

ADDENDUM No. 1

ITB No. 4529

Street Resurfacing Project - 2018

Bids Due: March 27, 2018 at 2:00 P.M. (local time)

The following changes, additions, and/or deletions shall be made to the Invitation to Bid for Street Resurfacing Project- 2018, ITB No. 4529, on which proposals will be received on/or before March 27, 2018, at 2:00 P.M. (local time).

The information contained herein shall take precedence over the original documents and all previous addenda (if any), and is appended thereto. **This Addendum includes 173 pages.**

Bidder is to acknowledge receipt of this Addendum No. 1, including all attachments (if any) in its Bid by so indicating on page ITB-1 of the Invitation to Bid Form. Bids submitted without acknowledgment of receipt of this addendum will be considered nonconforming.

The following forms provided within the ITB document must be included in submitted bids:

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

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

I. CORRECTIONS/ADDITIONS/DELETIONS

Changes to the Bid document which are outlined below are referenced to a page or Section in which they appear conspicuously. The Bidder is to take note in its review of the documents and include these changes as they may affect work or details in other areas not specifically referenced here.

Section/Page(s)

Change

All mentions

As provided in ITB No. 4529 Bid Document:
Bid Due Date: Tuesday, March 20, 2018 at 2:00 p.m.

As updated herein:
Bid Due Date: Tuesday, March 27, 2018 at 2:00 p.m.

Comment: The Due Date and Time for responses to this ITB has been extended to Tuesday, March 27, 2018 at 2:00 p.m. (local time). Note that all other dates are unchanged.

<u>Section/Page(s)</u>	<u>Change</u>
Pre-Bid Conference/NP-1	Conference Summary and Attendance Record/Sign-In Sheet pages Addendum-1-6 thru Addendum-1-10.
Instructions to Bidders/IB-4	Replace this page with attached page Addendum-1-11. Revised paragraph 8 to identify the correct Construction Type as <u>Highway</u> .
Invitation to Bid/ITB-3	Replace this page with attached page Addendum-1-12. Revised to correct the header "LEGAL STATUS OF BIDDER", which does not appear legible in the original bid document.
Bid Forms/ BF-1 to BF-9	Replace these pages with attached pages Addendum-1-13 to Addendum-1-21. Revised to include new pay items and changes to quantities.
Detailed Specifications/ DS-1 to 2	Detailed Specification for General Conditions; replace with attached pages Addendum-1-22 to Addendum-1-23. Revised to include protection and cleaning related to sewers, and drainage and utility structures.
Detailed Specifications/ DS-3 to 6	Detailed Specification for Project Supervision; replace with attached 7pages Addendum-1-24 to Addendum-1-27. Revised to replace any reference to the term "special provision" with "detailed specification".
Detailed Specifications/ DS-7 to 8	Detailed Specification for Certified Payroll Compliance and Reporting; replace with attached pages Addendum-1-28 to Addendum-1-29. Revised to address formatting and grammatical errors.
Detailed Specifications/ DS-13 to 14	Schedule of Streets; replace with attached pages ADD-1-30 to Addendum-1-31. Revised "Start of Work" and "Completion of Work" dates and "Restriction Dates" for various project locations.
Detailed Specifications/Not Applicable	Insert Detailed Specification for Maximum Unit Weight page Addendum-1-32. Mistakenly omitted this detailed specification from the original bid documents.
Detailed Specifications/ DS-17 to 18	Detailed Specification for Vertical Exploratory Excavation; replace with attached pages Addendum-1-33 to Addendum-1-34. Revised to replace any reference to the term "special provision" with "detailed specification".
Detailed Specifications/ DS-19	Detailed Specification for Grading Sidewalk, Sidewalk Ramp, and Driveway Approach; replace with attached page Addendum-1-35. Revised to replace any reference to the term "special provision" with "detailed specification".
Detailed Specifications/ DS-20 to 25	Detailed Specification for Machine Grading; replace with attached pages Addendum-1-36 to Addendum-1-41. Revised to correct inconsistencies between this detailed specification and others regarding the handling of drainage structure covers, to address issues related to measurement ad payment items, and to correct grammatical errors.
Detailed Specifications/ DS-26	Detailed Specification for Soil Erosion and Sedimentation Control – Inlet Filter; replace with attached page Addendum-1-42. Revised the "Materials" section to show the currently approved devices acceptable for use on the project.

<u>Section/Page(s)</u>	<u>Change</u>
Detailed Specifications/ Not Applicable	Insert Detailed Specification for Flexible Pipe Couplings page Addendum-1-43. Mistakenly omitted this detailed specification from the original bid documents.
Detailed Specifications/ DS-35	Detailed Specification for Drainage and Utility Structures; replace with attached page Addendum-1-44. Revised to remove the pay item "Dr Structure, Reconstruct", which has a different pay item, "Structure, Reconstruct", and a separate detailed specification.
Detailed Specifications/Not Applicable	Insert Detailed Specification for Drainage and Utility Structure Reconstruction pages Addendum-1-45 to Addendum-1-47. This is a new detailed specification associated with the pay item, "Structure, Reconstruct".
Detailed Specifications/ DS-54 to 55	Detailed Specification for Geosynthetic Paving Layer; replace with pages Addendum-1-48 to Addendum-1-49. Revised to replace any reference to the term "special provision" with "detailed specification".
Detailed Specifications/ DS-56 to 57	Detailed Specification for HMA Application Estimate; replace with attached pages Addendum-1-50 to Addendum-1-51. Revised the HMA mix specified for use on the Ann Arbor Saline Rd shared use path from 36A to LVSP including the application rate and estimated thickness. Added pay item, "Shared use Path, HMA, Wedging".
Detailed Specifications/ DS-59 to 61	Detailed Specification for Hot Mix Asphalt (HMA) Paving; replace with attached pages Addendum-1-52 to Addendum-1-54. Revised to replace any reference to the term "special provision" with "detailed specification", and to correct grammatical errors.
Detailed Specifications/ DS- 62	Detailed Specification for Hot Mix Asphalt Pavement Repair; replace with attached page Addendum-1-55. Revised to replace any reference to the term "special provision" with "detailed specification".
Detailed Specifications/ DS-64 to 65	Detailed Specification for Concrete Placement and Protection; replace with attached pages Addendum-1-56 to Addendum-1-57. Revised to replace any reference to the term "special provision" with "detailed specification".
Detailed Specifications/ DS-68 to 69	Detailed Specification for Concrete Curb and Gutter, and Driveway Openings; replace with attached pages Addendum-1-58 to Addendum-1-59. Revised to replace any reference to the term "special provision" with "detailed specification".
Detailed Specifications/ DS-74 to 75	Detailed Specification for Detectable Warning Surface; replace with attached pages Addendum-1-60 to Addendum-1-61. Revised to replace any reference to the term "special provision" with "detailed specification".
Detailed Specifications/ DS-76 to 77	Detailed Specification for Concrete Sidewalk, Sidewalk Ramp, and Driveway Approach; replace with attached pages Addendum-1-62 to Addendum-1-63. Revised to replace any reference to the term "special provision" with "detailed specification".

<u>Section/Page(s)</u>	<u>Change</u>
Detailed Specifications/Not Applicable	Insert Detailed Specification for Wedging of Hot Mix Asphalt (HMA) Shared Use Path pages Addendum-1-64 to Addendum-1-65. The City recently created this detailed specification after it advertised the project for bid
Detailed Specifications/ DS-94 to 95	Detailed Specification for Wet Reflective Liquid Applied Pavement Markings; replace with attached pages Addendum-1-66 to Addendum-1-67. Revised to replace any reference to the term “special provision” with “detailed specification”, and correct document formatting.
Notices to Bidders/Not Applicable	Replace in the Notices to Bidders section of Appendices the Notice to Bidders – Project Coordination with attached page Addendum-1-68. Revised to include requirements for the maintenance of traffic associated with the Stone School Road Sanitary Sewer Extension Project and the planned street resurfacing work.
MDOT Special Provisions/Not Applicable	Insert into the Michigan Department of Transportation (MDOT) Special Provisions section of Appendices the attached MDOT Special Provision for Progress Schedule (12SP-101A-02) page Addendum-1-69. MDOT issued this new special provision after the City advertised the project for bid.
MDOT Special Provisions/Not Applicable	Replace in the Michigan Department of Transportation (MDOT) Special Provisions section of Appendices the MDOT Special Provision for Permanent Pavement Markings (12SP-811Q-03) with attached pages Addendum-1-70 to Addendum-1-72. MDOT revised this special provision after the City advertised the project for bid.
MDOT Special Provisions/Not Applicable	Insert into the Michigan Department of Transportation (MDOT) Special Provisions section of Appendices the attached MDOT Special Provision for Lighting for Night Work Specifications (12SP-812CC-01) pages Addendum-1-73 to Addendum-1-75. MDOT issued this new special provision after the City advertised the project for bid.
MDOT Standard Plans/Not Applicable	Insert into the MDOT Standard Plans section of Appendices the attached MDOT Standard Plan for Transverse Pavement Joints (R-39-K) pages Addendum-1-76 to Addendum-1-80. Mistakenly omitted this standard plan from the original bid documents.
MDOT Standard Plans/Not Applicable	Insert into the MDOT Standard Plans section of Appendices the attached MDOT Standard Plan for Load Transfer Assemblies for Transverse Joints (R-40-H) pages Addendum-1-81 to Addendum-1-85. Mistakenly omitted this standard plan from the original bid documents.
MDOT Standard Plans/Not Applicable	Insert into the MDOT Standard Plans section of Appendices the attached MDOT Standard Plan for Longitudinal Pavement Joints (R-41-H) pages Addendum-1-85 and Addendum-1-86. Mistakenly omitted this standard plan from the original bid documents.

<u>Section/Page(s)</u>	<u>Change</u>
MDOT Standard Plans/Not Applicable	Insert into the MDOT Standard Plans section of Appendices the attached MDOT Standard Plan for Concrete Pavement Repair (R-44-F) pages Addendum-1-87 and Addendum-1-92. Mistakenly omitted this standard plan from the original bid documents.
Attachments	City of Ann Arbor Living Wage Ordinance Declaration of Compliance and Living Wage Poster, should be replaced with the versions provided in this Addendum. The change reflects an increase in the City of Ann Arbor Living Wage that will be in effect during the period of work under this project.
Construction Plans	<p>Construction Plan Set; replace Bid issued plan set (sheets 1 thru 72) with that issued for this Addendum 1 (sheets 1 thru 79).</p> <p>Changes include the following: Revised <u>Plan Sheets (Location Cover Sheets) 7, 12, 14, 17, 19, 21, 23, 25, 27, 29, 33, 35, 37, 40, 61, and 68</u> – a revised QUANTITY TABLE and QUANTITY TABLE for Sign, Type B, Temp, Prismatic to reflect correct pay items and quantities respective to each project location. Added <u>Plan Sheets 74 to 79</u> for the Project Location: Ann Arbor–Saline Road Shared Use Path.</p>
Question(s) received:	<p>The City received an inquiry regarding the availability of the detailed tabulation of bid results for City of Ann Arbor Street Resurfacing – 2017 project (ITB 4477). This information is available on the City of Ann Arbor Purchasing webpage using the following URL:</p> <p>https://www.a2gov.org/departments/finance-admin-services/purchasing/Documents/ITB_4477_DetailedBidTab.pdf.</p>

Respondents are responsible for any conclusions that they may draw from the information contained in the Addendum.

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

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

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

The Contractor or Grantee agrees:

- (a) To pay each of its employees whose wage level is not required to comply with federal, state or local prevailing wage law, for work covered or funded by a contract with or grant from the City, no less than the Living Wage. The current Living Wage is defined as \$13.22/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 \$14.75/hour for those employers that do not provide health care. The Contractor or Grantor understands that the Living Wage is adjusted and established annually on April 30 in accordance with the Ordinance and covered employers shall be required to pay the adjusted amount thereafter to be in compliance with Section 1:815(3).

Check the applicable box below which applies to your workforce

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

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

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

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

Company Name

Street Address

Signature of Authorized Representative

Date

City, State, Zip

Print Name and Title

Phone/Email address

**CITY OF ANN ARBOR
LIVING WAGE ORDINANCE**

RATE EFFECTIVE APRIL 30, 2018 - ENDING APRIL 29, 2019

\$13.22 per hour

If the employer provides health care benefits*

\$14.75 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**

PRE-BID CONFERENCE

Street Resurfacing Project – 2018
(ITB No. 4529; City File No. 2018-004)

March 8, 2018
11:00 a.m., 4th Floor Conference Room
Larcom Building - City Hall, 301 East Huron Street, Ann Arbor, MI

SUMMARY

The City's Street Resurfacing Project – 2018 Project Manager, David Dykman, called the Pre-Bid Conference to order at 11:05 a.m.

I. Introductions – *Attached is the conference sign-in sheet showing those in attendance.*

II. General

a. Project Overview

A description was given of the proposed work, which involves approximately five miles of street and path resurfacing including three major streets, thirteen local/residential streets, and one shared use path. The project is somewhat smaller in size and scope than that for 2017 mainly due to limited funding and the number of standalone projects the City is undertaking this coming construction season. It was noted the majority project work involves hot mix asphalt pavement resurfacing or rehabilitation although there are some amounts of concrete pavement construction, repair, and restoration. The project will utilize City and County Street/Road Millage funds together with other funding sources.

b. Schedule

Attention was given to the Instructions to Bidders pages of the bid documents and the requirements related to bid questions, the bid submittal, and the bid opening/due date listed below.

i. Bid Opening – March 20, 2018, 2:00 p.m.

Attention was given to the Detailed Specification for Project Schedule and the Starting and Completion Dates listed below as well as others included therein. Attendees were advised to review and fully understand the requirements of this detailed specification.

ii. Starting Date – May 7, 2018

iii. Completion Date – October 27, 2018

iv. Project Phasing / "Schedule of Streets" / Liquidated Damages

Attention was given to the "Schedule of Streets" included as part of Detailed Specification for Project Schedule. It was noted the City will be revising the dates related to the "Start of Work", "Completion of Work", and "Restriction Dates" for several of project locations due to planned community events recently brought to its attention. An addendum will address these revisions. Attendees were advised to review the requirements of this detailed specification including those related to the completion of work and associated liquidated damages.

c. Bid Documents

i. Standard Specifications - Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction

It was noted Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction will again apply to this project.

PRE-BID CONFERENCE

Street Resurfacing Project – 2018
(ITB No. 4529; City File No. 2018-004)

ii. Detailed Specifications

Attention was given to several detailed specifications in the bid documents including those for General Conditions, Project Supervision, Certified Payroll Compliance and Reporting, Vertical Exploratory Excavation (new), Machine Grading, Parking Meters, and Slope Restoration. Attendees were advised to review of these detailed specifications as the requirements of each are either new or may have changed with respect to those issued for prior projects. It was noted that several detailed specifications are in the process of being revised to address inconsistencies, incorrect references, formatting and grammatical issues, and other necessary corrections. An addendum will address these revisions.

iii. Notice(s) to Bidders

Attention was given to the Notices to Bidders in the bid documents including those for Parking Head Covering and Removal Coordination, Project Coordination, and Utility Coordination. It was noted that parking meter head covering and removal is required for the S State St project location, and project coordination is required for the Stone School Rd and Ann Arbor-Saline Rd project locations. Revisions to Notice to Bidders for Project Coordination are forthcoming to address the maintenance of traffic requirements for the Stone School Rd project location. An addendum will address these revisions. It was also noted that a significant amount of permitted private utility work involving gas main replacement and fiber optic installation is planned citywide during the construction season, and this work could potentially affect certain project locations. This work will require careful utility coordination. The City plans to address this matter either at the project preconstruction meeting or at a separate utility coordination meeting prior to be held in advance of beginning any project work.

iv. MDOT Special Provisions and Supplemental Specifications

Attention was given to the MDOT Special Provisions for Temporary Pedestrian Type II Barricades and Channelizers, which traffic control devices included in each of these special provisions will be used on the project. Attendees were advised to review the all MDOT Special Provisions and Supplemental Specifications included in the bid documents.

v. Other

It was noted that that several MDOT Standard Plans primarily related to concrete pavement construction and repair were omitted from the bid documents. It was also noted that page IB-4 of the bid documents listed the Construction Type as both Heavy and Highway as being applicable to the project. It should only be Highway. An addendum will address these errors and omissions.

d. Plans

It was noted the plans are in the process of being revised to address incorrect quantity tables on each of the project location cover sheets, corrections to construction method and sequencing notes, the addition of plan sheets related to proposed work for the Ann Arbor-Saline Rd shared use path, and other necessary corrections. An addendum will address these revisions.

PRE-BID CONFERENCE

Street Resurfacing Project – 2018
(ITB No. 4529; City File No. 2018-004)

III. Construction

a. Scope of Work and Construction Sequencing

It was noted that all work on Major Streets as part this year's project will require phased part width construction. Work on the local/residential will be full width unless otherwise directed by the Engineer. The requirements for the construction scope/methods and sequencing related to all locations are noted on the plans. This information is in the process of being updated for release in an addendum. These revisions will address the type of HMA mixes to be used at each location together with other items of work.

b. Maintenance of Traffic (M.O.T.)

Attendees were advised to review the requirements of the Detailed Specification for Maintenance of Traffic including the accompanying MDOT Traffic and Safety Maintaining Traffic Typicals applicable to the project. It was noted the work planned on the Major streets as part this year's project will require maintenance of traffic in one direction only with traffic in the opposite direction operating on posted detours. The exception to this the work on Jackson Ave for which traffic will be maintained. Detailed M.O.T. plans are included in the plan set, and are in the process of being updated. An addendum will address these updates.

c. Special Concerns (local traffic access, pedestrian and cyclist mobility, tree protection, structure cleaning...)

Attendees were advised to review the requirements contained within the bid documents related to local traffic access, tree protection, structure cleaning, pedestrian and cyclist mobility and others. It was noted the City will be enforcing the cleaning of drainage and utility structures as part of the project completion requirements. It was noted that non-motorized traffic mobility will be more strictly reinforced as part of the project work particularly in project areas with high pedestrian and cyclist activity such as the campus area surrounding the S State St project location, along the Ann Arbor-Saline Rd shared use path, and in residential areas near parks and on school walking routes.

d. City Idling Ordinance

Attendees were advised to review and understand the requirements of the City's Idling Reduction Ordinance, which became effective on July 1, 2017. Details regarding the ordinance can be found at www.a2gov.org/idlefree

IV. Other Items

There was no discussion related to other items.

V. Addenda

No addenda have been issued to date for this project; however, Addendum 1 is expected to be released by Tuesday, March 13, 2018, or no later than Wednesday, March 14, 2018, unless other necessary revisions are encountered requiring its release be delayed further. Should such a delay occur, the City will most likely extend the bid due date. This addendum

PRE-BID CONFERENCE

Street Resurfacing Project – 2018
(ITB No. 4529; City File No. 2018-004)

will address all of the necessary revisions and omissions mentioned during the Pre-Bid Conference as well as those discovered after it and/or received through inquiry.

VI. Questions

There were no questions from attendees regarding the proposed project work.

Contact Information:

David Dykman
Project Manager
Phone: (734) 794-6410 ext. 43685
Fax: (734) 994-1744
E-mail: ddykman@a2gov.org

PRE-BID CONFERENCE SIGN-IN SHEET

PROJECT: Street Resurfacing Project - 2018 (ITB No. 4529; City File No. 2018-004)

DATE: March 8, 2018

PLEASE PRINT

NAME	REPRESENTING	MAILING ADDRESS	TELEPHONE	EMAIL
David Dykman Project Manager	City of Ann Arbor - Project Management 	Address: 301 E. Huron Street, P.O. Box 8647 City, State: Ann Arbor, MI Zip: 48107-8647	Office: (734) 794-6410, x43685 Mobile: Fax: (734) 994-1744	ddykman@a2gov.org
David Clemons Supervisor - Civil Engineering Specialists	City of Ann Arbor - Project Management 	Address: 301 E. Huron Street, P.O. Box 8647 City, State: Ann Arbor, MI Zip: 48107-8647	Office: (734) 794-6410, x43612 Mobile: Fax: (734) 994-1744	dclemons@a2gov.org
Gary Shivley Civil Engineering Specialist (Project Inspector)	City of Ann Arbor - Project Management GS.	Address: 301 E. Huron Street, P.O. Box 8647 City, State: Ann Arbor, MI Zip: 48107-8647	Office: (734) 794-6410, x43652 Mobile: Fax: (734) 994-1744	gshivley@a2gov.org
Lana Zander Civil Engineering Specialist (Project Inspector)	City of Ann Arbor - Project Management ZZ.	Address: 301 E. Huron Street, P.O. Box 8647 City, State: Ann Arbor, MI Zip: 48107-8647	Office: (734) 794-6410, x43644 Mobile: Fax: (734) 994-1744	lzander@a2gov.org
WANDA DWYER	CADILLAC	Address: 857 S. WAGNER RD City, State: AZ Zip: 48105	Office: () Mobile: (734) 216-7006 Fax No. ()	wanda.dwyer@miPMC.com
GEORGE LOPEZ	CADILLAC	Address: 857 S. WAGNER RD City, State: ANN ARBOR Zip: 48105	Office: () Mobile: (734) 431-4966 Fax No. ()	george.lopez@miPMC.com
		Address: _____ City, State: _____ Zip: _____	Office: () Mobile: () Fax No. ()	
		Address: _____ City, State: _____ Zip: _____	Office: () Mobile: () Fax No. ()	

Contractor shall pay the City as liquidated damages, and not as a penalty, a sum certain per day for each and every day that the Contractor may be in default of completion of the specified work, within the time(s) stated in the Contract, or written extensions.

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

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

Human Rights Information

All contractors proposing to do business with the City shall satisfy the contract compliance administrative policy adopted by the City Administrator in accordance with the Section 9:158 of the Ann Arbor City Code. Breach of the obligation not to discriminate as outlined in Section 5, beginning at page GC-3 shall be a material breach of the contract. Contractors are required to post a copy of Ann Arbor's Non-Discrimination Ordinance attached at all work locations where its employees provide services under a contract with the City.

Wage Requirements

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

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

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

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

Conflict Of Interest Disclosure

The City of Ann Arbor Purchasing Policy requires that prospective Vendors complete a Conflict of Interest Disclosure form. A contract may not be awarded to the selected Vendor unless and until the Procurement Unit and the City Administrator have reviewed the Disclosure form and determined that no conflict exists under applicable federal, state, or local law or administrative

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** _____, 2018_

(Print) Name _____ Title _____

Company: _____

Address: _____

Contact Phone () _____ Fax () _____

Email _____

BID FORM

Section 1 - Schedule of Prices

Street Resurfacing Project- 2018
 File No. 2018-004
 Bid No. 4529

<u>Line No.</u>	<u>Item No.</u>	<u>Item Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
10	1047051	_Certified Payroll Compliance and Reporting	LSUM	1.000	\$ _____	\$ _____
20	1047051	_General Conditions, Max \$125,000.00	LSUM	1.000	\$ _____	\$ _____
30	1047051	_Project Supervision, Max \$100,000.00	LSUM	1.000	\$ _____	\$ _____
40	2030011	Dr Structure, Rem	Ea	51.000	\$ _____	\$ _____
50	2030015	Sewer, Rem, Less than 24 inch	Ft	510.000	\$ _____	\$ _____
60	2047001	_Curb, Gutter, and Curb and Gutter, Any Type, Rem	Ft	6,481.000	\$ _____	\$ _____
70	2047011	_Conc Pavt, Any Thickness, Rem	Syd	250.000	\$ _____	\$ _____
80	2047011	_Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem	Syd	1,425.000	\$ _____	\$ _____
90	2047050	_Exploratory Excavation, Vertical	Ft	50.000	\$ _____	\$ _____
100	2050023	Granular Material, CI II	Cyd	50.000	\$ _____	\$ _____
110	2057011	_Grading, Driveway Approach	Syd	836.000	\$ _____	\$ _____
120	2057011	_Grading, Sidewalk	Syd	2,001.000	\$ _____	\$ _____
130	2057011	_Grading, Sidewalk Ramp	Syd	261.000	\$ _____	\$ _____
140	2057011	_Machine Grading, Special	Syd	50,404.000	\$ _____	\$ _____
150	2057021	_Subgrade Undercutting, Type IIA	Cyd	4,489.000	\$ _____	\$ _____
160	2057021	_Subgrade Undercutting, Type IIB	Cyd	250.000	\$ _____	\$ _____
170	2080020	Erosion Control, Inlet Protection, Fabric Drop	Ea	188.000	\$ _____	\$ _____
180	2080036	Erosion Control, Silt Fence	Ft	4,901.000	\$ _____	\$ _____
190	2090001	Project Cleanup	LSUM	1.000	\$ _____	\$ _____
200	3010002	Subbase, CIP	Cyd	50.000	\$ _____	\$ _____
210	3020050	Aggregate Base, Conditioning	Syd	49,894.000	\$ _____	\$ _____
TOTAL THIS PAGE						\$ _____

BID FORM

Section 1 - Schedule of Prices

Street Resurfacing Project- 2018
File No. 2018-004
Bid No. 4529

<u>Line No.</u>	<u>Item No.</u>	<u>Item Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
220	3027011	_Aggregate Base, 8 inch, Modified	Syd	467.000	\$ _____	\$ _____
230	3027031	_Aggregate Base, Modified	Ton	1,250.000	\$ _____	\$ _____
240	3060020	Maintenance Gravel	Ton	250.000	\$ _____	\$ _____
250	3070001	Approach, CI I	Ton	100.000	\$ _____	\$ _____
260	3070101	Shoulder, CI I	Ton	488.000	\$ _____	\$ _____
270	3070200	Trenching	Sta	6.000	\$ _____	\$ _____
280	3080010	Geotextile, Stabilization	Syd	100.000	\$ _____	\$ _____
290	3087011	_Geosynthetic Paving Layer	Syd	1,760.000	\$ _____	\$ _____
300	3087011	_Structural Geogrid	Syd	250.000	\$ _____	\$ _____
310	4020987	Sewer, CI IV, 12 inch, Tr Det B	Ft	510.000	\$ _____	\$ _____
320	4021260	Trench Undercut and Backfill	Cyd	10.000	\$ _____	\$ _____
330	4030200	Dr Structure, 24 inch dia	Ea	51.000	\$ _____	\$ _____
340	4030210	Dr Structure, 48 inch dia	Ea	2.000	\$ _____	\$ _____
350	4030306	Dr Structure, Tap, 6 inch	Ea	5.000	\$ _____	\$ _____
360	4030312	Dr Structure, Tap, 12 inch	Ea	1.000	\$ _____	\$ _____
370	4037001	_Dr Structure, Adj, Add Depth, Modified	Ft	12.000	\$ _____	\$ _____
380	4037050	_Dr Structure Cover, Special	Ea	2.000	\$ _____	\$ _____
390	4037050	_Dr Structure Cover, Type B, Modified	Ea	72.000	\$ _____	\$ _____
400	4037050	_Dr Structure Cover, Type C, Modified	Ea	1.000	\$ _____	\$ _____
410	4037050	_Dr Structure Cover, Type D, Modified	Ea	2.000	\$ _____	\$ _____
420	4037050	_Dr Structure Cover, Type E, Modified	Ea	2.000	\$ _____	\$ _____
TOTAL THIS PAGE						\$ _____

BID FORM

Section 1 - Schedule of Prices

Street Resurfacing Project- 2018
 File No. 2018-004
 Bid No. 4529

<u>Line No.</u>	<u>Item No.</u>	<u>Item Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
430	4037050	_Dr Structure Cover, Type K, Modified	Ea	73.000	\$ _____	\$ _____
440	4037050	_Dr Structure, Adj, Case 1, Modified	Ea	182.000	\$ _____	\$ _____
450	4037050	_Dr Structure, Adj, Case 2, Modified	Ea	9.000	\$ _____	\$ _____
460	4037050	_Dr Structure, Cleaning, Modified	Ea	25.000	\$ _____	\$ _____
470	4037050	_Dr Structure, Double Inlet	Ea	1.000	\$ _____	\$ _____
480	4037050	_Dr Structure, Point	Ea	10.000	\$ _____	\$ _____
500	4037050	_Structure, Reconstruct	Ea	1.000	\$ _____	\$ _____
490	4037050	_Dr Structure, Temp Lowering, Modified	Ea	141.000	\$ _____	\$ _____
510	4047001	_Underdrain, Subgrade, 6 inch, Special	Ft	3,520.000	\$ _____	\$ _____
520	5010001	Pavt, Cleaning	LSUM	1.000	\$ _____	\$ _____
530	5010002	Cold Milling HMA Surface	Syd	65,522.000	\$ _____	\$ _____
540	5010005	HMA Surface, Rem	Syd	2,496.890	\$ _____	\$ _____
550	5010015	Joint and Crack, Cleanout	Ft	1,500.000	\$ _____	\$ _____
560	5010020	Pvmt Joint and Crack Repr, Detail 7	Ft	2,466.000	\$ _____	\$ _____
570	5010021	Pvmt Joint and Crack Repr, Detail 8	Ft	531.000	\$ _____	\$ _____
580	5010025	Hand Patching	Ton	601.000	\$ _____	\$ _____
590	5010050	HMA, 4E1	Ton	684.000	\$ _____	\$ _____
600	5010056	HMA, 5E1	Ton	684.000	\$ _____	\$ _____
610	5010061	HMA, Approach	Ton	391.890	\$ _____	\$ _____
620	5010508	HMA, 4E1, High Stress	Ton	215.000	\$ _____	\$ _____
630	5010509	HMA, 4E3, High Stress	Ton	1,322.000	\$ _____	\$ _____
TOTAL THIS PAGE						\$ _____

BID FORM

Section 1 - Schedule of Prices

Street Resurfacing Project- 2018
 File No. 2018-004
 Bid No. 4529

<u>Line No.</u>	<u>Item No.</u>	<u>Item Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
640	5010514	HMA, 5E1, High Stress	Ton	215.000	\$ _____	\$ _____
650	5010515	HMA, 5E3, High Stress	Ton	878.000	\$ _____	\$ _____
660	5010703	HMA, LVSP	Ton	10,763.800	\$ _____	\$ _____
670	5017011	_Cold Milling Concrete Pavement	Syd	450.000	\$ _____	\$ _____
680	5017011	_Cold Milling HMA Surface, Modified	Syd	300.000	\$ _____	\$ _____
690	5017011	_HMA, Raised Crosswalk	Syd	60.000	\$ _____	\$ _____
700	5017011	_HMA, Raised Intersection	Syd	175.000	\$ _____	\$ _____
710	5017011	_HMA, Speed Hump	Syd	35.000	\$ _____	\$ _____
720	5017031	_Cold Milling for Concrete Curb and Gutter Reveal	Ton	5.000	\$ _____	\$ _____
730	5017031	_HMA, Wedging, 36A	Ton	36.000	\$ _____	\$ _____
740	5017031	Hand Patching, Modified	Ton	100.000	\$ _____	\$ _____
750	6020208	Joint, Expansion, E3	Ft	50.000	\$ _____	\$ _____
760	6020211	Joint, Plane-of-Weakness, W	Ft	150.000	\$ _____	\$ _____
770	6020222	Shouler, Nonreinf Conc	Syd	400.000	\$ _____	\$ _____
780	6027021	_Flowable Fill	Cyd	121.650	\$ _____	\$ _____
790	6030005	Cement	Ton	20.000	\$ _____	\$ _____
800	6030020	Joint, Contraction, Crg	Ft	105.000	\$ _____	\$ _____
810	6030021	Joint, Contraction, Erg	Ft	50.000	\$ _____	\$ _____
820	6030021	Joint, Tied, Trg	Ft	75.000	\$ _____	\$ _____
830	6030030	Lane Tie, Epoxy Anchored	Ea	35.000	\$ _____	\$ _____
840	6030048	Pavt Repr, Nonreinf Conc, 10 inch	Syd	780.000	\$ _____	\$ _____
TOTAL THIS PAGE						\$ _____

BID FORM

Section 1 - Schedule of Prices

Street Resurfacing Project- 2018
File No. 2018-004
Bid No. 4529

<u>Line No.</u>	<u>Item No.</u>	<u>Item Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
850	6030080	Pavt Repr, Rem	Syd	780.000	\$ _____	\$ _____
860	6030090	Saw Cut, Intermediate	Ft	21.000	\$ _____	\$ _____
870	6030095	Sawing and Sealing Longit Pavt Joints	Ft	30.000	\$ _____	\$ _____
880	6030096	Sawing and Sealing Trans Pavt Joints	Ft	75.000	\$ _____	\$ _____
890	6030100	Resealing Trans Joints with Hot-Poured Rubber	Ft	600.000	\$ _____	\$ _____
900	6030101	Resealing Longit Joints with Hot-Poured Rubber	Ft	1,000.000	\$ _____	\$ _____
910	8017011	_Driveway, Nonreinf Conc, 6 inch, Modified	Syd	919.000	\$ _____	\$ _____
920	8017011	_Driveway, Nonreinf Conc, 8 inch, Modified	Syd	18.000	\$ _____	\$ _____
930	8027001	_Curb and Gutter, Conc, Barrier	Ft	3,540.000	\$ _____	\$ _____
940	8027001	_Curb and Gutter, Conc, Mountable	Ft	1,317.000	\$ _____	\$ _____
950	8027001	_Driveway Opening, Conc, Det M, Modified	Ft	1,746.000	\$ _____	\$ _____
960	8037001	_Detectable Warning Surface, Modified	Ft	288.000	\$ _____	\$ _____
970	8037001	_Fence, Protective, Modified	Ft	250.000	\$ _____	\$ _____
980	8037010	_Sidewalk Ramp, Conc, 6 inch, Modified	Sft	2,129.000	\$ _____	\$ _____
990	8037010	_Sidewalk Ramp, Conc, 8 inch, Modified	Sft	60.000	\$ _____	\$ _____
1000	8037010	_Sidewalk Retaining Wall, Integral, 6 inch to 18 inch Height	Sft	350.000	\$ _____	\$ _____
1010	8037010	_Sidewalk Retaining Wall, Integral, 18 inch to 30 inch Height	Sft	150.000	\$ _____	\$ _____
1020	8037010	_Sidewalk, Conc or Clay Brick Pavers, Rem and Reinstall	Sft	55.000	\$ _____	\$ _____
1030	8037010	_Sidewalk, Conc, 4 inch, Modified	Sft	3,002.000	\$ _____	\$ _____
1040	8037010	_Sidewalk, Conc, 6 inch, Modified	Sft	150.000	\$ _____	\$ _____
1050	8037010	_Sidewalk, Conc, 8 inch, Modified	Sft	0.000	\$ _____	\$ _____
TOTAL THIS PAGE						\$ _____

BID FORM

Section 1 - Schedule of Prices

Street Resurfacing Project- 2018
File No. 2018-004
Bid No. 4529

<u>Line No.</u>	<u>Item No.</u>	<u>Item Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
1060	8060040	Shared use Path, HMA	Ton	0.000	\$ _____	\$ _____
1070	8067031	_Shared use Path, HMA, Wedging	Ton	0.000	\$ _____	\$ _____
1080	8110049	Pavt Mrkg, Ovly Cold Plastic, Direction Arrow Sym, Bike	Ea	7.000	\$ _____	\$ _____
1090	8110058	Pavt Mrkg, Ovly Cold Plastic, Bike, Small Sym	Ea	11.000	\$ _____	\$ _____
1100	8110079	Pavt Mrkg, Ovly Cold Plastic, Sharrow Symbol	Ea	4.000	\$ _____	\$ _____
1110	8110195	Pavt Mrkg, Thermopl, 4 inch, White	Ft	220.000	\$ _____	\$ _____
1120	8110196	Pavt Mrkg, Thermopl, 4 inch, Yellow	Ft	3,955.000	\$ _____	\$ _____
1130	8110197	Pavt Mrkg, Thermopl, 6 inch, Crosswalk	Ft	1,535.000	\$ _____	\$ _____
1140	8110198	Pavt Mrkg, Thermopl, 6 inch, White	Ft	3,161.000	\$ _____	\$ _____
1150	8110212	Pavt Mrkg, Thermopl, 12 inch, Cross Hatching, White	Ft	125.000	\$ _____	\$ _____
1160	8110213	Pavt Mrkg, Thermopl, 12 inch, Cross Hatching, Yellow	Ft	205.000	\$ _____	\$ _____
1170	8110214	Pavt Mrkg, Thermopl, 12 inch, Crosswalk	Ft	616.000	\$ _____	\$ _____
1180	8110218	Pavt Mrkg, Thermopl, 24 inch, Stop Bar	Ft	266.000	\$ _____	\$ _____
1190	8110307	Rem Curing Compound, for Longit Mrkg, 4 inch	Ft	375.000	\$ _____	\$ _____
1200	8110308	Rem Curing Compound, for Longit Mrkg, 6 inch	Ft	750.000	\$ _____	\$ _____
1210	8110321	Rem Curing Compound, for Spec Mrkg	Sft	50.000	\$ _____	\$ _____
1220	8110332	Rem Raised Pavt Marker	Ea	45.000	\$ _____	\$ _____
1230	8110343	Rem Spec Mrkg	Sft	836.000	\$ _____	\$ _____
1240	8110450	Recessing Pavement Markings, Longit	Ft	11,443.000	\$ _____	\$ _____
1250	8110451	Recessing Pavement Markings, Transv	Sft	332.000	\$ _____	\$ _____
1260	8110500	Pavt Mrkg, Wet Retrflc Polyurea, 4 inch, White	Ft	2,590.000	\$ _____	\$ _____
TOTAL THIS PAGE						\$ _____

