discretion of the Project Manager. If, in his/her judgment, areas of pavement may be left in place or additional area added to provide the proper cross-section and base, adjustments can be made in the quantities.

19. COLD MILLING

In those locations where cold milling is called for and the existing curb is to remain in place, the cold milling item shall cover removal of all asphalt up to the face of the curb. Any materials which are left due to the inability of the cold milling machine to work immediately adjacent to the face of the curb will be removed to the depth indicated on the typical cross-section by other means approved by the Project Manager. Any extra work involved in removing said HMA material shall be considered incidental to the item of Cold Milling HMA Surface.

20. SITE SECURITY

The Contractor shall be responsible for job site security of all materials and tools provided by him/her and no claim for loss or damage will be considered by the City.

21. SITE ACCESS

The City will provide fair and reasonable access to the job site within the working schedules of both parties.

22. MATERIALS INSPECTION AND RESPONSIBILITY

- 22.1 The Project Manager shall have the right to inspect any materials to be used in carrying out the terms of the contract.
- 22.2 The City does not assume any responsibility for the contracted quality and standard of all materials, equipment, components or completed work furnished under this contract.
- 22.3 Any materials, equipment, components or completed work which does not comply with contract specifications, MDOT, or state codes may be rejected by the City, and shall be replaced by the Contractor at no cost to the City.
- 22.4 Any materials, equipment or components rejected shall be removed within a reasonable period of time from the premises of the City at the entire expense of the Contractor after written notice has been mailed by the City to the Contractor that such materials, equipment or components have been rejected.

23. GUARANTEE

The Contractor shall guarantee all of his/her work for a period of one (1) year following the date of final acceptance of the completed work and shall repair, replace or make good any materials or work which fail to function or perform or be found defective, without cost to the city.

24. SAFETY

The Contractor shall comply with all applicable OSHA and MIOSHA regulations.

25. SPECIFICATIONS FOR CONSTRUCTION

The items of work in this contract shall conform to the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction, MDOT Supplemental Specifications, and/or the City of Kalamazoo Standard Specifications unless superseded by a Special Provision contained in this document.

26. QUANTITIES

The quantities shown on the Bid and Award pages are approximate only and may be subject to increase or decrease. No guarantee of maximum or minimum is given.

27. PRICE

The unit price, including its pro rata share of overhead, multiplied by the quantity shown shall represent the total bid and shall be held firm for the life of this contract. Any bid not conforming to this requirement may be rejected as non-responsive. Special attention of all bidders is called to this provision since if conditions make it necessary to revise the quantities, no limit will be fixed for such increased or decreased quantities, nor extra compensation allowed; provided the net monetary value of all such additive and subtractive changes in quantities of such items of work, i.e., difference in cost, shall not increase or decrease the original contract price by more than

twenty five (25) percent. Some items of work might be increased beyond the 25% limitations as spelled out previously, upon mutual agreement.

28. BASIS FOR PAYMENT

Payment shall be based on the bid unit price for each work item and the approved constructed quantity for that work item. Due to potential differences in conditions between the plans and the field, final as built quantities may be different than contained in the bid document. The City does not guarantee quantities and will pay only for "as built" quantities approved by the Project Manager or his representative. Quantities in excess of those approved shall be at the Contractor's own expense, the City will not be responsible for excess quantities not approved. Should an item of work have to be redone, such as replacing new walk because the Contractor failed to adequately protect the wet concrete from rain or pedestrian or vehicular damage, such work shall be replaced at the Contractor's expense. Should changes in design result in the Project Manager directing the removal and reinstallation of already completed work prior to final completion and acceptance of the project, such removal and installation shall be paid for based on as-bid unit prices and the quantities removed and installed.

29. PAY ESTIMATES

The Contractor shall be responsible for the generation of invoices for payment. Payment will be generated by the City based upon an approved invoice. Frequency of payment shall be monthly unless agreed to otherwise by the Project Manager, with the invoiced period ending on the last day of the month. However, if a different frequency is approved by the Project Manager, it shall not exceed bi-weekly invoicing.

30. PAYMENT TO CONTRACTOR

The Project Manager will be responsible for approving all measured quantities of work. Once measured quantities are approved, the Contractor shall submit a pay invoice to the City of Kalamazoo Attn: Accounts Payable at 241 West South Street, Kalamazoo MI, 49007 or apinvoice@kalamazoocity.org. The contractor is required to meet with the Project Manager to verify final constructed quantities within 60 days of project completion. In the event of a disagreement the Project Manager's measured quantities shall be considered final.

31. INSPECTION OF WORK

The City may maintain inspectors on the job who shall, at all times, have access to work.

32. INSPECTION OF SITE

Each bidder shall visit the site of the proposed work and fully acquaint himself/herself with the existing conditions relating to construction, labor, and shall fully inform himself/herself as to the facilities involved and the difficulties and restrictions attending the performance of this contract. The bidder shall thoroughly examine and become familiar with the drawings, specifications, and all other bid/contract documents. The Contractor, by the execution of this contract, shall in no way be relieved of any obligation under it due to his failure to receive or examine any form or legal instrument, or to visit the site and acquaint himself/herself with the conditions there existing. No allowance shall be made subsequently in this connection on behalf of the Contractor for any negligence of his/her part.

33. LAYING OUT OF WORK

Before submitting a bid, the Contractor shall verify all measurements and shall be responsible for the correctness of same. No extra charge or compensation will be allowed on account of differences between actual dimensions and the measurements indicated on the drawings. Any difference that may be found shall be submitted to the City Engineer for consideration before proceeding.

34. SUPERVISION

The Contractor shall employ an experienced superintendent or foreperson on the job at all times.

35. TARDINESS

Construction delays resulting from tardiness on the part of the Contractor will be reviewed by the City in the event of any request for contract extension by the Contractor.

36. ADDITIONS

Any modification to the contract shall be subject to prior approval by the Purchasing Agent. City Commission approval may also be required.

Prices for additional work required are not requested in the itemized listing contained herein for the base project. Should additional work be authorized, compensation shall be made on the basis of price or prices to be mutually agreed upon. Such additional work shall not begin until a Change Order has been approved.

37. INSPECTION AND TESTING

The Contractor shall give the Project Manager timely notice of readiness of the work for all required inspections, tests or approvals, and shall cooperate with inspections and testing personnel to facilitate required inspections or tests.

SECTION VII TERMS AND CONDITIONS

1. AWARD OF CONTRACT

- 1.1 This contract will be awarded to that responsible bidder whose bid, conforming to this solicitation, will be most advantageous to the City, price and other factors considered. The City reserves the right to accept or reject any or all bids and waive informalities and minor irregularities in bids received. Other factors include, as an example but not limited to, delivery time, conformance to specifications, incidental costs such as demurrage and deposits, etc.
- 1.2 Notification of award will be in writing by the Purchasing Manager. Upon notification, the Contractor shall submit to the Purchasing Division all required insurance certificates (if required) and such other documentation as may be requested or required hereunder. Upon their receipt and subsequent approval by the City, the Purchasing Manager will forward to the Contractor a written NOTICE TO PROCEED. Work shall NOT be started until such NOTICE TO PROCEED is received by the Contractor.
- 1.3 Unilateral changes in bid prices by the bidder shall not be allowed. However, the City, at its sole option, reserves the right to negotiate with bidders in the event of, but not limited to:
 - 1) No bids received;
 - 2) A single bid being received; or
 - 3) Prices quoted are over budget and/or unreasonable.

2. COMPLETE CONTRACT

This bid document together with its addenda, amendments, attachments and modifications, when executed, becomes the complete contract between the parties hereto, and no verbal or oral promises or representations made in conjunction with the negotiation of this contract shall be binding on either party.

3. SUBCONTRACTORS – NON-ASSIGNMENT

- 3.1 Bidders shall state in writing any and all sub-contractors to be associated with this bid, including the type of work to be performed. The Contractor shall cooperate with the City of Kalamazoo in meeting its commitments and goals with regard to maximum utilization of minority and women-owned business enterprises.
- 3.2 The Contractor hereby agrees and understands that the contract resulting from this solicitation shall not be transferred, assigned or sublet without prior written consent of the City of Kalamazoo.

4. TAXES

The City of Kalamazoo is exempt from all federal excise tax and state sales and use taxes.

5. INVOICING

All original invoice(s) will be sent to the Financial Services Division, 241 W. South Street, Kalamazoo, MI 49007 or via email at apinvoice@kalamazoo-city.org. The Finance Division processes payments after receipt of an original invoice from the Contractor and approval by the department. The City of Kalamazoo's policy is to pay invoice(s) within 30 days from the receipt of the original invoice, if the services or supplies are satisfactory and the proper paperwork and procedures have been followed. **In order to guarantee payment to the vendor on a timely basis, the vendor needs to receive a purchase order number before supplying the City of Kalamazoo with goods or services.** All original, and copies of original invoice(s), will clearly state which purchase order they are being billed against.

The City of Kalamazoo is a government municipality and therefore is tax exempt from all sales tax.

The vendor is responsible for supplying the Finance Division with a copy of their W9 if they are providing a service to the City of Kalamazoo.

6. PAYMENTS

- 6.1 Upon issuance of certificates of Payment by the Architect/Engineer for labor and material incorporated in the work and the materials suitably stored at the site payment shall be made up to ninety (90%) percent of the value thereof.
- 6.2 When the cumulative total of payment is equal to fifty (50%) percent of the contract sum, subsequent payments will be made in the full amount for labor and material certified by the Architect/Engineer.
- 6.3 The amount retained shall be held until final acceptance of the work, receipt of all payrolls, releases, and waiver of liens.

7. CHANGES AND/OR CONTRACT MODIFICATIONS

- 7.1 The City reserves the right to increase or decrease quantities, service or requirements, or make any changes necessary at any time during the term of this contract, or any negotiated extension thereof. Price adjustments due to any of the foregoing changes shall be negotiated and mutually agreed upon by the Contractor and the City.
- 7.2 Changes of any nature after contract award which reflect an increase or decrease in requirements or costs shall not be permitted without prior approval by the Purchasing Agent. City Commission approval may also be required.
- 7.3 ANY CHANGES PERFORMED IN ADVANCE OF PURCHASING AGENT APPROVAL, MAY BE SUBJECT TO DENIAL AND NON-PAYMENT.

8. LAWS, ORDINANCES, AND REGULATIONS

- 8.1 The Contractor shall keep himself/herself fully informed of all local, state and federal laws, ordinances and regulations in any manner affecting those engaged or employed in the work and the equipment used. Contractor and/or employees shall, at all times, serve and comply with such laws, ordinances and regulations.
- 8.2 Any permits, licenses, certificates, or fees required for the performance of the work shall be obtained and paid for by the Contractor.
- 8.3 This contract shall be governed by the laws of the State of Michigan.

9. RIGHT TO AUDIT

The City or its designee shall be entitled to audit all of the Contractor's records, and shall be allowed to interview any of the Contractor's employees, throughout the term of this contract and for a period of three years after final payment or longer if required by law to the extent necessary to adequately permit evaluation and verification of:

- A. Contractor compliance with contract requirements,
- B. Compliance with provisions for pricing change orders, invoices or claims submitted by the Contractor or any of his payees.

10. HOLD HARMLESS

If the negligent acts or omissions of the Contractor/Vendor or its employees, agents or officers, cause injury to person or property, the Contractor/Vendor shall indemnify and save harmless the City of Kalamazoo, its agents, officials, and employees against all claims, judgments, losses, damages, demands, and payments of any kind to persons or property to the extent occasioned from any claim or demand arising therefrom.

11. DEFAULT

The City may at any time, by written notice to the Contractor, terminate this contract and the Contractor's right to proceed with the work, for just cause, which shall include, but is not limited to the following:

- A. Failure to provide insurance and bonds (when called for), in the exact amounts and within the time specified or any extension thereof.
- B. Failure to make delivery of the supplies, or to perform the services within the time specified herein, or any extension thereof.
- C. The unauthorized substitution of articles for those bid and specified.
- D. Failure to make progress if such failure endangers performance of the contract in accordance with its terms.
- E. Failure to perform in compliance with any provision of the contract.
- F. Standard of Performance
 - a. Contractor guarantees the performance of the commodities, goods or services rendered herein in accordance with the accepted standards of the industry or industries concerned herein, except that if this specification calls for higher standards, then such higher standards shall be provided.
 - b. Upon notice by the City of Contractor's failure to comply with such standards or to otherwise be in default of this contract in any manner following the Notice to Proceed, Contractor shall immediately remedy said defective performance in a manner acceptable to the City. Should Contractor fail to immediately correct said defective performance, said failure shall be considered a breach of this contract and grounds for termination of the same by the City.
 - c. In the event of any breach of this contract by Contractor, Contractor shall pay any cost to the City caused by said breach including but not limited to the replacement cost of such goods or services with another Contractor.
 - d. The City reserves the right to withhold any or all payments until any defects in performance have been satisfactorily corrected.
 - e. In the event the Contractor is in breach of this contract in any manner, and such breach has not been satisfactorily corrected, the City may bar the Contractor from being awarded any future City contracts.

- G. All remedies available to the City herein are cumulative and the election of one remedy by the City shall not be a waiver of any other remedy available to the City.

12. TERMINATION OF CONTRACT

The City may, at any time and without cause, suspend the work of this contract for a period of not more than ninety days after providing notice in writing to the Contractor. The Contractor shall be allowed an adjustment in the contract price or an extension of the contract times, or both, directly attributable to the suspension if Contractor makes an approved claim.

The City may, without prejudice to any other right or remedy of the City, and with or without cause, terminate the contract by giving seven days written notice to the Contractor. In such case the Contractor shall be paid, without duplication, for the following items:

- A. Completed and acceptable work executed in accordance with the contract documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such work;
- B. Expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials or equipment as required by the contract documents in connection with uncompleted work, plus fair and reasonable sums for overhead and profit on such expenses;
- C. All documented claims, costs, losses and damages incurred in settlement of terminated contracts with Subcontractors, Suppliers and others; and
- D. Reasonable expenses directly attributable to termination.

The Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

13. INDEPENDENT CONTRACTOR

At all times, the Contractor, any of his/her employees, or his/her sub-contractors and their subsequent employees shall be considered independent contractors and not as City employees. The Contractor shall exercise all supervisory control and general control over all workers' duties, payment of wages to Contractor's employees and the right to hire, fire and discipline their employees and workers. As an independent contractor, payment under this contract shall not be subject to any withholding for tax, social security or other purposes, nor shall the Contractor or his/her employees be entitled to sick leave, pension benefit, vacation, medical benefits, life insurance or workers' unemployment compensation or the like.

14. PROJECT SUPERVISOR

The Contractor shall employ an individual to act as Project Supervisor. The Project Supervisor shall be available to the Contractor's workers and the Project Manager at all times by use of a mobile phone or other reliable means. The Project Supervisor shall prepare daily work plans for the employees, monitor employee performance, attendance and punctuality; and work closely with the City's Project Manager in assuring contract compliance.

15. MEETINGS

The Contractor and/or Project Supervisor shall be available to meet with the Department Head or Project Manager at a mutually agreeable time to discuss problems, issues or concerns relative to the contract. Either party may call a meeting at any time. When such a request for a meeting is made, the meeting date shall, in no case exceed five (5) working days after the request; and, if in the sole opinion of the Department Head, the severity of the circumstance warrants, no more than one (1) working day.

16. INSPECTION OF WORKSITE

Before submitting bids or quotes for work, the Contractor shall be responsible for examining the work site and satisfying himself/herself as to the existing conditions under which he/she will be obligated to operate, or that in any way affects the work under this contract. No allowance shall be made subsequently, in behalf of the Contractor, for any negligence on his/her part.

17. CONTRACT PERIOD, EXTENSIONS, CANCELLATION

- 17.1 The contract shall be in effect for the term stated in the specifications.
- 17.2 The City may opt to extend this contract upon mutual agreement of both parties. The number of extensions shall be limited to that stated in the specifications.
- 17.3 The City may, from time to time, find it necessary to continue this contract on a month-to-month basis only, not to exceed a six (6) month period. Such month-to-month extended periods shall be by mutual agreement of both parties, with all provisions of the original contract or any extension thereof remaining in full force and effect.
- 17.4 All contracts, extensions and cost increases are subject to availability of funds and the approval of the City Commission (if required).
- 17.5 The City reserves the right to cancel the contract due to non-appropriation of funds by the City with thirty (30) days written notice.
- 17.6 Either party may terminate the contract (or any extension thereof) without cause at the end of any twelve (12) month term by giving written notice of such intent at least 60 days prior to the end of said twelve (12) month term.
- 17.7 All notices are in effect commencing with the date of mailing. Written notices may be delivered in person or sent by First Class mail; faxed or emailed to the last known address.
- 17.8 If cancellation is for default of contract due to non-performance, the contract may be canceled at any time (see Item 11, DEFAULT).

APPENDIX A NON-DISCRIMINATION CLAUSE FOR ALL CITY OF KALAMAZOO CONTRACTS

The Contractor agrees to comply with the Federal Civil Rights Act of 1964 as amended; the Federal Civil Rights Act of 1991 as amended; the Americans With Disabilities Act of 1990 as amended; the Elliott-Larson Civil Rights Act, Act. No. 453, Public Act of 1976 as amended; the Michigan Handicappers Civil Rights Act, Act No. 220, Public Act of 1976 as amended, City Ordinance 1856 and all other applicable Federal and State laws. The Contractor agrees as follows:

1. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, national origin, sex, age, height, weight, marital status, physical or mental disability, family status, sexual orientation or gender identity that is unrelated to the individual's ability to perform the duties of the particular job or position. Such action shall include, but not be limited to the following: employment, upgrading, demotion or transfer, recruitment advertising, layoff or termination; rates of pay or other forms of compensations; and selection for training, including apprenticeship.
2. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, national origin, sex, age, height, weight, marital status, physical or mental disability family status, sexual orientation or gender identity that is unrelated to the individual's ability to perform the duties of the particular job or position.
3. If requested by the City, the Contractor shall furnish information regarding practices, policies and programs and employment statistics for the Contractor and subcontractors. The Contractor and subcontractors shall permit access to all books, records and accounts regarding employment practices by agents and representatives of the City duly charged with investigative duties to assure compliance with this clause.
4. Breach of the covenants herein may be regarded as a material breach of the contract or purchasing agreement as provided in the Elliott-Larsen Civil Rights Act and City Ordinance 1856.
5. The Contractor will include or incorporate by reference the provisions of the foregoing paragraphs 1 through 4 in every subcontract or purchase order unless exempted by the rules, regulations or orders of the Michigan Civil Rights Commission* and will provide in every subcontract or purchase order that said provision will be binding upon each subcontractor or seller.
6. The Contractor will not preclude a person with a criminal conviction from being considered for employment unless otherwise precluded by federal or state law. (for contracts over \$25,000)

The Elliott-Larson Civil Rights Act, Sec. 202 of Act. No. 453 of 1976 reads in part as follows:

Sec. 202. (1) An employer shall not:

- (a) Fail or refuse to hire, or recruit, or discharge or otherwise discriminate against an individual with respect to employment, compensation, or a term condition or privilege of employment because of religion, race, color, national origin, age, sex, height, weight or marital status.
- (b) Limit, segregate or classify an employee or applicant for employment in a way which deprives or tends to deprive the employee or applicant of an employment opportunity or otherwise adversely affects the status of an employee or applicant because of religion, race, color, national origin, age, sex, height, weight or marital status.
- (c) Segregate, classify or otherwise discriminate against a person on the basis of sex with respect to a term, condition or privilege of employment, including a benefit plan or system.

* Except for contracts entered into with parties employing less than three employees.
1-2010

**APPENDIX B
ADDITIONAL INFORMATION**



**THE CITY OF KALAMAZOO
DEPARTMENT OF PUBLIC SERVICES
ENGINEERING DIVISION**

***2022 Fall Tree Planting Locations
Planting Species
Tree Ordinance***

2022 FALL TREE PLANTING

Bid Reference #: 59575-034.0

2022 FALL TREE PLANTING LOCATIONS

Size	Address	Street	Side	On Street	Latitude	Longitude
Small	504	Bank Street	Front	Bank Street	42.27522424	-85.57457561
Small	504	Bank Street	Front	Bank Street	42.27529335	-85.57457561
Small	1522	Bank Street	Front	Bank Street	42.27577538	-85.57473916
Small	1608	Bank Street	Front	Bank Street	42.27516249	-85.57474221
Small	503	Bank Street	Side	Clinton Avenue	42.27554343	-85.57444478
Small	511	Clinton Avenue	Front	Clinton Avenue	42.27554465	-85.57403778
Small	1021	Donnington Terrace	Front	Donnington Terrace	42.30138558	-85.64693994
Small	2132	Dorchester Avenue	Front	Dorchester Avenue	42.24904525	-85.55228454
Small	2132	Dorchester Avenue	Front	Dorchester Avenue	42.24904472	-85.55221039
Small	809	Dwight Avenue	Front	Dwight Avenue	42.29949944	-85.56276607
Small	1009	East Stockbridge Avenue	Front	East Stockbridge Avenue	42.2775278	-85.56714244
Small	1009	East Stockbridge Avenue	Front	East Stockbridge Avenue	42.27752515	-85.56673296
Small	1206	East Vine Street	Front	East Vine Street	42.283899	-85.56506532
Small	1207	East Vine Street	Front	East Vine Street	42.28404111	-85.56503434
Small	1210	East Vine Street	Front	East Vine Street	42.2838999	-85.56496242
Small	1213	East Vine Street	Front	East Vine Street	42.28403678	-85.56488928
Small	1202	Skinner Drive	Side	East Vine Street	42.28390119	-85.56529878
Small	1202	Skinner Drive	Side	East Vine Street	42.2839033	-85.56553123
Small	1202	Skinner Drive	Side	East Vine Street	42.2839008	-85.56541798
Small	1203	Skinner Drive	Side	East Vine Street	42.28403847	-85.56514843
Small	1012	Egleston Avenue	Median	Egleston Avenue	42.27646024	-85.56729412
Small	620	Fair Street	Front	Fair Street	42.27622975	-85.57264947
Small	620	Fair Street	Front	Fair Street	42.27531625	-85.57265812
Small	1802	Fulford Street	Front	Fulford Street	42.27309766	-85.55793439
Small	1802	Fulford Street	Front	Fulford Street	42.27317812	-85.55793962
Small	1802	Fulford Street	Front	Fulford Street	42.27326166	-85.55794112
Small	1802	Fulford Street	Front	Fulford Street	42.27332849	-85.55794413
Small	1802	Fulford Street	Front	Fulford Street	42.27341314	-85.55793661
Small	1802	Fulford Street	Front	Fulford Street	42.27349668	-85.55795316
Small	1802	Fulford Street	Front	Fulford Street	42.27357576	-85.55795166
Small	1407	Fulton Street	Front	Fulton Street	42.26905114	-85.5623705
Small	818	Hazard Avenue	Front	Hazard Avenue	42.29978317	-85.55865596
Small	627	Dwight Avenue	Side	Hotop Avenue	42.29822059	-85.56289686
Small	1032	Hotop Avenue	Front	Hotop Avenue	42.29820402	-85.5674693
Small	1038	Hotop Avenue	Front	Hotop Avenue	42.29820817	-85.56698878
Small	1106	Hotop Avenue	Front	Hotop Avenue	42.29820585	-85.5667169
Small	1114	Hotop Avenue	Front	Hotop Avenue	42.29820898	-85.56639004
Small	1206	Hotop Avenue	Front	Hotop Avenue	42.29821321	-85.56497064
Small	1206	Hotop Avenue	Front	Hotop Avenue	42.29821425	-85.56505696
Small	1206	Hotop Avenue	Front	Hotop Avenue	42.29821452	-85.56513318
Small	1216	Hotop Avenue	Front	Hotop Avenue	42.298212	-85.5646968
Small	3301	Howland Avenue	Front	Howland Avenue	42.258599	-85.56508193
Small	3301	Howland Avenue	Front	Howland Avenue	42.258599	-85.56499993
Small	3301	Howland Avenue	Front	Howland Avenue	42.258598	-85.56492507
Small	3301	Howland Avenue	Front	Howland Avenue	42.258599	-85.56481383
Small	727	Lynn Avenue	Front	Lynn Avenue	42.25589574	-85.593076
Small	734	Lynn Avenue	Front	Lynn Avenue	42.25600076	-85.59326994
Small	822	Lynn Avenue	Front	Lynn Avenue	42.25588835	-85.59538338
Small	902	Lynn Avenue	Front	Lynn Avenue	42.25585668	-85.59581049
Small	906	Lynn Avenue	Front	Lynn Avenue	42.25584982	-85.59597663
Small	920	Lynn Avenue	Front	Lynn Avenue	42.25584982	-85.5964836
Small	920	Lynn Avenue	Front	Lynn Avenue	42.25584877	-85.59636809
Small	1002	Lynn Avenue	Front	Lynn Avenue	42.25585616	-85.59688362

2022 FALL TREE PLANTING LOCATIONS

Size	Address	Street	Side	On Street	Latitude	Longitude
Small	1007	Lynn Avenue	Front	Lynn Avenue	42.25574163	-85.59736206
Small	1008	Lynn Avenue	Front	Lynn Avenue	42.25585141	-85.59716099
Small	1028	Lynn Avenue	Front	Lynn Avenue	42.25586249	-85.59808865
Small	503	Marketplace Boulevard	Front	Marketplace Boulevard	42.27873667	-85.5743124
Small	509	Marketplace Boulevard	Front	Marketplace Boulevard	42.27873451	-85.57408844
Small	510	Marketplace Boulevard	Front	Marketplace Boulevard	42.27855861	-85.57401735
Small	517	Marketplace Boulevard	Side	Marketplace Boulevard	42.2787324	-85.57392515
Small	517	Marketplace Boulevard	Front	Marketplace Boulevard	42.27873398	-85.57400572
Small	518	Marketplace Boulevard	Front	Marketplace Boulevard	42.27855913	-85.57391039
Small	525	Marketplace Boulevard	Front	Marketplace Boulevard	42.27873373	-85.5735564
Small	526	Marketplace Boulevard	Front	Marketplace Boulevard	42.27855747	-85.57351218
Small	603	Marketplace Boulevard	Front	Marketplace Boulevard	42.2787318	-85.57334039
Small	604	Marketplace Boulevard	Front	Marketplace Boulevard	42.27855736	-85.57322127
Small	604	Marketplace Boulevard	Front	Marketplace Boulevard	42.27855631	-85.57330185
Small	611	Marketplace Boulevard	Front	Marketplace Boulevard	42.2787318	-85.5731771
Small	611	Marketplace Boulevard	Front	Marketplace Boulevard	42.27873233	-85.57325981
Small	612	Marketplace Boulevard	Front	Marketplace Boulevard	42.27855653	-85.57313562
Small	617	Marketplace Boulevard	Front	Marketplace Boulevard	42.2788503	-85.57270033
Small	617	Marketplace Boulevard	Front	Marketplace Boulevard	42.27881316	-85.57276349
Small	617	Marketplace Boulevard	Front	Marketplace Boulevard	42.27877838	-85.57284198
Small	617	Marketplace Boulevard	Front	Marketplace Boulevard	42.27875517	-85.57292398
Small	1009	East Stockbridge Avenue	Front	Mills Street	42.27777256	-85.56664355
Small	1104	Mills Street	Front	Mills Street	42.27850816	-85.56647189
Small	1116	Mills Street	Front	Mills Street	42.28044007	-85.56670399
Small	1122	Mills Street	Front	Mills Street	42.28028385	-85.5667009
Small	1315	Mills Street	Front	Mills Street	42.27824091	-85.56646831
Small	1319	Mills Street	Front	Mills Street	42.27812316	-85.56645937
Small	1329	Mills Street	Front	Mills Street	42.27781093	-85.56647368
Small	159	Outlook Street	Side	Millview Avenue	42.26799428	-85.58390627
Small	159	Outlook Street	Side	Millview Avenue	42.26799376	-85.58399112
Small	609	Northampton Road	Front	Northampton Road	42.29702832	-85.64046495
Small	609	Northampton Road	Front	Northampton Road	42.29695818	-85.64046709
Small	609	Northampton Road	Front	Northampton Road	42.29687168	-85.64047065
Small	4130	Northampton Road	Front	Northampton Road	42.29806837	-85.64046067
Small	4200	Northampton Road	Front	Northampton Road	42.29680523	-85.64046851
Small	4200	Northampton Road	Front	Northampton Road	42.29672823	-85.64047279
Small	2509	Outlook Street	Front	Outlook Street	42.26565051	-85.58356852
Small	2513	Outlook Street	Front	Outlook Street	42.26549822	-85.58356879
Small	333	East Alcott Street	Rear	Reed Avenue	42.27406671	-85.57545402
Small	333	East Alcott Street	Rear	Reed Avenue	42.27406671	-85.57554101
Small	333	East Alcott Street	Rear	Reed Avenue	42.27406776	-85.57562158
Small	333	East Alcott Street	Rear	Reed Avenue	42.27406829	-85.57570002
Small	333	East Alcott Street	Rear	Reed Avenue	42.2740677	-85.5758021
Small	333	East Alcott Street	Rear	Reed Avenue	42.27407034	-85.57588481
Small	333	East Alcott Street	Rear	Reed Avenue	42.27406981	-85.57595968
Small	333	East Alcott Street	Rear	Reed Avenue	42.27407109	-85.57612019
Small	333	East Alcott Street	Rear	Reed Avenue	42.27407087	-85.57604525
Small	333	East Alcott Street	Rear	Reed Avenue	42.2740714	-85.57622065
Small	333	East Alcott Street	Rear	Reed Avenue	42.27407104	-85.57632127
Small	333	East Alcott Street	Rear	Reed Avenue	42.27407104	-85.57641254
Small	429	Reed Avenue	Front	Reed Avenue	42.27419752	-85.57706435
Small	429	Reed Avenue	Front	Reed Avenue	42.27419699	-85.57698235
Small	502	Reed Avenue	Front	Reed Avenue	42.27406529	-85.57468643

