PUBLIC IMPROVEMENT REQUEST FOR PROPOSAL

RFP# 24-54

Fuller Park Parking Lot Improvements

City of Ann Arbor
Community Services / Parks & Recreation

Due Date: October 17, 2024 by 11:00 a.m (local time)

Issued By:

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

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SECTION I - GENERAL INFORMATION

A. OBJECTIVE

The purpose of this Request for Proposal is to select a firm to provide construction services for the Fuller Park Parking Lot Improvements project. Work for this phase of the project involves the paving of one existing parking lot, with an alternative to pave a section of the Border-to-Border trail, as described in the plans and specifications.

Work to be done under this Contract is generally described through the detailed specifications and must be completed fully in accordance with the contract documents. All work to be done under this Contract is located in or near the City of Ann Arbor. Any Bid which does not conform fully to these instructions may be rejected.

B. BID SECURITY

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

Proposals that fail to provide a bid security upon proposal opening will be deemed non-responsive and will not be considered for award.

C. QUESTIONS AND CLARIFICATIONS / DESIGNATED CITY CONTACTS

All questions regarding this Request for Proposal (RFP) shall be submitted via e-mail. Questions will be accepted and answered in accordance with the terms and conditions of this RFP.

All questions shall be submitted on or before October 7, 2024 at 1:00 p.m (local time), and should be addressed as follows:

Scope of Work/Proposal Content questions shall be e-mailed to **Scott Spooner, Parks and Recreation Services Deputy Manager, sspooner@a2gov.org.**

RFP Process and Compliance questions shall be e-mailed to Colin Spencer, Buyer - CSpencer@a2gov.org

Should any prospective bidder be in doubt as to the true meaning of any portion of this RFP, or should the prospective bidder find any ambiguity, inconsistency, or omission therein, the prospective bidder shall make a written request for an official interpretation or correction by the due date for questions above.

All interpretations, corrections, or additions to this RFP will be made only as an official addendum that will be posted to a2gov.org and MITN.info and it shall be the prospective bidder's responsibility to ensure they have received all addenda before submitting a proposal. Any addendum issued by the City shall become part of the RFP, and must be incorporated in the proposal where applicable.

D. PRE-PROPOSAL MEETING

No pre-proposal meeting will be held for this RFP. Please contact staff indicated above with general questions regarding the RFP.

E. PROPOSAL FORMAT

To be considered, each firm must submit a response to this RFP using the format provided in Section III. No other distribution of proposals is to be made by the prospective bidder. An official authorized to bind the bidder to its provisions must sign the proposal. Each proposal must remain valid for at least one hundred and twenty (120) days from the due date of this RFP.

Proposals should be prepared simply and economically providing a straightforward, concise description of the bidder's ability to meet the requirements of the RFP. No erasures are permitted. Mistakes may be crossed out and corrected and must be initialed in ink by the person signing the proposal.

F. SELECTION CRITERIA

Responses to this RFP will be evaluated using a point system as shown in Section III. A selection committee comprised primarily of staff from the City will complete the evaluation.

If interviews are desired by the City, the selected firms will be given the opportunity to discuss their proposal, qualifications, past experience, and their fee proposal in more detail. The City further reserves the right to interview the key personnel assigned by the selected bidder to this project.

All proposals submitted may be subject to clarifications and further negotiation. All agreements resulting from negotiations that differ from what is represented within the RFP or in the proposal response shall be documented and included as part of the final contract.

G. SEALED PROPOSAL SUBMISSION

All proposals are due and must be delivered to the City on or before OCTOBER 17, 2024 by 11:00a.m. (local time). Proposals submitted late or via oral, telephonic, telegraphic, electronic mail or facsimile **will not** be considered or accepted.

Each respondent should submit in a sealed envelope

- **one (1) original proposal**
- **one (1) additional proposal copy**
- **one (1) digital copy of the proposal preferably on a USB/flash drive as one file in PDF format**

Proposals submitted should be clearly marked: **"RFP No. 24-54 – Fuller Parking Lot Improvements"** and list the bidder's name and address.

Proposals must be addressed and delivered to:
City of Ann Arbor
c/o Customer Service
301 East Huron Street
Ann Arbor, MI 48107

All proposals received on or before the due date will be publicly opened and recorded on the due date. No immediate decisions will be rendered.

Hand delivered proposals may be dropped off in the Purchasing drop box located in the Ann Street (north) vestibule/entrance of City Hall which is open to the public Monday through Friday from 8am to 5pm (except holidays). The City will not be liable to any prospective bidder for any unforeseen circumstances, delivery, or postal delays. Postmarking on the due date will not substitute for receipt of the proposal.

Bidders are responsible for submission of their proposal. Additional time will not be granted to a single prospective bidder. However, additional time may be granted to all prospective bidders at the discretion of the City.

A proposal may be disqualified if the following required forms are not included with the proposal:

- **Attachment B – General Declarations**
- **Attachment D - Prevailing Wage Declaration of Compliance**
- **Attachment E - Living Wage Declaration of Compliance**
- **Attachment G - Vendor Conflict of Interest Disclosure Form**
- **Attachment H - Non-Discrimination Declaration of Compliance**

Proposals that fail to provide these forms listed above upon proposal opening may be deemed non-responsive and may not be considered for award.

H. DISCLOSURES

Under the Freedom of Information Act (Public Act 442), the City is obligated to permit review of its files, if requested by others. All information in a proposal is subject to

disclosure under this provision. This act also provides for a complete disclosure of contracts and attachments thereto.

I. TYPE OF CONTRACT

A sample of the Construction Agreement is included as Attachment A. Those who wish to submit a proposal to the City are required to review this sample agreement carefully. **The City will not entertain changes to its Construction Agreement.**

For all construction work, the respondent must further adhere to the City of Ann Arbor General Conditions. The General Conditions are included herein. Retainage will be held as necessary based on individual tasks and not on the total contract value. The Contractor shall provide the required bonds included in the Contract Documents for the duration of the Contract.

The City reserves the right to award the total proposal, to reject any or all proposals in whole or in part, and to waive any informality or technical defects if, in the City's sole judgment, the best interests of the City will be so served.

This RFP and the selected bidder's response thereto, shall constitute the basis of the scope of services in the contract by reference.

J. NONDISCRIMINATION

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

K. WAGE REQUIREMENTS

The Attachments provided herein outline the requirements for payment of prevailing wages or of a "living wage" to employees providing service to the City under this contract. The successful bidder must comply with all applicable requirements and provide documentary proof of compliance when requested.

Pursuant to Resolution R-16-469 all public improvement contractors are subject to prevailing wage and will be required to provide to the City payroll records sufficient to demonstrate compliance with the prevailing wage requirements. Use of Michigan Department of Transportation Prevailing Wage Forms (sample attached hereto) or a City-approved equivalent will be required along with wage rate interviews.

For laborers whose wage level are subject to federal, state and/or local prevailing wage law the appropriate Davis-Bacon wage rate classification is identified based

upon the work including within this contract. **The wage determination(s) current on the date 10 days before proposals are due shall apply to this contract.** The U.S. Department of Labor (DOL) has provided explanations to assist with classification in the following resource link: www.sam.gov.

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

L. CONFLICT OF INTEREST DISCLOSURE

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

M. COST LIABILITY

The City of Ann Arbor assumes no responsibility or liability for costs incurred by the bidder prior to the execution of an Agreement. The liability of the City is limited to the terms and conditions outlined in the Agreement. By submitting a proposal, bidder agrees to bear all costs incurred or related to the preparation, submission, and selection process for the proposal.

N. DEBARMENT

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

O. PROPOSAL PROTEST

All proposal protests must be in writing and filed with the Purchasing Manager within five (5) business days of any notices of intent, including, but not exclusively, divisions on prequalification of bidders, shortlisting of bidders, or a notice of intent to award. Only bidders who responded to the solicitation may file a bid protest. The bidder must clearly state the reasons for the protest. If any bidder contacts a City Service Area/Unit and indicates a desire to protest an award, the Service Area/Unit shall refer the bidder to the Purchasing Manager. The Purchasing Manager will provide the bidder with the

appropriate instructions for filing the protest. The protest shall be reviewed by the City Administrator or designee, whose decision shall be final.

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

P. SCHEDULE

The following is the schedule for this RFP process.

Activity/Event	**Anticipated Date**
Written Question Deadline	October 7, 2024, 1:00 p.m. (Local Time)
Addenda Published (if needed)	Week of October 7, 2024
Proposal Due Date	October 17, 2024, 11:00 a.m. (Local Time)
Selection/Negotiations	October/November 2024
Expected City Council Authorizations	December 2024

The above schedule is for information purposes only and is subject to change at the City's discretion.

Q. IRS FORM W-9

The selected bidder will be required to provide the City of Ann Arbor an IRS form W-9.

R. RESERVATION OF RIGHTS

1. The City reserves the right in its sole and absolute discretion to accept or reject any or all proposals, or alternative proposals, in whole or in part, with or without cause.
2. The City reserves the right to waive, or not waive, informalities or irregularities in terms or conditions of any proposal if determined by the City to be in its best interest.
3. The City reserves the right to request additional information from any or all bidders.
4. The City reserves the right to reject any proposal that it determines to be unresponsive and deficient in any of the information requested within RFP.
5. The City reserves the right to determine whether the scope of the project will be entirely as described in the RFP, a portion of the scope, or a revised scope be implemented.
6. The City reserves the right to select one or more contractors or service providers to perform services.

7. The City reserves the right to retain all proposals submitted and to use any ideas in a proposal regardless of whether that proposal is selected. Submission of a proposal indicates acceptance by the firm of the conditions contained in this RFP, unless clearly and specifically noted in the proposal submitted.
8. The City reserves the right to disqualify proposals that fail to respond to any requirements outlined in the RFP, or failure to enclose copies of the required documents outlined within the RFP.

S. IDLEFREE ORDINANCE

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

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

(a) For any period of time while the Commercial Vehicle is unoccupied; or

(b) For more than 5 minutes in any 60-minute period while the Commercial Vehicle is occupied.

In addition, generators and other internal combustion engines are covered

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

T. ENVIRONMENTAL COMMITMENT

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

The City strongly encourages potential vendors to bring forward tested, emerging, innovative, and environmentally preferable products and services that are best suited to the City's environmental principles. This includes products and services such as those with lower greenhouse gas emissions, high recycled content, without toxic substances, those with high reusability or recyclability, those that reduce the consumption of virgin materials, and those with low energy intensity.

As part of its environmental commitment, the City reserves the right to award a contract to the most responsive and responsible bidder, which includes bids that bring forward products or services that help advance the City's environmental commitment. In addition, the City reserves the right to request that all vendors report their annual greenhouse gas emissions, energy consumption, miles traveled, or other relevant

criteria in order to help the City more fully understand the environmental impact of its procurement decisions.

U. MAJOR SUBCONTRACTORS

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

N. LIQUIDATED DAMAGES

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

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

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

SECTION II - SCOPE OF WORK

Please see the plan set for more details.

SECTION III - MINIMUM INFORMATION REQUIRED

PROPOSAL FORMAT

The following describes the elements that should be included in each of the proposal sections and the weighted point system that will be used for evaluation of the proposals.

Bidders should organize Proposals into the following Sections:

A. Qualifications, Experience and Accountability
B. Workplace Safety
C. Workforce Development
D. Social Equity and Sustainability
E. Schedule of Pricing/Cost
F. Authorized Negotiator
G. Attachments

Bidders are strongly encouraged to provided details for all of the information requested below within initial proposals. Backup documentation may be requested at the sole discretion of the City to validate all of the responses provided herein by bidders. False statements by bidders to any of the criteria provided herein will result in the proposal being considered non-responsive and will not be considered for award.

Pursuant to Sec 1:325 of the City Code which sets forth requirements for evaluating public improvement bids, Bidders should submit the following:

A. Qualifications, Experience and Accountability - 20 Points

1. Qualifications and experience of the bidder and of key persons, management, and supervisory personnel to be assigned by the bidder.

2. References from individuals or entities the bidder has worked for within the last five (5) years including information regarding records of performance and job site cooperation.

3. Evidence of any quality control program used by the bidder and the results of any such program on the bidder's previous projects.

4. A statement from the bidder as to any major subcontractors it expects to engage including the name, work, and amount.

B. Workplace Safety – 20 Points

1. Provide a copy of the bidder's safety program, and evidence of a safety-training program for employees addressing potential hazards of the proposed job site. Bidder must identify a designated qualified safety representative responsible for bidder's safety program who serves as a contact for safety related matters.

2. Provide the bidder's Experience Modification Rating ("EMR") for the last three consecutive years. Preference within this criterion will be given to an EMR of 1.0 or less based on a three-year average.

3. Evidence that all craft labor that will be employed by the bidder for the project has, or will have prior to project commencement, completed at least an authorized 10-hour OSHA Construction Safety Course.

4. For the last three years provide a copy of any documented violations and the bidder's corrective actions as a result of inspections conducted by the Michigan Occupational Safety & Health Administration (MIOSHA), U.S. Department of Labor – Occupational Safety and Health Administration (OSHA), or any other applicable safety agency.

C. Workforce Development – 20 Points

1. Documentation as to bidder's pay rates, health insurance, pension or other retirement benefits, paid leave, or other fringe benefits to its employees.

2.. Documentation that the bidder participates in a Registered Apprenticeship Program that is registered with the United States Department of Labor Office of Apprenticeship or by a State Apprenticeship Agency recognized by the USDOL Office of Apprenticeship. USDOL apprenticeship agreements shall be disclosed to the City in the solicitation response.

3. Bidders shall disclose the number of non-craft employees who will work on the project on a 1099 basis, and the bidders shall be awarded points based on their relative reliance on 1099 work arrangements with more points assigned to companies with fewer 1099 arrangements. Bidders will acknowledge that the City may ask them to produce payroll records at points during the project to verify compliance with this section.

D. Social Equity and Sustainability – 20 Points

1. A statement from the bidder as to what percentage of its workforce resides in the City of Ann Arbor and in Washtenaw County, Michigan. The City will consider in evaluating which bids best serve its interests, the extent to which responsible and qualified bidders employ individuals in either the city of the county.

   Washtenaw County jurisdiction is prioritized for evaluation purposes for this solicitation.

2. Evidence of Equal Employment Opportunity Programs for minorities, women, veterans, returning citizens, and small businesses.

3. Evidence that the bidder is an equal opportunity employer and does not discriminate on the basis of race, sex, pregnancy, age, religion, national origin, marital status, sexual orientation, gender identity or expression, height, weight, or disability.

4. The bidder's proposed use of sustainable products, technologies, or practices for the project, which reduce the impact on human health and the environment, including raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, and waste management.

5. The bidder's environmental record, including findings of violations and penalties imposed by government agencies.

E. Schedule of Pricing/Cost – 20 Points

Company: Fonson Company, Inc.

Base Bid –

Lump Sum Bid – Fuller Park Parking Lot

For the entire work outlined in these documents for **Fuller Park Parking Lot Improvements** complete as specified, using equipment and materials only of the type and manufacturers where specifically named.

Four Hundred Fifty Six Thousand Five Hundred Ninety Three and 10/100 Dollars ($ 456,593.10)

Unit Price Bid – Undercutting Allowance

Bidder acknowledges that each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit for each separately identified item, and estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

Description	Estimated Quantity	Unit	Unit Price	Total Price
Subgrade Undercutting, Type IV	200	Cyd	$ 130.00	$ 26,000.00

Base Bid Total (Lump Sum + Unit Price) $ 482,593.10

*See next page for **alternate** bid items*

Alternate Bids – Lump Sum

For the entire work outlined in these documents for **Fuller Park Parking Lot Improvements** complete as specified, using equipment and materials only of the type and manufacturers where specifically named.

Alternate Lump Sum Bid 'A' – 10' Wide Trail

Three Hundred Fifty Three Thousand One Hundred Seventy Two and 82/100 Dollars ($ 353,172.82)

Alternate Lump Sum Bid 'B' – 8' Wide Trail

Three Hundred Four Thousand Five Hundred Fifty Six and 42/100 Dollars ($ 304,556.42)

F. AUTHORIZED NEGOTIATOR / NEGOTIATIBLE ELEMENTS (ALTERNATES)

Include the name, phone number, and e-mail address of persons(s) in your organization authorized to negotiate the agreement with the City.

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

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

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

Consideration for any proposed alternative items or time may be negotiated at the discretion of the City.

G. ATTACHMENTS

General Declaration, Legal Status of Bidder, Conflict of Interest Form, Living Wage Compliance Form, Prevailing Wage Compliance Form and the Non-Discrimination Form should be completed and returned with the proposal. These elements should be included as attachments to the proposal submission.

PROPOSAL EVALUATION

1. The selection committee will evaluate each proposal by the above-described criteria and point system. The City reserves the right to reject any proposal that it determines to be unresponsive and deficient in any of the information requested for evaluation. A proposal with all the requested information does not guarantee the proposing firm to be a candidate for an interview if interviews are selected to be held by the City. The committee may contact references to verify material submitted by the bidder.

2. The committee then will schedule interviews with the selected firms if necessary. The selected firms will be given the opportunity to discuss in more detail their qualifications, past experience, proposed work plan (if applicable) and pricing.

3. The interview should include the project team members expected to work on the project, but no more than six members total. The interview shall consist of a presentation of up to thirty minutes (or the length provided by the committee) by the

bidder, including the person who will be the project manager on this contract, followed by approximately thirty minutes of questions and answers. Audiovisual aids may be used during the oral interviews. The committee may record the oral interviews.

4. The firms interviewed will then be re-evaluated by the above criteria and adjustments to scoring will be made as appropriate. After evaluation of the proposals, further negotiation with the selected firm may be pursued leading to the award of a contract by City Council, if suitable proposals are received.

The City reserves the right to waive the interview process and evaluate the bidder based on their proposal and pricing schedules alone.

The City will determine whether the final scope of the project to be negotiated will be entirely as described in this RFP, a portion of the scope, or a revised scope.

Work to be done under this contract is generally described through the detailed specifications and must be completed fully in accordance with the contract documents.

Any proposal that does not conform fully to these instructions may be rejected.

PREPARATION OF PROPOSALS

Proposals should have no plastic bindings but will not be rejected as non-responsive for being bound. Staples or binder clips are acceptable. Proposals should be printed double sided on recycled paper.

Each person signing the proposal certifies that they are a person in the bidder's firm/organization responsible for the decisions regarding the fees being offered in the Proposal and has not and will not participate in any action contrary to the terms of this provision.

ADDENDA

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

Each bidder should acknowledge in its proposal all addenda it has received on the General Declarations form provided in the Attachments section herein. The failure of a bidder to receive or acknowledge receipt of any addenda shall not relieve the bidder of the responsibility for complying with the terms thereof. The City will not be bound by oral responses to inquiries or written responses other than official written addenda.

SECTION IV - ATTACHMENTS

Attachment A – Sample Standard Contract

Attachment B – General Declarations

Attachment C - Legal Status of Bidder

Attachment D – Prevailing Wage Declaration of Compliance Form

Attachment E – Living Wage Declaration of Compliance Form

Attachment F – Living Wage Ordinance Poster

Attachment G – Vendor Conflict of Interest Disclosure Form

Attachment H – Non-Discrimination Ordinance Declaration of Compliance Form

Attachment I – Non-Discrimination Ordinance Poster

Sample Certified Payroll Report Template

CONTRACT

THIS CONTRACT is between the CITY OF ANN ARBOR, a Michigan Municipal Corporation, 301 East Huron Street, Ann Arbor, Michigan 48104 ("City") and FONSON COMPANY, INC. ("Contractor")
a(n) Michigan corporation located at 7644 Whitmore Lake Rd. , Brighton, MI 48116

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

ARTICLE I - Scope of Work

The Contractor agrees to furnish all of the materials, equipment and labor necessary; and to abide by all the duties and responsibilities applicable to it for the project titled **Fuller Park Parking Lot and Trail Improvements** in accordance with the requirements and provisions of the following documents, including all written modifications incorporated into any of the documents, all of which are incorporated as part of this Contract:

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

ARTICLE II - Definitions

Administering Service Area/Unit means **Community Services / Parks and Recreation.**

Project means **Fuller Park Parking Lot and Trail Improvements RFP# 24-54**

Supervising Professional means the person acting under the authorization of the manager of the Administering Service Area/Unit. At the time this Contract is executed, the Supervising Professional is: **Hillary Hanzel** whose job title is **Landscape Architect Capital Project Manager IV**. If there is any question concerning who the Supervising Professional is, Contractor shall confirm with the manager of the Administering Service Area/Unit.

Contractor's Representative means **Brendan Fons** whose job title is **bfons@fonsoninc.com**.

ARTICLE III - Time of Completion

(A) The work to be completed under this Contract shall begin immediately on the date specified in the Notice to Proceed issued by the City.

(B) The entire work for this Contract shall be completed within 365 consecutive calendar days.

(C) Failure to complete all the work within the time specified above, including any extension granted in writing by the Supervising Professional, shall obligate the Contractor to pay the City, as liquidated damages and not as a penalty, an amount equal to $500.00 for each calendar day of delay in the completion of all the work. If any liquidated damages are unpaid by the Contractor, the City shall be entitled to deduct these unpaid liquidated damages from the monies due the Contractor.

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

ARTICLE IV - The Contract Sum

(A) The City shall pay to the Contractor for the performance of the Contract, the lump sum price as given in the Bid Form in the amount of: $835,765.92

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

ARTICLE V - Assignment

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

ARTICLE VI - Choice of Law

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

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

ARTICLE VII - Relationship of the Parties

The parties of the Contract agree that it is not a Contract of employment but is a Contract to accomplish a specific result. Contractor is an independent Contractor performing services for the

City. Nothing contained in this Contract shall be deemed to constitute any other relationship between the City and the Contractor.

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

ARTICLE VIII - Notice

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

ARTICLE IX - Indemnification

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

ARTICLE X - Entire Agreement

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

ARTICLE XI – Electronic Transactions

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

[Signatures are on the Following Page]

FONSON COMPANY, INC.

By: _____

Name: Brendan Fons

Title: Secretary

Date: _____

CITY OF ANN ARBOR

By: _____

Name: Milton Dohoney Jr.

Title: City Administrator

Date: _____

Approved as to substance:

By: _____

Name: Derek Delacourt

Title: Community Services Area Administrator

Date: _____

Approved as to form:

By: _____

Name: Atleen Kaur

Title: City Attorney

Date: _____

(Signatures continue on following page)

CITY OF ANN ARBOR

By: _____

Name: _____

Title: Mayor

Date: _____

By: _____

Name: _____

Title: City Clerk

Date: _____

PERFORMANCE BOND

(1) _____ of _____ (referred to as "Principal"), and _____, a corporation duly authorized to do business in the State of Michigan (referred to as "Surety"), are bound to the City of Ann Arbor, Michigan (referred to as "City"), for $, the payment of which Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, by this bond.

(2) The Principal has entered a written Contract with the City entitled _____ _____, for RFP No. _____ and this bond is given for that Contract in compliance with Act No. 213 of the Michigan Public Acts of 1963, as amended, being MCL 129.201 et seq.

(3) Whenever the Principal is declared by the City to be in default under the Contract, the Surety may promptly remedy the default or shall promptly:

(a) complete the Contract in accordance with its terms and conditions; or

(b) obtain a bid or bids for submission to the City for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, arrange for a Contract between such bidder and the City, and make available, as work progresses, sufficient funds to pay the cost of completion less the balance of the Contract price; but not exceeding, including other costs and damages for which Surety may be liable hereunder, the amount set forth in paragraph 1.

(4) Surety shall have no obligation to the City if the Principal fully and promptly performs under the Contract.

(5) Surety agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder, or the specifications accompanying it shall in any way affect its obligations on this bond, and waives notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work, or to the specifications.

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

SIGNED AND SEALED this _____ day of _____, 202_.

_____	_____
(Name of Surety Company)	(Name of Principal)
By _____	By _____
(Signature)	(Signature)
Its _____	Its _____
(Title of Office)	(Title of Office)
Approved as to form:	Name and address of agent:
_____	_____
Atleen Kaur, City Attorney	

LABOR AND MATERIAL BOND

(1) _____

of _____(referred to as "Principal"), and _____, a corporation duly authorized to do business in the State of Michigan, (referred to as "Surety"), are bound to the City of Ann Arbor, Michigan (referred to as "City"), for the use and benefit of claimants as defined in Act 213 of Michigan Public Acts of 1963, as amended, being MCL 129.201 et seq., in the amount of

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

(2) The Principal has entered a written Contract with the Cityentitled _____

_____

_____

____, for RFP No. _____; and this bond is given for that Contract in compliance with Act No. 213 of the Michigan Public Acts of 1963 as amended;

(3) If the Principal fails to promptly and fully repay claimants for labor and material reasonably required under the Contract, the Surety shall pay those claimants.

(4) Surety's obligations shall not exceed the amount stated in paragraph 1, and Surety shall have no obligation if the Principal promptly and fully pays the claimants.

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

SIGNED AND SEALED this _____ day of _____, 202_

_____	_____
(Name of Surety Company)	(Name of Principal)
By _____	By _____
(Signature)	(Signature)
Its _____	Its _____
(Title of Office)	(Title of Office)

Approved as to form:

Atleen Kaur, City Attorney

Name and address of agent:

GENERAL CONDITIONS

Section 1 - Execution, Correlation and Intent of Documents

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

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

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

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

Section 2 - Order of Completion

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

Section 3 - Familiarity with Work

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

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

Section 4 - Wage Requirements

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

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

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

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

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

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

Section 5 - Non-Discrimination

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

Section 6 - Materials, Appliances, Employees

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

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

Adequate sanitary facilities shall be provided by the Contractor.

Section 7 - Qualifications for Employment

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

Section 8 - Royalties and Patents

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

Section 9 - Permits and Regulations

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

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

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

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

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

employees of the City. The Contractor shall obtain and maintain sufficient insurance to cover damage to any City property at the site by any cause.

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

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

Section 11 - Inspection of Work

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

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

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

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

Section 12 - Superintendence

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

Section 13 - Changes in the Work

The City may make changes to the quantities of work within the general scope of the Contract at any time by a written order and without notice to the sureties. If the changes add to or deduct from the extent of the work, the Contract Sum shall be adjusted accordingly. All the changes shall be

executed under the conditions of the original Contract except that any claim for extension of time caused by the change shall be adjusted at the time of ordering the change.

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

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

Section 14 - Extension of Time

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

(1) When work under an extra work order is added to the work under this Contract;

(2) When the work is suspended as provided in Section 20;

(3) When the work of the Contractor is delayed on account of conditions which could not have been foreseen, or which were beyond the control of the Contractor, and which were not the result of its fault or negligence;

(4) Delays in the progress of the work caused by any act or neglect of the City or of its employees or by other Contractors employed by the City;

(5) Delay due to an act of Government;

(6) Delay by the Supervising Professional in the furnishing of plans and necessary information;

(7) Other cause which in the opinion of the Supervising Professional entitles the Contractor to an extension of time.

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

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

Section 15 - Claims for Extra Cost

If the Contractor claims that any instructions by drawings or other media issued after the date of the Contract involved extra cost under this Contract, it shall give the Supervising Professional written notice within 7 days after the receipt of the instructions, and in any event before proceeding to execute the work, except in emergency endangering life or property. The procedure shall then be as provided for Changes in the Work-Section l3. No claim shall be valid unless so made.

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

(1) The Contractor shall be reimbursed for all reasonable costs incurred in doing the work, and shall receive an additional payment of 15% of all the reasonable costs to cover both its indirect overhead costs and profit;

(2) The term "Cost" shall cover all payroll charges for employees and supervision required under the specific order, together with all worker's compensation, Social Security, pension and retirement allowances and social insurance, or other regular payroll charges on same; the cost of all material and supplies required of either temporary or permanent character; rental of all power-driven equipment at agreed upon rates, together with cost of fuel and supply charges for the equipment; and any costs incurred by the Contractor as a direct result of executing the order, if approved by the Supervising Professional;

(3) If the extra is performed under subcontract, the subcontractor shall be allowed to compute its charges as described above. The Contractor shall be permitted to add an additional charge of 5% percent to that of the subcontractor for the Contractor's supervision and contractual responsibility;

(4) The quantities and items of work done each day shall be submitted to the Supervising Professional in a satisfactory form on the succeeding day, and shall be approved by the Supervising Professional and the Contractor or adjusted at once;

(5) Payments of all charges for work under this Section in any one month shall be made along with normal progress payments. Retainage shall be in accordance with Progress Payments-Section 16.

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

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

Section 16 - Progress Payments

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

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

In the case of Contracts which include only the Furnishing and Delivering of Equipment, the payments shall be; 60% of the Contract Sum upon the delivery of all equipment to be furnished, or in the case of delivery of a usable portion of the equipment in advance of the total equipment delivery, 60% of the estimated value of the portion of the equipment may be paid upon its delivery in advance of the time of the remainder of the equipment to be furnished; 30% of the Contract Sum upon completion of erection of all equipment furnished, but not later than 60 days after the date of delivery of all of the equipment to be furnished; and payment of the final 10% on final completion of erection, testing and acceptance of all the equipment to be furnished; but not later than l80 days after the date of delivery of all of the equipment to be furnished, unless testing has been completed and shows the equipment to be unacceptable.

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

Section 17 - Deductions for Uncorrected Work

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

Section 18 - Correction of Work Before Final Payment

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

If the Contractor does not remove the condemned work and materials within l0 days after written notice, the City may remove them and, if the removed material has value, may store the material

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

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

Section 19 - Acceptance and Final Payment

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

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

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

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

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

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

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

Section 20 - Suspension of Work

The City may at any time suspend the work, or any part by giving 5 days notice to the Contractor in writing. The work shall be resumed by the Contractor within 10 days after the date fixed in the

written notice from the City to the Contractor to do so. The City shall reimburse the Contractor for expense incurred by the Contractor in connection with the work under this Contract as a result of the suspension.

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

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

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

If the Contractor is adjudged a bankrupt, or if it makes a general assignment for the benefit of creditors, or if a receiver is appointed on account of its insolvency, or if it persistently or repeatedly refuses or fails except in cases for which extension of time is provided, to supply enough properly skilled workers or proper materials, or if it fails to make prompt payments to subcontractors or for material or labor, or persistently disregards laws, ordinances or the instructions of the Supervising Professional, or otherwise is guilty of a substantial violation of any provision of the Contract, then the City, upon the certificate of the Supervising Professional that sufficient cause exists to justify such action, may, without prejudice to any other right or remedy and after giving the Contractor 3 days written notice, terminate this Contract. The City may then take possession of the premises and of all materials, tools and appliances thereon and without prejudice to any other remedy it may have, make good the deficiencies or finish the work by whatever method it may deem expedient, and deduct the cost from the payment due the Contractor. The Contractor shall not be entitled to receive any further payment until the work is finished. If the expense of finishing the work, including compensation for additional managerial and administrative services exceeds the unpaid balance of the Contract Sum, the Contractor and its surety are liable to the City for any excess cost incurred. The expense incurred by the City, and the damage incurred through the Contractor's default, shall be certified by the Supervising Professional.

Section 22 - Contractor's Right to Terminate Contract

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

Section 23 - City's Right To Do Work

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

Section 24 - Removal of Equipment and Supplies

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

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

Section 25 - Responsibility for Work and Warranties

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

The Contractor shall guarantee the quality of the work for a period of one year. The Contractor shall also unconditionally guarantee the quality of all equipment and materials that are furnished and installed under the contract for a period of one year. At the end of one year after the Contractor's receipt of final payment, the complete work, including equipment and materials furnished and installed under the contract, shall be inspected by the Contractor and the Supervising Professional. Any defects shall be corrected by the Contractor at its expense as soon as practicable but in all cases within 60 days. Any defects that are identified prior to the end of one year shall also be inspected by the Contractor and the Supervising Professional and shall be corrected by the Contractor at its expense as soon as practicable but in all cases within 60 days. The Contractor shall assign all manufacturer or material supplier warranties to the City prior to final payment. The assignment shall not relieve the Contractor of its obligations under this paragraph to correct defects.

Section 26 - Partial Completion and Acceptance

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

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

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

Section 27 - Payments Withheld Prior to Final Acceptance of Work

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

(1) Defective work not remedied;

(2) Claims filed or reasonable evidence indicating probable filing of claims by other parties against the Contractor;

(3) Failure of the Contractor to make payments properly to subcontractors or for material or labor;

(4) Damage to another Contractor.

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

Section 28 - Contractor's Insurance

(1) The Contractor shall procure and maintain during the life of this Contract, including the guarantee period and during any warranty work, such insurance policies, including those set forth below, as will protect itself and the City from all claims for bodily injuries, death or property damage that may arise under this Contract; whether the act(s) or omission(s) giving rise to the claim were made by the Contractor, any subcontractor, or anyone employed by them directly or indirectly. Prior to commencement of any work under this contract, Contractor shall provide to the City documentation satisfactory to the City, through City-approved means (currently myCOI), demonstrating it has obtained the required policies and endorsements. The certificates of insurance endorsements and/or copies of

policy language shall document that the Contractor satisfies the following minimum requirements. Contractor shall add registration@mycoitracking.com to its safe sender's list so that it will receive necessary communication from myCOI. When requested, Contractor shall provide the same documentation for its subcontractor(s) (if any).

Required insurance policies include:

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

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

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

$1,000,000	Each occurrence as respect Bodily Injury Liability or Property Damage Liability, or both combined.
$2,000,000	Per Project General Aggregate
$1,000,000	Personal and Advertising Injury
$2,000,000	Products and Completed Operations Aggregate, which, notwithstanding anything to the contrary herein, shall be maintained for three years from the date the Project is completed.

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

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

(2) Insurance required under subsection (1)(b) and (1)(c) above shall be considered primary as respects any other valid or collectible insurance that the City may possess, including any self-insured retentions the City may have; and any other insurance the City does possess shall be considered excess insurance only and shall not be required to contribute

with this insurance. Further, the Contractor agrees to waive any right of recovery by its insurer against the City for any insurance listed herein.

(3) Insurance companies and policy forms are subject to approval of the City Attorney, which approval shall not be unreasonably withheld. Documentation must provide and demonstrate an unconditional and un-qualified 30-day written notice of cancellation in favor of the City of Ann Arbor. Further, the documentation must explicitly state the following: (a) the policy number(s); name of insurance company(s); name and address of the agent(s) or authorized representative(s); name(s), email address(es), and address of insured; project name; policy expiration date; and specific coverage amounts; (b) any deductibles or self-insured retentions which may be approved by the City, in its sole discretion; (c) that the policy conforms to the requirements specified Contractor shall furnish the City with satisfactory certificates of insurance and endorsements prior to commencement of any work. Upon request, the Contractor shall provide within 30 days a copy of the policy(ies) and all required endorsements to the City. If any of the above coverages expire by their terms during the term of this Contract, the Contractor shall deliver proof of renewal and/or new policies and endorsements to the Administering Service Area/Unit at least ten days prior to the expiration date.

(4) Any Insurance provider of Contractor shall be authorized to do business in the State of Michigan and shall carry and maintain a minimum rating assigned by A.M. Best & Company's Key Rating Guide of "A-" Overall and a minimum Financial Size Category of "V". Insurance policies and certificates issued by non-authorized insurance companies are not acceptable unless approved in writing by the City.

(5) City reserves the right to require additional coverage and/or coverage amounts as may be included from time to time in the Detailed Specifications for the Project.

(6) The provisions of General Condition 28 shall survive the expiration or earlier termination of this contract for any reason.

Section 29 - Surety Bonds

Bonds will be required from the successful bidder as follows:

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

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

Section 30 - Damage Claims

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

Section 31 - Refusal to Obey Instructions

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

Section 32 - Assignment

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

Section 33 - Rights of Various Interests

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

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

Section 34 - Subcontracts

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

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

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

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

Section 35 - Supervising Professional's Status

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

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

Section 36 - Supervising Professional's Decisions

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

Section 37 - Storing Materials and Supplies

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

Section 38 - Lands for Work

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

Section 39 - Cleaning Up

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

Section 40 - Salvage

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

Section 41 - Night, Saturday or Sunday Work

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

Section 42 - Sales Taxes

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

Section 43

CONTRACTOR'S DECLARATION

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

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

_____ _____

Contractor Date

By _____
(Signature)

Its _____
(Title of Office)

Past due invoices, if any, are listed below.

Section 44

CONTRACTOR'S AFFIDAVIT

The undersigned Contractor,_____, represents that on _____, 20___, it was awarded a contract by the City of Ann Arbor, Michigan to_____ under the terms and conditions of a Contract titled _____. The Contractor represents that all work has now been accomplished and the Contract is complete.

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

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

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

_____ _____
Contractor Date

By _____
(Signature)

Its _____
(Title of Office)

Subscribed and sworn to before me, on this _____ day of _____, 20__
_____ , _____ County, Michigan
Notary Public
_____ County, MI
My commission expires on:

STANDARD SPECIFICATIONS

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

Standard Specifications are available online:

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

DETAILED SPECIFICATIONS

2400478 TECHNICAL SPECIFICATIONS

01 32 14	Schedule Requirements
01 33 00	Submittal Procedures
01 41 26	Permit Requirements
01 45 16.01	Concrete Testing
01 45 16.02	Density and Aggregate Testing
01 50 00	Construction Facilities and Temporary Controls
01 55 26	Maintaining Traffic
01 57 26	Dust Control
01 71 13	Mobilization
01 71 23.16	Construction Staking by Contractor
01 74 50	Cleanup and Restoration
02 21 14	Audio-Video Construction Area Survey
02 41 13.13	Pavement Removal
31 10 01	Clearing and Removal of Miscellaneous Structures
31 23 01	Excavating, Filling, and Grading
31 25 00	Soil Erosion and Sedimentation Control
32 11 23	Aggregate Base
32 12 16	HMA Paving
32 13 00	Concrete Curb and Gutter, Sidewalk, and Miscellaneous Pavement
32 17 23	Pavement Markings
32 31 13	Chain Link Fences and Gates
32 92 00	Turf Establishment
33 05 00	Adjusting Structures
34 41 15	Permanent Traffic Signs

8.16.24 - Fuller Park Detour Plan

SECTION 01 32 14
SCHEDULE REQUIREMENTS

PART 1 - GENERAL

1.01 Work Included

The Contractor shall develop a detailed schedule, identifying various phases or divisions of work, indicating a start date and duration required for each. The schedule shall be presented to the Engineer or Owner in sufficient detail, as may be required by the Engineer or Owner, for their approval.

Periodically through the life of the project and as required by the Engineer or Owner, the Contractor shall update the schedule and provide copies to the Engineer and Owner.

1.02 Requirements

The Contractor shall schedule work to be performed during normal business hours, unless otherwise directed on the plans or approved by the Engineer.

Once work has begun on the project, the Contractor shall work continuously and expeditiously to complete all work provided for by the contract.

Project shall be substantially completed in accordance with the date specified in the agreement. Substantial completion is the stage of completion where the project is fit for occupancy and use without hindrance for its intended purpose.

Project shall be fully completed and ready for final payment in accordance with the date specified in the agreement.

Parking Lot work will not be allowed prior to October 1, 2024 nor within May 23, 2025 to September 14, 2025 unless as approved by the City of Ann Arbor.

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

Not Applicable

END OF SECTION

SECTION 01 33 00
SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 Work Included

A. This section includes procedures for preparing and transmitting submittals required by specification sections for a product, material, or construction method. Submittals shall include the following:

1. Shop drawings
2. Product data
3. Manufacturer's certificates
4. Design data and calculations
5. Manufacturer's instructions
6. Manufacturer's field service reports
7. Samples
8. Operation and maintenance manuals (timing, quantity, content, and form)

B. It is the responsibility of the General Contractor to convey the requirements of this section to their sub-contractors and their suppliers and vendors.

1.02 Submittals

A. Schedule submittals to expedite work. Unless otherwise indicated in this section, submittals shall be submitted within 30 days of date of Notice to Proceed.

B. Preparation

1. Provide separate submittals for each specification section requiring submittals. Where multiple sections relate to the same system or element and are being provided from the same source, a single combined submittal is acceptable.
2. Coordinate submission of related items. Group submittals of related products in a single transmission.
3. Include all submittal material requested for that section.
4. Identify variations from requirements of contract documents. State product and system limitations which may adversely affect work.
5. Mark or show dimensions and values in same units as specified.

C. Contractor Responsibilities

1. Review submittals prior to transmittal. Verify compatibility with field conditions and dimensions, product selections and designations, quantities, and conformance of

submittal with requirements of contract documents. Return non-conforming submittals to preparer for revision, rather than submitting for review.

2. Coordinate submittals to avoid conflicts between various items of work.

3. Submittal Transmittal Form

   a. Include with each submittal a transmittal form. A sample copy of an acceptable form is included in Attachment A. The Contractor's standard submittal form may be used, provided it contains essentially the same information as the sample.

   b. Identify project, Contractor, subcontractor, supplier, manufacturer, pertinent drawing sheet and detail numbers, and associated specification section numbers.

   c. Sequentially number transmittal forms. Re-submittals shall have original number with a suffix. Acceptable form of number is SS SS SS-NN-T where:

      i. SS SS SS indicates specification section number;

      ii. NN indicates different submittals for that specification section; and

      iii. T indicates the number of times that submittal has been made.

4. Failure of the Contractor to review submittals, prior to transmittal for review, shall be cause for rejection.

5. Incomplete, improperly packaged, and submittals from sources other than the Contractor will not be accepted.

D. Transmittal

Where possible, transmit all submittals electronically. Where electronic submittal is not possible, submit four paper copies for the Engineer’s retention, plus as many copies as the Contractor desires returned after review. Samples shall be submitted as described elsewhere in this specification.

E. Review

The Engineer will review and return submittals with comments.

F. Do not fabricate products or begin work which requires submittals until return of reviewed submittal with A/E or SNL SE acceptance.

G. On return, promptly distribute reviewed submittals to concerned parties. Instruct parties to promptly report any inability to comply with provisions.

H. Resubmission

1. Revise and resubmit submittals, as required, within 15 days of return from initial review.

2. Make re-submittals under procedures specified for initial submittals.

3. Identify all changes made since previous submittal.

1.03 Quality Assurance and Quality Control

A. Where required by specification sections, provide quality assurance submittals:

1. Qualification Data

Contractor shall submit written information demonstrating capabilities and experience of firm or person. Include lists of complete projects with names and contact information for references.

2. Manufacturer's Certificates

Submit reference data, affidavits, and certifications on manufacturer's letterhead certifying that products conform to or exceed specified requirements. Certificates may be based on recent or previous test results supplied by manufacturer and accepted by the Engineer.

3. Installer Approval

Certification on manufacturer's letterhead that installer complies with requirements and is approved for installing manufacturer's products.

4. Welding Certificates

Written certification that welding procedures and personnel comply with requirements. Submit record of Welding Procedure Specifications (WPS) and Procedure Qualification Record (PQR) on American Welding Society (AWS) forms. Include names of firms and personnel certified.

5. Field Test Reports

Written reports from qualified testing agency indicating and interpreting results of field tests performed either during or after installation for compliance with specified requirements.

1.04 Submittal Review

A. The Engineer will review submittals for the sole purpose of verifying general conformance with design intent and general compliance with contract documents. Approval of submittal by the Engineer does not relieve the Contractor of responsibility for correcting errors which may exist in submittal, or from meeting requirements of contract documents.

B. Review Time

Initial review will be performed within 14 days of receipt. Reviewer reserves the right to withhold action on a submittal requiring review of related submittals, until related submittal is received. Additional time will be required if processing must be delayed to permit review of related subsequent submittals. The Engineer will review re-submittals within 14 days.

C. Review Actions

After review, submittals will be returned and marked as follows to indicate action taken:

1. Reviewed, No Comments

Part of work covered by submittal may proceed, provided it complies with requirements of contract documents. Final acceptance will depend upon that compliance.

2. Reviewed, With Comments

   Part of work covered by submittal may proceed, provided it complies with notations and corrections on submittal and requirements of contract documents. Final acceptance will depend upon that compliance.

3. Revise and Resubmit

   Do not proceed with part of work covered by submittal including purchasing, fabricating, and delivering. Revise or prepare new submittal in accordance with notations and resubmit.

1.05 Drawings

A. Where required by specifications or otherwise needed, prepare drawings illustrating portion of work for use in fabricating, interfacing with other work, and installing products. Contract drawings shall not be reproduced and submitted as shop drawings.

B. When construction is complete, prepare and submit red-lined copies of the contract drawings showing clearly how construction deviated from the design, along with the authority for the deviation or change.

C. Electronic Format

1. Size printable to: 8½ inches by 11 inches minimum and 24 inches by 36 inches maximum.

2. Present in a clear and thorough manner. Title each drawing with project name. Identify each element of drawing with reference number.

3. Plans, elevations, sections, and detail shop drawings shall be to scale, with scale indicated.

4. Indicate field verified dimensions. Show relationship of products to adjacent work. Note coordination requirements.

5. Schematics and diagrams shall be logically arranged and presented in a clear, understandable manner with all items labeled.

6. Internal wiring diagrams: Provide internal wiring and elementary ladder diagrams for factory pre-wired equipment.

7. Control diagrams: Show relative positions of each component as a system diagram.

1.06 Product Data

A. Provide product data such as manufacturer's brochures, catalog pages, illustrations, diagrams, tables, performance charts, and other material which describe appearance, size, attributes, code and standard compliance, ratings, and other product characteristics.

B. Form

1. Provide all critical information such as reference standards, performance characteristics, capacities, power requirements, wiring and piping diagrams, controls, component parts, finishes, dimensions, and required clearances.

2. Submit only data which are pertinent. Mark each copy of manufacturer's standard printed data to identify products, models, options, and other data pertinent to project.

3. Modify manufacturer's standard schematic drawings and diagrams and supplement standard data to provide specific information applicable to project. Delete information not applicable.

4. Colors and Patterns: Unless color and pattern is specified for product, submit accurate color and pattern charts or samples illustrating manufacturer's full range for selection by the Engineer. Submit two hard copies only.