BID FORM

Section 1 - Schedule of Prices

Street Resurfacing Project- 2018
 File No. 2018-004
 Bid No. 4529

<u>Line No.</u>	<u>Item No.</u>	<u>Item Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
1270	8110501	Pavt Mrkg, Wet Retrflec Polyurea, 6 inch, White	Ft	4,934.000	\$ _____	\$ _____
1280	8110504	Pavt Mrkg, Wet Retrflec Polyurea, 4 inch, Yellow	Ft	3,919.000	\$ _____	\$ _____
1290	8117001	_Pavt Mrkg, Wet Retrflec Polyurea, 12 inch, Crosswalk	Ft	608.000	\$ _____	\$ _____
1300	8117001	_Pavt Mrkg, Wet Retrflec Polyurea, 24 inch, Stop Bar	Ft	39.000	\$ _____	\$ _____
1310	8117050	_Pavt Mrkg, Thermopl, Lt Turn Arrow Sym	Ea	4.000	\$ _____	\$ _____
1320	8117050	_Pavt Mrkg, Thermopl, Only	Ea	6.000	\$ _____	\$ _____
1330	8117050	_Pavt Mrkg, Thermopl, Rt Turn Arrow Sym	Ea	2.000	\$ _____	\$ _____
1340	8117050	_Pavt Mrkg, Thermopl, Speed Hump Chevron, White	Ea	1.000	\$ _____	\$ _____
1350	8117050	_Pavt Mrkg, Thermopl, Thru Arrow Sym	Ea	1.000	\$ _____	\$ _____
1360	8117050	_Pavt Mrkg, Wet Retrflec Polyurea, Lt Turn Arrow Sym	Ea	1.000	\$ _____	\$ _____
1370	8117050	_Pavt Mrkg, Wet Retrflec Polyurea, Only	Ea	1.000	\$ _____	\$ _____
1380	8117050	_Pavt Mrkg, Wet Retrflec Polyurea, Rt Turn Arrow Sym	Ea	1.000	\$ _____	\$ _____
1390	8120012	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	Ea	81.000	\$ _____	\$ _____
1400	8120013	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	Ea	81.000	\$ _____	\$ _____
1410	8120030	Channelizing Device, 42 inch, Furn	Ea	180.000	\$ _____	\$ _____
1420	8120031	Channelizing Device, 42 inch, Oper	Ea	180.000	\$ _____	\$ _____
1430	8120140	Lighted Arrow, Type C, Furn	Ea	5.000	\$ _____	\$ _____
1440	8120141	Lighted Arrow, Type C, Oper	Ea	5.000	\$ _____	\$ _____
1450	8120200	Pavt Mrkg Cover, Type R, Black	Ft	120.000	\$ _____	\$ _____
1460	8120210	Pavt Mrkg, Longit, 6 inch or Less Width, Rem	Ft	663.000	\$ _____	\$ _____
1470	8120235	Pavt Mrkg, Wet Retrflec, Type NR, Paint, 4 inch, White, Temp	Ft	3,141.000	\$ _____	\$ _____
TOTAL THIS PAGE						\$ _____

BID FORM

Section 1 - Schedule of Prices

Street Resurfacing Project- 2018
File No. 2018-004
Bid No. 4529

<u>Line No.</u>	<u>Item No.</u>	<u>Item Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
1480	8120236	Pavt Mrkg, Wet Retrflec, Type NR, Paint, 4 inch, Yellow, Temp	Ft	7,500.000	\$ _____	\$ _____
1490	8120245	Pavt Mrkg, Wet Retrflec, Type R, Tape, 4 inch, White, Temp	Ft	1,565.000	\$ _____	\$ _____
1500	8120246	Pavt Mrkg, Wet Retrflec, Type R, Tape, 4 inch, Yellow, Temp	Ft	2,406.000	\$ _____	\$ _____
1510	8120250	Plastic Drum, High Intensity, Furn	Ea	1,125.000	\$ _____	\$ _____
1520	8120251	Plastic Drum, High Intensity, Oper	Ea	1,125.000	\$ _____	\$ _____
1530	8120265	Pavt Mrkg, Wet Retrflec, Type R, Tape, 24 inch, Stop Bar	Ea	12.000	\$ _____	\$ _____
1540	8120310	Sign Cover	Ea	71.000	\$ _____	\$ _____
1550	8120330	Sign, Portable, Changeable Message, Furn	Ea	6.000	\$ _____	\$ _____
1560	8120331	Sign, Portable, Changeable Message, Oper	Ea	10.000	\$ _____	\$ _____
1570	8120350	Sign, Type B, Temp, Prismatic, Furn	Sft	2,120.750	\$ _____	\$ _____
1580	8120351	Sign, Type B, Temp, Prismatic, Oper	Sft	2,120.750	\$ _____	\$ _____
1590	8120370	Traf Regulator Control	LSUM	1.000	\$ _____	\$ _____
1600	8127050	_No Parking Sign	Ea	538.000	\$ _____	\$ _____
1610	8127050	_Pavt Mrkg, Wet Retrflec, Type R, Tape, Rt Turn Arrow Sym	Ea	2.000	\$ _____	\$ _____
1620	8127050	_Pedestrian Type II Barricade, Temp	Ea	15.000	\$ _____	\$ _____
1630	8127050	_Pedestrian Type II Channelizer, Temp	Ea	10.000	\$ _____	\$ _____
1640	8127051	_Minor Traffic Control, Max \$75,000.00	LSUM	1.000	\$ _____	\$ _____
1650	8157060	_Irrigation System, Protection and Maintenance	Dlr	2,500.000	\$ _____	\$ _____
1660	8167011	_Slope Restoration	Syd	6,474.230	\$ _____	\$ _____
1670	8190159	Conduit, Schedule 80, 3 inch	Ft	100.000	\$ _____	\$ _____
1680	8190244	Hh, Adj	Ea	8.000	\$ _____	\$ _____
TOTAL THIS PAGE						\$ _____

BID FORM

Section 1 - Schedule of Prices

Street Resurfacing Project- 2018
 File No. 2018-004
 Bid No. 4529

<u>Line No.</u>	<u>Item No.</u>	<u>Item Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
1690	8197050	_Handhole Assembly, 12 Inch x 18 Inch	Ea	1.000	\$ _____	\$ _____
1700	8197050	_Handhole Assembly, 17 Inch x 30 Inch	Ea	1.000	\$ _____	\$ _____
1710	8197050	_Handhole Assembly, 24 inch x 36 inch	Ea	1.000	\$ _____	\$ _____
1720	8217050	_Monument Box Adjust	Ea	5.000	\$ _____	\$ _____
1730	8230431	Gate Box, Adj, Case 1	Ea	16.000	\$ _____	\$ _____
1740	8230432	Gate Box, Adj, Case 2	Ea	5.000	\$ _____	\$ _____
1750	8257050	_Remove Parking Meters	Ea	5.000	\$ _____	\$ _____
TOTAL THIS PAGE						\$ _____
TOTAL FROM PAGE BF-1						\$ _____
TOTAL FROM PAGE BF-2						\$ _____
TOTAL FROM PAGE BF-3						\$ _____
TOTAL FROM PAGE BF-4						\$ _____
TOTAL FROM PAGE BF-5						\$ _____
TOTAL FROM PAGE BF-6						\$ _____
TOTAL FROM PAGE BF-7						\$ _____
TOTAL FROM PAGE BF-8						\$ _____
TOTAL BASE BID						\$ _____

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
GENERAL CONDITIONS

AA:DAD

1 of 2

03/12/18

a. Description. This item comprises all work described and required by the plans and specifications at each project location for which the contract contains no item(s) of work, including but not limited to the following:

- Scheduling, coordination, and organization of all work, subcontractors, suppliers, testing, inspection, surveying, and staking.
- Coordination of, and cooperation with, other contractors, agencies, departments, and utilities.
- Protection and maintenance of utilities.
- Maintaining drainage.
- Maintaining driveways drive openings, sidewalks, bike paths, mail deliveries, and solid waste/recycle pick-ups. This includes the placement and maintenance of gravel in driveway openings as directed by the Engineer.
- Storing all materials and equipment off lawn areas.
- Temporary relocation and final replacement/re-setting of mailboxes.
- Coordination efforts to furnish various HMA mixtures as directed by the Engineer
- Coordination efforts to furnish and operate various-size vehicles/equipment as directed by the Engineer
- Furnishing and operating vacuum-type street cleaning equipment a minimum of once per week or more frequently as directed by the Engineer
- Protecting all sewers, and drainage and utility structures including manholes, gate wells, valve boxes, inlet structures from damage and contamination by debris and construction materials. Keeping structures clean of construction debris and properly covered at all times during the construction. Immediately cleaning any structures and/or sewers contaminated with construction debris resulting from Contractor operations and/or work activities.
- Furnishing and operating vacuum-type utility structure cleaning equipment
- Furnishing and operating both vibratory plate and pneumatic-type (“pogo-stick”) compactors
- Furnishing and operating a backhoe during all work activities
- Furnishing and operating a jackhammer and air compressor during all work activities
- Noise and dust control
- Mobilization(s) and demobilization(s).
- Furnishing submittals and certifications for materials and supplies
- All miscellaneous and incidental items such as overhead, insurance, and permits.

- Meeting all requirements relating to Debarment Certification, Davis Bacon Act, and Disadvantaged Business Enterprise, and providing the necessary documentation.

The Appendix of the contract documents provides data pertaining to existing soil borings and pavement sections to assist the Engineer and Contractor determine the soil conditions existing within the construction areas of the various project locations. The City in no way guarantees existing conditions to be the same as shown in the data. The Contractor is solely responsible for any/all conclusions it may draw from the data.

Quantities as given are approximate and are estimates for bidding purposes. The City does not guarantee their totals and they may vary by any amount. While it is the City's intent to complete the project substantially as drawn and specified herein, quantities may be changed or reduced to zero for cost savings or other reasons. **The City reserves the right to change the quantities; however, the City will not allow the Contractor to adjust unit price(s) due to such change.**

b. Materials. None Specified.

c. Construction. Not specified.

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

<u>Pay Item</u>	<u>Pay Unit</u>
General Conditions, Max \$_____	Lump Sum

Measure **General Conditions, Max \$_____** by the unit lump sum and pay for it at the contract unit price, which price includes costs for all labor, equipment and materials necessary to complete the work.

The Contractor is fully responsible for all direct and/or indirect damages to property caused by unclean or damaged sewers or structures resulting from its operations and/or work activities including any/all cost associated with such damages.

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

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PROJECT SUPERVISION

AA:DAD

1 of 4

03/10/18

a. Description. The Contractor shall provide supervision in accordance with the City of Ann Arbor Standard Specifications, subsections 104.07 and 107.15 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, and as described herein.

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

The Project Supervisor shall not be an active crewmember of the Contractor, shall not be an active member or employee of any subcontractor's work force, and shall not perform general or specialized labor tasks. The Project Supervisor shall be a full-time employee of the General Contractor and shall have all needed authority to make binding decisions on behalf of the Contractor in all matters pertaining to performance and execution of the work of the project.

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

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

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

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

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

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

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

The Project Supervisor shall be responsible for all of the work of all of the Contractor, subcontractor and/or supplier work forces.

The Project Supervisor shall be responsible for proper and adequate maintenance (emissions, safety, and general operation) of all of the Contractor's, subcontractors' and suppliers' equipment and vehicles. The Project Supervisor shall make all needed diligent and good faith efforts to ensure that all equipment utilized in the performance of the work is properly maintained, safe, and complies with all legal and environmental requirements of the work as set forth in section 107.15 of the MDOT 2012 Standard Specifications for Construction.

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

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

The Project Supervisor shall coordinate and schedule the work of any independent survey crews retained by the Engineer or City to witness and reset existing and new geographic/benchmark monuments. Failure to have existing monuments witnessed and reset may result in delays to the Contractor's work. Costs for such delays will be the Contractor's sole responsibility. The Project Supervisor shall also schedule and complete all needed survey request forms required to schedule the services of survey personnel to properly layout all elements of the project work in accordance with the City of Ann Arbor Public Services Area Standard Specifications and the MDOT 2012 Standard Specifications for Construction.

The Project Supervisor shall coordinate and schedule inspection performed by the City and Consultants (including material testing firms) in a timely manner, to assure proper and timely testing and inspection of the work.

The Project Supervisor shall submit to the Engineer, an updated, detailed schedule of the proposed work on a weekly basis, and an update of all proposed changes on a daily basis.

The Project Supervisor and all subcontractors shall attend a weekly progress meeting chaired by the Engineer to discuss the work. Upon the completion of each meeting, the Engineer shall prepare and distribute, to all present, a written summary of the meeting's

minutes. Those in attendance shall review the minutes and, if necessary, comment on any deficiencies or errors prior to or at the next scheduled progress meeting.

2. **Additional Performance Requirements.** If, in the sole opinion of the Engineer, the Project Supervisor is not adequately performing the duties as outlined in this detailed specification, the following system of notices will be given to the contractor with the associated penalties:

First Notice – The Engineer will issue a warning in writing to the Contractor detailing the deficiencies in the Project Supervision. The Contractor must respond within seven (7) calendar days in writing with a plan to correct the stated deficiencies. Failure to respond within seven (7) calendar days will result in the issuing of a second notice.

Second Notice – The Engineer will issue a second warning in writing to the Contractor further detailing the deficiencies in the Project Supervision. The Engineer will deduct 10%, or \$10,000, whichever is greater, from the original contract amount bid for the Project Supervision contract item of work. The Contractor must respond within seven (7) calendar days in writing with a plan to correct the stated deficiencies. Failure to respond within seven (7) calendar days will result in the issuing of a third notice. At this time, the Engineer reserves the right to meet with personnel with the necessary authority within the Contractor's organization to discuss the deficiencies in the Project Supervision.

Third Notice – The Engineer will issue a third notice in writing to the Contractor further detailing the deficiencies in the Project Supervision. The Engineer will deduct 25%, or \$25,000, whichever is greater, from the original contract amount bid for the Project Supervision contract item of work, and the Contractor will remove and replace the Project Supervisor immediately with another individual approved by the Engineer.

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

If the original Project Supervision contract amount is insufficient to cover said deductions, the Engineer will reduce Project Supervision contract amount to zero and will generate a contract modification to assess a penalty to cover the difference between the Project Supervision contract amount and the total amount of the deduction(s). The expectation is that the Project Supervision contract amount will be sufficient to cover any deductions.

b. Materials. None Specified.

c. Construction. Not specified.

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

Pay Item

Pay Unit

Project Supervision, Max \$____Lump Sum

Measure **Project Supervision, Max \$____** by the unit lump sum and pay for it at the contract unit price, which price includes costs for all labor, equipment and materials necessary to complete the work.

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

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

AA:MGN/DD

1 of 2

03/10/18

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

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

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

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

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

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

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

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

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

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

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

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

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

Street Resurfacing Project– 2018
Schedule of Streets

Location (Street)	Limits of Work	Start of Work	Completion of Work	Restricted Dates	Maximum Calendar Days for Completion	Liquidated Damages per Calendar Day
MAJOR STREETS						
Jackson Avenue	Wagner Rd to MDOT/City Jurisdiction Limits (near Weber's Inn)		07/03/2018	MMRL	60	\$1,000.00
South State Street	Hoover Ave to Packard St		07/18/2018	MMRL, INDP	28	\$1,000.00
Stone School Road	E Eisenhower Pkwy to Packard St	See notes below		CAA1	24	\$750.00
Ann Arbor-Saline Road Shared Use Path	W Eisenhower Pkwy to Scio Church Rd	07/05/2018		CAA2, LABR, UMFB	21	\$500.00
MINOR (LOCAL) STREETS						
Bardstown Trail	Charter Pl to Middleton Dr					
Sturbridge Court	Bardstown Trl to Westerly End (Cul-de-sac)	05/29/2018		AAPS, INDP, LABR	45	\$500.00
Barrister Drive	Windemere Dr to Larchmont Dr					
Sulgrave Place	Barrister Dr to Westerly End (Cul-de-sac)	05/29/2018		MMRL, INDP, LABR	30	\$500.00
East Dobson Place	W Dobson Pl/Wolverhampton Ln to Easterly End (Cul-de-sac)					
West Dobson Place	Wolverhampton Ln/E Dobson Pl to Westerly End (Cul-de-sac)			MMRL, INDP, LABR	24	\$500.00
Fairmount Drive	Kipling Dr to Southerly End (Cul-de-sac)					
Kipling Drive	Earhart Rd to Fairmont Dr			MMRL, INDP, LABR	30	\$500.00
Severn Court	Wynnstone Dr to Northerly End (Cul-de-sac)					

Street Resurfacing Project– 2018

Schedule of Streets

Location (Street)	Limits of Work	Start of Work	Completion of Work	Restricted Dates	Maximum Calendar Days for Completion	Liquidated Damages per Calendar Day
MINOR (LOCAL) STREETS - CONTINUED						
McGregor Lane	Larchmont Dr to Chatham Way					
Prestwick Court	MacGregor Ln to Westerly End (Cul-de-sac)			MMRL, INDP, LABR	21	\$500.00
Windemere Drive and Court	Green Rd to Easterly End (Cul-de-sac)	05/29/2018		MMRL, INDP, LABR	45	\$500.00
Wolverhampton Lane	Glazier Way to Northerly End (Cul-de-sac)			MMRL, INDP, LABR	18	\$500.00

AAAF - No work permitted when Ann Arbor Public Schools are in session (before June 18, 2018 or after September 3, 2018).

AAAF - No work permitted from July 19, 2018 thru July 22, 2018 due to the Ann Arbor Street Art Fairs.

CAA1 - No work permitted until the City's Stone School Road Sanitary Sewer Extension Project work is complete (anticipated by July 5, 2018).

CAA2 - No work permitted until the City's Ann Arbor-Saline Road Surface Project work is complete (anticipated by June 30, 2018).

INDP - No work during the Independence Day holiday period from 3:00 p.m. July 3 to 7:00 a.m. July 5, 2018.

LABR - No work during the Labor Day holiday period from 3:00 p.m. August 31 to 7:00 a.m. September 4, 2018.

MMRL - No work during the Memorial Day holiday period from 3:00 p.m. May 25 to 7:00 a.m. May 29, 2018.

UMFB - No work permitted during scheduled home game dates for University of Michigan Football.

UMSM - No work permitted during University of Michigan Student Move-in (August 31 thru September 3, 2018).

Notes:

1. Construct Bardstown Trail and Sturbridge Court concurrently.
2. Construct Barrister Drive and Sulgrave Place concurrently.
3. Construct East and West Dobson Place concurrently.
4. Construct Fairmount Drive, Kipling Drive and Severn Court concurrently.
5. Construct McGregor Lane and Prestwick Court concurrently.
6. Complete work on East and West Dobson Place prior to beginning work on Wolverhampton Drive.
7. Start work within seven calendar days of notification by the Engineer that the Sanitary Sewer Extension Project work is complete. The City will permit this project location work to commence as a fourth "active" location with three of those Extensions being on either Major or Local streets until such time as the work at one of the other locations is complete. From that time going forward the Contractor will again only work on three "active" street locations in accordance with the requirements of the Detailed Specification for Project Schedule.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
MAXIMUM UNIT WEIGHT

AA:DAD

1 of 1

03/10/18

Determination of the maximum dry density per cubic foot (lbs/ft³) will be using test method AASHTO T-180 unless otherwise directed by the Engineer. Use the determined value(s) as the maximum unit weight when measuring the in place compaction or density of soils unless such value(s) are determined by an alternate test method as directed by the Engineer.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
VERTICAL EXPLORATORY EXCAVATION

AA:DAD

1 of 2

03/10/18

a. Description. The use of this detailed specification is to compensate the Contractor to locate underground infrastructure, such as culverts, sewers, utilities, and/or to expose the existing pavement section. Use must only be as directed and approved by the Engineer. This detailed specification is not to compensate the Contractor for the responsibilities in subsection 107.12 of the Standard Specifications for Construction.

This work consists of conducting a vertical exploratory investigation to expose an existing culvert, sewer, utility/utility service, or the existing pavement section in order to verify the location, condition, size, material, alignment and/or composition; allowing the Engineer to document the necessary information; and backfilling the excavation. It includes providing necessary lane, shoulder and/or sidewalk closures required to perform the work.

The intent of "Exploratory Excavation" is not to provide a means for the Contractor to locate each existing utility throughout the project, but for those that appear to be in conflict with the proposed work and their location is unclear or unknown. The Contractor is responsible for "using reasonable care to establish the precise location of the underground facilities in advance of construction" (Public Act 174 of 2013 - Miss Dig Law) as a part of the overall project contract.

b. Materials. Use Granular Material Class III in accordance with section 902 of the Standard Specifications for Construction for backfill. Use material removed during exploratory investigation for backfill only if approved by of the Engineer.

c. Construction. The owner of any sewer or utility to be exposed will not take the facilities out of service during the exploratory investigation. Contact utility owners in accordance with subsection 107.12 of the Standard Specifications for Construction.

Establish necessary lane, shoulder and/or sidewalk closures required to perform work.

Advance the exploratory excavation using vacuum excavation, hand digging, conventional machine excavation, or a combination thereof subject to approval of the Engineer. Allow the Engineer access to document the necessary information. If the technique used to advance the excavation causes any damage to the existing facilities, immediately contact the utility owner and cease all work until Engineer approves of an alternate method.

Take care to protect the exposed culvert, sewer or utility from damage during construction. Repair or replace culvert, sewer or utility, damaged during exploratory excavation, in accordance with the standard specifications and as approved by the Engineer.

Obtain the Engineer's approval before backfilling the excavation. Complete backfilling no later than 24 hours after approval. Backfill in accordance with subsection 204.03.C of the Standard Specifications for Construction. Dispose of excess material in accordance with the standard specifications.

The Contractor is responsible for all costs associated with the repair work and out of service time of all broken or damaged existing culverts, sewers or utilities resulting from any action by the Contractor. If the exploratory investigation results in damage to utilities, contact the owner of such utility to coordinate the repair.

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

<u>Pay Item</u>	<u>Pay Unit</u>
Exploratory Excavation, Vertical	Foot

Measure **Exploratory Investigation, Vertical** by the foot from top of existing grade vertically to the bottom of the excavation for a 4-foot maximum diameter hole, or as approved by the Engineer. Measure and pay for the excavated depth of each 4-foot maximum diameter hole separately. One paid excavation may be include multiple utility verifications if the utilities are close in proximity.

Exploratory Investigation, Vertical includes all cost for labor, equipment and materials necessary to complete the work, including all costs associated with repair or replacement resulting from the Contractor's activities.

CITY OF ANN ARBOR
 DETAILED SPECIFICATION
 FOR
GRADING SIDEWALK, SIDEWALK RAMP, AND DRIVEWAY APPROACH

AA:DAD

1 of 1

03/10/18

a. Description. Remove miscellaneous structures and materials, and complete all earthwork required to construct new and replacement sidewalks, sidewalk ramps, and driveway approaches to the lines and grades shown on the plans and/or as directed by the Engineer. Complete this work according to the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, this detailed specification, and as directed by the Engineer.

b. Materials. Provide materials in accordance with subsection 205.02 of the MDOT 2012 Standard Specifications for Construction as necessary to achieve the required cross section(s). The Contractor may use excavated material, if suitable, as embankment with approval by the Engineer.

c. Construction. Complete this work according to applicable subsection 205.03 of the MDOT 2012 Standard Specifications for Construction. Grading for sidewalks and sidewalk ramps includes, but is not limited to, the following work:

1. Stripping and stockpiling topsoil for use in turf establishment as approved.
2. Removing rocks or boulders less than 0.5 cubic yards in volume.
3. Excavating material to a depth necessary for construction.
4. Disposing of excess and unsuitable material according to section 205 of the Michigan Department of Transportation (MDOT) 2012 Standards Specifications for Construction.
5. Furnishing and placing embankment material to the grades necessary for construction.
6. Shaping, grading, and compacting the subgrade and embankment to proposed grades to prepare it for Aggregate Base, Granular Material Class II or Subbase, CIP bedding material.
7. Matching new sidewalk, sidewalk ramp, and driveway approach grades with existing grades as required.

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

<u>Pay Item</u>	<u>Pay Unit</u>
Grading, Driveway Approach	Square Yard
Grading, Sidewalk	Square Yard
Grading, Sidewalk Ramp	Square Yard

Measure **Grading, Driveway Approach; Grading, Sidewalk; and Grading, Sidewalk Ramp** areas in place by the unit square yard and pay for them at their respective contract unit prices, which prices include the costs for all labor, equipment and materials necessary to complete the work.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
MACHINE GRADING

AA:DAD

1 of 6

03/12/18

a. Description. Complete this work for machine grading in accordance with section 205 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction as shown on the plans, and as specified herein,. Machine grading shall include all the work specified herein for which there is no separate pay item. This work shall consist of constructing earth grades by excavating, cutting, filling, trimming, and grading; general restoration, and sign removals in accordance with the Detailed Specifications elsewhere herein; and maintaining the work in a finished condition until such time that it is accepted by the Engineer.

b. Materials. All materials shall meet the requirements as specified in subsection 205.02 of the MDOT 2012 Standard Specifications for Construction.

c. Construction. All construction methods shall meet the requirements as specified in subsection 205.03 of the MDOT 2012 Standard Specifications for Construction, except as specified herein.

1. Soils Information - Soil information provided as part of the contract documents is for informational purposes only and shall not relieve the Contractor of the responsibility of investigating all local conditions before bidding.
2. General Provisions - The Contractor shall:
 - A. Grade around mailboxes, trees, light poles, power poles, and the like, which will remain in place. The Contractor shall be responsible for any damage caused to such structures.
 - B. Maintain the work in a finished condition until accepted by the Engineer.
3. Pavement Sawcutting - The work shall include the full-depth saw cutting of pavement at the construction limits, and elsewhere as required, if not paid for as part of another item of work.
4. Removal of Trees and Vegetation - The Contractor shall remove and properly dispose of off-site all vegetation; brush; roots; and trees and stumps less than 6 inch in diameter, as shown on the plans, and as directed by the Engineer as required to complete the project.
5. Removal and Salvaging of Topsoil – Remove, salvage and stockpile of topsoil, and all related work in accordance with subsection 205.03.A.1 (Removing and Salvaging Topsoil) of the MDOT 2012 Standard Specifications for Construction.
6. Miscellaneous Removals - Removal HMA, aggregate, and/or concrete materials from around manholes, structures, and utility covers. Removal of HMA curbing, HMA driveway wedges, HMA surface on existing curb and gutter, and HMA surfaces required for removal in other miscellaneous areas.

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

established in the proposal for its removal.

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

The Contractor shall be responsible for the maintenance of the foundation, roadway embankment, and subgrade.

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

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

8. Removal of Cable, Conduits and Pipe - The Contractor shall remove, and properly dispose of off-site, all abandoned cables, conduit, and pipe encountered at or above the bottom of any earthwork excavation or undercut. Fill the any/all voids less than 16 inches below the bottom of any earth excavation resulting from these removals with an Engineer approved material. Compact fill material to 95% of its maximum unit weight in lifts not exceeding 12 inches.

9. Preparing Foundations – The foundation is the earth grade upon which the Contractor will place roadway embankment, subbase, and aggregate material. Complete the foundation work in accordance with subsection 205.03.A (Preparing Roadway Foundation) of the MDOT 2012 Standard Specifications for Construction as shown on the plans, and as specified herein.

Compact the foundation to 95% of its maximum unit weight, as measured by the AASHTO T-180 method, to a depth of at least 10 inches. If in the opinion of the Engineer this is not feasible, the Engineer will direct the Contractor to perform “Subgrade Undercutting, Type ___” or “Subgrade Manipulation” on the foundation as described herein.

10. Roadway Embankment Construction - Roadway embankment is the construction of earth on the prepared foundation to form the subgrade. Complete roadway embankment work in accordance with subsection 205.03 H (Roadway Embankment) of the MDOT 2012 Standard Specifications for Construction as shown on the plans, and as specified herein. Roadway embankment shall be compacted to a minimum of 95% of its maximum unit weight, as measured by the AASHTO T-180 method.

11. Subgrade Construction - Subgrade is the final earth grade that extends from grading limit to grading limit. Construct the subgrade by performing earth excavation and roadway embankment work in accordance with subsection 205.03.G (Earth Excavation) and

subsection 205.03 H (Roadway Embankment) of the MDOT 2012 Standard Specifications for Construction, as shown on the plans, and as specified herein.

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

- A. Removal and disposal off-site of any surplus or unsuitable materials.
- B. Furnishing from off-site any additional Engineer approved fill materials necessary.
- C. Moving existing and/or furnished materials longitudinally and transversely as necessary.
- D. Cutting, placing, compacting, and trimming existing and/or furnished materials to construct the roadway embankment and subgrade to the specified tolerances.
- E. Stockpiling, and moving again, any cut materials the Contractor cannot immediately place upon excavation due to construction staging.

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

Prepare the subgrade to ensure uniform support for the pavement structure. Construct the finished subgrade to within 1 inch below and $\frac{3}{4}$ inch above plan grade. Variations within this tolerance shall be gradual.

The subgrade shall be compacted to a minimum of 95% of its maximum unit weight, as measured by the AASHTO T-180 method, to a depth of 10 inches. If in the opinion of the Engineer this is not feasible, the Engineer will direct the Contractor to perform "Subgrade Undercutting, Type ___" or "Subgrade Manipulation" on the foundation as described herein.

The Contractor shall use equipment and methods of construction best suited, in the opinion of the Engineer, to perform earthwork operations and satisfy the project requirements. The use of various equipment and methods of construction are subject to the approval of the Engineer. The Engineer may disallow the use of certain equipment and methods of construction and require the use of other equipment and/or methods of construction.

13. Test Rolling - The Contractor shall test-roll (proof-roll) the foundation and/or subgrade with a pneumatic tired roller with a suitable body for ballast loading and a gross load capacity between 25 and 40 tons. In place of a pneumatic tired test roller, with the approval of the Engineer, the Contractor may use a fully loaded single axle or tandem axle dump truck.

14. Subgrade Undercutting – Perform "Subgrade Undercutting" on the foundation or subgrade in accordance with section 205.03.E (Subgrade Undercutting) of the MDOT 2012 Standard Specifications for Construction, as shown on the plans, as specified herein, and as directed by the Engineer.

15. Subgrade Manipulation – Perform "Subgrade Manipulation" on the foundation or subgrade in accordance with section 205.03.F (Subgrade Manipulation) of the MDOT 2012 Standard Specifications for Construction, as shown on the plans, as specified herein, and

as directed by the Engineer.

Thoroughly scarify, blend, and mix to a depth of 12 inches foundation or subgrade areas requiring subgrade manipulation. Accomplish this work by means of a large diameter disc, motor grader, or other equipment approved by the Engineer. After manipulating the foundation or subgrade to the satisfaction of the Engineer allow it to dry, the soil shall be compacted to 95% of its maximum dry density as measured by the AASHTO T-180 method. The time required for drying the soil will not be a basis for an extension of time.

The cost of Subgrade Manipulation shall be included in the cost of "Machine Grading, Special" unless a pay item for "Subgrade Manipulation" is included in the Contract documents.

16. Rock Excavation – Perform rock excavation in accordance with section 205.03.B (Rock Excavation) of the MDOT 2012 Standard Specifications for Construction, as shown on the plans, and as directed by the Engineer.

Rock excavation applies to the removal of rocks, concrete and masonry less than ½ cubic yard in volume. Measure rocks and boulders, concrete, and/or masonry individually and compute the volume from the average dimensions measured in three directions.

17. Temporary Lowering Structures - Prior to cutting the subgrade, the Contractor shall remove structure covers, temporarily lower the structures to a point between 8 inches and 12 inches below the proposed subgrade, and cover the structures with a steel plate. Do not raise any structures prior to placing roadway embankment.

The steel plates for covering structure openings shall conform to the plan detail. Place and peg steel plates properly to prevent their movement under all traffic and prevent the infiltration of debris into the structures. Plates should be thick enough to carry all traffic loads.

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

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

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

18. Structure Covers - The Contractor shall remove and stockpile on site at a location mutually agreed upon by the Contractor and Engineer any/all existing structure covers designated for salvage and within two days of their removal deliverer them to the City's W.R. Wheeler Service Center (4251 Stone School Rd, Ann Arbor, MI). Any structure covers not designated for salvage shall become the property of the Contractor, and disposed of, as required, by the Contractor.

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

this work.

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

<u>Pay Item</u>	<u>Pay Unit</u>
Machine Grading, Special	Square Yard

Measure **Machine Grading, Special** area by the unit square yard and pay for it at the contract unit price, which price includes costs for all labor, equipment and materials necessary to complete the work.

Measure quantity of excavated material (soil, rock, brick, etc.) from the top of existing grade down to the bottom of the excavation. Embankment, fill, subgrade protection/maintenance/manipulation, and drainage maintenance are not a separate contract pay items. Include payment for this work in the item of work, **Machine Grading, Special**.

The Contractor shall include all of its costs to complete all of the work described above in the **Machine Grading, Special** pay item based on the plan quantities shown in the Contract. The Engineer will not pay for additional work associated with **Machine Grading, Special**, whether or not shown on the plans or specified above unless there are separate pay items in the contract specific to these types of work. The Engineer may adjust plan quantities due to changes in the limits of the work. The Engineer will direct these adjustments in writing.

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

There will be no separate payment for any required pavement saw cutting.

The Contractor, at its sole expense and as directed by the Engineer, shall repair any damage to the foundation, roadway embankment or subgrade where in the opinion of the Engineer traffic and/or the operations of the Contractor caused the damage.

There will be no separate payment for the removal of cable, conduit, pipe or any other work described above in section c.8 (Removal of Cable, Conduits and Pipe).

There will be no additional compensation or extensions of contract time for additional measures required to protect the grade as specified above.

Where "Rock Excavation" as described above exceeds ½ cubic yard in volume the Engineer will pay for the work separately as extra work unless there is a separate pay item in the contract specific to that type of work.

Due to the nature of this project, it is highly probable that some or all of the excavated material may not be suitable for use as approved fill/embankment material. Consequently, there may be imbalances between the amount of earth excavation, which is suitable for reuse as embankment, and the amount of embankment needed for the construction activities shown on the plans, or as directed by the Engineer. The Contractor shall make provisions for such imbalances and shall

include in the bid price for this work the cost of furnishing, placing, and compacting of the additional embankment material necessary to complete the work to construct the embankment and subgrade to the cross sections shown on the plans, or as directed by the Engineer. This includes the cost of stockpiling and re-handling of imported and/or on-site material.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR

SOIL EROSION AND SEDIMENTATION CONTROL – INLET FILTER

AA:DAD

1 of 1

03/11/18

a. Description. This work consists of installing and maintaining inlet filters, as shown on the plans, in accordance with section 208 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction and. Install filters in existing and proposed inlets to restrict and minimize amounts of sediment entering into the storm sewer system and water courses. The related work includes the installation, maintenance and removal of the filter cloth, cleaning as required during the performance of the project work, removing and disposing of accumulated sediment, and replacement of filters if required by the Engineer to provide a properly working inlet filter and a well-drained site.

b. Materials. The following devices are approved for use as acceptable alternatives:

1. Siltsack Type B, Regular Flow, by ACF Environmental, Inc.
2. Inlet Pro Sediment Bag, Standard Flow, with optional foam deflector by Hanes GeoComponents.
3. Dandy Curb Bag, Dandy Bag, Dandy Curb Sack, Dandy Sack, or Dandy Pop by Dandy Products, Inc.
4. Basin Bag, Regular Flow by CSI Geoturf.

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

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

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

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

Measure **Erosion Control, Inlet Filter** individually in place by unit each and pay for it at the contract unit price, which price includes all costs for labor, equipment and materials necessary to furnish, install, maintain, clean and remove the inlet filter, and to re-install and/or replace the inlet filter as needed.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
FLEXIBLE PIPE COUPLINGS

AA:DAD

1 of 1

03/10/18

a Description. Use flexible pipe couplings to adjoin pipes of different sizes or materials as directed by the Engineer, and as described herein.

b Materials. Use FerncoTM Flexible couplings with stainless steel shear rings; Indiana Seal Flexible Couplings; or an Engineer approved equal.

c Construction. Install flexible couplings per the specifications of the manufacturer, and provide stainless steel shear rings regardless of pipe bedding conditions.

d Measurement and Payment. Prior to payment for this item, the Contractor shall submit its receipt(s) from the manufacturer or supplier to the Engineer. Receipt(s) should detail the cost of each coupling and related components including shipping charges and taxes. The Engineer will review and approve these costs and pay for them as an extra to the contract. The Contractor shall include all labor and equipment costs necessary to install the flexible pipe coupling(s) in the contract unit price(s) for the pay item(s) directly associated with this work.