2022 FALL TREE PLANTING LOCATIONS

Size	Address	Street	Side	On Street	Latitude	Longitude
Small	433	Reed Court	Side	Reed Avenue	42.27419667	-85.57667152
Small	153	South Prarie Avenue	Front	South Prarie Avenue	42.29373077	-85.60825254
Small	159	West Main Street	Side	South Prarie Avenue	42.29382782	-85.6082504
Small	2505	South Rose Street	Front	South Rose Street	42.26575098	-85.58468688
Small	2509	South Rose Street	Front	South Rose Street	42.26561494	-85.58467722
Small	2513	South Rose Street	Front	South Rose Street	42.26556164	-85.58467865
Small	2513	South Rose Street	Front	South Rose Street	42.26551204	-85.58467865
Small	917	Southworth Terrace	Front	Southworth Terrace	42.30066385	-85.56012982
Small	921	Southworth Terrace	Front	Southworth Terrace	42.30073505	-85.56013196
Small	939	Southworth Terrace	Front	Southworth Terrace	42.30118862	-85.5601366
Small	3538	Bronson Blvd	Front	Bronson Blvd	42.25564123	-85.60168624
Small	3538	Bronson Blvd	Front	Bronson Blvd	42.25569928	-85.60169052
Small	3538	Bronson Blvd	Front	Bronson Blvd	42.25552301	-85.60168767
Small	3616	Bronson Blvd	Front	Bronson Blvd	42.25546285	-85.60168838
Small	3628	Bronson Blvd	Front	Bronson Blvd	42.25486173	-85.60168767
Small	3646	Bronson Blvd	Front	Bronson Blvd	42.25479892	-85.60168838
Small	3690	Bronson Blvd	Front	Bronson Blvd	42.25468493	-85.60168624
Small	3690	Bronson Blvd	Front	Bronson Blvd	42.25473876	-85.60168553
Small	3704	Bronson Blvd	Front	Bronson Blvd	42.25453821	-85.60169052
Small	3712	Bronson Blvd	Front	Bronson Blvd	42.25429385	-85.60169123
Small	3712	Bronson Blvd	Front	Bronson Blvd	42.2543498	-85.60169195
Small	3712	Bronson Blvd	Front	Bronson Blvd	42.25441049	-85.60168696
Small	3712	Bronson Blvd	Front	Bronson Blvd	42.25447277	-85.60168696
Small	3728	Bronson Blvd	Front	Bronson Blvd	42.25391703	-85.6016841
Small	3804	Bronson Blvd	Front	Bronson Blvd	42.25366845	-85.60168339
Small	3804	Bronson Blvd	Front	Bronson Blvd	42.25371911	-85.60168482
Small	3804	Bronson Blvd	Front	Bronson Blvd	42.25361514	-85.60168624
Small	4012	Canterbury Ave	Front	Canterbury Ave	42.30034986	-85.63913513
Small	4104	Canterbury Ave	Front	Canterbury Ave	42.30035777	-85.63970414
Small	4104	Canterbury Ave	Front	Canterbury Ave	42.30035619	-85.63982393
Small	4602	Canterbury Ave	Front	Canterbury Ave	42.30023273	-85.6459752
Small	2427	Carlyle Dr	Front	Carlyle Dr	42.26618503	-85.61767482
Small	2427	Carlyle Dr	Front	Carlyle Dr	42.26630801	-85.61767332
Small	1607	Center St	Front	Center St	42.30146113	-85.55987332
Small	1607	Center St	Front	Center St	42.30146323	-85.55977563
Small	1607	Center St	Front	Center St	42.30146352	-85.55954282
Small	1615	Center St	Front	Center St	42.30146691	-85.55944433
Small	535	Cobb Ave	Side	W Paterson St	42.30335005	-85.59137696
Small	535	Cobb Ave	Side	W Paterson St	42.30334794	-85.59207716
Small	535	Cobb Ave	Side	W Paterson St	42.30334742	-85.59216344
Small	535	Cobb Ave	Side	W Paterson St	42.30334742	-85.59224116
Small	535	Cobb Ave	Side	William St	42.30256745	-85.59435341
Small	535	Cobb Ave	Side	William St	42.3025685	-85.59425929
Small	535	Cobb Ave	Front	Cobb Ave	42.30279278	-85.5947845
Small	535	Cobb Ave	Front	Cobb Ave	42.30302008	-85.59478949
Small	535	Cobb Ave	Front	Cobb Ave	42.30311025	-85.59479948
Small	535	Cobb Ave	Front	Cobb Ave	42.30270841	-85.5947788
Small	535	Cobb Ave	Side	William St	42.30256745	-85.59435341
Small	535	Cobb Ave	Side	William St	42.3025685	-85.59425929
Small	535	Cobb Ave	Side	William St	42.30256956	-85.59417444
Small	535	Cobb Ave	Side	William St	42.30257114	-85.5937459
Small	535	Cobb Ave	Side	William St	42.30257378	-85.59315693
Small	535	Cobb Ave	Side	William St	42.30257747	-85.59299222

2022 FALL TREE PLANTING LOCATIONS

Size	Address	Street	Side	On Street	Latitude	Longitude
Small	535	Cobb Ave	Side	William St	42.30257378	-85.59290523
Small	535	Cobb Ave	Side	William St	42.30257114	-85.59280469
Small	535	Cobb Ave	Side	William St	42.30257588	-85.59248454
Small	535	Cobb Ave	Side	William St	42.30257747	-85.59239612
Small	535	Cobb Ave	Side	William St	42.30257641	-85.59231056
Small	828	Davis St	Front	Davis St	42.28317306	-85.59539665
Small	849	Davis St	Side	Grant St	42.28244838	-85.59496558
Small	849	Davis St	Front	Grant St	42.28244838	-85.59504402
Small	922	Dobbin Dr	Front	Dobbin Dr	42.28291001	-85.62954639
Small	922	Dobbin Dr	Front	Dobbin Dr	42.28300528	-85.62963207
Small	927	Dobbin Dr	Front	Dobbin Dr	42.28270141	-85.6292696
Small	945	Dobbin Dr	Front	Dobbin Dr	42.28222876	-85.62925961
Small	1013	Dobbin Dr	Front	Dobbin Dr	42.2814871	-85.62926273
Small	1013	Dobbin Dr	Front	Dobbin Dr	42.28141067	-85.62925986
Small	1023	Dobbin Dr	Front	Dobbin Dr	42.28107451	-85.62926216
Small	1023	Dobbin Dr	Front	Dobbin Dr	42.28099342	-85.62926853
Small	1225	Douglas Ave	Side	W Paterson St	42.30331208	-85.60158266
Small	1225	Douglas Ave	Side	W Paterson St	42.30331103	-85.60166751
Small	1225	Douglas Ave	Side	W Paterson St	42.30330998	-85.60181868
Small	1225	Douglas Ave	Side	W Paterson St	42.30331314	-85.60204186
Small	1225	Douglas Ave	Side	W Paterson St	42.30331789	-85.60018725
Small	1225	Douglas Ave	Side	W Paterson St	42.30331736	-85.60026996
Small	1225	Douglas Ave	Side	W Paterson St	42.30331736	-85.60059938
Small	1225	Douglas Ave	Side	W Paterson St	42.30331894	-85.60076695
Small	1225	Douglas Ave	Side	W Paterson St	42.30331578	-85.60100724
Small	1225	Douglas Ave	Side	W Paterson St	42.30331472	-85.60108995
Small	1225	Douglas Ave	Side	W Paterson St	42.30331419	-85.60117338
Small	1225	Douglas Ave	Side	W Paterson St	42.30331578	-85.60125038
Small	1225	Douglas Ave	Side	W Paterson St	42.30331367	-85.60139299
Small	2427	Fulford Street	Front	Fulford Street	42.26600733	-85.55796067
Medium	917	Lynn Avenue	Front	Lynn Avenue	42.25574058	-85.59659983
Medium	925	Lynn Avenue	Front	Lynn Avenue	42.25573899	-85.59685937
Medium	617	Marketplace Boulevard	Front	Marketplace Boulevard	42.27914675	-85.57248023
Medium	617	Marketplace Boulevard	Front	Marketplace Boulevard	42.27906825	-85.57250358
Medium	620	Marketplace Boulevard	Front	Marketplace Boulevard	42.27875052	-85.57253262
Medium	1113	Mills Street	Front	Mills Street	42.28048045	-85.56652272
Medium	1119	Mills Street	Front	Mills Street	42.28029681	-85.56652066
Medium	1125	Mills Street	Front	Mills Street	42.28010097	-85.5665186
Medium	1135	Mills Street	Front	Mills Street	42.27983579	-85.56650109
Medium	1209	Mills Street	Front	Mills Street	42.27933819	-85.56649285
Medium	1217	Mills Street	Front	Mills Street	42.27910119	-85.56649182
Medium	1217	Mills Street	Front	Mills Street	42.27922388	-85.56648771
Medium	1103	Washington Avenue	Side	Mills Street	42.27899756	-85.56648565
Large	503	Terrace Court	Front	Bank Street	42.27504248	-85.57457879
Large	503	Terrace Court	Front	Bank Street	42.27493274	-85.57457666
Large	503	Bank Street	Front	Bank Street	42.27436413	-85.57458926
Large	1908	Birch Avenue	Front	Birch Avenue	42.32508493	-85.55640183
Large	507	Bryant Street	Front	Bryant Street	42.27175794	-85.57480838
Large	525	Bryant Street	Front	Bryant Street	42.27175487	-85.57411055
Large	531	Bryant Street	Front	Bryant Street	42.27175462	-85.57393028
Large	535	Bryant Street	Front	Bryant Street	42.27175218	-85.57376124
Large	1720	Clinton Avenue	Front	Clinton Avenue	42.27535442	-85.55844231
Large	924	Donnington Terrace	Front	Donnington Terrace	42.3006578	-85.64674172

2022 FALL TREE PLANTING LOCATIONS

Size	Address	Street	Side	On Street	Latitude	Longitude
Large	4610	Donnington Terrace	Front	Donnington Terrace	42.30052331	-85.64672246
Large	1021	Donnington Terrace	Front	Donnington Terrace	42.30158179	-85.64690046
Large	712	Dwight Avenue	Front	Dwight Avenue	42.29867414	-85.56260663
Large	3643	Edinburgh Drive	Front	Edinburgh Drive	42.2847793	-85.63484436
Large	3703	Edinburgh Drive	Front	Egleston Avenue	42.28478574	-85.63523728
Large	704	Clinton Avenue	Side	Fair Street	42.27521294	-85.57248481
Large	704	East Stockbridge Avenue	Side	Fair Street	42.27711545	-85.57247609
Large	1602	Fulford Street	Front	Fulford Street	42.27517908	-85.5581498
Large	1717	Lane Boulevard	Side	Fulford Street	42.272599	-85.55811566
Large	1017	Hotop Avenue	Front	Hotop Avenue	42.29832465	-85.56790507
Large	1316	Knollwood Avenue	Front	Knollwood Avenue	42.278031	-85.6201964
Large	1316	Knollwood Avenue	Front	Knollwood Avenue	42.277951	-85.620242
Large	1016	Lane Boulevard	Median	Lane Boulevard	42.272283	-85.56708582
Large	1019	Lane Boulevard	Median	Lane Boulevard	42.272290	-85.56686906
Large	850	Lay Boulevard	Median	Lay Boulevard	42.273224	-85.56956505
Large	1122	Lay Boulevard	Median	Lay Boulevard	42.273224	-85.56562719
Large	1305	Lay Boulevard	Median	Lay Boulevard	42.273225	-85.56379421
Large	4303	Londonderry Avenue	Front	Londonderry Avenue	42.298605	-85.64225467
Large	710	Winchester Place	Side	Londonderry Avenue	42.29860631	-85.64240655
Large	719	Cobb Avenue	Side	Lulu Street	42.3058871	-85.59459978
Large	710	Lynn Avenue	Front	Lynn Avenue	42.2560092	-85.5924143
Large	718	Lynn Avenue	Front	Lynn Avenue	42.25600445	-85.59256689
Large	726	Lynn Avenue	Front	Lynn Avenue	42.2560092	-85.59307742
Large	740	Lynn Avenue	Front	Lynn Avenue	42.25600393	-85.59359937
Large	823	Lynn Avenue	Front	Lynn Avenue	42.25574163	-85.59550959
Large	829	Lynn Avenue	Front	Lynn Avenue	42.25573161	-85.59579124
Large	1109	Lynn Avenue	Front	Lynn Avenue	42.25574797	-85.59857137
Large	639	Collins Street	Side	Marketplace Boulevard	42.27952178	-85.57246553
Large	510	Marketplace Boulevard	Median	Marketplace Boulevard	42.27864379	-85.57403923
Large	518	Marketplace Boulevard	Median	Marketplace Boulevard	42.27864432	-85.57388592
Large	518	Marketplace Boulevard	Median	Marketplace Boulevard	42.2786459	-85.57373262
Large	604	Marketplace Boulevard	Median	Marketplace Boulevard	42.27864467	-85.57320842
Large	612	Marketplace Boulevard	Median	Marketplace Boulevard	42.27864835	-85.57305576
Large	631	Marketplace Boulevard	Front	Marketplace Boulevard	42.27939464	-85.57246696
Large	631	Marketplace Boulevard	Front	Marketplace Boulevard	42.27923443	-85.57247648
Large	710	Washington Court	Rear	Marketplace Boulevard	42.27965534	-85.57230976
Large	710	Washington Court	Rear	Marketplace Boulevard	42.27953879	-85.57231057
Large	710	Washington Court	Rear	Marketplace Boulevard	42.27942793	-85.57231123
Large	710	Washington Court	Rear	Marketplace Boulevard	42.27931249	-85.57230873
Large	710	Washington Court	Rear	Marketplace Boulevard	42.27919979	-85.57230775
Large	2307	South Rose Street	Side	Millview Avenue	42.26810709	-85.58443825
Large	620	Northampton Road	Front	Northampton Road	42.29715227	-85.64027885
Large	620	Northampton Road	Front	Northampton Road	42.29769708	-85.64029097
Large	620	Northampton Road	Front	Northampton Road	42.29779992	-85.64028954
Large	620	Northampton Road	Front	Northampton Road	42.2967778	-85.64028099
Large	620	Northampton Road	Front	Northampton Road	42.29689805	-85.64027885
Large	620	Northampton Road	Front	Northampton Road	42.29702252	-85.64028027
Large	4140	Northampton Road	Front	Northampton Road	42.29655207	-85.64028883
Large	4140	Northampton Road	Front	Northampton Road	42.29666705	-85.64028954
Large	2239	Oakland Drive	Front	Oakland Drive	42.26805208	-85.60947947
Large	1908	Birch Avenue	Rear	Park Avenue	42.32550719	-85.55630557
Large	2221	Royce Avenue	Front	Royce Avenue	42.25539317	-85.55116581
Large	813	Stafford Road	Front	Stafford Road	42.29948653	-85.64168567