1.07 Design Data and Calculations

A. Where required by specification sections, provide basic calculations, analyses, and data to support design decisions and demonstrate compliance with specified requirements. State assumptions and define parameters. Give general formulas and references. Provide sketches, as required, to illustrate design method and application.

B. Arrange calculations and data in a logical manner, with suitable text to explain procedures and order.

C. Indicate name, title, and telephone number of individual performing design and include professional seal of designer where applicable or required.

1.08 Manufacturer's Instructions

A. Where required by specification sections, provide manufacturer's instructions for activities such as delivery, storage, assembly, installation, wiring, start-up, adjusting, and finishing.

B. Indicate pertinent portions and identify conflicts between manufacturer's instructions and contract documents.

C. Where appropriate, include preparation procedures; service connection requirements; critical ambient conditions; foundation requirements; special precautions; adjustment requirements; alignment procedures; leveling; purging; charging; lubrication; and cleaning prior to operation and/or Owner’s acceptance.

D. Installation (e.g., assembly, mounting, or wiring) and start-up instructions shall be submitted and available for review in the field prior to scheduled material or equipment installation.

1.09 Samples

A. Submit samples to illustrate functional and aesthetic characteristics of products with all integral parts and attachment devices. Include full range of manufacturer's standard finishes, indicating colors, textures, and patterns for Engineer selection.

B. Submission

Submit the number of samples specified in individual specification sections. One sample will be retained by the Engineer.

C. Label with identification related to submittal transmittal form.

1.10 Manufacturer's Field Service Reports

A. When an individual specification section requires services of manufacturer's field representative, submit report of observations, site decisions, and instructions given to installers.

B. Form

1. Present complete information in clear concise manner.

2. Bind with titled cover in folder or binder.

C. Report shall include:

1. Time, location, conditions, and duration of activity;

2. Names of persons performing and witnessing activity;

3. Equipment used;

4. Description of activity, data recorded, and results;

5. Deficiencies found, corrective measures, and results of retesting; and

6. Other pertinent data.

D. Submit report within 30 days of construction site service visit.

1.11 Operation and Maintenance Data

A. Where required by specification sections, provide operation and maintenance manuals.

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

Not Applicable

END OF SECTION

ATTACHMENT A - SAMPLE SUBMITTAL TRANSMITTAL FORM

Attachment A

SAMPLE SUBMITTAL TRANSMITTAL FORM

PROJECT: _____
CONTRACT NUMBER: _____
SUBMITTAL NUMBER: _____ RESUBMITTAL: YES NO
DATE: _____ NUMBER OF COPIES SUBMITTED: _____
SUBMITTAL DESCRIPTION: _____
_____
RELATED DESIGN DISCIPLINE (circle):

Civil	Landscape	Architectural	Structural
Mechanical	Electrical	Telecommunications	Security
Fire Protection	Controls	Other: _____	

ASSOCIATED SPECIFICATION SECTION NO: _____
REFERENCED DRAWING SHEET NO: _____
SUBCONTRACTOR/SUPPLIER/MANUFACTURER PROVIDING SUBMITTAL DATA:
Name: _____
Address: _____
Telephone Number: _____

CONTRACTOR:
Name: _____
Address: _____
Telephone Number: _____

CONTRACTOR'S CERTIFICATION:

The undersigned, as representative of the Contractor for the above project, submits the following and certifies that:

1. Submittal has been reviewed and it is complete and conforms to requirements of contract documents, except as noted.
2. Required dimensions have been field verified and are acceptable for installation of proposed products and construction of proposed work.
3. Required quantities for products and materials covered by this submittal have been verified as correct.
4. Fabrication processes and construction methods proposed in this submittal are acceptable for this project and will result in a complete, functional installation.
5. Submittal has been coordinated with other submittals and work and proposed products and construction will properly interface with other construction.

NAME OF CONTRACTOR REVIEWER: _____
SIGNATURE OF CONTRACTOR REVIEWER: _____
DATE: _____

SECTION 01 41 26
PERMIT REQUIREMENTS

PART 1 - GENERAL

1.01 Work Included

The Contractor shall complete work in accordance with all applicable regulations, laws, and ordinances. Work shall be completed in accordance with permits issued by regulatory agencies.

The Contractor shall obtain permits, including the paying of fees, posting bonds, and providing insurance coverage, to secure permits which have not been obtained by the Owner.

Where permits have been obtained by the Owner, the Contractor shall conduct work and operations consistent with the requirements of the permits.

Where changed conditions or other issues arise such that the conditions of a permit which has been issued cannot be met, the Contractor shall promptly notify the Owner and the permitting agency. The Contractor shall provide such additional information as may be necessary to secure a modification to the original permit to allow the planned work to continue.

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

3.01 Permits to be Obtained by Contractor

A. Permit Applications Completed by the Owner

The Owner has submitted information and reviewed the proposed work with the following agencies. Final permits have not yet been issued. The Contractor is required to obtain the permits for the proposed project including the paying of fees, posting bonds, and providing insurance coverage to secure permits.

Permit Agency	Permit Type	Requirements
City of Ann Arbor	STREAM Soil Erosion	Contractor to execute permit and pay any fees

B. Other Permits to be Obtained by the Contractor

The Contractor is responsible to obtain all permits necessary to complete the proposed work, which have not been obtained by the Owner.

END OF SECTION

SECTION 01 45 16.01
CONCRETE TESTING

PART 1 - GENERAL

1.01 Work Included

This work includes requirements for concrete, concrete submittals, and testing.

1.02 References

Where materials or methods of construction are listed as being in conformance with a standard specification, it shall refer to the latest edition of the standard specification or any interim revision.

A. ACI PRC-211.1 – Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete

B. ASTM C31 – Standard Practice for Making and Curing Concrete Test Specimens in the Field

C. ASTM C39 – Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens

D. ASTM C138 – Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete

E. ASTM C143 – Standard Test Method for Slump of Hydraulic-Cement Concrete

F. ASTM C172 – Standard Practice for Sampling Freshly Mixed Concrete

G. ASTM C231 – Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method

H. ASTM C595 – Standard Specification for Blended Hydraulic Cements

I. ASTM C1064 – Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete

J. ASTM C1260 – Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)

K. ASTM C1293 – Standard Test Method for Determination of Length Change of Concrete Due to Alkali-Silica Reaction

L. ASTM C1567 – Standard Test Method for Determining the Potential Alkali-Silica Reactivity of Combinations of Cementitious Materials and Aggregate (Accelerated Mortar-Bar Method)

M. ASTM E29 – Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

N. Michigan Department of Transportation 2020 Standard Specifications for Construction

O. Michigan Test Methods (MTM)

P. Michigan Department of Transportation Qualified Products List

1.03 Related Work

A. Section 32 13 00 – Concrete Curb and Gutter, Sidewalk, and Miscellaneous Pavement

1.04 Submittals

A. Prior to beginning construction, the Contractor shall submit the name and plant location of the proposed NRMCA certified concrete supplier for the project.

B. Prior to beginning construction, the Contractor shall submit mix designs for the proposed concrete mixtures proposed for use on the project for the Engineer to review.

C. The Contractor shall submit a Quality Control Testing plan to be approved by the Engineer.

1.05 Quality Assurance and Quality Control

A. The Owner will be responsible for Quality Control and Quality Assurance Testing.

B. Concrete Testing

1. The temperature of concrete will be determined in accordance with ASTM C1064.

2. Samples of concrete for testing will be obtained in accordance with ASTM C172.

3. The slump of concrete will be determined in accordance with ASTM C143.

4. The air content of concrete will be measured in accordance with ASTM C231.

5. Concrete cylinders for compressive testing will be made in accordance with ASTM C31. The Engineer and Contractor shall use the same size cylinder for test specimens. Four-inch cylinders are preferred, as allowed by ASTM C31.

6. The compressive strength of concrete will be determined in accordance with ASTM C39.

PART 2 - PRODUCTS

2.01 Mix Design and Documentation

Design concrete mixtures shall meet the requirements specified in Table 1. The Contractor shall provide the grade of concrete for the section number reference application specified in Table 1, or as specified in the contract. The Contractor shall submit a request variance, in writing, when proposing a mix design that exhibits temperature, slump, or air content other than those specified. This submittal shall include the proposed mix design, Job Mix Formula (JMF), and associated trial batch verification test data. Do not use a grade of concrete with a lower specification limit (LSL) 28-day compressive strength less than what is designated for the application.

Blended cement meeting the requirements of ASTM C595 Type IL is permitted.

Secure prior approval from the Engineer to use concrete intended for early opening to traffic to facilitate driveway gaps or other features necessary for required local access.

Unless otherwise specified in the contract, set accelerating admixtures are prohibited.

Unless otherwise specified in the contract, do not exceed 40 percent replacement of the Portland cement in the concrete mixture with slag cement (Grade 100 minimum) or fly ash. Do not exceed 40 percent total replacement of the Portland cement if both slag cement and fly ash are used in the concrete mixture.

Use the combined weight of all cementitious materials to determine compliance with the maximum water-cementitious ratio and cementitious material content requirements specified in Table 1.

Table 1: Minimum Mix Design Requirements for Concrete					
		Concrete Grade			
		3,000	**3,500**	**4,000**	**4,500**
Compressive strength (psi)	7-day	2,200	2,600	3,000	3,200
	28-day	3,000	3,500	4,000	4,500
	70%	2,100	2,450	2,800	3,150
Flexural Strength (psi)	7-day	500	550	600	625
	28-day	600	650	700	750
	70%	420	455	490	525
Slump (inch)		(c)-(f)	(c)-(k)	(l)-(n)	(d)-(f)
Cementitious material content (lb/cyd)		489-517	517-611 (o)	517-611	517-658
Class of coarse aggregate		(p)-(r)			
Maximum w/cm ratio		0.45			
Air content range		5.5-8.5%			

a. Reserved for future use.
b. Reserved for future use.
c. 0- to 3-inch slump for mixtures for pavements.
d. 0- to 3-inch slump without admixtures or with Type A or D admixture.
e. 0- to 6-inch slump after the addition of Type MR admixture.
f. 0- to 7-inch slump after the addition of Type F or G admixture.
g. 3- to 7-inch slump for tremie applications without admixture or with Type A or D admixture.
h. 3- to 7-inch slump for tremie applications after the addition of Type MR admixture.
i. 3- to 8-inch slump for tremie applications after the addition of Type F or G admixture.
j. 6- to 8-inch slump for dry placed drilled shafts.
k. 7- to 9-inch slump for wet placed drilled shafts.
l. 3- to 5-inch slump without admixtures or with Type A or D admixture.
m. 3- to 6-inch slump after the addition of Type MR admixture.
n. 3- to 7-inch slump after the addition of Type F or G admixture.
o. For concrete pavement repair mixtures, use 658 lb/cyd of cement when the weather is forecast to be above 50 degrees Fahrenheit or 752 lb/cyd when the weather is forecast to be 50 degrees Fahrenheit or below.
p. Use aggregates only from geologically natural sources for pavement, shoulder, miscellaneous pavement (including ramps), concrete pavement overlay, bridge approach slab, structural concrete, drilled shaft, bridge railing, and bridge sidewalk applications.
q. Unless otherwise required, use Coarse Aggregate 6AA or 17A for exposed structural concrete in bridges, retaining walls, and pump stations.

r. The flexural and compressive strengths are not part of the specifications but are listed for informational purposes only and are the minimum strengths anticipated for the mix proportions specified for the various grades of concrete when cured under standard conditions.

A. Alkali-Silica Reactivity

Provide documentation to the Engineer that the concrete mixture does not present the potential for excessive expansion caused by alkali-silica reactivity (ASR). Provide current ASR test results (valid for two years from completion of testing), for the fine aggregate that is proposed to be used in the concrete from an independent testing laboratory proficient in ASR testing. The independent testing laboratory must certify, in writing, that all testing was conducted in accordance with the designated standard test procedures described herein. Test results must conform to the specified criterion for one of the following standard test methods. Use the Rounding Method described in ASTM E29 when determining significant digits for reporting expansion test results.

1. Method 1 – ASTM C1260 Mortar Bar Test

   If the expansion of the mortar bars is less than 0.10 percent (rounded to the nearest 0.01 percent) at 14 days of immersion, the fine aggregate is considered non-deleterious to ASR and may be used in the concrete without the need for ASR mitigation.

2. Method 2 – ASTM C1293 Concrete Prism Test

   a. If the expansion of concrete prisms is not greater than 0.040 percent (rounded to the nearest 0.001 percent) after 1 year, the fine aggregate is considered non-deleterious to ASR and may be used in the concrete without the need for ASR mitigation.

   b. If the expansion of concrete prisms is greater than 0.040 percent, but not exceeding 0.120 percent (rounded to the nearest 0.001 percent) after 1 year, the fine aggregate is considered moderately deleterious to ASR and mitigation is required, as follows. A low-alkali cement with Na_2O equivalent alkalies (Na_2O + 0.658 × percent K_2O) not exceeding 0.60 percent must be used in the concrete mixture to mitigate the potential for ASR. Slag cement or fly ash may be used in conjunction with the low-alkali cement. The total alkali content for the cementitious materials combination must not exceed 3 pounds per cubic yard of Na_2O equivalent.

3. Method 3 – ASTM C1567 Accelerated Mortar Bar Test

   If no previous test data are available for the fine aggregate that shows it is resistant to ASR using either Method 1 or 2 above, replace 25 percent to 40 percent of the Portland cement in the concrete mixture with slag cement (Grade 100 minimum) or fly ash. A blended cement meeting the requirements of ASTM C595 containing Portland cement and slag cement or fly ash may also be used.

   Demonstrate the ability of the fly ash or slag cement to control the deleterious expansion caused by ASR by molding and testing mortar bars according to the standard test method described in ASTM C1567, using the mix proportions and constituent sources for both the aggregates and the cementitious materials that will be used for the project. Make at least three test specimens for each cementitious materials-aggregate combination. If the average of 3 mortar bars for a given cementitious materials-aggregate combination produces an expansion less than 0.10 percent (rounded to the nearest 0.01 percent) at

14 days of immersion, the JMF associated with that combination will be considered non-deleterious to ASR. If the average expansion is 0.10 percent (rounded to the nearest 0.01 percent) or greater, the JMF associated with that combination will be considered not sufficient to control the deleterious expansion caused by ASR and the JMF will be rejected.

The Engineer will not approve the use of the JMF if the expansion exceeds the respective threshold limits for the respective ASTM test method used.

B. Mix Documentation

Provide mix design and accompanying JMFs using the methods of verification included in this specification. Include sufficient information on constituent materials and admixtures, along with trial batch verified physical properties of the fresh concrete, mix proportions per cubic yard for all constituents, and compressive strength test results necessary to allow the Engineer to fully evaluate the expected performance of the concrete mixture.

Submit mix design and JMF; include accompanying documentation. List the source of materials, bulk density (unit weight) of coarse aggregate (rodding procedure or shoveling procedure), absorption of aggregates, relative density (specific gravity) of aggregates, aggregate correction factors, batch weights, and project specific or historical laboratory test data. Include the recorded air content of fresh concrete using the same admixture and cementitious material sources to be used in the production of the concrete for the project. A JMF will be approved only if all of the minimum mix design requirements specified in the contract have been met. Use of the MDOT Job Mix Formula Concrete Field Communication Form (MDOT Form Number 1976) is encouraged.

1. Job Mix Formula

Select proportions for concrete mixtures according to ACI Standard 211.1. The volume (oven-dry-rodded) of coarse aggregate per unit volume of concrete must be 65 percent, minimum.

Four methods of verification of proposed JMF are acceptable.

a. Method 1 – Trial Batches

Verification of JMF is based on trial batches with the same materials and proportions proposed for use on the project. Prepare at least one trial batch for each mix design in sufficient time before starting concrete placement to allow for review, according to subsection 2.01.A of this specification. Provide the results of temperature, slump, density (unit weight), air content of fresh concrete, 28-day compressive strength, and age of concrete at the time of strength testing, for a minimum of 3 independent samples. All samples may be taken from a single trial batch for a mix design, provided the trial batch is at least 4 cubic yards in volume. For JMF trial batch verification purposes only, 7-day compressive strength test results which report at least 70 percent of the specified 28-day lower specification limit will be sufficient documentation, in lieu of 28-day compressive strengths. The average of at least two strength test specimens represents one compressive strength sample test result for each independent sample. Provide the necessary ASR documentation as described in subsection 2.01.A of this specification.

b. Method 2 – Same Mix

Verification of JMF is based on experience with the same mix design, JMF, and the same materials. Provide the results of temperature, slump, density (unit weight), air content of fresh concrete, 28-day compressive strength, and age of concrete at the time of strength testing, for a minimum of 3 independent samples produced within the previous 12 months. The average of at least two strength test specimens represents one compressive strength sample test result for each independent sample. Do not substitute material types or sources, including admixtures or cementitious materials, nor change mix proportions in the JMF. Provide the necessary ASR documentation as described in subsection 2.01.A of this specification.

c. Method 3 – Similar Mix

Verification of JMF is based on requirements described in Method 2 above. Substitution of coarse aggregate source is permitted if the new source is of the same geologic type as the original aggregate, and conforms to the specification requirements for the application. Substitution of fine aggregate is permitted only if the new source has been tested for ASR. Provide the necessary ASR documentation as described in subsection 2.01.A of this specification.

Provide the supporting laboratory trial batch documentation and accompanying calculations showing how the mix proportions in the JMF were adjusted, based on the documented differences in relative density (specific gravity), bulk density (unit weight), and absorption of the substituted aggregate sources, to produce a theoretical yield of 100 percent and the required fresh concrete properties.

d. Method 4 – Annual Verification

At the Engineer's option, verification may be accepted annually for a concrete plant rather than on a project basis provided the sources and proportions of the constituent materials, including cementitious materials and source and types admixtures, do not change. If the project is the continuation of work in progress during the previous construction season and written certification is submitted to the Engineer that materials from the same source and with the same mixture properties are to be used, the Engineer may waive the requirement for annual renewal verification of the JMF for the project. Provide the necessary ASR documentation as described in subsection 2.01.A of this specification.

C. Concrete Testing and Break Results

The Contractor shall submit a sample form that will be used to document concrete testing and break results, prior to start of construction, to be approved by the Engineer. The Contractor shall submit the approved form documenting results within three days of concrete testing.

PART 3 - EXECUTION

3.01 Sampling and Testing

The Engineer shall verify the Contractor’s daily startup sampling and testing of temperature, slump, and air content of fresh concrete on the first load; conduct QA sampling and testing;

monitor Contractor adherence to the QC plan; and inspect field placed materials in such a manner as to ensure that all concrete for the project is represented at a rate determined by the Engineer/Owner.

A. The following ASTM test methods will apply.

1. C31 – Standard Practice for Making and Curing Concrete Test Specimens in the Field
2. C39 – Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
3. C138 – Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
4. C143 – Standard Test Method for Slump of Hydraulic-Cement Concrete
5. C172 – Standard Practice for Sampling Freshly Mixed Concrete
6. C231 – Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method

B. Sampling

Sampling and testing shall be conducted by the Contractor during placement of the concrete. The Contractor shall take a random sample at a rate of approximately once per 50 cubic yards, based on the anticipated total quantity of concrete to be placed and site conditions, with a minimum of 1 sampling for each day of production per mix design. The sampling rate may be increased by the Engineer if project conditions warrant increased testing. A minimum of 3 cylinders shall be taken for each test (one 7-day break and two 28-day breaks).

The Contractor may elect to provide early concrete cylinder breaks. The Contractor is responsible for all additional costs and materials for providing early concrete cylinder breaks. Results for early cylinder breaks shall be submitted to and approved by the Engineer prior to beginning next related work item.

The Engineer shall perform Quality Assurance testing, on an as-needed basis, at a rate determined by the Engineer/Owner.

Samples will be taken from the concrete at the location as close to its final placement into the forms or on the grade as practical. If sampling from the discharge of the haul unit, the sample will be taken from approximately the middle $^1/_3$ of the load.

Samples for acceptance will not be taken at the concrete production facility (batch plant), nor prior to discharge from a concrete pump (excluding tremie seal placement applications).

C. Small Incidental Quantities

1. Reduced Quality Control (QC) for Small Incidental Quantities.

   Reduced levels of on-site QC testing for concrete may be considered for small incidental quantities. Unless approved by the Engineer, multiple small incidental quantities, including ones that are placed consecutively throughout the project on the same day, are not eligible for reduced QC consideration if the total plan quantity of concrete for the

item exceeds 100 cubic yards. Include details for reduced QC testing and oversight in the approved QC plan in accordance with following:

a. The small incidental quantity of concrete will be limited to a single day's concrete placement of a maximum 20 cubic yards;

b. The small incidental quantity of concrete is not an integral part of a structural load-bearing element;

c. The Engineer has received written certification from the Contractor that the concrete supplier has a current QC plan in place and available for review upon request by the Engineer;

d. The concrete supplier employs an MCA-certified Michigan Concrete Technician Level II available at the plant or on call during concrete placement to validate and authorize modifications to the concrete JMF;

e. Prior to the first concreting operation, concrete representing the JMF for the small incidental quantity has been sampled and tested by an MCA-certified Michigan Concrete Technician Level I or Level II to verify that, historically, the JMF produced a concrete mixture meeting the minimum requirements for density (unit weight), slump, air content, and strength. Annual verification may be acceptable provided there are no changes to the material types or sources, including the cementitious materials and admixtures;

f. The Engineer verifies that the temperature, slump, and air content conform to specification requirements at the start of the day's concreting operation associated with the small incidental quantity; and

g. The Engineer is notified a minimum of 24 hours prior to concrete placement.

2. Reduced Quality Assurance (QA) for Small Incidental Quantities.

   At the discretion of the Engineer, daily 28-day compressive strength QA test cylinders for small incidental quantities of concrete may not be required provided QA test cylinders representing the same JMF were sampled and molded at least once during the same week.

3.02 Suspension Limits

If during the pour the concrete is found to be out of the specifications in Table 2, then the pour shall be stopped until concrete can be provided that meets the project specifications. The Engineer will not pay for items placed with concrete that does not meet the following specifications.

Table 2

Quality Characteristic	Suspension Limits
Air Content (percent)	<5.0 or >9.0
Air Content Loss (percent)	Greater than 1.5
Concrete Temperature (degrees Fahrenheit)	<45 or >90 at time of placement
Slump	See Table 1

3.03 Acceptance

Concrete items will be accepted based on the criteria in the items specification; concrete was placed within the limits of Table 2 and the average of the corresponding 28-day test cylinders being above the design strength.

END OF SECTION

SECTION 01 45 16.02
DENSITY AND AGGREGATE TESTING

PART 1 - GENERAL

1.01 Work Included

This work includes material testing of soil, aggregates, stabilized mixtures, and pulverized pavement mixtures.

1.02 References

A. Michigan Department of Transportation 2020 Standard Specifications for Construction

B. Michigan Department of Transportation Density Testing and Inspection Manual

C. Michigan Department of Transportation Procedures for Aggregate Inspection

D. Michigan Test Methods (MTM)

1.03 Related Work

A. Section 01 74 50 – Cleanup and Restoration

B. Section 31 23 01 – Excavating, Filling, and Grading

C. Section 32 11 23 – Aggregate Base

D. Section 32 12 16 – HMA Paving

E. Section 32 13 00 – Concrete Curb and Gutter, Sidewalk, and Miscellaneous Pavement

F. Section 33 05 00 – Adjusting Structures

1.04 Quality Assurance and Quality Control

A. Soil and Aggregate Density Testing

1. The Contractor is responsible for all quality control density testing on this project. The Engineer will complete quality assurance density testing at a random rate.

B. Sand and Aggregate Gradation

The Contractor is to supply sand and aggregates in the Michigan Department of Transportation gradations, as specified by the project specifications.

Contractors are encouraged to use “prequalified” Michigan Department of Transportation aggregate sources. If the Contractor elects to use a non-prequalified source, then the Contractor shall be responsible for supplying the Engineer with Sieve Analysis (MTM109) and Loss by Washing (MTM108) at the following rates:

Coarse Aggregates	1 per 1,000 tons
Dense-Graded Aggregates	1 per 1,000 tons
Open-Graded Aggregates	1 per 1,000 tons

Granular Material Class I	1 per 1,000 tons
Granular Material Class II and IIA	1 per 3,000 cubic yards
Granular Material Class III	1 per 10,000 cubic yards
Fine Aggregate	1 per 1,000 tons

All Sieve Analysis and Loss by Washing reports shall be signed and sealed by a Professional Engineer.

1.05 Job Conditions

A. Access for Testing

The Contractor shall provide the Engineer safe access for testing technicians to complete any required testing. Reasonable time for testing shall be allowed by the Contractor.

B. Safety

The Contractor is responsible for conducting operations in a safe and orderly manner and in conformance with MIOSHA P.A. 154.

PART 2 - PRODUCTS

2.01 Submittals

The Contractor shall submit a Quality Control Testing plan to be approved by the Engineer. The Quality Control Testing plan shall include, at a minimum, the company performing the testing, certifications, equipment calibration reports, frequency of testing, procedure for notifying the Engineer if tests fail to meet specifications, corrective action plan, and sample form that will be used to document material testing results. The Contractor shall submit the approved form documenting results within three days of material testing.

PART 3 - EXECUTION

3.01 Minimum Percent of Compaction for Aggregates

The following are a minimum percent compaction for typical items of work. Note: Higher percent compaction may be required for specific items of work, see Section 3.06.03.B of the Michigan Department of Transportation 2020 Standard Specifications for Construction for those items.

A. Original Ground

Road Embankment Areas	90 percent
Bridges – within the limits as shown on the plans	95 percent

B. Cut Areas

Cuts requiring Sand Subbase	95 percent
Cuts not requiring Sand Subbase	95 percent
Subgrade for HMA Base, Aggregate Base, and Concrete Widening	95 percent
Trenches for under HMA Shoulders	98 percent*

C. Embankments and Backfill

Regular	95 percent*

	(within top 3 feet)
Abutments with Piling	95 percent
Abutments without Piling	100 percent
Foundation Undercut Backfill	100 percent
Backfill for Bridges, Culverts, Utilities, Manholes, Catch Basins, Edge Drains, and Subgrade Undercuts	95 percent
Foundations and Miscellaneous Structures	95 percent

D. Pavement Structure

Subbase	95 percent*
Subbase for Slope Paving	90 percent
Aggregate Base under Concrete Pavement	95 percent*
Aggregate Base under HMA Pavement	98 percent*
Pulverized HMA Aggregate Base	98 percent
Recycled Concrete Aggregate Base – under Concrete Pavement	95 percent
Recycled Concrete Aggregate Base – under HMA Pavement	98 percent
Aggregate Base – Sleeper Slab and Bridge Approach	98 percent
Shoulders – Class I	98 percent*
Shoulders – Class II, III, and IV	95 percent*
Aggregate Surface	95 percent*
OGDC – used under Concrete and HMA Pavement	95 percent*
OGDC – used under Concrete and HMA Pavement (recycled material)	98 percent*

* May NOT exceed optimum moisture

3.02 HMA Density

The density control target, “Theoretical Maximum Density” (TMD) for HMA shall be calculated using the Gmm from the Contractors approved HMA mix design. TMD = Gmm X 62.4.

HMA Base Course	92 percent to 98 percent
HMA Leveling Course	92 percent to 98 percent
HMA Top Course	92 percent to 98 percent

The HMA layer must meet the required density target before the succeeding lift or traffic is placed on the pavement.

3.03 Testing Frequency

Each layer must be tested and meet compaction requirements before the succeeding layer is placed. The Engineer will test at a rate that is warranted for field conditions and Contractor means and methods. The list of frequencies below are minimums.

Subgrade	1 test per 500 feet per width of 24 feet or less
Embankment	1 test per 1,000 cubic yards of material and every lift
Subbase	1 test per 500 feet per width of 24 feet or less
Backfill	1 test per 300 cubic yards of material
Aggregate Base Course	1 test per 500 feet per width of 24 feet or less

HMA Mixtures	1 test per 500 feet per width of 24 feet or less
Shoulders	1 test per 1,000 feet each side
Sleeper Slab	1 test per bridge approach per stage
Foundations and Miscellaneous Structures	1 test per 1-foot lift or per 300 cubic yards
Trenching	1 test per 1,000 feet each side

3.04 Compaction Efforts

The Contractor shall continue to make compaction efforts to obtain the minimum standards given within this specification upon notification of a failing test. A passing test is required at every location of a failing test prior to starting the next related item of work.

END OF SECTION

SECTION 01 50 00
CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 - GENERAL

1.01 Work Included

This work includes providing temporary facilities and controls during the construction of the project.

1.02 Related Work

A. Section 01 57 26 – Dust Control

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

3.01 Electricity

Electricity for use by the Contractor during the construction of the project shall be provided by the Contractor. The Contractor shall provide such temporary systems necessary to convey the electricity to the work area from the point of supply.

Temporary power supply systems shall comply with all applicable codes.

3.02 Lighting

The Contractor shall provide lighting for construction activities. The Contractor shall provide fixtures, switches, conductors, and other equipment for a complete system. The lighting system shall meet the requirements of all applicable codes.

Electricity for lighting will be paid for as described in Section 3.01.

3.03 Water

The Contractor shall provide all water necessary for construction activities.

The Owner will provide water for construction activities, at the location of existing water lines, faucets, and hydrants. The Contractor shall provide such piping extensions, as necessary, to deliver the water to the location(s) required for construction activities.

3.04 Barriers

The Contractor shall provide barriers to prevent entry to construction areas or hazardous areas.

3.05 Enclosures

The Contractor shall provide temporary weather tight enclosures of openings in exterior surfaces to provide acceptable working conditions, protection of materials from the elements, and to prevent entry of unauthorized persons.

3.06 Protection of Installed Work

The Contractor shall control vehicle and pedestrian traffic and/or provide temporary protective coverings, as required, to protect installed or uncompleted work from damage.

3.07 Water Control

The Contractor shall grade the site to drain. Excavations shall be kept free of water. The Contractor shall provide pumps as required.

Water shall not be run to detrimentally affect adjacent buildings or properties.

3.08 Dust Control

The Contractor shall provide such measures, as necessary, to control dust emanating from the construction area in accordance with Section 01 57 26 – Dust Control.

3.09 Cleaning

The Contractor shall maintain the construction area free of debris and waste material. Debris and waste material resulting from construction operations shall be properly disposed of by the Contractor.

The Contractor shall clean areas, as required, for proper execution of the project work.

3.10 Drinking Water

The Contractor shall furnish drinking water for their workers.

3.11 Sanitary Facilities

The Contractor shall provide sanitary facilities for their workers as required by laws and regulations. The Contractor shall service and clean the facilities as needed or as directed by the Engineer.

END OF SECTION

SECTION 01 55 26
MAINTAINING TRAFFIC

PART 1 - GENERAL

1.01 Work Included

The Contractor shall execute the work in a manner such that traffic is maintained and access is provided to all residences, businesses, and commercial establishments.

1.02 References

A. Michigan Department of Transportation 2020 Standard Specifications for Construction

B. Michigan Manual on Uniform Traffic Control Devices

1.03 Related Work

A. Section 01 57 26 – Dust Control

PART 2 - PRODUCTS

2.01 Signing

Signing and barricading shall be provided by the Contractor in accordance with the details on the plans, the Michigan Manual on Uniform Traffic Control Devices, the Michigan Department of Transportation Maintaining Traffic Typicals, and the requirements of the road agency. Barricades left in place after dark shall be lighted.

The Contractor shall submit a plan of the proposed traffic control to the Engineer for review.

PART 3 - EXECUTION

3.01 Maintain Access to all Properties

It shall be the Contractor's responsibility to notify the City of Ann Arbor project manager of temporary closures of driveways or roads, in writing, a minimum of 14 days in advance of closure. The city will coordinate a posting on their website. A copy of the written notification shall be provided to the Engineer.

The duration of any closure shall be limited to the minimum length of time necessary to complete the particular task requiring the closure. In no case shall a closure extend overnight, unless approved by the Engineer or Owner.

Upon completion of pipe installation or other work requiring a closure of a driveway, road, or sidewalk, the area shall be backfilled and regraded to meet adjacent grades. A temporary gravel surface shall be provided and maintained by the Contractor. The gravel shall meet the requirements of 23A series aggregate, as specified in the Michigan Department of Transportation 2020 Standard Specifications for Construction. Recycled HMA may also be utilized after approval of material by the Engineer. The gravel shall be placed to a depth of at least 8 inches.

The Contractor shall post signage as directed by the Pedestrian Detour Plan (attached).

3.02 Protection of Hazardous Areas

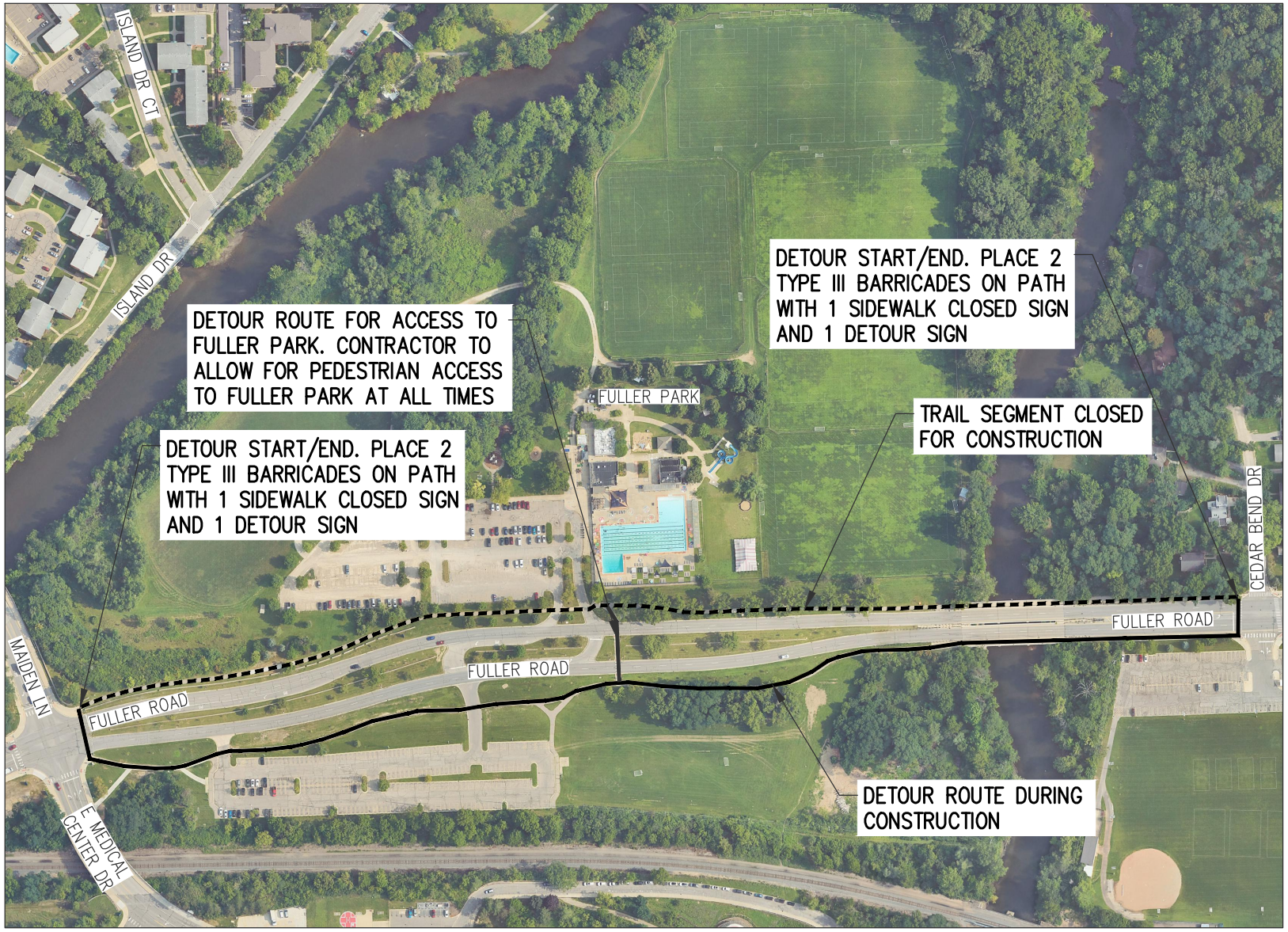
Excavation and hazardous areas shall be protected by barricades or snow fence. Barricades left in place at night shall be lighted.

3.03 Corrective Action

If in the Engineer's or Owner's opinion inadequate protection or maintenance of traffic is provided, the Engineer or Owner will attempt to contact the Contractor and notify them of the deficiency. If the Contractor cannot be notified or fails to make prompt corrections, the Owner or Engineer may authorize that said deficiencies be corrected by others. The cost of making such corrections will be charged to the Contractor.

END OF SECTION

ATTACHMENT B: PEDESTRIAN DETOUR PLAN



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ALL MEASURE REQUIRED FOR TRAFFIC CONTROL DURING CONSTRUCTION SHALL CONFORM WITH 2011 EDITION OF THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (M.M.U.T.C.D), AND THE M.D.O.T. 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION, SECTION 812, UNLESS MODIFIED BY THIS PLAN OR DIRECTED OTHERWISE BY THE ENGINEER.

THE CONTRACTOR BE RESPONSIBLE FOR FURNISHING, PLACING, MAINTAINING, AND REMOVING ALL TRAFFIC CONTROL DEVICES.

ALL SIGNS SHALL BE TYPE B – TEMPORARY WITH A 7 FOOT BOTTOM HEIGHT. SIGNS SHALL BE MOUNTED ON SUITABLE, DRIVE STEEL SUPPORT POSTS THAT WILL PROVIDE THE 7 FOOT BOTTOM HEIGHT.

PRIOR TO DRIVING POSTS FOR SIGNS, THE CONTRACTOR SHALL CALL MISS DIG (1-800-482-7171 OR 811) OR VISIT WWW.MISSDIG.ORG FOR THE LOCATIONS OF ALL UNDERGROUND UTILITIES, THREE WORKING DAYS PRIOR TO STARTING WORK.

ALL BARRICADES AND TEMPORARY SIGNS SHALL BE PROPERLY WEIGHTED. ANY BARRICADES OR TEMPORARY SIGNS DAMAGED BY THE CONTRACTOR OR DUE TO IMPROPER USE SHALL BE REPLACED PROMPTLY AT THE CONTRACTOR'S EXPENSE.

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PREPARED FOR:
CITY OF ANN AROBOR
FULLER PARK IMPROVEMENTS
DETOUR PLAN

PLAN NO. 2400478
DATE: AUGUST, 2024
PROJECT MGR: DRS
REVIEWER: DRS
SCALE: N.T.S. SHEET NO: 1

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SECTION 01 57 26
DUST CONTROL

PART 1 - GENERAL

1.01 Work Included

The Contractor shall provide and maintain adequate measures to control dust from the project area.

1.02 References

Where materials or methods of construction are listed as being in conformance with a standard specification, it shall refer to the latest edition of the standard specification or any interim revision.

A. ASTM D98 – Standard Specification for Calcium Chloride

B. Michigan Department of Transportation 2020 Standard Specifications for Construction

1.03 Related Work

A. Section 01 50 00 – Construction Facilities and Temporary Controls

B. Section 01 55 26 – Maintaining Traffic

C. Section 31 23 01 – Excavating, Filling, and Grading

D. Section 31 25 00 – Soil Erosion and Sedimentation Control

PART 2 - PRODUCTS

2.01 Materials

A. Dust palliative shall be calcium chloride conforming to ASTM D98, except as modified here: Calcium chloride solids shall have a minimum concentration of 77 percent $CaCl_2$, and may be of any gradation provided that all particles will pass a $^3/_8$-inch sieve, and that less than 5 percent pass a No. 30 sieve. Calcium chloride liquid must be furnished in solution with a concentration of 33, 35, or 38 percent $CaCl_2$.

At the time of delivery, the Engineer shall be provided a delivery report with the following information:

1. The volume in gallons or weight of solution delivered, or the weight of solids delivered.

2. The concentration of solids or solution delivered, expressed as the percent of $CaCl_2$.

3. The equivalent tons of calcium chloride, $CaCl_2$. The equivalent weight of calcium chloride shall be determined in accordance with Table 922-2, of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

PART 3 - EXECUTION

3.01 Requirements for Dust Control Measures

The Contractor shall provide adequate dust control measures to prevent dust from the construction area from being a health or safety hazard or a nuisance. The Contractor is responsible for control of dust from the construction area, even if the dust is caused by traffic other than the Contractor's operations.

The Contractor shall maintain the dust control measures through the life of the project.

When, in the Engineer's opinion, the Contractor's measures for the control of dust are inadequate, the Engineer will provide notice to the Contractor to take such measures as necessary to control the dust. If the Contractor fails to provide for the required controls, the Engineer may make arrangements for providing dust control measures by another party, and deduct the cost thereof from the Contractor's earnings.

3.02 Application

Water or dust palliative shall be uniformly applied to exposed soil areas which may be the source of dust. The application(s) shall be repeated as necessary to control dust emanating from the project area. If water is used, it shall be applied at a rate to not cause mud to be tracked out of the project limits.

END OF SECTION

SECTION 01 71 13
MOBILIZATION

PART 1 - GENERAL

1.01 Work Included

Mobilization consists of preparatory work and operations, including but not limited to the following:

A. The movement of people, equipment, and materials to the project site;

B. The establishment of the Contractor's facilities to work on the project (offices, storage yards, borrow and disposal sites, etc.);

C. Expenses incurred prior to beginning work on specific contract pay items;

D. Pre-construction costs (not bidding costs) which are direct costs to the project, rather than direct costs to specific pay items.

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

3.01 Mobilization

Following Notice of Award, the Contractor shall expeditiously prosecute such work necessary for execution of the contract.

Following Notice to Proceed, the Contractor shall commence such work necessary to prepare for the beginning work on the project.

END OF SECTION

SECTION 01 71 23.16
CONSTRUCTION STAKING BY CONTRACTOR

PART 1 - GENERAL

1.01 Work Included

The Contractor is responsible to provide all staking and layout necessary for construction of the project.

1.02 Notifications

In the event that it appears there is an error or contradiction between plan grades, construction stakes, and/or actual conditions, the Contractor shall notify the Owner or Engineer immediately.

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

3.01 Requirements

The Contractor is responsible to provide such layout and control work as may be required for construction of the proposed improvements.

The Contractor shall provide workers competent in the layout and control work necessary. The Contractor shall provide the equipment and materials necessary for establishing the necessary control and layout.

Pipelines, 8 inches or larger that are to be laid at a uniform grade, shall be laid using a laser for alignment control.

3.02 Plan Grades and Alignment

The horizontal alignment of manholes and drainage structures will be from the center of casting, unless otherwise noted.

Final casting elevation for drainage structures and manholes shall be determined by the Engineer after grading is completed.

END OF SECTION

SECTION 01 74 50
CLEANUP AND RESTORATION

PART 1 - GENERAL

1.01 Work Included

The Contractor shall restore areas disturbed by construction activities to a condition reasonably close to their condition before the project, unless shown otherwise on the plans. Restoration work should be performed as soon as possible after construction work is completed in a particular area.

Upon the completion of work in an area, all excess materials, debris, equipment, and similar items shall be removed from the project area by the Contractor and disposed of properly.

1.02 Related Work

A. Section 01 45 16.02 – Density and Aggregate Testing

B. Section 02 21 14 – Audio-Video Construction Area Survey

C. Section 31 25 00 – Soil Erosion and Sedimentation Control

D. Section 32 11 23 – Aggregate Base

E. Section 32 12 16 – HMA Paving

F. Section 32 13 00 – Concrete Curb and Gutter, Sidewalk, and Miscellaneous Pavement

G. Section 32 92 00 – Turf Establishment

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

3.01 Restoration

Unless otherwise provided, aggregate surfaces, HMA pavements, and concrete pavements shall be restored by construction of similar replacement surfaces. Aggregate surfaces shall be replaced with the materials and thicknesses described in the specification for aggregate surfaces or as shown on the drawings. HMA pavement shall be replaced with the cross section(s) shown on the plans and in accordance with Section 32 12 16 – HMA Paving. Concrete pavement shall be replaced with pavement in accordance with Section 32 13 00 – Concrete Curb and Gutter, Sidewalk, and Miscellaneous Pavement.

Turf areas shall be restored by re-establishing the turf as described in Section 32 92 00 – Turf Establishment. All areas disturbed by construction that are not to be surfaced with aggregate or pavement shall be restored with turf, unless otherwise directed.

Mailboxes, fences, signs, ornaments, and similar items shall be replaced at the completion of construction. Posts shall be installed plumb. Items that are lost or stolen shall be repaired or replaced at the Contractor's expense. Repairs or replacements shall meet the Owner's approval.

3.02 Temporary Restoration of Driving Surfaces

Where a pavement or gravel surface is removed as a result of construction activities, a temporary surface shall be provided and maintained by the Contractor until the permanent surface is provided. Unless otherwise directed, the temporary surface shall be 8 inches of aggregate compacted according to Section 01 45 16.02 – Density and Aggregate Testing and graded to meet the adjacent, remaining surfaces. Aggregate shall meet the requirements of Series 23A as described in the Michigan Department of Transportation 2020 Standard Specifications for Construction. Recycled HMA may also be utilized after approval of material by the Engineer.

The Contractor shall regrade the temporary surface and add additional aggregate periodically, as necessary, to maintain them in a relatively smooth condition.

END OF SECTION

SECTION 02 21 14
AUDIO-VIDEO CONSTRUCTION AREA SURVEY

PART 1 - GENERAL

1.01 Work Included

The Contractor shall perform an audio-video survey of the project area to document the "pre-construction" conditions of the project and adjacent areas. The recording shall be in digital format, delivered to the Engineer on a flash drive or via a downloadable link.

1.02 Related Work

A. Section 01 74 50 – Cleanup and Restoration

1.03 Qualifications

The pre-construction video documentation shall be completed by an established commercial firm known to be skilled and regularly engaged in the business of color audio-video construction documentation. The firm shall furnish such information as the Engineer deems necessary to demonstrate the ability to perform the work in accordance with contract specifications. This information may include a history of construction work experience.