CITY OF ANN ARBOR
 DETAILED SPECIFICATION
 FOR
DRAINAGE AND UTILITY STRUCTURES

AA:DAD

1 of 1

03/10/18

a. Description. This work consists of cleaning, pointing, and temporary lowering drainage and utility (storm, sanitary, and water) structures whether shown or not on the plans, as directed by the Engineer, and as herein provided.

b. Materials. Provide materials in accordance with subsection 403.02 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, unless otherwise directed by the Engineer.

c. Construction. Clean, point, and temporary lower drainage and utility structures in accordance with subsection 403.03 of the MDOT 2012 Standard Specifications for Construction, and as directed by the Engineer.

Reconstruct drainage and utility structures from the base using precast reinforced concrete units or concrete block masonry.

Point structures by removing loose and damaged mortar, filling joints between concrete and masonry units with new mortar, and striking joints so the exposed surface is smooth and free of voids.

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

<u>Pay Item</u>	<u>Pay Unit</u>
Dr Structure, Cleaning, Modified	Each
Dr Structure, Point.....	Each
Dr Structure, Temp Lowering, Modified	Each

Measure **Dr Structure, Cleaning, Modified**; **Dr Structure, Point**; and **Dr Structure, Temp Lowering, Modified** individually in place by their respective units each and pay for them at their respective contract unit prices, which prices include the costs for all labor, equipment and materials necessary to complete the work.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
DRAINAGE OR UTILITY STRUCTURE RECONSTRUCTION

AA:DAD

1 of 3

03/11/18

a. Description. This work shall consist of reconstructing drainage and utility structures in accordance with section 403 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, as shown on the plans, as directed by the Engineer, and as specified herein.

b. Materials. The materials used for this work shall conform to subsection 403.02 of the MDOT 2012 Standard Specifications for Construction except as specified herein.

Construct drainage structures of precast or cast in place reinforced concrete sections, or concrete masonry units. Construct all sanitary sewer manholes and gate wells (water main valve manholes) of precast reinforced concrete sections.

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

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

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

Plastic coated manhole steps shall be injection molded of copolymer, polypropylene, encapsulating a ½-inch grade 60 steel reinforcing bar. Plastic-coated manhole steps shall meet the performance test described in ASTM C-478, Paragraph II, and shall have an impact resistance of 300 ft-lbs, with only minor deflection and no cracking or breaking. The steps shall resist pull out forces of 1500 lbs.

c. Construction. The construction methods used for reconstructing drainage structures, where directed by the Engineer, shall conform to section 403.03 of the MDOT 2012 Standard Specifications for Construction except as specified herein.

Excavate to the depth and width required to permit the construction of the required base. The excavation width shall be greater than the base. Trim the bottom of the excavation to a uniform horizontal bed and be completely dewatered before placing any structure components.

Use concrete block construction only for storm sewer manholes and inlets and construct these structures to the size and dimensions shown on the plans. Use clean masonry block units, place them in a full bed of mortar, and thoroughly bond them together in place by completely filling the vertical end grooves with mortar to interlock them with the adjacent blocks. The mortar beds and joints shall not exceed ¾ inch thickness. Completely fill vertical joints and fill joints on the inside face of the structure by rubbing them full of mortar and striking them smooth as construction proceeds vertically. Place and strike smooth a 1/2" thick mortar coat on the entire outside face of

the structure. Heat all masonry materials, sand, and water to over 50⁰ F during freezing weather and cover and protect the completed work from damage by freezing.

Construct circular precast manhole sections in accordance with the details as shown on the plans. Construct manhole stack units on level poured-in-place bases, precast concrete bases, or precast concrete bottom sections.

Construct precast cone sections in accordance with the details as shown on the plans. These units shall be eccentric for all manholes, precast or block. Top all structures with a minimum of one and a maximum of three adjustment courses. Adjustment courses shall be 2 inches in height and constructed using bricks or precast adjustment rings.

Construct manholes, inlets, gate wells, and other structures within 2-1/2 inches of plumb.

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

Extend sewer pipes into structures a minimum of 1/2 inch and a maximum of 3 inches.

Finish flow channels for sewer structures in accordance with the details as shown on the plans. Screed and float all flow channels to a smooth, uniform surface and troweled to a hard surface finish.

Furnish and place stubs for future sewer connections as shown on the plans and as directed by the Engineer. Properly support and brace connections when they are not resting on original ground so that any settlement will not disturb the connection. Stubs shall consist of one length of sewer pipe, of the size indicated on the plans, with a watertight plug.

Keep the excavation in a dry condition.

Sealing Manhole Cone/Chimney Interface Area:

Place an epoxy or urethane sealing product at the junction of the drainage structure cone/chimney interface as detailed on the plans or as directed by the Engineer. Use only products approved by the Engineer and manufactured by one of the suppliers listed below:

NPR-3501 Neopoxy (epoxy) manufactured by NeoPoxy International, 27057 Industrial Boulevard, Hayward, CA 94545, Phone 510.782.1290, Fax 510.782.1292 (www.NeoPoxy.us)

EasySeal SG (urethane) manufactured by Cretex Specialty Products, N16 W23390 Stone Ridge Drive, Suite A, Waukesha WI 53188, Phone 800 345 3764, Fax 262.542.0301 (www.cretexseals.com)

Flex-Seal (urethane) manufactured by Sealing Systems, Inc, 9350 County Road 19, Loretto, MN 55357, Phone 800-478-2054, Fax 763-478-8868 (www.ssisealingsystems.com)

For the purposes of this work, the definition of the manhole chimney is the masonry units sitting atop the pre-cast concrete or manhole block corbel or cone sections and extending up to the bottom of the drainage structure cover. Apply sealant to the entire chimney section. Thoroughly clean the chimney section as detailed in the installation instructions of the sealant manufacturer. Apply all products in strict accordance with the recommendations and installation requirements of the manufacturer. The Engineer shall approve the chosen sealing product prior to commencement of the work.

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

<u>Pay Item</u>	<u>Pay Unit</u>
Structure, Reconstruct	Each

Measure **Structure, Reconstruct** individually in place by unit each and pay for it at the contract unit price, which price includes all costs for labor, equipment and materials to complete the work. It also includes any/all costs necessary for dewatering and adjustments required to accommodate field conditions encountered during construction.

CITY OF ANN ARBOR
 DETAILED SPECIFICATION
 FOR
GEOSYNTHETIC PAVING LAYER

AA:JN/DAD

1 of 2

03/10/18

a. Description. This work shall consist of prepping the surface, furnishing, and installing a geosynthetic paving layer on the leveling course prior to placing the new HMA top course as shown on the plans.

b. Materials. The asphalt bond coat shall be hot applied asphalt cement meeting grade requirements for AC, AR, or PG specifications. Apply an AC-20, PG 64-22, or 60-80 penetration grade of asphalt for normal installations and temperatures. For applications when temperatures exceed 90 degrees Fahrenheit, use a higher viscosity asphalt. AC-30, PG 70-10 or 40-60 penetration grades are appropriate.

The geosynthetic paving layer shall be a non-woven fiberglass/polyester interlay paving material (F/P Interlayer) or approved equal. It shall be free from any tears or holes that will adversely affect physical properties and in-situ performance after installation.

The minimum physical property requirements of the material are as follows:

Mechanical Property	Test Method	Unit	Typical Value
Tensile Strength, MD	ASTM D5035	Lbf/in	>80
Tensile Strength, CD	ASTM D5035	Lbf/in	>70
Elongation at Maximum Load,	ASTM D5035	%	<5
Asphalt Retention	ASTM D6140	Gal/yd ²	0.18
Melting Point	ASTN D276	°F	>446
Mass per Unit Area	ASTM D5261	Oz.yd ²	4.0

Notes:

- a. MD = Machine Direction (longitudinal to the roll)
- b. CD = Cross Direction (across roll width)
- c. Note: Conditions for tensile strength measurements:
 - a. Sample width: 2 inches Sample Length: 10 inches
 - b. Gage Length: 7 inches Crosshead Speed: 2 inches/minute

The manufacturer shall furnish certified test data showing the material meets the physical and engineering properties of this specification, and furnish a letter of certification shall with each shipment stating the material complies with specification requirements.

c. Construction. A trained and experienced installer certified by the manufacturer or their agent(s) shall install and/or supervise the installation of geosynthetic paving layer material.

Apply geosynthetic material on a clean, dry surface free and clear of all dirt and debris

Apply bond coat using a motorized distributor (spreader) that is capable of adjusting spray rates by 0.10 gal/syd. The valves on the distributor bar must fan in an overlap fashion at the application rate. The recommended application is 0.15 gal/syd. Install geosynthetic material over hot asphalt tack coat.

Place the geosynthetic paving layer material using a tractor or a distributor truck with a fabric applicator attached to the back. Install paving layer material using mechanically powered equipment, or by hand as required and approved by the Engineer. Mechanical equipment shall be capable of installing rolls 3.0 feet in width. Only install material by hand in areas needing specially cut sections, and/or where mechanically installed methods are not feasible. Use brooms or squeegees to remove any air bubbles and ensure paving layer material is in complete contact with the underlying surface. Cut or smooth folds and wrinkles encountered during lay down operations, and apply additional bond coat material as needed to achieve complete adhesion.

Overlap paving layer material according to the manufacturer's specifications. Overlap the transverse roll ends in the direction of paving operations to avoid pick-up during HMA paving. Apply bond coat to all overlaps to ensure proper adhesion.

The Engineer shall approve any deviations, alterations and/or work not specifically called for on the plans and determined necessary to install the paving layer.

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

<u>Pay Item</u>	<u>Pay Unit</u>
Geosynthetic Paving Layer	Square Yard

Measure **Geosynthetic Paving Layer** area in place by the unit square yard and pay for it at the contract unit price, which price includes all cost for labor, equipment and materials necessary to complete the work. It also includes labor, equipment and material costs related any deviations, alterations and/or work not specifically called for on the plans and determined necessary to install the paving layer. The Engineer will make no allowance for overlaps, splices, or cut off and/or wasted material.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
HOT MIX ASPHALT (HMA) APPLICATION ESTIMATE

AA:DAD

1 of 2

03/13/18

a. Description. Perform this work in accordance with the requirements of section 501 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, and as herein specified.

b. Materials.

PAY ITEM	HMA MIX	APPLICATION RATE	ESTIMATED THICKNESS	PERFORMANCE GRADE	AWI (min)
Stone School Road					
HMA, 5E1	5E1 (top)	165-220 lb/syd	1.5-2.0 inches	PG 64-28	260
HMA, 4E1	4E1 (leveling)	220-275 lb/syd	2.0-2.5 inches	PG 64-28	N/A
South State Street					
HMA, 5E1, High Stress	5E1 (top)	165-220 lb/syd	1.5-2.0 inches	PG 70-28P	260
HMA, 4E1, High Stress	4E1 (leveling)	220-275 lb/syd	2.0-2.5 inches	PG 70-28P	N/A
Jackson Avenue					
HMA, 5E3, High Stress	5E3 (top)	165-220 lb/syd	1.5-2.0 inches	PG 70-28P	260
HMA, 4E3, High Stress	4E3 (leveling)	220-275 lb/syd	2.0-2.5 inches	PG 70-28P	N/A
Minor (Local) Streets					
HMA, LVSP	LVSP (top & leveling) <u>Local Streets</u>	220 lb/syd	2.0 inches	PG 58-28	220
Major and Minor (Local) Streets					
HMA, Approach	5E1 or 5E3 <u>Major Streets</u>	Place in two courses/lifts at 220 lb/syd	Thickness may vary with maximum per lift = 2.0 inches	PG 64-28	260
	LVSP <u>Minor Streets</u>			PG 58-28	220
HMA, Wedging, 36A	36A	Yield may vary between 110 and 330 lb/syd	Thickness may vary between 1.0 and 3.0 inches	PG 58-28	220
Hand Patching	5E1 or 5E3 <u>Major Streets</u> LVSP <u>Minor Streets</u>	Yield may vary with maximum = 330 lb/syd	Thickness may vary with maximum layer = 3.0 inches	PG 64-28 PG 58-28	N/A

PAY ITEM	HMA MIX	APPLICATION RATE	ESTIMATED THICKNESS	PERFORMANCE GRADE	AWI (min)
Ann Arbor-Saline Road Shared Use Path					
Shared use Path, HMA	LVSP	250 lb/syd	2.25 inches	PG 58-28	220
Shared use Path, HMA, Wedging	LVSP	Yield may vary between 165 and 250 lb/syd	Thickness may vary between 1.5 and 2.25 inches	PG 58-28	N/A

Use the respective mixes indicated above on Major and Local streets unless the plans note otherwise, or directed otherwise by the Engineer. Prior to placing HMA, Approach and/or Hand Patching on Major streets the Engineer shall approve the mixture proposed for use.

Target air voids shall be 3.5% for leveling courses, top courses and shoulders paved in the same operation as the leveling and top courses. Target air voids shall be 3% for base courses and shoulders not paved in the same operation as the leveling and top courses. Shared use paths shall have a target air void content of 3%.

The Performance Grade asphalt binder range for the HMA mixture shall be as noted above. Apply Bond Coat material accordance with the requirements of the Detailed Specification for HMA Paving.

The uniform rate of application shall be between 0.05 and 0.10 gallons per square yard as directed and approved by the Engineer. Bond Coat is not a separate pay item, and payment for furnishing and placement is included in the HMA items of work for which it applies

c. Measurement and Payment. Measure and pay for this work as provided elsewhere in the contract documents.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
HOT MIX ASPHALT (HMA) PAVING

AA:DAD

1 of 3

03/10/18

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

b. Materials. None specified.

c. Construction.

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

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

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

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

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

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

Apply bond coat at a rate of 0.10 gallons per square yard. Before placing the bond coat, the thoroughly clean the existing pavement surface. The Contractor shall also thoroughly clean all joints, cracks, and edges to a minimum depth of one inch with compressed air, vac-all type equipment, or other approved mechanical or hand methods, to remove all dirt, debris, and all foreign material.

3. HMA Placement: Placement shall conform to subsection 501.03.F of the MDOT 2012 Standard Specifications for Construction, except as modified herein, and as directed by the Engineer.

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

The Engineer must approve the final structure adjustments prior to the issuance of the "Permit to Place" for the top course.

Place the top course with a ¼" lip along the edge of the curb and gutter/edge of metal.

All HMA thickness dimensions are compacted-in-place.

4. Paving Operation Scheduling: The Contractor shall schedule the paving operation to avoid leaving longitudinal cold joints "open" overnight.

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

5. Rate of Paver Operation: Maintain a paving machine rate of travel so that HMA placement and paving operation is continuous; resulting in no transverse cold joints. The rate of travel; however, shall never exceed 50 feet per minute.

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

6. Longitudinal and Transverse Joints: These joints shall conform to subsection 502.03.F of the MDOT 2012 Standard Specifications for Construction, and as specified herein.

For mainline HMA paving, the width of the mat for each pass of the paver shall be not less than 10.5 feet, or greater than 15 feet, except as noted in the plans and as directed by the Engineer. The Engineer will direct the layout of all HMA longitudinal joints during construction.

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

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

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

9. Rakers: The Contractor shall provide a minimum of two asphalt rakers during the placement of all wearing and leveling courses.

10. Faulty Mixtures: The Contractor and Engineer shall carefully observe the paving operation for signs of faulty mixtures. The Contractor, at its sole expense, shall remove or correct points of weakness in the surface prior to paving subsequent lifts of HMA material. Such corrective action may include the removal and replacement of thin or contaminated sections of pavement, segregated HMA, and any sections that are weak or unstable. Once the Contractor or his representative is notified by the Engineer that the material being placed is out of allowable tolerances, or that there is a problem with the paving operation, the Contractor shall stop the paving operation at once, and shall not be permitted to continue placing HMA material until again authorized by the Engineer. The Engineer will not pay for separately any costs associated with meeting the above requirements, and will include them in the HMA work item(s) the Contractor was performing at the time of discovery of the faulty mixture.

d. Measurement and Payment. The contract includes no separate pay items for measurement and payment of the costs associated with meeting the requirements of this detailed specification. The Contractor shall include these costs in the unit prices bid for the HMA items in the contract.

The Contractor shall return any/all trucks to the plant with unused HMA remaining after the work is complete, and these trucks shall be re-weighed and the corrected weight slip provided to the Engineer. There will no payment any unused HMA material. All weight slips must include the type of mixture (codes are not acceptable), as well as vehicle number, gross weight, tare weight and net weight.

CITY OF ANN ARBOR
 DETAILED SPECIFICATION
 FOR
HOT MIX ASHALT (HMA) PAVEMENT REPAIR

AA:DAD

1 of 1

03/10/18

a. Description. This work consists of repairing areas of failed asphalt pavement by cold milling the existing pavement and placing new hot mix asphalt (HMA) material as directed by the Engineer, and as described herein. Complete pavement repairs in the cold milled surface prior to placement of the first hot mix asphalt paving course.

b. Materials. Provide materials in accordance with subsection 501.02 of the MDOT 2012 Standard Specifications for Construction and as shown on the special detail.

c. Construction. Cold mill designated repair locations and place Hand Patching, Modified according to the details on the plans, and in accordance with subsection 501.03 of the MDOT 2012 Standard Specifications for Construction. The Engineer will designate repair locations after the pavement has been cold milled as shown on the plans. The milling machine must return to the designated repair locations to apply milling for an additional depth of 3 inches. Hand Patching, Modified must be placed in the repair area and roller compacted prior to placement of the paving course.

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

Pay Item	Pay Unit
Cold Milling HMA Surface, Modified.....	Square Yard
Hand Patching, Modified.....	Ton

Measure **Cold Milling HMA Surface, Modified** area by the unit square yard and pay for it at the contract unit price, which price includes the cost for all labor, equipment and materials required to remove, load, haul, and dispose of the cold milled material, and cleaning the cold milled pavement. The Engineer will not pay for material picked up by cleaning after cold milling.

Measure **Hand Patching, Modified** weight by the unit ton and pay for it at the contract unit price, which prices includes the cost for all labor, equipment and materials to place HMA, by hand or other methods, the placement of bond coat, and compacting the material.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CONCRETE PLACEMENT AND PROTECTION

AA:DAD

1 of 2

03/10/18

a. Description. This work shall consist of furnishing all labor, material, and equipment needed to furnish, place, and protect all concrete material in accordance with the requirements of this detailed specification, and as directed by the Engineer. These requirements shall not apply to concrete bridge decks, unless otherwise noted.

b. Materials. The concrete shall meet the requirements of sections 601 and 701 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction.

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

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

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

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

The Contractor shall remove and replace any concrete damaged by precipitation. The Engineer shall decide if the concrete has been damaged and the limits of removal and replacement.

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

Do not add water to placed concrete in order to aid finishing. Perform the addition of any water for slump adjustments by it to the mixing unit and thoroughly re-mixing the concrete for 30

revolutions of the mixing unit at mixing speed. Do not add water such that the concrete mixture water-to-cement ratio and slump exceed those specified by the respective concrete mix design.

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

The Contractor shall take all precautions when placing concrete to protect it from damage due to the elements. Do not place concrete during precipitation events.

Concrete shall be protected from weather and temperature according to the requirements of subsection 602.03.T MDOT 2012 Standard Specifications for Construction. Do not place concrete when the temperature of the plastic concrete mixture itself is greater than 90° F. In conditions where low temperature protection is required, the Contractor shall cover the concrete with insulated blankets, or other means as approved by the Engineer, to protect the concrete from damage. The concrete shall remain protected until it has reached a compressive strength of at least 1000 psi, or as directed by the Engineer.

d. Measurement and Payment. The contract includes no separate pay items for measurement and payment of the costs associated with meeting the requirements of this detailed specification. The Contractor shall include these costs in the unit prices bid for the concrete items in the contract.

The Contractor shall remove and replace any concrete damaged by precipitation or cold weather at its own expense.

CITY OF ANN ARBOR
 DETAILED SPECIFICATION
 FOR
CONCRETE CURB AND GUTTER, AND DRIVEWAY OPENINGS

AA:DAD

1 of 2

03/10/18

a. Description. This work shall consist of constructing concrete curb and gutter, and concrete driveway openings at the locations shown on the plans in accordance with section 802 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, applicable standard or special details, as directed by the Engineer, and as specified herein.

b. Materials. The materials shall meet the requirements as specified in subsection 802.02 of the MDOT 2012 Standard Specifications for Construction and as specified herein.

The concrete mixture for Driveway Opening, Conc, Det M, Modified shall be Grade P-NC (658 pounds/cubic yard cement content) concrete with 6AA coarse aggregate.

All other concrete curb and gutter specified herein shall be Grade P1 with 6AA coarse aggregate. The Contractor may elect to add GGBFS to P1 mixtures in accordance with the requirements of the contract documents. The Engineer will not pay any additional amount for concrete mixtures containing GGBFS.

All concrete mixtures shall contain 6AA coarse aggregates that are either natural or limestone and meet the requirements of section 902 the MDOT 2012 Standard Specifications for Construction.

The Contractor is solely responsibility for providing specific concrete mix designs that meet the requirements of this detailed specification.

c. Construction. Construction methods shall be in accordance with subsection 802.03 of the MDOT 2012 Standard Specifications for Construction.

Place expansion joints of the thickness shown on the details as directed by the Engineer.

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

<u>Pay Item</u>	<u>Pay Unit</u>
Curb and Gutter, Conc, Barrier.....	Foot
Curb and Gutter, Conc, Mountable	Foot
Driveway Opening, Conc, Det M, Modified	Foot

Measure **Curb and Gutter, Conc** and **Driveway Opening, Conc, Det M, Modified** lengths in place by the unit foot and pay for them at their respective contract unit prices, which prices include the costs for all labor, equipment and materials to complete the work.

Measurement in place by the unit foot and payment for concrete curb and gutter (without the curb face) at curb openings for sidewalk ramps will be at the contact unit price for **Curb and Gutter, Conc.**

Where the Engineer directs the use of high early strength concrete for pay items not specifically designated to use Grade P-NC concrete, it will separately for the additional cement. The Engineer will not pay for cement separately for pay items that designated to use Grade P-NC concrete.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
DETECTABLE WARNING SURFACE

AA:DAD

1 of 2

03/10/18

a. Description. This work shall consist of furnishing and installing cast in place detectable warning units in compliance to the Americans with Disabilities Act (ADA) Title 49 CFR Transportation, Part 37.9 Standards for Accessible Transportation Facilities, Appendix A, section 4.29.2 Detectable Warnings on Walking Surfaces. All work shall be in accordance with the Detailed Specification for “Concrete Sidewalk, Sidewalk Ramps, and Driveway Approach”, section 803 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, MDOT Standard Plan Series R-28, as indicated on the plans, and as modified herein.

b. Materials. The color for detectable warning tiles shall be Federal Number 22144 (frequently referred to as “Colonial Red” or “Brick Red”).

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

The detectable warning tiles shall meet the following material properties, dimensions, and tolerances using the most current test methods:

1. Water Absorption: Not to exceed 0.35% when tested in accordance with ASTM-D570
2. Slip Resistance: 0.80 minimum combined wet/dry static coefficient of friction on top domes and field area, when tested in accordance with ASTM C1028.
3. Compressive Strength: 18,000 psi minimum, when tested in accordance with ASTM D695.
4. Tensile Strength: 10,000 psi minimum, when tested in accordance with ASTM D638.
5. Flexural Strength: 24,000 psi minimum, when tested in accordance with ASTM D790.
6. Chemical Stain Resistance: No reaction to 1% hydrochloric acid, urine, chewing gum, soap solution, motor oil, bleach, calcium chloride, when tested in accordance with ASTM D543 or D1308.
7. Wear Depth: 300 minimum, when tested in accordance with ASTM C501.
8. Flame Spread: 25 maximum, when tested in accordance with ASTM E84.
9. Gardner Impact: 50 in.-lbs. minimum, when tested in accordance with Geometry “GE” of ASTM D5420.
10. Accelerated Weathering of Tile when tested by ASTM-G155 or ASTM G151 shall exhibit the following result- $\Delta E < 6.0$ as well as no deterioration, fading or chalking of surface when exposed to 3000 hours minimum exposure.
11. Wheel Loading: The cast in place tile shall be mounted on a concrete platform with a ½” airspace at the underside of the tile top plate then subjected to the specified maximum load of 10,400 lbs., corresponding to an 8,000 lb individual wheel load and a 30% impact factor. The tile shall exhibit no visible damage at the maximum load of 10,400 lbs using AASHTO-HB17 single sheet HS20-44 loading “Standard Specifications for Highways and Bridges.”
12. Salt and Spray Performance of Tile and Adhesive System when tested to ASTM-B117 not to show any deterioration or other defects after 100 hours of exposure

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

Samples for Verification Purposes: Submit two (2) tile samples minimum 6” x 8” of the kind proposed for use. Properly label samples to show the following information: Name of Project; Submitted by; Date of Submittal; Manufacture’s Name; Catalog No.; and Date of Fabrication.

Material Test Reports: Submit current test reports from a qualified, independent, testing laboratory that verify materials proposed for use comply with requirements of this detailed specification. Use a certified and qualified independent testing laboratory to perform any/all other tests required by this detailed specification to ensure the proposed cast-in-place tactile warning system is compliant. All test reports submitted shall be certified by the testing laboratory and shall clearly state that all tests were completed within 5 years of the date of the submittal. The manufacturer shall certify in writing that the materials provided to the project are manufactured with the same materials and manufacturing procedures as those used in the materials on which the tests were performed.

c. Construction. Installer Qualifications: Engage an experienced installer who has successfully completed tile installations similar in material, design, and extent required for this project.

The contractor shall follow manufacturer specifications for installation, except where they conflict with MDOT Standard Plan Series R-28, or other project requirements.

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

<u>Pay Item</u>	<u>Pay Unit</u>
Detectable Warning Surface, Modified.....	Foot

Measure **Detectable Warning Surface, Modified** length in place by the unit foot and pay for it at the contract unit price, which price includes the costs for all labor, equipment and materials to complete the work.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
CONCRETE SIDEWALK, SIDEWALK RAMP AND DRIVEWAY APPROACH

AA:DAD

1 of 2

03/10/18

a. Description. This work shall consist of constructing concrete sidewalks, sidewalk ramps, or driveway approaches of the types as indicated on the plans in accordance with attached details, and as directed by the Engineer. All work shall be in accordance with sections 801 and 803 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, and as specified herein.

b. Materials. The materials shall meet the requirements as specified subsection 803.02 of the MDOT 2012 Standard Specifications for Construction and as required herein. The concrete mixture for driveway approaches shall be Grade P-NC (658 lbs/yd³ cement content) as specified in subsection 601.02 of the MDOT 2012 Standard Specifications.

The grade of concrete for all remaining items covered by this detailed specification shall be Grade P1 as specified in subsection 601.02 of the 2012 MDOT Standard Specifications for Construction. The Contractor may elect to add GGBFS to P1 mixtures in accordance with the requirements of the contract documents. The Engineer will not pay any additional amount for concrete mixtures containing GGBFS.

All concrete mixtures shall contain 6AA coarse aggregates that are either natural or limestone and meet the requirements of section 902 of the MDOT 2012 Standard Specifications for Construction.

The Contractor is solely responsibility for providing specific concrete mix designs that meet the requirements of this detailed specification.

c. Construction Methods. The Contractor is responsible to construct all sidewalks, sidewalk ramps, curbs, and all other concrete items within ADAAG and PROWAG compliance. Construct all sidewalk ramps in accordance with MDOT Standard Plan Series R-28.

Where concrete is to be placed, it shall be placed on a minimum of 4 inches of Granular Material Class II compacted to 95% of its maximum dry density.

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

Where indicated on the plans, the Contractor shall horizontally saw cut curbs to provide openings for sidewalk ramps. The Engineer shall define the extent of the saw cuts both horizontally and vertically.

Install all sidewalk ramps with detectable warning tiles. Reference the Detailed Specification for Detectable Warning Surface for additional requirements.

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

<u>Pay Item</u>	<u>Pay Unit</u>
Driveway, Nonreinf Conc, 6 inch, Modified	Square Yard
Driveway, Nonreinf Conc, 8 inch, Modified	Square Yard
Sidewalk, Conc, 4 inch, Modified	Square Foot
Sidewalk, Conc, 6 inch, Modified	Square Foot
Sidewalk, Conc, 8 inch, Modified	Square Foot
Sidewalk Ramp, Conc, 6 inch, Modified.....	Square Foot
Sidewalk Ramp, Conc, 8 inch, Modified.....	Square Foot

Measure **Driveway, Nonreinf Conc, _ inch, Modified** areas in place by the unit square yard and pay for them at their respective contract unit prices, which prices include the costs for all labor, equipment and materials to complete the work.

Measure **Sidewalk, Conc, _ inch, Modified** and **Sidewalk Ramp, Conc, _ inch, Modified** areas in place by the unit square foot and pay for them at their respective contract unit prices, which prices include the costs for all labor, equipment and materials to complete the work.

Saw cutting is not a separate contract pay item, and payment for this work will be included in the appropriate item of work for which it applies. The Contractor shall include any/all costs for saw cutting to place concrete driveways, sidewalk and sidewalk ramps in the respective contract unit prices bid for **Driveway, Nonreinf Conc, _ inch, Modified; Sidewalk, Conc, _ inch, Modified; and Sidewalk Ramp, Conc, _ inch, Modified.**

Where the Engineer directs the use of high early strength concrete for pay items not specifically designated to use Grade P-NC concrete, it will separately for the additional cement. The Engineer will not pay for cement separately for pay items that designated to use Grade P-NC concrete.

The pay items, **Granular Material Class II** and **Subbase, CIP**, are for the furnishing, placement, grading and compaction of bedding material respectively beneath replacement and new sidewalks and sidewalk ramps.

The pay items for **Grading, Driveway Approach; Grading, Sidewalk; and Grading, Sidewalk Ramp** respectively include earth excavation, furnishing and placement of embankment material, and preparing the grade for placement of Aggregate Base, Granular Material Class II or Subbase, CIP bedding material beneath replacement and new sidewalks and sidewalk ramps.

Measurement in place by the unit foot and payment for detectable warning tiles in sidewalk ramps will be at the contact unit price for **Detectable Warning Surface, Modified** in accordance with the Detailed Specification for Detectable Warning Surface.

CITY OF ANN ARBOR
 DETIALED SPECIFICATION
 FOR
WEDGING OF HOT MIX ASPHALT (HMA) SHARED USE PATH

AA:DAD

1 of 2

03/13/18

a. Description. This work consists of constructing hot mix asphalt (HMA) wedging along shared use paths as directed by the Engineer, and as described herein.

b. Materials. Provide materials in accordance with section 501 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction. Use HMA mixture shown in the Detailed Specification for Hot Mix Asphalt (HMA) Application Estimate included in the contract for this work, or an acceptable substitute approved by the Engineer.

c. Construction. Perform work in accordance with section 501 of the MDOT 2012 Standard Specifications for Construction, and as directed by the Engineer.

Place wedging material in accordance with the application rate shown in the Detailed Specification for Hot Mix Asphalt (HMA) Application Estimate included in the contract.

Have a 10-foot long straight-edge, backhoe, air-compressor and jackhammer available during all paving operations for wedging work.

Use wedging to provide good vertical and horizontal transitions between old and new construction, eliminate areas of standing water in the wearing surface and provide for positive drainage, and to perform cross slope correction to achieve compliance with current standards.

Construct joints by feathering the edges of all wedging (including the raking out of all large pieces of aggregate) to provide a high quality, smooth riding surface.

Clean the existing surface with compressed air and/or vacuum type street cleaning equipment prior to placement of wedging material.

Apply MDOT SS-1h bond coat on all asphalt and concrete surfaces within the wedging area at a rate between 0.05 and 0.10 gallons/square yard as directed by the Engineer using a power distributor hand sprayer.

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

<u>Pay Item</u>	<u>Pay Unit</u>
Shared use Path, HMA, Wedging	Ton

Measure **Shared use Path, HMA, Wedging** weight in place by unit ton and pay for it at the contract unit price, which price includes all cost for labor, equipment and materials necessary to complete the work.

The Contractor shall return any/all trucks to the plant with unused HMA remaining after the work is complete, and these trucks shall be re-weighed and the corrected weight slip provided to the

Engineer. There will no payment any unused HMA material. All weight slips must include the type of mixture (codes are not acceptable), as well as vehicle number, gross weight, tare weight and net weight.

CITY OF ANN ARBOR
 DETAILED SPECIFICATION
 FOR
WET REFLECTIVE LIQUID APPLIED PAVEMENT MARKINGS

AA:DAD

1 of 2

03/10/18

a. Description. This work consists of furnishing and installing wet night retroreflective (WR) beads and/or elements and liquid applied pavement marking materials in accordance with the Michigan Department of Transportation 2012 Standard Specifications for Construction, and as required herein.

b. Materials.

1. Wet Night Retroreflective Beads and/or Elements. Select WR beads and/or elements from one of the following Manufacturers or a Michigan Department of Transportation (MDOT) approved alternative that meets the requirements in Table 1:

- 3M Corporation
- Potter's Industries
- Swarco
- Flex-o-Lite

Table 1: WR Markings

Average Initial Retroreflectivity at 30 meter geometry in mcd/lux/m ²		
Test Method	White	Yellow
	Dry (ASTM E 1710)	700
Wet Recovery (ASTM E 2177)	250	200

Ship the material to the job site in sturdy containers marked in accordance with subsection 920.01.A of the MDOT 2012 Standard Specifications for Construction.

Submit to the Engineer prior to the start of work:

A. The application rate of the beads/elements recommended by the manufacturer and the liquid applied pavement marking binder proposed for use on the project. If the application rate recommended by the manufacturer differs from the specified rate in Table 811-1 of the MDOT 2012 Standard Specifications for Construction, the rate recommended by the manufacturer supersedes the table values.

B. Certification from the Manufacturer that when applied according to their application recommendations the beads and/or elements meet the requirements shown in Table 1 above.

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

c. Construction. Place the binder and beads in accordance with the requirements and /or recommendations of the manufacturers and sections 811 and 920 of the MDOT 2012 Standard Specifications for Construction except as noted above.

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

Pay Item	Pay Unit
Pavt Mrkg, Wet Retrflec Polyurea, 12 inch, Crosswalk	Foot
Pavt Mrkg, Wet Retrflec Polyurea, 24 inch, Stop Bar.....	Foot
Pavt Mrkg, Wet Retrflec Polyurea, Lt Turn Arrow Sym	Each
Pavt Mrkg, Wet Retrflec Polyurea, Only.....	Each
Pavt Mrkg, Wet Retrflec Polyurea, Rt Turn Arrow Sym.....	Each

Measure **Pavt Mrkg, Wet Retrflec Polyurea, 12 inch, Crosswalk** and **Pavt Mrkg, Wet Retrflec Polyurea, 24 inch, Stop Bar** length in place by the unit foot and pay for them at their respective contract unit prices, which prices include the costs for all labor, equipment and materials to complete the work.

Measure **Pavt Mrkg, Wet Retrflec Polyurea, Lt Turn Arrow Sym; Pavt Mrkg, Wet Retrflec Polyurea, Only;** and **Pavt Mrkg, Wet Retrflec Polyurea, Rt Turn Arrow Sym** individually in place by the unit each and pay for them at their respective contract unit prices, which prices include the costs for all labor, equipment and materials to complete the work.

CITY OF ANN ARBOR

NOTICE TO BIDDERS

PROJECT COORDINATION

AA:DAD

1 of 1

03/12/18

The City of Ann Arbor hereby notifies the Contractor there will be several construction projects directly adjacent to the Construction Influence Area (C.I.A.), or within the local vicinity, that may affect the various work activities, maintenance of traffic, and/or trucking operations involved with this project. These projects are as follows, and the City anticipates construction of these during the same timeframe as this project.

- Stone School Road Sanitary Sewer Extension between Ticknor Court and Packard Street
- Ann Arbor-Saline Road between West Eisenhower Parkway and Scio Church Road

The above is not necessarily be a complete listing of all area projects that could potentially impact this one. Prior to commencing with any construction, the Contractor shall verify with the City the presence of any other concurrent public or permitted projects within the vicinity.

The Contractor shall coordinate its work on this project with that by Contractor(s) on all other projects within the local vicinity, as directed by the Engineer. The Engineer will make no additional compensation or adjustments to contract unit prices for costs incurred by the Contractor due to coordinating with or delays caused by other projects.

The Contractor will coordinate with the Stone School Road Sanitary Sewer Extension Project Prime Contractor to replace in kind any/all traffic control devices in place at the time of completion of the Sewer Extension Project in order to maintain traffic in the same manner and until such time that street resurfacing work commences. The replacement in kind of traffic control devices shall occur within three (3) calendar days after notification by the Engineer of the completion of the Sewer Extension Project.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
PROGRESS SCHEDULE

CFS:JJG

1 of 1

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

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

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

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

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

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

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

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

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

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

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

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

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
PERMANENT PAVEMENT MARKINGS

PMK:MKB

1 of 3

APPR:MWB:CRB:02-08-18
FHWA:APPR:03-01-18

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

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

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

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

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

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

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

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

Beads are not to be placed in liquid shadow markings.