2022 FALL TREE PLANTING LOCATIONS

Size	Address	Street	Side	On Street	Latitude	Longitude
Large	1110	Stafford Road	Front	Stafford Road	42.30224985	-85.64150296
Large	4609	Stonebrooke Avenue	Front	Stonebrooke Avenue	42.29120295	-85.64661771
Large	4701	Stonebrooke Avenue	Front	Stonebrooke Avenue	42.29120559	-85.64679882
Large	4710	Stonebrooke Avenue	Front	Stonebrooke Avenue	42.29135486	-85.64737139
Large	3627	Bronson Blvd	Front	Bronson Blvd	42.2548886	-85.60150459
Large	3903	Bronson Blvd	Front	Bronson Blvd	42.25275698	-85.60149444
Large	3903	Bronson Blvd	Front	Bronson Blvd	42.25266461	-85.60149372
Large	3903	Bronson Blvd	Front	Bronson Blvd	42.25255853	-85.60149372
Large	3903	Bronson Blvd	Front	Bronson Blvd	42.25302245	-85.60150299
Large	3903	Bronson Blvd	Front	Bronson Blvd	42.25293906	-85.60150157
Large	3903	Bronson Blvd	Front	Bronson Blvd	42.2528562	-85.60150228
Large	4211	Bronson Blvd	Front	Bronson Blvd	42.24809761	-85.60150751
Large	905	Canterbury Ave	Front	Canterbury Ave	42.30023647	-85.64090917
Large	908	Canterbury Ave	Front	Canterbury Ave	42.30023911	-85.64122291
Large	4503	Canterbury Ave	Front	Canterbury Ave	42.300238	-85.64486643
Large	4509	Canterbury Ave	Front	Canterbury Ave	42.3002206	-85.64503328
Large	4525	Canterbury Ave	Front	Canterbury Ave	42.30014518	-85.64567644
Large	4707	Canterbury Ave	Front	Canterbury Ave	42.29998328	-85.6475282
Large	2428	Carlyle Dr	Front	Carlyle Dr	42.2662561	-85.61786119
Large	2602	Carlyle Dr	Front	Carlyle Dr	42.26515272	-85.61785747
Large	2610	Carlyle Dr	Front	Carlyle Dr	42.2650151	-85.61786641
Large	937	Center St	Front	Center St	42.30136037	-85.55902402
Large	937	Center St	Front	Center St	42.30135898	-85.55921756
Large	937	Center St	Front	Center St	42.30135951	-85.55940937
Large	940	Center St	Front	Center St	42.30135353	-85.55851368
Large	504	Charles Ave	Front	Charles Ave	42.29591706	-85.55726351
Large	4317	Chelten St	Front	Chelten St	42.29770973	-85.6425242
Large	438	Crane Ave	Front	Crane Ave	42.26875687	-85.58848827
Large	438	Crane Ave	Side	Parkwood Ave	42.26866724	-85.58886722
Large	438	Crane Ave	Side	Parkwood Ave	42.26866558	-85.58859879
Large	2148	Crosswind Dr	Side	Aberdeen Dr	42.26982727	-85.61695434
Large	2308	Crosswind Dr	Front	Crosswind Dr	42.26957052	-85.61772254
Large	823	Davis St	Front	Davis St	42.28331	-85.59522484
Large	829	Davis St	Front	Davis St	42.28322289	-85.5952248
Large	1222	Miles Avenue	Front	Miles Avenue	42.25411783	-85.56524884

Planting Species Information

The following species shall not be planted in the aforementioned locations: *Populus* Spp., (White Poplar or Aspen); *Acer negunda*, (Box Elder); *Acer saccharinum*, (Silver maple); *Ailanthus altissima*, (Tree of Heaven); *Catalpa*, (Catalpa); *Pyrus calleryana* (Callery pear); *Ulmus*, (American, Winged, Slippery, Rock, Cedar, and Siberian elm); *Juglans*, (English Walnut, Butternut, Black Walnut); *Robinia pseudoacacia*, (Black Locust); *Salix alba*, (Willow); *Abies*, (Fir); *Alnus*, (Alder); *Betula* Spp., (Paper Birch, Yellow Birch, Sweet Birch, River Birch, and Gray Birch); *Juniperus*, (Common Juniper); *Taxus*, (Yew); *Thuja*, (Cedar); *Sassafras albidum*, (Sassafras); *Elaeagnus angustifolia*, (Russian-Olive); *Maclura pomifera*, (Osage-Orange); *Morus alba*, (Mulberry); *Prunus serotina*, (Black Cherry); *Ginkgo biloba*, (Ginkgo or Maidenhair—female sex).

LARGE TREES

Those trees which attain a height of 45 feet or more at maturity.

MEDIUM TREES

Those trees which attain a height of 30 feet to 45 feet at maturity.

SMALL TREE

Those trees which attain a height of less than 30 feet at maturity.

Small

- Choke Cherry (*Prunus virginiana*)
- Japanese Flowering Cherry (*Prunus serrulate*)
- Crabapple (*Malus sp.*)
- Dogwood (*Cornus sp.*)
- Hawthorne (*Crataegus sp.*)
- Japanese Lilac (*Syringa reticulata*)

- Magnolia sp.
- Freeman maple (*Acer freemanii*)
- Paperbark maple (*Acer griseum*)
- Trident maple (*Acer buergerianum*)
- Eastern redbud (*Cercis canadensis*)
- Serviceberry (*Amelanchier sp.*)
- Cornelian Cherry (*Cornus mas*)
- Purpleleaf plum (*Prunus cerasifera*)
- Yoshino Cherry (*Prunus x yedoensis*)

Medium

- Goldenrain tree (*Koelreuteria paniculate*)
- Honey locust (*Gleditsia triacanthos var. inermis*)
- Hedge maple (*Acer campestre*)
- Zelkova (*Zelkova serrata*)
- Turkish filbert (*Corylus colurna*)
- Hardy rubber tree (*Eucommia ulmoides*)
- Pagoda (*Styphnolobium japonicum*)
- Sawtooth oak (*Quercus acutissima*)
- American smoke tree (*Cotinus obovatus*)
- Amur maackia (*Maackia amurensis*)
- Frontier elm (*Ulmus 'Frontier'*)

Large

- Kentucky coffee (*Gymnocladus dioicus*)
- Ginko (*Ginko biloba*)
- Hackberry (*Celtis occidentalis*)
- American linden (*Tilia Americana*)
- Littleleaf linden (*Tilia cordata*)
- Silver linden (*Tilia tomentosa*)
- Norway maple (*Acer platanoides*)
- Red maple (*Acer rubrum*)
- Sugar maple (*Acer saccharum*)
- London Planetree (*Platanus x acerifolia*)
- Dawn redwood (*Metasequoia glyptostroboides*)
- Sweetgum (*Liquidambar styraciflua*)

- Tulip tree (*Liriodendron tulipifera*)
- Northern Red Oak (*Quercus rubra*)
- Swamp White Oak (*Quercus bicolor*)
- Pin Oak Rounded (*Quercus palustris*)
- Willow Oak (*Quercus phellos*)

Chapter 42

TREE ORDINANCE

GENERAL REFERENCES

Dead trees as nuisances — See § 22-3.

Streets and other public grounds — See Ch. 33.

Parks and Recreation Advisory Board — See § 23-29 et seq.

§ 42-1. Purpose and intent.

- A. Purpose. It is the purpose of this chapter to promote and protect the public health, safety, and general welfare by providing for the regulation of the planting, maintenance, and removal of trees and shrubs on public places, curblawns and street rights-of-way within the City of Kalamazoo.
- B. Intent. It is the intent of the City Commission that the terms of this chapter shall be construed so as to: (1) promote the planting, maintenance, restoration, and survival of desirable trees and shrubs on public places, and street rights-of-way within the City; (2) provide protection from personal injury and property damage to individuals, corporations, and other businesses caused or threatened by the improper planting, maintenance or removal of trees and shrubs, on public places, and street rights-of-way within the City; and, (3) to plant, remove and replace trees or shrubs within curblawns, upon request, to the extent the annual budget will allow.

§ 42-2. Applicability.

This chapter provides complete power and authority over all trees and shrubs located within the street rights-of-way, parks, cemeteries, curblawns and other public places of the City; and to trees and shrubs located on private property that constitute a hazard or threat to the safe use by the public of any street, sidewalk or public place in the City.

§ 42-3. Definitions.

As used in this chapter, the following terms shall have the meanings indicated:

CITY TREE — Any tree planted or growing on City-owned or maintained property.

CURBLAWN — The part of a street right-of-way, not covered by sidewalk or paving, lying between the sidewalk proper and the curb or outside edge of the street.

DRIPLINE — An imaginary vertical line extending downward from the outermost tips of the tree branches to the ground.

LARGE TREES — Those trees which attain a height of 45 feet or more at maturity. Examples of large trees include but are not limited to: ash, green and white; linden; maple, sugar, red and Norway; sweetgum, tulip; ginkgo and oak.

MEDIUM TREES — Those trees which attain a height of 30 feet to 45 feet at maturity. Examples of medium trees include but are not limited to: golden rain, hawthorn, Japanese tree lilac, Bradford pear, redspire pear, aristocratic pear, hybrid locust and Columnar Norway Maple.

PROPERTY OWNER — The individual or party owning such property as shown on the Kalamazoo City Assessor's records.

PUBLIC PLACE — Property owned by the City of Kalamazoo.

SHRUB — A low growing, multi-stemmed woody perennial.

SMALL TREE — Those trees which attain a height of less than 30 feet at maturity. Examples of small trees include but are not limited to: flowering crabapple, amur maple and flame maple.

STREET TREE — Any tree located on a street right-of-way or curblawn, but in most cases between the sidewalk and the street.

TOPPING — The severe cutting back of tree limbs to stubs within the tree's crown to such a degree so as to remove the normal canopy and disfigure the tree.

TREE — A plant which can be grown with a single stem or trunk and is over 10 feet in height.

§ 42-4. Tree Committee.

A Tree Committee shall be created and membership shall include representation from the Parks and Recreation Advisory Board, the Environmental Concerns Committee, overhead and underground utility companies and the Public Services Department. The purpose of the Tree Committee is to develop guidelines, subject to City Commission approval, related to the implementation and enforcement of this chapter and recommend modifications or changes as might become necessary to the Director of Public Works.

§ 42-5. Landscaping.

In new subdivisions or when the development of commercial property occurs by private enterprise, landscaping plans shall be submitted to the Public Works Director or his/her designee who shall review the plans and may require the developer to plant trees along any of the streets, parking lots, parks, and other public places abutting lands henceforth developed and/or subdivided.

§ 42-6. Tree planting, maintenance and removal.

A. Tree planting.

- (1) Prohibited trees. The owner of property abutting any street may, upon obtaining prior written permission from the Public Works Department, plant trees in the curblawn and street rights-of-way after which they shall become a City tree. The following species shall not be planted in the aforementioned locations: Populus Spp., (White Poplar or Aspen); Acer Negunda, (Box Elder); Ailanthus Altissima, (Tree of Heaven); Catalpa, (Catalpa); Ulmus, (American, Winged, Slippery, Rock, Cedar, and Siberian elm); Juglans, (English Walnut, Butternut, Black Walnut); Robinia Pseudoacacia, (Black Locust); Salix Alba, (Willow); Abies, (Fir); Alnus, (Alder); Betula Spp., (Paper Birch, Yellow Birch, Sweet Birch, River Birch, and Gray Birch); Juniperus, (Common Juniper); Taxus, (Yew); Thuja, (Cedar); Sassafras Albidum, (Sassafras); Elaeagnus Angustifolia, (Russian-Olive); Maclura Pomifera, (Osage-Orange); Morus Alba, (Mulberry); Prunus Serotina, (Black Cherry); Ginkgo Biloba, (Ginkgo or Maidenhair—female sex).
- (2) Spacing. No trees shall be planted closer together than the following: small trees, 25 feet; medium trees, 35 feet; and large trees, 45 feet. Special landscape plantings may be excepted from this provision upon written approval by the Public Works Department.
- (3) Utilities. No street trees other than those species listed as small or medium trees may be planted under or within 10 lateral feet of any overhead primary electric wire.
- (4) Distance from curb and sidewalk. No trees may be planted any closer to any curb or sidewalk than the following distances: small trees, two feet; medium trees, three feet; and large trees, four feet.
- (5) Exempt trees. Trees planted prior to the enactment of this chapter are exempt from the spacing provisions of this section.