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

3.01 General

The Contractor shall provide all labor, materials, equipment, and services and perform all operations necessary to furnish to the Owner a complete color audio-video recording of the surface features within the proposed construction zone of influence. The audio-video survey shall be recorded in digital format with each file labeled to indicate the project name, date, and time and the specific locations included in the file. The purpose of this coverage shall be to accurately document the pre-construction condition of these surface features.

A. Coverage

The recordings shall include coverage of all surface features located within the construction zone of influence. The construction zone of influence includes: (1) the area within and adjacent to the permanent and temporary easements and areas adjacent to these easements, which may be affected by routine construction operations; (2) road right-of-way and areas within 25 feet; (3) staging areas for equipment and materials out of the construction zone on either public or private land; (4) where directed by the Engineer. The surface features within the construction zone of influence shall include, but not be limited to, all roadways, pavements, curbs, driveways, sidewalks, culverts, headwalls, retaining walls, buildings, landscaping, trees, shrubbery, and fences. Any faults, fractures, or defects shall be identified, verbally described, and magnified to clearly show the nature and extent of the damage.

Houses and buildings shall be identified visually by house or building number, when possible, in such a manner that the progress of the taping and proposed construction areas may be located by reference to the house and buildings.

B. Recording Operation

The operator in charge must have experience on at least 25 miles of pre-construction work and/or other similar construction work. Apprentice operators must be continuously supervised by an experienced operator.

C. Recording Schedule

The recording shall be performed prior to the placement of any construction materials or equipment on the proposed construction site. The Contractor shall notify the Engineer at least two working days prior to performing the work.

D. Video Delivery

The Contractor shall deliver the color audio-video recordings and log to the Owner upon their completion. Upon acceptance by the Owner, the materials become the property of the Owner.

E. Unacceptable Documentation

The Owner may reject all or any portion of the documentation not conforming to specifications. Those rejected portions shall be re-done at no additional cost to the Owner.

F. Documentation Additions and Omissions

The Owner may designate areas to be added to or omitted from the survey.

G. Specification Deviations

Any deviation from these specifications must have the written approval of the Owner/Engineer.

3.02 Production Requirements

The following procedures shall be implemented in the production of pre-construction color audio-video documentation.

A. Recording

The coverage shall consist of a single, continuous, unedited color recording which begins at one end of a particular construction area and continues to the other end of that construction area. However, where coverage is required in areas not accessible by conventional wheeled vehicles and smooth transport of the recording system is not possible, the recording shall consist of an organized, logical sequence corresponding to the plans.

B. Vehicle Rate of Travel

The vehicle rate of travel shall be indirectly proportional to the number, size, and value of the surface features within that construction area's zone of influence. The following table should be used as a guide to establish approximate limits on actual average rates of travel:

Area Rate Maximum	Rate Of Travel Typically Characterized By	Average
a. High Density (e.g. developed subdivision)	Hard surface streets, curbs, drives & sidewalks; 50-foot lots; very few empty lots	30 ft/min.
b. Med. Density (e.g. partially developed subdivision)	Gravel roads, hard & soft surface drives, no sidewalks culverts and headwalls, 100-foot lots, few empty lots	60 ft/min.
c. Low Density (e.g. Suburban fringe)	Gravel roads, small fields or woods, occasional houses	90 ft/min.
d. Extra Low Density (e.g. rural)	Gravel roads, large fields, sparse number of houses	120 ft/min.

C. Visibility

All recording shall be performed during times of good visibility. No recording shall be done during periods of significant precipitation, mist, or fog. The recording shall only be done when sufficient sunlight is present to properly illuminate the subjects of recording and to produce bright, sharp video recordings of those subjects.

No recording shall be performed when there is any snow cover, unless otherwise authorized by the Owner.

3.03 Technical Requirements

The total audio-video recording system and the procedures used shall produce a finished product that will meet the technical requirements of the project and provide a high quality audio and video production. The video portion of the recording shall reproduce bright, sharp, clear pictures with accurate colors and shall be free from distortion, tearing, rolls, or any other form of picture imperfection. The audio portion of the recording shall reproduce the commentary of the camera operator with proper volume, clarity, and be free from distortion, interference, or background noise.

A. Recording System

1. Digital File

The recorded audio-video digital file shall be compatible for playback with any standard media player.

2. Recorder

The recorder shall record the color signal with a minimum horizontal resolution of 240 lines.

All video recordings must, by electronic means, display continuously and simultaneously generated transparent digital information to include the date and time of recording, the engineering stationing corresponding to the stationing on the plans or as directed by the Engineer, the name of the street, easement, or building being documented, and the project and time to appear in the upper left hand corner of the picture.

Example: N on First Street W/E
84+20

3. Audio Record

There shall be a corresponding and simultaneously recorded audio recording, containing the commentary of the camera operator. The audio recording shall assist the viewer orientation and in any needed identification, differentiation, clarification, or objective description of the structures being shown in the video portion of the recording.

The audio recording shall be free of any other voice communication.

At the start of production and the beginning of a new street, an identification summary shall be read into the record while at the same time a wide angle view with numeric displays is provided for fiscal record. Summary to include: name of job, location of job, positional location at start of job date, time, weather, and other notable conditions.

4. Camera

The color video camera used in the recording system shall have a horizontal resolution of 300 lines at center, a luminance signal to noise ratio of 45 decibels, and a minimum illumination requirement of 25-foot candles.

The camera shall be adjusted to provide optimum contrast. White balance pedestal, level, and synchronization shall be adjusted for optimum performance under environmental conditions.

a. Camera Height and Stability

When conventional wheeled vehicles are used as conveyances for the recording system, the distance between the camera lens and the ground shall be not less than 12 feet. The camera shall be firmly mounted, such that transport of the camera during the recording process will maintain a steady picture.

b. Camera Control

Camera pan, tilt, zoom-in, and zoom-out rates shall be sufficiently controlled such that recorded objects will be clearly viewed during playback. In addition, all other camera and recording system controls, such as lens focus and aperture, video level, pedestal, chrome, white balance, and electrical focus, shall be properly controlled or adjusted to maximize recorded picture quality.

i. A wide angle of area will be shown first, then a series of pans, zooms, and tilts as may be necessary to accomplish a comprehensive view. Close-ups shall be utilized, as necessary, to ensure sufficient detail of items of interest. Progress shall continue linearly along the field of view; for example, one side of roadway must be completed before commencing recording of the opposite side.

ii. Camera pans and tilts shall be no faster than 90 degrees of arc in a 5-second interval, or slower, so as to assure maximum clarity of scene detail.

iii. Camera zoom shall be no faster than a doubling of focal distance within a half-second interval, or slower.

iv. Each item of interest shall be clearly indicated in the video record for sufficient time to permit audio discussion and viewer comprehension.

5. Video Tape Indexing

   a. Video Identification

      All video files shall be properly identified by index number, project title, and general project location.

   b. Flash Drives

      Displayed on the flash drive or storage case of each flash drive shall be the project name. A log of the flash drive contents shall be provided along with the flash drive. The log shall describe the segments of coverage contained on the video, in terms of the names and sides of the streets or easements, coverage beginning, direction, and endpoints with corresponding video counter numbers.

   c. Cumulative Index

      A cumulative alphabetical index of all the individual segments of coverage, indicating the corresponding video file, shall be supplied to the Owner.

      All equipment, accessories, and materials to perform this service shall be furnished by the Contractor, except the plans of the proposed area to be televised, which are furnished by the Engineer.

END OF SECTION

SECTION 02 41 13.13
PAVEMENT REMOVAL

PART 1 - GENERAL

1.01 Work Included

This work includes removal of an existing pavement, including streets, driveways, sidewalks, curb and/or gutter, and parking areas. For purposes of the work "pavement removal", pavement material may include HMA, concrete, brick, or any combination thereof, including any reinforcement materials.

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

3.01 Limits of Removal

Pavement shall be removed to the limits shown on the plans, or as directed by the Engineer in the field. Where pavement is to be removed to allow for the construction of utilities or other improvements, pavement shall be removed to the limits required for their construction.

3.02 Pavement Removal (Including Curb and Gutter Removal)

Pavement shall be removed to an existing joint or to a sawed joint. An existing crack is not suitable for the limit of removal. Sawed joints for pavement removal are to be either parallel or perpendicular to the longitudinal centerline. Sawed joints shall extend substantially through the full thickness of the pavement so that a "clean break" is made and that the adjacent pavement or structures that are to remain are not damaged. If adjacent pavement or structures that are to remain are damaged as a result of the Contractor's removal operations, they shall be replaced to the Owner's satisfaction at the Contractor's expense.

Curb and gutter removal shall be as directed by the Engineer. The Contractor shall sawcut existing curb and/or gutter perpendicular to and completely through the existing concrete.

Broken concrete, HMA, brick, and other debris resulting from pavement removal operations shall become the Contractor's property and disposed of properly.

Where pavements are encountered that are composed of more than one material or multiple courses of the same material, the pavement shall be removed in its entirety and all components shall be considered part of the same pavement area.

The Contractor shall provide sufficient barricades and fences to protect pedestrians and vehicles from hazardous areas.

END OF SECTION

SECTION 31 10 01
CLEARING AND REMOVAL OF MISCELLANEOUS STRUCTURES

PART 1 - GENERAL

1.01 Work Included

This work includes, but is not limited to, clearing, topsoil removal, tree and stump removal, and the removal and protection of miscellaneous items within the project area.

1.02 Related Work

A. Section 02 41 13.13 – Pavement Removal

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

3.01 Location of Underground Utilities

The Contractor shall call MISS DIG at least three work days before excavating in an area so that utility companies can identify their buried utilities. The Contractor shall notify area municipalities and other utilities in the area that do not participate in the MISS DIG program for location of their utilities.

3.02 Stripping and Stockpiling of Topsoil

Prior to excavating, the existing topsoil surface shall be stripped and stockpiled from within the limits of the proposed excavation.

3.03 Removal of Fences, Signs, Mailboxes, Ornaments, and Other Objects

Fences, signs, mailboxes, ornaments, and similar objects that fall within the project area shall either be protected or removed. If removed, the materials shall be carefully taken apart and stored in a place where they will not be damaged or stolen.

Where mailboxes are removed, a temporary mailbox shall be installed and maintained by the Contractor until the permanent one is replaced.

Traffic signs shall not be removed unless approved by the agency responsible for them. If approved for removal, traffic signs and posts shall be reinstalled in accordance with the requirements of the agency responsible for them.

If any of the materials to be removed are damaged or badly deteriorated before the Contractor removes them, the Contractor shall notify the Engineer before the object is removed. Materials that are damaged, stolen, or lost after they have been removed shall be replaced by the Contractor at no increase in project cost.

3.04 Conflicts with Utility Poles

Where the proposed excavation requires that a pole or guy be supported or temporarily relocated, the Contractor shall make arrangements with the appropriate utility to have the pole or guy supported or relocated. Any costs for this shall be the Contractor's expense.

If the Contractor supports the pole or relocates the guy themselves, the method used shall meet the approval of the appropriate utility. The Contractor shall be solely responsible for any supporting work to the utility company.

3.05 Trees and Brush

Brush lying within the limits of the proposed excavation shall be cleared by the Contractor. Brush shall be removed from the project area and disposed of properly.

Trees lying within the limits of the proposed excavation that are to be removed shall be cut down by the Contractor. Plans may not show all trees of all nature and the Contractor shall become familiar with the project and base their work on their own assessment. The Contractor shall coordinate with the Owner as to which trees are to be left in place and those that will be acceptable to remove. The Contractor shall notify the property owner (or the adjacent property owner if the tree is located in a public right-of-way) in advance of cutting down tree(s). The wood from the tree(s) shall be offered to the landowner. If the landowner wants the wood, the tree shall be cut into sections 8 feet long and stacked adjacent to the project area.

Small branches, limbs, and other debris shall be removed from the area by the Contractor and disposed of properly. If the landowner does not want wood from the trees, all wood including branches, limbs, and other debris shall be removed from the area by the Contractor and disposed of properly.

Stumps shall be removed in their entirety and disposed of away from the project area in an acceptable manner. Burning or burying along the project route is not acceptable.

END OF SECTION

SECTION 31 23 01
EXCAVATING, FILLING, AND GRADING

PART 1 - GENERAL

1.01 Work Included

The work of excavating, filling, and grading includes, but is not necessarily limited to:

A. Excavating for footings and foundations;

B. Filling and backfilling to attain indicated grades;

C. Trenching and trench backfilling;

D. Rough and finish grading of the site; and

E. Furnishing and installing granular cushion under concrete slabs on grade.

1.02 References

Where materials or methods of construction are listed as being in conformance with a standard specification, it shall refer to the latest edition of the standard specification or any interim revision.

A. ASTM C618 – Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete

B. Michigan Department of Transportation 2020 Standard Specifications for Construction

1.03 Related Work

A. Section 01 41 26 – Permit Requirements

B. Section 01 45 16.02 – Density and Aggregate Testing

C. Section 01 57 26 – Dust Control

D. Section 02 41 13.13 – Pavement Removal

E. Section 31 25 00 – Soil Erosion and Sedimentation Control

1.04 Job Conditions

A. Dust Control

Dust caused by the Contractor's operations during performance of the work, or resulting from the condition in which the Contractor leaves the site, shall be controlled by the Contractor. The Contractor shall use all means necessary to control dust on and near the work zone and all off-site borrow areas.

All surfaces shall be thoroughly moistened, as required to prevent dust from being a nuisance to the public, neighbors, and concurrent performance of other work on the site.

B. Protection

The Contractor shall use all means necessary to protect all materials before, during, and after installation and to protect all objects designated to remain.

In the event of damage, the Contractor shall immediately make all repairs and replacements necessary to the approval of the Engineer and at no additional cost to the Owner.

C. Safety

The Contractor is responsible for conducting operations in a safe and orderly manner and in conformance with MIOSHA P.A. 154.

D. Permits

Unless otherwise provided, the Contractor is responsible to obtain and comply with permits required under Parts 31 and 91 of Michigan PA 451 of 1994 (Natural Resources and Environmental Protection Act) and any local ordinances.

PART 2 - PRODUCTS

2.01 Fill Material – General

All fill material shall be subject to the approval of the Engineer.

For approval of fill material, notify the Engineer at least four working days in advance of intention to import material, designate the proposed borrow area, and permit the Engineer to sample, as necessary, from the borrow area for the purpose of making acceptance tests to prove the quality of the material.

2.02 Fill, Trench, and Structural Backfill Material

Fill material, unless specified otherwise, shall be soil or soil-rock mixture that is free from organic matter and other deleterious substance. It shall contain no rocks or lumps over 6 inches in greatest dimension and not more than 15 percent of the rocks or lumps shall be larger than 2½ inches in greatest dimension.

Fill material obtained from offsite sources shall meet the requirements of the preceding paragraph and additionally, shall be predominantly granular with a maximum particle size of 2 inches and a plasticity index of 12 or less.

Fill material placed within 2 feet horizontally of the base of building foundations and/or slabs shall have a plasticity index of 15 or less.

2.03 Sand

Sand shall meet the requirements of Granular Material Class II, as specified in the Michigan Department of Transportation 2020 Standard Specifications for Construction.

2.04 Granular Cushion

Granular cushion under slabs shall meet the requirements of Granular Material Class II, as specified in the Michigan Department of Transportation 2020 Standard Specifications for Construction.

2.05 Sand for Backfill and Pipe Bedding

Sand shall meet the requirements of Granular Material Class II, as specified in the Michigan Department of Transportation 2020 Standard Specifications for Construction.

2.06 Aggregate for Pipe Bedding

Aggregate shall meet the requirements of Series 6AA aggregate, as specified in the Michigan Department of Transportation 2020 Standard Specifications for Construction.

2.07 Aggregate for Backfill

Aggregate shall meet the requirements of 21AA crushed aggregate or 4G open-graded aggregate, as specified in the Michigan Department of Transportation 2020 Standard Specifications for Construction.

2.08 Flowable Fill

Flowable fill shall be a mixture of Portland cement, fly ash, sand, and water in the following proportions.

Flowable Fill Mixture Ratios		
Material	**Type**	**Quantity**
Portland Cement	Type I or IA	50 lb/cyd
Fly Ash	ASTM C618, Class C or F	500 lb/cyd
Sand	MDOT 2NS	2,850 lb/cyd
Water		Approx. 376 lb/cyd (sufficient to produce desired flowability)

Flowable fill shall be produced and delivered at a minimum temperature of 50 degrees Fahrenheit. Mixtures shall be transported to the point of placement in a revolving drum mixer or agitator.

2.09 Geotextile

Geosynthetics must be composed of long-chain synthetic fiber of at least 85 percent, by weight, polyolefins or polyesters. Geosynthetics must be capable of resisting degradation from chemicals, mildew, rot, and ultraviolet (UV) light.

Geotextile used to prevent intermixing of soft subgrade and subbase materials shall meet the requirements per the Michigan Department of Transportation 2020 Standard Specifications for Construction, as shown in Table 910-1 for geotextile stabilization and separator.

2.10 Other Materials

All other materials not specifically described, but required for a complete and proper installation, shall be as selected by the Contractor and subject to the approval of the Engineer.

PART 3 - EXECUTION

3.01 General

Prior to all work of this section, the Contractor shall become thoroughly familiar with the site, the site conditions, and all portions of the work falling within this section. The Contractor shall not allow or cause any of the work performed or installed to be covered up or enclosed by work of this section prior to all required inspections, tests, and approvals. Should any of the work be enclosed or covered up before it has been approved, the Contractor shall uncover all such work at no additional cost to the Owner. After the work has been completely tested, inspected, and approved, the Contractor shall make all repairs and replacements necessary to restore the work to the condition in which it was found at the time of uncovering, all at no additional cost to the Owner.

The Contractor shall excavate ahead of the proposed utility installation to expose any existing buried utilities. If existing utility grades conflict with the proposed utility grade, the proposed utility grade may be adjusted by the Engineer, if necessary, to miss the existing utility grade at no additional expense to the contract.

3.02 Geotextile Stabilization and Geotextile Separator

Deliver and store geosynthetics in packaging capable of resisting UV radiation, contaminants, and moisture. Label each unit of material with product information, including supplier and lot identification. Do not expose geosynthetics to direct sunlight for prolonged periods. Repair or replace damaged geosynthetics at no additional cost to the project.

A. Geotextile Placement

Place or install geotextile products in accordance with the manufacturer's installation guidelines and this subsection.

Do not operate equipment required to place backfill directly on geotextile products. Eliminate wrinkles or waves that develop during placement. Place the products in direct contact with the soil below before placing backfill on the geotextile products.

Shingle-lap longitudinal and transverse joints at least 2 feet, or seam the joints in accordance with the manufacturer's recommendations. Ensure field or factory seams meet the minimum grab tensile strength for the product application. Place seams facing upward for inspection purposes.

Repair tears or damage to the geotextile in accordance with the manufacturer's recommendations.

B. Aggregate or Granular Material Placement

Spread and grade the first layer of aggregate or granular material after placing geotextile to create a stable work platform before compaction. Place additional aggregate or granular material, as required, and compact. Fill ruts with additional aggregate or granular material and compact before placing each subsequent layer. The cost of aggregate or granular material, including additional quantities required to fill ruts, is included in the unit prices for related pay item(s).

3.03 Excavating

Where depressions result from, or have resulted from, the removal of surface or subsurface obstructions, the Contractor shall open the depression and remove all debris and soft material as directed by the Engineer.

The Contractor shall excavate to the grades shown on the drawings. Where excavation grades are not shown on the drawings, excavation shall be completed, as required, to accommodate the installation.

All over-excavated areas shall be backfilled and compacted at no additional cost to the Owner.

3.04 Preparation of Subgrade

After the site has been cleared, stripped, and excavated to within 6 inches of the specified depths for recompaction, the exposed surface shall be scarified to a minimum depth of 6 inches, thoroughly moisture-conditioned, and compacted to the requirements specified below for fill.

All ruts, hummocks, and other uneven surfaces shall be removed by surface grading prior to placement of fill.

3.05 Subgrade Undercutting

Subgrade undercutting shall be performed to replace material susceptible to frost heaving, differential frost action, or unstable soil conditions, as determined by the Engineer.

After the subgrade has been excavated to the approximate grade, the Engineer will inspect the grade to determine if subgrade undercutting is required and to determine the limits of such undercutting. The Contractor shall provide suitable equipment for proof rolling the grade. The inspection, proof rolling, and subgrade undercutting shall be completed prior to placing any embankment, road base, or pavement.

The Contractor shall undercut the subgrade within the limits defined by the Engineer. All excavated material resulting from the undercutting shall become the Contractor's property disposed of outside the project limits, unless otherwise directed. The volume of earth removed by subgrade undercutting shall be replaced by suitable soils as follows:

A. Type I Subgrade Undercutting - backfill with selected clay or similar material approved by the Engineer.

B. Type II Subgrade Undercutting - backfill with sand.

C. Type III Subgrade Undercutting

Backfill with the material excavated from subgrade undercut areas after mixing the excavated material to break up the undesirable strata of soils or with other Engineer-approved backfill material.

D. Type IV Subgrade Undercutting

Backfill with 21AA crushed aggregate or 4G open-graded aggregate. Encapsulate 4G aggregate with geotextile separator.

Backfill material shall be compacted according to Section 01 45 16.02 – Density and Aggregate Testing.

3.06 Excess Water Control

Fill material shall not be placed, spread, or rolled during unfavorable weather conditions. Operations shall not resume until moisture content and fill density are satisfactory to the Engineer. Berms or channels shall be provided to prevent flooding of subgrade. All water collecting in depressions shall be promptly removed.

Where soil has been softened or eroded by flooding or placement during unfavorable weather, all damaged areas shall be removed and compacted as specified below for fill and compaction.

The Contractor shall provide suitable means and equipment to maintain excavations and other parts of the work free from water.

Dewatering means and methods shall provide dry excavations and the preservation of the final lines and grades of bottoms of excavations.

3.07 Fill and Compaction

After subgrade compaction has been approved by the Engineer, the Contractor shall place approved fill material in layers not exceeding 8 inches in uncompacted thickness.

The fill material shall be watered or aerated, as necessary, and thoroughly mixed to obtain a moisture content that will permit proper compaction.

Each soil layer shall be compacted to at least the specified minimum degree. The filling and compaction process shall be repeated until plan grade is attained.

A. Compaction Requirements

Unless otherwise specified on the drawings or in other sections of the specifications, fill and backfill shall be placed in 8-inch lifts and each lift shall be compacted to not less than the percentages of the maximum density stated in Section 01 45 16.02 – Density and Aggregate Testing.

Compaction by jetting will not be permitted unless specifically authorized by the Engineer.

3.08 Grading

Except as otherwise directed by the Engineer, the Contractor shall perform all rough and finish grading required to attain the elevations shown on the drawings.

Tolerances For Grading			
Rough Grade		**Finish Grade**	
Building, roads, and parking areas	Plus or minus 0.1 feet	Granular cushion under concrete slabs	Plus or minus 0.05 feet
Landscaped areas	Plus or minus 0.25 feet	Parking areas	Plus or minus 0.03 feet
		Landscaped areas	Plus or minus 0.1 feet

After grading is completed and has been accepted by the Engineer, the Contractor shall permit no further excavating, filling, or grading.

The Contractor shall use all means necessary to prevent erosion of freshly graded areas during construction and until such time as permanent drainage and erosion control measures have been installed.

3.09 Excavating for Footings

Earth surfaces, upon which footings will be placed, shall be compacted in accordance with the compaction requirements established in this section of these specifications.

The Contractor shall verify that all compaction is complete and approved prior to excavating for footings.

The Contractor shall excavate to the required lines and grades. The bottom of trenches shall be cut level and all loose soil shall be removed. Where soft spots are encountered, unsuitable materials shall be removed and replaced with flowable fill at no additional cost to the Owner.

3.10 Placing Granular Cushion

The Contractor shall carefully place the specified granular cushion in areas to receive concrete slabs on grade, uniformly attaining the thickness indicated on the drawings, and providing all required transition planes.

3.11 Trenching

The Contractor shall perform all trenching required for the installation of items where the trenching is not specifically described in other sections of these specifications.

All trenches shall be open construction, with sufficient width to provide free working space at both sides of the trench and around the installed item as required for pipelaying, backfilling, and compacting.

Trenching shall be completed, as required, to provide the elevations shown on the drawings. Where elevations are not shown on the drawings, trench to sufficient depth to give a minimum of 18 inches of fill above the top of the pipe, measured from the adjacent finished grade.

Where trench excavation is inadvertently carried below proper elevations, the over-excavated area shall be backfilled with material approved by the Engineer, and then compacted to provide a firm and unyielding subgrade and/or foundation to the approval of the Engineer and at no additional cost to the Owner.

The Contractor shall properly support all trenches in accordance with all applicable rules and regulations.

The Contractor shall brace, sheet, and support trench walls in such a manner that they will be safe and that the ground alongside the excavation will not slide or settle, and that all existing improvements of every kind, whether on public or private property, will be fully protected from damage.

In the event of damage to such improvements, the Contractor shall immediately make all repairs and replacements necessary to the approval of the Engineer and at no additional cost to the Owner.

Bracing, sheeting, and shoring shall be constructed so as to not place stress on any portion of the completed work until the general construction thereof has proceeded far enough to provide sufficient strength. The Contractor shall exercise care in the drawing and removal of sheeting, shoring, bracing, and timbering to prevent collapse and caving of the excavation faces being supported.

Trenched material shall be stockpiled in a manner to prevent water running into the excavations. Surface drainage shall not be obstructed. A means shall be provided whereby storm and wastewaters are diverted into existing gutters, other surface drains, or temporary drains.

3.12 Foundation for Pipes

Trench bottoms shall be graded to provide a smooth, firm, and stable foundation free from rock points throughout the length of the pipe.

A minimum of 4 inches of sand or aggregate bedding shall be placed in the bottom of the trench.

In areas where soft, unstable materials are encountered at the surface where the bedding is to be placed, the unstable material shall be removed and replaced with material approved by the Engineer. The area shall be undercut to a sufficient depth to develop a firm foundation for the item being installed. Over excavation and replacement of material shall be the responsibility of the Contractor and shall be completed at no additional cost to the Owner.

At each joint in pipe, the bottom of the trench shall be recessed, as required, to relieve the bell of the pipe of all load and to ensure continuous bearing of the pipe barrel on the firm foundation.

The pipe subgrade shall be shaped to fit the bottom of the trench to the pipe shape.

3.13 Bedding for Pipes

Pipe bedding shall be in accordance with the details in the construction plans.

The pipe bedding shall be shaped to match the bottom ¼ of the pipe's shape. The bedding shall be excavated to accommodate the pipe bells. The completed bedding shall provide uniform support of the entire length of pipe.

The bedding material shall be compacted after placing along both sides of the pipe.

3.14 Backfill for Pipes

Unless otherwise directed, all trenches and excavation shall be backfilled as the pipe is laid. No pipes shall be backfilled until the sewer elevations, gradient, alignment, and the pipe joints have been observed by the Engineer.

The trench shall be backfilled to the proposed final elevations with suitable materials. Unless other compaction methods are demonstrated and approved by the Engineer, backfill shall be placed in 8-inch lifts and compacted to the required density as stated in Section 01 45 16.02 – Density and Aggregate Testing.

In areas which are not to be restored with a pavement or aggregate surface, the backfill shall be graded to a height slightly above the adjacent surface. When final restoration of the area is completed by the Contractor, the backfill surface shall be excavated (or filled if settlement has occurred), trimmed, or graded, as necessary, to provide for the required depth of topsoil and its transition to adjacent, undisturbed areas.

The Contractor shall correct any areas where the trench backfill settles by adding fill, topsoil, and re-seeding.

3.15 Miscellaneous Pipe Repair

When an existing sewer pipe, drain pipe, field tile, or other existing pipe is damaged as a result of construction activities and is not designated for removal or abandonment on the plans or by the Engineer, it shall be repaired by the Contractor.

The section of damaged pipe shall be removed to existing joints or to sawed joints where the existing pipe is sound and undamaged. A length of new pipe of the same size as the original pipe shall be furnished and installed to replace the section of pipe removed. The new pipe may be any one of the following materials:

A. Same material, class or thicknesses, as the original pipe

B. PVC Schedule 40, for pipes 8 inches or less in diameter

C. PVC SDR 26, for pipes 8 inches or greater in diameter

D. Other pipe material approved by the Engineer

Each end of the new section of pipe shall be connected to the remaining sections of existing pipe using a rubber gasketed sleeve, suitable for the pipe materials and sizes being joined, to provide a watertight connection. The repaired section of pipe shall be firmly bedded in sand or aggregate, compacted according to Section 01 45 16.02 – Density and Aggregate Testing.

END OF SECTION

SECTION 31 25 00
SOIL EROSION AND SEDIMENTATION CONTROL

PART 1 - GENERAL

1.01 Work Included

The Contractor shall provide permanent and/or temporary erosion and sedimentation control as called for on the plans and as required by the county soil erosion agent and permit.

1.02 Definitions

A. Major rainfall event – ¼-inch or more precipitation over a period, delineated by dry periods of at least 24 hours.

1.03 References

Where materials or methods of construction are listed as being in conformance with a standard specification, it shall refer to the latest edition of the standard specification or any interim revision.

A. ASTM D3786 – Standard Test Method for Bursting Strength of Textile Fabrics-Diaphragm Bursting Strength Tester Method

B. ASTM D4355 – Standard Test Method for Deterioration of Geotextiles by Exposure to Light, Moisture and Heat in a Xenon Arc Type Apparatus

C. ASTM D4491 – Standard Test Method for Water Permeability of Geotextiles by Permittivity

D. ASTM D4533 – Standard Test Method for Trapezoid Tearing Strength of Geotextiles

E. ASTM D4632 – Standard Test Method for Grab Breaking Load and Elongation of Geotextiles

F. ASTM D4751 – Standard Test Method for Determining Apparent Opening Size of a Geotextile

G. ASTM D4833 – Standard Test Method for Index Puncture Resistance of Geomembranes and Related Products

H. Michigan Department of Transportation 2020 Standard Specifications for Construction

1.04 Related Work

A. Section 01 41 26 – Permit Requirements

B. Section 01 57 26 – Dust Control

C. Section 32 92 00 – Turf Establishment

1.05 Permit

The Contractor shall apply for and obtain an Act 451 permit from the local Soil Erosion and Sedimentation Control Enforcing Agent. The Contractor shall pay all permit fees and provide any required bonds or insurance.

1.06 Scheduling

A. Control measures shall be constructed by the Contractor prior to the time construction starts uphill or upstream from the control measure location.

B. The Contractor shall inspect all temporary erosion control measures weekly and within 18 hours of major rainfall events.

C. Maintenance and replacement of erosion control measures shall be completed by the Contractor when necessary, or as directed by the soil erosion control agent or the Engineer.

D. Removal and cleanup of temporary control structures shall be provided by the Contractor within one week after the control measure is no longer needed.

1.07 General Soil Erosion and Sedimentation Content Procedures

A. Keep disturbed areas small.

B. Stabilize and protect disturbed areas as soon as possible.

C. Keep storm water runoff velocities low.

D. Protect disturbed areas from runoff.

E. Retain sediment within the construction area.

PART 2 - PRODUCTS

2.01 Materials

A. Geotextiles

Geotextiles for filters shall be non-woven, meeting the requirements of the table below.

Silt fence geotextiles shall meet the requirements of the following table and shall be designed to collect eroded sediment transported in storm water runoff. The fabric shall have at least 70 percent minimum retained strength after 500 hours of U.V. exposure when tested according to ASTM D4355.

	Property/Test Method					
Geotextile Category	**Grab Tensile Strength (min) ASTM D4632 lbs**	**Trapezoid Tear Strength (min) ASTM D4533 lbs**	**Puncture Strength (min) ASTM D4833 lbs**	**Mullen burst strength (min) ASTM D3786 psi (a)**	**Permittivity ASTM D4491 Per second**	**Apparent Opening Size (max) ASTM D4751 (b) Millimeters**
Filters	90	45	45	140	0.5	0.21
Silt Fence	100(c)	45	--	--	0.1	0.60

(a) ASTM D3786. The fluid displacement rate for the Mullen burst test equipment must be 170± 5 ml/minute. Subtract tare strength from the ultimate burst strength as specified by ASTM.
(b) Filtration opening size (FOS, Canadian General Standards Board, method 148.1 No. 10) is permitted as an alternate test method to ASTM D4751 for non-woven geotextiles.
(c) Elongation at the specified grab tensile strength not to exceed 40 percent for silt fence.

B. Stone

Unless otherwise directed, stone shall meet the requirements of Series 6AA as specified in Michigan Department of Transportation 2020 Standard Specifications for Construction.

2.02 Mixtures

A. Seed

Seed shall meet the requirements of Section 32 92 00 – Turf Establishment.

2.03 Fabricated Items

A. Silt Fence

Geotextile for silt fences shall meet the requirements of Section 2.01. The geotextile shall be attached to machine pointed No. 2 common grade hardwood posts, using at least 5 staples through wood lath a minimum of $^3/_8$-inch thick and 2 feet long. Post spacing shall not exceed $6^1/_2$ feet. Posts must be of sufficient length and cross-section to support the installed silt fence under full sediment load; however, posts shall have cross-sectional area of at least $2^1/_4$ square inches and shall be a minimum of 36 inches in length. Silt fence fabric must be a minimum height of $2^1/_2$ feet. Silt fence shall have at least two permanent markings or affixed labels per assembled roll which positively identifies the fabricator.

B. Mulch Blankets

Mulch blankets shall meet the requirements of Section 32 92 00 – Turf Establishment.

C. Filter Sacks

All materials shall adhere to the requirements of the Michigan Department of Transportation 2020 Standard Specifications for Construction, except fabric drop, which shall consist of a geotextile filter sack inserted into the drainage structure under the cover.

Filter sack shall be as manufactured by “Siltsack”, “Catch-All”, “Ultra-Urban Filter”, “Flogard + Plus”, or approved equal. The filter sacks shall be installed and maintained in accordance with the manufacturer’s specifications.

PART 3 - EXECUTION

3.01 General Requirements

The Contractor shall perform work on the project in a manner which prevents or reduces erosion and controls sedimentation. The Contractor shall provide controls which keep sedimentation from the project area, within the limits of the project area, and out of any lake, river, stream, wetland, or storm drain.

The Contractor shall install appropriate controls or measures to control or prevent erosion or sedimentation from the project area before beginning any earth disturbance operations. Temporary erosion and sedimentation control measures shall be maintained by the Contractor, until such times as disturbed areas have become permanently stabilized.

During the life of the project, the Contractor shall provide any additional soil erosion or sedimentation control measures necessary to address specific problems which develop in and adjacent to the project area.

3.02 Time Limitations

Grading operations shall be completed as soon as practical. Permanent soil erosion controls for disturbed areas shall be completed within 5 calendar days of the completion of grading, except that permanent measures shall be completed within 24 hours when the disturbed area is within 150 feet of a lake, stream, river, or wetland area.

Temporary soil erosion measures shall be implemented when it is not practical to complete the permanent measures.

3.03 Area Limitations

For linear projects (roads, sewers, water main, etc.), the length of the disturbed area shall be limited to ½-mile, unless otherwise approved by the Engineer.

Areas outside the project right-of-way or outside the grading limits shown on the drawings shall not be disturbed, unless otherwise approved by the Engineer.

3.04 Construction of Erosion and Sedimentation Controls

The Contractor shall provide all permanent and temporary erosion and sedimentation controls shown on the drawings, required by the permitting agency, or necessary to appropriately control erosion and sedimentation from the project area.

A. Check Dams

Check dams shall be installed and maintained across ditches and watercourses, which might convey surface runoff from disturbed areas within the project area, or where shown on the drawings or required by the Engineer or permitting agency.

B. Silt Fence

The Contractor shall furnish, erect, and maintain silt fence around the perimeter of the project area where earth will be disturbed and sediment from the disturbed area could be conveyed.

C. Filters

Fabric or stone filters shall be installed in waterways or in advance of inlets to drainage courses or storm sewers.

D. Sediment Traps and Basins

Sediment traps shall be excavated upstream of check dams and where shown on the drawings or directed by the Engineer or permitting agency. Check dams shall be installed downstream of the sediment traps and basins prior to the sediment traps and basins being excavated.

E. Seeding

Earth areas shall be stabilized with turf immediately following the completion of earthwork and grading activities. Where permanent seeding cannot be completed, earth areas shall be

stabilized with temporary seeding. Areas which are properly seeded temporarily for stabilization shall be permanently seeded, as shown, as the work can be appropriately completed.

F. Mulch Blankets

Areas susceptible to erosion from moving water, which are not to be paved, shall be seeded and protected with high velocity mulch blankets.

3.05 Maintenance and Erosion and Sedimentation Control

The Contractor shall maintain all temporary erosion and sedimentation controls until such time as the permanent measures have been completed and established.

The Contractor shall inspect all erosion and sedimentation controls weekly and within 18 hours of a major rain event.

Damaged controls or measures shall be replaced or repaired. Sediment shall be cleaned from traps, sumps, basins, filters, and fences periodically. Sediment shall be removed to prevent the accumulation of sediment from exceeding half of the volume of traps, sumps, and basins. Sediment or debris along silt fences shall be removed before the accumulation reaches half the height of the fence.

Sediment and debris removed from soil erosion and sedimentation control devices shall be disposed of properly by the Contractor. Sediment shall not be used for fill or backfill in the project area, except when an area is specifically designated on the plans or by the Engineer.

Drainage filters shall be cleaned when an accumulation of silt might reduce flow and result in flooding.

Any sediment from the construction area which enters storm sewers or drainage ditches shall be removed by the Contractor. Since sediment can be carried great distances within storm sewers, it may be necessary for many segments of downstream storm sewer segments to be televised, jetted, and vacuumed. If the Engineer believes that the Contractor has allowed or provided the potential for sediment to enter storm sewers or drainage courses, the Contractor will be responsible for the costs of inspection and removing sediment from downstream drains, whether it can be conclusively proven that the sediment was the result of the Contractor's actions (or inaction).

3.06 Removal of Erosion and Sedimentation Control Devices

Temporary soil erosion and sedimentation control devices shall be removed or obliterated by the Contractor when the permanent measures are in place and established. Any areas damaged by the removal of the temporary devices shall be corrected by the Contractor.

Mulch used for temporary erosion control may either be removed or worked into the soil before the permanent topsoil and seeding is completed.

END OF SECTION

SECTION 32 11 23
AGGREGATE BASE

PART 1 - GENERAL

1.01 Work Included

This specification describes the requirements for constructing an aggregate base under a proposed pavement surface.

1.02 References

A. Michigan Department of Transportation 2020 Standard Specifications for Construction

1.03 Related Work

A. Section 01 45 16.02 – Density and Aggregate Testing

PART 2 - PRODUCTS

2.01 Materials

A. Aggregate shall meet the requirements of Series 21AA aggregate, as described in the Michigan Department of Transportation 2020 Standard Specifications for Construction, unless otherwise noted on the plans, proposal, or specifications.

PART 3 - EXECUTION

3.01 Subgrade Preparation

Aggregate shall not be placed until the subgrade is properly prepared. The subgrade shall be graded to the required elevations and shape for placement of the specified aggregate thickness. The subgrade shall be compacted according to Section 01 45 16.02 – Density and Aggregate Testing. Soft or yielding spots shall be excavated and replaced with sound material.

3.02 Placement

Aggregate shall be placed in a manner that provides a uniform cross section of the specified thickness and the required surface grades. The edges of the area of aggregate surface shall be straight and uniform.

Aggregate shall be placed in lifts not exceeding 8 inches (loose measure) and compacted according to Section 01 45 16.02 – Density and Aggregate Testing.

END OF SECTION

SECTION 32 12 16
HMA PAVING

PART 1 - GENERAL

1.01 Work Included

This work includes preparation for and construction of one or more courses of plant mixed Hot Mix Asphalt (HMA).

1.02 References

A. Michigan Department of Transportation 2020 Standard Specifications for Construction

B. Michigan Testing Methods (MTM)

C. Michigan Department of Transportation HMA Production Manual

D. ASTM E965 – Standard Test Method for Measuring Pavement Macrotexture Depth Using a Volumetric Technique

1.03 Related Work

A. Section 01 45 16.02 – Density and Aggregate Testing

B. Section 32 11 23 – Aggregate Base

C. Section 33 05 00 – Adjusting Structures

1.04 Quality Assurance and Quality Control

A. The Engineer will take 20,000 gram samples of the HMA mixture using the mini-stockpile method. The rate of sampling will be determined by the Engineer.

PART 2 - PRODUCTS

2.01 Submittals

The Contractor shall submit material source and mix designs to the Engineer for approval prior to the start of construction.

2.02 Mixtures

Materials shall meet the requirements of Sections 501.02, 902, and 904 of the Michigan Department of Transportation 2020 Standard Specifications for Construction. If milling, the mix design to initially cover the milled surface must be approved prior to milling operations.

Provide aggregates, mineral filler (if required) and asphalt binder to produce a mixture proportioned within Superpave Final Aggregate Blend Gradation Requirements, and meeting the uniformity tolerance limits in the Uniformity Tolerance Limits for HMA Mixtures tables below.

Superpave Final Aggregate Blend Gradation Requirements					
	Mix Number				
	5	4	3 Leveling Course	3 Base Course	2
Standard Sieve	**% Passing Criteria (Control Points)**				
1½ inch	-	-	-	-	100
1 inch	-	-	100	100	90-100
$^{3}/_{4}$ inch	-	100	90-100	90-100	≤90
$^{1}/_{2}$ inch	100	90-100	≤90	≤90	-
$^{3}/_{8}$ inch	90-100	≤90	-	-	-
No. 4	≤90	-	-	-	-
No. 8	47-67	39-58	35-52	23-52	19-45
No. 16	-	-	-	-	-
No. 30	-	-	-	-	-
No. 50	-	-	-	-	-
No. 100	-	-	-	-	-
No. 200	2.0-10.0	2.0-10.0	2.0-8.0	2.0-8.0	1.0-7.0

Uniformity Tolerance Limits for HMA Mixtures						
Parameter			Top and Leveling Course		Base Course	
Number	Description		Range 1 (a)	Range 2 (b)	Range 1 (a)	Range 2 (b)
1	% Binder Content		-0.3 to +.4	+/- 0.5	-0.3 to +0.4	+/- 0.5
2	% passing	# 8 and Larger Sieves	+/- 5	+/-8	+/- 7	+/- 9
		# 30 Sieve	+/- 4	+/- 6	+/-6	+/-9
		# 200 Sieve	+/- 1	+/- 2	+/- 2	+/- 3
3	Crushed Particle Content		Below 10%	Below 15%	Below 10%	Below 15%

(a) This range allows for normal mixture and testing variations. The mixture must be proportioned to test as closely as possible to the Job-Mix-Formula (JMF).
(b) Deviation from JMF.

Parameter Number 2, as shown in the Uniformity Tolerance Limits for HMA Mixtures table, is aggregate gradation. Each sieve will be evaluated on one of the three gradation tolerances. If more than one sieve is exceeding Range 1 or Range 2 tolerances, only the one with the largest exceedance will be counted as the gradation parameter.

The master gradation should be maintained throughout production; however, price adjustments will be based on the Uniformity Tolerance Limits for HMA Mixtures table. Aggregates which are used in plant-mixed HMA mixtures must not contain topsoil, clay, or loam.

The mixture will be considered out-of-specification, as determined by the acceptance tests, if for any one mixture, two consecutive tests per parameter, (for Parameter 2, two consecutive aggregate gradations on one sieve) are outside Range 1 or Range 2 tolerance limits. If a parameter is outside of Range 1 tolerance limits and the second consecutive test shows that the parameter is outside of Range 2, then it will be considered to be a Range 1 out-of-specification. Consecutive

refers to the production order and not necessarily the testing order. Out-of-specification mixtures are subject to a price adjustment of 50 percent of the bid amount.

HMA mixtures and application rates shall be as shown on the plans.

Reclaimed Asphalt Pavement (RAP) shall be limited to 0 percent to 17 percent RAP by weight of the total binder in the mixture. No binder grade adjustment is made to compensate for the stiffness of the asphalt binder in the RAP.

Reclaimed Asphalt Shingles (RAS) will not be allowed in the mixture.

Oil bottoms/recycled motor oil will not be allowed in the mixture.

PART 3 - EXECUTION

3.01 Equipment

Equipment shall meet the requirements of Section 501.03 of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

3.02 HMA Sampling and Testing

The Contractor shall submit to the Engineer for approval the rate at which the HMA will be sampled. Samples will be obtained using the "Mini-stockpile" method in accordance with MTM 324.

Quantitative Extraction of Bitumen from HMA Paving Mixtures (MTM 325) will be used to determine the asphalt content of the HMA mixture.

The Contractor is responsible for HMA testing.

The Contactor shall submit test results to the Engineer within seven days of HMA placement.

At the Engineer's discretion, original samples of asphalt binder will be taken by the Contractor and delivered to the Engineer prior to incorporation into the mixture. The frequency of sampling will be determined by the Engineer. The cost of obtaining and delivering the samples to the Engineer will be included in the HMA pay item(s). The Contractor must certify, in writing, that the materials used in the HMA mixture are from the same source as the materials used in developing the HMA mixture design and the bond coat is from an approved supplier, as stated in the Material Quality Assurance Procedures Manual.

3.03 Preparation

A. Aggregate Base (for Pavements Constructed on an Aggregate Base)

   See Section 32 11 23 – Aggregate Base.

B. Existing Pavement (for Overlays)

   The existing pavement surface shall be thoroughly cleaned of all dirt and debris. Loose material shall be removed from all joints and cracks using compressed air, or other suitable means that does not damage the existing pavement.

The existing pavement surface shall be observed by the Engineer prior to placement of a bond coat or HMA.

C. Removal of Existing Pavement Surface

1. Butt Joints

When a butt joint is to be provided, the existing HMA surface shall be removed to a thickness equal to the thickness of the proposed overlay, for the full width of the butt joint, where the overlay is to meet the existing pavement surface. The depth of pavement removal shall be uniformly tapered from the full depth of the overlay at the butt joint to zero, at a rate of 1-inch per 10 feet.