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

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

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

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

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

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

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

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

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

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

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

Thermoplastic	50	50	May 1	Nov. 1
---------------	----	----	-------	--------

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

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

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

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

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
LIGHTING FOR NIGHT WORK SPECIFICATIONS

OPR:RAL

1 of 3

APPR:BMB:MB:02-02-18
FHWA:APPR:02-08-18

Delete subsection 812.03.H, on page 619 of the Standard Specifications for Construction in its entirety and replace it with the following:

H. Lighting for Night Work. Furnish, install, operate, maintain and replace, as needed, fixed, portable, or equipment mounted lighting systems that provide lighting to ensure worker and inspector safety on and around the worksite. Provide lighting that allows workers and inspectors to clearly conduct all operations and inspections during hours of darkness. Provided lighting systems must meet the requirements set forth in *MIOSHA Rule 408.40133 Illumination, MIOSHA Rule 408.42223 (7) Traffic Control*, section 706 of the Standard Specifications for Construction, and the contract.

Provide and position the lamps to meet the following lighting requirements: Provide a minimum illumination intensity of 10 foot-candles (108 lux) on a jobsite where construction work is being performed. Maintain a minimum of 5 foot-candles (54 lux) throughout the entire area of operation where workers may pass through on foot or are present but are not performing construction work. Vehicle or equipment headlights are not considered as an approved light source.

Lighting levels will be measured with an illuminance meter. Readings from smart-phones are not acceptable. Readings will be taken where the work is being performed, in a horizontal plane 3 feet above the pavement or ground surface. When necessary, provide additional lights to overlap the footprints of the lights so that the lighting requirements are continuous, and do not fall below the minimum lighting requirements throughout the work area.

Submit a "work area lighting plan" to the Engineer for review for approval a minimum of 14 calendar days prior to the start of work. The Engineer will have 7 calendar days to review the plan for approval or provide comments for plan revisions required to obtain approval. At a minimum, the plan must include the proposed lighting locations for construction equipment, vehicles and pedestrian paths, identification of a person or persons of authority (including contact information) on the project site responsible to execute the plan requirements, and measures that will be taken to ensure compliance with the plan. All costs and any additional time required to obtain an approved "work area lighting plan" will not be cause for delay or impact claims.

Design and operate the lighting system to avoid glare that interferes with traffic, workers, or inspection personnel. Aim flood, spot or stadium type luminaries downward at the work and rotated outward no greater than 30 degrees from nadir (straight down). Position balloon lights at least 12 feet above the roadway.

Design the lighting system to light the work area without spilling over to adjoining property. Modify the lighting system, if directed by the Engineer, by rearranging the lights or adding hardware to shield the lights when the lighting system is disturbing adjoining properties.

Provide a power source that adequately powers the lamps to their full capacity. Provide all lighting equipment in good operating condition and in accordance with applicable safety and design codes.

Provide backup lighting to replace lights and equipment during nighttime operations. Store the backup equipment on the project site and have it available for use at all times during the nighttime operations. The backup systems must meet the same criteria as the primary system.

Drive through and observe the lighted area from all traveled directions, including cross roads after initial lighting set up to determine the adequacy of placement and potential for glare. Adjust lighting alignment if necessary. Ensure that the alignment of the lighting does not interfere with or impede traffic on open roadways.

At any time during the course of the nighttime work, should the lighting not meet the requirements of this special provision, the work must be halted until adequate lighting is provided. This suspension of work will be at no additional cost to the Department and the Contractor cannot receive an extension of time to complete the work.

Use balloon lighting for nighttime traffic regulating operations. Position the balloon lighting for traffic regulators so that the light illuminates the front of the traffic regulator without casting a shadow on the front of the regulator, the light or equipment does not impair the regulator's vision, and the equipment does not impede the regulator's escape path. Position the lighting so that the light does not wash out the lighted arrow at the regulator's station and does not obscure the lighted arrow. Position lighting so that it does not create glare or shine directly in the eyes of oncoming drivers. Illuminate the traffic regulator's station with a minimum illumination intensity of 10 foot-candles (108 lux). Lighting devices used to illuminate nighttime traffic regulator operation that have failed or have been damaged are to be replaced immediately.

Mount the light fixtures on the construction equipment in a mobile operation, in such a way that the view of the equipment operator is not obstructed and a secure connection to the equipment is ensured, with minimum vibration.

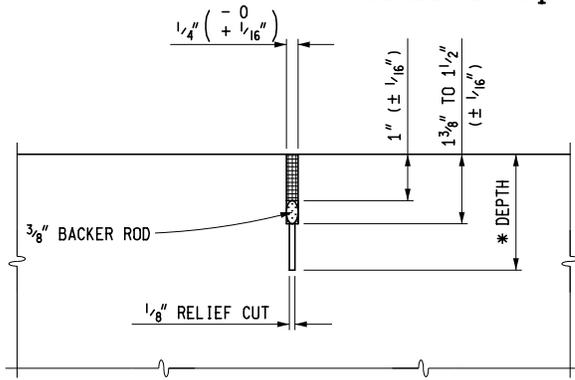
Provide each paver with the minimum illumination as specified in this special provision so that the operator and paving crew can clearly see the material going into the hopper, the auger area, and for alignment. Provide a continuous power source to ensure the lighting is in operation at all times during work. The light should be adjustable up and down, and rotatable horizontally. The area behind the paver must be lighted so the work and operations can be seen clearly and inspected properly.

Equip each roller with four headlights, two facing in each direction of travel. Turn headlights off when facing oncoming traffic and only use them when moving equipment from one location to another.

Provide a continuous power source on each roller with a light tower. The light tower must be a minimum of 4 feet higher than the roller.

When light equipment is not in use, it must be removed from the work area.

SYMBOL (Cp) AND (C3p)

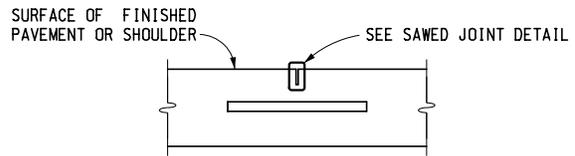
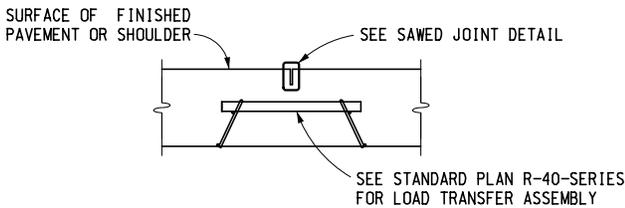


SYMBOL	LOAD TRANSFER	JOINT USE
(Cp)	YES	PAVEMENT
(C3p)	NO	SHOULDER

SAWED JOINT DETAIL

SAWED JOINT SEALED WITH LOW MODULUS HOT-POURED RUBBER-ASPHALT TYPE JOINT SEALING COMPOUND.

* DEPTH OF RELIEF CUT FOR JOINT (Cp) AND (C3p) SHALL BE 1/4 THE SLAB THICKNESS FOR PAVEMENTS LESS THAN OR EQUAL TO 7" IN THICKNESS AND 1/3 THE SLAB THICKNESS FOR PAVEMENTS GREATER THAN 7" THICK.

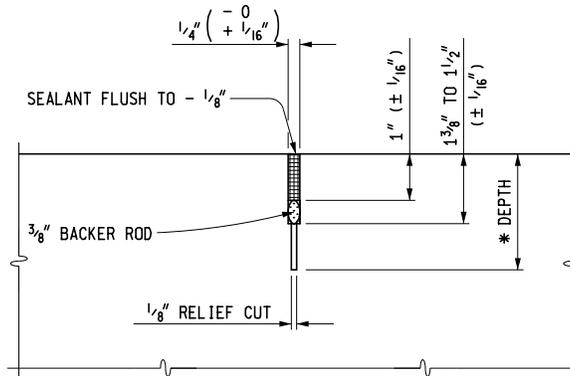


LOAD TRANSFER ASSEMBLY METHOD

DOWEL BAR INSERTER METHOD

TRANSVERSE CONTRACTION JOINT

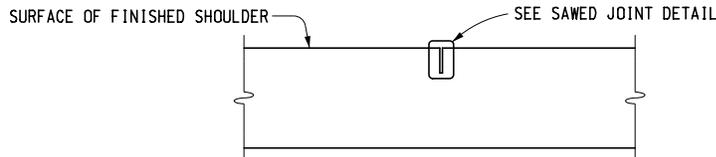
SYMBOL (W)



SAWED JOINT DETAIL

SAWED JOINT SEALED WITH LOW MODULUS HOT-POURED RUBBER-ASPHALT TYPE JOINT SEALING COMPOUND.

* DEPTH OF RELIEF CUT FOR JOINT 1/4 THE SLAB THICKNESS.



TRANSVERSE AND INTERSECTION PLANE OF WEAKNESS JOINTS



PREPARED BY
DESIGN DIVISION

DRAWN BY: B.L.T.

CHECKED BY: W.K.P.

DEPARTMENT DIRECTOR
Kirk T. Stuedle

APPROVED BY: _____
ENGINEER OF DELIVERY

APPROVED BY: _____
ENGINEER OF DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**TRANSVERSE PAVEMENT JOINTS
(PLAIN CONCRETE PAVEMENT)**

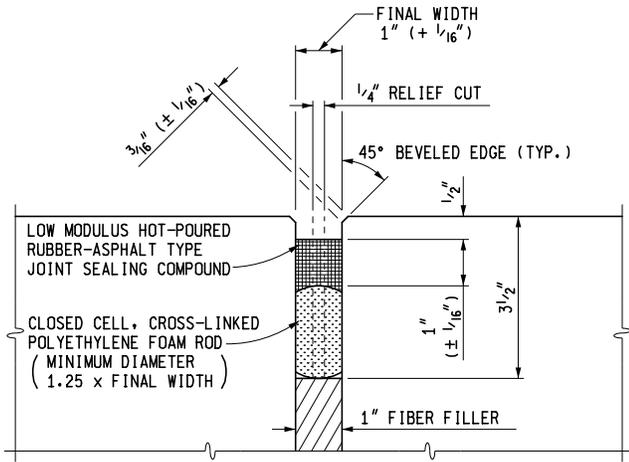
F.I.C.A. APPROVAL

9-25-2017
PLAN DATE

R-39-K

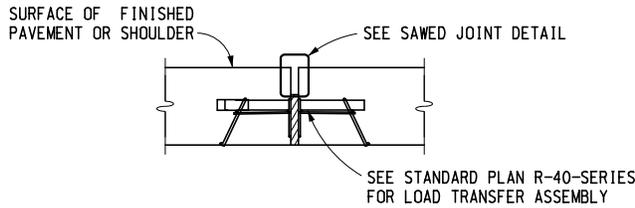
SHEET
1 OF 5

SYMBOL (E2) AND (E4)



SAWED JOINT DETAIL

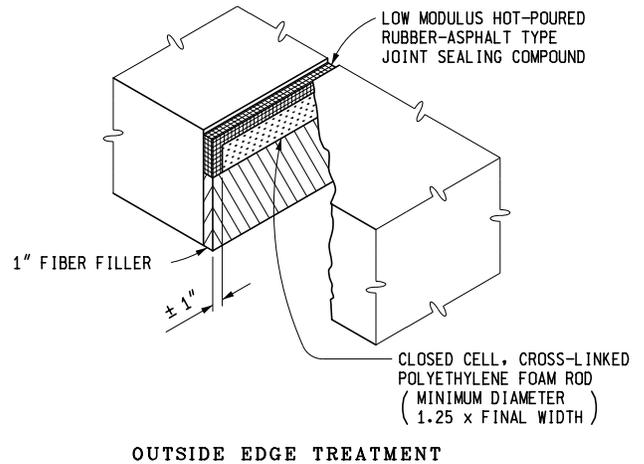
SAWED JOINT SEALED WITH LOW MODULUS HOT-POURED RUBBER-ASPHALT TYPE JOINT SEALING COMPOUND.



NOTE:

THE FINAL WIDTH OF THE GROOVE SHALL BE $1" + \frac{1}{16}"$ PLUS ANY INCREASE OR MINUS ANY DECREASE IN THE WIDTH OF THE RELIEF CUT. THE FINAL SAW CUT SHALL BE TO THE TOP OF THE FIBER FILLER WITH A MINIMUM DEPTH AS SHOWN AND SHALL BE CENTERED OVER THE FIBER FILLER WITH A HORIZONTAL TOLERANCE OF $\frac{1}{4}"$. FIBER FILLER FOR EXPANSION JOINTS IN CONCRETE SHOULDERS SHALL BE FREE OF HOLES OR OTHER DEFECTS AND TRIMMED TO FIT SHOULDER CONFIGURATIONS.

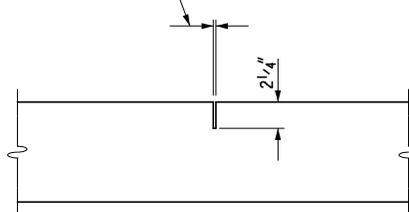
SYMBOL	LOAD TRANSFER ASSEMBLY	JOINT USE
(E2)	YES	PAVEMENT
(E4)	NO	SHOULDER



TRANSVERSE EXPANSION JOINT

SYMBOL (U)

$\frac{1}{8}"$ SAWED JOINT OR A FORMED JOINT MADE BY PLACING $\frac{1}{4}"$ HARDBOARD OR OTHER APPROVED MATERIAL FLUSH WITH THE SURFACE OF THE CONCRETE BASE COURSE AND TRUE TO POSITION AND LINE BEFORE THE CONCRETE HAS SET

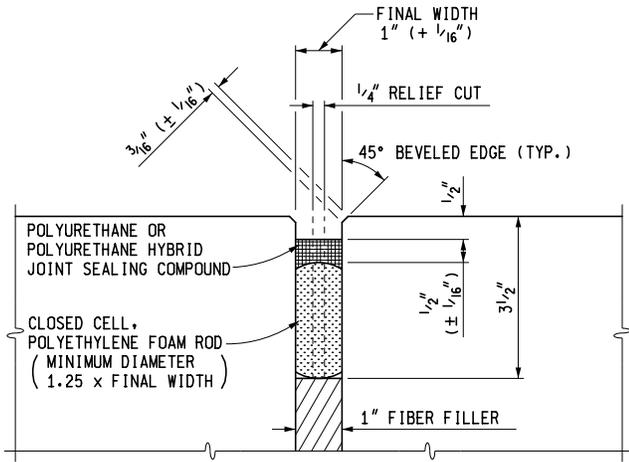


TRANSVERSE PLANE OF WEAKNESS JOINTS IN CONCRETE BASE COURSE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**TRANSVERSE PAVEMENT JOINTS
(PLAIN CONCRETE PAVEMENT)**

SYMBOL (E3)



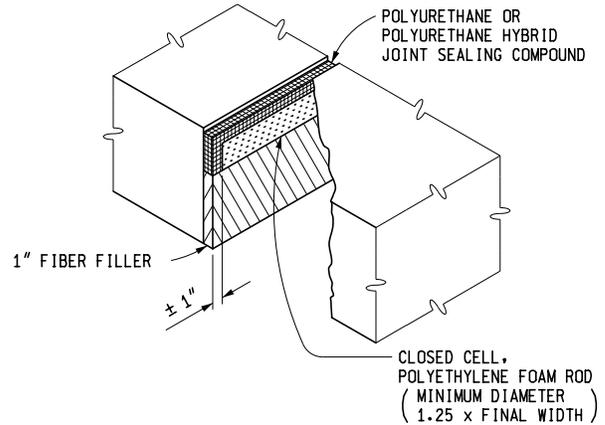
SAWED JOINT DETAIL

SAWED JOINT SEALED WITH POLYURETHANE OR POLYURETHANE HYBRID JOINT SEALING COMPOUND.

NOTE:

THE FINAL WIDTH OF THE GROOVE SHALL BE $1" + 1/16"$ PLUS ANY INCREASE OR MINUS ANY DECREASE IN THE WIDTH OF THE RELIEF CUT. THE FINAL SAW CUT SHALL BE TO THE TOP OF THE FIBER FILLER WITH A MINIMUM DEPTH AS SHOWN AND SHALL BE CENTERED OVER THE FIBER FILLER WITH A HORIZONTAL TOLERANCE OF $1/4"$. FIBER FILLER FOR EXPANSION JOINTS IN CONCRETE SHOULDERS SHALL BE FREE OF HOLES OR OTHER DEFECTS AND TRIMMED TO FIT SHOULDER CONFIGURATIONS.

SYMBOL	LOAD TRANSFER ASSEMBLY	JOINT USE
(E3)	NO	PAVEMENT & SHOULDER



OUTSIDE EDGE TREATMENT

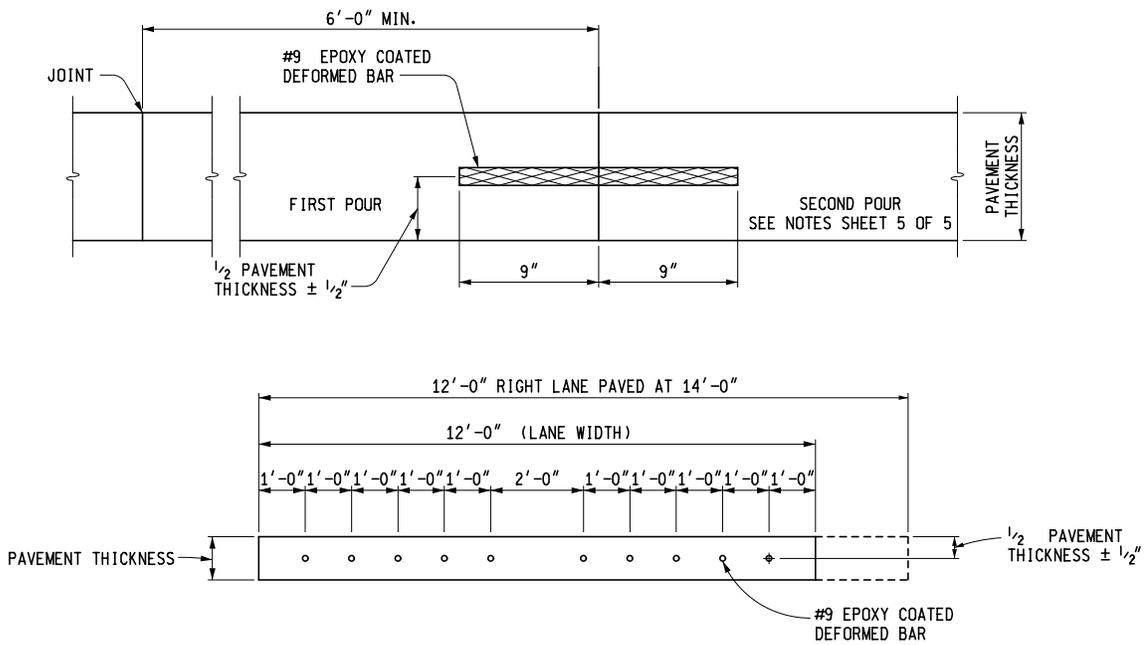
TRANSVERSE EXPANSION JOINT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

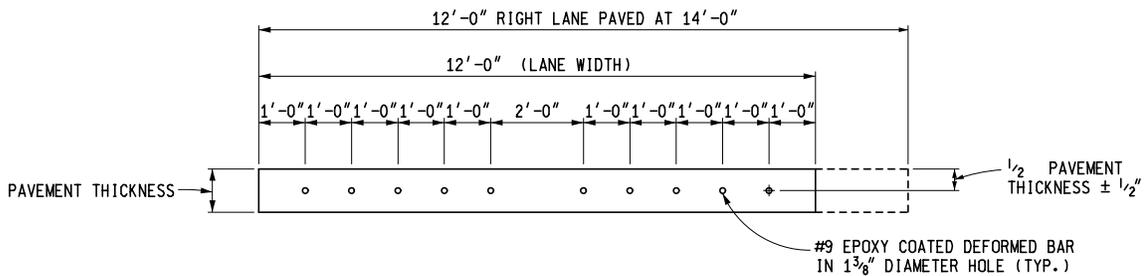
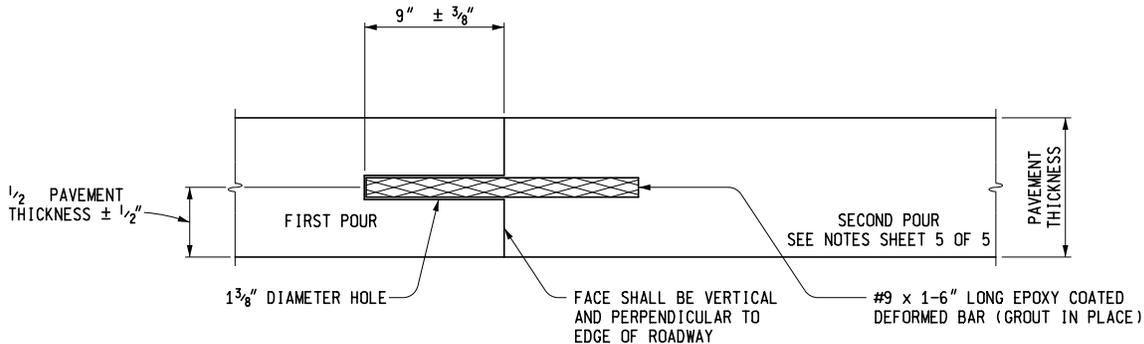
**TRANSVERSE PAVEMENT JOINTS
(PLAIN CONCRETE PAVEMENT)**

_____ F.B.A. APPROVAL	9-25-2017 PLAN DATE	R-39-K	SHEET 3 OF 5
--------------------------	------------------------	---------------	-----------------

SYMBOL (H)



**DEFORMED BAR SPACING
TRANSVERSE END OF POUR JOINT (SPLIT HEADER METHOD)**

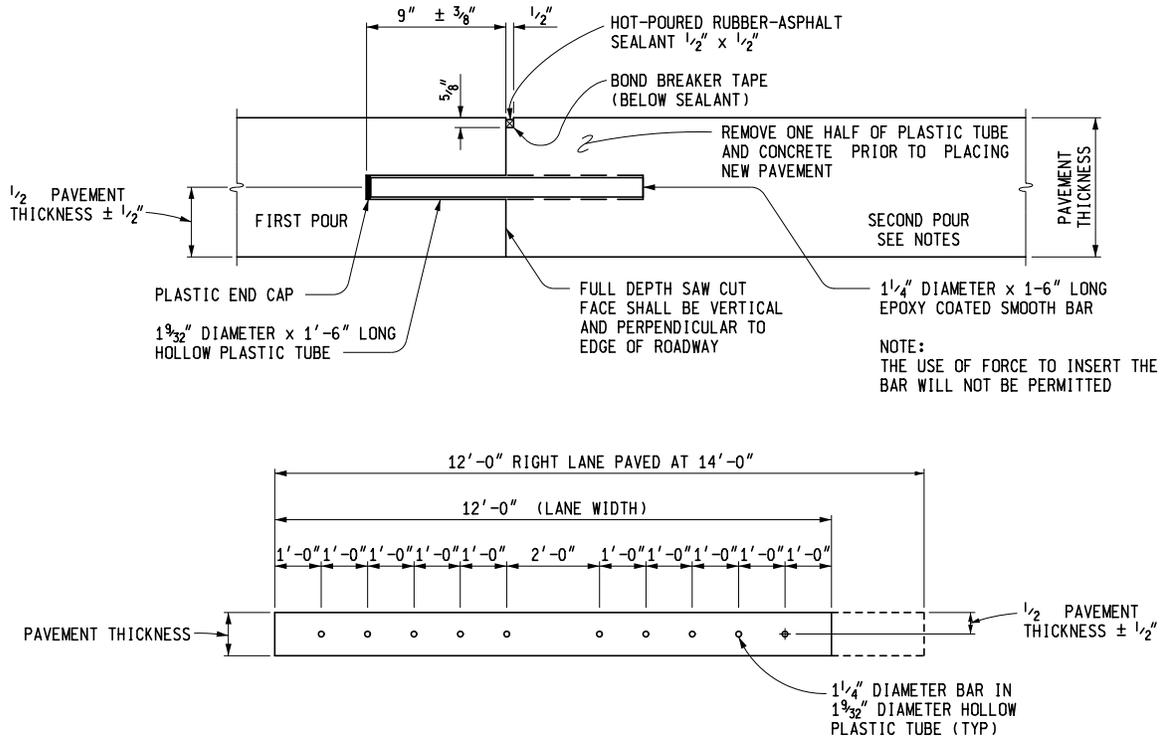


**DEFORMED BAR SPACING
TRANSVERSE END OF POUR JOINT (DRILLED IN METHOD)**

NOTE: THE HOLE SPACING MAY BE ADJUSTED 1" HORIZONTALLY, RAISED 1/2", OR LOWERED 1" FROM THE ABOVE LOCATIONS TO AVOID DRILLING INTO THE REINFORCEMENT.

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR TRANSVERSE PAVEMENT JOINTS (PLAIN CONCRETE PAVEMENT)		
Addendum-179 F.I.C.A. APPROVAL	9-25-2017 PLAN DATE	R-39-K
		SHEET 4 OF 5

SYMBOL (H)



**DEFORMED BAR SPACING
TRANSVERSE END OF POUR JOINT (PLASTIC TUBE METHOD)**

NOTES:

LOAD TRANSFER ASSEMBLIES ARE DETAILED ON THE CURRENT STANDARD PLAN R-40-SERIES.

TRANSVERSE JOINTS SHALL BE SPACED ACCORDING TO THE CURRENT STANDARD PLAN R-43-SERIES.

A TRANSVERSE END OF POUR JOINT (DRILLED IN METHOD) SYMBOL (H), SHALL BE CONSTRUCTED WHEN IT IS ANTICIPATED THAT THE SECOND POUR WILL BE DELAYED 7 DAYS OR LONGER.

A TRANSVERSE END OF POUR JOINT (SPLIT HEADER METHOD) OR (PLASTIC TUBE METHOD) SHALL BE USED AT THE END OF THE DAY'S POUR OR WHEN THERE IS AN UNAVOIDABLE INTERRUPTION OF THE WORK FOR MORE THAN ONE-HALF HOUR AND LESS THAN 7 DAYS. THE JOINT SHALL BE CONSTRUCTED ACCORDING TO TRANSVERSE END OF POUR JOINT (SPLIT HEADER METHOD) OR (PLASTIC TUBE METHOD), SYMBOL (H).

THE EXPANSION JOINT MATERIAL IN THE SHOULDERS SHALL BE SUPPORTED BY ONE OF THE FOLLOWING METHODS:

1. A CONTINUOUS SUPPORT WIRE, AS SPECIFIED FOR EXPANSION LOAD TRANSFERS ASSEMBLIES, AS DETAILED ON STANDARD PLAN R-40-SERIES, SHALL BE USED ON EACH SIDE OF EXPANSION MATERIAL. THIS WIRE SHALL BE EQUIPPED WITH STAKES AND STAKE POCKETS TO RIGIDLY HOLD THE EXPANSION MATERIAL IN PLACE DURING CONCRETE PLACEMENT. STAKES SHALL BE AS SPECIFIED ON STANDARD PLAN R-40-SERIES, SPACED NOT MORE THAN 2'-0" APART.
2. "U" OR "J" SHAPE STAPLES OF W8 WIRE (0.319" NOMINAL DIAMETER) SHALL BE SPACED ON 2'-0" CENTERS EACH SIDE OF THE EXPANSION MATERIAL. EACH VERTICAL LEG OF THE STAPLE SHALL BE AT LEAST 1'-3" LONG.
3. OTHER EQUIVALENT METHODS MAY BE USED WHEN APPROVED BY THE ENGINEER.

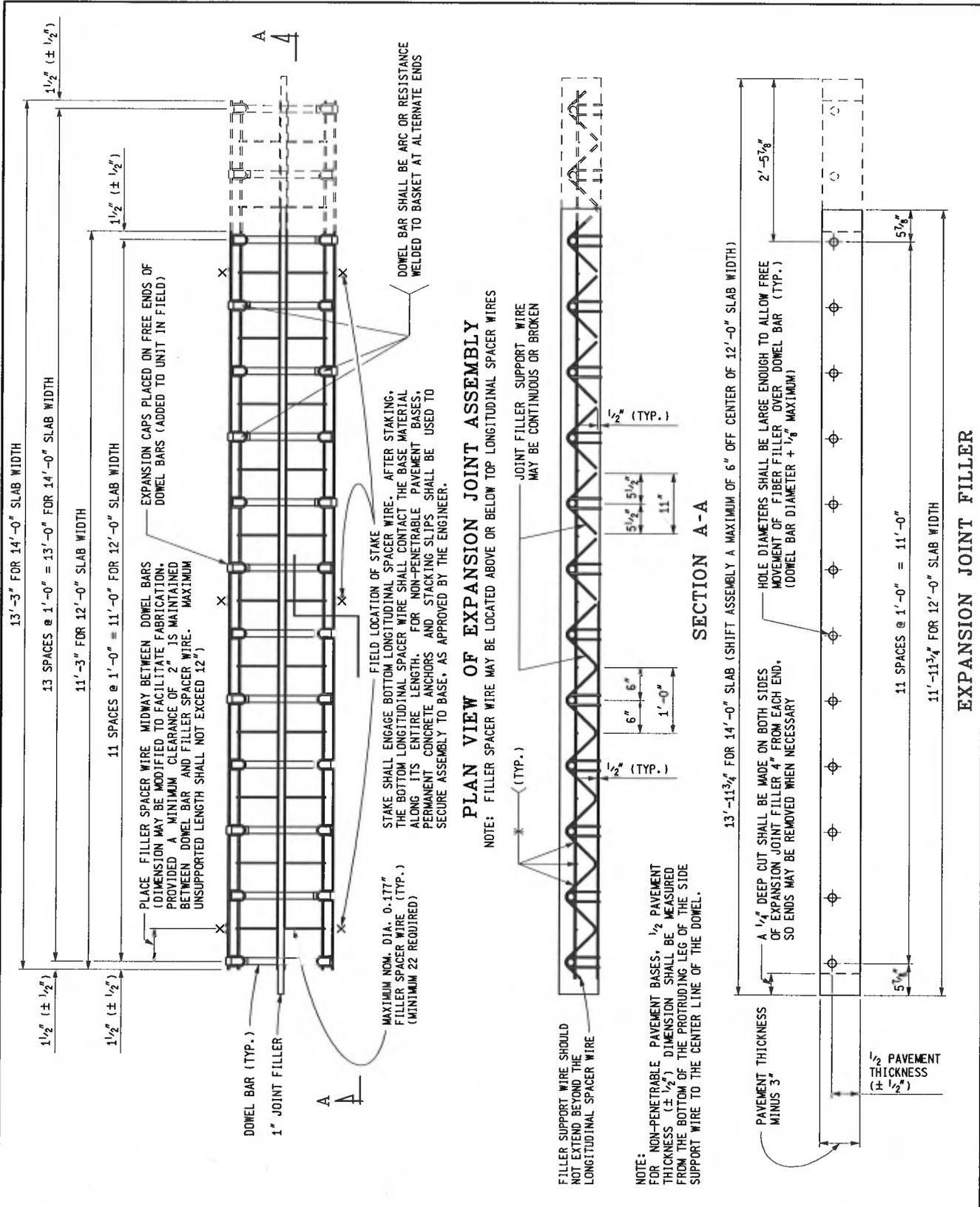
JOINTS SHALL NOT BE SEALED IN CONCRETE BASE COURSE.

WHEN CONCRETE SHOULDERS ARE CAST SEPARATELY FROM MAINLINE CONCRETE PAVEMENT, A KEYWAY MAY BE USED TO FACILITATE THE PLACING OF LANE TIES. WHEN A KEYWAY GROOVE IS USED, IT SHALL BE CONTINUOUS AND UNIFORM.

THE LOCATION OF TRANSVERSE JOINTS IN CONCRETE SHOULDERS SHALL MATCH THE LOCATION OF ADJACENT TRANSVERSE PAVEMENT JOINTS. CORRESPONDING TRANSVERSE CONCRETE SHOULDER AND PAVEMENT JOINTS SHALL BE (C3P) SHOULDER WITH (CP) PAVEMENT, (E4) SHOULDER WITH (E2) PAVEMENT, AND (E3) BEING THE SAME IN BOTH SHOULDER AND PAVEMENT.

DEFORMED BARS FOR TRANSVERSE END OF POUR JOINTS (DRILLED IN METHOD) SHALL BE GROUTED INTO EXISTING PAVEMENT WITH A GROUT SELECTED FROM THE PREQUALIFIED MATERIALS LISTED IN THE DEPARTMENT'S "MATERIALS SOURCE GUIDE" UNDER ADHESIVE SYSTEMS FOR GROUTING DOWEL BARS AND TIE BARS FOR FULL-DEPTH PAVEMENT REPAIRS.

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR			
TRANSVERSE PAVEMENT JOINTS (PLAIN CONCRETE PAVEMENT)			
	9-25-2017 PLAN DATE	R-39-K	SHEET 5 OF 5



MDOT
 Michigan Department of Transportation

PREPARED BY
 DESIGN DIVISION

DRAWN BY: B.L.T.

CHECKED BY: W.K.P.

DEPARTMENT DIRECTOR
 Kirk T. Steudle

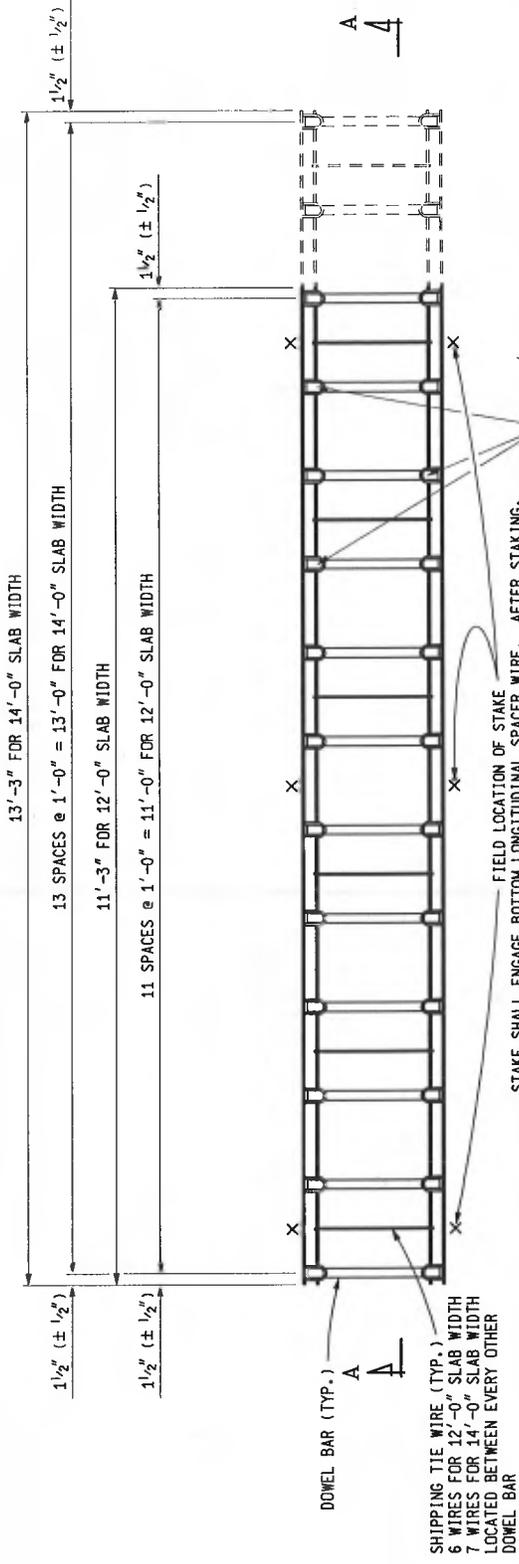
APPROVED BY: John C. Friend
 ENGINEER OF DELIVERY

APPROVED BY: Mark A. Van Park
 ENGINEER OF DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

**LOAD TRANSFER ASSEMBLIES
 FOR TRANSVERSE JOINTS**

9-10-2010 F.H.W.A. APPROVAL	7-19-2010 PLAN DATE	R-40-H	SHEET 1 OF 4
--------------------------------	------------------------	--------	-----------------



STAKE SHALL ENGAGE BOTTOM LONGITUDINAL SPACER WIRE. AFTER STAKING, THE BOTTOM LONGITUDINAL SPACER WIRE SHALL CONTACT THE BASE MATERIAL ALONG ITS ENTIRE LENGTH. FOR NON-PENETRABLE PAVEMENT BASES, PERMANENT CONCRETE ANCHORS AND STACKING SLIPS SHALL BE USED TO SECURE ASSEMBLY TO BASE, AS APPROVED BY THE ENGINEER.