B. Trees and shrub maintenance.

- (1) City trees.
 - (a) All maintenance performed on trees located in public places, curblawns and street rights-of-way will be performed by the City or its agent unless an exemption is made in writing by the Director of Public Works. Pruning will be conducted according to the National Arborist Association's Pruning Standards for Shade Trees, revised 1988. Future revisions to the National Association's Pruning standards will be accepted as the current revised standard.
 - (b) The minimum clearance of any overhanging portion thereof shall be eight feet over sidewalks and 15 feet over all streets

except major thoroughfares which shall have a clearance of 16 feet.

- (2) Street corner clearance and other visual obstructions.
 - (a) No property owner shall maintain on their property any tree, shrub, hedge or other vegetation at a height greater than three feet above the surface of the street within a distance of 25 feet from the street right-of-way line or as otherwise determined by the City traffic engineer at an intersection corner. No person shall maintain any tree, shrub, hedge or other vegetation anywhere on his/her property which interferes with the clear view of traffic of drivers approaching an intersection.
 - (b) Failure to prune trees, shrubs, hedges or other plantings as required in Subsection B(2)(a) above may result in a written notice to comply from the Director of the Public Works Department.
 - (c) The written notice to comply shall be served by certified mail to the last known address of the property owner.
 - (d) The property owner shall have 21 days from receipt of the notice to comply. Prosecutions for violations of this section may be commenced by issuance of an appearance ticket. The Director of Public Works or his/her designee is authorized to issue and serve such appearance tickets.
 - (e) Any tree, shrub or other planting planted on private property but physically obstructing by overhang or other means the public right-of-way, public street or sidewalk or obstructing street lights, traffic signs or the vision of vehicular traffic shall be pruned by the City in accordance with this section.
- (3) Abuse or mutilation of trees. Unless specifically authorized by the Director of Public Works, or by ordinance, no person, firm, or corporation shall damage, cut, carve, transplant or remove any City tree or street tree nor attach any rope, wire, nails, advertising poster or other contrivance, nor allow any substance which is harmful to such trees to come in contact with them, nor set fire, nor permit any fire to injure such trees.
- (4) Trenching. Open trenching for new utility lines and services in the curblawn, street right-of-way, or public place shall not occur within 1/2 the crown radius of the tree and never closer than one foot of any tree. Boring will be required within those limits.
- (5) Placement of materials. No person, firm, or corporation shall deposit, place, store or maintain upon any public place, curblawn or street right-of-way for more than 15 days any stone, brick, sand, concrete, or other materials within the dripline of any tree which may impede the free passage of water, air or fertilizer to the roots

of any tree, except by written permit of the Director of Public Works.

- (6) Overhead tree pruning by utility companies.
 - (a) All line clearance tree trimming or other construction work requiring tree trimming to trees located in public places, curblawns or street rights-of-way by any utility shall be conducted in accordance with the standards set forth in § 42-6B. Acts of God, the loss of utilities services due to weather and like emergencies constitute an exception to this subsection.
 - (b) For nonemergency trimming of trees by a utility company, the utility shall provide written notice to the Director of Public Works at least 15 days in advance of the tree trimming. Said notice shall provide the exact location of the proposed trimming. Trimming shall be conducted in accordance with this chapter and the direction of the Director of Public Works.
 - (c) Line clearance distances shall be:

	Primary	Secondary	Transmission
	(feet)	(feet)	(feet)
Top trimming	5 to 7	1 to 3	6 to 8
Side trimming	4 to 6	1 to 3	10 to 14
Over trimming	6	1 to 3	None

(d) Utility companies shall provide notice to adjacent house addresses of residents prior to curblawn tree pruning activities for nonemergency trimming.

(7) Topping. No person, utility or other party may top any street tree, City tree or tree located at a public place. Trees severely damaged by storms or other causes, or certain trees under utility wires or other obstructions where other pruning practices are impractical may be exempted from this subsection at the determination of the Director of Public Works.

C. Tree removal. Only the City or its agent may remove street trees or City trees. Any other person requesting to remove street trees or City trees must obtain a permit from the Public Works Department. City trees and street trees may be removed for the following reasons only:

- (1) Where the tree is at least 90% dead;
- (2) Where the tree constitutes a public hazard;
- (3) Where the tree is diseased;
- (4) Where the trees are planted too closely together;

- (5) Where necessary for the installation of public streets, infrastructure improvements or driveways after review by the Tree Committee and the Director of Public Works; or
- (6) Where unique circumstances exist, and request is made for the removal upon the recommendation of the Tree Committee and the Director of Public Works.
- (7) Trees whose roots lift sidewalks or driveways shall not be removed unless it is not possible to remedy the problem by relocating the sidewalk or by cutting and removing roots. Contractors shall provide 15 days notice to the Director of Public Works before commencing such operation. Street trees may not be removed for the installation of new driveways without a permit from the Department of Public Works.
- (8) Trees shall not be removed for the sole reason that the tree roots are clogging the sewers.

§ 42-7. Permit.

- A. Unless otherwise permitted by this chapter, no person, firm, or corporation may perform any of the following acts on curblawns, street rights-of-way or public places without first obtaining a permit from the Department of Public Works.
 - (1) Plant trees or shrubs.
 - (2) Remove trees or shrubs.
 - (3) Trim trees or shrubs.
 - (4) Spray trees or shrubs.
 - (5) Tree surgery.
- B. The person, firm, or corporation receiving such permit shall abide by the specifications and standards of practice in this chapter, and shall as a condition of such permit agree to hold the City harmless from any and all liability which might result from the work or activity authorized. Before any permit shall be issued, each applicant shall first file evidence of possession of liability insurance in the minimum amounts as prescribed by the City for bodily injury and property damage indemnifying the City or any person injured or damaged resulting from the pursuit of such activities as herein described.

§ 42-8. Enforcement authority.

- A. The responsibility for enforcement of this chapter shall be vested in the Director of Public Works or his/her designee. Prosecutions for violations of this chapter may be commenced by issuance of an appearance ticket. The Director of Public Works or his/her designee is authorized to issue and serve such appearance tickets. A party found to be in violation of

this chapter may be subject to fines and costs up to \$500 and/or 90 days in jail.

- B. No person, firm, or corporation shall hinder, prevent, delay or interfere with the Director of Public Works, City employees or agents of the City engaged in the implementation or enforcement of this chapter. However, nothing herein shall prohibit an interested party from pursuing any legal remedies to which they might have a right.

§ 42-9. Appealability.

With the exception of appearance tickets, any enforcement or permitting requirement of this chapter may be appealed in writing to the City Manager's Office.

APPENDIX C
MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION



THE CITY OF KALAMAZOO
DEPARTMENT OF PUBLIC SERVICES
ENGINEERING DIVISION

815 Landscaping
816 Turf Establishment
917 Landscaping Materials

2022 FALL TREE PLANTING

Bid Reference #: 59575-034.0

815.01

Section 815. LANDSCAPING

815.01. Description. This work consists of providing and planting trees, shrubs, and other plants, including replacements, classified as nursery stock. The Engineer may inspect, select, and reject plants anytime through the second year of the establishment period.

815.02. Materials. Provide materials in accordance with the following:

Topsoil	917
Peat Moss.....	917
Compost	917
Fertilizer	917
Water	911
Nursery Stock	917
Mulching Materials.....	917
Tree Wrapping Materials	917
Balling Material	917
Wire	917
Hose	917
Stakes.....	917

815.03. Construction.

A. **Prepared Soil.** Use prepared soil for landscaping, consisting of a uniform mixture of topsoil, peat moss or compost, and fertilizer. Proportion the prepared soil so that 1 cubic yard of the prepared soil contains $\frac{3}{4}$ cubic yard topsoil, $\frac{1}{4}$ cubic yard of peat moss or compost, and chemical fertilizer as specified in subsection 917.10.A.1.

Thoroughly mix the component materials before final placement.

B. **Site Preparation.** Excavate holes, centered at staked locations, to a diameter that allows 18 inches of prepared soil beyond the ends of bare roots or root balls. The Engineer will approve variance in the size of planting holes as soil conditions or plant requirements dictate. Set the root ball on undisturbed soil at the required depth.

Remove excavated material from the site and dispose of it outside the right-of-way in accordance with subsection 205.03.P. Backfill the planting holes with prepared soil the same day they are dug.

C. **Preparation of Shipments.** Label a sample of each plant species and variety. Provide balled and burlapped or container-grown plants unless otherwise required.

Prepare nursery stock for shipment in accordance with the current ANSI Z60.1 requirements and enclose or cover during transportation to prevent drying.

1. **Balled and Burlapped Stock.** In preparation for spring planting, complete balling and burlapping before bud break. In preparation for planting deciduous plants in the fall, do not begin balling until after the plants begin to harden off. Dig and pack balled and burlapped stock immediately before shipment. Dig, prepare, and transport plants to provide and retain a firm ball of earth. Protect the root balls with wet straw, mulch, or other material approved by the Engineer. Protect the root balls from rain or sudden changes in the weather. The Engineer will not accept trees or plants if root balls are loosened or broken.
2. **Container Grown Stock.** Ensure container grown stock is grown in the container for at least one growing season. The Engineer will not accept plants, other than ground cover plants, with pot-bound root ends.
3. **Bare Root Stock.** Do not injure or remove fibrous feeder roots when digging and packing bare root stock. Maintain the root moisture while transporting the stock to the planting site.

D. Seasonal Limitations. Plant deciduous plants from March 1 to May 15 and from October 1 until the prepared soil freezes. If unusual planting conditions exist or if using container-grown material, the Engineer may alter these planting seasons.

Plant evergreen plants from March 1 to June 1.

E. Care of Plants Before Planting. Immediately following delivery and inspection at the project, heel-in plants with exposed roots in moist soil. Protect heeled-in plants and keep their roots moist until planted. Use a protected, shaded area, or a well-ventilated enclosure for the heeling-in grounds.

Keep the roots of planting stock moist and protected.

Protect tree trunks and branches from injury. The Engineer may reject injured trees.

F. Planting. Do not begin planting until water is available at the project. Water-in plants as they are planted. Water-in the prepared soil around the root ball and roots and firm the soil at intervals during the planting process. Saturate the prepared soil in the planting hole.

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1. **Plants Located on Slopes.** For plants located on slopes, construct a berm of prepared soil half way around each plant on the down slope side. Construct the berm of prepared soil with an inside diameter equal to the planting hole diameter, and no greater than 6 inches high. Do not make the base of the berm more than 18 inches wide.
 2. **Balled and Burlapped Stock.** Set plants plumb. Plant balled and burlapped stock so the depth, after settling, compared to the surrounding ground surface is the same as the depth at the original location of the balled stock. Water-in the prepared soil and eliminate air pockets by tamping the soil at intervals under and around the ball. Do not damage the root ball during tamping operations. After backfilling and tamping the plant hole to half the required depth, remove the burlap and lacing from around the trunk and the upper half of the ball. Continue backfilling the hole with prepared soil until the soil is flush with the ground surface after compaction.
 3. **Container Grown Stock.** Remove container grown plants from the containers at the time of planting. Plant container grown stock in accordance with subsection 815.03.F.2. The Engineer may reject plants with a broken or loosened root and soil ball mass.
 4. **Bare Root Stock.** Preserve the root growth on bare root stock. Do not prune the roots except to remove broken or damaged roots. Plant bare root stock so the depth, after settling, compared to the surrounding ground surface is the same as the depth at the original location of the bare root stock. Hold the exposed roots in the required position with the roots spread out during backfilling and compacting.
 5. **Mulching.** After backfilling is complete, place from 5 inches to 6 inches of shredded bark over the plant hole area.
- G. Pruning Branches.** Ensure an arborist, certified by the International Society of Arboriculture, prunes branches before planting. Do not use pruning paint.
1. **Deciduous Trees.** Prune deciduous trees to remove dead wood and broken branches. The Engineer may require additional pruning. Prune so that the crown height is one-half the trunk height. Do not cut the primary leader back, unless otherwise required. Cut branches in accordance with ANSI A 300.
 2. **Deciduous Shrubs.** Ensure healthy, symmetrical growth of new wood by pruning deciduous shrubs to remove dead wood and broken branches, thin out canes and cut back or remove

asymmetrical branches and other growth. Prune shrubs to form an outline conforming to the general shape of the shrub type.

3. **Evergreen Trees and Shrubs.** Prune evergreens to remove broken or damaged branches.

H. **Wrapping Deciduous Trees.** Wrap deciduous trees within one week after planting. Wrap the trunk, beginning at the base, just above the roots, below the normal ground line, and extend upward in a spiral with an overlap of half the width of the wrapping strip. Cover the portion of the wrapping below the finished grade with soil. Hold the paper in place with masking tape in at least 5 locations, including the top and bottom of wrapping. Overlap the tape at least 4 times in each of the 5 locations.

I. **Clean Up.** Upon completion of planting, immediately clean up, remove, and dispose of surplus material off site. Repair ruts and turf damage resulting from the planting operation and re-establish turf in these areas in accordance with subsection 816.03 and as directed by the Engineer. Complete clean up before June 1.

J. **Watering and Cultivating.** In addition to the watering-in required at the time of planting, water, cultivate, and remove grass and weeds around each plant at least 5 times during each of the two growing seasons of the establishment period. The Engineer may add or subtract watering as conditions warrant. Notify the Engineer at least 3 days before each watering.

During each watering and cultivation, remove grass and weeds within the mulch ring. Cut grass to 3 inches high, 12 inches beyond the outside perimeter of the mulch ring. Inspect landscaping and remove insect infestations or disease damage to the plants and prune dead wood.

During the first and second watering of the second growing season, use a nitrogen-enriched solution as specified in subsection 917.10.A.2. Apply fertilizer before July 7.

At the first watering of the second growing season, remove and dispose of the guying material, wrapping material, identification tags, and inspection tags. At the final watering, replenish the mulch around the plants to a depth of 5 inches to 6 inches.