2. Edge Trimming

Where the edge of an existing HMA pavement is required, the HMA pavement shall be cut its full depth in a manner that provides a vertical, straight edge.

3. Cold Milling

Cold milling shall be performed only when the Contractor is prepared to commence subsequent operations, such as pavement repair and HMA placement, and completes these subsequent operations expeditiously.

The HMA surface shall be removed to the required depth, width, grade, and cross section. The surface shall be removed to the limits shown on the plans, or as directed by the Engineer.

Where the HMA surface is removed below the limits specified, the Contractor shall fill and compact the area removed so that the remaining surface is at the proper level. The work to restore the pavement to the required level will be at the Contractor's expense.

Do not maintain traffic on the milled surface unless specified in the contract or approved by the Engineer.

After cold milling, and before placement of a new surface, the pavement shall be thoroughly cleaned.

Remove the HMA surface to the depth, width, grade, and cross section shown on the plans. Backfill and compact depressions resulting from removal of material below the specified grade, in accordance with subsection 501.03.C.9.

Immediately after cold-milling, clean the surface and dispose of removed material.

Mill the existing pavement to the cross slope shown on the plans. Supply a 10-foot straightedge. Ensure that the finished surface does not vary longitudinally or transversely more than ¼ inch from a 10-foot straightedge. Ensure that the milled area is free from gouges, continuous grooves, and ridges and has a uniform texture. Ensure that the horizontal gouge in the vertical edge created from the milling operation is limited to a maximum width of 1.0 inch.

All loose, broken, and unsound pavement along or adjacent to an existing joint or crack designated for repair shall be removed.

D. Hand Patching

When hand patching is called for on the plans or directed by the Engineer, the Contractor shall fill holes, depressions, joints and cracks, and areas to be repaired in an existing pavement. HMA material used for hand patching may be any HMA material approved for use as a top course. A bond coat shall be applied to the exposed pavement surfaces within the area to be patched. The HMA material shall be placed in lifts to the level of the surface of the adjacent existing pavement surface. Each lift shall be within the minimum and maximum thickness range allowed for the mix design, and shall be compacted using a mechanical vibrator or an approved roller.

E. Bond Coat

Bond coat shall be applied to existing pavement surfaces, only when they are clean and dry. Bond coats shall be uniformly applied to the pavement surface with a pressure applicator. Bond coat shall be placed in advance of HMA placement to provide for its curing prior to HMA placement.

Bond coat shall not be allowed to pool on the surface; pooling shall be removed. The adjacent pavement surfaces which are not to be overlaid shall not be sprayed with bond coat.

Bond coat shall be applied to each layer of the HMA pavement and to the vertical edges of the adjacent pavements before placing subsequent courses.

F. Transportation of HMA

HMA shall be transported to the project site in accordance with the requirements of Section 501.03.E of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

Each load of HMA delivered to the project site shall be weighed on an approved scale with automatic print out system. Weights shall be measured to the nearest 20 pounds. Scales and print out systems shall meet the requirements of Section 109 of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

G. Placement of HMA

HMA shall be placed in accordance with the requirements of Section 501.03.F of the Michigan Department of Transportation 2020 Standard Specifications for Construction and at the rate shown in the HMA Application Rate table in the project plans.

H. Rolling

HMA shall be rolled in accordance with the requirements of Section 501.03.G of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

I. Smoothness requirements as per the requirements of Section 501.03.H of the Michigan Department of Transportation 2020 Standard Specifications for Construction shall be adhered to.

J. Weather and Seasonal Limitations

1. The Contractor shall not place bond coat or HMA when precipitation is imminent or when there is moisture on the existing surface to be overlaid.

2. HMA shall not be placed when the underlying base is frozen, and the surface being paved is at least 35 degrees Fahrenheit.

3. Unless otherwise approved by the Engineer in writing, HMA shall not be placed before May 15 or after November 15.

K. Protection

The Contractor shall protect surfaces, structures, signs, poles, vehicles, and other items adjacent to the area to be paved from being discolored or damaged. Damaged items shall be corrected at the Contractor's expense. The Contractor shall protect the newly placed HMA surface from damage by traffic and construction activities.

L. Adjustment of Castings, Manholes, Monument Boxes, Water Valves, and Water Shutoffs

Castings, manholes, water valves, and water shutoffs shall be adjusted in accordance with Section 33 05 00 – Adjusting Structures.

Monument boxes shall be installed or adjusted after placement of the final HMA course, in accordance with Section 33 05 00 – Adjusting Structures.

END OF SECTION

SECTION 32 13 00
CONCRETE CURB AND GUTTER, SIDEWALK,
AND MISCELLANEOUS PAVEMENT

PART 1 - GENERAL

1.01 Work Included

This work includes all preparation, forming, concrete production and placement, finishing, jointing, reinforcing, curing, protection, and restoration for the construction of concrete curb and gutter, sidewalk, and miscellaneous pavement.

1.02 References

Where materials or methods of construction are listed as being in conformance with a standard specification, it shall refer to the latest edition of the standard specification or any interim revision.

A. ASTM A1064 – Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete

B. ASTM C94 – Standard Specification for Ready-Mixed Concrete

C. ASTM C150 – Standard Specification for Portland Cement

D. ASTM C309 – Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete

E. ASTM C595 – Standard Specification for Blended Hydraulic Cements

F. ASTM A706, ASTM A615, or ASTM A996 (Type R or Type A only) for Grade 60 steel bars

G. ASTM A775 for epoxy coated steel reinforcement

H. ASTM D1751 – Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)

I. Michigan Department of Transportation 2020 Standard Specifications for Construction

J. Michigan Department of Transportation Standard Plan

1.03 Related Work

A. Section 01 45 16.01 – Concrete Testing

B. Section 01 45 16.02 – Density and Aggregate Testing

C. Section 02 41 13.13 – Pavement Removal

PART 2 - PRODUCTS

2.01 Materials

A. Portland cement shall meet the requirements of ASTM C150 and ASTM C595.

B. Coarse aggregate shall meet the requirements of Class 6AA aggregate, as described in the Michigan Department of Transportation 2020 Standard Specifications for Construction.

C. Intermediate aggregate shall meet the requirements of Class 26A aggregate, as described in the Michigan Department of Transportation 2020 Standard Specifications for Construction.

D. Fine aggregate shall meet the requirements of Class 2NS, 2SS, or 2MS aggregate, as described in the Michigan Department of Transportation 2020 Standard Specifications for Construction.

E. Reinforcing steel fabric shall meet the requirements of ASTM A1064.

F. Deformed bars must meet the requirements of ASTM A706, ASTM A615, or ASTM A996 (Type R or Type A only) for Grade 60 steel bars, unless otherwise required. All deformed bars shall be epoxy coated.

G. Epoxy coated steel reinforcement must be coated in accordance with ASTM A775.

H. White membrane curing compound shall conform to ASTM C309, Type 2. Curing compound shall be agitated to provide a uniform consistency prior to transfer between containers or before application.

I. Fiber joint filler shall meet the requirements of ASTM D1751.

J. The detectable warning surface shall contrast visually with adjacent walking surfaces. The Contractor shall submit the detectable warning product information to the Engineer for approval.

K. Geotextile liner shall meet the requirements per the Michigan Department of Transportation 2020 Standard Specifications for Construction, as shown in Table 910-1 for physical requirements of geotextile.

2.02 Mixtures

Concrete shall be transit mixed 3,500 psi concrete in accordance with ASTM C94 and Section 01 45 16.01 – Concrete Testing.

Air content, slump, and compressive strength shall be according to Section 01 45 16.01 – Concrete Testing. Concrete shall contain at least six sacks of cement per cubic yard of concrete. Modifications and the use of admixtures may be submitted and shall be approved by the Engineer.

2.03 Submittals

A. Prior to beginning construction, the Contractor shall submit the name and plant location of the proposed concrete supplier for the project.

B. Prior to beginning construction, the Contractor shall submit mix designs for the proposed concrete mixtures proposed for use on the project for the Engineer to review.

C. Pavement

Concrete pavement section shall be as indicated on the plans.

D. Concrete Curbs and Concrete Curb and Gutter

Unless shown otherwise on the plans, concrete curb and concrete curb and gutters shall be in accordance with Michigan Department of Transportation Standard Road Plan R-30 Series.

PART 3 - EXECUTION

3.01 Coordination of Traffic

Hazardous areas shall be barricaded to protect pedestrian and vehicular traffic.

Work shall be scheduled so that access is maintained to driveways and entrances through the project area to the extent possible. Where a driveway or entrance must be closed for a period, the property owner or occupant shall be notified in advance of the closing.

3.02 Removal of Existing Sidewalk, Curb and Gutter, and Pavement

Where an existing sidewalk, curb and gutter, and/or pavement are to be removed and replaced, the existing structure shall be removed in accordance with Section 02 41 13.13 – Pavement Removal.

3.03 Preparation

The base shall be excavated, filled, and shaped, as required, to construct pavement of the required thickness at the proposed grades and alignment. The base shall be compacted according to Section 01 45 16.02 – Density and Aggregate Testing. Soft and yielding soils shall be excavated and replaced with suitable soils.

Where existing curb and gutter has been removed and prior to constructing new curb and gutter, the Contractor shall install 2 dowels, $^1/_2$-inch in diameter, into existing curb and gutter at each end. Cost of dowels are included in the payment for curb and gutter.

Concrete may be placed by slipforming, unless indicated otherwise.

Where forms are used, the forms shall extend the full depth of the concrete. Forms shall be of sufficient strength and staked to prevent springing or yielding after placement of concrete. Flexible forms capable of making a smooth arc shall be used for curved sections. Face forms for the exposed face of curb are not required.

Where steel reinforcement is used, it shall be spliced and held in place in a manner approved by the Engineer. Splices shall be overlapped by 10 inches.

3.04 Required Grades

A. Driveways shall be constructed with a maximum slope of 10 percent.

B. Sidewalks shall be constructed with a maximum transverse slope of 2 percent. Transverse slopes shall be at least 1 percent, unless longitudinal drainage is provided. The longitudinal slope of sidewalk shall not exceed the general grade established for the adjacent street or

highway. Where adjacent street or highway general grades are less than 5 percent, the longitudinal slope of sidewalk may exceed the general road grade to a maximum of 5 percent.

C. Gutter grades shall not be constructed flatter than 0.4 percent, or less than the grades shown on the plans, whichever is less.

3.05 ADA Requirements

A. Sidewalks and sidewalk ramps shall meet ADA requirements and shall follow the Michigan Department of Transportation Standard Road Plan R-28-series.

B. ADA sidewalk ramps shall include polymer, cast in, detectable warning surfaces, red in color. ADA ramps shall be constructed per Michigan Department of Transportation and ADA specifications.

C. Concrete ramp thickness shall be 6 inches within the first 5 feet behind the back of curb and 4 inches thick beyond the first 5 feet, with a minimum of 4 inches of Michigan Department of Transportation Class II granular material base compacted in place.

3.06 Driveway Openings

Concrete driveway openings shall be constructed in accordance with the Michigan Department of Transportation Standard Road Plan R-29 Series.

3.07 Placement of Concrete

Concrete shall not be placed until the forms (or grade, if the concrete will be slipformed) have been inspected by the Engineer. The Contractor shall notify the Engineer a minimum of 24 hours prior to scheduling a concrete pour.

The base shall be moistened just prior to placement of the concrete.

Concrete shall have a temperature between 45 degrees Fahrenheit and 90 degrees Fahrenheit at the time of placement.

Concrete shall be deposited to the proper depth and spaded or vibrated to ensure proper consolidation. Concrete shall be placed and finished in a continuous operation.

Any material required to fill low spots shall be obtained from the mixture used in the work. Exposed surfaces of the concrete slab shall be finished smooth and even by means of a moistened wood float. Sidewalk and pavement slabs shall be lightly brushed perpendicular to the normal direction of traffic. Water shall not be added to the concrete surface as an aid to finishing. The top edges of the slab and all transverse joints shall be rounded with a finishing tool having a radius of ¼-inch. Surfaces shall not vary more than $^{3}/_{8}$-inch from the alignment and typical cross section.

Joints shall be constructed in accordance with the Michigan Department of Transportation Standard Road Plan R-29 and R-30 Series.

Expansion joint filler shall extend the full depth of the concrete, with the top of the filler material just below the finished concrete surface.

Exposed concrete surfaces shall be cured using white membrane curing compound, applied uniformly at a rate of 200 square feet per gallon. Curing compound shall be applied regardless of temperature or humidity conditions.

3.08 Protection

Concrete shall not be placed if the air temperature is not at least 25 degrees Fahrenheit and rising, or more than 90 degrees Fahrenheit. Concrete shall be protected from damage caused by freezing or rain.

The Contractor shall provide protection for existing surfaces (building faces, light poles etc.) from splattering of concrete. Any damage to building faces, light poles, etc. from concrete splatter shall be repaired or replaced at the Contractor's expense.

The Contractor shall provide sufficient barricading and security to protect fresh concrete from accidental damage or vandalism. Damaged concrete shall be removed to a joint and replaced at the Contractor's expense.

3.09 Cleanup

After the concrete has attained sufficient strength, the forms shall be removed.

Where adjacent areas are turf, the area next to the pavement shall be backfilled with sound earth and topsoil, and graded so the surface is about 1-inch below the pavement or as necessary to provide proper drainage.

END OF SECTION

SECTION 32 17 23
PAVEMENT MARKINGS

PART 1 - GENERAL

1.01 Work Included

This work includes furnishing and applying pavement markings at locations shown on the plans, in the proposal, or as directed by the Engineer, in accordance with the Michigan Manual on Uniform Traffic Control Devices and as specified herein.

The Contractor is responsible for all layout work necessary for the location and placement of pavement markings, as shown on the plans or in the proposal or as directed by the Engineer.

All markings, shapes, and dimensions shall conform to the Michigan Department of Transportation Pavement Marking Standards or other details provided.

1.02 References

A. Michigan Department of Transportation 2020 Standard Specifications for Construction

B. Michigan Manual on Uniform Traffic Control Devices

C. Michigan Department of Transportation's Qualified Products List

1.03 Submittals

The Contractor shall submit a list of all proposed materials and suppliers for pavement marking materials for review prior to performing the work.

1.04 Quality Assurance and Quality Control

The Contractor shall maintain and provide the Engineer with records of application of pavement marking materials, including paint and beads. The records shall include descriptions of the materials used (manufacturer, batch, date of manufacture, etc.) and quantities of each (gallons of paint or binder, pounds of beads).

PART 2 - PRODUCTS

2.01 Materials

A. General Requirements

All pavement markings must be lead-free and selected from the Michigan Department of Transportation's Qualified Products List. Pavement marking materials must be manufactured in the calendar year in which they are to be applied.

B. Packaging and Labeling

Materials shall be furnished in containers or packages plainly marked showing the manufacturer, description of materials, product identification number, batch number, date of manufacture, contents weight, and contents volume.

Thermoplastic material shall be packaged in a manner to prevent it to adhere during storage or shipment. The label on the material shall include the manufacturer's recommendations for the application temperature.

Glass beads shall be packaged in moisture resistant bags.

C. Glass Beads

Glass beads shall meet the requirements of Section 920.02 of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

PART 3 - EXECUTION

3.01 Applying Pavement Markings

Prior to the application of pavement markings, the pavement surfaces shall be clean, dry, and free of foreign materials. The Contractor shall be responsible for removal of foreign material, which can be removed by air-blasting. The Contractor shall also be responsible for removing occasional debris or dead animals from the line track. When shown on the plans or in the proposal, or when directed by the Engineer, curing compound on new concrete shall be removed by light sandblasting.

All materials and glass beads shall be placed according to the manufacturer's requirement.

Pavement markings shall be applied uniformly to the surface and so that they adhere adequately, following manufacturer's recommendations. All materials shall be thoroughly mixed at all times during application. Thinning of liquid materials will not be permitted.

Pavement markings shall be of the width called for on the plans, details, or pay item(s). The markings shall be of the color(s) and configuration as shown on the plans, in the proposal, or as directed by the Engineer. A solid line of the color and width specified shall have no gaps or spaces of unapplied material.

Improperly located markings shall be removed at the Contractor's expense, in accordance with Section 811 of the Michigan Department of Transportation 2020 Standard Specifications for Construction and shall be reapplied in the correct locations at no cost to the Owner.

Applied markings shall be sharp and well-defined. The markings shall be free of uneven edges, overspray, or other readily visible defects which, in the opinion of the Engineer, detract from the appearance or function of the pavement markings. Appropriate care shall be taken to prevent motorists and adjacent properties from being sprayed. Shields or other devices may be used for this purpose.

Pavement marking lines shall be straight or of uniform curvature and shall conform with the tangents, curves, and transitions, as specified in the pavement marking plans and/or directed by the Engineer. The lateral deviation of the finished lines shall not exceed ½-inch from the proposed location alignment, as specified in the plans and/or directed by the Engineer.

Any deviation of the pavement marking lines greater than that specified herein, or shown on the pavement marking plans, shall be sufficient cause for requiring the Contractor to remove and correct such pavement markings at no additional expense to the Owner.

Pavement markings shall be protected from damage by the Contractor during the cure period. Pavement markings damaged by traffic, that were not applied and/or suitably protected, shall be traced at the Contractor's expense as directed by the Engineer. Tracked lines shall be removed at the Contractor's expense when ordered by the Engineer.

Application, temperature, protection, and seasonal restrictions shall be in accordance with Section 811 of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

END OF SECTION

SECTION 32 31 13
CHAIN LINK FENCES AND GATES

PART 1 - GENERAL

1.01 Work Included

This work shall include the excavation for and installation of concrete post bases, and the installation of fence framework, fabric, and accessories.

PART 2 - PRODUCTS

2.01 Fence Materials

A. Acceptable Manufacturers:

1. Anchor Fence, Inc.
2. Cyclone Fence, USX Corp.
3. Design professional approved equivalent.

B. Framework

ASTM F669, Schedule 40, Type I, hot-dipped zinc galvanized steel pipe; one piece lengths without joints; outside nominal diameter of pipe as indicated on drawings.

C. Fabric

FS RR-F-191, Type I, hot-dipped zinc galvanized steel wire; 9-gauge, 2-inch mesh size.

2.02 Fence Accessories

A. Tension Bar, Bands, Caps and Fitting: Pressed steel or malleable iron, zinc galvanized.

B. Fabric Tie Wires: Minimum 9-gauge zinc galvanized steel wire.

2.03 Finishes

A. Pipe: ASTM F1083; minimum of 2.0 ounces per square foot.

B. Hardware: ASTM A153; minimum of 2.0 ounces per square foot.

C. Fabric: ASTM A392, Class 1; minimum of 1.2 ounces per square foot.

2.04 Concrete Mix

A. Concrete mix shall have a minimum compressive strength of 3,500 psi, and shall conform to the requirements of Grade 35S concrete as outlined in the Michigan Department of Transportation 2020 Standard Specifications for Construction.

PART 3 - EXECUTION

3.01 Installation

A. Install framework, fabric and accessories in accordance with ASTM F567, to result in flat, taut, non-sagging installation.

B. Space line posts at intervals not exceeding 10 feet on center.

C. Set terminal and gate posts in concrete footings with flared bottom, minimum 42 inches below finish grade. Top of concrete footing shall be minimum of 4 inches below finish grade.

D. Stretch fabric between terminal posts. Position bottom of fabric approximately 2 inches below finished grade.

E. Fasten fabric to top rail, line posts and bottom rail or tension wire with wire ties spaced maximum 18 inches on center.

F. Attach fabric to end and corner posts with tension bars and tension bands spaced at maximum 12 inches on center.

G. Provide minor grass, branches or brush (< 1-inch diameter) clearing necessary for fence installation.

END OF SECTION

SECTION 32 92 00
TURF ESTABLISHMENT

PART 1 - GENERAL

1.01 Work Included

This work includes soil preparation, seeding, fertilizing, and mulching on those areas designated for turf establishment.

1.02 References

A. Michigan Department of Transportation Qualified Products List

1.03 Related Work

A. Section 31 25 00 – Soil Erosion and Sedimentation Control

1.04 Performance Requirements for Guaranteed Growth and Smooth Ground Surface

The Contractor is responsible to provide turf, substantially free of bare spots and free of weeds. The ground in turf areas shall be smooth, graded to provide positive drainage, and graded to provide a smooth transition to adjacent areas. The Engineer will determine when the requirements of guaranteed growth and smooth ground surface have been met.

Materials, requirements, and methods described in this specification are provided to establish minimum levels. Where the Contractor believes that other materials or methods are appropriate for the specific site conditions or better suited to the Contractor's schedule, the Contractor shall submit details of the alternative materials and/or methods to the Engineer for approval.

The Contractor shall provide re-seeding, watering, and herbicides, as necessary, to achieve the desired results.

There will be no adjustment in project cost for re-seeding, watering, application of herbicides, or using alternative methods of turf establishment.

1.05 Areas Designated for Turf Establishment

All areas disturbed by the Contractor's activities or as a result of the project, which are not to be restored with a pavement or aggregate surface, are to be restored with turf, unless specifically directed otherwise.

Turf shall be established on borrow areas and areas where excess soil is stockpiled.

When shown on the drawings or directed by the Engineer, the Contractor shall establish turf in other areas.

PART 2 - PRODUCTS

2.01 Materials

A. Topsoil

Topsoil shall be a humus-bearing, natural mineral soil of loam, sandy loam, silty loam, or clay loam classification. Topsoil shall neither be excessively acidic or alkaline.

Topsoil shall be screened and free of stones, roots, debris, and other foreign matter. Topsoil which is stripped from the project area shall be removed, transported, and stockpiled in a manner which prevents it from becoming mixed with sub-soils.

B. Fertilizer

Fertilizers shall be standard, commercial packaged or bulk products in granular or liquid form. Each container of packaged fertilizer shall be marked by the manufacturer with the following information: manufacturer name; lot number; date; analysis of contents, including the minimum percentages of total nitrogen, available phosphoric acid, and soluble potash; and the net weight. Bulk fertilizer shall be accompanied with an invoice indicating the manufacturer name; lot number; date; analysis of contents, including the minimum percentages of total nitrogen, available phosphoric acid, and soluble potash; and the net weight or volume.

Fertilizer for seeding and sodding shall be comprised of both a water insoluble component and a water soluble component. The water insoluble nitrogen must be from ureaformaldehydes and/or coarse grade isobutylidene diurea.

Fertilizer shall provide 33 pounds of actual water insoluble nitrogen per acre. The water soluble component of the fertilizer shall provide 65 pounds of actual nitrogen, phosphorus, and potassium nutrient per acre, in equal proportions. The water soluble component of the fertilizer shall include urea, diammonium phosphate, and potassium chloride.

C. Mulch

1. Loose Mulch

Mulch shall be straw or marsh hay, in an air-dried condition. Mulch material must be clean, undamaged, and rot-free. It must be substantially free of weed seed and other objectionable foreign matter.

2. Turf Mulch Blankets

Mulch blankets shall be manufactured by a company currently listed on the Michigan Department of Transportation's Qualified Products List.

Mulch blankets shall have a net covering on both sides of the blanket and shall be manufactured from either excelsior or straw. Excelsior blankets shall be manufactured from a uniform layer of interlocking excelsior fibers cut from sound, green timber, with an average dry weight of 12 ounces per square yard. Straw blankets shall be made of a uniform layer of clean wheat straw, free of weeds and weed seed, with the straw and net covering securely stitched together to form a uniform mat having an average dry weight of 8 ounces per square yard.

3. Mulch Anchoring

   Mulching anchoring shall be manufactured by a company currently listed on the Michigan Department of Transportation's Qualified Products List.

   Latex-based anchoring shall have a composition, by weight, of 48 percent styrene, 50 percent butadiene, and 2 percent additive, 42 percent to 46 percent solids, and a pH of 8.5 to 10.

   Recycled newsprint mulch shall be comprised of specifically prepared, biodegradable, shredded newspaper particles consisting of recycled newsprint fibers. The recycled newsprint must contain a wetting agent, defoaming agent, and nontoxic dyestuff that will impart a bright green or blue color. The dyestuff must adhere tightly to the fiber. Recycled newsprint shall meet the following minimum requirements:

Moisture content (total weight)	12 percent maximum
Shredded high-grade newsprint (oven dry)	96 percent minimum
Tackifier, by weight	1½ percent to 3 percent
Water holding capacity (water per 3½ ounces of fiber)	32 ounces minimum

   Wood fiber shall be specially prepared, biodegradable, air-dried virgin wood fibers manufactured from 100 percent whole wood chips. The wood fiber must be manufactured with a tackifier. Recycled materials are not acceptable. The fibers must be dyed with a green or blue biodegradable dye to aid in visual metering during construction. The process and materials must not contain growth or germination inhibiting materials. The wood fiber must conform to the following specifications:

Moisture content (total weight)	12 percent maximum
Organic wood fiber (oven dry)	95 percent minimum
Tackifier, by weight	3 percent to 5 percent
Water holding capacity (water per 3½ ounces of fiber)	35 ounces minimum

   Guar gum tackifiers shall contain a minimum of 95 percent guar gum by weight. The remaining components shall be dispersing and crosslinking additives.

   Other tackifiers may include water soluble natural vegetable gums, or guar gums blended with gelling and hardening agents, or a water soluble blend of hydrophilic polymers, viscosifiers, sticking aids, and other gums.

4. Mulch netting will not be allowed.

D. Weed Control

   Herbicides must be approved for use by the Michigan Department of Agriculture and the U.S. Environmental Protection Agency.

2.02 Seeding Mixtures

Seed shall be furnished in durable bags, each with a tag indicating the seed supplier, lot number, date, mixture proportions, purity, germination, and net weight.

Seed mixtures shall meet the requirements of one or more of the following mixtures, or other mixtures that are approved in advance by the Engineer. Where the Contractor believes that another mixture is appropriate for areas within the limit of the project, the Contractor shall request that the Engineer review and approve the substituted mixture(s). Requests for substitutions shall include the name of the seed supplier, the mixture proportions, the purity, and the germination.

Species	Purity, Minimum (percent)	Germination (percent)	Seed Mixture						
			Mixture Proportions (percent by weight)						
			TDS	THV	TUF	TGM	THM	CR	TSM
Kentucky Blue Grass	98	85	5	15	10	10	30		
Perennial Ryegrass	96	85	25	30	20	20	20		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

PART 3 - EXECUTION

3.01 Preparation for Turf Establishment

A. Topsoil Stripping

Prior to performing any excavation, filling, grading, or other earthwork, the Contractor shall strip and stockpile topsoil for later use on the project. Excess topsoil shall not be removed from the project site unless specifically provided elsewhere in the contract documents.

B. Finish Grading

The areas that are to be seeded shall be properly graded, sloped, and shaped with an allowance for the thickness of the topsoil layer. The earth bed upon which topsoil will be placed shall be friable to a depth of at least 4 inches. Earth beds not in a friable condition shall be harrowed with a disk, spring tooth drag, or similar equipment.

C. Placement and Preparation of Topsoil

Topsoil shall be spread on the prepared areas to a depth of 3 inches (in place, after rolling or compaction), unless otherwise shown on the plans or proposal. After spreading, any large clods or lumps shall be broken and all stones larger than 1-inch diameter, rocks, roots, litter, and other foreign debris shall be raked up and disposed of by the Contractor. After spreading and raking, the topsoil surface shall be in a friable condition and the surface shall be reasonably close to the proposed grades and cross section.

The topsoil surface shall be shaped to provide proper drainage. Where proposed grades are not shown on the plans, the topsoil surface shall be graded to provide a smooth transition between the new construction and the existing, adjacent ground.

Excess topsoil shall be stockpiled in a location acceptable to the Owner and neatly trimmed to present a neat appearance.

3.02 Turf Establishment

A. Permanent Seeding and Fertilizing

Disturbed areas shall be seeded upon completion of earthwork and grading operations. Disturbed areas shall be stabilized with temporary seeding if permanent seeding cannot be completed.

Seed mixtures for permanent seeding shall be appropriate for the soil type and location, as indicated in the following table. The Contractor may propose and submit alternative mixtures to the Engineer for review and approval. It is the Contractor's responsibility to provide turf areas which are substantially free of bare spots and generally weed-free.

Mixture Designation	Soil Type	Location
TDS	Dry Sandy to Sand Loam	Rural or Urban
THV	Heavy	Rural
TUF	All Types	City Streets
TGM	Medium to Heavy	All
THM	Loamy to Heavy	Residential / Commercial

Fertilizer and seed shall be applied uniformly on areas prepared for seeding. Seed shall be applied at a rate of 220 pounds per acre. Seed and fertilizer may be applied by drilling, broadcasting, or hydraulically. Seed and fertilizer shall be applied before applying mulch. Seed and fertilizer shall be lightly raked or rolled into the prepared topsoil surface.

Neither broadcast seeding nor hydraulic seeding shall be performed during windy weather.

There shall be provisions for mixing or agitating the seed – fertilizer mixture used for hydraulic seeding to keep it evenly distributed in suspension. Mixtures shall be applied within an hour of mixing the seed with water; unused portions shall be discarded.

B. Temporary Seeding

Temporary seeding shall be completed when the permanent seeding cannot be completed because of seasonal conditions. Temporary seeding shall be applied at a rate of 100 pounds per acre, and shall be of the following designation.

Mixture Designation	Soil Type	Location
CR	All Types	Temporary, less than 6 months
TSM	All Types	Temporary, more than 6 months

Before completion of the contract, the Contractor shall complete permanent seeding of all areas which are temporary seeded.

C. Dormant Seeding

Dormant seeding should be used only when necessary to complete a project when seasonal conditions are not conducive to permanent seeding. Dormant seeding shall not be completed on frozen ground. Dormant seeding shall be completed, as required, for permanent seeding.

The Contractor is responsible to establish turf which is substantially free of bare spots and generally free of weeds.

3.03 Mulching

A. Mulch Placement

Immediately after the seed has been set into the topsoil surface by light raking or rolling, the Contractor shall spread mulch and anchor it as appropriate. Mulching shall not be performed during windy conditions.

Loose mulch shall be placed thick enough to shade the ground, conserve moisture, and resist erosion, but open enough to allow sunlight to penetrate and air to circulate.

The Contractor shall maintain mulched areas and repair any areas where damage from erosion, wind, traffic, fire, or other causes occur.

Mulch shall be applied at a uniform rate of 2 tons per acre, except that a rate of 3 tons per acre is required with dormant seeding.

B. Mulch Anchoring

Mulch anchoring (tackifiers) shall be sprayed immediately after the mulch is placed. Spraying shall not be performed when wind might prevent the proper placement of the adhesive. The Contractor shall provide protection measures, as necessary, to protect traffic, signs, structures, and other objects from being marked or disfigured by tackifier materials.

Latex based adhesive shall be mixed at a rate of at least 15 gallons of adhesive with a minimum of 250 pounds of recycled newsprint and 375 gallons of water.

Recycled newsprint shall be mixed at a minimum rate of 750 pounds of newsprint with 1,500 gallons of water.

Wood fiber shall be mixed at a minimum rate of 750 pounds of wood fiber with 1,500 gallons of water.

Guar gum shall be mixed at a minimum rate of 100 pounds of dry adhesive and a minimum of 250 pounds of recycled newsprint and 1,300 gallons of water.

Other tackifiers shall be mixed at a minimum rate of 100 pounds of dry adhesive with a minimum of 250 pounds of recycled newsprint with 1,300 gallons of water.

C. Mulch Blankets

Mulch blankets shall be installed within one day of seeding. The side edges of blankets shall be overlapped by 2 inches. Blanket ends shall be shingle lapped 6 inches. Non-metallic staples or pegs shall be placed along all joint edges and along blanket centerlines at a maximum spacing of 2 feet. Blankets in waterways shall be shingle lapped 12 inches on the downslope edge. If the Contractor elects to use mulch blankets, the Contractor will be required to remove the netting fabric once the turf is established.

High velocity blankets shall be installed on slopes of 1:2, or steeper, on ditch bottoms, on ditch side slopes (to an elevation 1 foot above the ditch bottom), and where specifically shown on the drawings or directed by the Engineer.

3.04 Weed Control

Weed control shall be provided by the Contractor, as necessary, to develop turf areas which are relatively free of weeds. Herbicides shall be applied in accordance with federal, state, and local regulations. Herbicides shall be applied in accordance with manufacturer's instructions. Herbicides shall be applied by commercial applicators, licensed in the State of Michigan and certified by the Michigan Department of Agriculture in the appropriate category(ies).

Target weeds shall be sprayed in the newly seeded turf when the new turf grass is sufficiently established to withstand the application of herbicide. Herbicide application shall be repeated if the first application failed to control target weeds.

The Contractor shall take appropriate measures to preserve and protect adjacent property from damages resulting from the application of herbicides. Herbicides shall not be applied when wind may carry it to adjacent areas.

END OF SECTION

SECTION 33 05 00
ADJUSTING STRUCTURES

PART 1 - GENERAL

1.01 Work Included

This work provides for the vertical adjustment of existing manholes, catch basins, drainage inlets, valve boxes, curb stops, and monument boxes to fit the proposed finish surface. This work includes the temporary lowering of manholes and drainage structures.

1.02 References

Where materials or methods of construction are listed as being in conformance with a standard specification, it shall refer to the latest edition of the standard specification or any interim revision.

A. ASTM A48 – Standard Specification for Gray Iron Castings

B. ASTM A1064 – Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete

C. ASTM C55 – Standard Specification for Concrete Building Brick

D. ASTM C94 – Standard Specification for Ready-Mixed Concrete

E. ASTM C150 – Standard Specification for Portland Cement

F. ASTM C309 – Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete

G. ASTM C443 – Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets

H. ASTM C478 – Standard Specification for Circular Precast Reinforced Concrete Manhole Sections

I. ASTM C595 – Standard Specification for Blended Hydraulic Cements

J. Michigan Department of Transportation 2020 Standard Specifications for Construction

1.03 Related Work

A. Section 01 45 16.01 – Concrete Testing

B. Section 01 45 16.02 – Density and Aggregate Testing

1.04 Traffic Protection

Vehicular and pedestrian traffic shall be protected from excavations left around structures, structures which have been raised above the level of the adjacent pavement or ground surface, or other hazards by one of the following methods:

A. Placing and maintaining appropriate barricade(s) at each hazard.

B. Placing a temporary ramp (HMA on pavement areas, soil or aggregate in non-pavement areas) to provide a smooth transition over the structure.

1.05 Local Standards

All work shall conform to the standards and requirements of the agency(ies) having jurisdiction over the utilities (owning the structures to be adjusted) and the streets or roads (where the utilities are located). Some of the materials or methods described in these specifications may not comply with local standards.

PART 2 - PRODUCTS

2.01 Materials

A. Precast Concrete Grade Rings

Precast grade rings shall be constructed in accordance with ASTM C478. Grade rings shall be of a thickness to provide for adjustment to the required grade.

B. Precast Manhole Sections

Precast manhole sections shall be constructed in accordance with ASTM C478. The diameter, height, thickness, and dimensions shall be as necessary to fit the existing structure and provide for its adjustment to the required elevation.

C. Masonry

Masonry shall be solid concrete bricks or blocks. Bricks shall meet ASTM C55, Grade S-II. Blocks shall be curved, with the inside and outside radii parallel, and of an appropriate diameter for the manhole or drainage structure. Block dimensions shall be chosen to provide the required transition to the existing structure and provide the required adjustment to the final elevation.

D. Castings

Castings for manholes, drainage structures, valve boxes, and monument boxes shall be constructed of gray iron, conforming to ASTM A48, Class 35B. All surfaces of the castings shall be coated with asphaltic paint. The coating shall be smooth, tough, and tenacious when cold, and must not be tacky or brittle.

Lids and frames shall be machined so the lid seats firmly into the frame without rocking.

2.02 Mixtures

A. Mortar

Mortar shall be a mixture of 1 part cement and 3½ parts granular material (MDOT 2NS). A sufficient quantity of water shall be added to attain the consistency necessary for the work.

PART 3 - EXECUTION

3.01 Adjusting Manholes, Catch Basins, and Drainage Inlets

Structures within paved areas shall be adjusted to the final elevation just prior to placement of

the final course of HMA (if located within an area of HMA surface) or prior to placement of the concrete (if located within the curb, sidewalk, or driveway).

A. Structure Adjustment in Curb, Sidewalk, or Driveway

Pavement, aggregate, and/or earth around the structure shall be excavated and removed sufficiently for completing the work.

The existing casting of manholes, catch basins, and drainage structures which are to be adjusted shall be carefully removed and protected by the Contractor. Any unsound masonry or concrete in the walls of the manholes, catch basins, and drainage structures shall be removed. If the elevation of the structure's casting is to be lowered, the wall of the existing structure shall be lowered sufficiently so that when re-installed, the casting will be at the proper elevation.

All materials and debris resulting from the demolition and removal of unsound material shall be kept from falling into the sewer pipes, removed from inside of the manholes or structures, and disposed of properly by the Contractor.

Where casting elevations are to be raised or where structure walls need to be rebuilt to replace unsound material, the structure walls shall be built to the required elevation with an allowance for the height of the casting. The walls may be constructed with concrete masonry or precast concrete grade rings or manhole sections.

Following adjustment of the structure, the excavated area shall be filled with aggregate or HMA and compacted according to Section 01 45 16.02 – Density and Aggregate Testing, or concrete to their respective original levels, or to the elevation of the bottom of the final pavement course.

Following placement of the final pavement course, no part of the casting shall extend above the finished surface; the surface of the pavement shall not be greater than 0.02 feet above the top of the casting.

B. Concrete Masonry

Concrete masonry shall be constructed when temperatures are above freezing, including a cure time of at least 24 hours. The first row of blocks shall be laid on a full bed of mortar on a sound, level course of existing masonry or the concrete base. Blocks shall be laid in level courses with ½-inch joints, except where otherwise approved by the Engineer. Joints shall be finished so that the exposed surface is true and smooth. A ½-inch plaster coat shall be provided over the exterior of the block surface. The blocks shall be wetted and joints raked before applying the plaster coat.

C. Precast Concrete Grade Rings and Manhole Sections

Joints for sanitary sewer manholes shall be rubber O-ring type, meeting the requirements of ASTM C443. Joints for storm manholes, catch basins, and inlets shall be bituminous mastic.

D. Metal Ring Adjuster

Where approved for adjustment of castings, a metal ring of appropriate dimensions may be inserted in the existing frame. The metal ring shall be secured to the existing frame.

3.02 Adjust Valve Boxes and Curb Stops

Valve boxes shall be adjusted to the final elevation following the completion of paving operations, other than the final paving course. Valve boxes shall be adjusted just prior to placement of the final course.

Pavement, aggregate, and/or earth around the valve box shall be excavated and removed sufficiently for completing the work.

Existing valve boxes shall be adjusted by sliding or twisting the upper section of the valve box to the required elevation. The valve box shall be securely supported so that the final installation is both plumb and at the required elevation. The excavated area shall be filled with earth, aggregate, or HMA, all compacted according to Section 01 45 16.02 – Density and Aggregate Testing and to their original levels.

Following placement of the final HMA course, no part of the box shall extend above the finished pavement; the surface of the pavement shall not be greater than 0.02 feet above the top of the box.

3.03 Adjust Monument Boxes

Existing monument boxes shall be removed prior to beginning construction. Prior to their removal, the Contractor shall notify the Engineer so that the existing survey point can be witnessed and location recorded for future re-establishment. The Contractor shall carefully remove the casting and store it in a safe place for re-use. If the existing casting is damaged prior to the Contractor's removal, the Contractor shall notify the Engineer at the time the damage is discovered.

Following paving operations, the Contractor shall core the pavement at the location for the monument box. The core hole shall have a diameter not greater than 1-inch larger than the diameter of the box. The box shall be grouted in place with a non-shrink grout mixture. No part of the box shall extend above the finished pavement; the surface of the pavement shall not be greater than 0.02 feet above the top of the box. The box shall be located so that the center of the box is not greater than 0.05 feet from the witnessed corner location.

END OF SECTION

SECTION 34 41 15
PERMANENT TRAFFIC SIGNS

PART 1 - GENERAL

1.01 Work Included

This work includes furnishing and installing permanent signs at locations shown on the plans, in the proposal, or as directed by the Engineer in accordance with the Michigan Department of Transportation 2020 Standard Specifications for Construction, the Michigan Manual on Uniform Traffic Control Devices, and as specified herein.

All sign shapes and dimensions shall conform to the Michigan Manual on Uniform Traffic Control Devices.

1.02 References

A. Michigan Department of Transportation 2020 Standard Specifications for Construction

B. Michigan Manual on Uniform Traffic Control Devices

1.03 Submittals

The Contractor shall submit shop drawings, catalog cuts, or manufacturer's specifications to show the proposed signs, supports, and hardware.

1.04 Notifications

The Contractor shall contact MISS DIG (800-482-7171) to locate underground utilities in advance of excavating or driving sign posts or foundations. The Contractor shall notify utility agencies which may have underground utilities within the project area to arrange their location.

PART 2 - PRODUCTS

2.01 Materials

Materials for signs and supports shall meet the requirements of Section 919 of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

PART 3 - EXECUTION

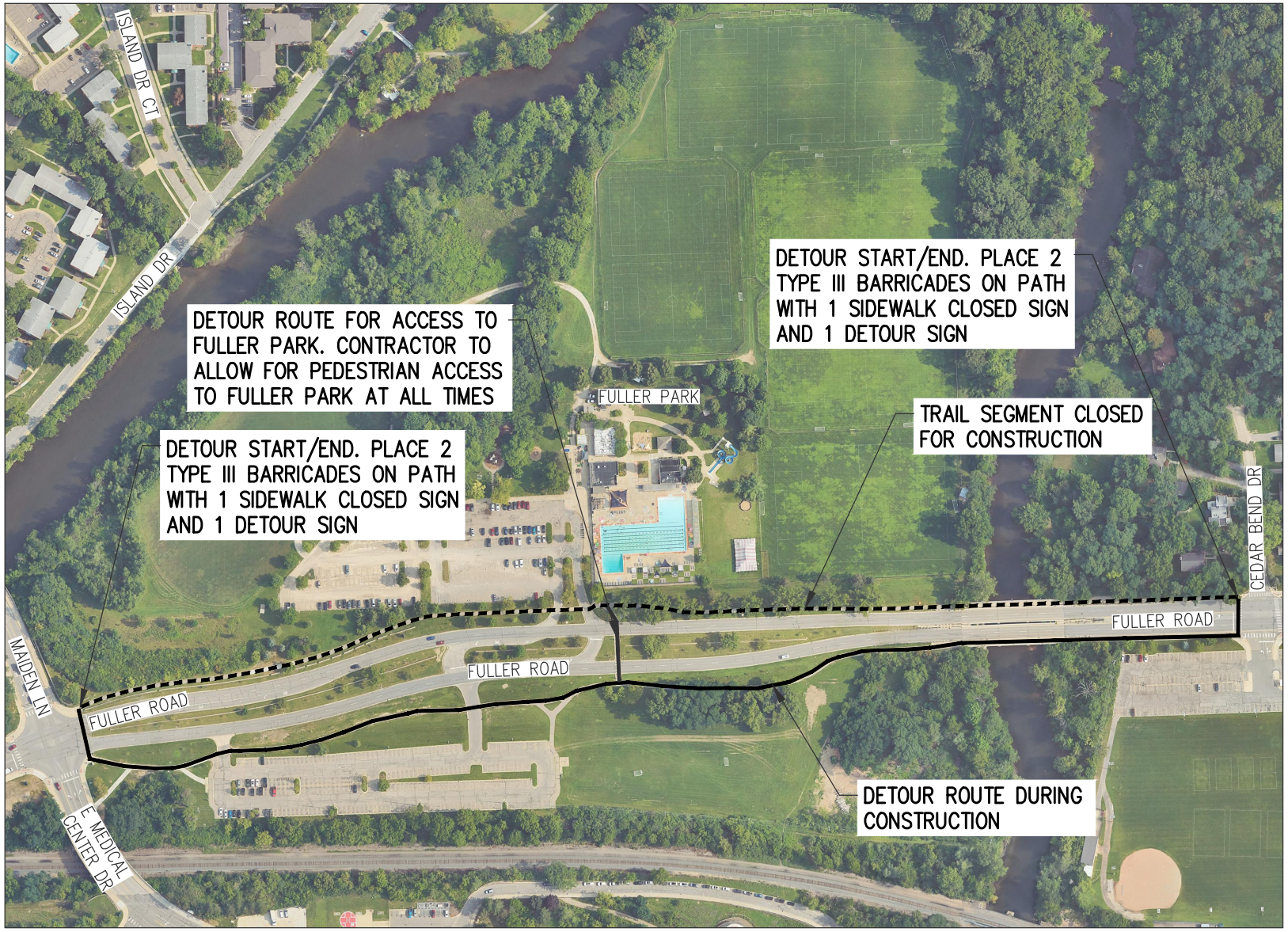
3.01 Sign Schedule

Signage shall be provided as called for on the plans or in the proposal.

3.02 Installation

Signs shall be installed in accordance with Section 810.03 of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

END OF SECTION



N

ALL MEASURE REQUIRED FOR TRAFFIC CONTROL DURING CONSTRUCTION SHALL CONFORM WITH 2011 EDITION OF THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (M.M.U.T.C.D), AND THE M.D.O.T. 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION, SECTION 812, UNLESS MODIFIED BY THIS PLAN OR DIRECTED OTHERWISE BY THE ENGINEER.

THE CONTRACTOR BE RESPONSIBLE FOR FURNISHING, PLACING, MAINTAINING, AND REMOVING ALL TRAFFIC CONTROL DEVICES.

ALL SIGNS SHALL BE TYPE B – TEMPORARY WITH A 7 FOOT BOTTOM HEIGHT. SIGNS SHALL BE MOUNTED ON SUITABLE, DRIVE STEEL SUPPORT POSTS THAT WILL PROVIDE THE 7 FOOT BOTTOM HEIGHT.