FIELD LOCATION OF STAKE

DOME BAR SHALL BE ARC OR RESISTANCE WELDED TO BASKET AT ALTERNATE ENDS

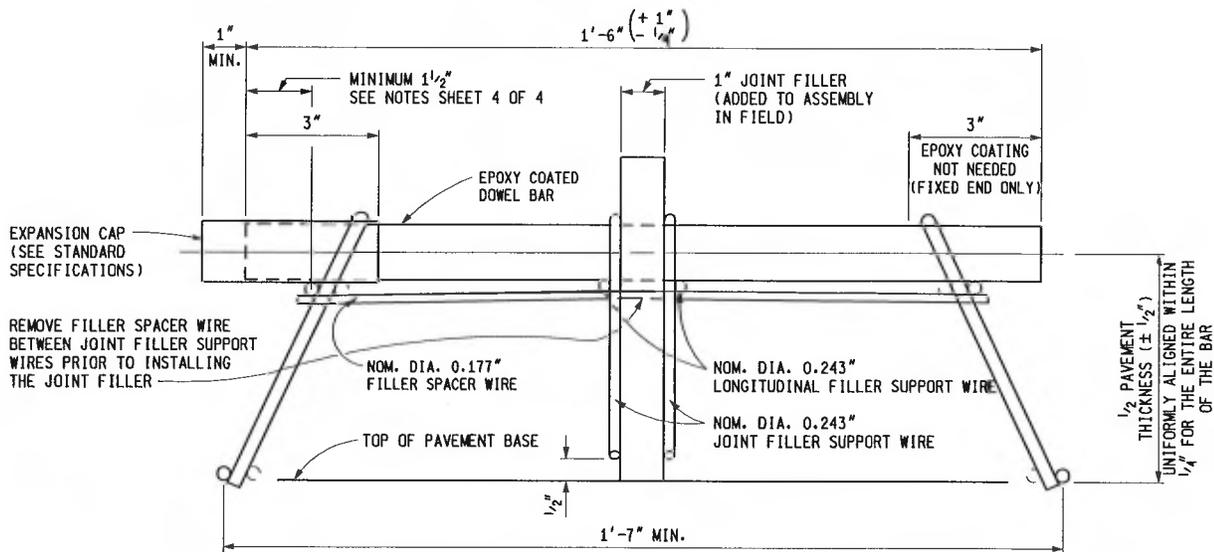
PLAN VIEW OF CONTRACTION JOINT ASSEMBLY

NOTE: SHIPPING TIE WIRES MAY BE LOCATED ABOVE OR BELOW TOP LONGITUDINAL SPACING WIRES.



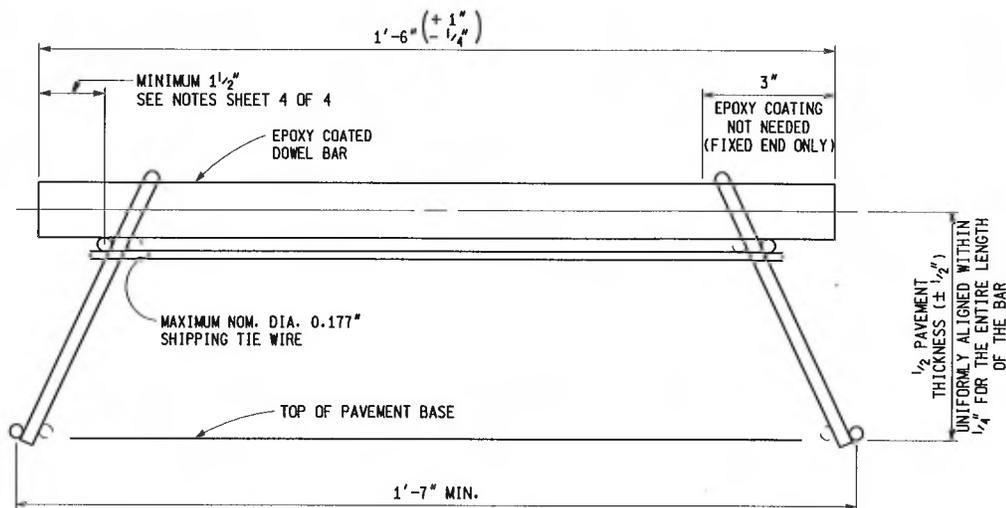
SECTION A-A

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR			
LOAD TRANSFER ASSEMBLIES FOR TRANSVERSE JOINTS			
9-10-2010 F.H.W.A. APPROVAL	7-19-2010 PLAN DATE	R-40-H	SHEET 2 OF 4



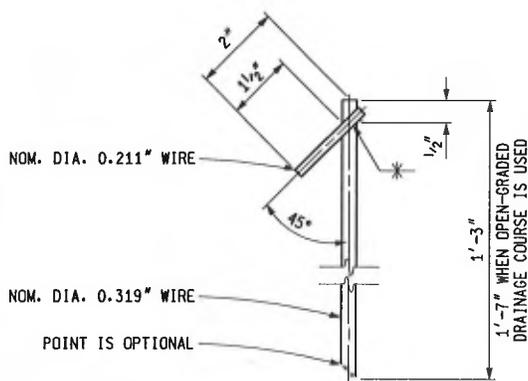
END VIEW OF EXPANSION JOINT ASSEMBLY

NOTE: FILLER SPACER WIRE MAY BE LOCATED ABOVE OR BELOW TOP LONGITUDINAL SPACER WIRES



END VIEW OF CONTRACTION JOINT ASSEMBLY

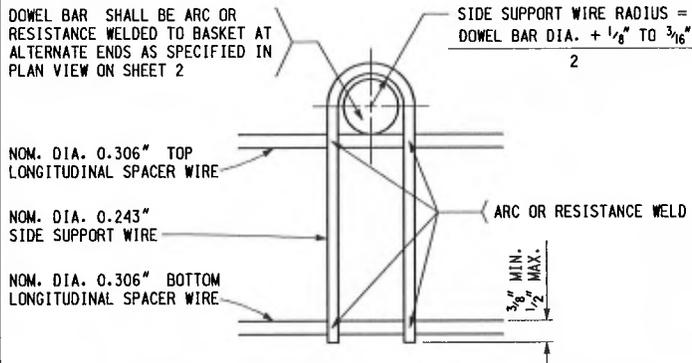
NOTE: SHIPPING TIE WIRE MAY BE LOCATED ABOVE OR BELOW TOP LONGITUDINAL SPACER WIRES



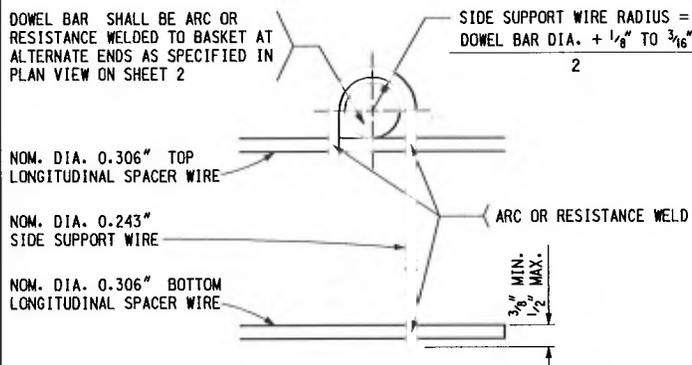
STAKE DETAIL

A SINGLE WIRE MAY BE USED IN LIEU OF STAKE DETAIL SPECIFIED PROVIDED A NOM. DIA. 0.319" WIRE IS USED AND BENT INTO A HOOK AT TOP END TO CONFORM TO DETAIL

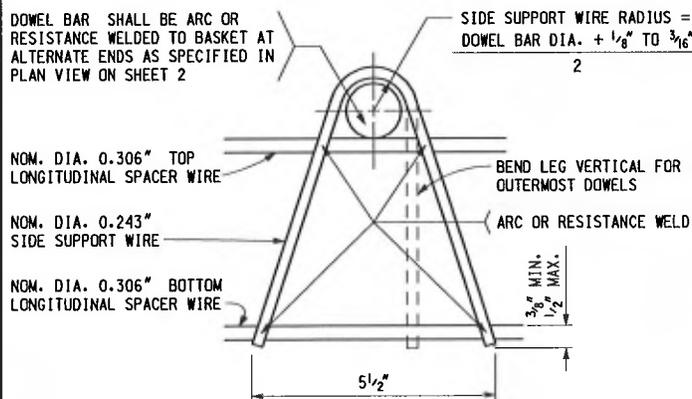
MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR			
LOAD TRANSFER ASSEMBLIES FOR TRANSVERSE JOINTS			
9-10-2010 F.H.W.A. APPROVAL	7-19-2010 PLAN DATE	R-40-H	SHEET 3 OF 4



**SIDE SUPPORT WIRE DETAIL
U - LEG OPTION**



**SIDE SUPPORT WIRE DETAIL
J - LEG OPTION**



**SIDE SUPPORT WIRE DETAIL
V - LEG OPTION**

NOTES:

LOAD TRANSFER ASSEMBLIES SHALL BE PLACED AT RIGHT ANGLES TO THE PAVEMENT CENTERLINE.

THE SIDE SUPPORT WIRE (U-LEG, J-LEG OR V-LEG) MAY BE INSTALLED ON EITHER THE INSIDE OR THE OUTSIDE OF THE LONGITUDINAL SPACER WIRES. THE DIMENSION FROM THE END OF THE DOWEL BAR TO THE CENTER OF THE TOP LONGITUDINAL SPACER WIRE SHALL BE A MINIMUM OF 1/2". THIS DIMENSION APPLIES TO SIDE SUPPORT WIRES INSTALLED ON EITHER THE INSIDE OR THE OUTSIDE OF THE LONGITUDINAL SPACER WIRES.

WIRES:

ALL WIRES SPECIFIED (EXCEPT SHIPPING TIE WIRES) ARE MINIMUM NOMINAL SIZES ALLOWED. (DO NOT EXCEED THE MAXIMUM NOMINAL DIAMETER OF 0.177" FOR SHIPPING TIE WIRES.)

ALL WIRES SHALL CONFORM TO THE CURRENT SPECIFICATIONS FOR CARBON STEEL WIRE FOR GENERAL USE, A.S.T.M. DESIGNATION A-853, GRADE 1008 OR GREATER, UNLESS OTHERWISE SPECIFIED, MINIMUM TENSILE STRENGTH REQUIREMENTS SHALL BE 60 ksi.

ALL WIRE INTERSECTIONS ARE TO BE ARC OR RESISTANCE WELDED.

STAKES TYPICALLY APPLIED AT WORKING ENDS OF DOWELS WITH SUFFICIENT INSTALLATIONS TO PREVENT UNIT FROM OVERTURNING UNDER LOAD.

DO NOT CUT FILLER SPACER WIRES AFTER THE LOAD TRANSFER ASSEMBLY IS SET IN PLACE.

DOWEL BARS:

DOWEL BARS ARE TO BE ACCORDING TO THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

EPOXY COATED DOWEL BARS ARE TO BE FACTORY COATED WITH A VISIBLE COATING OF AN APPROVED BOND RELEASE AGENT, UNIFORMLY APPLIED BY DIPPING AND WITHOUT EXCESSIVE DRIPS OR THICKNESS IN SUCH A THICKNESS THAT ITS PRESENCE CAN BE READILY IDENTIFIED.

METAL EXPANSION CAPS MUST BE ENTIRELY CLOSED AT ENDS BY CRIMPING. PLASTIC CAPS MUST HAVE A POSITIVE STOP. DO NOT DRIVE CAPS BEYOND THEIR STOP. EXPANSION CAPS MUST HAVE A SUITABLE STOP TO ENSURE THAT THE END OF THE CAP MAINTAINS A DISTANCE OF 1" (EXPANSION) FROM THE END OF THE DOWEL DURING CONCRETE PLACEMENT.

DOWEL BARS SHALL BE COATED WITH EPOXY COATING ACCORDING TO AASHTO SPECIFICATION M 284. CUT ENDS ARE NOT REQUIRED TO BE COATED.

DOWEL BAR DIAMETER	PAVEMENT THICKNESS
1"	6" - LESS THAN 8"
1 1/4"	8" - 10"
1 1/2"	GREATER THAN 10"

DOWEL BARS SHALL BE ALIGNED PARALLEL TO EACH OTHER IN THE ASSEMBLY ON 1'-0" ($\pm 1/2$ ") CENTERS.

AFTER THE LOAD TRANSFER ASSEMBLY IS SET IN PLACE, DOWEL BARS SHALL REMAIN ALIGNED (PARALLEL) WITH EACH OTHER IN THE VERTICAL AND HORIZONTAL PLANES OF THE PAVEMENT TO WITHIN 1/4" FOR THE ENTIRE LENGTH OF THE BAR.

DOWEL BARS SHALL BE PLACED AT MID DEPTH OF THE SLAB UNIFORMLY ALIGNED WITHIN 1/4" FOR THE ENTIRE LENGTH OF THE BAR.

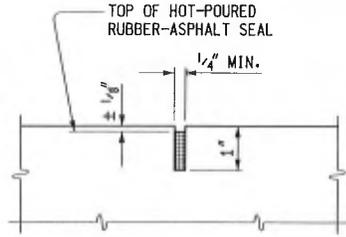
FOR PAVEMENTS WITH VARIABLE THICKNESS TRANSVERSLY ACROSS THE SLAB, THE TOP AND BOTTOM SURFACES OF THE DOWEL BAR SHALL BE WITHIN THE MIDDLE 1/3 OF THE PAVEMENT THICKNESS, AS APPROVED BY THE ENGINEER.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

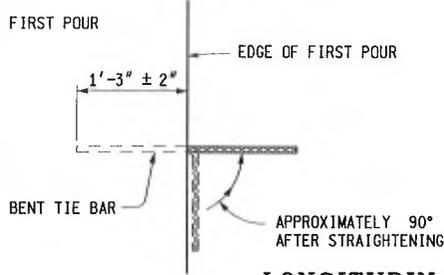
**LOAD TRANSFER ASSEMBLIES
FOR TRANSVERSE JOINTS**

9-10-2010 F.H.W.A. APPROVAL	7-19-2010 PLAN DATE	R-40-H	SHEET 4 OF 4
--------------------------------	------------------------	--------	-----------------

SYMBOL (B)

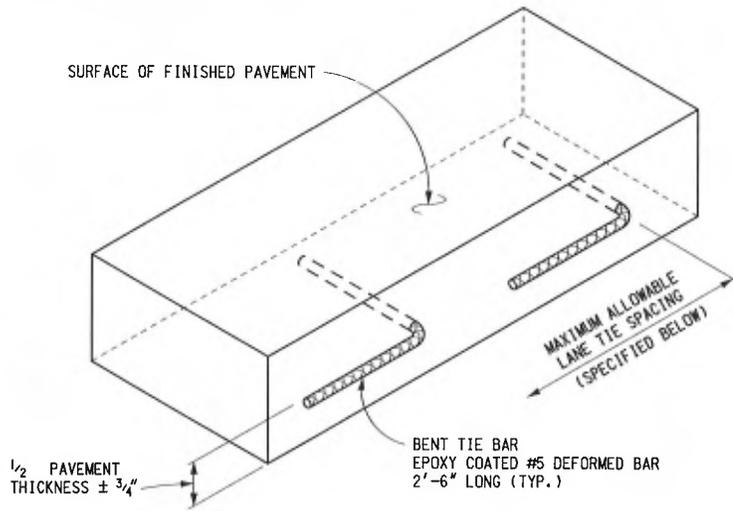


SAWED JOINT SEALED WITH HOT - Poured RUBBER - ASPHALT

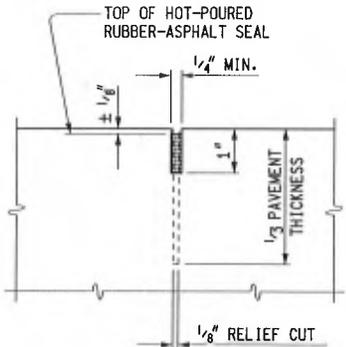


LONGITUDINAL BULKHEAD JOINT - SYMBOL (B)

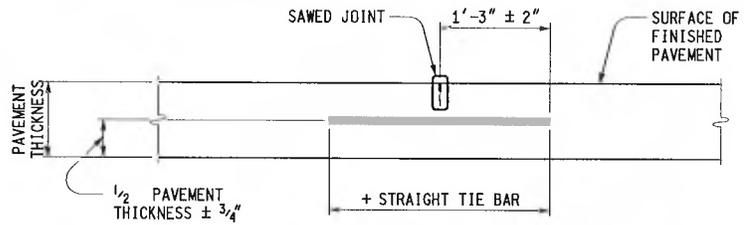
ALL SYMBOL (B) JOINTS SHALL BE SAWED AND SEALED EXCEPT JOINTS WITHOUT LANE TIES AND JOINTS ADJACENT TO VERTICAL FACES WHICH WOULD PROHIBIT SAWING.



SYMBOL (D) AND (S)



SAWED JOINT SEALED WITH HOT - Poured RUBBER - ASPHALT



+ EPOXY COATED #5 DEFORMED BAR 2'-6" LONG FOR SYMBOL (D)
EPOXY COATED #5 SMOOTH BAR 2'-6" LONG FOR SYMBOL (S)
(MAXIMUM ALLOWABLE LANE TIE SPACING SPECIFIED BELOW)

LONGITUDINAL LANE TIE JOINT - SYMBOL (D)
LONGITUDINAL SMOOTH LANE TIE JOINT - SYMBOL (S)

SYMBOL (D) AND SYMBOL (S) TIE BARS SHALL BE PLACED AT THE PROPER SPACING LONGITUDINALLY, AND TRANSVERSELY AT 90° WITH THE JOINT.

MAXIMUM ALLOWABLE LANE TIE SPACING SYMBOLS (B), (D), (L2), AND (S)		* TOTAL DISTANCE OF TIED JOINT FROM NEAREST FREE EDGE
(B) GRADE 40	(D), (L2), AND (S) GRADE 60	
2'-10"	3'-7"	12' OR LESS
1'-11"	2'-7"	OVER 12' THROUGH 17'
1'-5"	1'-11"	OVER 17' THROUGH 24'
1'-2"	1'-9"	OVER 24' THROUGH 28'
1'-2"	1'-4"	OVER 28' THROUGH 36'
1'-1"	1'-1"	36' OR GREATER **

* INCLUDES ANY TIED COMBINATION OF LANE WIDTH, VALLEY GUTTER, CURB & GUTTER, OR SHOULDER

** FOR WIDTHS GREATER THAN 48' USE #6 DEFORMED BARS AT 1'-2" SPACING.

MAXIMUM ALLOWABLE LANE TIE SPACING



PREPARED BY
DESIGN DIVISION

DRAWN BY: B.L.T.
CHECKED BY: W.K.P.

DEPARTMENT DIRECTOR
Kirk T. Stuedle

APPROVED BY: *Randy U. Puffel*
DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY: *Maria Van Pelt*
DIRECTOR, BUREAU OF HIGHWAY DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

LONGITUDINAL PAVEMENT JOINTS

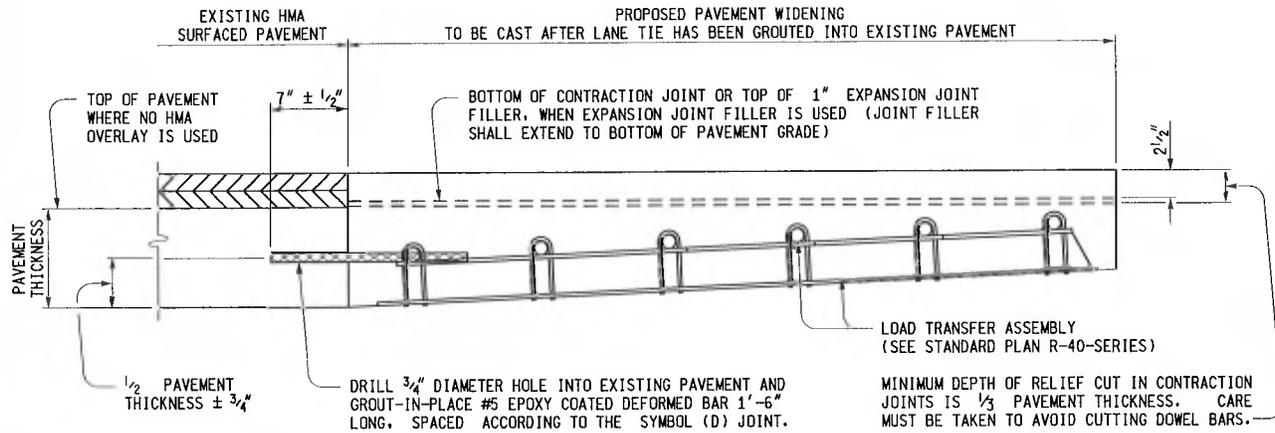
9-30-2014
F.H.W.A. APPROVAL

4-22-2013
PLAN DATE

R-41-H

SHEET
1 OF 2

SYMBOL (L2)



NOTE:
SYMBOL (L2) JOINT USED FOR WIDENING CONCRETE PAVEMENTS WITHOUT HMA OVERLAYS SHALL BE SAWED AND SEALED ACCORDING TO THE SYMBOL (B) JOINT.

THE LONGITUDINAL JOINT USED FOR WIDENING EXISTING CONCRETE BASE COURSE OR CONCRETE PAVEMENT HAVING A HMA SURFACE SHALL HAVE EPOXY ANCHORED LANE TIES PLACED AS SPECIFIED.

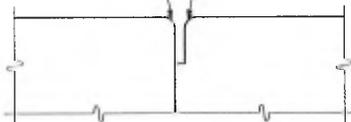
TAPERED PAVEMENT THICKNESS OVER THE DISTANCE OF PAVEMENT WIDENING OR IN ONE LANE WIDTH WHEN WIDENING IS FOR TWO OR MORE LANES.

LONGITUDINAL BULKHEAD JOINT

FOR WIDENING EXISTING CONCRETE PAVEMENT OR CONCRETE BASE COURSE (USING EPOXY ANCHORED LANE TIES)

THE FIRST SLAB SHALL BE EDGED WITH AN EDGER HAVING A $\frac{3}{4}$ " LIP AND A RADIUS OF $\frac{1}{8}$ " TO $\frac{1}{4}$ "

EDGING TOOL SHALL BE 6" x 12" AND SHALL HAVE A 1" LIP WITH A RADIUS OF $\frac{1}{8}$ " TO $\frac{1}{4}$ "



METHOD OF EDGING

NOTES:

ALL LANE TIE BARS SHALL BE DEFORMED EXCEPT SYMBOL (S) WHICH WILL BE SMOOTH.

THE EPOXY COATED S BARS ARE TO BE FACTORY COATED WITH AN APPROVED BOND RELEASE AGENT, UNIFORMLY APPLIED BY DIPPING AND WITHOUT EXCESSIVE DRIPS OR THICKNESS.

THE INSTALLATION OF LANE TIE BARS AND THE SAWING OF LONGITUDINAL JOINTS WILL NOT BE REQUIRED FOR TEMPORARY CONCRETE PAVEMENT UNLESS SPECIFIED ON PLANS OR IN THE PROPOSAL. THE EDGING OF TEMPORARY CONCRETE PAVEMENT WILL NOT BE REQUIRED.

FOR JOINT LAYOUT DETAILS, SEE STANDARD PLAN R-42-SERIES.

SAWING PROCEDURES AND RELATED OPERATIONS ARE DESCRIBED IN THE CURRENT STANDARD SPECIFICATIONS.

NO SAWED OR SEALED JOINT SHALL BE CONSTRUCTED BETWEEN THE PAVEMENT AND CURB OR PAVEMENT AND CURB AND GUTTER, WHERE THESE ITEMS ARE CAST INTEGRALLY.

WHEN JOINTED PLAIN CONCRETE IS SPECIFIED AT INTERSECTIONS SYMBOL (S) JOINTS ARE TO BE USED FOR THE LONGITUDINAL JOINT BETWEEN THE E2 JOINT AT THE SPRINGPOINT OF THE SIDE STREET AND THE THROUGH LANE GUTTER PAN LINE. WHEN THE E2 JOINT IS MOVED TO THE THROUGH LANE GUTTER PAN LINE USE SYMBOL (D) JOINT AS NORMALLY REQUIRED.

ALL STRAIGHT TIE BARS SHALL BE EPOXY COATED ACCORDING TO THE CURRENT STANDARD SPECIFICATIONS FOR EPOXY COATED STEEL REINFORCEMENT FOR STRUCTURES.

WHEN LANE TIES ARE GROUTED INTO AN EXISTING PAVEMENT, THE GROUT SHALL BE SELECTED FROM THE PREQUALIFIED MATERIALS LISTED IN THE DEPARTMENT'S "MATERIALS SAMPLING GUIDE" FOR LANE TIES.

IN ORDER TO AVOID CONFLICT WITH THE LOAD TRANSFER ASSEMBLY, THE PLACEMENT OF THE END LANE TIE ADJACENT TO ANY TRANSVERSE JOINT SHALL BE AS FOLLOWS:

1. WHEN MAXIMUM ALLOWABLE LANE TIE SPACING EXCEEDS 3'-4", PLACE FIRST AND LAST LANE TIE HALF THE MAXIMUM ALLOWABLE LANE TIE SPACING FROM JOINT.
2. WHEN MAXIMUM ALLOWABLE LANE TIE SPACING IS LESS THAN 3'-4", PLACE FIRST AND LAST LANE TIE A MINIMUM OF 1'-8" FROM JOINT.

IT MAY BE NECESSARY TO ADJUST THE LAST THREE LANE TIE SPACINGS TO ENSURE UNIFORM LOADING RESISTANCE ALONG THE LONGITUDINAL JOINT.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

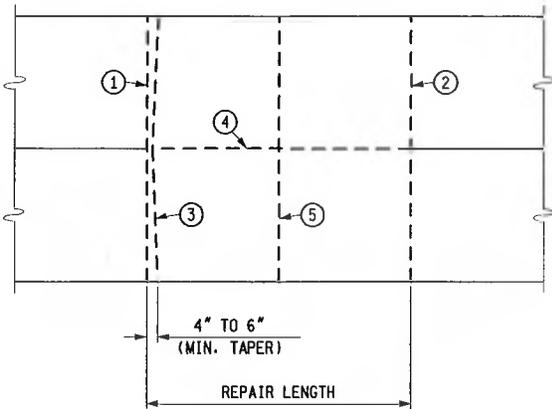
LONGITUDINAL PAVEMENT JOINTS

9-30-2014
F.H.W.A. APPROVAL

4-22-2013
PLAN DATE

R-41-H

SHEET
2 OF 2

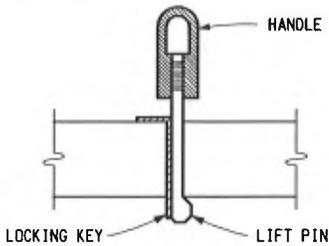


PLAN OF SAWING DIAGRAM

THIS METHOD OF REMOVING DISTRESSED CONCRETE SHALL BE USED IN CONJUNCTION WITH FULL DEPTH CAST-IN-PLACE REPAIRS LESS THAN 50'-0" LONG AND IS OPTIONAL FOR REPAIRS OVER 50'-0" IN LENGTH.

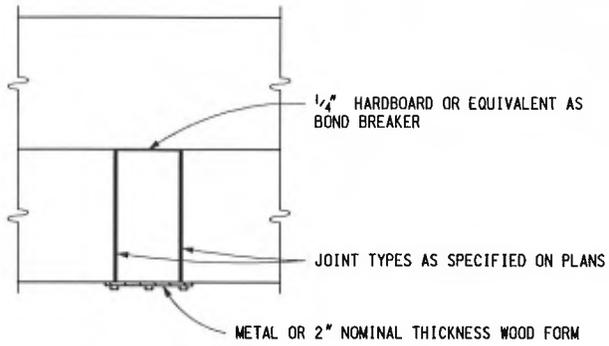
- ① & ② THESE SAW CUTS SHALL BE FULL DEPTH AND PERPENDICULAR TO THE EDGE OF THE ROADWAY, WITHIN A TOLERANCE OF 1". NO OVERCUTTING INTO ADJACENT LANES SHALL BE MADE UNLESS THE OVERCUT IS WITHIN THE LIMITS OF A SUBSEQUENT REPAIR TO THE ADJACENT LANE. SHOULDER OVERCUTS WILL BE ALLOWED.
- ③ THIS FULL DEPTH SAW CUT IS MADE TO FACILITATE OPENING A TRENCH ACROSS THE SLAB TO RELIEVE COMPRESSION IN THE PAVEMENT PRIOR TO LIFTING OUT THE FAILED AREA. THIS SAW CUT MAY BE OMITTED PROVIDED NO SPALLING OF THE REMAINING CONCRETE OCCURS. IF SPALLING DOES OCCUR, THE CONTRACTOR WILL BE REQUIRED TO MAKE THIS SAW CUT ON SUBSEQUENT REPAIRS. WHEN THIS SAW CUT IS USED AND THE ADJACENT LANE IS NOT REPAIRED, NO OVERCUTTING INTO THAT LANE SHALL BE MADE.
- ④ THIS LONGITUDINAL FULL DEPTH SAW CUT IS MADE BETWEEN LANES OR BETWEEN ANY COMBINATION OF THE FOLLOWING: LANE, RAMP, CURB, CONCRETE SHOULDER, OR PARTIAL LANE WIDTH REPAIR.
- ⑤ IF REQUIRED, INTERMEDIATE SAW CUTS MAY BE MADE TO REMOVE A SECTION OF PAVEMENT LANE WHICH IS OVER 6'-0" IN LENGTH, TO PERMIT LOADING INTO THE HAULING UNITS.

ADDITIONAL SAW CUTS, AT CONTRACTOR'S EXPENSE, MAY BE MADE INSIDE THE REPAIR LIMITS TO REDUCE 6'-0" BY 12'-0" OR LESS SLABS INTO SMALLER PIECES TO FACILITATE REMOVAL.

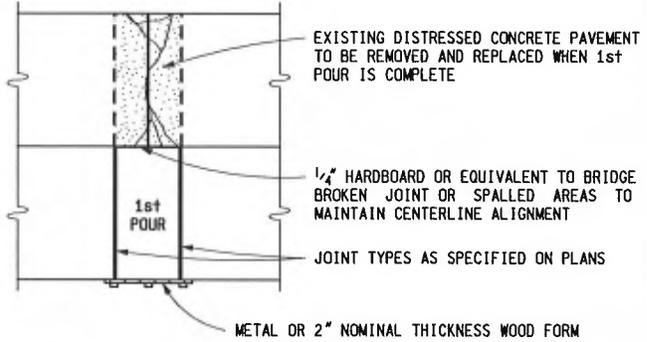


SCHEMATIC OF TYPICAL LIFT PIN ASSEMBLY

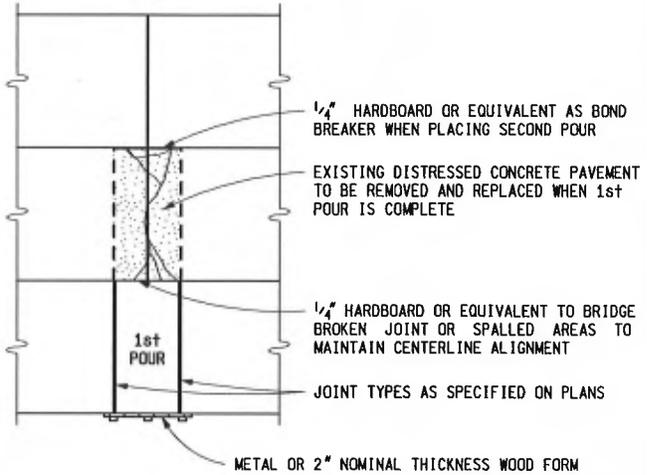
SAWING DIAGRAM & LIFT PIN FOR REMOVING OLD SLAB



**ONE LANE REPAIRS
(2 - LANE ROADWAY SHOWN)**



**ALL LANES REPAIRED
(2 - LANE ROADWAY SHOWN)**



**MORE THAN ONE LANE REPAIRED
BUT REPAIR LESS THAN FULL WIDTH
(3 - LANE ROADWAY SHOWN)**

FORMING NOTES:

STAKES USED TO HOLD HMA FILLER OR HARDBOARD IN PLACE DURING CONCRETE PLACEMENT SHALL BE REMOVED BEFORE SCREEDING THE CONCRETE.

ADJACENT LANE REPAIRS MAY BE CAST INTEGRALLY, WHEN APPROVED BY THE ENGINEER.

**FORMING REQUIREMENTS FOR
CAST-IN-PLACE REPAIRS 12'-0" OR LESS**



PREPARED BY
DESIGN DIVISION

DRAWN BY: B.L.T.

CHECKED BY: W.K.P.

DEPARTMENT DIRECTOR
Kirk T. Stuedle

APPROVED BY: John C. Friend
ENGINEER OF DELIVERY

APPROVED BY: Mark A. Van Pelt
ENGINEER OF DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

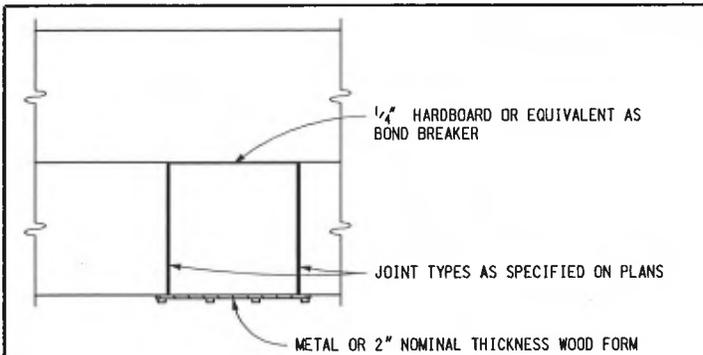
CONCRETE PAVEMENT REPAIR

9-10-2010
F.H.W.A. APPROVAL

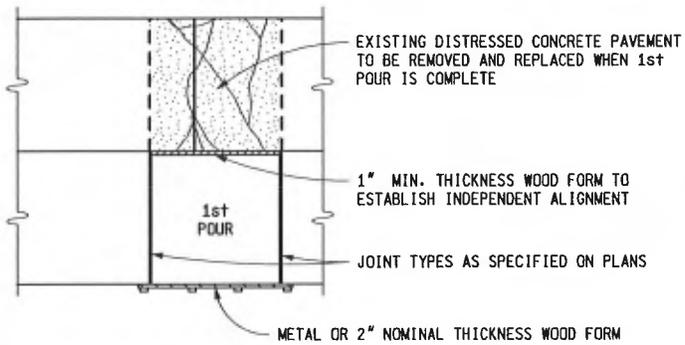
8-9-2010
PLAN DATE

R-44-F

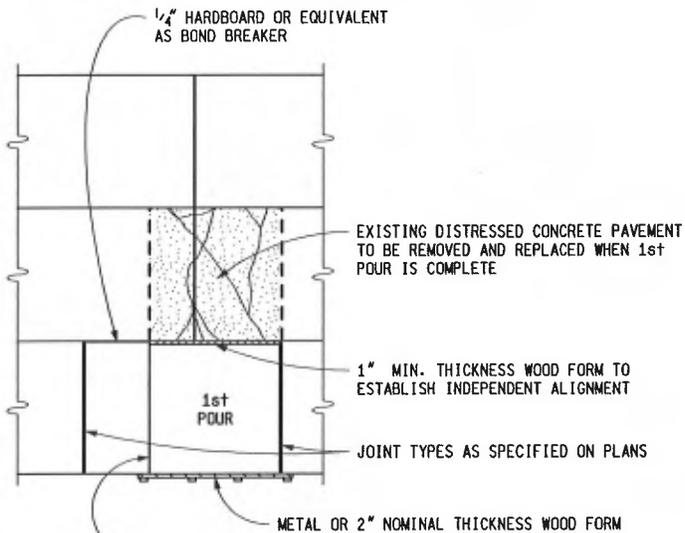
SHEET
1 OF 6



**ONE LANE REPAIRS
(2 - LANE ROADWAY SHOWN)**



**ALL LANES REPAIRED
(2 - LANE ROADWAY SHOWN)**



**MORE THAN ONE LANE REPAIRED
BUT REPAIRS ARE OFFSET
(3 - LANE ROADWAY SHOWN)**

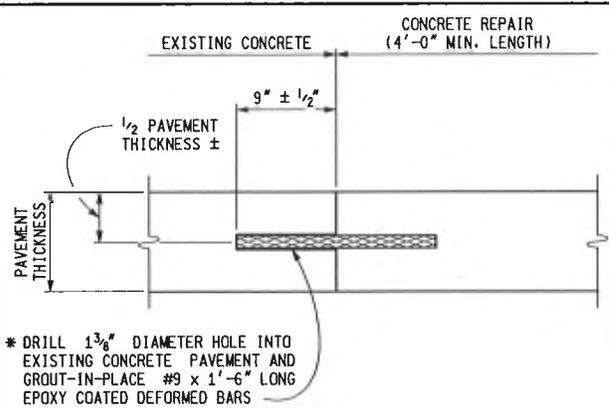
FORMING NOTES:

WHERE REPAIRS LONGER THAN 12'-0" ARE REQUIRED, A NEW GRADE MUST BE ESTABLISHED ALONG THE OLD PAVEMENT INNER JOINT LINE INDEPENDENT OF THE OLD PAVEMENT SURFACE, SO THAT SCREEDING MAY BE DONE PERPENDICULAR TO THE CENTERLINE AND INDEPENDENT OF THE OLD PAVEMENT GRADE.

STAKES USED TO HOLD HMA FILLER OR HARDBOARD IN PLACE DURING CONCRETE PLACEMENT SHALL BE REMOVED BEFORE SCREEDING THE CONCRETE.