1. **Watering with Probe.** Water with a probe that meets the following requirements:
 - a. Is long enough to extend to the depth of the root ball;
 - b. Has a diameter no greater than 1 inch;
 - c. Has a closed pointed end with holes in the lower 4 inches; and

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- d. Is equipped with a control valve for regulating water pressure and volume.

Insert the probe next to the root ball in at least three equally spaced locations around the plant. Adjust the pressure so little or no run-off occurs before placement of the required amount of water. After extracting the probe, close or fill holes remaining in the soil.

2. **Quantity of Water.** Use the following volumes of water for the specified plants:
 - a. For shade trees, 35 gallons per watering;
 - b. For intermediate plants and evergreen trees, 20 gallons; and
 - c. For shrubs, 5 gallons.
3. **Watering and Cultivating Periods.** Water and cultivate during each of the following periods:
 - a. From June 1 to June 15,
 - b. From June 23 to July 7,
 - c. From July 15 to July 29,
 - d. From August 4 to August 18, and
 - e. From September 5 to September 19.

K. **Bracing and Guying.** Brace or guy deciduous trees immediately after wrapping. Brace or guy evergreen trees and bare-rooted deciduous trees immediately after planting.

1. For evergreen trees, use at least the following number of stakes:
 - a. For trees higher than 6 feet, 3 stakes; and
 - b. For trees 6 feet high or less, 2 stakes;
2. For bare-root stock, use at least 2 stakes;
3. For balled stock, use at least the following number of stakes:
 - a. For low-headed trees, 1 stake (the Engineer may omit); and
 - b. For deciduous clump trees, 2 or 3 stakes;
4. For balled stock, deciduous, but not low-headed trees use at least the following number of stakes:
 - a. For calipers greater than 4 inches, 3 stakes;
 - b. For calipers from 2 inches to 4 inches or at least 8 feet high, 2 stakes; and
 - c. For calipers less than 2 inches or less than 8 feet high, 1 stake.

Place one stake on the west side of the plant. If using two stakes, position them on opposite sides of the trunk and secure each stake to the trunk at two-thirds the height of the tree. If three stakes are required, use the tripod method of guying.

To avoid the root ball, anchor the tree by driving stakes no closer than 1 foot from the trunk. Drive stakes parallel to the trunk to within 4 inches of the lower main branches remaining after pruning. Maintain bracing stakes at a uniform height for similar plant or tree sizes throughout the project. Attach the top of the stake to the trunk with No. 11 wire and form a figure-eight shape around the stake and trunk. Encase the wire loop that contacts the tree trunk with sections of hose that extends 6 inches beyond either side of the trunk. Twist guy wires so they do not restrict normal trunk growth and the trunk can move laterally 1 inch to 2 inches. For deciduous clumps, attach each stem to a support stake.

Use three No. 11 wires for the tripod method of tree guying. Encircle the trunk with one end of each guy wire. Encircle the trunk of deciduous trees just above the lower main branches and evergreen trees at a point two-thirds the height of the tree. Encase the wire encircling the trunk in hose that extends 6 inches beyond either side of the trunk. Fasten the other end of each guy to stakes equally spaced around the tree. Place the stakes away from the tree a distance equal to three-quarters the vertical distance from the ground to where the guys are fastened to the trunk. Notch the anchor stakes to prevent the wire from slipping. Drive stakes to at least 18 inches deep and at an angle so the tops point away from the tree.

For the duration of the contract, replace blown down trees or trees damaged by improper bracing or guying at no additional cost to the Department.

Brace or guy replacement plants, planted at the beginning of the second growing season. Maintain guying and wrapping material until project completion, and then remove.

L. **Period of Establishment.** The contract requires an establishment period beginning at the completion of the initial planting and extending through the following two growing seasons. A growing season is the months of June, July, and August.

Provide plants in a healthy growing condition at the start of the establishment period. The Engineer will inspect the plants at the end of the first and second growing seasons to determine acceptability. The Engineer will consider plants unacceptable if they are dead, missing, unhealthy, or otherwise unsatisfactory at the time of inspection, or not planted as required.

Remove dead evergreen plants before winter. Plant replacement plants in accordance with subsection 815.03.F, before May 10 of the following spring planting season. Water replacement plants, planted after the first

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growing season, at the same time and in the same manner as the other plants receiving their second season watering.

Unacceptable plants identified by the Engineer at the end of the second growing season do not require replacement. Remove these plants along with guying materials and dispose of removed plants and guying material off the project.

815.04. Measurement and Payment.

Pay Item	Pay Unit
Site Preparation, Max. (dollar).....	Lump Sum
(Botanical Name).....	Each
Watering and Cultivating, First Season, Min. (dollar).....	Lump Sum
Watering and Cultivating, Second Season, Min. (dollar).....	Lump Sum

A. **Site Preparation.** The unit price for **Site Preparation, Max (dollar)** includes the cost of digging holes, providing prepared soil, backfilling holes, and disposing of excess excavated material.

B. **Plants.** The Engineer will measure plants by the units shown on the plans and methods specified in ANSI Z 60.1. The Department will not pay for the pay item, **(Botanical Name)** until the plant is pruned, planted, watered-in, wrapped, braced or guyed, and mulched.

The Department will not make additional payments for replacement plants.

C. **Watering and Cultivating.**

1. **First Season.** The Department will pay 20 percent of the lump sum price for **Watering and Cultivating, First Season, Min. (dollar)** at the completion of each of the five watering and cultivating operations. Payment for **Watering and Cultivating, First Season, Min. (dollar)** includes the cost of the following:

- a. One watering and cultivating operation;
- b. Providing and mixing fertilizer with the water as required; and
- c. Removal and disposal of unacceptable plants.

2. **Second Season.** The Department will pay for **Watering and Cultivating, Second Season, Min. (dollar)** as a lump sum at the completion of the second growing season. The unit price of **Watering and Cultivating, Second Season, Min. (dollar)** includes the cost of the following:

- a. Five watering and cultivating operations;
- b. Providing and mixing fertilizer with the water;
- c. Removal and disposal of unacceptable plants; and

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- d. Removal of guying material identified by the Engineer at the end of the second growing season.

For each unacceptable plant identified, the Engineer will calculate a 50 percent reduction in the unit price for the relevant **(Botanical Name)** pay item, and will deduct that amount from the pay item, **Watering and Cultivating, Second Season, Min. (dollar)**.

- 3. **Supplemental Watering.** The Department will pay for supplemental watering, in addition to the 10 watering operations required, at 20 percent of the associated lump sum contract unit price. The Department will reduce the relevant lump sum contract unit price by 20 percent for each deleted watering.

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Section 816. TURF ESTABLISHMENT

816.01. Description. This work consists of conducting soil tests, preparing the soil, and placing sod or seed and mulch to permanently stabilize disturbed areas as shown on the plans. Establish turf in accordance with this section, the MDOT SESC Manual, and as directed by the Engineer.

The following terms apply to this section.

Mulch Anchor. A glue type material sprayed over mulch to hold it in place.

Broadleaf Weed. Weeds described by the Engineer as target weeds controlled by spraying. Broadleaf weeds include, but are not limited to, dandelion, clovers, thistles, and ragweed,

Compost. A mature and stabilized, humus-like material derived from the aerobic decomposition of yard clippings, leaves, and brush with a diameter less than 4 inches.

Dormant Seeding. Seeding placed in late November and December when plant growth ends for the season. Seeds are placed on unfrozen ground and mulched to lie dormant over winter and germinate the following spring.

Friable. Easily crumbled or pulverized soil.

Friable Condition. Soil in a "friable condition" is a crumbled, pulverized, worked-up, loosened, or cultivated soil, free of lumps and clods detrimental to seeding and sodding operations.

Humus. A brown or black material formed by the decomposition of vegetable or animal matter. The organic portion of soil, essential to fertility.

Hydroseeding. Spraying seed combined with water onto the prepared seed bed.

Muck. Organic matter consisting of decomposed plant material accumulated under conditions of excessive moisture. If organic remains are not identifiable as plant form, it is considered muck.

Mulch. Material placed over seeding to improve germination by conserving moisture, moderating the soil temperature, and protecting the seed and soil from water and wind erosion.

Peat. Organic matter consisting of undecomposed or slightly decomposed plant material accumulated under conditions of

excessive moisture. If organic remains are identifiable as plant form, it is considered peat.

Target Weed. Weeds that the Engineer identifies for removal by spraying or other methods.

816.02. Materials. Provide materials in accordance with the following:

Compost	917
Topsoil	917
Fertilizer	917
Seed	917
Sod	917
Mulch	917
Mulch Anchoring	917
Mulch Netting	917
Mulch Blankets	917
Weed Control	917
Water	911

816.03. Construction.

A. **Topsoiling.** Before placing topsoil, prepare the foundation. Provide, place, and spread humus bearing topsoil, compost, or both. Use topsoil from within the project limits or from off-site sources.

1. **Preparation of Earth Bed.** Seven to ten days before preparing earth bed, including areas previously mulched or rye seeded for temporary erosion control, kill existing vegetation by spraying with the non-selective herbicide Glyphosate.

Construct the earth bed to the required grade and trim. Just before placing topsoil or compost, harrow all earth beds, including areas previously mulched or rye seeded for temporary erosion control, into a friable condition with a disk, a spring tooth drag or a spike tooth drag a minimum of 3 inches deep.

Leave horizontal soil impressions from equipment, across the face of the slope.

2. **Placing Topsoil.** Cover areas requiring seeding or sodding with topsoil, compost, or both, except for slopes constructed of topsoil, muck or peat.

Spread topsoil, compost, or both on the prepared areas at least 3 inches deep. Pulverize large clods and lumps. Rake out rocks with a diameter greater than 2 inches, roots, litter, and deleterious

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material. Dispose of raked out material in accordance with subsection 205.03.A.3 and subsection 205.03.P.

Incorporate topsoil and compost into the upper 2 inches of the conditioned earth bed. Do not work topsoil or compost if wet.

3. **Surplus Excavated Topsoil or Salvaged Topsoil.** The Engineer will direct stockpiling surplus excavated or salvaged topsoil within the right-of-way. Leave the stockpile with an aesthetically pleasing appearance, as approved by the Engineer.

B. Chemical Fertilizer Nutrient. Conduct soil tests to determine the need for fertilizer containing phosphorus. Provide and place fertilizer as indicated by soil tests.

In areas requiring sod, uniformly apply granular fertilizer before laying the sod.

Uniformly apply granular fertilizer, free of lumps, on the prepared seed and sod bed and incorporate into the upper 1 inch to 2 inches of the topsoil and compost by light disking or harrowing.

Apply the required class of fertilizer to the required locations at the following application rates:

1. For Class A fertilizer, evenly apply 228 pounds per acre on a prepared seed bed.
2. For Class B fertilizer, evenly apply 120 pounds per acre on a prepared seed bed.
3. For Class C fertilizer, evenly apply 80 pounds per acre on established turf.

If using the hydroseeding method, constantly agitate the seed-fertilizer mixture. Do not disk or harrow after placement. Apply fertilizer mixed with seed within 1 hour of mixing.

Remove excess fertilizer from impervious surfaces adjacent to prepared seed and sod beds by sweeping back into beds. Do not use water to flush excess fertilizer into storm drains or surface water.

C. Seeding. Obtain the Engineer's approval for topsoil placement prior to seeding. Provide each seed species selected from the Qualified Products List. Do not broadcast or hydroseed during windy conditions, or conditions that would prevent seed placement as required. Apply turf and specialty seed mixtures in accordance with the mix ratios and seeding rates in Table 816-1 and Table 816-2.

1. **Permanent Seeding.**

- a. **Sowing.** Harrow the topsoil or compost, at least 3 inches deep, immediately before seeding. Harrow using a disk, spring tooth drag, spike tooth drag, or other equipment, approved by the Engineer and designed to prepare the soil to a friable condition. Harrow horizontally, across the face of the slope. In areas requiring a Turf Loamy to Heavy (THM) seed mixture, grade the seed bed to a Class A slope as specified in subsection 205.03.N.

While the seed bed is in a friable condition, sow seed with or following the application of fertilizer. Sow seed before applying mulch. Sow or resow the seed mixture, providing uniform coverage, at the rate specified in Table 816-1 or Table 816-2.

Sow using mechanical drills, hydroseeders, or by broadcasting. In areas with 1:4 slopes, or flatter, use mechanical drills.

The Department will allow hydroseeding on slopes steeper than 1:4 provided the Engineer determines the seeding equipment is effective and attains required results.

Empty the hydroseeder tank within 1 hour of introducing the seed and fertilizer to the tank. Dispose of seed that remains in the tank mixed with water for longer than 1 hour.

Broadcast in areas requiring resowing, or in areas not accessible to a drill or hydroseeder.

The Engineer will visually inspect areas sown by broadcast or hydroseed for uniformity of application. Resow areas that do not have an average of two seeds per square inch, at no additional cost to the Department.

- b. **Setting the Seed.** Lightly compact or rake areas sown by hydroseed or broadcast methods to incorporate the seed into the top ½ inch of the topsoil. Immediately after setting the seed, mulch in accordance with subsection 816.03.E and subsection 816.03.F.

Table 816-1 General Roadside Seed Mix Selection Guide				
Symbol for Turf Seed Mixture	Soil Type	General Location	Seed Rate	Salt Tolerance
TDS (Turf Dry Sandy)	Dry sandy to sand loam	Rural or urban	220 lb/acre	Low to medium
THV (Turf Heavy Soil)	Heavy	Rural	220 lb/acre	Medium to high
TUF (Turf Urban Freeway)	All types	Urban freeways, blvds., service roads, city streets	220 lb/acre	Low to high
TGM (Turf Medium to Heavy Soil)	Medium to heavy	All	220 lb/acre	Low
THM (Turf Loamy to Heavy)	Loamy to heavy	Residential and business turf	220 lb/acre	Low to medium

Table 816-2 Specialty Seed Mix Selection Guide				
Symbol for Seed Mixture	Soil Type	General Location	Seed Rate	Salt Tolerance
Mixture for Upland Areas				
ES (Environmental Seeding)	All	Upland Areas	Table 917-1	N/A
Temporary Seeding Mixtures				
CR (Cereal Rye, <6 mos)	All	All	70 lb/acre	N/A
TSM 6/24 (Temporary seeding, 6–24 mos)	All	All	100 lb/acre	N/A
TSM 24+ (Temporary seeding, >24 mos)	All	All	200 lb/acre	N/A

2. **Temporary Seeding.** Obtain the Engineer's approval for temporary seeding. Place temporary seed only for erosion control or temporary soil stabilization. Do not temporarily seed slopes 1:3 or steeper after placing topsoil; permanently seed these slopes. Sow temporary seed in accordance with subsection 816.03.C.1. Before project completion, replace temporary seeding with permanent seeding as shown on the plans or directed by the Engineer.
3. **Dormant Seeding.** The Engineer will allow dormant seeding in limited areas. Obtain the Engineer's approval for dormant seeding. Dormant seed in accordance with subsection 816.03.C.1.