PRIOR TO DRIVING POSTS FOR SIGNS, THE CONTRACTOR SHALL CALL MISS DIG (1-800-482-7171 OR 811) OR VISIT WWW.MISSDIG.ORG FOR THE LOCATIONS OF ALL UNDERGROUND UTILITIES, THREE WORKING DAYS PRIOR TO STARTING WORK.

ALL BARRICADES AND TEMPORARY SIGNS SHALL BE PROPERLY WEIGHTED. ANY BARRICADES OR TEMPORARY SIGNS DAMAGED BY THE CONTRACTOR OR DUE TO IMPROPER USE SHALL BE REPLACED PROMPTLY AT THE CONTRACTOR'S EXPENSE.

ROWE PROFESSIONAL SERVICES COMPANY
The Rowe Building
540 S. Saginaw St., Suite 200
Flint, MI 48502
O: (810) 341-7500
www.rowepsc.com

PREPARED FOR:
CITY OF ANN AROBOR
FULLER PARK IMPROVEMENTS
DETOUR PLAN

PLAN NO. 2400478
DATE: AUGUST, 2024
PROJECT MGR: DRS
REVIEWER: DRS
SCALE: N.T.S. SHEET NO: 1

PLOTTED: 8/16/2024 2:25 PM R:\Projects\2400478\Dwg\Construction Drawings\SH-2400478-DETOUR.dwg

APPENDIX

ATTACHMENT B
GENERAL DECLARATIONS

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

Ladies and Gentlemen:

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

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

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

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

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

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

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

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

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

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

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

SIGNED THIS _____ DAY OF _____, 202_.

_____	_____
Bidder's Name	Authorized Signature of Bidder
_____	_____
Official Address	(Print Name of Signer Above)
_____	_____
Telephone Number	Email Address for Award Notice

ATTACHMENT C
LEGAL STATUS OF BIDDER

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

Bidder declares that it is:

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

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

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

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

_____

_____

_____

_____

_____

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

Authorized Official

_____ **Date** _____**,** 202_

(Print) Name _____ Title _____

Company:
_____

Address:
_____

Contact Phone ( ) _____ Fax ( ) _____

Email _____

ATTACHMENT D
PREVAILING WAGE DECLARATION OF COMPLIANCE

The "wage and employment requirements" of Section 1:320 of Chapter 14 of Title I of the Ann Arbor City Code mandates that the city not enter any contract, understanding or other arrangement for a public improvement for or on behalf of the city unless the contract provides that all craftsmen, mechanics and laborers employed directly on the site in connection with said improvements, including said employees of subcontractors, shall receive the prevailing wage for the corresponding classes of craftsmen, mechanics and laborers, as determined by statistics for the Ann Arbor area compiled by the United States Department of Labor. Where the contract and the Ann Arbor City Code are silent as to definitions of terms required in determining contract compliance with regard to prevailing wages, the definitions provided in the Davis-Bacon Act as amended (40 U.S.C. 278-a to 276-a-7) for the terms shall be used. Further, to the extent that any employees of the contractor providing services under this contract are not part of the class of craftsmen, mechanics and laborers who receive a prevailing wage in conformance with section 1:320 of Chapter 14 of Title I of the Code of the City of Ann Arbor, employees shall be paid a prescribed minimum level of compensation (i.e. Living Wage) for the time those employees perform work on the contract in conformance with section 1:815 of Chapter 23 of Title I of the Code of the City of Ann Arbor.

At the request of the city, any contractor or subcontractor shall provide satisfactory proof of compliance with this provision.

The Contractor agrees:

(a) To pay each of its employees whose wage level is required to comply with federal, state or local prevailing wage law, for work covered or funded by this contract with the City,

(b) To require each subcontractor performing work covered or funded by this contract with the City to pay each of its employees the applicable prescribed wage level under the conditions stated in subsection (a) or (b) above.

(c) To provide to the City payroll records or other documentation within ten (10) business days from the receipt of a request by the City.

(d) To permit access to work sites to City representatives for the purposes of monitoring compliance, and investigating complaints or non-compliance.

The undersigned states that he/she has the requisite authority to act on behalf of his/her employer in these matters and has offered to provide the services in accordance with the terms of the wage and employment provisions of the Chapter 14 of the Ann Arbor City Code. The undersigned certifies that he/she has read and is familiar with the terms of Section 1:320 of Chapter 14 of the Ann Arbor City Code and by executing this Declaration of Compliance obligates his/her employer and any subcontractor employed by it to perform work on the contract to the wage and employment requirements stated herein. The undersigned further acknowledges and agrees that if it is found to be in violation of the wage and employment requirements of Section 1:320 of the Chapter 14 of the Ann Arbor City Code it shall has be deemed a material breach of the terms of the contract and grounds for termination of same by the City.

_____
Company Name

_____
Signature of Authorized Representative Date

_____
Print Name and Title

_____
Address, City, State, Zip

_____
Phone/Email address

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

ATTACHMENT E

LIVING WAGE ORDINANCE DECLARATION OF COMPLIANCE

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

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

The Contractor or Grantee agrees:

(a) To pay each of its employees whose wage level is not required to comply with federal, state or local prevailing wage law, for work covered or funded by a contract with or grant from the City, no less than the Living Wage. The current Living Wage is defined as $16.43/hour for those employers that provide employee health care (as defined in the Ordinance at Section 1:815 Sec. 1 (a)), or no less than $18.32/hour for those employers that do not provide health care. The Contractor or Grantor understands that the Living Wage is adjusted and established annually on April 30 in accordance with the Ordinance and covered employers shall be required to pay the adjusted amount thereafter to be in compliance with Section 1:815(3).

Check the applicable box below which applies to your workforce

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

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

(b) To post a notice approved by the City regarding the applicability of the Living Wage Ordinance in every work place or other location in which employees or other persons contracting for employment are working.

(c) To provide to the City payroll records or other documentation within ten (10) business days from the receipt of a request by the City.

(d) To permit access to work sites to City representatives for the purposes of monitoring compliance, and investigating complaints or non-compliance.

(e) To take no action that would reduce the compensation, wages, fringe benefits, or leave available to any employee covered by the Living Wage Ordinance or any person contracted for employment and covered by the Living Wage Ordinance in order to pay the living wage required by the Living Wage Ordinance.

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

_____	_____
Company Name	Street Address
_____	_____
Signature of Authorized Representative Date	City, State, Zip
_____	_____
Print Name and Title	Phone/Email address

Attachment F

CITY OF ANN ARBOR
LIVING WAGE ORDINANCE

RATE EFFECTIVE APRIL 30, 2024 - ENDING APRIL 29, 2025

$16.43 per hour
If the employer provides health care benefits*****

$18.32 per hour
If the employer does **NOT** provide health care benefits*****

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

ENFORCEMENT

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

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

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

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

For Additional Information or to File a Complaint contact
Colin Spencer at 734/794-6500 or cspencer@a2gov.org

Revised 2/1/2024

ATTACHEMENT G

Vendor Conflict of Interest Disclosure Form

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

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

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

Conflict of Interest Disclosure*	
Name of City of Ann Arbor employees, elected officials or immediate family members with whom there may be a potential conflict of interest.	( ) Relationship to employee _____ ( ) Interest in vendor's company ( ) Other (please describe in box below)

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

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

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

ATTACHMENT H

DECLARATION OF COMPLIANCE

Non-Discrimination Ordinance

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

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

The Contractor agrees:

(a) To comply with the terms of the City of Ann Arbor's Non-Discrimination Ordinance and contract compliance administrative policy, including but not limited to an acceptable affirmative action program if applicable.

(b) To post the City of Ann Arbor's Non-Discrimination Ordinance Notice in every work place or other location in which employees or other persons are contracted to provide services under a contract with the City.

(c) To provide documentation within the specified time frame in connection with any workforce verification, compliance review or complaint investigation.

(d) To permit access to employees and work sites to City representatives for the purposes of monitoring compliance, or investigating complaints of non-compliance.

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

_____
Company Name

_____
Signature of Authorized Representative Date

_____
Print Name and Title

_____
Address, City, State, Zip

_____
Phone/Email Address

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

ATTACHMENT I

CITY OF ANN ARBOR NON-DISCRIMINATION ORDINANCE

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

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

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

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

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

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

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

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

Michigan Department
Of Transportation
CP-347 (04/10)

MICHIGAN DEPARTMENT OF TRANSPORTATION

CERTIFIED PAYROLL

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

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

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

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

Date _____

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

do hereby state:

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

_____ on the
(Contractor or Subcontractor)

_____; that during the payroll period commencing on the
(Building or Work)

_____ day of _____, _____, and ending the _____ day of _____, _____,
all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

_____ from the full
(Contractor or Subcontractor)

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

_____

_____

_____

_____

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

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

(4) That:

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

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

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

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

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NAME AND TITLE	SIGNATURE

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

CONSTRUCTION PLAN DRAWINGS FOR

ANN ARBOR PARKS & RECREATION FULLER PARK IMPROVEMENTS

SECTION 21 AND 28 T2S-R6E
CITY OF ANN ARBOR
WASHTENAW COUNTY, MICHIGAN

UTILITIES AND MUNICIPALITIES

THE EXISTING UTILITIES LISTED BELOW AND SHOWN ON THESE PLANS REPRESENT THE BEST INFORMATION AVAILABLE AS OBTAINED FROM THE UTILITY OWNERS. THIS INFORMATION DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO BE SATISFIED AS TO ITS ACCURACY AND THE LOCATION OF EXISTING UTILITIES.

NAME OF OWNER	CONTACT	TYPE OF UTILITY
ATT	ERIKA BIERD EK2436@ATT.COM (800) 321–2000	TELEPHONE
ANN ARBOR CITY 301 E. HURON ANN ARBOR, MI 48104	DAVID FIEGEL DFIEGEL@A2GOV.ORG (734) 794–6410 EXT. 43662	LAND USE POTABLE WATER SANITARY SEWER STORM SEWER FIBER OPTICS ELECTRIC
COMCAST 41112 CONCEPT DR PLYMOUTH, MI 48170	RALPH TRUAX RALPH_TRUAX@CABLE.COMCAST.COM (734) 216–8097	CABLE TV
DTE ENERGY	MICHAEL D LOWE SEMI_GASDESIGN@DTEENERGY.COM SARA KIPP SARA.FORCE@DTEENERGY.COM (313) 407–5364 (248) 318–7839	ELECTRIC GAS
UNIVERSITY OF MICHIGAN 1239 KIPKE DR ANN ARBOR, MI 48109	TERRY RAMSEY TRAMSEY@UMICH.EDU (734) 660–4699	ELECTRIC FIBER OPTICS POTABLE WATER SANITARY SEWER STORM SEWER

SHEET INDEX

SHEET NUMBER	SHEET TITLE
1	COVER SHEET
2	GENERAL LEGEND
3	GENERAL NOTES AND PROJECT QUANTITIES
4	ALIGNMENT AND CONTROL DATA SHEET
5	SOIL EROSION KEY
6	DETAILS
7	DETAILS
8	EXISTING CONDITIONS AND REMOVALS
9	EXISTING CONDITIONS AND REMOVALS
10	EXISTING CONDITIONS AND REMOVALS
11	TREE INVENTORY
12	PARKING LOT SITE PLAN
13	PROPOSED PATH PLAN AND PROFILE
14	PROPOSED PATH PLAN AND PROFILE
15	PROPOSED PATH PLAN AND PROFILE
16	PROPOSED PATH PLAN AND PROFILE
17	OVERALL GRADING AND SESC SHEET
18	DETAILED GRADING PLAN
19	DETAILED GRADING PLAN

VICINITY MAP
NOT TO SCALE

N

ENGINEER INFORMATION

ROWE PROFESSIONAL SERVICES COMPANY
540 S. SAGINAW ST., SUITE 200
FLINT, MI 48502
DOUG SCHULTZ, PLA
(810) 869–5170

OWNER INFORMATION

ANN ARBOR PARKS & RECREATION
LAURIE TABACHNICK, AICP, ASST. PARKS PLANNER
301 E. HURON ST.
ANN ARBOR, MICHIGAN 48104
PHONE: (734) 974–6320 EXT. 42541
EMAIL: LTABACHNICK@A2GOV.ORG

SCOTT SPOONER, PARKS AND RECREATION SERVICES DEPUTY MANAGER–MAINTENANCE
4251 STONE SCHOOL ROAD, ANN ARBOR, MICHIGAN 48108
PHONE: (734) 974–6320 EXT. 43319
EMAIL: SSPOONER@A2GOV.ORG

SITE LOCATION

1519 FULLER RD, ANN ARBOR, MI 48105

PROJECT DESCRIPTION

THIS PROJECT INCLUDES RECONSTRUCTION OF FULLER PARK'S HMA PAVEMENT, AND THE RECONSTRUCTION AND WIDENING OF AN HMA PATH ALONG FULLER ROAD FROM MAIDEN LANE TO CEDAR BEND DRIVE.

LEGAL DESCRIPTION

PARCEL NUMBER 09–09–21–400–001
LEGAL DESCRIPTION:
PRT S 1/2 SEC 21 & N 1/2 SEC 28 T2S R6E BD S BY FULLER ST NLY WLY & ELY BY HURON RIVER

GENERAL NOTES

FOR ALL CONSTRUCTION ACTIVITY THAT DISTURBS 5 ACRES OR MORE OF LAND, THE OWNER OF THE PROPERTY SHALL OBTAIN AN NPDES STORM WATER DISCHARGE PERMIT FOR CONSTRUCTION ACTIVITIES FROM THE EGLE AS REQUIRED UNDER P.A. 245. THE NOTICE OF COVERAGE APPLICATION SHALL BE SUBMITTED THROUGH THE EGLE MIWATERS WEB SITE. THE DISTURBED AREA FOR THIS PROJECT IS APPROXIMATELY **1.94** ACRES. A NPDES PERMIT **IS NOT** REQUIRED FOR THIS PROJECT.

NAME OF AND DISTANCE TO NEAREST LAKE, STREAM OR DRAIN:
THE PARKING LOT RECONSTRUCTION PROJECT IS APPROXIMATELY 750 FEET FROM THE HURON RIVER, WHILE THE HMA PATH RECONSTRUCTION PROJECT ABUTS THE BRIDGE THAT CROSSES OVER THE HURON RIVER.

811
Know what's **below.**
Call before you dig.

PLAN SUBMITTALS AND CHANGES

BIDDING DOCUMENTS	
DATE	DESCRIPTION
9/9/24	ISSUED FOR BIDS

PLAN DATE:	SEPTEMBER 2024
PROJECT MGR:	DRS
REVIEWER:	AJW
SCALE:	NOT TO SCALE

ROWE PROFESSIONAL SERVICES COMPANY
The Rowe Building
540 S. Saginaw St., Suite 200
Flint, MI 48502
O: (810) 341-7500
www.rowepsc.com

PREPARED FOR
ANN ARBOR PARKS AND RECREATION
FULLER PARK IMPROVEMENTS
WASHTENAW COUNTY
COVER SHEET

REV:

SHT# 1 OF 19

JOB No: 2400478

PLOTTED: 9/9/2024 4:19 PM R:\Projects\2400478\Dwg\Construction Drawings\SH-2400478-COV_NEW.dwg

SURVEY MONUMENTATION

- TRAVERSE POINT
- BENCHMARK
- ALIGNMENT POINT
- SET IRON
- FOUND IRON
- SET MONUMENT
- FOUND MONUMENT
- SECTION & 1/4 CORNER
- 1/8 & 1/16 CORNER
- NGS & USGS MONUMENT
- SECTION LINE
- EXISTING PROPERTY LINE (APPROX)
- PARCEL LINE / LOT LINE
- EXISTING EASEMENT LINE
- 33' ROW — EXISTING RIGHT OF WAY
- PROPOSED EASEMENT
- 60' ROW — PROPOSED RIGHT OF WAY
- 11+00 — PROJECT CONTROL LINE

MISCELLANEOUS TOPO

- SATELLITE DISH
- ANTENNA
- COLUMN
- FLOOD LIGHT
- FOUNTAIN
- STATUE/SCULPTURE
- GRAVE MARKER
- PLANTER BOX
- ROCK
- MAILBOX
- PAPER BOX
- FENCE GATE
- TRASH CAN
- PICNIC TABLE
- PARK BENCH
- BBQ GRILL
- DUMPSTER
- BIKE RACK
- AIR CONDITIONING UNIT
- PAY PHONE/BOOTH
- SOIL BORING
- MONITORING WELL
- BUMPER BLOCK
- SWAMP OR WETLAND

SIGNS, SIGNALS & POSTS

- FLAG POLE
- ADVERTISING/BUSINESS SIGN
- POST (WOOD/METAL/CONCRETE/FENCE)
- HIGHWAY DELINEATOR POST
- EXISTING TRAFFIC SIGN
- PARKING METER
- BILLBOARD
- CANTILEVERED TRAFFIC SIGN
- CANTILEVERED SIGN
- PEDESTRIAN SIGNAL
- PEDESTRIAN CROSSING BUTTON
- TRAFFIC SIGNAL
- RAILROAD CROSSING GATE
- RAILROAD CROSSING SIGNAL
- PROPOSED TRAFFIC SIGN

PLAYGROUND EQUIPMENT

- SWING SET
- SLIDE (STRAIGHT)
- SLIDE (SPIRAL)
- MONKEY BARS (RECTANGLE)
- MONKEY BARS (ROUND)
- VOLLEYBALL POLE
- MERRY-GO-ROUND
- BASKETBALL HOOP POST
- FOOTBALL/SOCCER GOAL

MISCELLANEOUS UTILITIES

- CABLE TV RISER
- CABLE TV MARKER POST
- CIRCUIT BREAKER
- ELECTRIC METER
- ELECTRIC OUTLET
- ELECTRIC RISER
- ELECTRIC TRANSFORMER PAD
- ELECTRIC TRANSMISSION TOWER
- ELECTRIC MANHOLE
- ELECTRIC MARKER POST
- TELEPHONE RISER
- TELEPHONE MANHOLE
- TELEPHONE MARKER POST
- FIBER OPTIC MARKER POST
- UTILITY HANDHOLE
- STRAIN POLE
- UTILITY/LIGHT POLE
- GUY WIRE
- GUY POLE
- UTILITY POLE
- WOOD LIGHT POLE
- METAL LIGHT POLE
- ORNAMENTAL LIGHT POLE
- POLE BOX
- TRAFFIC CONTROL BOX
- ELECTRIC VEHICLE CHARGING STATION
- EXISTING MISCELLANEOUS MANHOLE
- O/H — EXISTING OVERHEAD UTILITY LINE
- U/G ELEC — EXISTING U.G. ELECTRIC LINE
- U/G TEL — EXISTING U.G. TELEPHONE LINE
- U/G F/O — EXISTING U.G. FIBER OPTIC LINE
- U/G CATV — EXISTING U.G. CABLE TV LINE

GAS

- GAS METER
- GAS RISER
- GAS STOP BOX
- GAS VALVE
- GAS VENT
- GAS BLOW OFF
- PROPANE TANK
- GAS TEST STATION
- GAS FILLPORT
- GAS PUMP
- GAS MANHOLE
- GAS MARKER POST
- 6" S-MP GAS — EXISTING U.G. GAS LINE

WATER MAIN

- EXISTING FIRE HYDRANT
- EXISTING WATER GATE VALVE AND BOX
- EXISTING WATER STOP BOX
- EXISTING WATER GATE VALVE AND WELL
- EXISTING WATER METER PIT
- EXISTING WATER WELL
- EXISTING SPRINKLER HEAD
- EXISTING POST HYDRANT
- EXISTING WATER BACK FLOW PREVENTER
- EXISTING WATER TOWER
- EXISTING SPRINKLER VALVE
- EXISTING WATER METER
- EXISTING WATER FAUCET/SPIGOT
- EXISTING WATER MANHOLE
- EXISTING WATER VALVE
- EXISTING WATER POST VALVE
- EXISTING WATER AIR RELEASE VALVE
- EXISTING WATER MARKER POST
- PROPOSED FIRE HYDRANT
- PROPOSED WATER GATE VALVE AND BOX
- PROPOSED WATER STOP BOX
- PROPOSED WATER GATE VALVE AND WELL
- PROPOSED WATER MAIN REDUCER
- PROPOSED WATER MAIN SLEEVE
- 12" WM — EXISTING WATER MAIN
- 12" WM — REMOVE WATER MAIN
- 12" WM — ABANDON WATER MAIN
- PROPOSED WATER MAIN

STORM SEWER

- EXISTING CURB INLET
- EXISTING SQUARE CATCHBASIN
- EXISTING ROUND CATCHBASIN
- EXISTING DOWNSPOUT
- EXISTING STORM SEWER CLEANOUT
- EXISTING STORM MANHOLE
- EXISTING PIPE INLET/OUTLET
- EXISTING STORM MARKER POST
- EX 1812 — EXISTING STORM SEWER STRUCTURE NUMBER
- PROPOSED CATCH BASIN IN CURB LINE (5' DIA AND SMALLER)
- PROPOSED CATCH BASIN IN CURB LINE (6' DIA AND LARGER)
- PROPOSED CATCH BASIN IN GREEN SPACE (5' DIA AND SMALLER)
- PROPOSED CATCH BASIN IN GREEN SPACE (6' DIA AND LARGER)
- PROPOSED STORM MANHOLE (5' DIA AND SMALLER)
- PROPOSED STORM MANHOLE (6' DIA AND LARGER)
- PROPOSED CULVERT END SECTION
- PROPOSED STORM SEWER CLEANOUT
- 1 — PROPOSED STORM SEWER STRUCTURE NUMBER
- 12" STM — EXISTING STORM SEWER
- 12" CONC — EXISTING DRIVE/CROSS CULVERT
- 12" STM — REMOVE STORM SEWER
- 12" STM — ABANDON STORM SEWER
- PROPOSED STORM SEWER LESS THAN 24"
- PROPOSED STORM SEWER 24" AND GREATER

SANITARY SEWER

- EXISTING SANITARY MANHOLE
- EXISTING SANITARY PUMP STATION
- EXISTING SANITARY SEWER VALVE
- EXISTING SEPTIC TANK
- EX 5236 — EXISTING SANITARY SEWER STRUCTURE NUMBER
- EXISTING SANITARY SEWER CLEANOUT/RISER
- EXISTING SANITARY MARKER POST
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER CLEANOUT
- A — PROPOSED SANITARY SEWER STRUCTURE NUMBER
- 12" SAN — EXISTING SANITARY SEWER
- 12" SAN — REMOVE SANITARY SEWER
- 12" SAN — ABANDON SANITARY SEWER
- 12" SAN FM — EXISTING SANITARY FORCE MAIN
- 12" SAN FM — REMOVE SANITARY FORCE MAIN
- 12" SAN FM — ABANDON SANITARY FORCE MAIN
- PROPOSED SANITARY SEWER

TREES & SHRUBS

- STUMP
- DECIDUOUS TREE
- DECIDUOUS SHRUB
- CONIFEROUS TREE
- CONIFEROUS SHRUB
- DEAD TREE
- EXISTING EDGE OF WOODS
- EXISTING EDGE OF BRUSH
- PROPOSED EDGE OF WOODS
- PROPOSED EDGE OF BRUSH

PARCEL INFORMATION

- 401-069 — PARCEL/TAX IDENTIFICATION NUMBER
- #5324 — EXISTING BUILDING AND ADDRESS/BUSINESS NAME

CAUTION SYMBOLS

- ••CAUTION•• HAZARDOUS FLAMMABLE MATERIAL UNDERGROUND — USED WITH UNDERGROUND GAS & ELECTRICAL LINES
- ••CAUTION•• FIBER OPTIC — USED WITH FIBER OPTIC LINES
- ••CAUTION•• CRITICAL UNDERGROUND UTILITY — USED WITH CRITICAL UNDERGROUND LINES

PLAN VIEW LINETYPES

- EXISTING CENTERLINE OF DITCH
- EXISTING FENCE
- EXISTING GUARDRAIL
- EXISTING RAILROAD TRACK
- 960 — EXISTING CONTOUR MAJOR
- 958 — EXISTING CONTOUR MINOR
- EXISTING EDGE OF WETLAND
- EXISTING SHORELINE / EDGE OF WATER
- EXISTING TOP OF BANK
- EXISTING TOE OF SLOPE
- PROPOSED DITCH CENTERLINE
- PROPOSED FENCE
- 960 — PROPOSED CONTOUR MAJOR
- 958 — PROPOSED CONTOUR MINOR
- PROPOSED SLOPE STAKE LINE
- PROPOSED SILT FENCE

PROPOSED CALLOUTS

TOPO CALLOUTS	PLAN VIEW	
ADJ	(ADJ)	ADJUST STRUCTURE
ADJ-X	(ADJ-X)	ADJUST STRUCTURE W/ NEW COVER
ADJ-B/O	(ADJ-B/O)	ADJUST STRUCTURE BY OTHERS
REC	(REC)	RECONSTRUCT STRUCTURE
REL	(REL)	RELOCATE
REL-B/O	(REL-B/O)	RELOCATE BY OTHERS
REM	(R)	REMOVE
R&R	(R&R)	REMOVE AND REPLACE
SALV	(SALV)	SALVAGE
SAVE	(S)	SAVE
ABN	(A)	ABANDON
CLR	(C)	CLEARING
	(B)	BULKHEAD
	(SR-X)	SIDEWALK RAMP TYPE
	(##)	SOIL EROSION CONTROL MEASURE

GPR LOCATED EXISTING U.G. LINES

- GPR CATV — U.G. CABLE TV LINE (GPR LOCATED)
- GPR ELEC — U.G. ELECTRIC LINE (GPR LOCATED)
- GPR FO — U.G. FIBER OPTIC LINE (GPR LOCATED)
- GPR GAS — U.G. GAS LINE (GPR LOCATED)
- GPR MISC — U.G. MISCELLANEOUS LINE (GPR LOCATED)
- GPR SAN — U.G. SANITARY SEWER LINE (GPR LOCATED)
- GPR STM — U.G. STORM SEWER LINE (GPR LOCATED)
- GPR TELE — U.G. TELEPHONE LINE (GPR LOCATED)
- GPR UNK — U.G. UNKNOWN LINE (GPR LOCATED)
- GPR WTR — U.G. WATER LINE (GPR LOCATED)

PAVEMENT IDENTIFICATION

- EXISTING EDGE OF GRAVEL
- EXISTING CURB AND GUTTER
- PROPOSED CURB AND GUTTER

REMOVAL HATCHING LEGEND

- REMOVE CURB AND GUTTER
- REMOVE PAVEMENT
- REMOVE SIDEWALK

PROPOSED HATCHING LEGEND

- PROPOSED HMA DRIVE
- PROPOSED HMA PATH
- PROPOSED CONCRETE PATH

Know what's **below.** **Call** before you dig.

PLAN SUBMITTALS AND CHANGES

BIDDING DOCUMENTS

DATE	DESCRIPTION
9/9/24	ISSUED FOR BIDS

REV:

SHT# 2 OF 19

JOB No: 2400478

PLAN DATE: SEPTEMBER 2024
PROJECT MGR: DRS
REVIEWER: AJW
SCALE: NOT TO SCALE

ROWE PROFESSIONAL SERVICES COMPANY
The Rowe Building
540 S. Saginaw St., Suite 200
Flint, MI 48502
O: (810) 341-7500
www.rowepsc.com

PREPARED FOR
ANN ARBOR PARKS AND RECREATION
FULLER PARK IMPROVEMENTS
WASHTENAW COUNTY
GENERAL LEGEND

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GENERAL CONSTRUCTION NOTES

EMERGENCY CONTACTS
BEFORE BEGINNING WORK ON THE PROJECT, THE CONTRACTOR SHALL PROVIDE THE OWNER AND ENGINEER WITH THE NAMES AND TELEPHONE NUMBERS OF EMERGENCY CONTACTS. AT LEAST ONE PERSON REPRESENTING THE CONTRACTOR SHALL BE AVAILABLE TO RESPOND TO EMERGENCIES THROUGHOUT THE LIFE OF THE PROJECT, 24 HOURS A DAY, 7 DAYS A WEEK.

UNDERGROUND UTILITY IDENTIFICATION AND LOCATION
THE CONTRACTOR SHALL CALL MISS DIG (1-800-482-7171) A MINIMUM OF THREE WORK DAYS IN ADVANCE OF BEGINNING EXCAVATION. THE CONTRACTOR IS RESPONSIBLE TO IDENTIFY AND NOTIFY UTILITY AGENCIES WITHIN THE PROJECT AREA WHICH DO NOT PARTICIPATE IN THE MISS DIG NOTIFICATION PROGRAM.

PUBLIC UTILITIES
EXISTING UTILITIES ARE SHOWN BASED UPON RECORDS AND LOCATIONS PROVIDED BY UTILITY AGENCIES. THE INFORMATION SHOWN IS CONSIDERED APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR. UNLESS THE PLANS SPECIFICALLY SHOW THAT EXISTING UTILITIES ARE TO BE MOVED, THE CONTRACTOR IS RESPONSIBLE TO PROTECT AND MAINTAIN EXISTING UTILITIES.

VERIFICATION OF UNDERGROUND UTILITIES
THE CONTRACTOR SHALL EXCAVATE AND LOCATE ALL EXISTING UTILITIES IN THE PROJECT AREA IN ADVANCE OF CONSTRUCTION TO VERIFY THEIR ACTUAL LOCATION. POTENTIAL CONFLICTS SHALL BE REPORTED TO THE ENGINEER. THE CONTRACTOR SHALL MAKE SUCH CHANGES TO GRADE AND ALIGNMENT OF PROPOSED WORK AS DIRECTED BY THE ENGINEER TO AVOID CONFLICTS, AT NO INCREASE IN COST TO THE OWNER.

UTILITY SERVICE
UNLESS SPECIFICALLY PROVIDED OTHERWISE IN THE CONTRACT DOCUMENTS, ALL EXISTING UTILITIES ARE TO REMAIN IN SERVICE DURING THE PROJECT.

SOIL BORINGS / PAVEMENT CORES
IF PROVIDED ON THE PLANS OR IN THE CONTRACT DOCUMENTS, LOGS OF SOIL BORINGS OR PAVEMENT CORES REPRESENT THE SUBSURFACE CONDITIONS ENCOUNTERED AT SPECIFIC POINTS. THE INFORMATION IS PROVIDED FOR THE CONTRACTOR'S INFORMATION ONLY.

MAINTAINING TRAFFIC
LOCAL AND EMERGENCY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES WITHIN THE PROJECT AREA.

WHEN EXCAVATION, FRESH CONCRETE, OR OTHER CONSTRUCTION WORK WILL RESULT IN THE CLOSURE OF A STREET OR DRIVEWAY FOR A PERIOD OF TIME, THE CONTRACTOR IS RESPONSIBLE TO NOTIFY ALL AFFECTED RESIDENTS AND BUSINESSES IN ADVANCE.

THE CONTRACTOR SHALL NOTIFY EMERGENCY RESPONSE AGENCIES IN ADVANCE OF ROAD CLOSURES OR THE ESTABLISHMENT OF DETOURS.

THE CONTRACTOR SHALL IMPLEMENT THE PEDESTRIAN DETOUR PLAN (REFER TO SPECIFICATIONS).

TRAFFIC SIGNS
TRAFFIC SIGNS WHICH INTERFERE WITH CONSTRUCTION SHALL BE REMOVED AND REPLACED BY THE AGENCY HAVING JURISDICTION OVER THE STREETS OR ROADS IN THE PROJECT AREA. THE CONTRACTOR IS RESPONSIBLE TO CONTACT THE AGENCY TO ARRANGE FOR REMOVAL OF THE SIGN AND IS RESPONSIBLE TO PAY ANY FEES ASSOCIATED WITH THE REMOVAL AND REPLACEMENT OF THE SIGNS.

SCHEDULE
THE CONTRACTOR SHALL COMPLETE ALL WORK IN AN EXPEDITIOUS MANNER AND SHALL NOT STOP WORK ON THE PROJECT ONCE BEGUN.

ALIGNMENT
ALIGNMENT AND GRADES FOR CURB AND GUTTER (INCLUDING THROUGH RAMPS AND DRIVEWAY OPENINGS) SHOWN ON THE PLANS ARE FOR THE TOP, BACK OF CURB, UNLESS SPECIFICALLY SHOWN OTHERWISE ON THE PLANS.

THE HORIZONTAL ALIGNMENT SHOWN ON THE DRAWINGS FOR DRAINAGE STRUCTURES LOCATED IN THE CURB LINE IS TO THE CENTER OF THE CASTING.

THE HORIZONTAL ALIGNMENT SHOWN ON THE DRAWINGS FOR DRAINAGE STRUCTURES WHICH ARE NOT IN THE CURB LINE AND FOR MANHOLES IS TO THE CENTER OF THE STRUCTURE.

WHERE RIM ELEVATIONS ARE PROVIDED ON THE PLANS FOR MANHOLE CASTINGS, THE ELEVATION PROVIDED IS FOR THE TOP OF THE CASTING.

WHERE RIM ELEVATIONS ARE PROVIDED FOR INLET TYPE CASTINGS, THE ELEVATIONS ARE PROVIDED AS FOLLOWS:
- CURB INLETS – THE ELEVATION OF THE TOP OF CURB
- ALL OTHER INLETS – THE ELEVATION OF THE FLOW LINE

WHERE RIM ELEVATIONS ARE PROVIDED ON THE PLANS FOR INLETS OR MANHOLE CASTINGS, THE ELEVATIONS PROVIDED ARE CONSIDERED PRELIMINARY. THE CONTRACTOR SHALL MAKE THE FINAL ADJUSTMENT FOLLOWING THE ESTABLISHMENT OF ACTUAL GRADING AND PAVEMENT ELEVATIONS.

CONSTRUCTION STAKING
WHEN CONSTRUCTION STAKING IS TO BE PROVIDED BY THE ENGINEER OR OWNER, THE CONTRACTOR SHALL REQUEST STAKING AT LEAST THREE WORKING DAYS IN ADVANCE.

WHEN CONSTRUCTION STAKING IS TO BE PROVIDED BY THE ENGINEER OR OWNER, STAKING WILL BE PROVIDED ONE TIME. THE CONTRACTOR SHALL PROTECT AND PRESERVE SURVEY CONTROL AND STAKING. RE-STAKING WILL BE AT THE CONTRACTOR'S EXPENSE.

SURVEY CORNERS, BENCHMARKS, AND CONTROL POINTS
THE CONTRACTOR SHALL PRESERVE ALL GOVERNMENT CORNERS, PROPERTY CORNERS, BENCHMARKS, SURVEY CONTROL POINTS AND OTHER SURVEY POINTS WITHIN THE PROJECT AREA. WHERE CORNERS, BENCHMARKS, OR SURVEY POINTS ARE ENCOUNTERED WHICH WILL BE DISTURBED BY THE CONTRACTOR'S ACTIVITIES; A LICENSED SURVEYOR SHALL WITNESS THE POINT BEFORE DISTURBANCE AND SHALL RE-SET THE POINT FOLLOWING THE COMPLETION OF CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL PAY THE SURVEYOR TO WITNESS AND TO RE-SET THE POINTS.

PROTECTION OF TREES, SHRUBS, AND LANDSCAPING
ALL TREES, SHRUBS, AND LANDSCAPING WITHIN THE CONSTRUCTION AREA WHICH ARE NOT SPECIFICALLY DESIGNATED FOR REMOVAL SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR. DAMAGED TREES, SHRUBS, AND LANDSCAPING SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

CONSTRUCTION SIGNING AND BARRICADING
THE CONTRACTOR SHALL PROTECT HAZARDOUS AREAS WITH BARRICADES. BARRICADES LEFT IN PLACE AFTER SUNSET SHALL BE LIGHTED.

THE CONTRACTOR SHALL PROVIDE SUITABLE SANDBAGS OR OTHER SUITABLE MEASURES FOR ANCHORING OF TEMPORARY SIGNS AND BARRICADES, TO PREVENT THEIR TIPPING OR DISPLACEMENT BY WIND OR AIR FLOW FROM VEHICLES.

THE CONTRACTOR SHALL PROVIDE SIGNING, BARRICADES, TRAFFIC REGULATORS, CONES, AND OTHER TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE REQUIREMENTS OF THE AGENCY HAVING JURISDICTION OVER STREETS OR ROADS IN THE PROJECT AREA, THE CURRENT MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND THE PLANS AND SPECIFICATIONS.

THE CONTRACTOR SHALL COVER OR REMOVE TEMPORARY SIGNS DURING PERIODS WHEN THEY ARE NOT APPROPRIATE.

TURF ESTABLISHMENT
ALL DISTURBED AREAS WHICH ARE NOT TO BE SURFACED WITH PAVEMENT, AGGREGATE OR OTHER APPROVED SURFACES SHALL BE ESTABLISHED WITH TURF.

TURF AREAS SHALL BE GRADED TO PROVIDE POSITIVE DRAINAGE.

DISTURBED AREAS SHALL BE SURFACED WITH THREE INCHES OF SCREENED TOPSOIL.

THE CONTRACTOR IS RESPONSIBLE TO ESTABLISH TURF WHICH IS SUBSTANTIALLY FREE OF BARE SPOTS AND FREE OF WEEDS. THE GROUND SURFACE IN TURF AREAS SHALL BE SMOOTH AND PROVIDE A NATURAL TRANSITION TO ADJACENT, UNDISTURBED AREAS.

THE CONTRACTOR IS RESPONSIBLE TO PROVIDE WATERING, WEEDING, RESEEDING, AND REWORKING AS NECESSARY TO ESTABLISH TURF AREAS TO THE REQUIRED STANDARD.

EARTHWORK
THE CONTRACTOR SHALL MAKE THEIR OWN DETERMINATION OF THE EARTHWORK QUANTITIES, AND BASE THEIR BID ON THEIR DETERMINATION OF THE QUANTITIES OF WORK REQUIRED.

IF ADDITIONAL FILL MATERIAL MUST BE PROVIDED TO ATTAIN THE FINISH GRADES SHOWN ON THE PLANS, THE CONTRACTOR SHALL PROVIDE THE REQUIRED FILL MATERIAL, UNLESS A SPECIFIC BORROW AREA IS IDENTIFIED ON THE PLANS.

EXCESS SOILS RESULTING FROM EXCAVATION AND EARTHWORK SHALL BECOME THE CONTRACTOR'S PROPERTY AND DISPOSED OF PROPERLY, UNLESS AN AREA(S) HAS BEEN DESIGNATED FOR STOCKPILING OR "BLENDING IN" THE EXCESS MATERIAL WITHIN THE PROJECT LIMITS.

BACKFILL AND EMBANKMENT
BACKFILL OF AN EXCAVATION UNDER OR WITHIN THE ONE ON ONE INFLUENCE OF AN EXISTING OR PROPOSED ROAD, SIDEWALK, DRIVEWAY, PAVEMENT, OR AGGREGATE SURFACE, SHALL BE SAND, MEETING THE REQUIREMENTS OF GRANULAR MATERIAL CLASS III AS DESCRIBED IN THE CURRENT MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION. THE SAND BACKFILL SHALL BE COMPACTED TO AT LEAST 95% OF ITS MAXIMUM UNIT WEIGHT.

BACKFILL OF AN EXCAVATION WHICH IS NOT UNDER OR WITHIN THE ONE ON ONE INFLUENCE OF AN EXISTING OR PROPOSED ROAD, SIDEWALK, DRIVEWAY, PAVEMENT, OR AGGREGATE SURFACE MAY BE SUITABLE EXCAVATED MATERIAL OR OTHER SOIL, WHICH IS FREE OF ORGANIC MATTER, STONES AND ROCKS, ROOTS, BROKEN CONCRETE, FROZEN MATERIAL, OR DEBRIS. THE BACKFILL SHALL BE COMPACTED TO AT LEAST 90% OF ITS MAXIMUM UNIT WEIGHT.

THE CONTRACTOR SHALL INDICATE THE SOURCE OF SAND USED FOR BACKFILL TO THE ENGINEER, AND PROVIDE THE ENGINEER WITH THE RESULTS OF A GRADATION TEST PERFORMED ON A SAMPLE OF THE SAND. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN ADVANCE OF USING SAND FROM OTHER SOURCES.

EMBANKMENT USED TO BUILD THE SUBGRADE TO REQUIRED ELEVATION SHALL BE SUITABLE SOIL EXCAVATED FROM THE PROJECT SITE, OR FURNISHED BY THE CONTRACTOR FROM OTHER SOURCES. SUITABLE SOIL IS FREE FROM ORGANIC MATTER, ROCKS AND STONES, FROZEN MATERIAL, BROKEN CONCRETE, AND DEBRIS.

EMBANKMENT CONSTRUCTED OF GRANULAR SOILS SHALL BE COMPACTED IN LIFTS NOT EXCEEDING 10 INCHES TO AT LEAST 95% OF ITS MAXIMUM UNIT WEIGHT.

EMBANKMENT CONSTRUCTED OF COHESIVE SOILS SHALL BE COMPACTED IN LIFTS NOT EXCEEDING 10 INCHES TO AT LEAST 95% OF ITS MAXIMUM UNIT WEIGHT.

DENSITY TESTING
THE MAXIMUM UNIT WEIGHT OF SAND AND OTHER GRANULAR SOILS WILL BE DETERMINED BY THE ONE POINT CONE TEST, AS DESCRIBED IN THE MICHIGAN DEPARTMENT OF TRANSPORTATION'S DENSITY TESTING AND INSPECTION MANUAL, EXCEPT WHEN ANOTHER TEST METHOD IS SPECIFIED.

THE MAXIMUM UNIT WEIGHT OF COHESIVE SOILS WILL BE DETERMINED BY THE ONE POINT PROCTOR TEST, AS DESCRIBED IN THE MICHIGAN DEPARTMENT OF TRANSPORTATION'S DENSITY TESTING AND INSPECTION MANUAL, EXCEPT WHEN ANOTHER TEST METHOD IS SPECIFIED.

WORK HOURS
UNLESS PROVIDED OTHERWISE IN THE CONTRACT DOCUMENTS OR LIMITED BY LOCAL ORDINANCE, THE CONTRACTOR SHALL WORK WITHIN OF THE FOLLOWING TIMES, UNLESS OTHERWISE APPROVED BY THE OWNER:
MONDAY THROUGH FRIDAY 7 A.M. TO 8 P.M.
SATURDAY 8 A.M. TO 6 P.M.

THE CONTRACTOR SHALL NOT WORK ON SUNDAYS OR HOLIDAYS, UNLESS OTHERWISE APPROVED BY THE OWNER.

DRAINAGE
THE CONTRACTOR SHALL MAINTAIN DRAINAGE OF THE PROJECT AREA AND ADJACENT AREAS. WHERE EXISTING DRAINAGE FACILITIES ARE DISTURBED OR BLOCKED BY CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE AND MAINTAIN TEMPORARY PROVISIONS FOR DRAINAGE.

WHERE CONSTRUCTION HAS DISTURBED EXISTING DITCHES, SWALES, OR OTHER DRAINAGE FACILITIES; THE CONTRACTOR SHALL RESTORE THEM TO THEIR GRADES AND DIMENSIONS WHICH EXISTED PRIOR TO THE BEGINNING OF CONSTRUCTION, UNLESS DIRECTED OTHERWISE.

DRAINAGE SHALL NOT BE REROUTED ONTO ADJACENT PROPERTIES NOR ALLOWED TO DRAIN ONTO ADJACENT PROPERTIES AT AN INCREASED RATE, AS A RESULT OF THE CONTRACTOR'S WORK.

PAVING PROJECTS
ADJUSTING STRUCTURES
WHERE CASTINGS FOR MANHOLES, CATCH BASINS, INLETS, VALVE BOXES, AND MONUMENT BOXES ARE TO BE ADJUSTED TO MEET A NEW PAVEMENT SURFACE ELEVATION, THE FINAL ADJUSTMENT SHALL NOT BE COMPLETED UNTIL ALL PAVEMENT COURSES HAVE BEEN PLACED EXCEPT THE FINAL COURSE. THE FINAL ADJUSTMENT SHALL BE COMPLETED JUST PRIOR TO PLACEMENT OF THE FINAL COURSE OF PAVEMENT.

THE MATERIALS AND PROCEDURES FOR ADJUSTING STRUCTURES SHALL MEET THE REQUIREMENTS OF THE AGENCIES HAVING JURISDICTION OVER THE ROAD AND UTILITIES.

SUBGRADE PREPARATION
TOPSOIL, PEAT, AND ORGANIC MATERIAL SHALL BE EXCAVATED AND REMOVED.

SOFT AND YIELDING SOILS SHALL BE REMOVED OR DRIED IF THE RESULT OF EXCESSIVE MOISTURE CONTENT.

PRIOR TO CONSTRUCTING FILLS, SUBBASE, OR PAVEMENT ON A SUBGRADE; THE SUBGRADE SHALL BE PROOF-ROLLED TO DETERMINE THE SUITABILITY OF THE SUBGRADE. THE CONTRACTOR SHALL DRIVE A HEAVY PIECE OF WHEELED CONSTRUCTION EQUIPMENT OVER THE SUBGRADE WHILE THE ENGINEER IS OBSERVING. THE CONSTRUCTION OF FILLS, SUBBASE, OR PAVEMENTS SHALL NOT PROCEED UNTIL THE SUBGRADE HAS BEEN DEMONSTRATED TO BE FREE OF SOFT AREAS.

THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN THE MOISTURE CONTENT OF SUBGRADE SOILS WITHIN A SUITABLE RANGE TO ALLOW FOR COMPACTION TO THE REQUIRED DENSITY. WHEN THE SOIL IS TOO DRY, THE CONTRACTOR SHALL ADD WATER. WHEN THE SOIL IS TOO WET, THE CONTRACTOR SHALL PROVIDE DRAINAGE OR AERATE THE SOIL.

THE SURFACE OF THE SUBGRADE SHALL BE COMPACTED TO AT LEAST 95% OF ITS MAXIMUM UNIT WEIGHT, PRIOR TO CONSTRUCTING FILLS, SUBBASE, OR PAVEMENTS.