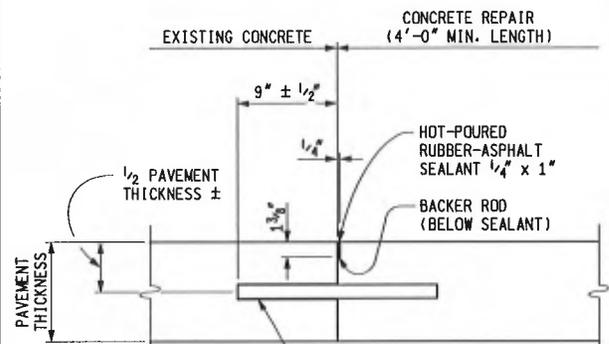
ADJACENT LANE REPAIRS MAY BE CAST INTEGRALLY, WHEN APPROVED BY THE ENGINEER.

**FORMING REQUIREMENTS FOR
CAST-IN-PLACE REPAIRS GREATER THAN 12'-0"**



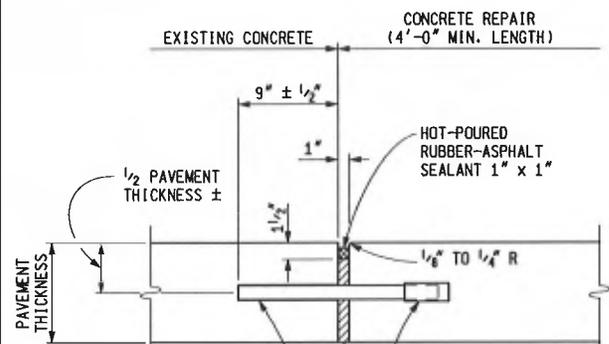
* DRILL 1 3/8" DIAMETER HOLE INTO EXISTING CONCRETE PAVEMENT AND GROUT-IN-PLACE #9 x 1'-6" LONG EPOXY COATED DEFORMED BARS

TIED JOINT, Trg



* DRILL 1 3/8" DIAMETER HOLE INTO EXISTING CONCRETE PAVEMENT AND GROUT-IN-PLACE 1/4" DIAMETER x 1'-6" LONG EPOXY COATED BARS

CONTRACTION JOINT, Crg



* DRILL 1 3/8" DIAMETER HOLE INTO EXISTING CONCRETE PAVEMENT AND GROUT-IN-PLACE 1/4" DIAMETER x 1'-6" LONG EPOXY COATED BARS

EXPANSION JOINT, Erg

* SEE SHEET 3 OF 6 FOR BAR SPACING AND SHEET 6 OF 6 FOR NOTES.

**CAST-IN-PLACE REPAIR JOINTS USING
GROUTED DOWEL OR DEFORMED BARS**

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

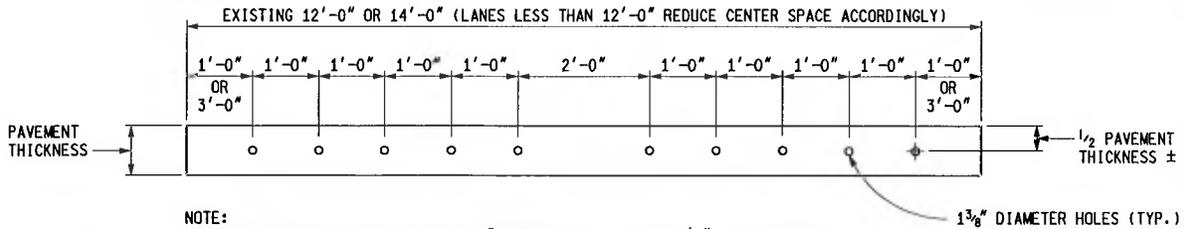
CONCRETE PAVEMENT REPAIR

9-10-2010
F.H.W.A. APPROVAL

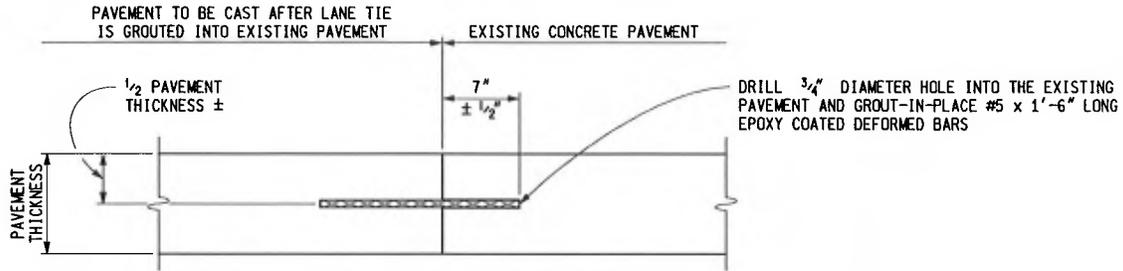
8-9-2010
PLAN DATE

R-44-F

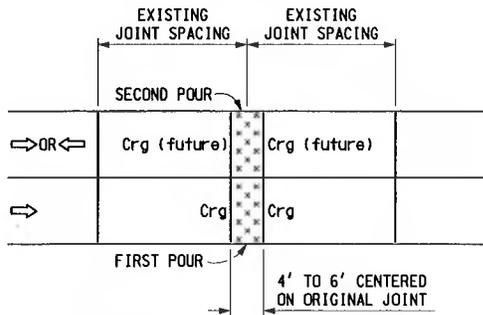
SHEET
2 OF 6



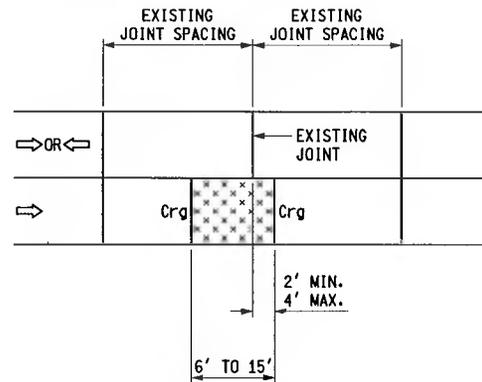
DOWEL OR DEFORMED BAR SPACING FOR CONCRETE REPAIRS



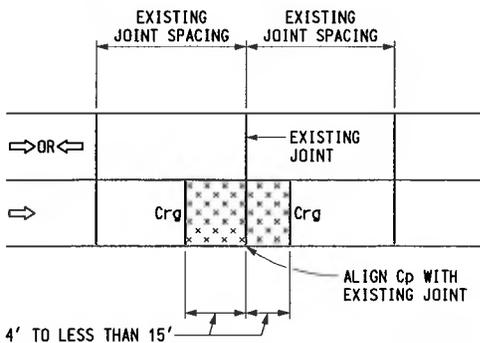
EPOXY ANCHORED LANE TIE



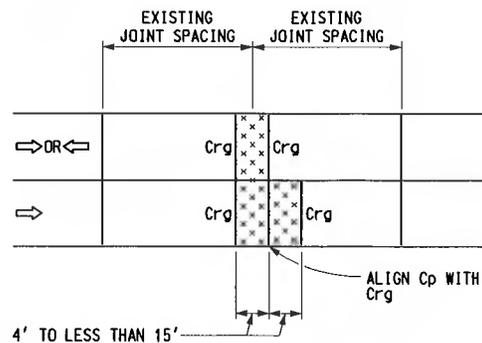
SINGLE LANE OR FULL WIDTH REPAIR



REPAIR LENGTH 6' - 15' WITH ONE JOINT NEAR AN EXISTING JOINT (SINGLE LANE REPAIR)



REPAIR LENGTHS OVER 15' WITH Cp JOINT (SINGLE LANE REPAIR)

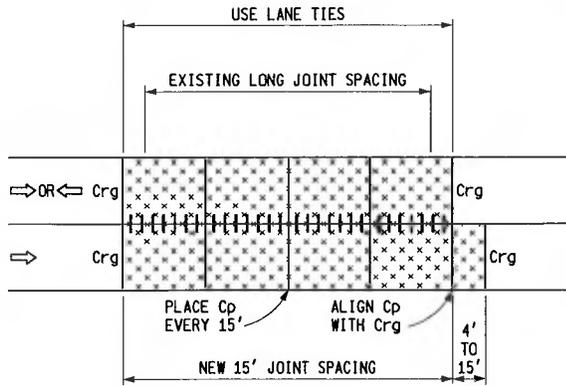


OFFSETTING LANE REPAIRS WITH Cp JOINT

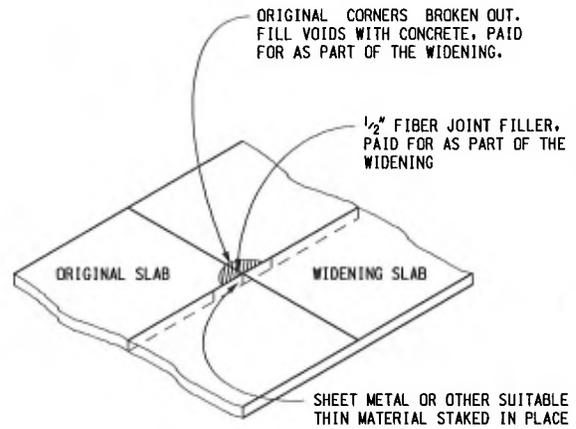
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

CONCRETE PAVEMENT REPAIR

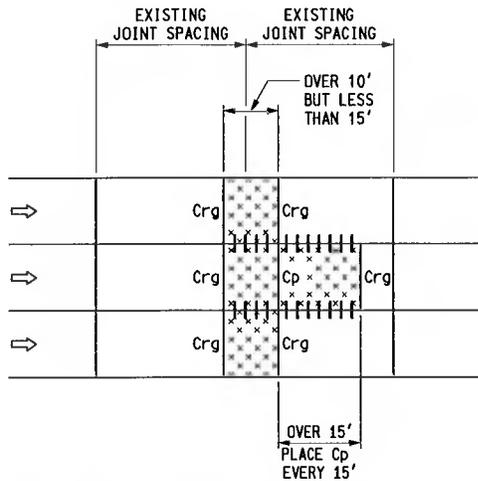
9-10-2010 F.H.W.A. APPROVAL	8-9-2010 PLAN DATE	R-44-F	SHEET 3 OF 6
--------------------------------	-----------------------	--------	-----------------



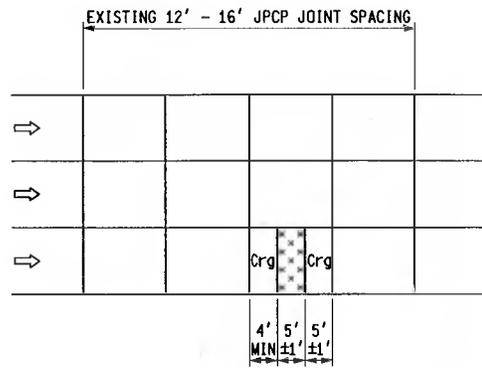
LONG REPAIR SHOWING Cp JOINT ALIGNMENTS AND LANE TIES



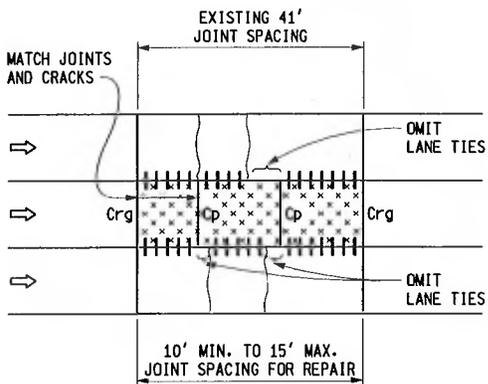
JOINT PATCH ADJACENT TO WIDENING SLAB



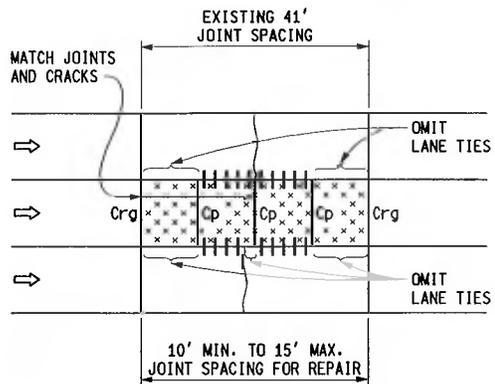
FULL WIDTH MULTI-LANE REPAIRS WITH OFFSET IN ONE LANE



REPAIR OF 12' - 16' JPCP WITH ONLY ONE MID-PANEL CRACK (IF THE PANEL HAS MORE THAN ONE MID-PANEL CRACK REPLACE ENTIRE PANEL) (SINGLE LANE OR FULL WIDTH REPAIR)



TWO CRACK PANEL REPAIR



MID PANEL CRACK REPAIR

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

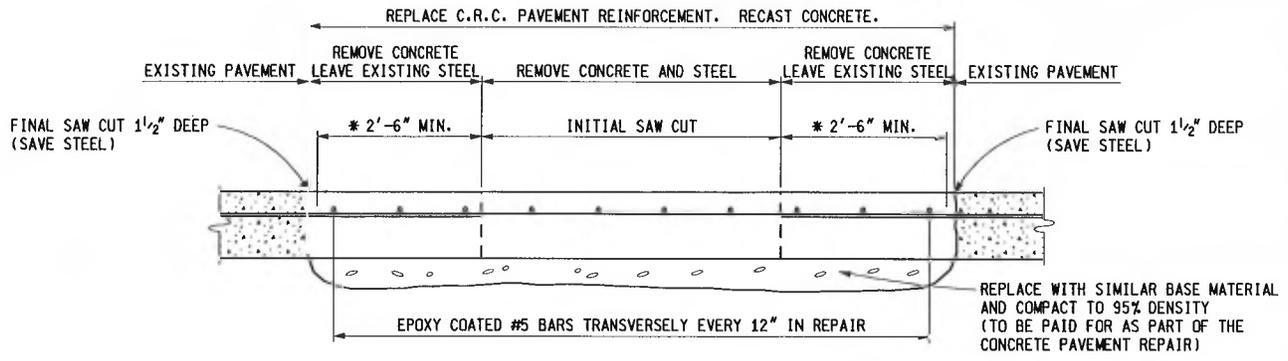
CONCRETE PAVEMENT REPAIR

9-10-2010
F.H.W.A. APPROVAL

8-9-2010
PLAN DATE

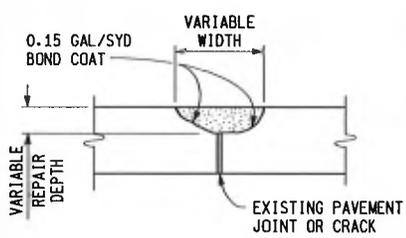
R-44-F

SHEET
4 OF 6

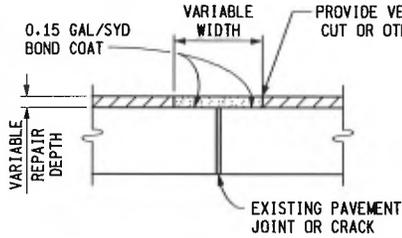


* NOTE: IF EXISTING REINFORCEMENT LAPS ARE ENCOUNTERED IN THIS AREA, FINAL SAW CUT MUST BE MOVED BACK TO PROVIDE MINIMUM 2'-6" LAP OF PAVEMENT REINFORCEMENT.

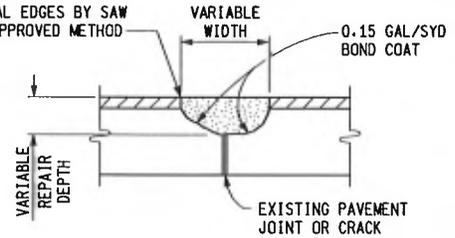
REPAIRING CONTINUOUSLY REINFORCED CONCRETE



CASE I
HMA REPAIR OF CONCRETE PAVEMENT
 REMOVE LOOSE DETERIORATED CONCRETE. (NOT TO EXCEED PAVEMENT THICKNESS)



CASE II
HMA REPAIR OF CONCRETE PAVEMENT WITH HMA SURFACE
 REMOVE HMA OVERLAY TO CONCRETE SURFACE.

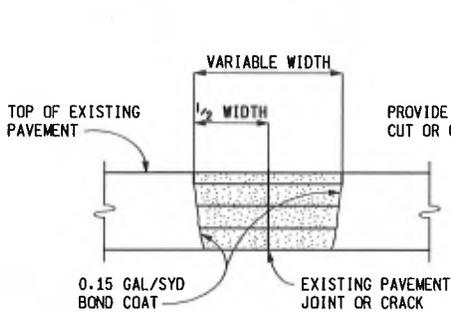


CASE III
HMA REPAIR OF CONCRETE PAVEMENT WITH HMA SURFACE
 REMOVE HMA OVERLAY AND LOOSE DETERIORATED CONCRETE. (NOT TO EXCEED PAVEMENT THICKNESS)

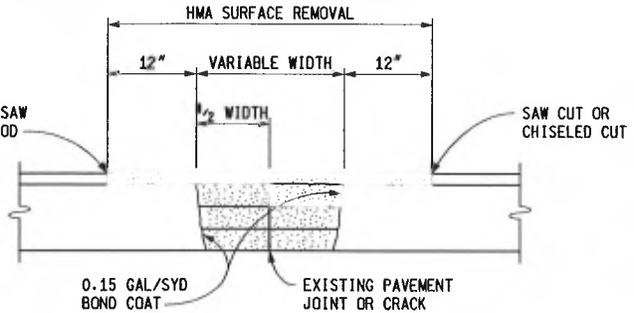
FOR CASES I, II, & III, THE REMOVED MATERIAL SHALL BE REPLACED WITH A HMA TOP COURSE MIXTURE. THE HMA SHALL BE COMPACTED WITH A MACHINE VIBRATOR OR APPROVED ROLLER WITH BASE LIFT THICKNESSES NOT TO EXCEED 3" AND WITH THE TOP LIFT THICKNESS NOT TO EXCEED 2". THE FINAL SURFACE OF THE REPAIR SHALL BE FLUSH WITH THE EXISTING PAVEMENT SURFACE.

SURFACE REPAIR FOR JOINT OR CRACK (TRANSVERSE OR LONGITUDINAL)

DETAIL 7



CASE IV
FULL DEPTH HMA REPAIR OF CONCRETE PAVEMENT
 REMOVE THE DETERIORATED CONCRETE FULL DEPTH. COMPACT LOOSE EXISTING BASE. REPLACE AND COMPACT WITH HMA ANY LOST BASE.



CASE V
FULL DEPTH HMA REPAIR OF CONCRETE PAVEMENT WITH HMA SURFACE
 REMOVE EXISTING HMA DETERIORATED CONCRETE PAVEMENT FULL DEPTH. COMPACT LOOSE EXISTING BASE. REPLACE AND COMPACT WITH HMA ANY LOST BASE.

FOR CASES IV, & V, THE REMOVED MATERIAL SHALL BE REPLACED WITH A HMA TOP COURSE MIXTURE. THE HMA SHALL BE COMPACTED WITH A MACHINE VIBRATOR OR APPROVED ROLLER WITH BASE LIFT THICKNESSES NOT TO EXCEED 3" AND WITH THE TOP LIFT THICKNESS NOT TO EXCEED 2". THE FINAL SURFACE OF THE REPAIR SHALL BE FLUSH WITH THE EXISTING PAVEMENT SURFACE.

FULL DEPTH REPAIR FOR JOINT OR CRACK (TRANSVERSE OR LONGITUDINAL)

DETAIL 8

MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

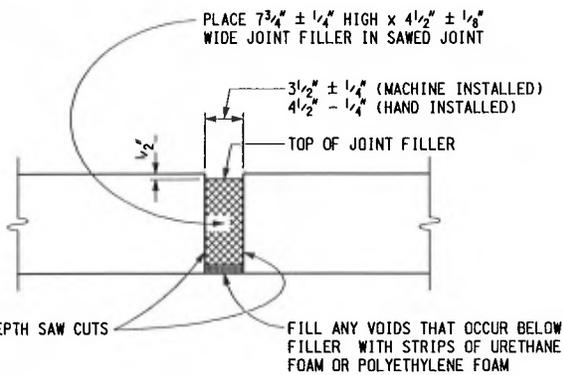
CONCRETE PAVEMENT REPAIR

9-10-2010
 F.H.W.A. APPROVAL

8-9-2010
 PLAN DATE

R-44-F

SHEET
 5 OF 6

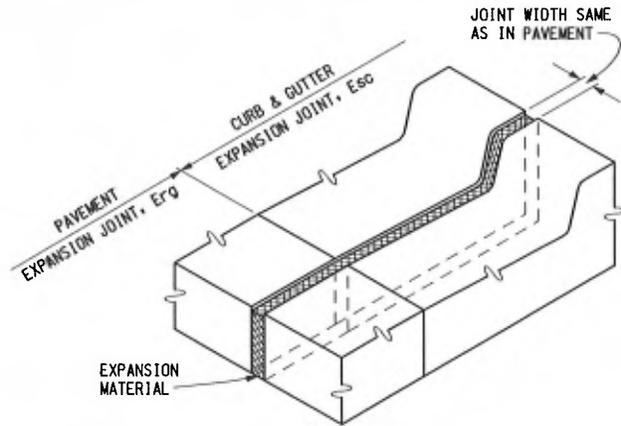


NOTES:

WHEN PRESSURE RELIEF JOINT IS TO BE CONSTRUCTED THROUGH CONCRETE SHOULDER, TRENCHING BELOW CONCRETE MAY BE NECESSARY TO ALLOW ROOM FOR 7 1/4" FILLER.

PRESSURE RELIEF JOINT

THIS DETAIL ALSO APPLIES TO HMA SURFACED CONCRETE PAVEMENT REQUIRING PRESSURE RELIEF JOINTS



CURB, GUTTER, AND CURB FACE SHALL BE SAWED AS DEEP AS THE EXISTING PAVEMENT THICKNESS. THE REMAINING CONCRETE SHALL BE CHIPPED OUT AND EXPANSION MATERIAL OF SUFFICIENT THICKNESS SHALL BE PLACED IN SAWED JOINT TO FILL THE GAP AS DIRECTED BY THE ENGINEER.

EXPANSION JOINT, Esc

NOTES:

CONCRETE PAVEMENT REPAIRS (INCLUDING JOINT TYPES) OR PRESSURE RELIEF DETAILS SHALL BE AS SPECIFIED ON THE PLANS OR IN THE LOG OF PROJECT.

IF THE EXISTING PAVEMENT HAS A HMA SURFACE, THE SAW CUTS SHALL EXTEND THROUGH THE UNDERLYING PORTLAND CEMENT CONCRETE.

SAW OVERCUTS IN ADJACENT LANE, SHOULDER, RAMP, AND GUTTERS THAT WILL REMAIN IN PLACE, SHALL BE CLEANED AND THEN SEALED WITH HOT-POURED RUBBER-ASPHALT.

WHEN THE CONCRETE PAVEMENT REPAIR IS CONSTRUCTED IN PREPARATION FOR AN OVERLAY, Crg JOINT RESERVOIRS AND SEALANTS SHALL BE OMITTED AND EXPANSION JOINTS (Erg) SHALL HAVE THE FIBER JOINT FILLER KEPT FLUSH TO THE PAVEMENT SURFACE.

EXPANSION CAPS SHALL BE ACCORDING TO STANDARD PLAN R-40-SERIES.

TRANSVERSE CONTRACTION Cp AND EXPANSION E2 JOINTS SHALL BE ACCORDING TO STANDARD PLAN R-39P-SERIES.

DOWEL AND DEFORMED BARS USED IN Trg, Crg, AND Erg JOINTS SHALL BE EPOXY COATED ACCORDING TO THE CURRENT STANDARD SPECIFICATIONS.

DOWEL BARS AND DEFORMED BARS FOR TIED JOINTS SHALL BE GROUTED INTO EXISTING PAVEMENT WITH A GROUT SELECTED FROM THE PREQUALIFIED MATERIALS LISTED IN THE DEPARTMENT'S "MATERIALS SOURCE GUIDE" UNDER ADHESIVE SYSTEMS FOR GROUTING DOWEL BARS AND TIE BARS FOR FULL-DEPTH CONCRETE PAVEMENT REPAIRS.

THE BACKER ROD SHALL MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

THE SAME TYPE JOINT SHALL EXTEND ACROSS ADJACENT LANE REPAIRS.

AFTER GROUTING IN-PLACE, RC-250 OR AN APPROVED BOND BREAKER SHALL BE APPLIED TO THAT PORTION OF Crg AND Erg DOWEL BARS THAT EXTEND INTO THE CAST CONCRETE.

REPAIRED CONCRETE PAVEMENTS REQUIRE THAT 1" OF Erg EXPANSION JOINTS BE DISTRIBUTED THROUGHOUT A GIVEN 1000' SECTION.

WHERE THERE ARE NO REPAIR LOCATIONS WITHIN A 1000' LENGTH, NO EXPANSION SPACE WILL BE PROVIDED.

EXPANSION JOINT FILLER SHALL EXTEND THE FULL DEPTH OF THE REPAIR AND BE FLUSH WITH THE EXISTING PAVEMENT SURFACE. PRIOR TO SEALING, THE JOINT FIBER FILLER AT THE PAVEMENT SURFACE SHALL BE REMOVED BY CUTTING 1" WIDE AND 1 1/2" DEEP TO PERMIT THE PLACEMENT OF THE HOT-POURED RUBBER ASPHALT SEALANT. HOLES IN EXPANSION JOINT FILLER SHALL BE 1/2" MAXIMUM DIAMETER AND SHALL BE ALIGNED TO FIT DRILLED HOLES IN CONCRETE.

Erg JOINTS SHALL BE CONSTRUCTED ONLY WHEN THEY EXTEND ACROSS ALL LANES, RAMPS, OR SHOULDERS.

WHEN Erg JOINTS ARE PLACED ADJACENT TO CONCRETE CURB AND GUTTER THAT IS NOT REQUIRED TO BE REMOVED, AN Esc JOINT SHALL BE CONSTRUCTED IN THE CURB AND GUTTER.

JOINT RESERVOIRS FOR THE HOT-POURED RUBBER-ASPHALT SEALANT SHALL BE ABRASIVE BLAST CLEANED, FOLLOWED BY A FINAL CLEANING OF OIL-FREE COMPRESSED AIR PRIOR TO SEALING.

LANE TIES (TO ADJACENT PAVEMENT LANE, WHEN REQUIRED) SHALL BE SPACED ACCORDING TO STANDARD PLAN R-41-SERIES, EXCEPT THAT THE FIRST LANE TIE ADJACENT TO A TRANSVERSE JOINT SHALL BE INSTALLED AT A DISTANCE OF 1'-8" FROM THE JOINT. WHEN BOTH SIDES OF A LONGITUDINAL JOINT ARE POURED INTEGRALLY, LANE TIES SHALL BE STRAIGHT DEFORMED EPOXY COATED BARS CAST-IN-PLACE AS SPECIFIED ON STANDARD PLAN R-41-SERIES. WHEN ADJACENT LANES ARE CAST SEPARATELY, LANE TIES SHALL BE GROUTED-IN-PLACE AS SPECIFIED ON THIS PLAN. THE GROUT SHALL BE SELECTED FROM THE PREQUALIFIED MATERIALS LISTED IN THE DEPARTMENT'S "MATERIALS SOURCE GUIDE", UNDER LANE TIES.

THE MONTH AND YEAR OF CASTING AND STATION NUMBER (IF REMOVED) SHALL BE STENCILED ON EACH CONCRETE REPAIR.

ALL REPAIRS WILL BE JOINTED PLAIN CONCRETE PAVEMENT.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

CONCRETE PAVEMENT REPAIR

9-10-2010 F.H.W.A. APPROVAL	8-9-2010 PLAN DATE	R-44-F	SHEET 6 OF 6
--------------------------------	-----------------------	--------	-----------------



CITY OF ANN ARBOR ENGINEERING

STREET RESURFACING PROJECT - 2018

ITB No. 4529 FILE No. 2018004

NOTES:

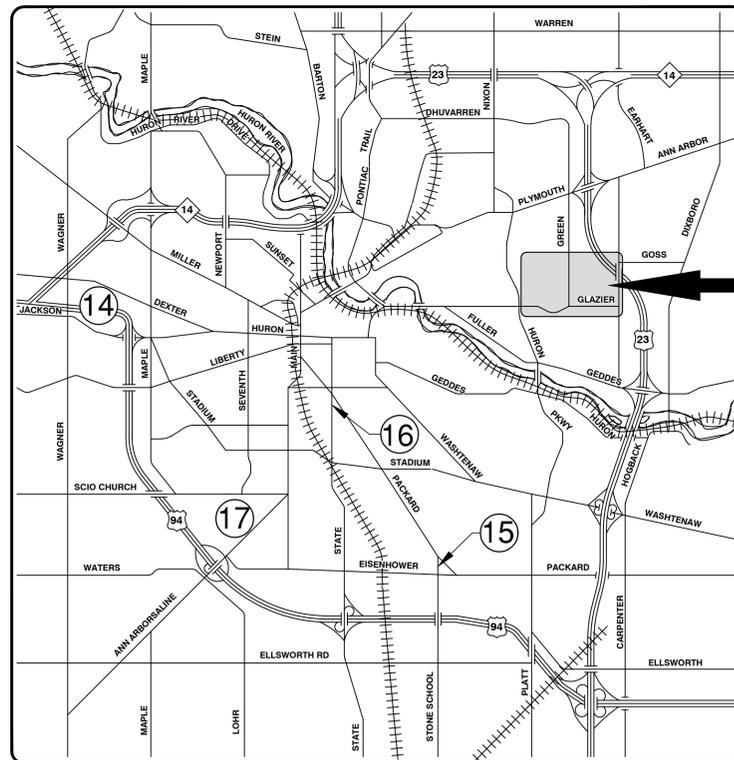
FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CALL 811 OR 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

THE UNDERGROUND LOCATIONS SHOWN FOR NATURAL GAS, TELEPHONE, ELECTRICAL, POWER, CABLE TV AND FIBER OPTIC LINES ARE APPROXIMATE. THE CITY OF ANN ARBOR ASSUMES NO RESPONSIBILITY FOR THEIR ACCURATE REPRESENTATION IN THIS DRAWING. MISS DIG MUST BE CONTACTED PRIOR TO CONSTRUCTION TO LOCATE THESE UTILITIES.

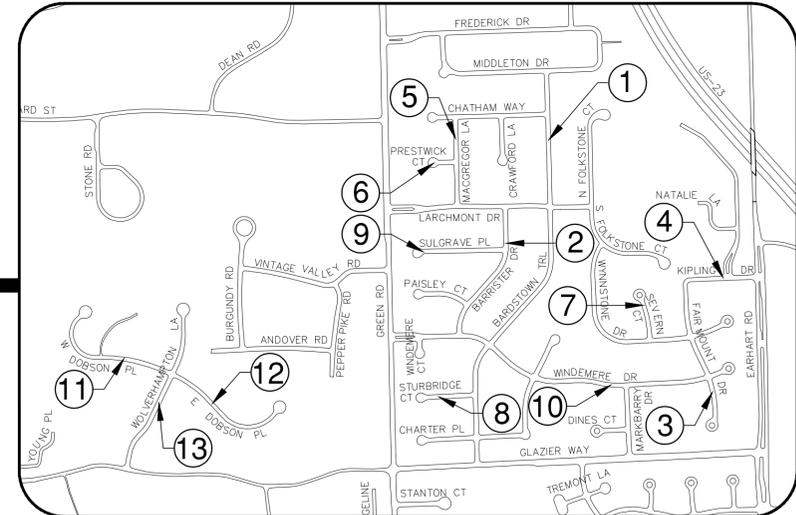
THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE PERFORMED IN ACCORDANCE WITH MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION, INCLUDING REFERENCED MDOT PUBLICATIONS, AND THE PROJECT CONTRACT DOCUMENTS.

SHEET INDEX

SHEET NO.	TITLE	MAP INDEX NO. (THIS SHEET)
1	COVER SHEET	
2	NOTES AND MISCELLANEOUS QUANTITIES	
3	SOIL EROSION AND SEDIMENTATION CONTROL (SESC) NOTES AND DETAILS	
4	DETAILS	
5	TRAFFIC CALMING DETAIL	
7-11	BARDSTOWN TRAIL	1
12-13	BARRISTER DRIVE	2
14-16	FAIRMOUNT DRIVE	3
17-18	KIPLING DRIVE	4
19-20	MACGREGOR LANE	5
21-22	PRESTWICK COURT	6
23-24	SEVERN COURT	7
25-26	STURBRIDGE COURT	8
27-28	SULGRAVE PLACE	9
29-32	WINDEMERE DRIVE	10
33-34	WEST DOBSON PLACE	11
35-36	EAST DOBSON PLACE	12
37-39	WOLVERHAMPTON LANE	13
40-60	EB & WB JACKSON AVENUE	14
61-67	STONE SCHOOL ROAD	15
68-73	SOUTH STATE STREET	16
74-79	ANN ARBOR - SALINE RD BIKEPATH	17



VICINITY MAP



T:\2018004\Plan Production\2018004COV.dwg - _o2 standard bw.stb - Plot Date: 3/15/2018 11:54:29 AM



REV.	DATE	DESCRIPTION
01	3-15-18	ADDENDUM #1
00	2-27-18	BID SET
		DRAWN
		CHECKED

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR, MI 48106-8647
www.a2gov.org



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
STREET RESURFACING PROJECT - 2018
MAJOR AND LOCAL STREET RESURFACING
COVER SHEET

SCALE
DRAWING No.
2018004-1
SHEET No.
1 OF 79

PREPARED UNDER THE SUPERVISION OF
David Arthur Dykman
DAVID ARTHUR DYKMAN, P.E. - MI LICENSE No. 52912
PROJECT MANAGER
03 / 15 / 2018
DATE



© STREET RESURFACING PROJECT - 2018 ; ITB No. 4529

GENERAL

NOTIFY THE CITY OF ANN ARBOR SOIL EROSION CONTROL OFFICE 48 HOURS PRIOR TO BEGINNING WORK ON THE PROJECT. PHONE: 734-794-6265.

1. THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN THE SOIL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER AT ALL TIMES DURING CONSTRUCTION. ANY MODIFICATIONS OR ADDITIONS TO THE SOIL EROSION CONTROL MEASURES DUE TO CONSTRUCTION OR CHANGED CONDITIONS SHALL BE AS DIRECTED AND APPROVED BY THE ENGINEER.
2. ALL SOIL EROSION AND SEDIMENTATION CONTROL WORK SHALL CONFORM TO THE PERMIT REQUIREMENTS OF THE CITY OF ANN ARBOR, CITY ORDINANCE CHAPTER 63, CITY OF ANN ARBOR STANDARDS DIVISION VII, THE LAWS OF THE STATE OF MICHIGAN, AND THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
3. DAILY, OR AFTER ANY STORM EVENT, INSPECTIONS OF EROSION CONTROL MEASURES SHALL BE MADE BY THE CONTRACTOR. PERIODIC INSPECTIONS MAY BE MADE BY THE ENGINEER TO DETERMINE THE EFFECTIVENESS OF EROSION AND SEDIMENTATION CONTROL MEASURES. ANY NECESSARY CORRECTIONS SHALL BE MADE WITHOUT DELAY, AND WITHOUT ADDITIONAL COST TO THE CITY OF ANN ARBOR.
4. EROSION AND SEDIMENTATION FROM WORK ON THE SITE SHALL BE CONTAINED ON THE SITE AND NOT BE ALLOWED TO COLLECT ON ANY OFF-SITE AREAS, ROADWAYS OR WATERWAYS.
5. ALL MUD/SOIL TRACKED ONTO ROADWAYS FROM THE SITE DUE TO CONSTRUCTION, SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR. IF SO ORDERED, THE CONTRACTOR SHALL PROVIDE AND OPERATE A VACUUM-TYPE STREET SWEEPER, AT NO ADDITIONAL COST TO THE CITY OF ANN ARBOR, WITHIN FOUR (4) HOURS OF BEING SO ORDERED.
6. RESTORATION OF ALL DISTURBED AREAS, INCLUDING PLACEMENT OF TOPSOIL, SEED, FERTILIZER AND MULCH AND/OR SOD SHALL BE PERFORMED WITHIN FIVE (5) DAYS OF THE COMPLETION OF FINAL GRADE.
7. CONSTRUCTION OPERATIONS SHALL BE SCHEDULED AND PERFORMED SO THAT PREVENTATIVE SOIL EROSION CONTROL MEASURES ARE IN PLACE PRIOR TO EXCAVATION IN CRITICAL AREAS AND TEMPORARY STABILIZATION MEASURES ARE IN PLACE IMMEDIATELY FOLLOWING BACKFILLING OPERATIONS.

8. SPECIAL PRECAUTIONS WILL BE TAKEN IN THE USE OF CONSTRUCTION EQUIPMENT TO PREVENT SITUATIONS THAT PROMOTE EROSION.
9. PROPER DUST CONTROL SHALL BE MAINTAINED DURING CONSTRUCTION BY USE OF WATER TRUCKS AND/OR DUST PALLIATIVE AS REQUIRED.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND REMOVAL OF SOME MEASURES UPON AUTHORIZED COMPLETION OF THE PROJECT. FINAL COMPLETION OF PROJECT WILL NOT BE AUTHORIZED UNTIL ALL SITE WORK AND UTILITY CONSTRUCTION IS COMPLETE AND ALL SOILS ARE STABILIZED.
11. THE CONTRACTOR SHALL NOT GRADE INTO ADJACENT PROPERTIES. SILT AND PROTECTIVE FENCE SHALL BE INSTALLED AND MAINTAINED TO PREVENT GRADING, EROSION AND SEDIMENTATION INTO THE ADJACENT PROPERTIES.
12. TREE PROTECTION FENCING MUST REMAIN INTACT UNTIL RESTORATION OF THE SITE IS COMPLETE.