4. **Seasonal Limitations.**

- a. **Permanent Seeding.** Permanently seed the following locations during the specified periods:
 - i. Southern Lower Peninsula. South of the north boundary of Township 20 North; April 15 through October 10.
 - ii. Northern Lower Peninsula. North of the north boundary of Township 20 North; May 1 through October 1.
 - iii. Upper Peninsula. May 1 through September 20.
- b. **Dormant Seeding.** Dormant seed the following locations during the specified periods:
 - i. Southern Lower Peninsula. South of the north boundary of Township 20 North; after November 15, but not on frozen ground.
 - ii. Upper Peninsula and Northern Lower Peninsula. North of the north boundary of Township 20 North; after November 1, but not on frozen ground.
- c. **Temporary Seeding.** Temporary seed in accordance with the seasonal limitations specified in subsection 816.03.C.4.a.

5. **Inspection.** The Engineer will inspect the seeded turf to ensure the end product is well established, weed free, growing, vigorous, and contains the species required by the seeding mixture.

The Engineer will approve slopes as the Contractor completes permanent restoration on cut slopes, embankment slopes, or portions of slopes. The Engineer will consider each cut or embankment slope, on each side of the roadway, separately for approval.

If the Engineer requires weed control, complete work in accordance with subsection 816.03.J. If using hay mulch, provide weed control at no additional cost to the Department.

- D. **Sodding.** Prepare the topsoil surface, provide and place the sod, and dispose of surplus material. Grade areas required for sodding to Class A slopes in accordance with subsection 205.03.N.

Immediately before laying sod, harrow the topsoil, at least 3 inches deep using a disk, spring tooth drag, spike tooth drag, or other equipment designed to condition the soil. Obtain the Engineer's approval for harrowing equipment. Harrow horizontally across the face of slopes.

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Dampen the earth bed before laying the sod. Water the sod immediately after placement, in accordance with subsection 816.03.I. The Engineer will reject sod that has dried out.

Protect sod until placement. Lay sod within 24 hours after cutting. Do not handle sod with pitch forks, or dump from vehicles. Do not place frozen sod, or place sod on frozen soil. Unless otherwise approved by the Engineer, do not place sod in June, July, or August.

Place sod as shown on Standard Plan R-100 Series. Stagger the transverse joints of the sod strips and lay parallel to the flow of water on slopes and in ditches. Place strips with tight joints. Lay sod starting at the base of the slope and work up the slope. Turn edges of sodded areas into the ground and cover with a layer of earth or shoulder material. Compact this material to allow the surface water to flow over the edge of the sod. Butt the edges of sod firmly against, and level with, paved surfaces.

Work from ladders or treaded planks if necessary to prevent the displacement of sod during sodding operations. Compact sod by tamping immediately after placement. Tamp to a smooth, even surface free of bumps and depressions. If Class A slopes are required, finish the sodded surface to a lawn-like appearance. On slopes steeper than 1:3, use wooden pegs to secure the sod. Space pegs no greater than 2 feet apart and drive flush with the sod surface.

E. Mulching. Provide, spread, and anchor mulch material. Place mulch within one calendar day after seeding.

Do not mulch during winds that prevent placement and anchoring of the mulch.

Place mulch to allow sunlight to penetrate and air to circulate, but thick enough to shade the ground, conserve soil moisture, and prevent or reduce water and wind erosion.

Spread mulch over the surface to a uniform thickness with an application rate of 2 tons per acre. If the Engineer allows dormant seeding, spread the mulch with an application rate of 3 tons per acre. After seed germinates and turf is established, apply herbicide in accordance with subsection 816.03.J. Apply herbicide to hay mulch at no additional cost to the Department.

Maintain the mulched areas and repair areas damaged by erosion, traffic, fire, or other causes, before partial or final acceptance. Replace displaced mulch. Repair or replace damaged mulch areas at no

additional cost to the Department, unless otherwise provided by subsection 107.11 or section 208.

Replace and anchor mulch that blows away or becomes displaced, for reasons attributable to the Contractor, as directed by the Engineer and at no additional cost to the Department.

F. Mulch Anchoring. Provide a mulch anchoring material selected from the Qualified Products List. Spray mulch anchoring immediately after placing mulch. Do not spray if wind prevents the required placement of adhesive. Protect traffic, signs, structures, and other objects from the tackifier material. Immediately remove overspray.

Mix and apply latex base, recycled newsprint, wood fiber, guar gum, and other mulch tackifier material as follows:

1. **Latex-Base.** Mix 15 gallons of adhesive, or the manufacturer's recommended adhesive volume, whichever is greater, with at least 250 pounds of recycled newsprint and 375 gallons of water.
2. **Recycled Newsprint.** Mix 750 pounds of recycled newsprint with 1,500 gallons of water.
3. **Wood Fiber.** Mix 750 pounds of wood fiber with 1,500 gallons of water.
4. **Guar Gum.** Mix 50 pounds of dry adhesive and at least 250 pounds of recycled newsprint with 1,300 gallons of water.
5. **Other Tackifiers.** Mix 100 pounds of dry adhesive, or the manufacturer's recommended adhesive volume, whichever is greater, with at least 250 pounds of recycled newsprint and 1,300 gallons of water.

G. Mulching Netting. Place netting over mulch and secure with net anchors.

Spread the netting over the mulch, allowing work space between adjacent widths. Then, pull the edges of adjacent widths together and hold in place with net anchors. Space net anchors no greater than 2½ feet apart along the edges, joints, and centerline of the net, in accordance with the manufacturer's recommendation. Do not place the netting in direct contact with the ground. Butt the ends of each width of netting together and hold in place using net anchors at each corner and at the center of the netting.

Do not allow foot traffic or equipment over the netting after placement, except for repair work. Replace torn or damaged netting.

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If using dormant seeding methods, apply mulch netting in addition to the mulch adhesive, at no additional cost to the Department.

H. **Mulch Blankets.** Provide, install, and anchor mulch blankets. Provide mulch blankets selected from the Qualified Products List. Place mulch blankets within one calendar day after seeding. Secure with net anchors. Place and anchor blankets in accordance with the minimum requirements specified in this subsection or the manufacturer's specifications, whichever is greater.

Overlap blanket edges by 2 inches and shingle lap blanket ends with a 6-inch overlap. Place net anchors along joint edges and blanket centerlines no greater than 2 feet apart. In waterways, shingle lap blankets with an overlap of 12 inches on the downslope edge. Place blankets on backslopes perpendicular to the roadbed. On foreslopes, lay the first strip adjacent to the road, parallel to the road. Lay the remainder of the strips on foreslopes parallel or perpendicular to the road. If installing blankets from the top of the slope, do not allow them to free fall down the slope.

1. **High Velocity Blankets.** Use high velocity blankets on slopes of 1:2 or steeper and on ditch bottoms, including 12 inches up the front and back slopes.

The Contractor may substitute high velocity blankets for mulch blankets at no additional cost to the Department.

2. **Mulch Blankets.** Use mulch blankets on slopes of less than 1:2, next to shoulders, and behind curbs. Place mulch blankets with the netting on top and mulch fibers contacting the soil.

The Contractor may only use mulch blankets on ditch bottoms with ditch gradients no greater than 1.5 percent.

- I. **Water.** Provide and apply water to sodded and seeded areas at the required rates. The Engineer may require additional watering based on the season and weather conditions.

1. **Sod.**
 - a. Water the earth bed with at least 3½ gallons per square yard before laying the sod;
 - b. Apply at least 27 gallons per square yard after placing the sod;
 - c. Apply an additional 6 gallons per square yard within 8 hours after placing the sod; and
 - d. Apply 3½ gallons per square yard of sod, five times at three to four day intervals.

2. **Seed.**

- a. Water seeded areas, at 3½ gallons per square yard, as determined by the Engineer; and
- b. Continue watering regularly to prevent seeds and seedlings from drying out.

J. **Weed Control.** Provide and apply herbicides as directed by the Engineer. Submit the name and application rate of the herbicide to the Engineer, and obtain the Engineer's approval before applying.

To apply herbicides, use a commercial herbicide applicator, licensed in the State of Michigan, and certified by the Michigan Department of Agriculture in the required category. Use application procedures and materials in accordance with federal, state, and local regulations.

Before spraying, allow inspection of, and obtain the Engineer's approval for, the spraying equipment. Demonstrate to the Engineer that equipment and operators can apply an even and controlled layer of herbicide within the required target area. Use equipment that meets federal, state, and local safety requirements.

Spray target weeds in the newly seeded turf after the new turfgrass is established and will withstand herbicide application.

Control target weeds from 14 days to 21 days after spraying. Apply additional weed control if the first application fails.

Preserve and protect property adjacent to the roadway or work area from injury. Repair damage arising from acts or omissions in the performance of the work, at no additional cost to the Department.

816.04. Measurement and Payment.

Pay Item	Pay Unit
Compost Surface, Furn, LM	Cubic Yard
Compost Surface, Furn, __ inch.....	Square Yard
Topsoil Surface, Salv, LM.....	Cubic Yard
Topsoil Surface, Salv, __ inch	Square Yard
Topsoil Surface, Furn, LM	Cubic Yard
Topsoil Surface, Furn, __ inch	Square Yard
Fertilizer, Chemical Nutrient, Cl __	Pound
Seeding, Mixture __	Pound
Sodding.....	Square Yard
Mulch	Square Yard
Mulch Anchoring.....	Square Yard
Mulch Netting.....	Square Yard
Mulch Blanket	Square Yard

816.04

Mulch Blanket, High Velocity	Square Yard
Water, Sodding/Seeding.....	Unit
Weed Control.....	Acre

A. **Compost.** The Engineer will measure **Compost Surface, Furn LM**, at the source, before hauling to the project.

The Engineer will measure **Compost Surface, Furn, __ inch** in place.

B. **Topsoil.** The Engineer will measure **Topsoil Surface, Salv, LM** at the source, before placement at the final location.

The Engineer will measure **Topsoil Surface, Salv, __ inch** in place.

The Engineer will measure **Topsoil Surface, Furn, LM**, at the source, before hauling to the project.

The Engineer will measure **Topsoil Surface, Furn, __ inch** in place.

C. **Fertilizer, Chemical Nutrient.** The Engineer will measure **Fertilizer, Chemical Nutrient, CI __**, of the type required, by the weight of nutrient in the fertilizer. The Engineer will determine the weight of chemical fertilizer nutrient for payment using the following formula:

$$T = W \times \sum N \qquad \text{Formula 816-1}$$

where:

T = The weight of chemical fertilizer nutrients applied,

W = Total fertilizer weight applied, and

N = The percentages of nutrients contained in the fertilizer used.

The unit price for **Fertilizer, Chemical Nutrient, CI __** includes the cost of conducting soil test to determine need for phosphorus before applying fertilizer.

D. **Sod.** The Engineer will measure **Sodding** in place.

E. **Mulching Material.** The Engineer will measure the following types of **Mulch Blanket** in place:

1. Excelsior mulch blankets,
2. Straw mulch blankets,
3. High velocity excelsior mulch blanket, and
4. High velocity straw mulch blanket.

For straw mulch, marsh hay mulch, or hay mulch, provide the Engineer with tickets, in triplicate, at the time of delivery, showing the number of

bales and weight of each load. Weigh the mulch on scales in accordance with subsection 101.04.F and subsection 109.01.B.6.

The unit price for **Mulch** includes providing and spreading straw mulch, or marsh hay mulch, at the rate shown on the plans. The Department will not make adjustments if the Engineer allows the use of hay. If the Engineer allows dormant seeding, the Department will pay for mulching it at 1.5 times the unit price for **Mulch**.

The unit price for **Mulch Blanket, High Velocity** includes the cost of providing, placing, and anchoring the blankets.

The unit price for **Mulch Blanket** includes the cost of providing, placing, and anchoring the blankets. If the Contractor substitutes **Mulch Blanket, High Velocity** for **Mulch Blanket**, the Department will pay for the substitution at the unit price for **Mulch Blanket**.

The Engineer will measure **Mulch Anchoring** in place. The unit price for **Mulch Anchoring** includes the cost of providing and spraying the tackifier.

The Engineer will measure **Mulch Netting** in place. The unit price for **Mulch Netting** includes the cost of providing, placing, and anchoring netting.

F. **Water, Sodding and Seeding.** The Engineer will measure **Water Seeding/Sodding** in units; each unit is equal to 1,000 gallons.

G. **Weed Control.** The Engineer will measure **Weed Control** in place.

H. **Seeding, Mixture.** The Engineer will measure **Seeding Mixture** of the type required, in pounds of seed applied.

917.01

Section 917. TURF AND LANDSCAPING MATERIALS

917.01. General Requirements. Nursery stock, seed, sod, mulching material, and chemical fertilizer nutrients must meet the requirements of this section. Provide documentation of inspection for plant diseases and insect infestation in accordance with State and Federal laws.

917.02. Testing. The Engineer will require visual inspection or other acceptance tests of landscaping material as specified in this section or the Materials Quality Assurance Manual.

917.03. Nursery Stock. Nursery stock must come from nurseries located in Zone 4 or Zone 5 of the USDA Hardiness Zone Map for landscaping in the Lower Peninsula. Nursery stock must come from nurseries located in Zone 3 for landscaping in the Upper Peninsula. Nursery stock must meet the requirements of ANSI Z 60.1, except the ball sizes must be as shown on the plans.

Ensure nursery stock is true to the type and name specified by the *American Joint Committee on Horticultural Nomenclature*, "Standardized Plant Names." Label a sample of each plant type with the size, species, and variety. Include the common and scientific names on the label. Provide first-class quality stock with well-developed branch systems and vigorous, healthy root systems. Ensure uniform and straight tree trunks. The Department will reject nursery stock grown in sandy soils. Provide balled and burlapped trees, ornamentals, and shrubs unless otherwise required.