CURB AND GUTTERS
THE CONTRACTOR SHALL DETERMINE THE LOCATION AND DIMENSIONS OF CURB OPENINGS FOR DRIVEWAYS, RAMPS, AND DRAINAGE STRUCTURES.

HOT MIX ASPHALT (HMA) PAVING
PAVEMENTS WHICH ARE TO BE OVERLAID WITH A NEW PAVEMENT COURSE SHALL BE SWEPT TO REMOVE ALL DIRT AND DEBRIS.

A BITUMINOUS BOND COAT SHALL BE APPLIED TO PAVEMENTS WHICH ARE TO BE OVERLAID WITH A NEW PAVEMENT COURSE AND ALLOWED TO CURE PRIOR TO CONSTRUCTING THE NEW PAVEMENT COURSE.

HMA PAVEMENT SHALL NOT BE PLACED WHEN THE SURFACE BEING OVERLAID IS WET, OR WHEN RAIN IS FORECAST OR THREATENING.

10' WIDE PATH, 2073' LENGTH

DESCRIPTION	QUANTITY	UNITS
Pavt, Rem	1950	Syd
Fence, Rem	60	Ft
HMA, 5EML	200	Tons
HMA, 4EML	200	Tons
Conc, 6 inch	2800	Sft
Aggregate Base, 8 inch	2250	Syd
Aggregate Base, 5 inch	350	Syd
Detectable Warning Surface	50	Ft
Sign, Salv	2	Ea
Chain Link Fence, 4' Ht	60	Ft
Utility Covers, Adjust	10	Ea
Clearing	1	LSUM
Earthwork	1	LSUM
Erosion Control, Silt Fence	4000	Ft
Erosion Control, Inlet Protection, Fabric Drop	8	Ea
Turf Establishment	1	LSUM
Maintaining Traffic	1	LSUM
Construction Staking	1	LSUM
Audio-Video Construction Area Survey	1	LSUM
Mobilization	1	LSUM
Detour Signage and Barricading	1	LSUM

PARKING LOT

DESCRIPTION	QUANTITY	UNITS
Pavt, Rem	5705	Syd
HMA, 5EML	550	Tons
HMA, 4EML	900	Tons
Aggregate Base, 8 inch	5705	Syd
Curb and Gutter, Replacement	180	Ft
Geotextile, Stabilization	5705	Syd
Geotextile, Separator	5705	Syd
Pavement Markings	1	LSUM
Earthwork	1	LSUM
Erosion Control, Gravel Access Approach	1	Ea
Maintaining Traffic	1	LSUM
Construction Staking	1	LSUM
Audio-Video Construction Area Survey	1	LSUM
Mobilization	1	LSUM

NOTE: QUANTITIES SHOWN ARE FOR INFORMATION PURPOSES ONLY. CONTRACTOR SHALL MAKE THEIR OWN DETERMINATION FOR QUANTITIES AS SHOWN ON THESE PLANS.

Know what's **below.**
Call before you dig.

PLAN SUBMITTALS AND CHANGES
BIDDING DOCUMENTS

DATE	DESCRIPTION
9/9/24	ISSUED FOR BIDS

ROWE PROFESSIONAL SERVICES COMPANY
The Rowe Building
540 S. Saginaw St., Suite 200
Flint, MI 48502
O: (810) 341-7500
www.rowepsc.com

PLAN DATE: SEPTEMBER 2024
PROJECT MGR: DRS
REVIEWER: AJW
SCALE: NO SCALE

PREPARED FOR
ANN ARBOR PARKS AND RECREATION
FULLER PARK IMPROVEMENTS
WASHTENAW COUNTY
GENERAL NOTES AND PROJECT QUANTITIES

REV:

SHT# 3 OF 19

JOB No: 2400478

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PROPOSED PATH ALIGNMENT

BENCHMARK DATA TABLE

NUMBER	NORTHING	EASTING	ELEVATION	STATION	OFFSET	DESCRIPTION
BM 5	287382	13295515	772.83	10+06.52	55.57' RT	CUT "X" TOP SOUTHWESTERLY ANCHOR BOLT LIGHT POLE BASE IN MEDIAN OF FULLER ROAD, 4'± SOUTH OF BACK OF CURB, 32'± WEST OF GAS PIPELINE MARKER
BM 6	287678	13295991	769.27	15+21.24	154.30' LT	TURN ARROW ON HYDRANT, 8'± WEST OF FENCE AROUND POOL, 57'± NORTH OF MAILBOX #1519

TRAVERSE POINT DATA TABLE

NUMBER	NORTHING	EASTING	STATION	OFFSET	DESCRIPTION
TP 1	287580.1575	13295952.5755	14+78.46	57.99' LT	SET 1/2" IRON WITH "ROWE TRAV" CAP IN CURB ISLAND, 45'± NORTH OF "FULLER PARK" ENTRANCE SIGN, 8'± EAST OF BACK OF CURB
TP 2	287509.9455	13295913.1475	14+35.62	10.19' RT	SET 1/2" IRON WITH "ROWE TRAV" CAP, 45'± WEST NORTHWEST OF "FULLER PARK" ENTRANCE SIGN, 3'± WEST OF BACK OF CURB
TP 3	287452.6325	13295588.8255	10+97.87	17.96' RT	SET 1/2" IRON WITH "ROWE TRAV" CAP, 45'± WEST OF "U OF M" ROAD SIGN, 8'± NORTH OF BACK OF CURB, FULLER ROAD
TP 4	287367.7535	13295213.2175	7+14.91	6.14' RT	SET 1/2" IRON WITH "ROWE TRAV" CAP, 2.5'± NORTH OF STONE WALL, 270'± EAST OF CENTERLINE MAIDEN LANE
TP 7	287784.9345	13295902.4945	14+38.55	264.99' LT	SET 1/2" IRON WITH "ROWE TRAV" CAP, 62'± NORTHWEST OF EASTERLY PILLAR OF SOLAR PANEL ARRAY, 8'± NORTHWEST OF NORTHWEST CORNER CONCRETE PAD
TP 8	287697.0825	13295686.9655	12+29.70	191.76' LT	SET 1/2" IRON WITH "ROWE TRAV" CAP, 51'± WEST OF WESTERLY PILLAR OF SOLAR PANEL ARRAY, 4'± NORTHWEST OF BACK OF CURB
TP 9	287666.7815	13295451.1075	10+51.00	233.22' LT	SET 1/2" IRON WITH "ROWE TRAV" CAP, 38'± WEST OF NO PARKING SIGN, 8'± EAST OF EDGE OF GRAVEL DRIVE

ALIGNMENT POINT DATA TABLE

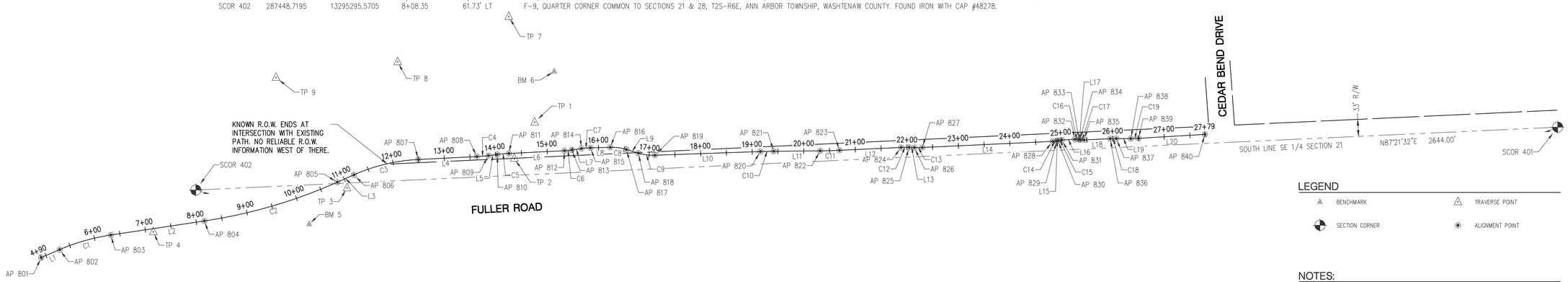
NUMBER	NORTHING	EASTING	STATION	OFFSET	DESCRIPTION
AP 801	287317.8952	13294995.7329	4+90.00	0.00' RT	POINT OF BEGINNING OF THE PROPOSED PATH ALIGNMENT
AP 802	287333.3038	13295031.4716	5+28.92	0.00' RT	POINT OF CURVATURE OF THE PROPOSED PATH ALIGNMENT
AP 803	287361.5715	13295130.5536	6+32.24	0.00' RT	POINT OF TANGENCY OF THE PROPOSED PATH ALIGNMENT
AP 804	287388.7753	13295312.0744	8+15.79	0.00' RT	POINT OF CURVATURE OF THE PROPOSED PATH ALIGNMENT
AP 805	287463.8938	13295569.9443	10+85.19	0.00' RT	POINT OF TANGENCY OF THE PROPOSED PATH ALIGNMENT
AP 806	287478.2084	13295602.1575	11+20.44	0.00' RT	POINT OF CURVATURE OF THE PROPOSED PATH ALIGNMENT
AP 807	287507.9385	13295727.0053	12+49.51	0.00' RT	POINT OF TANGENCY OF THE PROPOSED PATH ALIGNMENT
AP 808	287513.5484	13295840.4893	13+63.13	0.00' RT	POINT OF CURVATURE OF THE PROPOSED PATH ALIGNMENT
AP 809	287515.5036	13295862.9231	13+85.66	0.00' RT	POINT OF TANGENCY OF THE PROPOSED PATH ALIGNMENT
AP 810	287517.6712	13295880.2479	14+03.12	0.00' RT	POINT OF CURVATURE OF THE PROPOSED PATH ALIGNMENT
AP 811	287519.6264	13295902.6817	14+25.64	0.00' RT	POINT OF TANGENCY OF THE PROPOSED PATH ALIGNMENT
AP 812	287524.9598	13296010.5735	15+33.67	0.00' RT	POINT OF CURVATURE OF THE PROPOSED PATH ALIGNMENT
AP 813	287526.2927	13296024.4384	15+47.60	0.00' RT	POINT OF TANGENCY OF THE PROPOSED PATH ALIGNMENT
AP 814	287529.0017	13296043.3489	15+66.70	0.00' RT	POINT OF CURVATURE OF THE PROPOSED PATH ALIGNMENT
AP 815	287530.4702	13296060.8502	15+84.28	0.00' RT	POINT OF TANGENCY OF THE PROPOSED PATH ALIGNMENT
AP 816	287531.4384	13296099.3658	16+22.80	0.00' RT	POINT OF CURVATURE OF THE PROPOSED PATH ALIGNMENT
AP 817	287527.2594	13296130.5910	16+54.44	0.00' RT	POINT OF TANGENCY OF THE PROPOSED PATH ALIGNMENT
AP 818	287520.3375	13296153.6839	16+78.55	0.00' RT	POINT OF CURVATURE OF THE PROPOSED PATH ALIGNMENT
AP 819	287516.1874	13296185.8736	17+11.15	0.00' RT	POINT OF TANGENCY OF THE PROPOSED PATH ALIGNMENT
AP 820	287523.3063	13296390.4567	19+15.85	0.00' RT	POINT OF CURVATURE OF THE PROPOSED PATH ALIGNMENT
AP 821	287523.8704	13296416.1986	19+41.60	0.00' RT	POINT OF TANGENCY OF THE PROPOSED PATH ALIGNMENT
AP 822	287524.6856	13296506.4337	20+31.84	0.00' RT	POINT OF CURVATURE OF THE PROPOSED PATH ALIGNMENT
AP 823	287525.7266	13296543.9031	20+69.33	0.00' RT	POINT OF TANGENCY OF THE PROPOSED PATH ALIGNMENT
AP 824	287531.2830	13296663.2561	21+88.81	0.00' RT	POINT OF CURVATURE OF THE PROPOSED PATH ALIGNMENT
AP 825	287531.4025	13296678.7808	22+04.34	0.00' RT	POINT OF TANGENCY OF THE PROPOSED PATH ALIGNMENT
AP 826	287531.0836	13296689.0231	22+14.59	0.00' RT	POINT OF CURVATURE OF THE PROPOSED PATH ALIGNMENT
AP 827	287531.2031	13296704.5478	22+30.11	0.00' RT	POINT OF TANGENCY OF THE PROPOSED PATH ALIGNMENT
AP 828	287542.9709	13296957.3273	24+83.17	0.00' RT	POINT OF CURVATURE OF THE PROPOSED PATH ALIGNMENT
AP 829	287544.1116	13296965.1273	24+91.06	0.00' RT	POINT OF TANGENCY OF THE PROPOSED PATH ALIGNMENT
AP 830	287544.6614	13296967.3364	24+93.34	0.00' RT	POINT OF CURVATURE OF THE PROPOSED PATH ALIGNMENT
AP 831	287545.8021	13296975.1365	25+01.24	0.00' RT	POINT OF TANGENCY OF THE PROPOSED PATH ALIGNMENT
AP 832	287546.9753	13297000.3371	25+26.46	0.00' RT	POINT OF CURVATURE OF THE PROPOSED PATH ALIGNMENT
AP 833	287546.5642	13297008.2093	25+34.36	0.00' RT	POINT OF TANGENCY OF THE PROPOSED PATH ALIGNMENT
AP 834	287546.2220	13297010.4599	25+36.64	0.00' RT	POINT OF CURVATURE OF THE PROPOSED PATH ALIGNMENT
AP 835	287545.8109	13297018.3322	25+44.53	0.00' RT	POINT OF TANGENCY OF THE PROPOSED PATH ALIGNMENT
AP 836	287548.1708	13297069.0252	25+95.28	0.00' RT	POINT OF CURVATURE OF THE PROPOSED PATH ALIGNMENT
AP 837	287548.4413	13297080.6914	26+06.95	0.00' RT	POINT OF TANGENCY OF THE PROPOSED PATH ALIGNMENT
AP 838	287548.4367	13297108.9771	26+35.24	0.00' RT	POINT OF CURVATURE OF THE PROPOSED PATH ALIGNMENT
AP 839	287548.8806	13297123.9086	26+50.18	0.00' RT	POINT OF TANGENCY OF THE PROPOSED PATH ALIGNMENT
AP 840	287556.5545	13297252.5124	27+79.01	0.00' RT	POINT OF ENDING OF THE PROPOSED PATH ALIGNMENT

SECTION CORNER DATA TABLE

NUMBER	NORTHING	EASTING	STATION	OFFSET	DESCRIPTION
SCOR 401	287570.5565	13297936.7645	N/A	N/A	G-9, SECTION CORNER COMMON TO SECTIONS 21, 22, 27 & 28, T2S-R6E, ANN ARBOR TOWNSHIP, WASHTENAW COUNTY. FOUND MONUMENT IN BROKEN MONUMENT BOX.
SCOR 402	287448.7195	13295295.5705	8+08.35	61.73' LT	F-9, QUARTER CORNER COMMON TO SECTIONS 21 & 28, T2S-R6E, ANN ARBOR TOWNSHIP, WASHTENAW COUNTY. FOUND IRON WITH CAP #48278.

ALIGNMENT LINE DATA		
LINE #	BEARING	DISTANCE
L1	N66°40'37"E	38.92'
L2	N81°28'36"E	183.55'
L3	N66°02'28"E	35.25'
L4	N87°10'12"E	113.62'
L5	N82°52'05"E	17.46'
L6	N87°10'12"E	108.02'
L7	N81°50'52"E	19.10'
L8	N88°33'36"E	38.53'
L9	S73°18'52"E	24.11'
L10	N88°00'26"E	204.71'
L11	N89°28'57"E	90.24'
L12	N87°20'05"E	119.48'
L13	S88°13'00"E	10.25'
L14	N87°20'05"E	253.05'
L15	N76°01'29"E	2.28'
L16	N87°20'05"E	25.23'
L17	S81°21'20"E	2.28'
L18	N87°20'05"E	50.75'
L19	S89°59'27"E	28.29'
L20	N86°35'07"E	128.83'

ALIGNMENT CURVE DATA					
CURVE #	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD DISTANCE
C1	103.32'	400.00'	14°48'00"	N74°04'37"E	103.04'
C2	269.40'	1000.00'	15°26'08"	N73°45'32"E	268.59'
C3	129.07'	350.00'	21°07'44"	N76°36'20"E	128.34'
C4	22.52'	300.00'	4°18'06"	N85°01'09"E	22.52'
C5	22.52'	300.00'	4°18'06"	N85°01'09"E	22.52'
C6	13.93'	150.00'	5°19'20"	N84°30'32"E	13.93'
C7	17.57'	150.00'	6°42'44"	N85°12'14"E	17.56'
C8	31.64'	100.00'	18°07'33"	S82°22'38"E	31.50'
C9	32.60'	100.00'	18°40'43"	S82°39'13"E	32.46'
C10	25.75'	1000.00'	1°28'31"	N88°44'41"E	25.75'
C11	37.49'	1000.00'	2°08'52"	N88°24'31"E	37.48'
C12	15.53'	200.00'	4°26'55"	N89°33'32"E	15.53'
C13	15.53'	200.00'	4°26'55"	N89°33'32"E	15.53'
C14	7.90'	40.00'	11°18'36"	N81°40'47"E	7.88'
C15	7.90'	40.00'	11°18'36"	N81°40'47"E	7.88'
C16	7.90'	40.00'	11°18'36"	S87°00'38"E	7.88'
C17	7.90'	40.00'	11°18'36"	S87°00'38"E	7.88'
C18	11.67'	250.00'	2°40'29"	N88°40'19"E	11.67'
C19	14.94'	250.00'	3°25'27"	N88°17'50"E	14.94'



LEGEND

- BENCHMARK
- TRAVERSE POINT
- SECTION CORNER
- ALIGNMENT POINT

NOTES:

VERTICAL DATUM IS NAVD88
HORIZONTAL DATUM IS MICHIGAN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE NAD83 (2011)
UNITS ARE INTERNATIONAL FEET
ALIGNMENT IS BASED UPON BEST FIT CENTERLINE OF PROPOSED PATH

Know what's **below.** **Call** before you dig.

PLAN SUBMITTALS AND CHANGES	
BIDDING DOCUMENTS	
DATE	DESCRIPTION
9/9/24	ISSUED FOR BIDS

PLAN DATE: SEPTEMBER 2024
PROJECT MGR: DRS
REVIEWER: AJW
SCALE: 1" = 100'

ROWE PROFESSIONAL SERVICES COMPANY
The Rowe Building
540 S. Saginaw St., Suite 200
Flint, MI 48502
O: (810) 341-7500
www.rowepsc.com

PREPARED FOR
ANN ARBOR PARKS AND RECREATION
FULLER PARK IMPROVEMENTS
WASHTENAW COUNTY
ALIGNMENT AND CONTROL DATA SHEET

REV:
SHT# 4 OF 19
JOB No: 2400478

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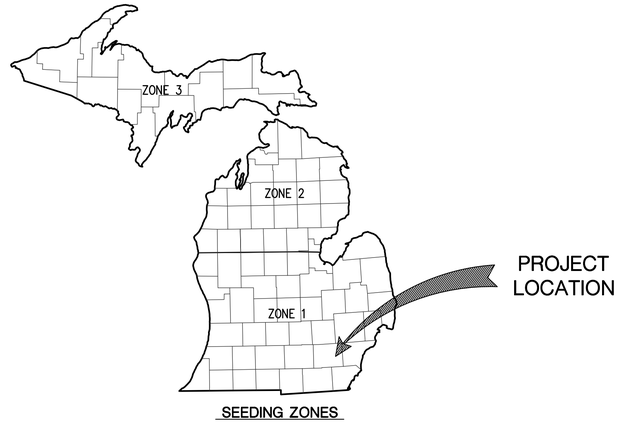
MICHIGAN UNIFIED KEYING SYSTEM

SOIL EROSION SEDIMENTATION CONTROL MEASURES

✱ INDICATES APPLICABILITY OF A SPECIFIC CONTROL MEASURE TO ONE OR MORE OF THE SEVEN PROBLEM AREAS

KEY	DETAIL	CHARACTERISTICS	A SLOPES	B STREAMS AND WATERWAYS	C SURFACE DRAINAGEWAYS	D ENCLOSED DRAINAGE (Inlet & Outfall Control)	E LARGE FLAT SURFACE AREAS	F BORROW AND STOCKPILE AREAS	G ADJACENT PROPERTIES
1	STRIPPING & STOCKPILING TOPSOIL	TOPSOIL MAY BE STOCKPILED ABOVE BORROW AREAS TO ACT AS A DIVERSION. STOCKPILE SHOULD BE TEMPORARILY SEEDED.	✱				✱	✱	
2	SELECTIVE GRADING & SHAPING	WATER CAN BE DIVERTED TO MINIMIZE EROSION. FLATTER SLOPES EASE EROSION PROBLEMS.	✱				✱	✱	✱
3	GRUBBING OMITTED	SAVES COST OF GRUBBING, PROVIDES NEW SPROUTS, RETAINS EXISTING ROOT MAT SYSTEM, REDUCES WIND FALL AT NEW FOREST EDGE DISCOURAGES EQUIPMENT ENTRANCE	✱				✱		✱
4	VEGETATIVE STABILIZATION	MAY UTILIZE A VARIETY OF PLANT MATERIAL STABILIZES SOIL SLOWS RUNOFF VELOCITY FILTERS SEDIMENT FROM RUNOFF	✱	✱	✱		✱	✱	✱
5	SEEDING	INEXPENSIVE AND VERY EFFECTIVE STABILIZES SOIL, THUS MINIMIZING EROSION PERMITS RUNOFF TO INFILTRATE SOIL, REDUCING RUNOFF VOLUME SHOULD INCLUDE PREPARED TOPSOIL BED	✱		✱		✱	✱	✱
6	SEEDING WITH MULCH AND/OR MATTING	FACILITATES ESTABLISHMENT OF VEGETATIVE COVER EFFECTIVE FOR DRAINAGEWAYS WITH LOW VELOCITY EASILY PLACED IN SMALL QUANTITIES BY INEXPERIENCED PERSONNEL SHOULD INCLUDE PREPARED TOPSOIL BED	✱		✱			✱	✱
7	HYDRO-SEEDING	EFFECTIVE ON LARGE AREAS MULCH TACKING AGENT USED TO PROVIDE IMMEDIATE PROTECTION UNTIL GRASS IS ROOTED SHOULD INCLUDE PREPARED TOPSOIL BED	✱				✱	✱	✱
8	SODDING	PROVIDES IMMEDIATE PROTECTION CAN BE USED IN STEEP SLOPES WHERE SEED MAY BE DIFFICULT TO ESTABLISH EASY TO PLACE; MAY BE REPAIRED IF DAMAGED SHOULD INCLUDE PREPARED TOPSOIL BED	✱		✱		✱	✱	✱
9	VEGETATIVE BUFFER STRIP	SLOWS RUNOFF VELOCITY FILTERS SEDIMENT FROM RUNOFF REDUCES VOLUME OF RUNOFF ON SLOPES	✱	✱					✱
10	MULCHING	USED ALONE TO PROTECT EXPOSED AREAS FOR SHORT PERIODS PROTECTS SOIL FROM IMPACT OF FALLING RAIN PRESERVES SOIL MOISTURE AND PROTECTS GERMINATING SEED FROM TEMPERATURE EXTREMES	✱				✱	✱	
11	ROUGHENED SURFACE	REDUCES VELOCITY AND INCREASES INFILTRATION RATES COLLECTS SEDIMENT HOLDS WATER, SEED, AND MULCH BETTER THAN SMOOTH SURFACES	✱				✱		
12	COMPACTION	HELPS HOLD SOIL IN PLACE, MAKING EXPOSED AREAS LESS VULNERABLE TO EROSION	✱				✱		
13	RIPRAP, RUBBLE, GABIONS	USED WHERE VEGETATION IS NOT EASILY ESTABLISHED EFFECTIVE FOR HIGH VELOCITIES OR HIGH CONCENTRATIONS PERMITS RUNOFF TO INFILTRATE SOIL DISSIPATES ENERGY FLOW AT SYSTEM OUTLETS	✱	✱	✱				
14	AGGREGATE COVER	STABILIZES SOIL SURFACE, THUS MINIMIZING EROSION PERMITS CONSTRUCTION TRAFFIC IN ADVERSE WEATHER MAY BE USED AS PART OF PERMANENT BASE CONSTRUCTION OF PAVED AREAS					✱		
15	PAVING	PROTECTS AREAS WHICH CANNOT OTHERWISE BE PROTECTED, BUT INCREASES RUNOFF VOLUME AND VELOCITY IRREGULAR SURFACE WILL HELP SLOW VELOCITY	✱				✱		
16	CURB & GUTTER	KEEPS HIGH VELOCITY RUNOFF ON PAVED AREAS FROM LEAVING PAVED SURFACE COLLECTS AND CONDUCTS RUNOFF TO ENCLOSED DRAINAGE SYSTEM OR PREPARED DRAINAGEWAY					✱		✱
17	BENCHES	REDUCES RUNOFF VELOCITY BY REDUCING EFFECTIVE SLOPE LENGTH COLLECTS SEDIMENT PROVIDES ACCESS TO SLOPES FOR SEEDING, MULCHING AND MAINTENANCE	✱					✱	
18	DIVERSION BERM	DIVERTS WATER FROM VULNERABLE AREAS COLLECTS AND DIRECTS WATER TO PREPARED DRAINAGEWAYS MAY BE PLACED AS PART OF NORMAL CONSTRUCTION OPERATION	✱					✱	✱
19	DIVERSION DITCH	COLLECTS AND DIVERTS WATER TO REDUCE EROSION POTENTIAL MAY BE INCORPORATED IN PERMANENT PROJECT DRAINAGE SYSTEMS	✱					✱	✱
20	BERM & DITCH	DIVERTS WATER TO A PREPARED DRAINAGEWAY MAY BE USED AT INTERVALS ACROSS SLOPE FACE TO REDUCE EFFECTIVE SLOPE LENGTH	✱					✱	✱
21	FILTER BERM	CONSTRUCTED OF GRAVEL OR STONE INTERCEPTS AND DIVERTS RUNOFF TO STABILIZED AREAS OR PREPARED DRAINAGE SYSTEMS SLOWS RUNOFF AND COLLECTS SEDIMENT	✱	✱					✱
22	BRUSH FILTER	USES SLASH AND LOGS FROM CLEARING OPERATIONS CAN BE COVERED AND SEEDED RATHER THAN REMOVED ELIMINATES NEED FOR BURNING OR REMOVAL OF MATERIAL FROM SITE							✱
23	BARE CHANNEL	LEAST EXPENSIVE FORM OF DRAINAGEWAY MAY BE USED ONLY WHERE GRADIENT IS VERY LOW AND WITH SOILS OF MINIMUM EROSION POTENTIAL			✱				
24	GRASSED WATERWAY	MUCH MORE STABLE FORM OF DRAINAGEWAY THAN BARE CHANNEL GRASS TENDS TO SLOW RUNOFF AND FILTER OUT SEDIMENT USED WHERE BARE CHANNEL WOULD BE ERODED			✱				✱
25	SLOPE DRAIN (SURFACE PIPE)	PREVENTS EROSION ON SLOPES WHEN RUNOFF CANNOT BE DIVERTED TO EDGE OF SLOPE AREA USUALLY PERMANENT CAN BE CONSTRUCTED OR EXTENDED AS GRADING PROGRESSES	✱						✱
26	SLOPE DRAIN (PIPE CHUTE)	PREVENTS EROSION ON SLOPES WHEN RUNOFF CANNOT BE DIVERTED TO EDGE OF SLOPE AREA USUALLY PERMANENT CAN BE CONSTRUCTED OR EXTENDED AS GRADING PROGRESSES	✱						✱
27	SLOPE DRAIN (SUBSURFACE PIPE)	PREVENTS EROSION ON SLOPES WHEN RUNOFF CANNOT BE DIVERTED TO EDGE OF SLOPE AREA USUALLY PERMANENT CAN BE CONSTRUCTED AS GRADING PROGRESSES	✱						✱

KEY	DETAIL	CHARACTERISTICS	A SLOPES	B STREAMS AND WATERWAYS	C SURFACE DRAINAGEWAYS	D ENCLOSED DRAINAGE (Inlet & Outfall Control)	E LARGE FLAT SURFACE AREAS	F BORROW AND STOCKPILE AREAS	G ADJACENT PROPERTIES
28	DROP SPILLWAY	SLOWS VELOCITY OF FLOW, REDUCING EROSIVE CAPACITY		✱	✱				
29	PIPE DROP	REDUCES RUNOFF VELOCITY REMOVES SEDIMENT AND TURBIDITY CAN BE DESIGNED TO HANDLE LARGE VOLUMES OF FLOW			✱				
30	PIPE SPILLWAY	REMOVES SEDIMENT AND TURBIDITY FROM RUNOFF MAY BE PART OF PERMANENT EROSION CONTROL PLAN			✱				
31	ENERGY DISSIPATER	SLOWS RUNOFF VELOCITY TO NON-EROSIVE LEVEL PERMITS SEDIMENT COLLECTION FROM RUNOFF	✱		✱	✱			
32	LEVEL SPREADER	CONVERTS COLLECTED CHANNEL OR PIPE FLOW BACK TO SHEET FLOW AVOIDS CHANNEL EASEMENTS AND CONSTRUCTION OFF PROJECT SITE SIMPLE TO CONSTRUCT			✱				
33	SEDIMENTATION TRAP	MAY BE CONSTRUCTED OF A VARIETY OF MATERIALS TRAPS SEDIMENT AND REDUCES VELOCITY OF FLOW CAN BE CLEANED AND EXPANDED AS NEEDED		✱	✱				
34	SEDIMENT BASIN	TRAPS SEDIMENT RELEASES RUNOFF AT NON-EROSIVE RATES CONTROLS RUNOFF AT SYSTEM OUTLETS CAN BE VISUAL AMENITIES		✱	✱	✱			
35	STORM SEWER	SYSTEM REMOVES COLLECTED RUNOFF FROM SITE, PARTICULARLY FROM PAVED AREAS CAN ACCEPT LARGE CONCENTRATIONS OF RUNOFF CONDUCTS RUNOFF TO MUNICIPAL SEWER SYSTEM OR STABILIZED OUTFALL LOCATION USE CATCH BASINS TO COLLECT SEDIMENT					✱		✱
36	CATCH BASIN, DRAIN INLET	COLLECTS HIGH VELOCITY CONCENTRATED RUNOFF MAY USE FILTER CLOTH OVER INLET					✱		✱
37	SOD FILTER	INEXPENSIVE AND EASY TO CONSTRUCT PROVIDES IMMEDIATE PROTECTION PROTECTS AREAS AROUND INLETS FROM EROSION				✱			
38	STRAW BALE FILTER	INEXPENSIVE AND EASY TO CONSTRUCT CAN BE LOCATED AS NECESSARY TO COLLECT SEDIMENT MAY BE USED IN CONJUNCTION WITH SNOW FENCE FOR ADDED STABILITY				✱			✱
39	ROCK FILTER	CAN UTILIZE MATERIAL FOUND ON SITE EASY TO CONSTRUCT FILTERS SEDIMENT FROM RUNOFF				✱			✱
40	INLET SEDIMENT TRAP	EASY TO SHAPE COLLECTS SEDIMENT MAY BE CLEANED AND EXPANDED AS NEEDED				✱			
41	STONE AND ROCK CROSSING	MAY BE ROCK OR CLEAN RUBBLE MINIMIZES STREAM TURBIDITY INEXPENSIVE MAY ALSO SERVE AS DITCH CHECK OR SEDIMENT TRAP		✱					
42	TEMPORARY CULVERT	ELIMINATES STREAM TURBULENCE AND TURBIDITY PROVIDES UNOBSTRUCTED PASSAGE FOR FISH AND OTHER WATER LIFE CAPACITY FOR NORMAL FLOW CAN BE PROVIDED WITH STORM WATER FLOWING OVER ROADWAY		✱					
43	CULVERT SEDIMENT TRAP	EASY TO INSTALL AT INLET CULVERT CLEAN AND FREE FLOWING MAY BE CONSTRUCTED OF LUMBER OR LOGS		✱					✱
44	CULVERT SEDIMENT TRAP	DEFLECTS CURRENTS AWAY FROM STREAMBANK AREAS		✱					
45	TEMP. STREAM CHANNEL CHANGE	NEW CHANNEL KEEPS NORMAL FLOWS AWAY FROM CONSTRUCTION REQUIRES STATE PERMIT		✱					
46	SHEET PILINGS	PROTECTS ERODIBLE BANK AREAS FROM STREAM CURRENTS DURING CONSTRUCTION MINIMAL DISRUPTION WHEN REMOVED		✱					
47	COFFERDAM	WORK CAN BE CONTINUED DURING MOST ANTICIPATED STREAM CONDITIONS CLEAR WATER CAN BE PUMPED DIRECTLY BACK INTO STREAM		✱					
48	CONSTRUCTION DAM	PERMITS WORK TO CONTINUE DURING NORMAL STREAM STAGES CONTROLLED FLOODING CAN BE ACCOMPLISHED DURING PERIODS OF INACTIVITY		✱					
49	CHECK DAMS	REDUCES FLOW VELOCITY CATCHES SEDIMENT CAN BE CONSTRUCTED OF LOGS, STRAW, HAY ROCK, LUMBER, MASONRY, OR SAND BAGS		✱	✱				
50	WEIR	CONTROLS SEDIMENTATION IN LARGE STREAMS CAUSES MINIMAL TURBIDITY		✱	✱				
51	RETAINING WALL	REDUCES GRADIENT WHERE SLOPES ARE EXTREMELY STEEP PERMITS RETENTION OF EXISTING VEGETATION, KEEPING SOIL STABLE IN CRITICAL AREAS MINIMIZES MAINTENANCE	✱						✱
52	SEEPAGE CONTROL	PREVENTS PIPING AND SOIL SLIPPAGE ON CUT SLOPES	✱						✱
53	WINDBREAK	MINIMIZES WIND EROSION MAY BE SNOW FENCE					✱		
54	SILT FENCE	USES GEOTEXTILE FABRIC AND POSTS OR POLES. EASY TO CONSTRUCT AND LOCATE AS NECESSARY.			✱				✱



SEEDING ZONES

PERMANENT SEEDING GUIDE

	APR	MAY	JUN	JUL	AUG	SEP	OCT	
IRRIGATED AND/OR MULCH								ZONE 1
WITHOUT IRRIGATION OR MULCH								
IRRIGATED AND/OR MULCHED								ZONE 2
WITHOUT IRRIGATION OR MULCH								
IRRIGATED AND/OR MULCHED								ZONE 3
WITHOUT IRRIGATION OR MULCH								

TEMPORARY SEEDING GUIDE

ZONE 1

TYPE OF SEED	APR	MAY	JUN	JUL	AUG	SEP	OCT
SPRING OATS/BARLEY OR DOMESTIC RYEGRASS						15TH	
SUDANGRASS							
RYE OR PERENNIAL RYE							15TH
WHEAT							15TH

ZONE 2

TYPE OF SEED	APR	MAY	JUN	JUL	AUG	SEP	OCT
SPRING OATS/BARLEY OR DOMESTIC RYEGRASS						15TH	
SUDANGRASS							
RYE OR PERENNIAL RYE							15TH
WHEAT							15TH

ZONE 3

TYPE OF SEED	APR	MAY	JUN	JUL	AUG	SEP	OCT
SPRING OATS/BARLEY OR DOMESTIC RYEGRASS						15TH	
SUDANGRASS							
RYE OR PERENNIAL RYE							15TH
WHEAT							15TH

SOIL EROSION & SEDIMENTATION CONTROL

1. DEVELOPER/PROPERTY OWNER SHALL SUBMIT A DETAILED EROSION CONTROL PLAN AND OBTAIN A SOIL EROSION & SEDIMENTATION CONTROL PERMIT PRIOR TO ANY EARTH CHANGES.
2. CONSTRUCTION OPERATION SHALL BE SCHEDULED AND PERFORMED SO THAT PREVENTATIVE EROSION CONTROL MEASURES ARE IN PLACE PRIOR TO EXCAVATION AND TEMPORARY STABILIZATION MEASURES ARE IN PLACE IMMEDIATELY FOLLOWING BACKFILLING AND/OR GRADING OPERATIONS.
3. BORROW AND FILL DISPOSAL AREAS WILL BE SELECTED AND APPROVED AT TIME OF PLAN REVIEW.
4. SPECIAL PRECAUTIONS WILL BE TAKEN IN THE USE OF CONSTRUCTION EQUIPMENT TO PREVENT SITUATIONS THAT PROMOTE EROSION.
5. CLEANUP WILL BE DONE IN A MANNER TO ENSURE THAT EROSION CONTROL MEASURES ARE NOT DISTURBED.
6. THE PROJECT WILL CONTINUALLY BE INSPECTED FOR SOIL EROSION AND SEDIMENTATION CONTROL COMPLIANCE. DEFICIENCIES WILL BE CORRECTED BY THE DEVELOPER WITHIN 24 HOURS.
7. TEMPORARY EROSION CONTROL MEASURES SHALL BE COMPLETELY REMOVED BY THE DEVELOPER UPON ESTABLISHMENT OF PERMANENT CONTROL MEASURES.
8. ALL TEMPORARY SOIL EROSION CONTROL MEASURES MUST BE REMOVED FROM ROAD RIGHT-OF-WAY AREAS PRIOR TO ACCEPTANCE OF STREETS FOR ROUTINE MAINTENANCE.
9. VEGETATION MUST BE ACCEPTABLY ESTABLISHED PRIOR TO FINAL RELEASE OF THE CONSTRUCTION GUARANTEE BY THE DESIGNATED SOIL EROSION SEDIMENTATION CONTROL AGENT.

SOIL EROSION/SEDIMENTATION CONTROL OPERATION TIME SCHEDULE

CONSTRUCTION SEQUENCE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
STRIP & STOCKPILE TOPSOIL												
ROUGH GRADE SEDIMENT CONTROL												
TEMP. CONTROL MEASURES												
STORM FACILITIES												
TEMP. CONSTRUCTION ROADS												
SITE CONSTRUCTION												
PERM. CONTROL MEASURES												
FINISH GRADING												

NOTE: TO BE COMPLETED BY CONTRACTOR

CONSTRUCTION SEQUENCE

1. IMPLEMENTATION OF TEMPORARY EROSION CONTROL MEASURES; SELECTIVE GRADING, DIVERSIONS AS REQUIRED IN FIELD, PROTECTION OF STORM SEWER FACILITIES.
2. EXCAVATION AND STOCKPILING OF SOIL.
3. PERIODIC MAINTENANCE OF AFFECTED EROSION CONTROL MEASURES.
4. PERMANENT MEASURES; FINAL GRADING, SEEDING AND MULCHING.

Know what's **below.**
Call before you dig.

PLAN SUBMITTALS AND CHANGES

BIDDING DOCUMENTS

DATE	DESCRIPTION
9/9/24	ISSUED FOR BIDS

PLAN DATE: SEPTEMBER 2024
PROJECT MGR: DRS
REVIEWER: AJW
SCALE: NOT TO SCALE

ROWE PROFESSIONAL SERVICES COMPANY
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PREPARED FOR
ANN ARBOR PARKS AND RECREATION
FULLER PARK IMPROVEMENTS
WASHTENAW COUNTY
SOIL EROSION KEY

REV:

SHT# 5 OF 19
JOB No: 2400478

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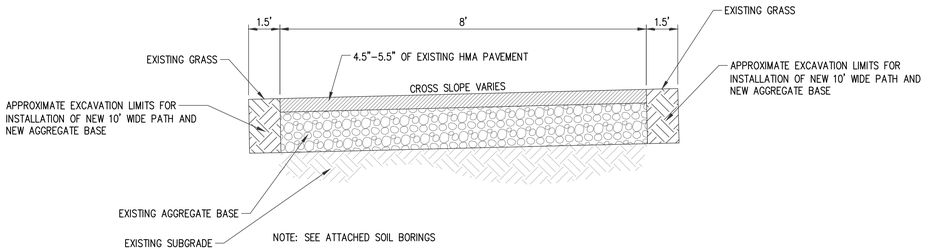

EXISTING HMA PATH CROSS SECTION

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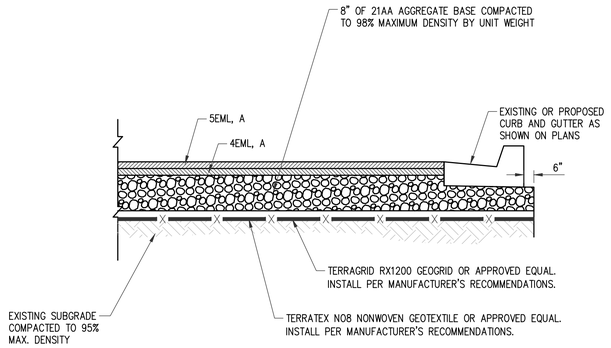
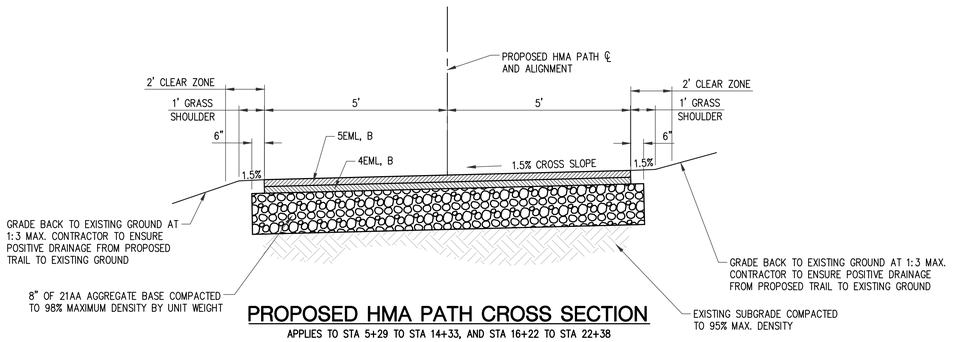


PROPOSED HMA DRIVE/PARKING LOT CROSS SECTION

NOT TO SCALE

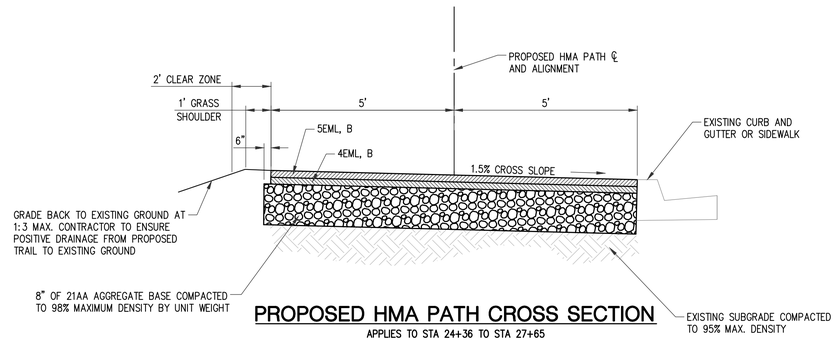
PROPOSED HMA DRIVE APPLICATION CHART					
IDENT NO	ITEM	HMA PAVEMENT	THICKNESS	PERFORMANCE GRADE	COMMENTS
5EML, A	HMA, 5EML	HMA, 5EML	1.5"	58-28	TOP COURSE
4EML, A	HMA, 4EML	HMA, 4EML	2.5"	58-28	LEVELING COURSE
RAP SHALL BE LIMITED TO TIER 1 DESIGN (17% MAX RAP BY BINDER WEIGHT)					
BOND COAT RATE SHALL BE 0.05 TO 0.15 GAL/SYD					
TOP COURSE AGG. WEAR INDEX (AWI) EL = 220 MIN					



PROPOSED HMA PATH CROSS SECTION

APPLIES TO STA 5+29 TO STA 14+33, AND STA 16+22 TO STA 22+38

NOT TO SCALE



PROPOSED HMA PATH CROSS SECTION

APPLIES TO STA 24+36 TO STA 27+65

NOT TO SCALE

PROPOSED HMA PATH APPLICATION CHART					
IDENT NO	ITEM	HMA PAVEMENT	THICKNESS	PERFORMANCE GRADE	COMMENTS
5EML, B	HMA, 5EML	HMA, 5EML	1.5"	58-28	TOP COURSE
4EML, B	HMA, 4EML	HMA, 4EML	1.5"	58-28	LEVELING COURSE
RAP SHALL BE LIMITED TO TIER 1 DESIGN (17% MAX RAP BY BINDER WEIGHT)					
BOND COAT RATE SHALL BE 0.05 TO 0.15 GAL/SYD					
TOP COURSE AGG. WEAR INDEX (AWI) EL = 220 MIN					

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PLAN DATE: SEPTEMBER 2024
PROJECT MGR: DRS
REVIEWER: AJW
SCALE: NOT TO SCALE

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WASHTENAW COUNTY
DETAILS

REV:

SHT# 6 OF 19
JOB No: 2400478

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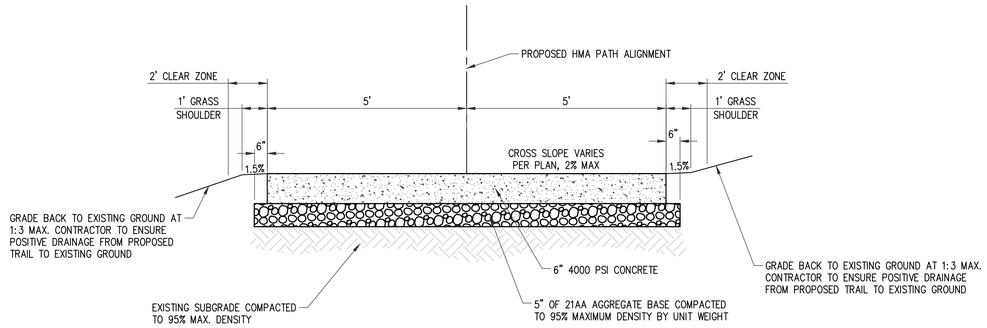
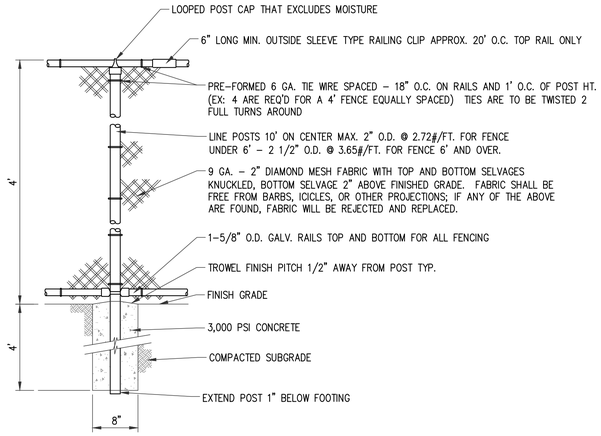


PROPOSED CONCRETE PATH CROSS SECTION

APPLIES TO STA 4+94 TO STA 5+29, AND STA 14+33 TO STA 16+22

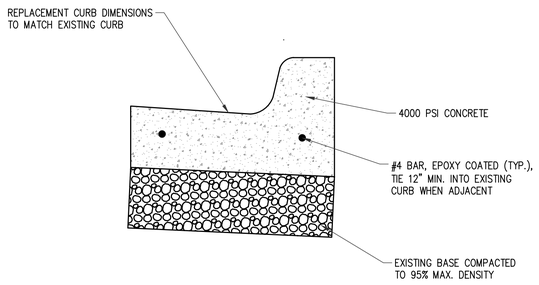
NOT TO SCALE



NOTES:
1. ALL POSTS AND RAILS TO BE SCHEDULE 40 OR APPROVED EQUAL
2. FENCE TO BE VINYL COATED
3. COLOR TO BE AS SELECTED BY OWNER

CHAIN LINK FENCE DETAIL

NOT TO SCALE



CURB REPLACEMENT DETAIL

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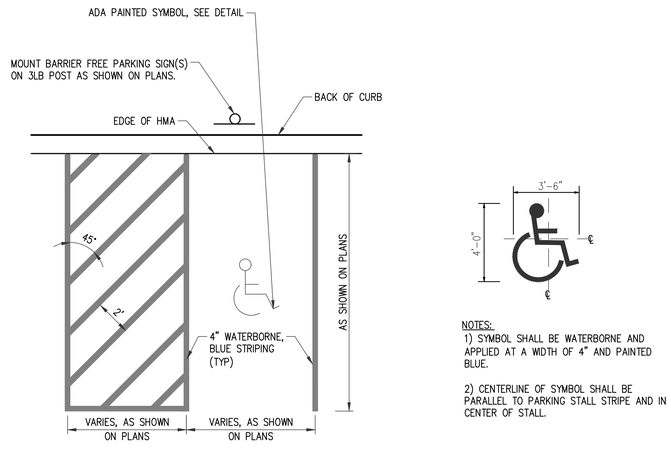

NOTES:
1) SYMBOL SHALL BE WATERBORNE AND APPLIED AT A WIDTH OF 4" AND PAINTED BLUE.