SEQUENCE OF EROSION CONTROL MEASURES:

1. THE CONTRACTOR IS TO SUBMIT TO THE ENGINEER, A SEQUENCE OF CONSTRUCTION WITH RESPECT TO THE SOIL EROSION CONTROL MEASURES FOR REVIEW, COMMENT AND APPROVAL. THIS SCHEDULE IS TO INCLUDE INSPECTION AND REPAIR OF ALL TEMPORARY EROSION CONTROL MEASURES DAILY AND WITHIN 24 HOURS OF A STORM EVENT.

SAMPLE SOIL EROSION AND SEDIMENTATION CONTROL INSTALLATION MINIMUM REQUIREMENTS:

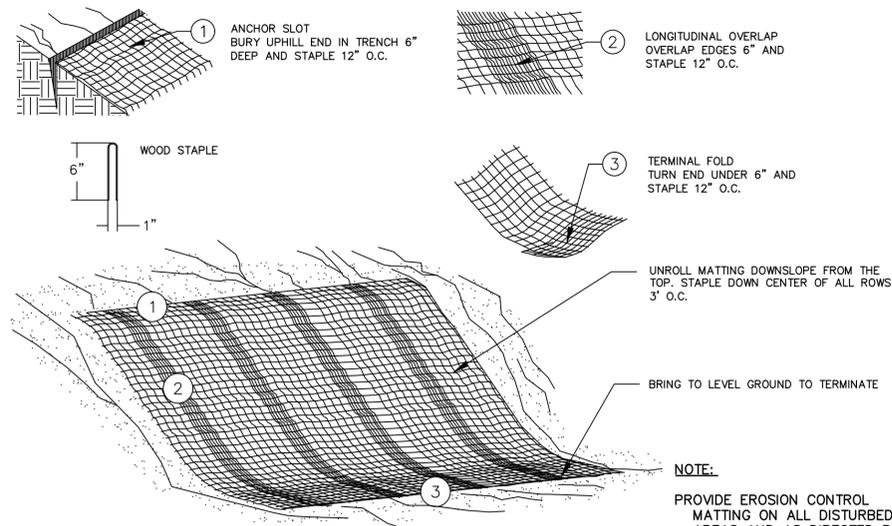
- 1.1. INSTALL SILT FENCE, TREE PROTECTION FENCING, MUD MATS, INLET FILTERS ON EXISTING DRAINAGE FEATURES, AND ALL OTHER TEMPORARY SOIL EROSION CONTROLS, PRIOR TO ANY CLEARING OR EARTH MOVING OPERATION.
- 1.2. STRIP AND STOCKPILE TOPSOIL. STABILIZE STOCKPILE AS REQUIRED.
- 1.3. INSTALL WATER MAINS, STORM AND SANITARY SEWERS, AND OTHER ENCLOSED DRAINAGE FEATURES. NEW INLET FILTERS SHALL BE INSTALLED IMMEDIATELY FOLLOWING INSTALLATION OF NEW DRAINAGE INLETS.

- 1.4. PERFORM MACHINE GRADING OPERATIONS AND CONSTRUCT PAVEMENTS (MAINLINE, SIDEWALKS, DRIVES, ETC.).
- 1.5. CONTINUALLY MAINTAIN EROSION AND SEDIMENTATION CONTROL MEASURES, AS REQUIRED TO ALLOW DRAINAGE AND SEDIMENT REMOVAL. REMOVE ANY ACCUMULATED SEDIMENT IMMEDIATELY.
- 1.6. COMPLETE ALL BIORETENTION GRADING AND FINE GRADING.
- 1.7. TEMPORARY SEED AND INSTALL EROSION CONTROL BLANKET IN ALL DISTURBED AREAS.
- 1.8. REFER TO LANDSCAPE PLANTING PLANS FOR PERMANENT SITE STABILIZATION.
- 1.9. CLEAN OUT STORM SEWER SYSTEMS.
- 1.10. REMEDY ANY NOTED DEFECTS TO THE SATISFACTION OF THE CITY OF ANN ARBOR'S SOIL EROSION AND SEDIMENTATION CONTROL OFFICIAL.
- 1.11. ALL TEMP. SOIL EROSION CONTROL MEASURES MUST BE REMOVED, WITH ENGINEERS APPROVAL, PRIOR TO FINAL INSPECTION

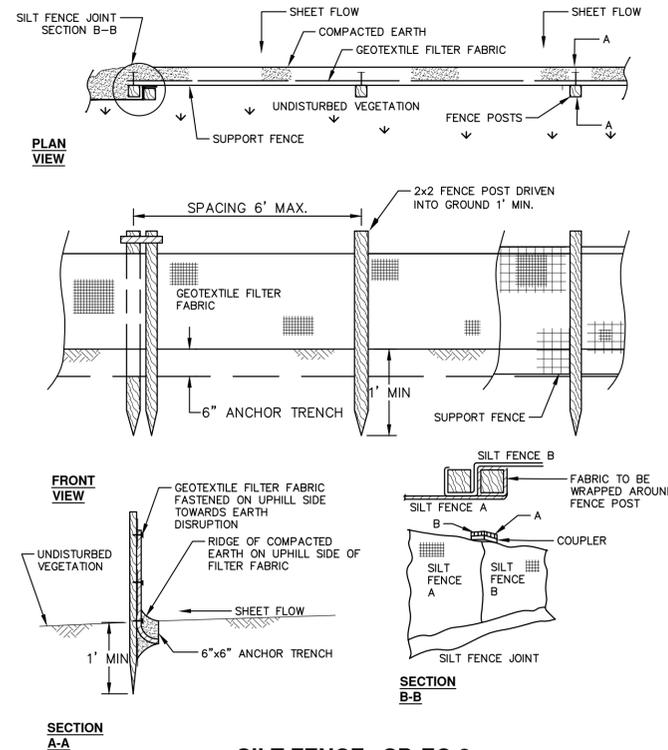
NOTE: THIS SEQUENCE IS FOR INFORMATION ONLY. IT IS INTENDED TO SHOW THE SEQUENCE OF CONSTRUCTION WITH RESPECT TO THE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING THEIR OWN DETAILED CONSTRUCTION SEQUENCE AND SCHEDULE TO THE ENGINEER FOR REVIEW, COMMENT, AND APPROVAL.

TEMPORARY SEEDING:

1. SEED IN ACCORDANCE WITH PROJECT DRAWINGS AND SPECIFICATIONS.
2. ANY DISTURBED AREA NOT PAVED, SEEDED, MULCHED, SODDED OR BUILT UPON BY NOVEMBER 15TH OR JUNE 30TH IS TO BE TEMPORARILY STABILIZED PER SPECIFICATIONS.



MULCH BLANKET DETAIL
APPLIES TO ALL AREAS TO BE PERMANENTLY RESTORED WITH GRASS. SEE LANDSCAPE PLANS FOR MORE DETAILS.



SILT FENCE SD-EC-3

T:\2018004\Plan Production\2018004COV.dwg Dwg Created: 21-Sep-17 - _a2_standard bw.stb - Plot Date: 15-Mar-18



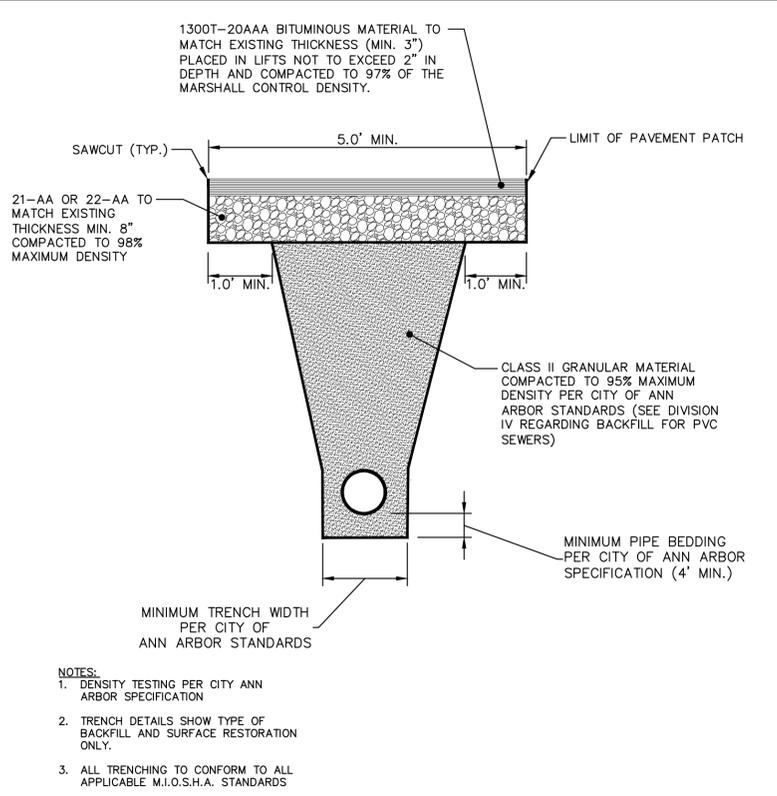
		DAD	DAD	CHECKED
		GSCE	GSCE	DRAWN
		3-15-18	2-27-18	DATE
01	ADDENDUM #1			DESCRIPTION
00	BID SET			REV.

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR, MI 48106-8647
734-794-4410
www.a3gov.org

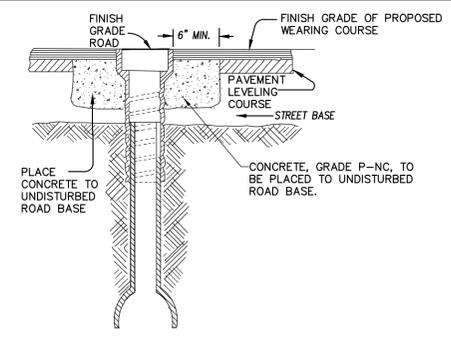


CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
STREET RESURFACING PROJECT - 2018
SESC NOTES & DETAILS

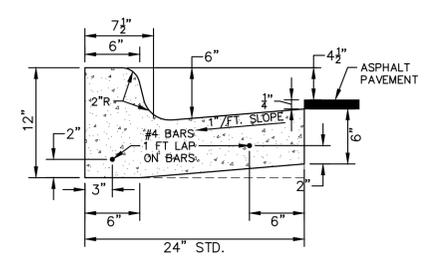
SCALE: NTS
DRAWING No. 2018004-3



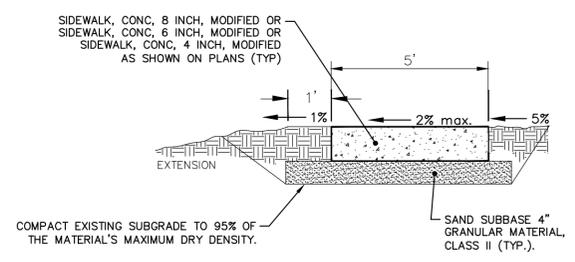
UTILITY TRENCH-TYPE I SD-TD-1
(UNDER BITUMINOUS SURFACE)



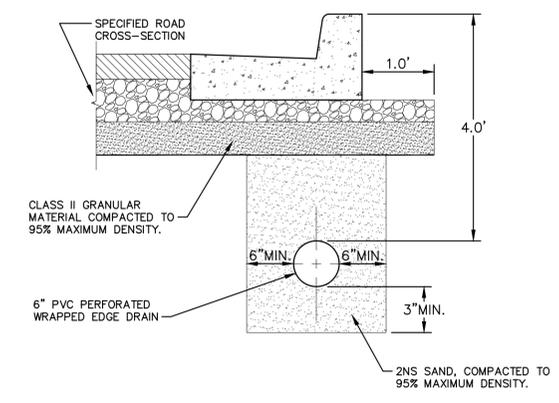
WATER VALVE BOX ADJUSTMENT



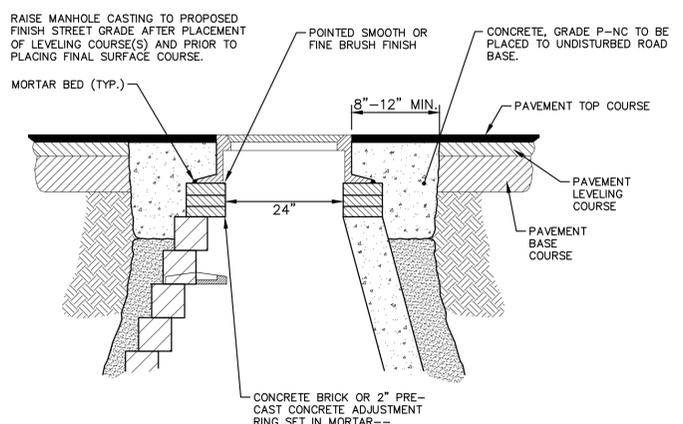
BARRIER CURB AND GUTTER SD-R-1



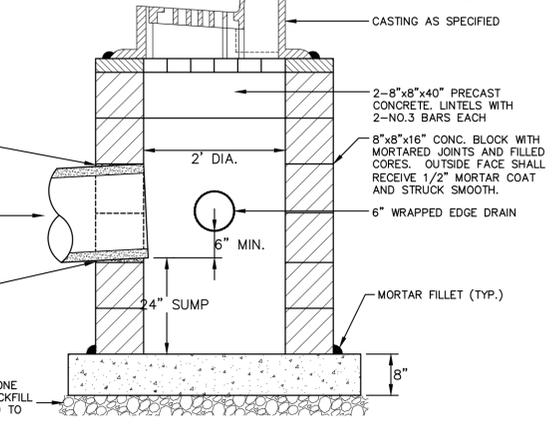
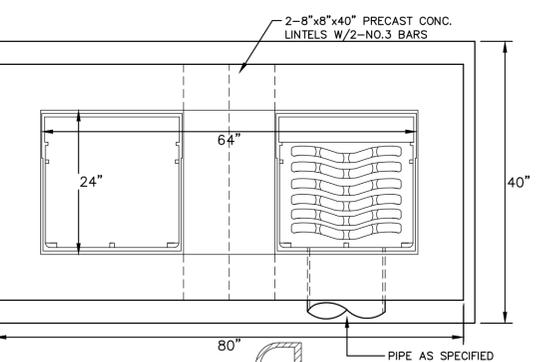
TYPICAL 5 FT SIDEWALK SECTION



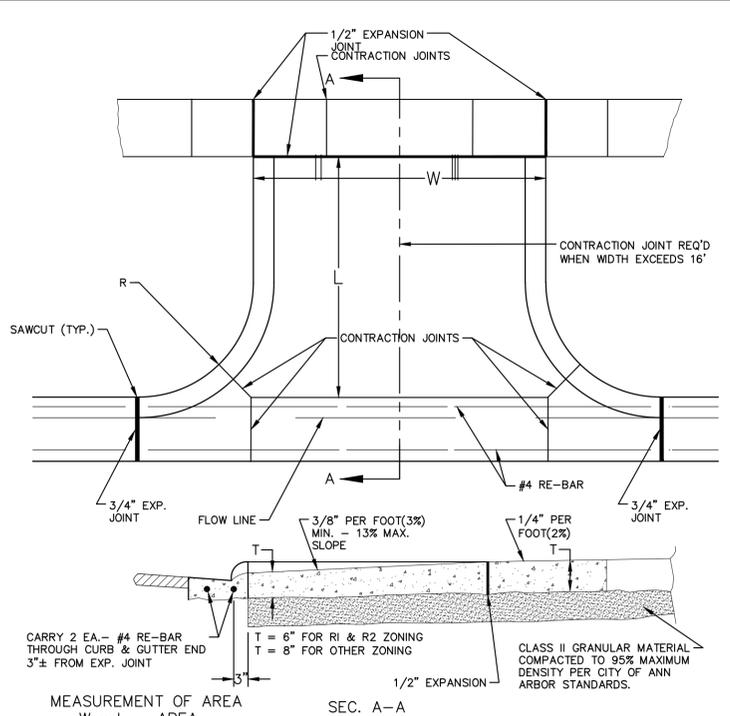
TYPICAL EDGE DRAIN TRENCH SD-TD-10



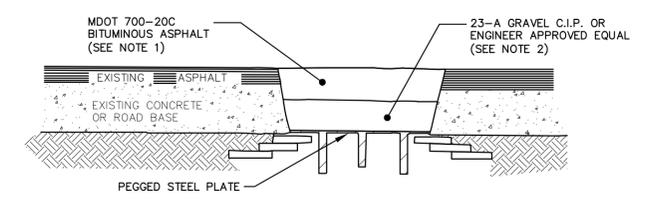
MANHOLE CASTING ADJUSTMENT SD-GU-6



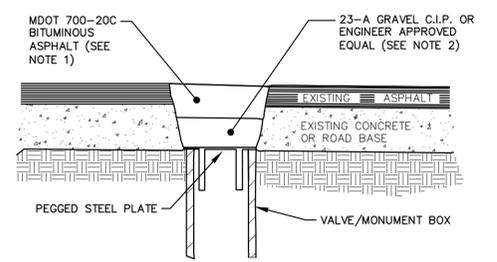
DOUBLE INLET STRUCTURE SD-S-11



TYPE 'M' DRIVE APPROACH SD-R-6



MANHOLE LOWERING DETAIL



VALVE BOX/MONUMENT BOX LOWERING DETAIL

- NOTES:
 1. IF TRAFFIC IS TO BE MAINTAINED ON THE ROADWAY BEFORE OR AFTER THE COLD MILLING OPERATION, THE STRUCTURE SHALL BE LOWERED TO THE EXTENT THAT A MINIMUM OF THREE(3) INCHES ASPHALT MATERIAL MDOT 700-20C. OR ENGINEER APPROVED EQUAL, REMAINS TO SUPPORT TRAFFIC.
 2. IF THE ROADWAY BEING MILLED IS CLOSED TO TRAFFIC, THE STRUCTURE SHALL BE LOWERED SUCH THAT THE STEEL PLATE IS A MINIMUM OF FOUR(4) INCHES BELOW THE PROPOSED ROAD GRADE AND THE RESULTING VOID SHALL BE FILLED WITH COMPACTED 23-A GRAVEL OR ENGINEER APPROVED EQUAL.
 3. WHERE A MONUMENT IS TO BE LOWERED, THE CONTRACTOR SHALL GIVE THE ENGINEER A MINIMUM OF 48 HOURS WRITTEN NOTICE SO THAT THE MONUMENT CAN BE PROPERLY WITNESSED OR PROTECTED. FAILURE TO DO SO SHALL RESULT IN THE ENGINEER REPLACING SAID MONUMENT AT THE CONTRACTORS EXPENSE.

MANHOLE & VALVE/MONUMENT BOX LOWERING

T:\2018004\Plan Production\2018004COV.dwg Dwg Created: 21-Sep-17 11:02:17 Plot Date: 15-Mar-18

811 Know what's below. Call before you dig.

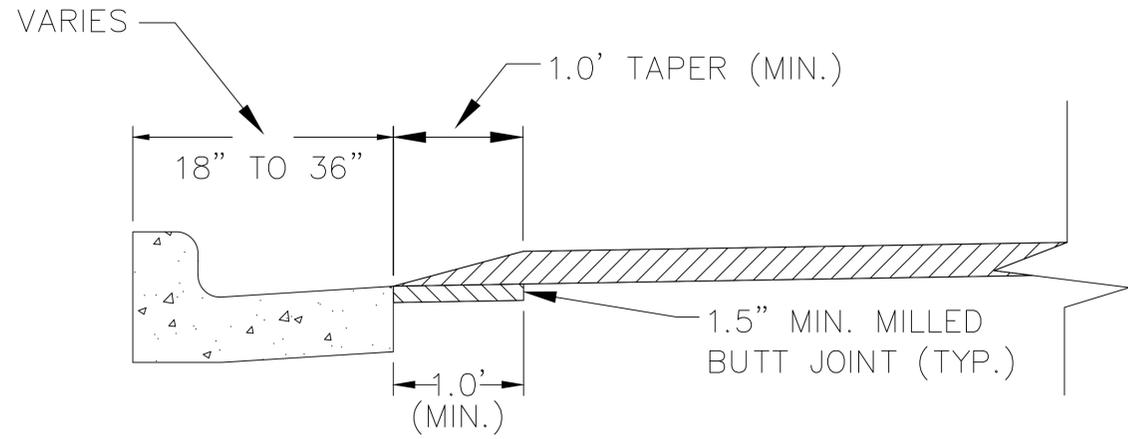
01	ADDENDUM #1	3-15-18	DAD	DAD	CHECKED
00	BID SET	2-27-18	DATE	DRAWN	CHECKED
				DESCRIPTION	REV.

CITY OF ANN ARBOR PUBLIC SERVICES 301 EAST HURON STREET P.O. BOX 8667 ANN ARBOR MI 48107-8667 www.aagov.org

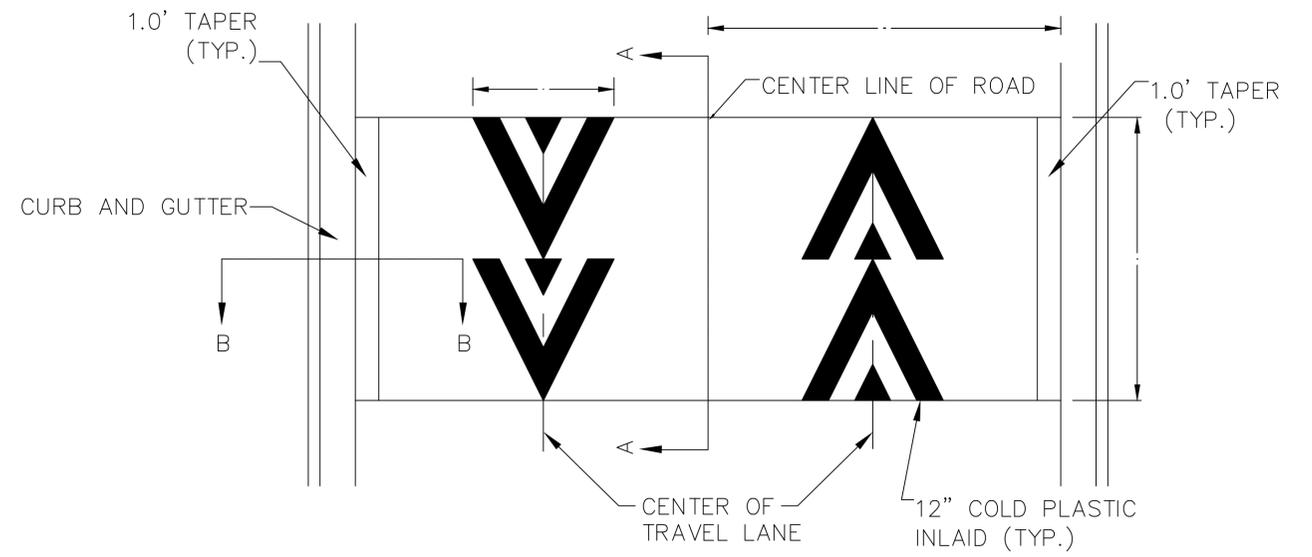
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

STREET RESURFACING PROJECT - 2018

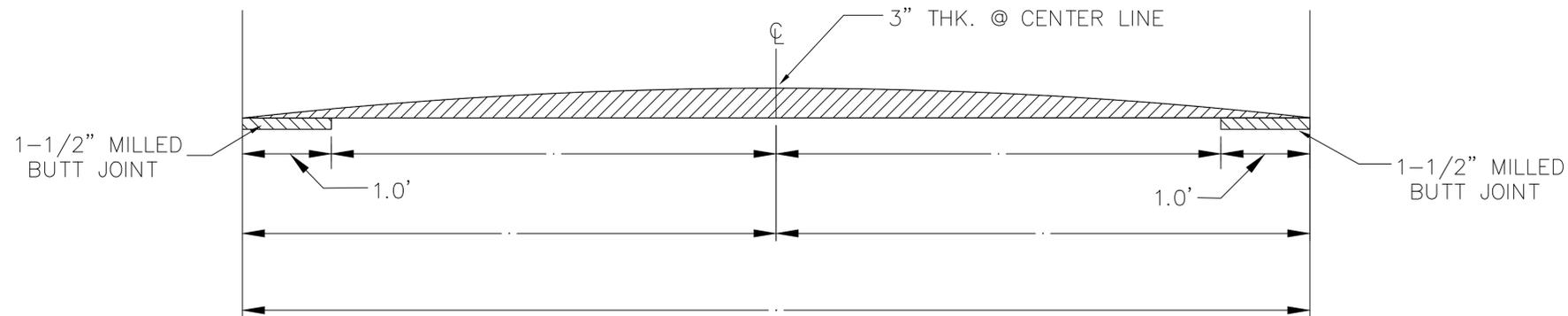
SCALE: DRAWING No. 2018004-4 SHEET No. 4 OF 79



SPEED HUMP CROSS SECTION
SECTION B-B



PAVEMENT MARKING DETAIL



SPEED HUMP CROSS SECTION
SECTION A-A

GENERAL NOTES

1. RAISED INTERSECTIONS SHALL FOLLOW THE SAME TAPER REQUIREMENT AS THE SPEED HUMPS DETAILED HEREIN.
2. PAYMENT FOR PAVEMENT MARKINGS FOR SPEED HUMPS AND RAISED INTERSECTIONS SHALL BE INCLUDED IN THE RESPECTIVE BID ITEMS AND SHALL NOT BE PAID FOR SEPARATELY.



REV.	DATE	DESCRIPTION	DRAWN	CHECKED
01	3-15-18	ADDENDUM #1	GSCE	DAD
00	2-27-18	BID SET	GSCE	DAD

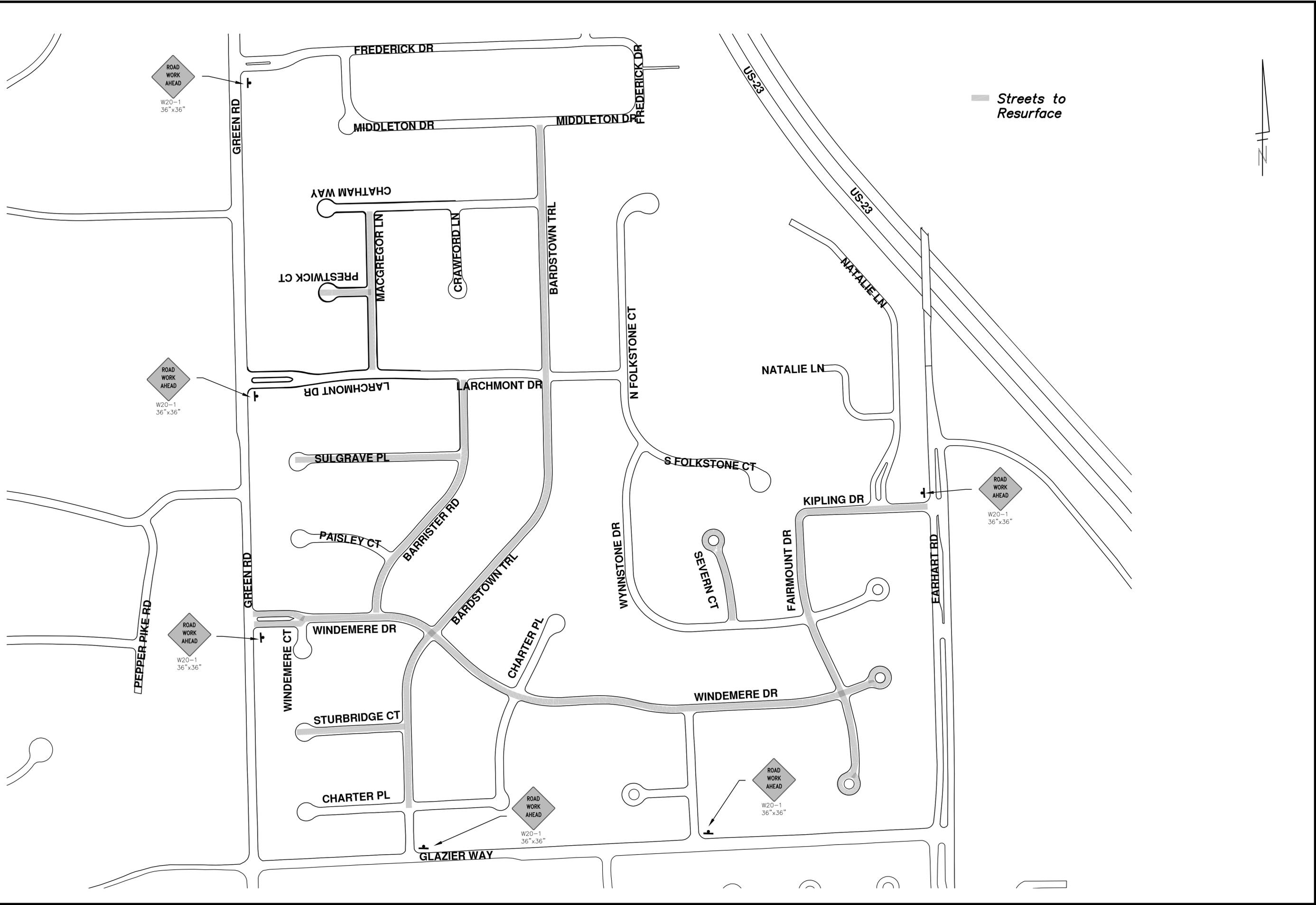
CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR, MI 48106-0647
www.a2gov.org



PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
TRAFFIC CALMING DETAIL

SCALE PLAN: NONE
DRAWING No. 2018004-5

T:\2018004\Plan Production\2018004 - MacGregor Lane.dwg Dwg Created: 22-Sep-17 - _a2 standard bw.stb - Plot Date: 15-Mar-18



CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR MI 48106-8647
www.a2gov.org

REV.	DATE	DESCRIPTION
01	3-15-18	GS/CE
00	2-27-18	GS/CE

REV.	DATE	DESCRIPTION
DAD		CHECKED
DAD		DRAWN





CITY OF ANN ARBOR ENGINEERING

PROJECT LOCATION: BARDSTOWN TRAIL

ITB No. 4529 FILE No. 2018004

QUANTITIES			
Item Code	Item Description	Units	Quantity
2030011	Dr Structure, Rem	Ea	19.000
2030015	Sewer, Rem, Less than 24 inch	Ft	190.000
2047001	Curb, Gutter, and Curb and Gutter, Any Type, Rem	Ft	2341.000
2047011	Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem	Syd	465.000
2057011	Grading, Driveway Approach	Syd	434.000
2057011	Grading, Sidewalk	Syd	23.000
2057011	Grading, Sidewalk Ramp	Syd	8.000
2057011	Machine Grading, Special	Syd	10103.000
2057021	Subgrade Undercutting, Type IIA	Cyd	992.000
2080020	Erosion Control, Inlet Protection, Fabric Drop	Ea	35.000
3020001	Aggregate Base	Ton	93.000
3020050	Aggregate Base, Conditioning	Syd	10103.000
4020987	Sewer, CI IV, 12 inch, Tr Det B	Ft	190.000
4030200	Dr Structure, 24 inch dia	Ea	19.000
4037001	Dr Structure, Adj, Add Depth, Modified	Ft	2.000
4037050	Dr Structure Cover, Type B, Modified	Ea	20.000
4037050	Dr Structure Cover, Type K, Modified	Ea	23.000
4037050	Dr Structure, Adj, Case 1, Modified	Ea	34.000
4037050	Dr Structure, Double Inlet	Ea	1.000
4037050	Dr Structure, Temp Lowering, Modified	Ea	32.000
4047001	Underdrain, Subgrade, 6 inch, Special	Ft	380.000
5010003	Cold Milling HMA Surface	Ton	10103.000
5010005	HMA Surface, Rem	Syd	319.000
5010061	HMA, Approach	Ton	48.000
5010703	HMA, LVSP	Ton	2175.000
5017031	HMA, Wedging, 36A	Ton	33.000
6027021	Flowable Fill	Cyd	44.000
8017011	Driveway, Nonreinf Conc, 6 inch, Modified	Syd	434.000
8027001	Curb and Gutter, Conc, Barrier	Ft	1545.000
8027001	Driveway Opening, Conc, Det M, Modified	Ft	836.000
8037001	Detectable Warning Surface, Modified	Ft	20.000
8037010	Sidewalk Ramp, Conc, 6 inch, Modified	Sft	72.000
8037010	Sidewalk, Conc, 4 inch, Modified	Sft	125.000
8037010	Sidewalk, Conc, 6 inch, Modified	Sft	75.000
8117001	Pav Mrgk, Wet Retrflec Polyurea, 12 inch, Crosswalk	Ft	400.000
8117001	Pav Mrgk, Thermopl, 4 inch, Parking Sym, White	Ft	60.000
8120012	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	Ea	8.000
8120013	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	Ea	8.000
8120260	Plastic Drum, High Intensity, Furn	Ea	156.000
8120261	Plastic Drum, High Intensity, Oper	Ea	156.000
8120350	Sign, Type B, Temp, Prismatic, Furn	Sft	205.000
8120351	Sign, Type B, Temp, Prismatic, Oper	Sft	205.000
8127050	No Parking Sign	Ea	78.000
8167011	Slope Restoration	Syd	626.000
8230431	Gate Box, Adj, Case 1	Ea	3.000

QUANTITIES				
Sign, Type B, Temp, Prismatic				
Quantity	Sign Code	Description	Area (sft)	Total Area
9.0	D3-1	Street Name Sign	4.000	36.000
7.0	R11-3a	Road Closed Sign ("Road Closed Local Traffic Only")	12.500	88.000
9.0	W20-3	Road Closed Ahead Sign	9.000	81.000
TOTAL				205.000

CONSTRUCTION KEY	
KEY	ASSOCIATED PAY ITEM(S)
AA	• Dr Structure, Adj, Case 1, Modified • Dr Structure, Adj, Case 2, Modified • Dr Structure, Temp Lowering, Modified
AB	• Dr Structure, Temp Lowering, Modified • Gate Box, Adj, Case 1 • Gate Box, Adj, Case 2 • Monument Box Adjust
ADST	• Dr Structure, Adj, Add Depth, Modified
AK	• Dr Structure, Adj, Case 1, Modified
C4	• Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • Grading, Sidewalk • Sidewalk, Conc, 4 inch, Modified
C4HE	• Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • Grading, Sidewalk • Cement • Sidewalk, Conc, 4 inch, Modified
C6	• Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • Grading, Sidewalk • Grading, Sidewalk Ramp • Detectable Warning Surface, Modified • Sidewalk Ramp, Conc, 6 inch, Modified • Sidewalk, Conc, 6 inch, Modified
C8	• Grading, Driveway Approach • Driveway, Nonreinf Conc, 8 inch, Modified
C HE	• Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • Grading, Driveway Approach • Grading, Sidewalk • Grading, Sidewalk Ramp • Cement • Driveway, Nonreinf Conc, 6 inch, Modified • Driveway, Nonreinf Conc, 8 inch, Modified • Detectable Warning Surface, Modified • Sidewalk Ramp, Conc, 6 inch, Modified • Sidewalk, Conc, 6 inch, Modified
C/G	• Curb, Gutter, and Curb and Gutter, Any Type, Rem • Curb and Gutter, Conc
C/GHE	• Curb, Gutter, and Curb and Gutter, Any Type, Rem • Cement • Driveway Opening, Conc, Det M, Modified
CP	• Grading, Sidewalk • Sidewalk, Conc, 4 inch, Modified
CR	• Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • Dr Structure, Rem • Sewer, Rem, Less than 24 inch • Dr Structure, 24 inch dia
DSDI	• Dr Structure, Rem • Sewer, Rem, Less than 24 inch • Dr Structure, Double Inlet
PT	• Dr Structure, Point
RRA	• Dr Structure Cover, Type B • Dr Structure Cover, Type B, Special • Dr Structure, Adj, Case 1, Modified • Dr Structure, Temp Lowering, Modified
RRK	• Dr Structure Cover, Type K • Dr Structure, Adj, Case 1, Modified
RS	• Dr Structure, Reconstruct
TYPE II	• Plastic Drum, High Intensity, Lighted, Furn • Plastic Drum, High Intensity, Lighted, Oper
TYPE III	• Barricade, Type III, High Intensity, Double Sided, Lighted, Furn • Barricade, Type III, High Intensity, Double Sided, Lighted, Oper

CONSTRUCTION METHOD AND SEQUENCING

1. THE WORK TO BE COMPLETED ON THIS STREET SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING ITEMS. THE ORDER OF CONSTRUCTION SHALL BE AS GIVEN UNLESS OTHERWISE AUTHORIZED OR DIRECTED BY THE ENGINEER.
2. IMPLEMENT TRAFFIC MAINTENANCE, AND SOIL EROSION CONTROLS IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
3. INSTALL ANY PROPOSED STORM SEWER, AND UNDERDRAIN AS SHOWN ON THE PLANS, AND AS DIRECTED BY THE ENGINEER.
4. LOWER ALL STRUCTURE COVERS, INCLUDING VALVE AND MONUMENT BOXES.
5. PERFORM ALL CONCRETE WORK, INCLUDING RESTORATION, IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
6. MILL 4 INCHES OF BITUMINOUS MATERIAL FROM EXISTING ROADWAY. THIS MAY INCLUDE GRANULAR ROAD BASE MATERIAL. DEPTH TO BE DETERMINED BY THE ENGINEER. PROOF ROLL WITH FULL TRUCK.
7. PERFORM UNDERCUTS AND/OR BASE REPAIRS AS DIRECTED BY THE ENGINEER.
8. GRADE, SHAPE, AND RE-COMPACT THE EXISTING ROAD BASE AS REQUIRED, AND AS DIRECTED BY THE ENGINEER.
9. PAVE 2 INCHES OF THE BITUMINOUS MIX AS SPECIFIED OR DIRECTED, AS THE LEVELING COURSE, IN ONE LIFT.
10. ADJUST ALL STRUCTURE COVERS, MONUMENT BOXES, AND VALVE BOXES TO THEIR FINISHED ELEVATIONS.
11. PAVE 2 INCH OF THE BITUMINOUS MIX AS SPECIFIED OR DIRECTED, AS THE WEARING COURSE, IN ONE LIFT.
12. COMPLETE ALL PAVEMENT MARKINGS IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
13. COMPLETE ALL MISCELLANEOUS CONSTRUCTION INCLUDING ALL CLEAN-UP AND FINAL RESTORATION.
14. REMOVE ALL TRAFFIC CONTROL DEVICES. REMOVE MISS DIG FLAGS.