Notify the Engineer at least 24 hours before stock delivery. Provide an invoice showing plant sizes, species, and varieties for each shipment. The Engineer will not accept plants until the stock is delivered and inspected at the project.

The Engineer may examine plants at the nursery by removing soil from the root systems of balled or container grown plants, or digging in the nursery row. The Engineer may inspect plant root systems for each species and plant source to determine the condition of plant root systems. The Department will not pay for plants that fail the Engineer's root system inspection.

A. Deciduous Shade Trees. Deciduous shade trees must be straight and symmetrical with a persistent main leader. The crown must be in proportion to the total height of the tree.

Where clumps are required, they must have at least two stems originating from a common base at the groundline.

B. Small Trees, Ornamentals, and Shrubs. Small trees, ornamentals, and shrubs must be well-formed with a crown typical of the species or variety. The Engineer will not allow heading-back plants to meet the sizes shown on the plans.

C. Evergreen Trees. Evergreen trees must be typical of the species and not sheared or color treated. Do not use evergreen trees grown for Christmas trees. The Engineer may require anti-transpirant protection for evergreen trees.

D. Vines and Ground Cover Plants. Vines and ground cover plants must be in individual containers. Plants must be at least 1 year old, grown in pots long enough to ensure root growth capable of holding soil in place and retaining the container shape when removed from the pot. Vines must have at least four runners 1½ feet long. Tops of ground cover plants must be proportional to the root systems and typical of species or variety.

917.04. Tree Wrapping Materials. Wrap trees with waterproof crepe tree wrapping paper and secure with 2-inch wide masking tape. Use tree wrapping paper at least 3 inches wide, consisting of two layers of crepe kraft paper cemented together with asphalt, weighing at least 30 pounds per ream.

917.05. Balling Material. Use untreated burlap as balling material. Do not use synthetic balling materials such as nylon or plastic.

917.06. Bracing and Guying Materials.

A. Wire. For trees less than 4 inches in diameter, provide No. 11 galvanized steel guy wire. For trees with a diameter greater than 4 inches, provide No. 9 galvanized steel guy wire. Provide new wire free of bends and kinks.

B. Hose. Provide ¾ inch reinforced rubber garden hose or steam hose.

C. Stakes. Provide green metal T-section posts without anchor plates for bracing trees. For shade trees, posts must be at least 8 feet long. For evergreen trees, posts must be at least 6 feet long.

Provide nominal 2 inch by 4 inch stock stakes 24 inches long for guying plants. Stakes must be beveled on two or four sides to provide a point on one end.

917.07. Topsoil. The Engineer will visually inspect topsoil for organic contamination and cleanliness at the source prior to transport to the project site. Obtain the Engineer's approval of salvaged topsoil prior to use. Topsoil must meet the following requirements:

917.07

- A. Must not be contaminated;
- B. Must not be excessively acidic or excessively alkaline;
- C. Must not contain natural underlying soils, subbase materials, or other deleterious material;
- D. Must consist of natural loam, sandy loam, silty loam, or clay loam humus-bearing soils adapted to sustain plant life; and
- E. Must be of mineral origin, exclusive of peat or muck.

917.08. Compost. The Engineer will visually inspect and approve the compost at the composting site for physical contaminants.

Compost must be mature, stabilized, humus-like, dark brown or black compost derived from the aerobic decomposition of yard clippings or other compostable materials as defined in 1995 PA 451, Part 115 Solid Waste Management, and federal and state laws. Compost must meet the following requirements:

- A. Must be capable of supporting plant growth;
- B. Must be free of objectionable odor, plastic, glass, metal, or other physical contaminants;
- C. Must not contain viable weed seeds, or other plant parts capable of reproducing; the exception is for airborne weed species; and
- D. Must not produce visible free water or dust during handling.

917.09. Peat Moss. Peat moss must consist of finely shredded sphagnum or fibrous peat moss of a Department-approved commercial grade, free of woody substance.

917.10. Fertilizers. Provide standard, commercial, packaged, or bulk product fertilizers in granular or liquid form for landscape planting, landscape plant watering, seeding, and sodding. Each container of packaged fertilizer must be marked with the content analysis showing the minimum percentages of total nitrogen, available phosphoric acid, and soluble potash. If providing bulk fertilizer, provide an invoice with each shipment indicating the minimum percentages of total nitrogen, available phosphoric acid, and soluble potash.

A. Landscape Fertilizers.

1. **Planting Fertilizers.** For mixing with peat moss and topsoil, provide ready-mixed granular fertilizer containing equal amounts of phosphorus and potassium by weight. Each cubic yard of prepared soil must contain chemical fertilizer to provide 1 pound of available phosphorus and 1 pound of available soluble potassium.

2. **Watering Fertilizers.** For application during watering, provide water soluble, nitrogen-enriched fertilizer containing 8.3 pounds of available nitrogen per 1,000 gallons of water.
- B. **Seeding and Sodding Fertilizers.** Ensure fertilizers in each class contain a water insoluble and water-soluble component.
 1. **Class A.** Provide and apply Class A chemical nutrient fertilizer as specified by this subsection and as indicated by soil tests, when required.
 - a. **Water Insoluble Fertilizer.** Apply 32 pounds of water insoluble nitrogen per acre (i.e. 128 pounds of Ureaform or 115 of IBDU, etc.). Provide the water insoluble nitrogen from ureaformaldehydes, coarse grade isobutylidene diurea, or both.
 - b. **Water Soluble Fertilizer.** Apply 48 pounds of nitrogen, phosphorous, and potassium nutrient per acre (i.e. 253 pounds of 19-19-19, 400 pounds of 12-12-12, etc.). Provide water soluble fertilizer containing a 1:1:1 ratio of nitrogen, phosphorous, and potassium. Ensure fertilizer components include urea, diammonium phosphate, and potassium chloride.
 2. **Class B.** Provide and apply Class B chemical nutrient fertilizer as specified by this subsection and as indicated by soil tests, when required.
 - a. **Water Insoluble Fertilizer.** Apply 32 pounds of water insoluble nitrogen per acre. Provide the water insoluble nitrogen from ureaformaldehydes, coarse grade isobutylidene diurea, or both.
 - b. **Water Soluble Fertilizer.** Apply nitrogen at a rate of 48 pounds of nutrient per acre and 40 pounds of potassium per acre. Ensure fertilizer components include urea and potassium chloride.
 3. **Class C.** Provide and apply Class C chemical nutrient fertilizer as specified by this subsection and as indicated by soil tests, when required.
 - a. **Water Insoluble Fertilizer.** Apply 32 pounds of water insoluble nitrogen per acre. Provide water insoluble nitrogen from ureaformaldehydes, coarse grade isobutylidene diurea, or both.
 - b. **Water Soluble Fertilizer.** Apply nitrogen at a rate of 48 pounds of nutrient per acre. Ensure fertilizer components include urea.

917.11

917.11. Water. Use water that meets the requirements of section 911 and that is free from any impurities or substances that might injure the plant.

917.12. Seed. Provide the required certified seed and mixture meeting the purity, germination, and proportions specified in Table 917-1. Select seed of each species from the Qualified Products List. Supply seed in durable bags, with a tag marked by the manufacturer and supplier of the blended mix showing the species and variety name, lot number, net weight of contents, purity, and germination.

Seed must be tested in accordance with *The Proceedings of the Association of Official Seed Analysts*, "Rules for Testing Seeds." The Engineer will evaluate deficiencies below the percentage required for purity and germination, to determine acceptability.

917.13. Sod. Provide sod consisting of a densely rooted blend of at least two bluegrass varieties with at least 30 percent creeping red fescue content, free of weeds, and grown on the same or similar soil as the topsoil on the project. Obtain the Engineer's approval of the sod in the sod field before harvesting. Select sod capable of adapting to the topsoil on the project and future maintenance needs. Before cutting the sod, mow the grass to 3 inches to 4 inches above the ground surface.

Cut the sod from ½ inch to ¾ inch thick. If cutting sod into strips, cut in small uniform units of approximately 10 square feet per roll to ensure ease of handling of the sod without tearing or breaking. The sod may be cut, transported, and laid in large rolls with machinery designed for that purpose.

A. **Pegs for Sodding.** Provide pegs of sound wood, at least 10 inches long, with a cross-sectional area of at least 0.75 square inches for pegging sod. The Engineer may require longer pegs in sandy or similar soils.

917.14. Mulching Materials for Nursery Stock.

A. **Shredded Bark.** Provide shredded bark consisting of tree bark stripped and shredded from saw logs with a de-barking machine. Shredded bark mulch must be capable of passing through a conventional mulch blower. Do not use wood chips.

917.15. Mulch for Seed.

A. **Loose Mulch.** Provide clean, undamaged, and rot free straw in an air-dry condition for loose mulch. Loose mulch must be free of weed seeds or other deleterious material.

B. Turf Mulch Blankets. Select turf mulch blankets from the Qualified Products List.

1. **High Velocity Mulch Blankets.** High velocity mulch blankets must have net covering on two sides. The net must meet the requirements of subsection 917.15.D.1 and be capable of reinforcing the blanket to prevent damage during shipping, handling, and installation.

a. **High Velocity Excelsior Mulch Blankets.** Provide high velocity excelsior mulch blankets that meets the following requirements:

- i. Blanket must consist of a uniform layer of interlocking excelsior fibers cut from sound, green timber;
- ii. The average roll weight, for an entire shipment, must be 12 ounces per square yard ± 10 percent;
- iii. Blankets must be shipped in tightly compressed rolls; and
- iv. Each roll must have the roll weight and the manufacturer name written or stenciled on the roll wrapper or on an attached tag.

b. **High Velocity Straw Mulch Blankets.** Provide high velocity straw mulch blankets that meet the following requirements:

- i. Blankets must consist of a uniform layer of clean wheat straw, free of weeds and weed seed;
- ii. When dry, the blankets must weigh 8 ounces per square yard ± 10 percent;
- iii. The straw and net must be stitched together to create a uniform mat;
- iv. Blankets must be shipped in tightly compressed rolls; and
- v. Each roll must have the roll weight and the manufacturer name written or stenciled on the roll wrapper or on an attached tag.

2. **Mulch Blankets.**

a. **Excelsior Mulch Blankets.** Provide excelsior mulch blankets meeting the requirements of high velocity excelsior mulch blankets except the blankets must weigh from 8 ounces to 12 ounces per square yard and have netting on one side.

b. **Straw Mulch Blankets.** Provide straw mulch blankets meeting the requirements of high velocity straw mulch blankets, except the blankets must have netting on one side.

C. Mulch Anchoring. Select mulch anchoring material from the Qualified Products List.

917.15

1. **Latex-Base.** Provide latex-base mulch anchoring material composed of 48 percent styrene, 50 percent butadiene, and 2 percent additive, by weight. The mulch anchoring material must contain from 42.0 percent to 46.0 percent solids and a pH, as shipped, from 8.5 to 10.0. Protect the emulsion from freezing or prolonged exposure to sunlight.
2. **Recycled Newsprint.** Provide recycled newsprint mulch consisting of specifically prepared, biodegradable, shredded, recycled newsprint fibers. The recycled newsprint fiber must:
 - a. Have a moisture content (total weight) no greater than 12 percent;
 - b. Have a high-grade newsprint content of at least 96 percent by weight (oven-dry);
 - c. Include tackifier content from 1.5 percent to 3 percent by weight;
 - d. Have a water holding capacity of at least 32 ounces per 3.5 ounces of fiber;
 - e. Contain a wetting agent and a defoaming agent; and
 - f. Contain a nontoxic bright green or blue dyestuff that adheres to the fiber to minimize leaching of the color after application.
3. **Wood Fiber.** Provide specially prepared, biodegradable, air-dried, virgin wood fibers manufactured from 100 percent whole wood chips. Do not use recycled materials. The wood fiber must:
 - a. Have a moisture content (total weight) no greater than 12 percent;
 - b. Have an organic wood fiber content of at least 95 percent by weight (oven-dry);
 - c. Include tackifier content from 3 percent to 5 percent by weight;
 - d. Have a water holding capacity of at least 35 ounces per 3.5 ounces of fiber;
 - e. Be dyed with a green or blue biodegradable dye; and
 - f. Contain no growth or germination inhibiting materials.
4. **Guar Gum.** Provide guar gum tackifiers consisting of at least 95 percent guar gum by weight with the remaining 5 percent by weight consisting of dispersing and crosslinking additives.
5. **Other Tackifiers.** The Contractor may provide water-soluble natural vegetable gums, guar gums blended with gelling and hardening agents, or a water-soluble blend of hydrophilic polymers, viscosifiers, sticking aids, and other gums as tackifiers.

D. Mulch Netting.

1. **Netting.** Provide mulch net with a mesh size from ½ inch by ½ inch to 1½ inches by 2 inches, formulated from or treated with a chemical that promotes the breakdown of the net within the first growing season after placement.

Mulch netting must be strong enough to hold the mulch in place and still deteriorate when exposed to sunlight.

2. **Net Anchors.** Provide wood or other biodegradable net anchors, at least 6 inches in length, as approved by the Engineer. Do not use steel wire staples or pins to anchor mulch blankets or netting.

917.16. Weed Control. Provide herbicides registered for use on highway right-of-way by the Michigan Department of Agriculture and the United States Environmental Protection Agency. Obtain the Engineer's approval of herbicides prior to use. Do not use restricted use herbicides.

917.16

Table 917-1 Seed Mixtures										
Species	Minimum Purity (percent)	Germination (percent)	Seed Mixture							
			Mixture Proportions (percent by weight)							
			TDS	THV	TUF	TGM	THM	CR	TSM 6 – 24	TSM >24
Kentucky Blue Grass	98	85	5	15	10	10	30	—	—	—
Perennial Ryegrass	96	85	25	30	20	20	20	—	50	50
Hard Fescue	97	85	25	—	20	30	—	—	—	—
Creeping Red Fescue	97	85	45	45	40	40	50	—	—	—
Fults Salt Grass	98	85	—	10	10	—	—	—	—	—
Cereal Rye	85	85	—	—	—	—	—	100	—	—
Spring Oats	85	85	—	—	—	—	—	—	50	50