2) CENTERLINE OF SYMBOL SHALL BE PARALLEL TO PARKING STALL STRIPE AND IN CENTER OF STALL.

BARRIER FREE PARKING SIGNAGE, SYMBOL, AND PAVEMENT MARKINGS

NOT TO SCALE

Know what's **below.**
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PLAN SUBMITTALS AND CHANGES

BIDDING DOCUMENTS

DATE	DESCRIPTION
9/9/24	ISSUED FOR BIDS

REV:

SHT# 7 OF 19

JOB No: 2400478

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SURVEY NOTES:

VERTICAL DATUM IS NAVD88
HORIZONTAL DATUM IS MICHIGAN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE NAD83 (2011)
UNITS ARE INTERNATIONAL FEET.

BENCHMARK DATA TABLE

NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
BM 5	287382	13295515	772.83	CUT "X" TOP SOUTHWESTERLY ANCHOR BOLT LIGHT POLE BASE IN MEDIAN OF FULLER ROAD, 4'± SOUTH OF BACK OF CURB, 32'± WEST OF GAS PIPELINE MARKER
BM 6	287678	13295991	769.27	TURN ARROW ON HYDRANT, 8'± WEST OF FENCE AROUND POOL, 57'± NORTH OF MAILBOX #1519

TRAVERSE POINT DATA TABLE

NUMBER	NORTHING	EASTING	DESCRIPTION
TP 1	287580.1575	13295952.5755	SET 1/2" IRON WITH "ROWE TRAV" CAP IN CURB ISLAND, 45'± NORTH OF "FULLER PARK" ENTRANCE SIGN, 8'± EAST OF BACK OF CURB
TP 2	287509.9455	13295913.1475	SET 1/2" IRON WITH "ROWE TRAV" CAP, 45'± WEST NORTHWEST OF "FULLER PARK" ENTRANCE SIGN, 3'± WEST OF BACK OF CURB
TP 3	287452.6325	13295588.8255	SET 1/2" IRON WITH "ROWE TRAV" CAP, 45'± WEST OF "U OF M" ROAD SIGN, 8'± NORTH OF BACK OF CURB, FULLER ROAD
TP 4	287367.7535	13295213.2175	SET 1/2" IRON WITH "ROWE TRAV" CAP, 2.5'± NORTH OF STONE WALL, 270'± EAST OF CENTERLINE MAIDEN LANE
TP 7	287784.9345	13295902.4945	SET 1/2" IRON WITH "ROWE TRAV" CAP, 62'± NORTHWEST OF EASTERLY PILLAR OF SOLAR PANEL ARRAY, 8'± NORTHWEST OF NORTHWEST CORNER CONCRETE PAD
TP 8	287697.0825	13295686.9655	SET 1/2" IRON WITH "ROWE TRAV" CAP, 51'± WEST OF WESTERLY PILLAR OF SOLAR PANEL ARRAY, 4'± NORTHWEST OF BACK OF CURB
TP 9	287666.7815	13295451.1075	SET 1/2" IRON WITH "ROWE TRAV" CAP, 38'± WEST OF NO PARKING SIGN, 8'± EAST OF EDGE OF GRAVEL DRIVE

REMOVAL NOTES

1. CONTRACTOR SHALL POTHOLE ALL UNDERGROUND UTILITIES TO VERIFY LOCATION AND DEPTH PRIOR TO COMMENCEMENT OF SITE DEMOLITION.
2. THE CONTRACTOR IS TO LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION OPERATIONS. CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGES TO UTILITIES CAUSED BY THEIR WORK. CONTACT MISS DIG (1-800-482-7171) FOR CONFIRMATION OF UTILITY LOCATIONS.
3. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR DAMAGE TO ITEMS NOT SCHEDULED FOR REMOVAL. REPAIRS SHALL BE MADE AT THE CONTRACTOR'S OWN EXPENSE.
4. REMOVAL ITEMS SHOWN ARE BASED ON BEST AVAILABLE INFORMATION AND ARE SHOWN SCHEMATICALLY. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID TO BE FULLY FAMILIAR WITH THE EXTENT OF REMOVAL ITEMS. QUESTIONS REGARDING ITEMS TO BE REMOVED SHALL BE DIRECTED TO THE OWNER PRIOR TO CONSTRUCTION.
5. CLEARING AND DEMOLITION SHALL INCLUDE COMPLETE REMOVAL OF ALL ITEMS NOTED AND SHALL INCLUDE BACKFILL OF VOIDS WITH CLEAN CLASS II SAND.
6. ALL MATERIALS REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFF SITE IN ACCORDANCE WITH ALL APPLICABLE STANDARDS AND REGULATIONS.
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12. CONTRACTOR TO VERIFY WITH OWNER THAT THERE ARE NO KNOWN ENVIRONMENTAL CONCERNS ON-SITE.
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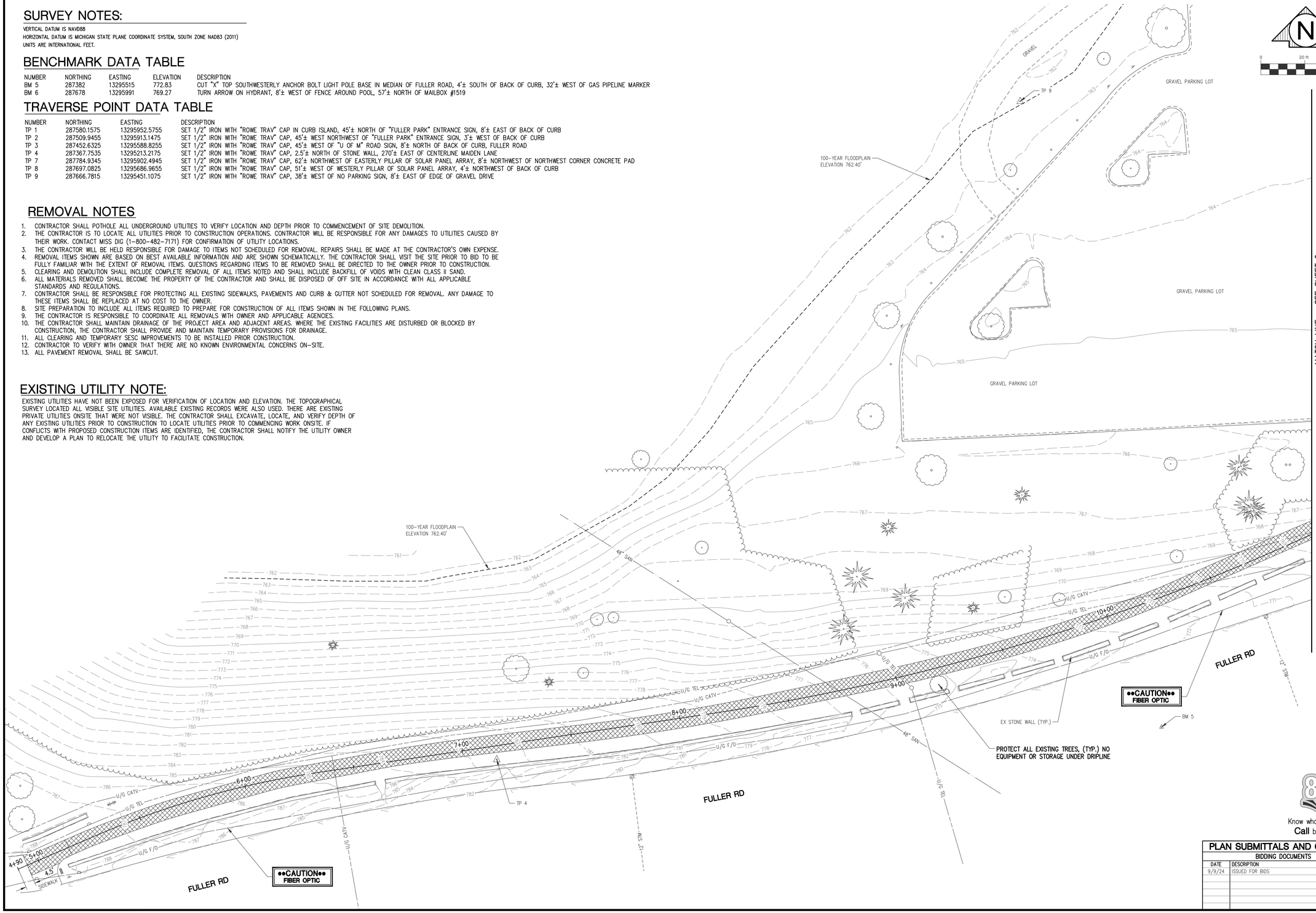
EXISTING UTILITY NOTE:

EXISTING UTILITIES HAVE NOT BEEN EXPOSED FOR VERIFICATION OF LOCATION AND ELEVATION. THE TOPOGRAPHICAL SURVEY LOCATED ALL VISIBLE SITE UTILITIES. AVAILABLE EXISTING RECORDS WERE ALSO USED. THERE ARE EXISTING PRIVATE UTILITIES ONSITE THAT WERE NOT VISIBLE. THE CONTRACTOR SHALL EXCAVATE, LOCATE, AND VERIFY DEPTH OF ANY EXISTING UTILITIES PRIOR TO CONSTRUCTION TO LOCATE UTILITIES PRIOR TO COMMENCING WORK ONSITE. IF CONFLICTS WITH PROPOSED CONSTRUCTION ITEMS ARE IDENTIFIED, THE CONTRACTOR SHALL NOTIFY THE UTILITY OWNER AND DEVELOP A PLAN TO RELOCATE THE UTILITY TO FACILITATE CONSTRUCTION.



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PLAN SUBMITTALS AND CHANGES

BIDDING DOCUMENTS

DATE	DESCRIPTION
9/9/24	ISSUED FOR BIDS

PLAN DATE: SEPTEMBER 2024
PROJECT MGR: DRS
REVIEWER: AJW
SCALE: 1" = 20'

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PREPARED FOR
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FULLER PARK IMPROVEMENTS
WASHTENAW COUNTY
EXISTING CONDITIONS AND REMOVALS

REV:

SHT# 8 OF 19
JOB No: 2400478

PLOTTED: 9/9/2024 4:20 PM
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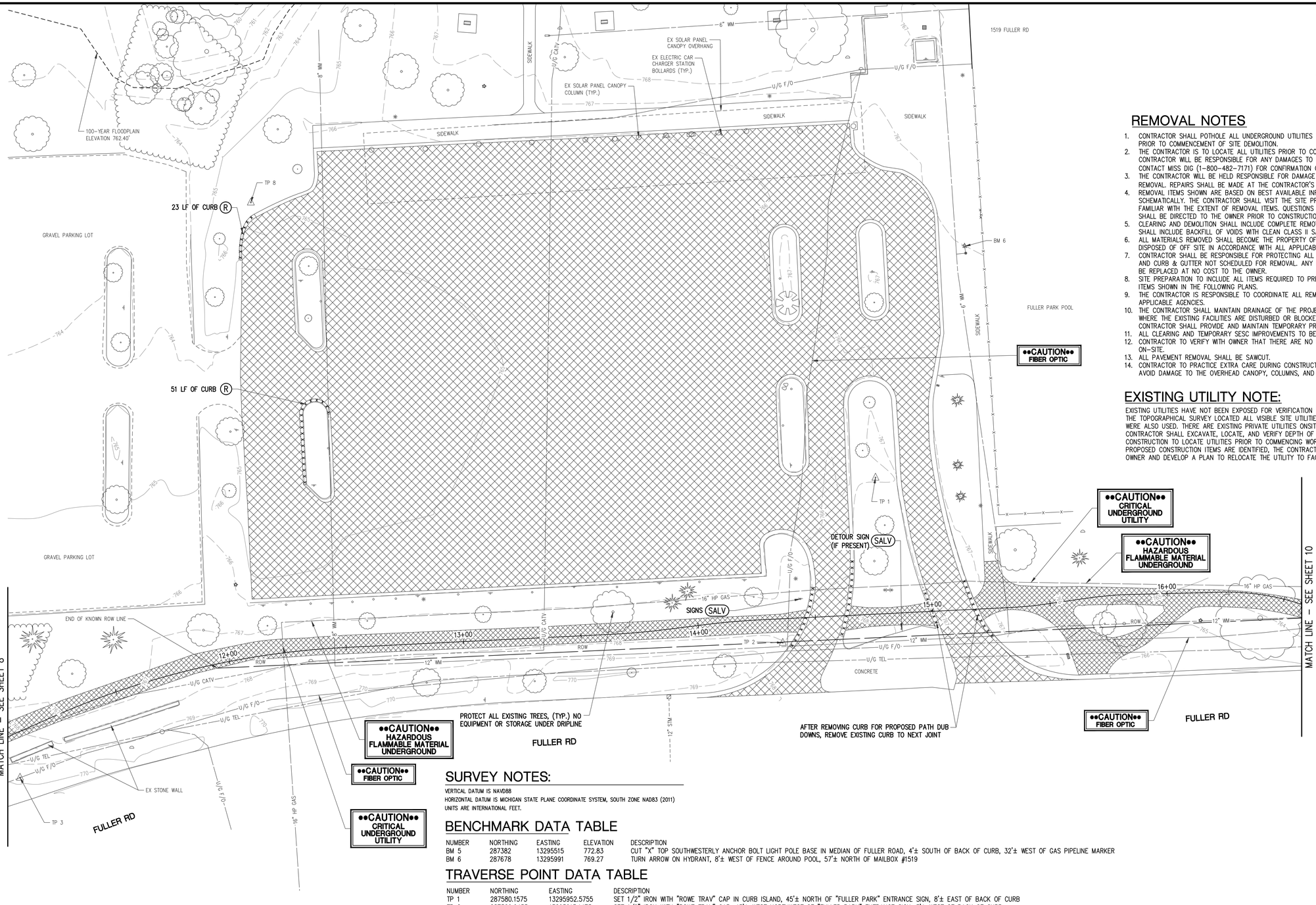

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14. CONTRACTOR TO PRACTICE EXTRA CARE DURING CONSTRUCTION IN NORTH SIDE OF LOT TO AVOID DAMAGE TO THE OVERHEAD CANOPY, COLUMNS, AND CHARGING STATIONS.

EXISTING UTILITY NOTE:

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SURVEY NOTES:

VERTICAL DATUM IS NAVD88
HORIZONTAL DATUM IS MICHIGAN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE NAD83 (2011)
UNITS ARE INTERNATIONAL FEET.

BENCHMARK DATA TABLE

NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
BM 5	287382	13295515	772.83	CUT "X" TOP SOUTHWESTERLY ANCHOR BOLT LIGHT POLE BASE IN MEDIAN OF FULLER ROAD, 4'± SOUTH OF BACK OF CURB, 32'± WEST OF GAS PIPELINE MARKER
BM 6	287678	13295991	769.27	TURN ARROW ON HYDRANT, 8'± WEST OF FENCE AROUND POOL, 57'± NORTH OF MAILBOX #1519

TRAVERSE POINT DATA TABLE

NUMBER	NORTHING	EASTING	DESCRIPTION
TP 1	287580.1575	13295952.5755	SET 1/2" IRON WITH "ROWE TRAV" CAP IN CURB ISLAND, 45'± NORTH OF "FULLER PARK" ENTRANCE SIGN, 8'± EAST OF BACK OF CURB
TP 2	287509.9455	13295913.1475	SET 1/2" IRON WITH "ROWE TRAV" CAP, 45'± WEST NORTHWEST OF "FULLER PARK" ENTRANCE SIGN, 3'± WEST OF BACK OF CURB
TP 3	287452.6325	13295588.8255	SET 1/2" IRON WITH "ROWE TRAV" CAP, 45'± WEST OF "U OF M" ROAD SIGN, 8'± NORTH OF BACK OF CURB, FULLER ROAD
TP 4	287367.7535	13295213.2175	SET 1/2" IRON WITH "ROWE TRAV" CAP, 2.5'± NORTH OF STONE WALL, 270'± EAST OF CENTERLINE MAIDEN LANE
TP 7	287784.9345	13295902.4945	SET 1/2" IRON WITH "ROWE TRAV" CAP, 62'± NORTHWEST OF EASTERLY PILLAR OF SOLAR PANEL ARRAY, 8'± NORTHWEST OF NORTHWEST CORNER CONCRETE PAD
TP 8	287697.0825	13295686.9655	SET 1/2" IRON WITH "ROWE TRAV" CAP, 51'± WEST OF WESTERLY PILLAR OF SOLAR PANEL ARRAY, 4'± NORTHWEST OF BACK OF CURB
TP 9	287666.7815	13295451.1075	SET 1/2" IRON WITH "ROWE TRAV" CAP, 38'± WEST OF NO PARKING SIGN, 8'± EAST OF EDGE OF GRAVEL DRIVE

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SHT# 9 OF 19
JOB No: 2400478

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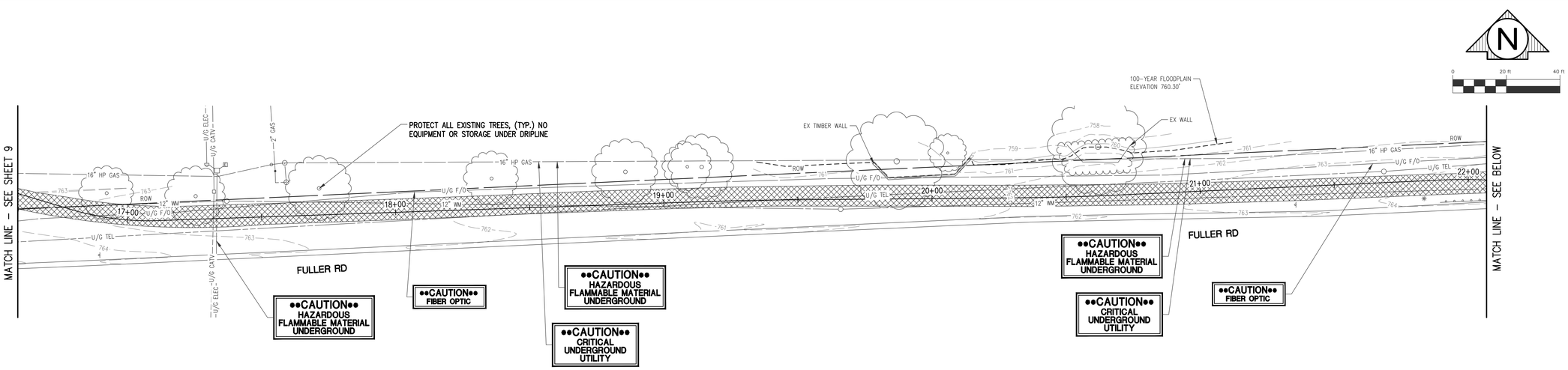

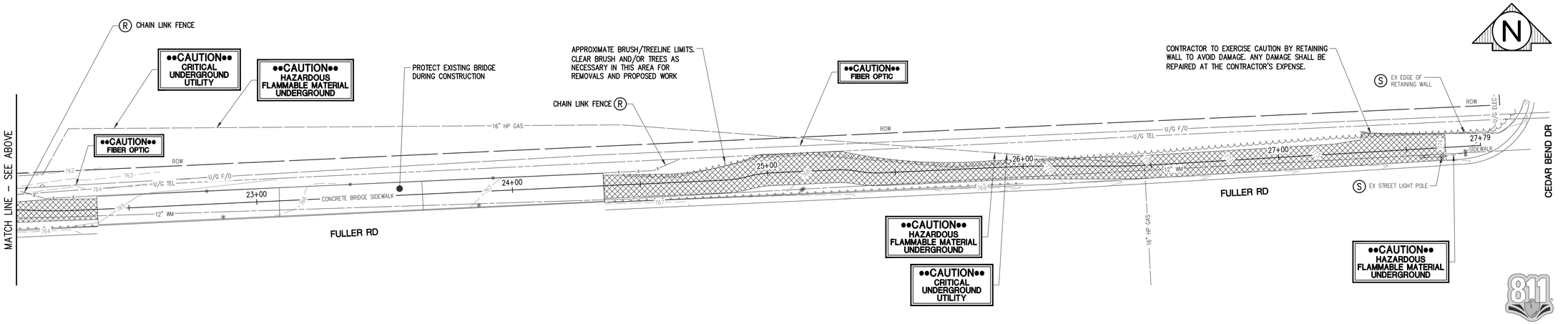

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WASHTENAW COUNTY
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REV:

SHT# 10 OF 19
JOB No: 2400478

PLOTTED: 9/9/2024 4:20 PM
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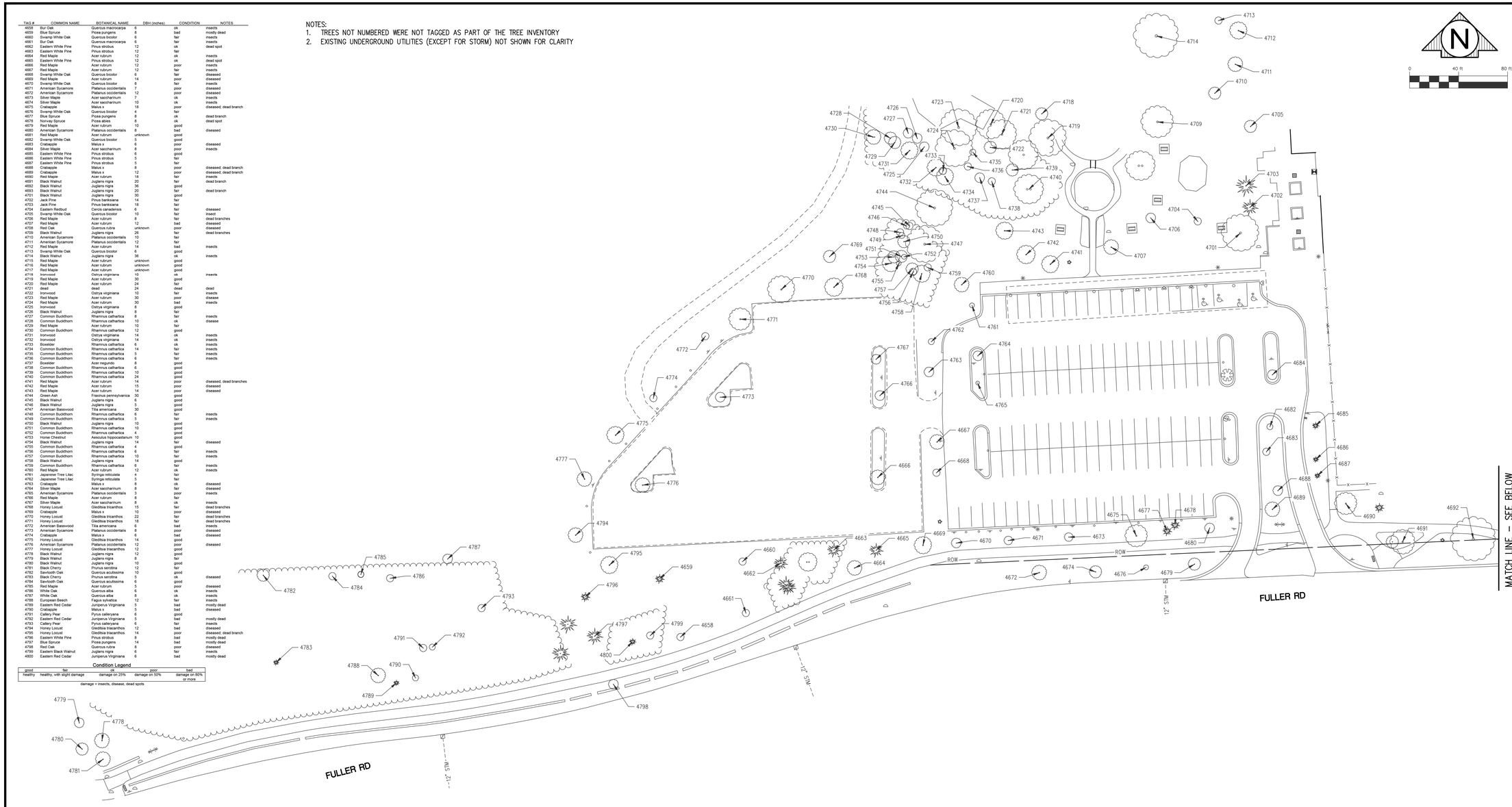
TAG #	COMMON NAME	BOTANICAL NAME	DBH (inches)	CONDITION	NOTES
4658	Bur Oak	Quercus macrocarpa	6	ok	insects
4659	Blue Spruce	Picea pungens	8	bad	mostly dead
4660	Swamp White Oak	Quercus bicolor	6	fair	insects
4661	Bur Oak	Quercus macrocarpa	6	fair	insects
4662	Eastern White Pine	Pinus strobus	12	ok	dead spot
4663	Eastern White Pine	Pinus strobus	12	fair	
4664	Red Maple	Acer rubrum	12	ok	insects
4665	Eastern White Pine	Pinus strobus	12	ok	dead spot
4666	Red Maple	Acer rubrum	12	poor	insects
4667	Red Maple	Acer rubrum	12	fair	insects
4668	Swamp White Oak	Quercus bicolor	6	fair	diseased
4669	Red Maple	Acer rubrum	14	poor	diseased
4670	Swamp White Oak	Quercus bicolor	8	fair	insects
4671	American Sycamore	Platanus occidentalis	7	poor	diseased
4672	American Sycamore	Platanus occidentalis	12	poor	diseased
4673	Silver Maple	Acer saccharinum	7	ok	insects
4674	Silver Maple	Acer saccharinum	10	ok	insects
4675	Crabapple	Malus x	18	poor	diseased; dead branch
4676	Swamp White Oak	Quercus bicolor	4	fair	
4677	Blue Spruce	Picea pungens	8	ok	dead branch
4678	Norway Spruce	Picea abies	8	ok	dead spot
4679	Red Maple	Acer rubrum	10	good	
4680	American Sycamore	Platanus occidentalis	8	bad	diseased
4681	Red Maple	Acer rubrum	unknown	good	
4682	Swamp White Oak	Quercus bicolor	5	good	
4683	Crabapple	Malus x	6	poor	diseased
4684	Silver Maple	Acer saccharinum	8	poor	insects
4685	Eastern White Pine	Pinus strobus	6	good	
4686	Eastern White Pine	Pinus strobus	5	fair	
4687	Eastern White Pine	Pinus strobus	5	fair	
4688	Crabapple	Malus x	8	poor	diseased; dead branch
4689	Crabapple	Malus x	12	poor	diseased; dead branch
4690	Red Maple	Acer rubrum	12	fair	insects
4691	Black Walnut	Juglans nigra	30	good	dead branch
4692	Black Walnut	Juglans nigra	36	good	
4693	Black Walnut	Juglans nigra	20	fair	dead branch
4701	Black Walnut	Juglans nigra	30	good	
4702	Jack Pine	Pinus banksiana	14	fair	
4703	Jack Pine	Pinus banksiana	18	fair	
4704	Eastern Redbud	Cercis canadensis	6	fair	diseased
4705	Swamp White Oak	Quercus bicolor	10	fair	insect
4706	Red Maple	Acer rubrum	8	fair	dead branches
4707	Red Maple	Acer rubrum	12	bad	diseased
4708	Red Oak	Quercus rubra	unknown	poor	diseased
4709	Black Walnut	Juglans nigra	26	fair	dead branches
4710	American Sycamore	Platanus occidentalis	10	fair	
4711	American Sycamore	Platanus occidentalis	12	fair	
4712	Red Maple	Acer rubrum	14	bad	insects
4713	Swamp White Oak	Quercus bicolor	6	good	
4714	Black Walnut	Juglans nigra	36	ok	insects
4715	Red Maple	Acer rubrum	unknown	good	
4716	Red Maple	Acer rubrum	unknown	good	
4717	Red Maple	Acer rubrum	unknown	good	
4718	Ironwood	Ostrya virginiana	10	ok	insects
4719	Red Maple	Acer rubrum	30	good	
4720	Red Maple	Acer rubrum	24	fair	
4721	dead	dead	24	dead	dead
4722	Ironwood	Ostrya virginiana	10	fair	insects
4723	Red Maple	Acer rubrum	30	poor	disease
4724	Red Maple	Acer rubrum	30	bad	insects
4725	Ironwood	Ostrya virginiana	8	good	
4726	Black Walnut	Juglans nigra	8	fair	
4727	Common Buckthorn	Rhamnus cathartica	8	fair	insects
4728	Common Buckthorn	Rhamnus cathartica	10	ok	disease
4729	Red Maple	Acer rubrum	10	fair	
4730	Common Buckthorn	Rhamnus cathartica	12	good	
4731	Ironwood	Ostrya virginiana	14	ok	insects
4732	Ironwood	Ostrya virginiana	14	ok	insects
4733	Boxelder	Rhamnus cathartica	6	ok	insects
4734	Common Buckthorn	Rhamnus cathartica	14	fair	insects
4735	Common Buckthorn	Rhamnus cathartica	6	fair	insects
4736	Common Buckthorn	Rhamnus cathartica	6	fair	insects
4737	Boxelder	Acer negundo	8	good	
4738	Common Buckthorn	Rhamnus cathartica	6	good	
4739	Common Buckthorn	Rhamnus cathartica	10	good	
4740	Common Buckthorn	Rhamnus cathartica	24	good	
4741	Red Maple	Acer rubrum	14	poor	diseased, dead branches
4742	Red Maple	Acer rubrum	15	poor	diseased
4743	Red Maple	Acer rubrum	14	poor	diseased
4744	Green Ash	Fraxinus pennsylvanica	30	good	
4745	Black Walnut	Juglans nigra	6	good	
4746	Black Walnut	Juglans nigra	5	good	
4747	American Basswood	Tilia americana	30	good	
4748	Common Buckthorn	Rhamnus cathartica	6	fair	insects
4749	Common Buckthorn	Rhamnus cathartica	5	fair	insects
4750	Black Walnut	Juglans nigra	10	good	
4751	Common Buckthorn	Rhamnus cathartica	10	good	
4752	Common Buckthorn	Rhamnus cathartica	4	good	
4753	Horse Chestnut	Aesculus hippocastanum	10	good	
4754	Black Walnut	Juglans nigra	14	fair	diseased
4755	Common Buckthorn	Rhamnus cathartica	4	good	
4756	Common Buckthorn	Rhamnus cathartica	6	fair	insects
4757	Common Buckthorn	Rhamnus cathartica	10	fair	insects
4758	Black Walnut	Juglans nigra	14	good	
4759	Common Buckthorn	Rhamnus cathartica	6	fair	insects
4760	Red Maple	Acer rubrum	12	ok	insects
4761	Japanese Tree Lilac	Syringa reticulata	4	fair	
4762	Japanese Tree Lilac	Syringa reticulata	5	fair	
4763	Crabapple	Malus x	8	ok	diseased
4764	Silver Maple	Acer saccharinum	8	fair	diseased
4765	American Sycamore	Platanus occidentalis	3	poor	insects
4766	Red Maple	Acer rubrum	8	fair	
4767	Silver Maple	Acer saccharinum	8	ok	insects
4768	Honey Locust	Gleditsia triacanthos	15	fair	dead branches
4769	Crabapple	Malus x	10	poor	diseased
4770	Honey Locust	Gleditsia triacanthos	22	fair	dead branches
4771	Honey Locust	Gleditsia triacanthos	18	fair	dead branches
4772	American Basswood	Tilia americana	6	bad	insects
4773	American Sycamore	Platanus occidentalis	8	poor	diseased
4774	Crabapple	Malus x	6	poor	diseased
4775	Honey Locust	Gleditsia triacanthos	14	good	
4776	American Sycamore	Platanus occidentalis	12	poor	diseased
4777	Honey Locust	Gleditsia triacanthos	12	good	
4778	Black Walnut	Juglans nigra	12	good	
4779	Black Walnut	Juglans nigra	8	fair	
4780	Black Walnut	Juglans nigra	10	good	
4781	Black Cherry	Prunus serotina	12	fair	
4782	Sawtooth Oak	Quercus acutissima	10	good	
4783	Black Cherry	Prunus serotina	5	ok	diseased
4784	Sawtooth Oak	Quercus acutissima	6	good	
4785	Red Maple	Acer rubrum	5	poor	diseased
4786	White Oak	Quercus alba	6	ok	insects
4787	White Oak	Quercus alba	8	ok	insects
4788	European Beech	Fagus sylvatica	12	fair	insects
4789	Eastern Red Cedar	Juniperus Virginiana	5	bad	mostly dead
4790	Crabapple	Malus x	5	bad	diseased
4791	Callery Pear	Pyrus calleryana	6	good	
4792	Eastern Red Cedar	Juniperus Virginiana	5	bad	mostly dead
4793	Callery Pear	Pyrus calleryana	6	fair	insects
4794	Honey Locust	Gleditsia triacanthos	12	bad	diseased
4795	Honey Locust	Gleditsia triacanthos	14	poor	diseased; dead branch
4796	Eastern White Pine	Pinus strobus	8	bad	mostly dead
4797	Blue Spruce	Picea pungens	14	bad	mostly dead
4798	Red Oak	Quercus rubra	8	poor	diseased
4799	Eastern Black Walnut	Juglans nigra	6	fair	insects
4800	Eastern Red Cedar	Juniperus Virginiana	6	bad	mostly dead

Condition Legend

good	fair	ok	poor	bad
healthy	healthy, with slight damage	damage on 25%	damage on 50%	damage on 80% or more

damage = insects, disease, dead spots

NOTES:
1. TREES NOT NUMBERED WERE NOT TAGGED AS PART OF THE TREE INVENTORY
2. EXISTING UNDERGROUND UTILITIES (EXCEPT FOR STORM) NOT SHOWN FOR CLARITY



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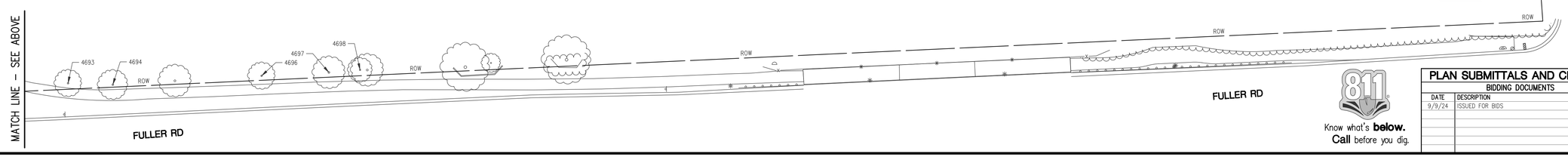

Know what's **below.** **Call** before you dig.

PLAN SUBMITTALS AND CHANGES	
BIDDING DOCUMENTS	
DATE	DESCRIPTION
9/9/24	ISSUED FOR BIDS

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The Rowe Building
540 S. Saginaw St., Suite 200
Flint, MI 48502
O: (810) 341-7500
www.rowepsc.com

PLAN DATE: SEPTEMBER 2024
PROJECT MGR: DRS
REVIEWER: AJW
SCALE: 1" = 40'

PREPARED FOR
ANN ARBOR PARKS AND RECREATION
FULLER PARK IMPROVEMENTS
WASHTENAW COUNTY
TREE INVENTORY

REV:

SHT# 11 OF 19
JOB No: 2400478

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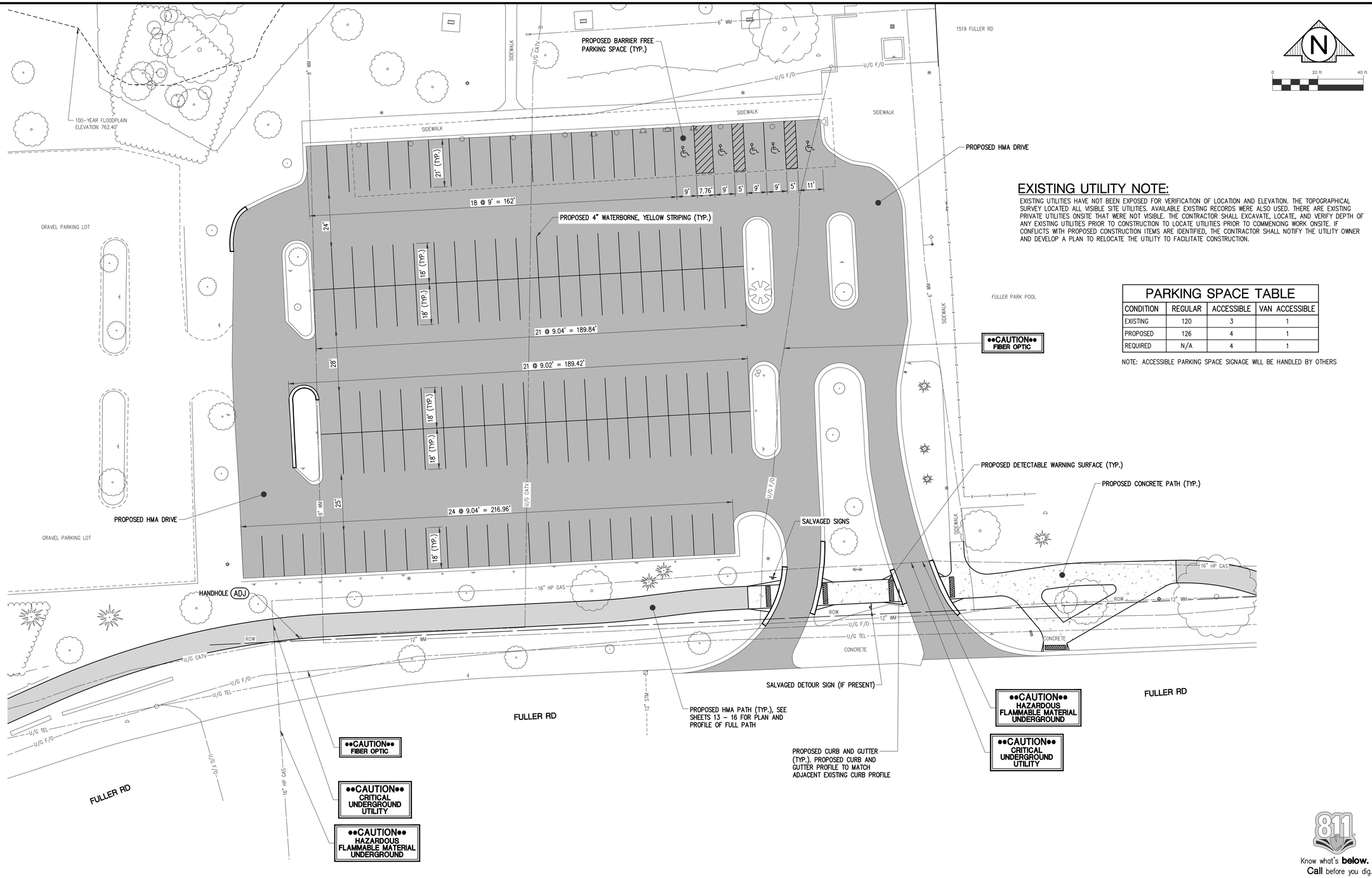
PLOTTED: 9/9/2024 4:20 PM



EXISTING UTILITY NOTE:

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PARKING SPACE TABLE

CONDITION	REGULAR	ACCESSIBLE	VAN ACCESSIBLE
EXISTING	120	3	1
PROPOSED	126	4	1
REQUIRED	N/A	4	1

NOTE: ACCESSIBLE PARKING SPACE SIGNAGE WILL BE HANDLED BY OTHERS

Know what's **below.** **Call** before you dig.

PLAN SUBMITTALS AND CHANGES

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9/9/24	ISSUED FOR BIDS

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SHT# 12 OF 19

JOB No: 2400478

PLAN DATE: SEPTEMBER 2024
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REVIEWER: AJW
SCALE: 1" = 20'

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WASHTENAW COUNTY
PARKING LOT SITE PLAN

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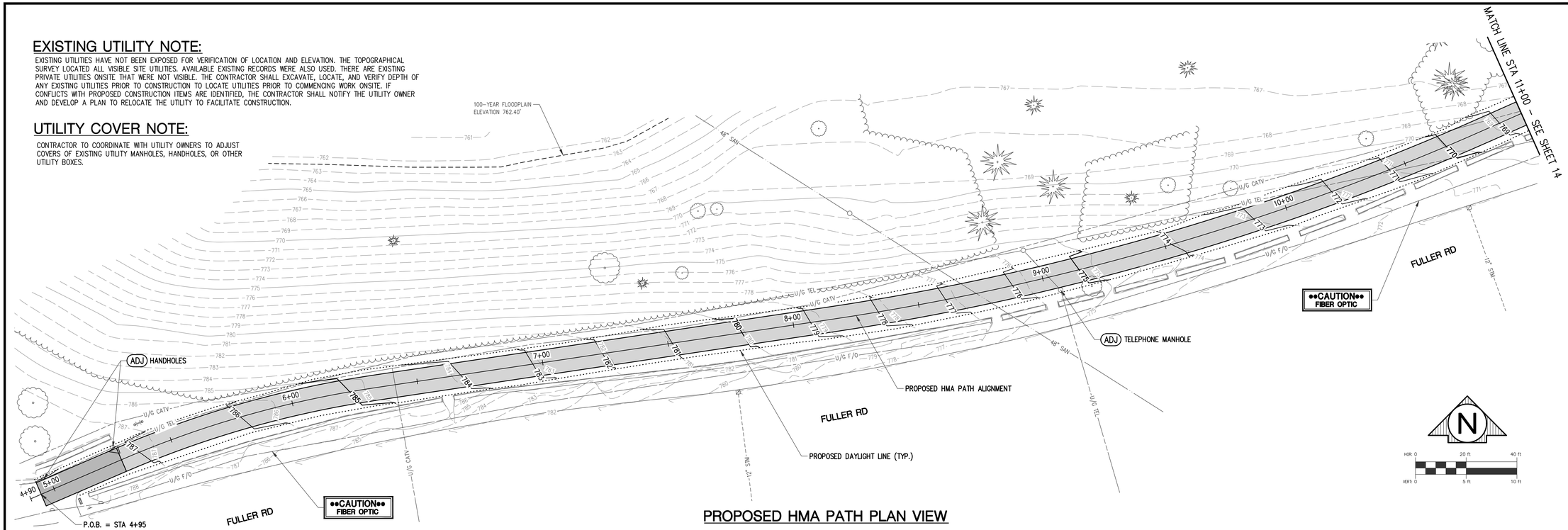
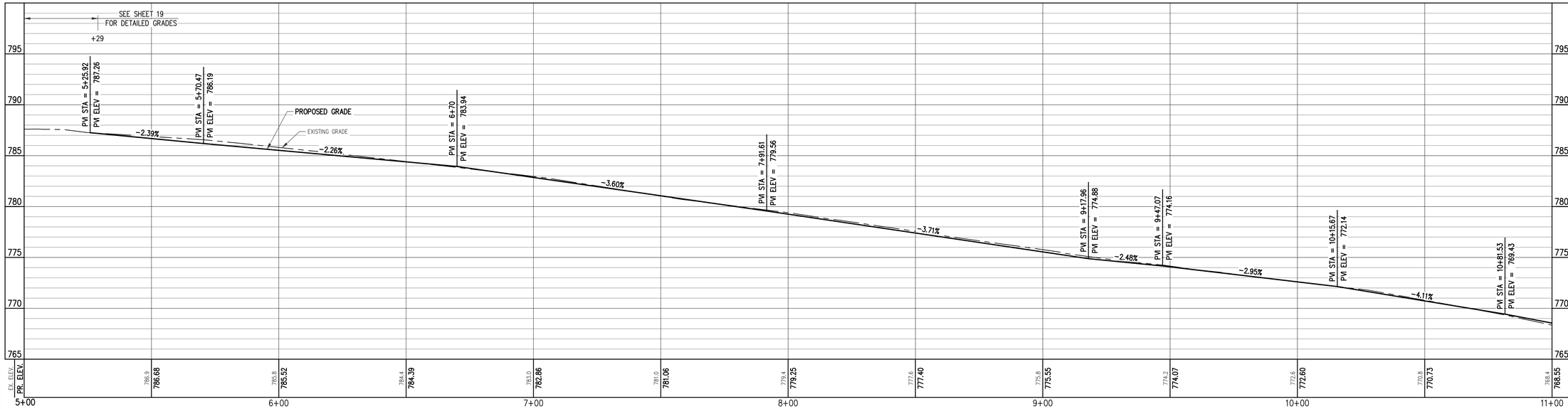
CONTRACTOR TO COORDINATE WITH UTILITY OWNERS TO ADJUST COVERS OF EXISTING UTILITY MANHOLES, HANDHOLES, OR OTHER UTILITY BOXES.



PROPOSED HMA PATH PLAN VIEW



PROPOSED HMA PATH PROFILE VIEW
STA 5+00 - 11+00

811 Know what's **below.** **Call** before you dig.

PLAN SUBMITTALS AND CHANGES	
BIDDING DOCUMENTS	
DATE	DESCRIPTION
9/9/24	ISSUED FOR BIDS

PLAN DATE: SEPTEMBER 2024
PROJECT MGR: DRS
REVIEWER: AJW
SCALE: 1"=20' HORZ; 1"=5' VERT

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WASHTENAW COUNTY
PROPOSED PATH PLAN AND PROFILE

REV:

SHT# 13 OF 19

JOB No: 2400478

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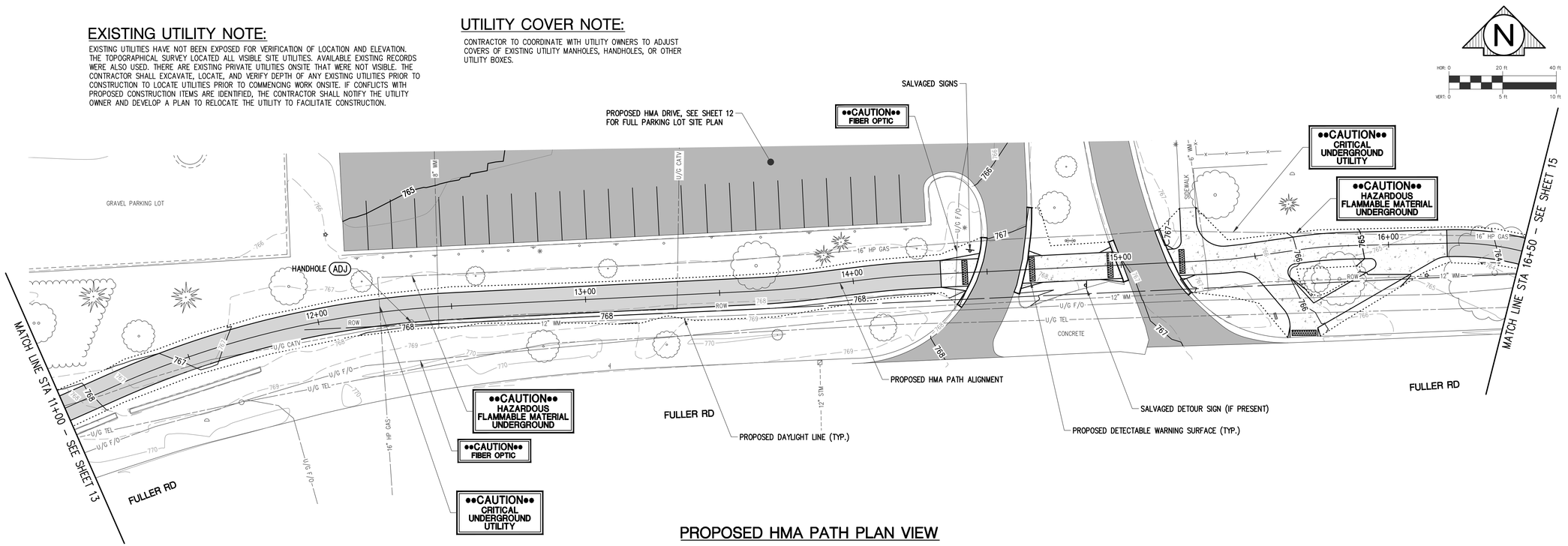
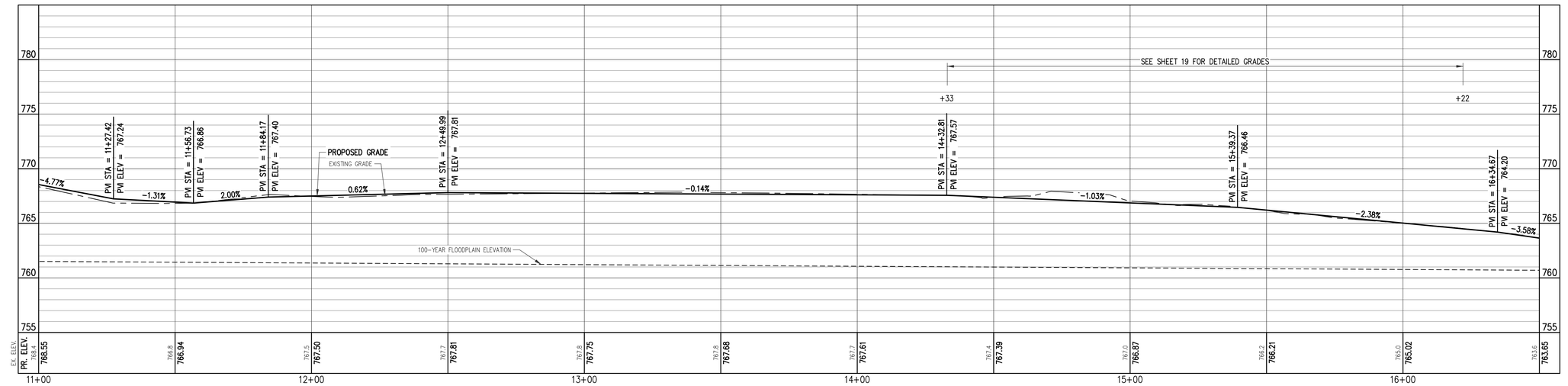


PROPOSED HMA PATH PLAN VIEW



PROPOSED HMA PATH PROFILE VIEW
STA 11+00 - 16+50

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PLAN SUBMITTALS AND CHANGES

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REVIEWER: AJW
SCALE: 1"=20' HORZ; 1"=5' VERT

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FULLER PARK IMPROVEMENTS
WASHTENAW COUNTY
PROPOSED PATH PLAN AND PROFILE

REV:

SHT# 14 OF 19
JOB No: 2400478

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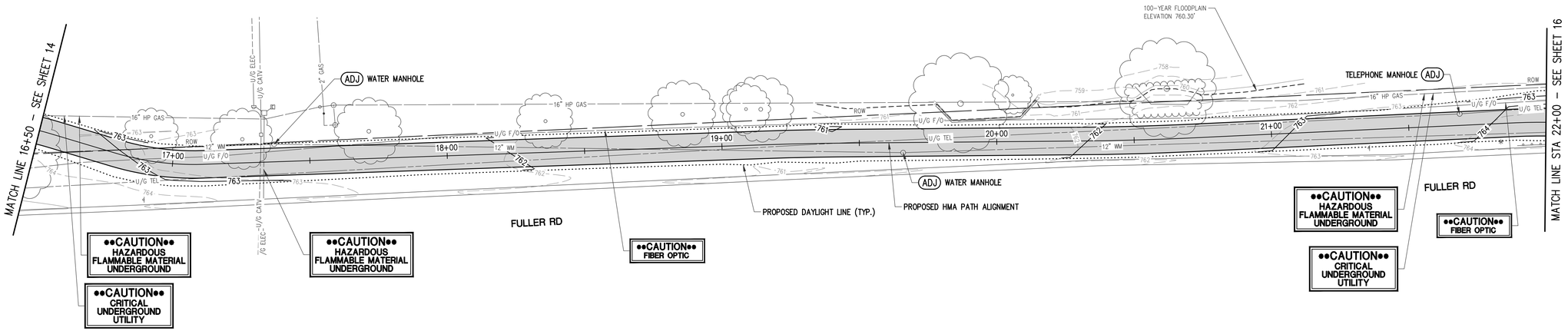
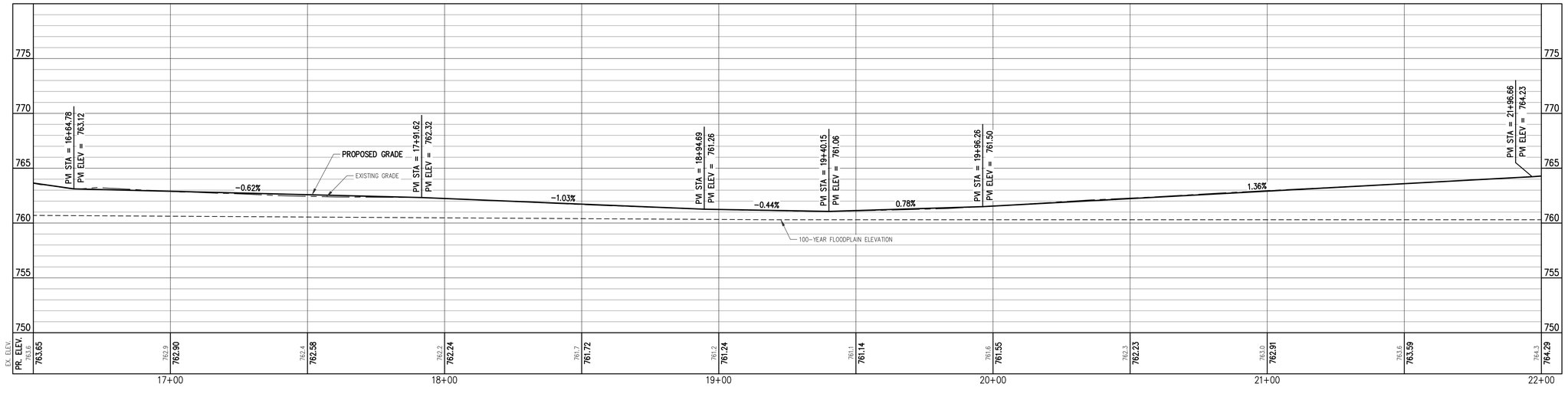


PROPOSED HMA PATH PLAN VIEW



PROPOSED HMA PATH PROFILE VIEW
STA 16+50 - 22+00

Know what's **below.**
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PLAN SUBMITTALS AND CHANGES

BIDDING DOCUMENTS

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JOB No: 2400478

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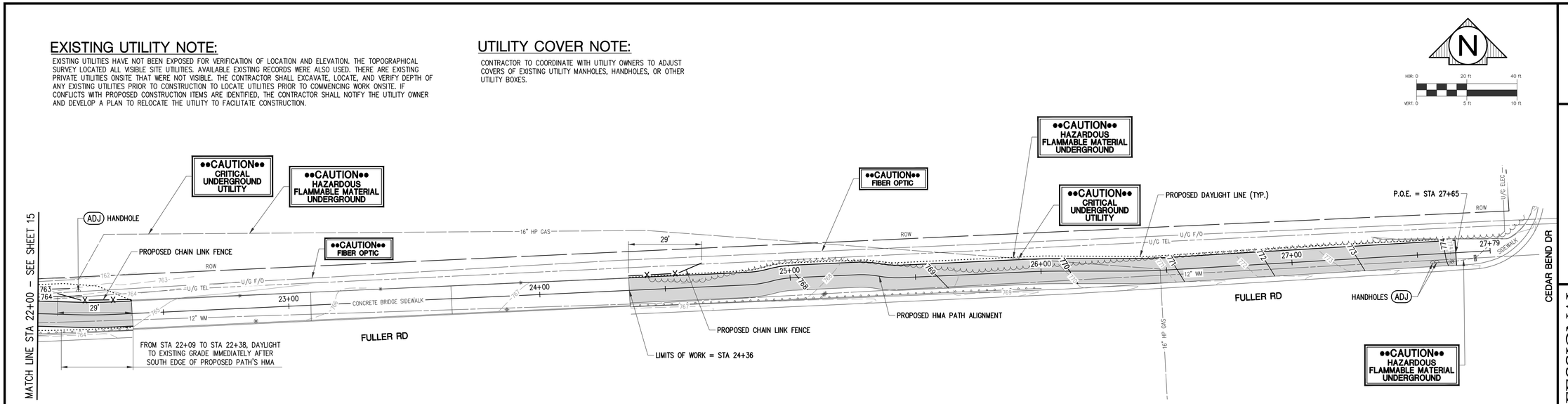
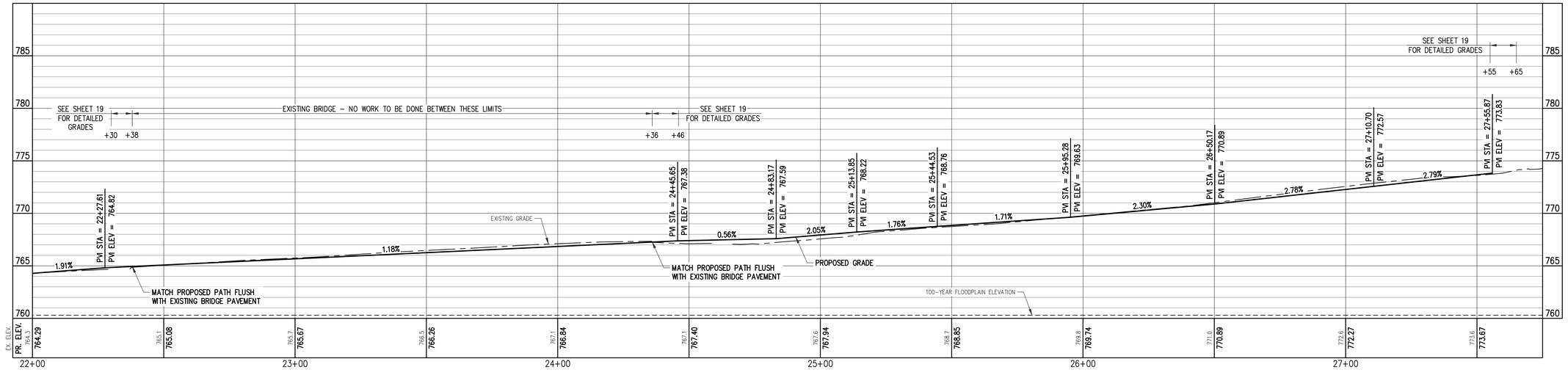


PROPOSED HMA PATH PLAN VIEW



PROPOSED HMA PATH PROFILE VIEW
STA 22+00 - 27+75

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WASHTENAW COUNTY
PROPOSED PATH PLAN AND PROFILE

REV:

SHT# 16 OF 19

JOB No: 2400478

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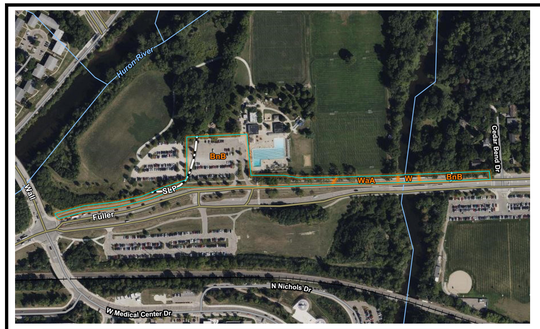


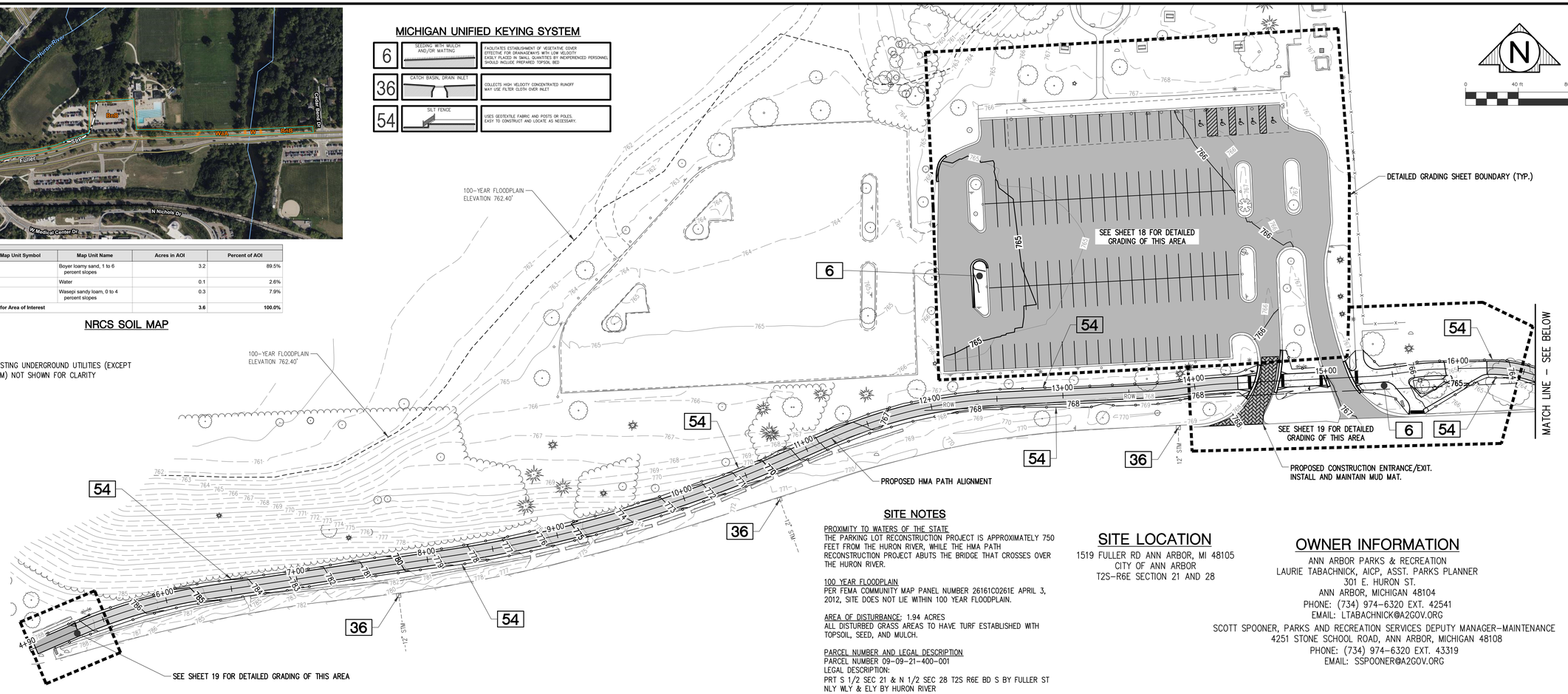
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BnB	Boyer loamy sand, 1 to 6 percent slopes	3.2	89.5%
W	Water	0.1	2.6%
WaA	Wasepi sandy loam, 0 to 4 percent slopes	0.3	7.9%
Totals for Area of Interest		**3.6**	**100.0%**

NRCS SOIL MAP

MICHIGAN UNIFIED KEYING SYSTEM

6	SEEDING WITH MULCH AND/OR MATTING	FACILITATES ESTABLISHMENT OF VEGETATIVE COVER EFFECTIVE FOR DRAINAGEWAYS WITH LOW VELOCITY EASILY PLACED IN SMALL QUANTITIES BY INEXPERIENCED PERSONNEL SHOULD INCLUDE PREPARED TOPSOIL BED
36	CATCH BASIN, DRAIN INLET	COLLECTS HIGH VELOCITY CONCENTRATED RUNOFF MAY USE FILTER CLOTH OVER INLET
54	SILT FENCE	USES GEOTEXTILE FABRIC AND POSTS OR POLES. EASY TO CONSTRUCT AND LOCATE AS NECESSARY.

NOTE: EXISTING UNDERGROUND UTILITIES (EXCEPT FOR STORM) NOT SHOWN FOR CLARITY



SITE NOTES

PROXIMITY TO WATERS OF THE STATE
THE PARKING LOT RECONSTRUCTION PROJECT IS APPROXIMATELY 750 FEET FROM THE HURON RIVER, WHILE THE HMA PATH RECONSTRUCTION PROJECT ABUTS THE BRIDGE THAT CROSSES OVER THE HURON RIVER.

100 YEAR FLOODPLAIN
PER FEMA COMMUNITY MAP PANEL NUMBER 26161C0261E APRIL 3, 2012, SITE DOES NOT LIE WITHIN 100 YEAR FLOODPLAIN.

AREA OF DISTURBANCE: 1.94 ACRES
ALL DISTURBED GRASS AREAS TO HAVE TURF ESTABLISHED WITH TOPSOIL, SEED, AND MULCH.

PARCEL NUMBER AND LEGAL DESCRIPTION
PARCEL NUMBER 09-09-21-400-001
LEGAL DESCRIPTION:
PRT S 1/2 SEC 21 & N 1/2 SEC 28 T2S R6E BD S BY FULLER ST NLY WLY & ELY BY HURON RIVER

SITE LOCATION

1519 FULLER RD ANN ARBOR, MI 48105
CITY OF ANN ARBOR
T2S-R6E SECTION 21 AND 28

OWNER INFORMATION

ANN ARBOR PARKS & RECREATION
LAURIE TABACHNICK, AICP, ASST. PARKS PLANNER
301 E. HURON ST.
ANN ARBOR, MICHIGAN 48104
PHONE: (734) 974-6320 EXT. 42541
EMAIL: LTABACHNICK@A2GOV.ORG
SCOTT SPOONER, PARKS AND RECREATION SERVICES DEPUTY MANAGER-MAINTENANCE
4251 STONE SCHOOL ROAD, ANN ARBOR, MICHIGAN 48108
PHONE: (734) 974-6320 EXT. 43319
EMAIL: SSPOONER@A2GOV.ORG

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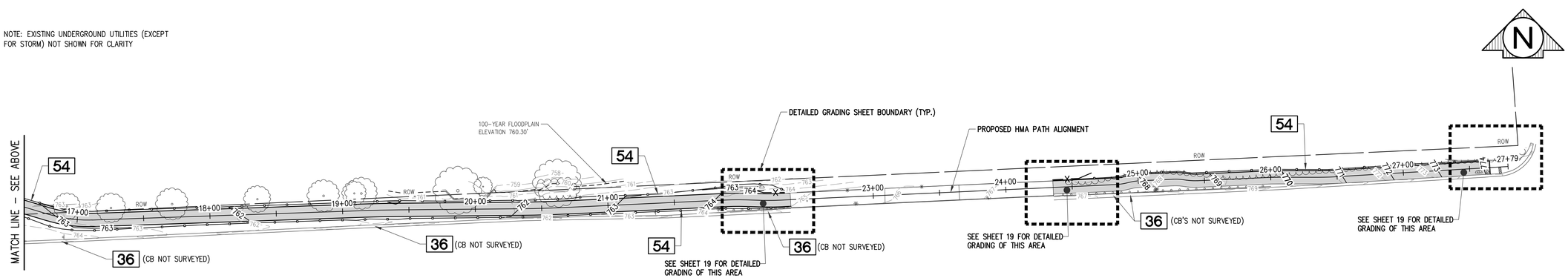

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PLAN SUBMITTALS AND CHANGES

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REV:

SHT# 17 OF 19

JOB No: 2400478

PLAN DATE: SEPTEMBER 2024
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REVIEWER: AJW
SCALE: 1" = 40'

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PREPARED FOR
ANN ARBOR PARKS AND RECREATION FULLER PARK IMPROVEMENTS
WASHTENAW COUNTY
OVERALL GRADING AND SESC SHEET

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EXISTING UTILITY NOTE:

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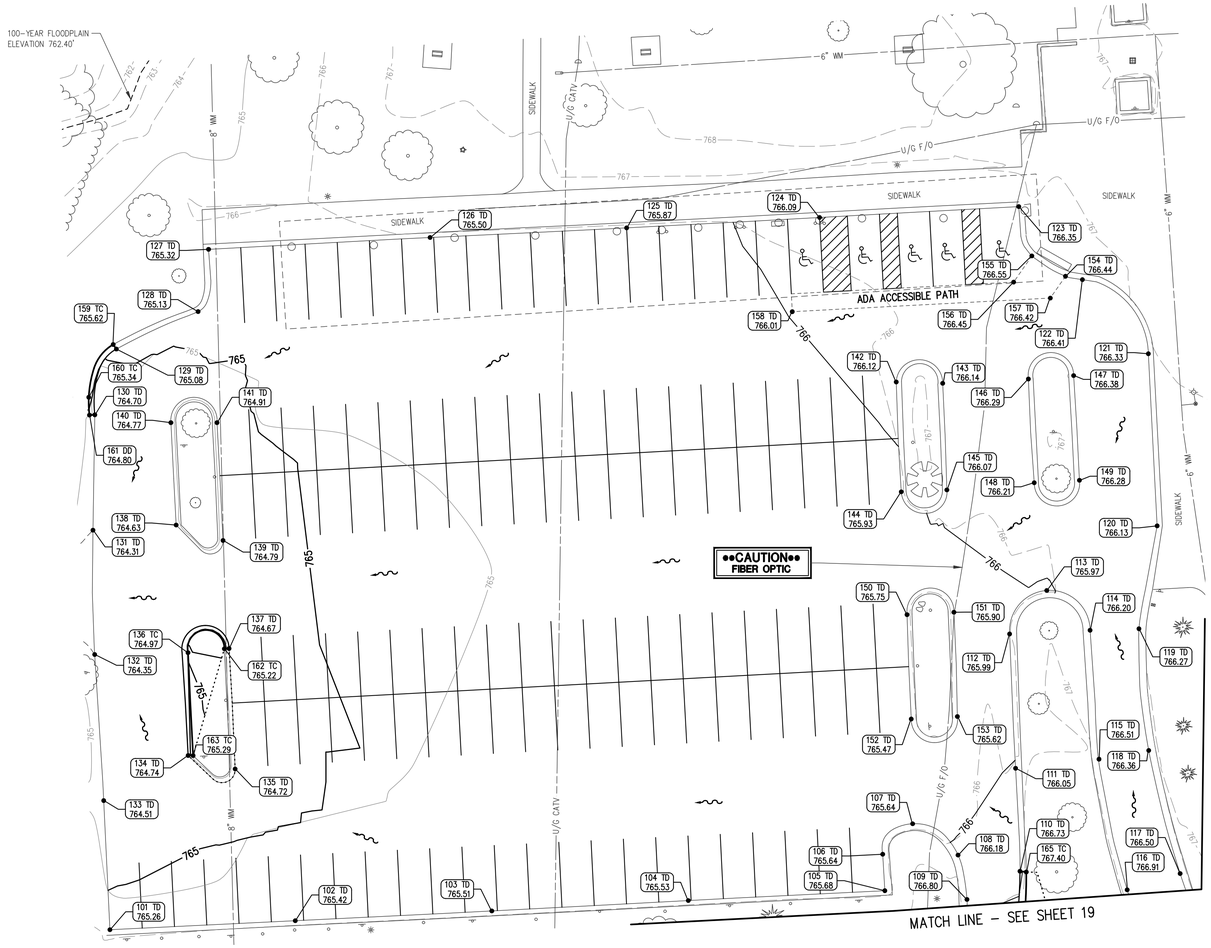

GRADING TABLE				
POINT	ELEVATION	DESCRIPTION	NORTHING	EASTING
101	TD=765.26	ME	287528.51	13295687.49
102	TD=765.42	ME	287531.03	13295739.30
103	TD=765.51	ME	287533.75	13295794.23
104	TD=765.53	ME	287536.66	13295849.15
105	TD=765.68	ME	287539.41	13295904.08
106	TD=765.64	ME	287549.61	13295903.48
107	TD=765.64	ME	287558.13	13295911.85
108	TD=766.18	ME	287549.38	13295924.54
109	TD=766.80	ME	287536.97	13295927.03
110	TD=766.73	ME	287544.85	13295941.85
111	TD=766.05	ME	287573.63	13295940.62
112	TD=765.99	ME	287611.18	13295938.95
113	TD=765.97	ME	287623.34	13295949.33
114	TD=766.20	ME	287612.22	13295961.44
115	TD=766.51	ME	287576.18	13295963.94
116	TD=766.91	ME	287539.66	13295971.81
117	TD=766.50	ME	287544.20	13295986.61
118	TD=766.36	ME	287578.62	13295977.83
119	TD=766.27	ME	287612.64	13295975.10
120	TD=766.13	ME	287641.40	13295980.19
121	TD=766.33	ME	287689.52	13295977.74
122	TD=766.41	ME	287710.24	13295959.30
123	TD=766.35	ME	287730.65	13295941.51
124	TD=766.09	ME	287727.61	13295885.83
125	TD=765.87	ME	287724.71	13295831.91
126	TD=765.50	ME	287722.02	13295776.98
127	TD=765.32	ME	287718.71	13295715.07
128	TD=765.13	ME	287701.30	13295712.14
129	TD=765.08	ME	287690.83	13295689.29
130	TD=764.70	ME	287672.45	13295683.28
131	TD=764.31	ME	287640.19	13295682.75
132	TD=764.35	ME	287605.43	13295683.24
133	TD=764.51	ME	287564.59	13295685.75
134	TD=764.74	ME	287577.21	13295709.36
135	TD=764.72	ME	287573.43	13295722.49
136	TC=764.97		287605.96	13295709.32
137	TD=764.67	ME	287607.11	13295720.79
138	TD=764.63	ME	287641.64	13295706.01
139	TD=764.79	ME	287637.32	13295719.11
140	TD=764.77	ME	287670.26	13295704.53
141	TD=764.91	ME	287670.25	13295717.43
142	TD=766.12	ME	287681.63	13295907.27
143	TD=766.14	ME	287681.25	13295920.24
144	TD=765.93	ME	287650.92	13295908.67
145	TD=766.07	ME	287651.45	13295921.42
146	TD=766.29	ME	287682.46	13295944.20
147	TD=766.38	ME	287683.41	13295956.85
148	TD=766.21	ME	287653.46	13295945.84
149	TD=766.28	ME	287654.15	13295958.46
150	TD=765.75	ME	287616.58	13295910.29
151	TD=765.90	ME	287617.25	13295923.39
152	TD=765.47	ME	287587.41	13295911.46
153	TD=765.62	ME	287588.11	13295924.36
154	TD=766.44	ME	287711.18	13295954.57
155	TD=766.55	ME	287716.87	13295945.17
156	TD=766.45		287709.55	13295940.09
157	TD=766.42		287705.08	13295950.33
158	TD=766.01		287701.28	13295878.21
159	TC=765.62	ME	287692.10	13295688.41
160	TC=765.34		287677.35	13295681.59
161	DD=764.80	TC	287672.37	13295681.78
162	TC=765.22	ME	287607.04	13295719.48
163	TC=765.29	ME	287577.17	13295710.75
165	TC=767.40	ME	287544.64	13295943.61

GRADING LEGEND

TC – TOP OF CURB
TD – TOP OF HMA DRIVE
PA – TOP OF HMA PATH
PC – POINT OF CURVATURE
DD – DUB DOWN (ADD 0.45' FOR FULL HEIGHT CURB)
CO – TOP OF CONCRETE PATH
ME – MATCH EXISTING
~~~ FLOW DIRECTION

N
0 20 ft 40 ft

Know what's **below.** **Call** before you dig.

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540 S. Saginaw St., Suite 200
Flint, MI 48502
O: (810) 341-7500
www.rowepsc.com

PLAN DATE: SEPTEMBER 2024
PROJECT MGR: DRS
REVIEWER: AJW
SCALE: 1" = 20'

PREPARED FOR
ANN ARBOR PARKS AND RECREATION
FULLER PARK IMPROVEMENTS
WASHTENAW COUNTY
DETAILED GRADING PLAN

REV:

SHT# 18 OF 19

JOB No: 2400478

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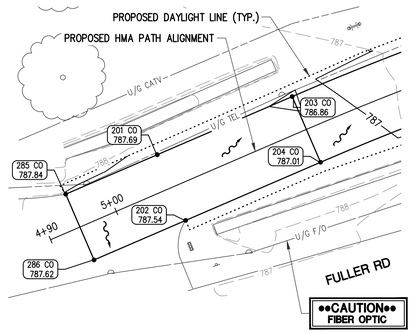
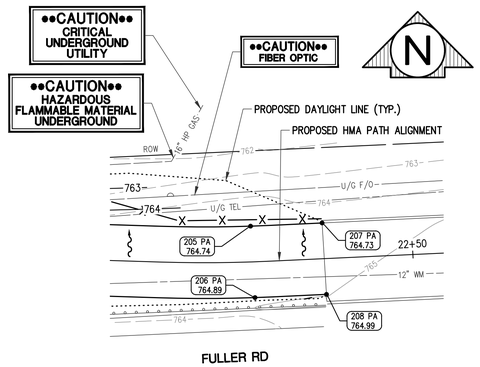
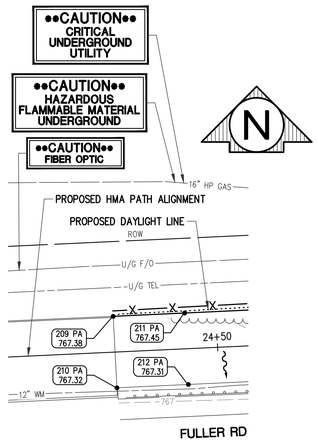


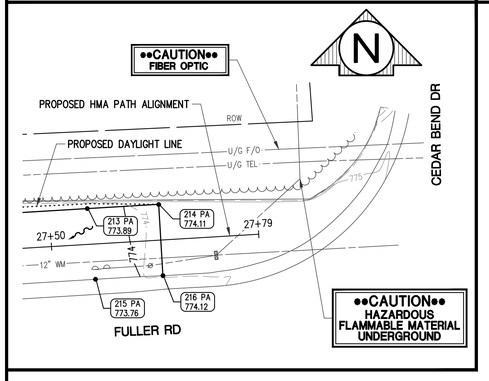




GRADING TABLE				
POINT	ELEVATION	DESCRIPTION	STATION	OFFSET
201	CO=787.69		5+08.40	5.00' L
202	CO=787.54	ME	5+08.40	5.00' R
203	CO=786.86	PA	5+28.92	5.00' L
204	CO=787.01	PA	5+28.92	5.00' R
205	PA=764.74		22+27.46	5.00' L
206	PA=764.89		22+27.74	5.00' R
207	PA=764.73	ME	22+37.53	5.00' L
208	PA=764.99	ME	22+37.68	5.00' R
209	PA=767.38	ME	24+35.62	5.00' L
210	PA=767.32	ME	24+35.68	5.00' R
211	PA=767.45		24+45.62	5.00' L
212	PA=767.31		24+45.68	5.00' R
213	PA=773.89		27+55.31	5.00' L
214	PA=774.11	ME	27+65.31	4.97' L
215	PA=773.76		27+55.87	4.93' R
216	PA=774.12	ME	27+65.31	4.99' R
217	CO=767.49	PA	14+32.81	5.00' L
218	CO=767.64	PA	14+32.81	5.00' R
219	TC=767.51	ME	14+48.48	12.86' L
220	TD=766.98	ME	14+50.64	12.59' L
221	TC=767.70	CO	14+47.54	6.92' L
222	DD=767.32	TC, CO	14+47.00	5.00' L
223	DD=767.52	TC, CO	14+42.81	5.00' R
224	TC=768.01	CO	14+41.83	6.74' R
225	TC=768.24	ME	14+38.36	11.65' R
226	TD=767.73	ME	14+39.86	12.84' R
227	TD=768.03	ME	14+26.26	24.74' R
228	TD=768.12	ME	14+00.11	30.80' R
229	TD=767.98	ME	14+34.01	31.99' R
230	TD=767.71	ME	14+54.73	32.12' R
231	TD=767.64	ME	14+59.70	8.09' R
232	TC=768.18	ME	14+61.64	8.93' R

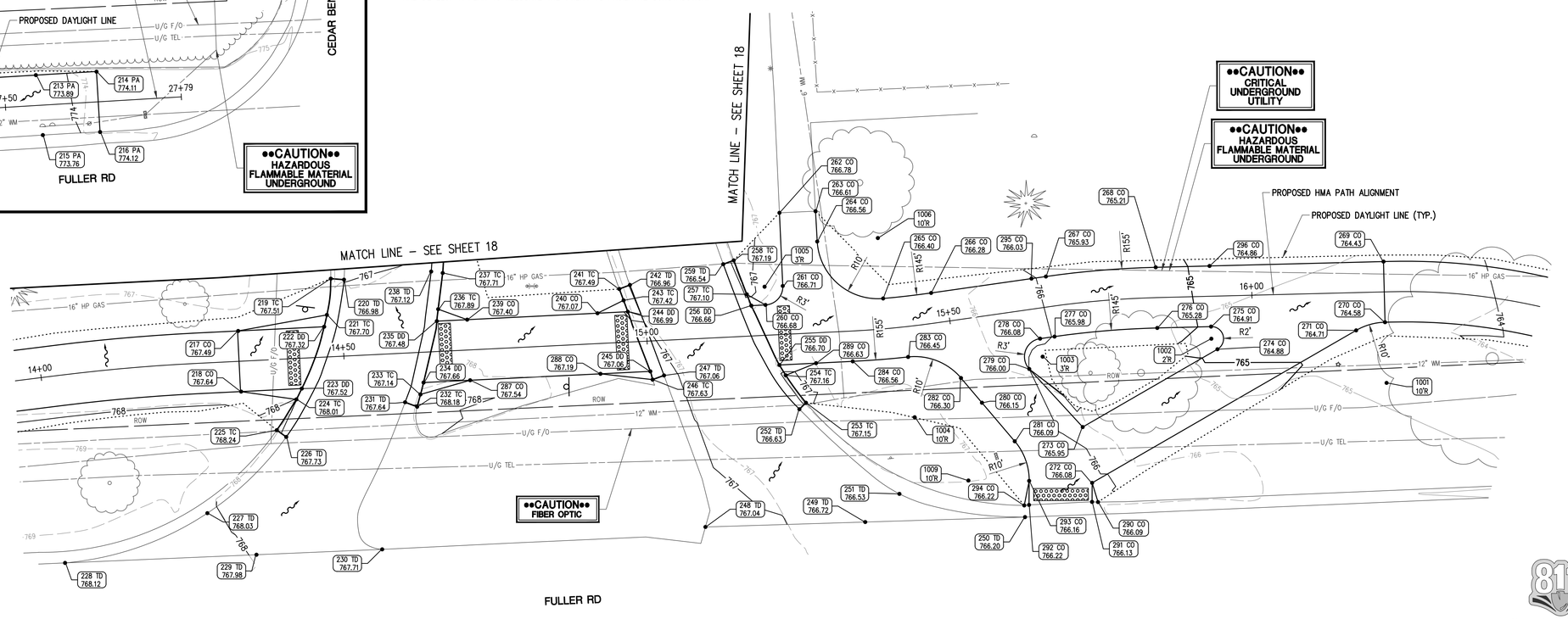
GRADING TABLE				
POINT	ELEVATION	DESCRIPTION	STATION	OFFSET
233	TC=767.14	CO	14+62.29	6.93' R
234	DD=767.66	TC, CO	14+62.89	5.00' R
235	DD=767.48	TC, CO	14+65.57	5.00' L
236	TC=767.89	CO	14+65.89	6.96' L
237	TC=767.71		14+66.93	12.88' L
238	TD=767.12		14+65.05	13.22' L
239	CO=767.40		14+70.57	5.00' L
240	CO=767.07		14+92.07	5.00' L
241	TC=767.49	ME	14+95.86	8.81' L
242	TD=766.96	ME	14+97.63	9.39' L
243	TC=767.42	CO	14+96.46	6.91' L
244	DD=766.99	TC, CO	14+97.07	5.00' L
245	DD=767.06	TC, CO	15+00.29	5.00' R
246	TC=767.63	ME, CO	15+00.60	6.38' R
247	TD=767.06	ME	15+02.51	5.78' R
248	TD=767.04	ME	15+08.09	31.07' R
249	TD=766.72	ME	15+34.28	31.55' R
250	TD=766.20	ME	15+57.67	33.76' R
251	TD=766.53	ME	15+39.25	27.32' R
252	TD=766.63	ME	15+24.50	12.44' R
253	TC=767.15	ME	15+25.63	11.43' R
254	TC=767.16	CO	15+22.53	6.75' R
255	DD=766.70	TC, CO	15+21.57	5.00' R
256	DD=766.66	TC, CO	15+17.44	5.00' L
257	TC=767.10	CO	15+16.79	6.89' L
258	TC=767.19	ME	15+14.91	12.59' L
259	TD=766.54	ME	15+13.16	12.04' L
260	CO=766.68	PC	15+19.77	5.00' L
261	CO=766.71	PC	15+22.77	7.99' L
262	CO=766.78	ME	15+22.82	20.05' L
263	CO=766.61	ME	15+28.76	20.03' L
264	CO=766.56	PC	15+28.80	15.02' L

GRADING TABLE				
POINT	ELEVATION	DESCRIPTION	STATION	OFFSET
265	CO=766.40	PC	15+39.37	5.00' L
266	CO=766.28	PC	15+47.60	5.00' L
267	CO=765.93	PC	15+66.70	5.00' L
268	CO=765.21	PC	15+84.28	5.00' L
269	CO=764.43	PA	16+21.80	5.00' L
270	CO=764.58	PC, PA	16+21.80	5.00' R
271	CO=764.71	PC	16+17.02	6.22' R
272	CO=766.08		15+70.09	29.72' R
273	CO=765.95		15+69.57	20.40' R
274	CO=764.88	PC	15+94.10	8.76' R
275	CO=764.91	PC	15+93.14	5.00' R
276	CO=765.28	PC	15+84.28	5.00' R
277	CO=765.98	PC	15+66.70	5.00' R
278	CO=766.08	PC	15+64.30	5.00' R
279	CO=766.00	PC	15+61.82	9.70' R
280	CO=766.15		15+53.33	14.10' R
281	CO=766.09	PC	15+57.76	21.15' R
282	CO=766.30	PC	15+50.48	9.58' R
283	CO=766.45	PC	15+42.52	5.00' R
284	CO=766.56	PC	15+33.67	5.00' R
285	CO=787.84	ME	4+94.46	5.00' L
286	CO=787.62	ME	4+94.46	5.00' R
287	CO=767.54		14+70.57	5.00' R
288	CO=767.19		14+92.07	5.00' R
289	CO=766.63		15+27.62	5.00' R
290	CO=766.09	ME, TC	15+70.84	32.97' R
291	CO=766.13	ME, DD, TC	15+69.58	32.83' R
292	CO=766.22	ME, DD, TC	15+58.61	31.87' R
293	CO=766.16	PC	15+59.19	27.95' R
294	CO=766.22	ME, TC	15+57.82	31.84' R
295	CO=766.03		15+64.30	5.00' L
296	CO=764.86		15+93.14	5.00' L



EXISTING UTILITY NOTE:

EXISTING UTILITIES HAVE NOT BEEN EXPOSED FOR VERIFICATION OF LOCATION AND ELEVATION. THE TOPOGRAPHICAL SURVEY LOCATED ALL VISIBLE SITE UTILITIES. AVAILABLE EXISTING RECORDS WERE ALSO USED. THERE ARE EXISTING PRIVATE UTILITIES ONSITE THAT WERE NOT VISIBLE. THE CONTRACTOR SHALL EXCAVATE, LOCATE, AND VERIFY DEPTH OF ANY EXISTING UTILITIES PRIOR TO CONSTRUCTION TO LOCATE UTILITIES PRIOR TO COMMENCING WORK ONSITE. IF CONFLICTS WITH PROPOSED CONSTRUCTION ITEMS ARE IDENTIFIED, THE CONTRACTOR SHALL NOTIFY THE UTILITY OWNER AND DEVELOP A PLAN TO RELOCATE THE UTILITY TO FACILITATE CONSTRUCTION.



RADIUS POINTS			
POINT	DESCRIPTION	STATION	OFFSET
1001	10' RADIUS (CO)	16+21.80	15.00' R
1002	2' RADIUS (CO)	15+93.14	7.00' R
1003	3' RADIUS (CO)	15+64.30	8.00' R
1004	10' RADIUS (CO)	15+42.52	15.00' R
1005	3' RADIUS (CO)	15+19.77	8.00' L
1006	10' RADIUS (CO)	15+39.37	15.00' L
1007	145' & 155' RADIUS (CO)	15+66.70	150.00' R
1008	145' & 155' RADIUS (CO)	15+47.60	150.00' L
1009	10' RADIUS (CO)	15+49.30	26.48' R

NOTE: POINTS 1007 AND 1008 NOT SHOWN ON THIS SHEET.

GRADING LEGEND

TC – TOP OF CURB
TD – TOP OF HMA DRIVE
PA – TOP OF HMA PATH
PC – POINT OF CURVATURE
DD – DUB DOWN (ADD 0.45' FOR FULL HEIGHT CURB)
CO – TOP OF CONCRETE PATH
ME – MATCH EXISTING
FLOW DIRECTION

Know what's **below.**
Call before you dig.

PLAN SUBMITTALS AND CHANGES	
BIDDING DOCUMENTS	
DATE	DESCRIPTION
9/9/24	ISSUED FOR BIDS

ROWE PROFESSIONAL SERVICES COMPANY
The Rowe Building
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