NOTES

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CALL 811 OR 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

THE UNDERGROUND LOCATIONS SHOWN FOR NATURAL GAS, TELEPHONE, ELECTRICAL POWER, CABLE TV AND FIBER OPTIC LINES ARE APPROXIMATE. THE CITY OF ANN ARBOR ASSUMES NO RESPONSIBILITY FOR THEIR ACCURATE REPRESENTATION IN THIS DRAWING. MISS DIG MUST BE CONTACTED PRIOR TO CONSTRUCTION TO LOCATE THESE UTILITIES.

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE PERFORMED IN ACCORDANCE WITH MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION, INCLUDING REFERENCED MDOT PUBLICATIONS, AND THE PROJECT CONTRACT DOCUMENTS.



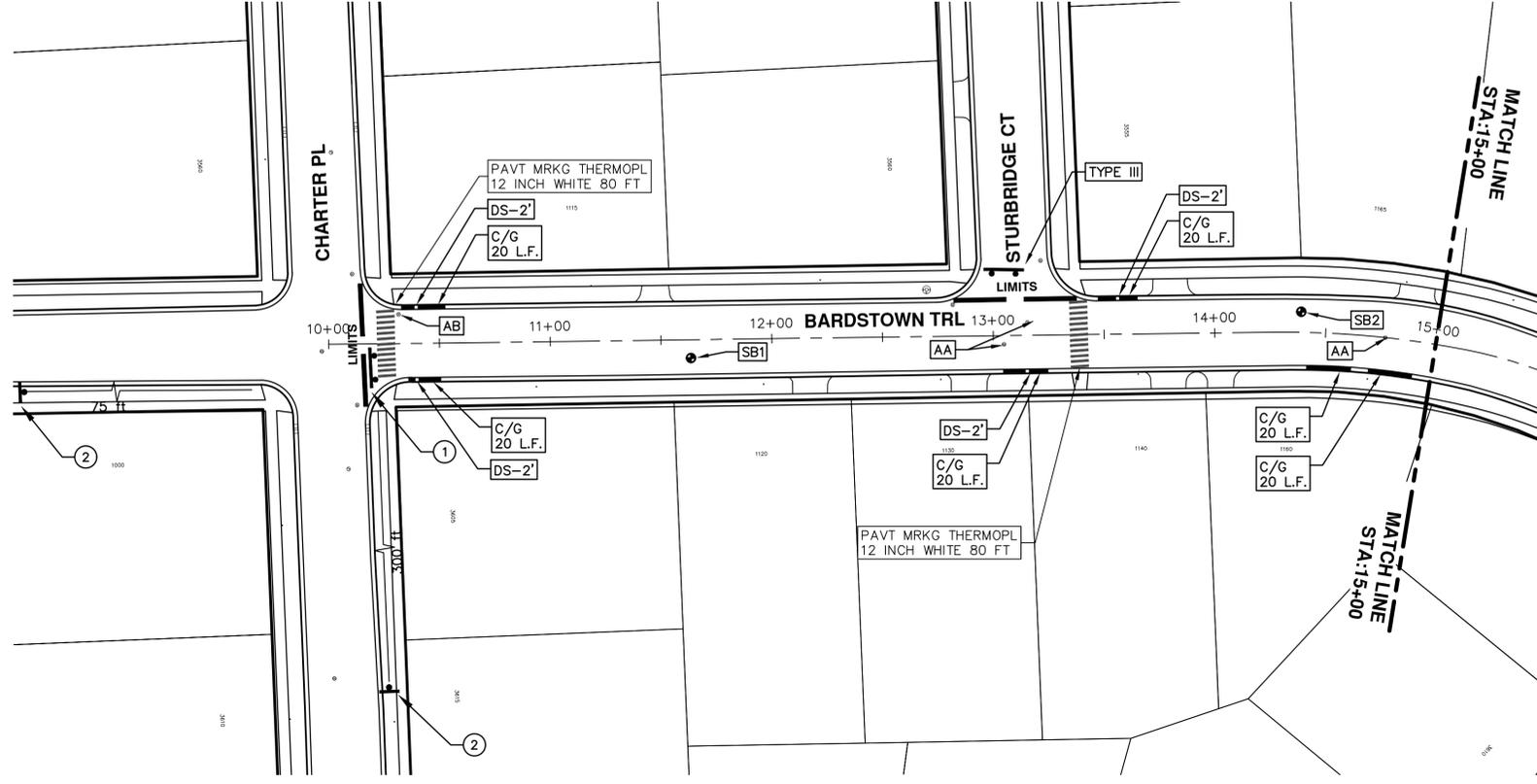
ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org



REV.	DATE	DESCRIPTION
01	3-15-18	GS CE
00	2-27-18	GS CE
		DAD
		DAD
		CHECKED

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
www.a2gov.org

ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
BARDSTOWN TRAIL



TRAFFIC CONTROL SIGN		
	SIGN	NUMBER
①	 W/ TYPE III BARRICADE	R11-3a 60x30"
②	 	W20-3 36"x36" D3-1 36"x36"

ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
 SCALE PLAN: Custom
 DRAWING No. 2018004-8

STREET RESURFACING PROJECT - 2018
 BARDSTOWN TRAIL
 STA. 10+00 - STA. 15+00

CITY OF ANN ARBOR
 PUBLIC SERVICES
 301 EAST HURON STREET
 ANN ARBOR, MI 48106-8647
 www.a2gov.org



REV.	BID SET	DATE	DESCRIPTION
01	ADDENDUM #1	3-15-18	GSCE
00		2-27-18	GSCE

DRAWN	CHECKED
DAD	DAD
GSCE	GSCE



T:\2018004\Plan Production\2018004 - Bardstown Trail.dwg Dwg Created: 21-Sep-17 - _02 standard bw.stb - Plot Date: 15-Mar-18



TRAFFIC CONTROL SIGN		
	SIGN	NUMBER
①		R11-3a 60x30
②		W20-3 36"x36" D3-1 36"x36"

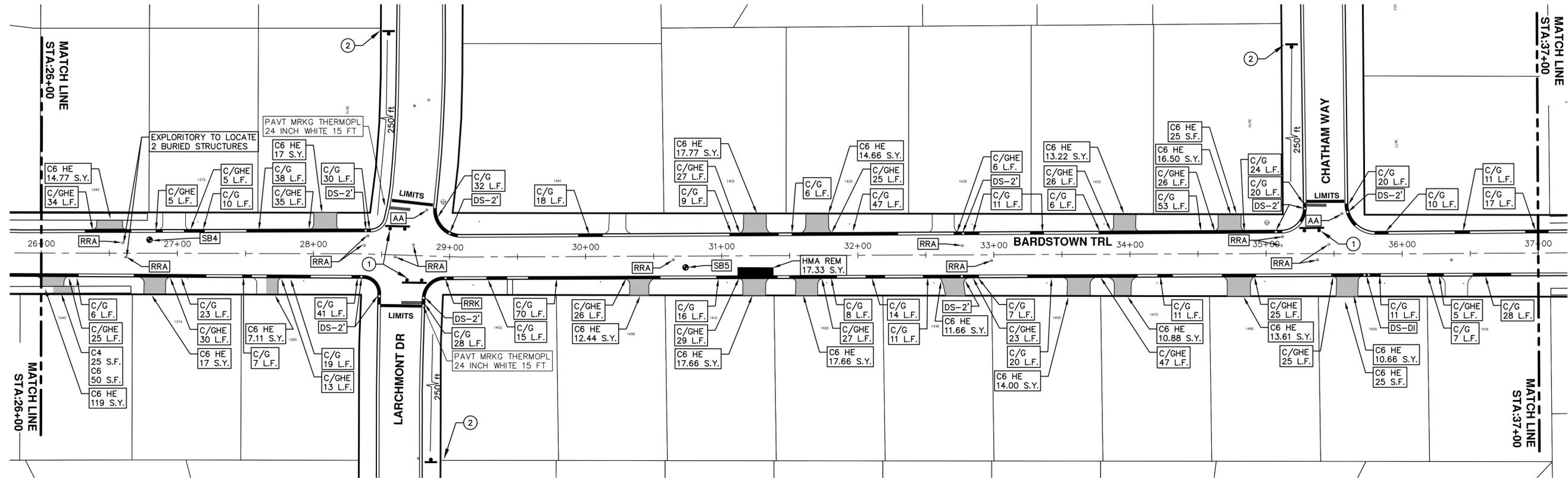
ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
 SCALE PLAN: 1"=40'
 DRAWING No. 2018004-9

STREET RESURFACING PROJECT - 2018
 BARDSTOWN TRAIL
 STA. 15+00 - STA. 26+00

CITY OF ANN ARBOR PUBLIC SERVICES
 301 EAST HURON STREET
 ANN ARBOR, MI 48106-0667
 www.a2gov.org

REV.	DATE	DESCRIPTION
00	2-27-18	DRAWN
01	3-15-18	GS/CE
DAD		CHECKED

811
 Know what's below.
 Call Before you dig.



TRAFFIC CONTROL SIGN		
	SIGN	NUMBER
①	 ROAD CLOSED LOCAL TRAFFIC ONLY W/ TYPE III BARRICADE	R11-3c 60x30
②	 ROAD CLOSED AHEAD BARDSTOWN TRL	W20-3 36"x36" D3-1 36"x36"

ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
 STREET RESURFACING PROJECT - 2018
 BARDSTOWN TRAIL

SCALE PLAN: 1"=80'
 DRAWING No. 2018004-10
 SHEET No. 10 OF 79

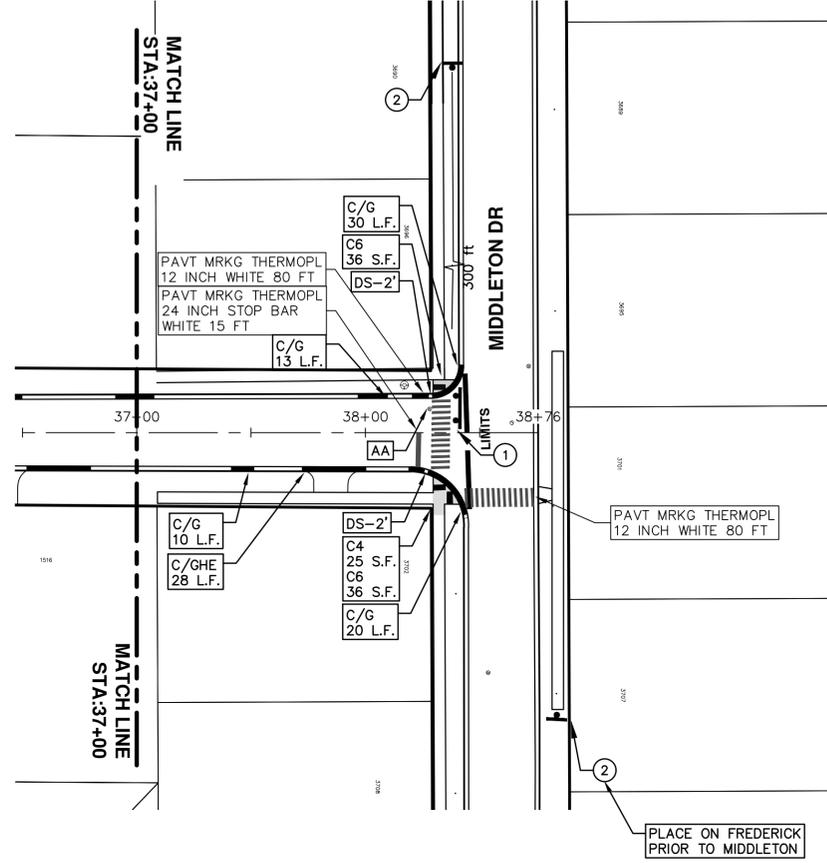
STA. 26+00 - STA. 37+00

CITY OF ANN ARBOR
 PUBLIC SERVICES
 301 EAST HURON STREET
 ANN ARBOR, MI 48106-0647
 ANN ARBOR: 734-794-4410
 WWW.A2GPOV.ORG

REV. DESCRIPTION DATE DRAWN CHECKED

01	ADDENDUM #1	3-15-18	GS/CE	DAD
00	BID SET	2-27-18	GS/CE	DAD

811
Know what's below.
Call before you dig.



TRAFFIC CONTROL SIGN		
	SIGN	NUMBER
①	 W/ TYPE III BARRICADE	R11-3a 60x30
②	 BARDSTOWN TRL	W20-3 36"x36" D3-1 36"x36"



REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	BID SET	3-15-18	GSCE	DAD
00		2-27-18	GSCE	DAD



CITY OF ANN ARBOR ENGINEERING

PROJECT LOCATION: BARRISTER DRIVE

ITB No. 4529 FILE No. 2018004

QUANTITIES			
Item Code	Item Description	Units	Quantity
2030011	Dr Structure, Rem	Ea	7.00
2030015	Sewer, Rem, Less than 24 inch	Ft	70.00
2047001	_Curb, Gutter, and Curb and Gutter, Any Type, Rem	Ft	399.00
2047011	_Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem	Syd	13.00
2057011	_Grading, Driveway Approach	Syd	13.00
2057011	_Machine Grading, Special	Syd	3690.00
2057021	_Subgrade Undercutting, Type IA	Cyd	370.00
2080036	Erosion Control, Silt Fence	Ft	12.00
3020050	Aggregate Base, Conditioning	Syd	3690.00
4020987	Sewer, CI IV, 12 inch, Tr Det B	Ft	70.00
4030200	Dr Structure, 24 inch dia	Ea	7.00
4037050	_Dr Structure Cover, Type B, Modified	Ea	12.00
4037050	_Dr Structure Cover, Type K, Modified	Ea	7.000
4037050	_Dr Structure, Adj, Case 1, Modified	Ea	14.000
4037050	_Dr Structure, Temp Lowering, Modified	Ea	14.000
4047001	_Underdrain, Subgrade, 6 inch, Special	Ft	140.000
5010003	Cold Milling HMA Surface	Ton	3,690.000
5010005	HMA Surface, Rem	Syd	45.890
5010061	HMA, Approach	Ton	17.890
5010703	HMA, LVSP	Ton	811.800
6027021	_Flowable Fill	Cyd	7.650
8017011	_Driveway, Nonreinf Conc, 6 inch, Modified	Syd	13.000
8027001	_Curb and Gutter, Conc, Barrier	Ft	230.000
8027001	_Curb and Gutter, Conc, Mountable	Ft	183.000
8120012	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	Ea	4.000
8120013	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	Ea	4.000
8120260	Plastic Drum, High Intensity, Furn	Ea	45.000
8120261	Plastic Drum, High Intensity, Oper	Ea	45.000
8120350	Sign, Type B, Temp, Prismatic, Furn	Sft	77.000
8120351	Sign, Type B, Temp, Prismatic, Oper	Sft	77.000
8127050	_No Parking Sign	Ea	36.000
8167011	_Slope Restoration	Syd	51.000

QUANTITIES				
Sign, Type B, Temp, Prismatic				
Quantity	Sign Code	Description	Area (sft)	Total Area
4.0	D3-1	Street Name Sign	4.000	16.000
2.0	R11-3a	Road Closed Sign ("Road Closed Local Traffic Only")	12.500	25.000
4.0	W20-3	Road Closed Ahead Sign	9.000	36.000
TOTAL				77.000

CONSTRUCTION KEY	
KEY	ASSOCIATED PAY ITEM(S)
AA	• _Dr Structure, Adj, Case 1, Modified • _Dr Structure, Adj, Case 2, Modified • _Dr Structure, Temp Lowering, Modified
AB	• _Dr Structure, Temp Lowering, Modified • _Gate Box, Adj, Case 1 • _Gate Box, Adj, Case 2 • Monument Box Adjust
ADST	• _Dr Structure, Adj, Add Depth, Modified
AK	• _Dr Structure, Adj, Case 1, Modified
C4	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • _Sidewalk, Conc, 4 inch, Modified
C4HE	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • Cement • _Sidewalk, Conc, 4 inch, Modified
C6	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • _Grading, Sidewalk Ramp • Detectable Warning Surface, Modified • _Sidewalk Ramp, Conc, 6 inch, Modified • _Sidewalk, Conc, 6 inch, Modified
C8	• _Grading, Driveway Approach • _Driveway, Nonreinf Conc, 8 inch, Modified
C HE	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Driveway Approach • _Grading, Sidewalk • _Grading, Sidewalk Ramp • Cement • _Driveway, Nonreinf Conc, 6 inch, Modified • _Driveway, Nonreinf Conc, 8 inch, Modified • Detectable Warning Surface, Modified • _Sidewalk Ramp, Conc, 6 inch, Modified • _Sidewalk, Conc, 6 inch, Modified
C/G	• _Curb, Gutter, and Curb and Gutter, Any Type, Rem • _Curb and Gutter, Conc
C/GHE	• _Curb, Gutter, and Curb and Gutter, Any Type, Rem • Cement • _Driveway Opening, Conc, Det M, Modified
CP	• _Grading, Sidewalk • _Sidewalk, Conc, 4 inch, Modified
CR	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • Dr Structure, Rem
DS	• Sewer, Rem, Less than 24 inch • Dr Structure, 24 inch dia
DSDI	• Dr Structure, Rem • Sewer, Rem, Less than 24 inch • _Dr Structure, Double Inlet
PT	• _Dr Structure, Point
RRA	• Dr Structure Cover, Type B • _Dr Structure Cover, Type B, Special • _Dr Structure, Adj, Case 1, Modified • _Dr Structure, Temp Lowering, Modified
RRK	• Dr Structure Cover, Type K • _Dr Structure, Adj, Case 1, Modified
RS	• _Dr Structure, Reconstruct
TYPE II	• Plastic Drum, High Intensity, Lighted, Furn • Plastic Drum, High Intensity, Lighted, Oper
TYPE III	• Barricade, Type III, High Intensity, Double Sided, Lighted, Furn • Barricade, Type III, High Intensity, Double Sided, Lighted, Oper

CONSTRUCTION METHOD AND SEQUENCING

1. THE WORK TO BE COMPLETED ON THIS STREET SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING ITEMS. THE ORDER OF CONSTRUCTION SHALL BE AS GIVEN UNLESS OTHERWISE AUTHORIZED OR DIRECTED BY THE ENGINEER.
2. IMPLEMENT TRAFFIC MAINTENANCE, AND SOIL EROSION CONTROLS IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
3. INSTALL ANY PROPOSED STORM SEWER, AND UNDERDRAIN AS SHOWN ON THE PLANS, AND AS DIRECTED BY THE ENGINEER.
4. LOWER ALL STRUCTURE COVERS, INCLUDING VALVE AND MONUMENT BOXES.
5. PERFORM ALL CONCRETE WORK, INCLUDING RESTORATION, IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
6. MILL 4 INCHES OF BITUMINOUS MATERIAL FROM EXISTING ROADWAY. THIS MAY INCLUDE GRANULAR ROAD BASE MATERIAL. DEPTH TO BE DETERMINED BY THE ENGINEER. PROOF ROLL WITH FULL TRUCK.
7. PERFORM UNDERCUTS AND/OR BASE REPAIRS AS DIRECTED BY THE ENGINEER.
8. GRADE, SHAPE, AND RE-COMPACT THE EXISTING ROAD BASE AS REQUIRED, AND AS DIRECTED BY THE ENGINEER.
9. PAVE 2 INCHES OF THE BITUMINOUS MIX AS SPECIFIED OR DIRECTED, AS THE LEVELING COURSE, IN ONE LIFT.
10. ADJUST ALL STRUCTURE COVERS, MONUMENT BOXES, AND VALVE BOXES TO THEIR FINISHED ELEVATIONS.
11. PAVE 2 INCH OF THE BITUMINOUS MIX AS SPECIFIED OR DIRECTED, AS THE WEARING COURSE, IN ONE LIFT.
12. COMPLETE ALL PAVEMENT MARKINGS IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
13. COMPLETE ALL MISCELLANEOUS CONSTRUCTION INCLUDING ALL CLEAN-UP AND FINAL RESTORATION.
14. REMOVE ALL TRAFFIC CONTROL DEVICES. REMOVE MISS DIG FLAGS.

NOTES

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CALL 811 OR 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

THE UNDERGROUND LOCATIONS SHOWN FOR NATURAL GAS, TELEPHONE, ELECTRICAL POWER, CABLE TV AND FIBER OPTIC LINES ARE APPROXIMATE. THE CITY OF ANN ARBOR ASSUMES NO RESPONSIBILITY FOR THEIR ACCURATE REPRESENTATION IN THIS DRAWING. MISS DIG MUST BE CONTACTED PRIOR TO CONSTRUCTION TO LOCATE THESE UTILITIES.

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE PERFORMED IN ACCORDANCE WITH MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION, INCLUDING REFERENCED MDOT PUBLICATIONS, AND THE PROJECT CONTRACT DOCUMENTS.

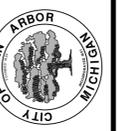


ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org



REV.	DATE	DESCRIPTION
01	3-15-18	GS CE
00	2-27-18	GS CE
		DAD
		DAD
		CHECKED

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
www.a2gov.org

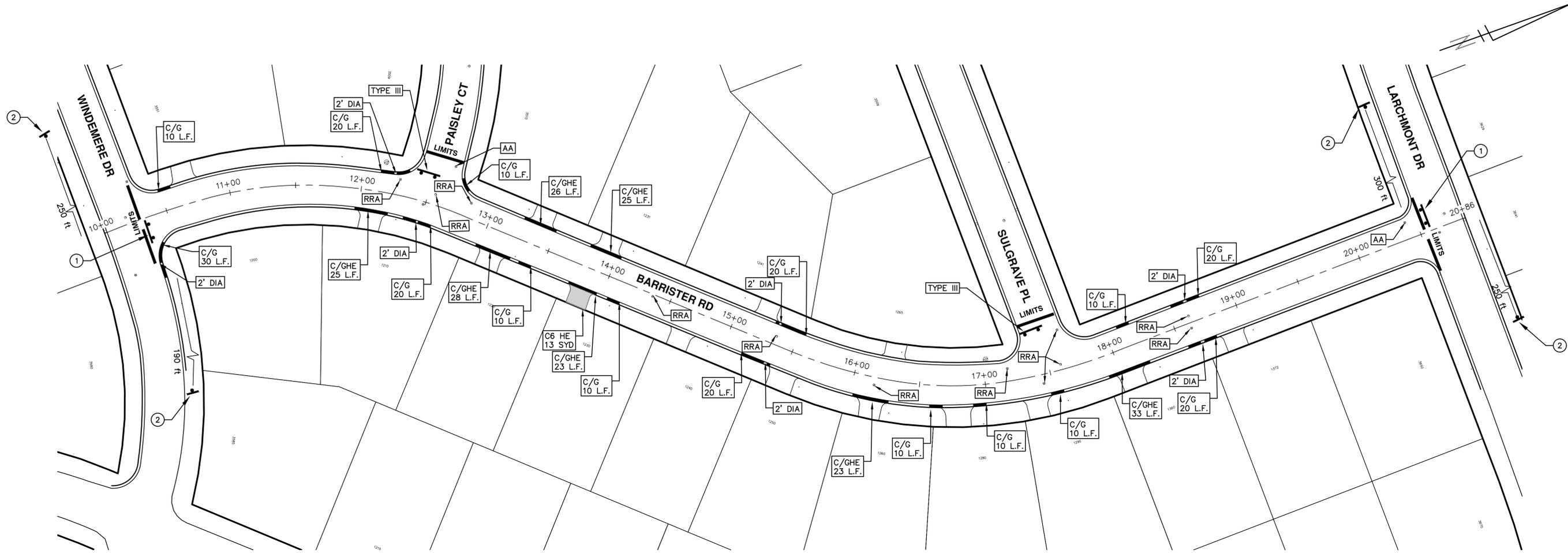


ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
BARRISTER DRIVE

SCALE
DRAWING No. 2018004-12
SHEET No. 12 OF 79

T:\2018004\Plan Production\2018004 - Barrister Drive.dwg Dwg Created: 21-Sep-17 - a2 standard bw.stb - Plot Date: 15-Mar-18

T:\2018004\Plan Production\2018004 - Barrister Drive.dwg Dwg Created: 21-Sep-17 - _a2_standard_bw.stb - Plot Date: 15-Mar-18



TRAFFIC CONTROL SIGN		
	SIGN	NUMBER
①	 ROAD CLOSED LOCAL TRAFFIC ONLY W/ TYPE III BARRICADE	R11-3a 60x30
②	 ROAD CLOSED AHEAD BARRISTER DR	W20-3 36"x36" D3-1 36"x36"

REV.	DATE	DESCRIPTION
00	2-27-18	DRAWN
01	3-15-18	GS/CE

DAD	GS/CE	DATE	CHECKED





CITY OF ANN ARBOR ENGINEERING

PROJECT LOCATION: FAIRMOUNT DRIVE

ITB No. 4529 FILE No. 2018004

QUANTITIES			
Item Code	Item Description	Units	Quantity
2047001	_Curb, Gutter, and Curb and Gutter, Any Type, Rem	Ft	82.000
2047011	_Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem	Syd	7.000
2057011	_Grading, Driveway Approach	Syd	7.000
2057011	_Machine Grading, Special	Syd	4,119.000
2057021	_Subgrade Undercutting, Type IIA	Cyd	412.000
2080036	Erosion Control, Silt Fence	Ft	14.000
3020050	Aggregate Base, Conditioning	Syd	4,119.000
4037050	_Dr Structure Cover, Type B, Modified	Ea	5.000
4037050	_Dr Structure Cover, Type C, Modified	Ea	1.000
4037050	_Dr Structure, Adj, Case 1, Modified	Ea	8.000
4037050	_Dr Structure, Temp Lowering, Modified	Ea	7.000
5010003	Cold Milling HMA Surface	Ton	4,119.000
5010005	HMA Surface, Rem	Syd	10.000
5010061	HMA, Approach	Ton	49.000
5010703	HMA, LVSP	Ton	906.000
6027021	_Flowable Fill	Cyd	2.000
8017011	_Driveway, Nonreinf Conc, 6 inch, Modified	Syd	7.000
8027001	_Curb and Gutter, Conc, Barrier	Ft	40.000
8027001	_Driveway Opening, Conc, Det M, Modified	Ft	42.000
8110218	Pav Mrkg, Thermopl, 24 inch, Stop Bar	Ft	30.000
8110197	Pav Mrkg, Thermopl, 6 inch, Crosswalk	Ft	420.000
8120012	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	Ea	4.000
8120013	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	Ea	4.000
8120260	Plastic Drum, High Intensity, Furn	Ea	55.000
8120261	Plastic Drum, High Intensity, Oper	Ea	55.000
8120350	Sign, Type B, Temp, Prismatic, Furn	Sft	76.000
8120351	Sign, Type B, Temp, Prismatic, Oper	Sft	76.000
8127050	_No Parking Sign	Ea	41.000
8167011	_Slope Restoration	Syd	76.000
8230431	Gate Box, Adj, Case 1	Ea	2.000

QUANTITIES				
Sign, Type B, Temp, Prismatic				
Quantity	Sign Code	Description	Area (sft)	Total Area
2.0	D3-1	Street Name Sign	4.000	8.000
4.0	R11-3a	Road Closed Sign ("Road Closed Local Traffic Only")	12.500	50.000
2.0	W20-3	Road Closed Ahead Sign	9.000	18.000
TOTAL			76.000	76.000

CONSTRUCTION KEY	
KEY	ASSOCIATED PAY ITEM(S)
AA	• _Dr Structure, Adj, Case 1, Modified • _Dr Structure, Adj, Case 2, Modified • _Dr Structure, Temp Lowering, Modified
AB	• _Dr Structure, Temp Lowering, Modified • _Gate Box, Adj, Case 1 • _Gate Box, Adj, Case 2 • Monument Box Adjust
ADST	• _Dr Structure, Adj, Add Depth, Modified
AK	• _Dr Structure, Adj, Case 1, Modified
C4	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • Sidewalk, Conc, 4 inch, Modified
C4HE	• Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • Cement • Sidewalk, Conc, 4 inch, Modified
C6	• Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • _Grading, Sidewalk Ramp • Detectable Warning Surface, Modified • Sidewalk Ramp, Conc, 6 inch, Modified • Sidewalk, Conc, 6 inch, Modified
C8	• _Grading, Driveway Approach • Driveway, Nonreinf Conc, 8 inch, Modified
C HE	• Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Driveway Approach • _Grading, Sidewalk • _Grading, Sidewalk Ramp • Cement • Driveway, Nonreinf Conc, 6 inch, Modified • Driveway, Nonreinf Conc, 8 inch, Modified • Detectable Warning Surface, Modified • Sidewalk Ramp, Conc, 6 inch, Modified • Sidewalk, Conc, 6 inch, Modified
C/G	• _Curb, Gutter, and Curb and Gutter, Any Type, Rem • _Curb and Gutter, Conc
C/GHE	• _Curb, Gutter, and Curb and Gutter, Any Type, Rem • Cement • Driveway Opening, Conc, Det M, Modified
CP	• _Grading, Sidewalk • Sidewalk, Conc, 4 inch, Modified
CR	• Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • Dr Structure, Rem
DS	• Sewer, Rem, Less than 24 inch • Dr Structure, 24 inch dia
DSDI	• Dr Structure, Rem • Sewer, Rem, Less than 24 inch • Dr Structure, Double Inlet
PT	• Dr Structure, Point
RRA	• Dr Structure Cover, Type B • _Dr Structure Cover, Type B, Special • _Dr Structure, Adj, Case 1, Modified • _Dr Structure, Temp Lowering, Modified
RRK	• Dr Structure Cover, Type K • _Dr Structure, Adj, Case 1, Modified
RS	• Dr Structure, Reconstruct
TYPE II	• Plastic Drum, High Intensity, Lighted, Furn • Plastic Drum, High Intensity, Lighted, Oper
TYPE III	• Barricade, Type III, High Intensity, Double Sided, Lighted, Furn • Barricade, Type III, High Intensity, Double Sided, Lighted, Oper

CONSTRUCTION METHOD AND SEQUENCING

1. THE WORK TO BE COMPLETED ON THIS STREET SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING ITEMS. THE ORDER OF CONSTRUCTION SHALL BE AS GIVEN UNLESS OTHERWISE AUTHORIZED OR DIRECTED BY THE ENGINEER.
2. IMPLEMENT TRAFFIC MAINTENANCE, AND SOIL EROSION CONTROLS IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
3. INSTALL ANY PROPOSED STORM SEWER, AND UNDERDRAIN AS SHOWN ON THE PLANS, AND AS DIRECTED BY THE ENGINEER.
4. LOWER ALL STRUCTURE COVERS, INCLUDING VALVE AND MONUMENT BOXES.
5. PERFORM ALL CONCRETE WORK, INCLUDING RESTORATION, IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
6. MILL 4 INCHES OF BITUMINOUS MATERIAL FROM EXISTING ROADWAY. THIS MAY INCLUDE GRANULAR ROAD BASE MATERIAL. DEPTH TO BE DETERMINED BY THE ENGINEER. PROOF ROLL WITH FULL TRUCK.
7. PERFORM UNDERCUTS AND/OR BASE REPAIRS AS DIRECTED BY THE ENGINEER.
8. GRADE, SHAPE, AND RE-COMPACT THE EXISTING ROAD BASE AS REQUIRED, AND AS DIRECTED BY THE ENGINEER.
9. PAVE 2 INCHES OF THE BITUMINOUS MIX AS SPECIFIED OR DIRECTED, AS THE LEVELING COURSE, IN ONE LIFT.
10. ADJUST ALL STRUCTURE COVERS, MONUMENT BOXES, AND VALVE BOXES TO THEIR FINISHED ELEVATIONS.
11. PAVE 2 INCH OF THE BITUMINOUS MIX AS SPECIFIED OR DIRECTED, AS THE WEARING COURSE, IN ONE LIFT.
12. COMPLETE ALL PAVEMENT MARKINGS IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
13. COMPLETE ALL MISCELLANEOUS CONSTRUCTION INCLUDING ALL CLEAN-UP AND FINAL RESTORATION.
14. REMOVE ALL TRAFFIC CONTROL DEVICES. REMOVE MISS DIG FLAGS.

NOTES

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CALL 811 OR 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

THE UNDERGROUND LOCATIONS SHOWN FOR NATURAL GAS, TELEPHONE, ELECTRICAL POWER, CABLE TV AND FIBER OPTIC LINES ARE APPROXIMATE. THE CITY OF ANN ARBOR ASSUMES NO RESPONSIBILITY FOR THEIR ACCURATE REPRESENTATION IN THIS DRAWING. MISS DIG MUST BE CONTACTED PRIOR TO CONSTRUCTION TO LOCATE THESE UTILITIES.

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE PERFORMED IN ACCORDANCE WITH MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION, INCLUDING REFERENCED MDOT PUBLICATIONS, AND THE PROJECT CONTRACT DOCUMENTS.



ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

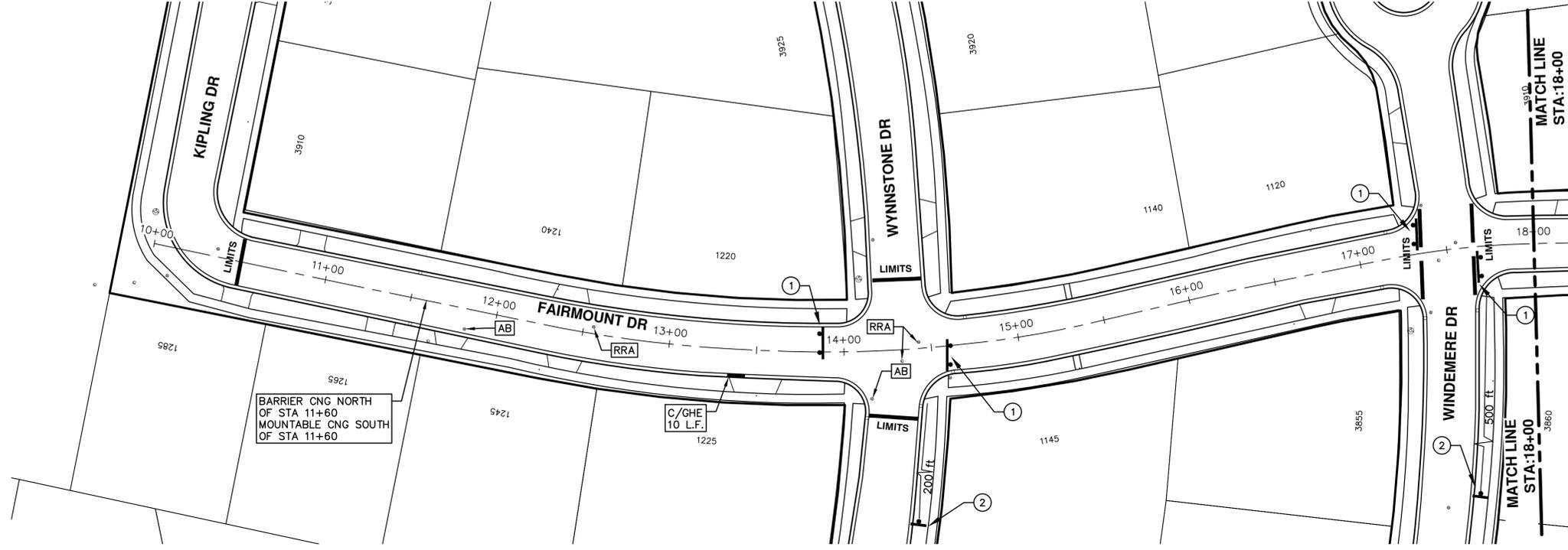


REV.	DATE	DESCRIPTION
01	3-15-18	GS CE
00	2-27-18	GS CE
		DAD
		DAD
		CHECKED

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
www.a2gov.org

ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
FAIRMOUNT DRIVE

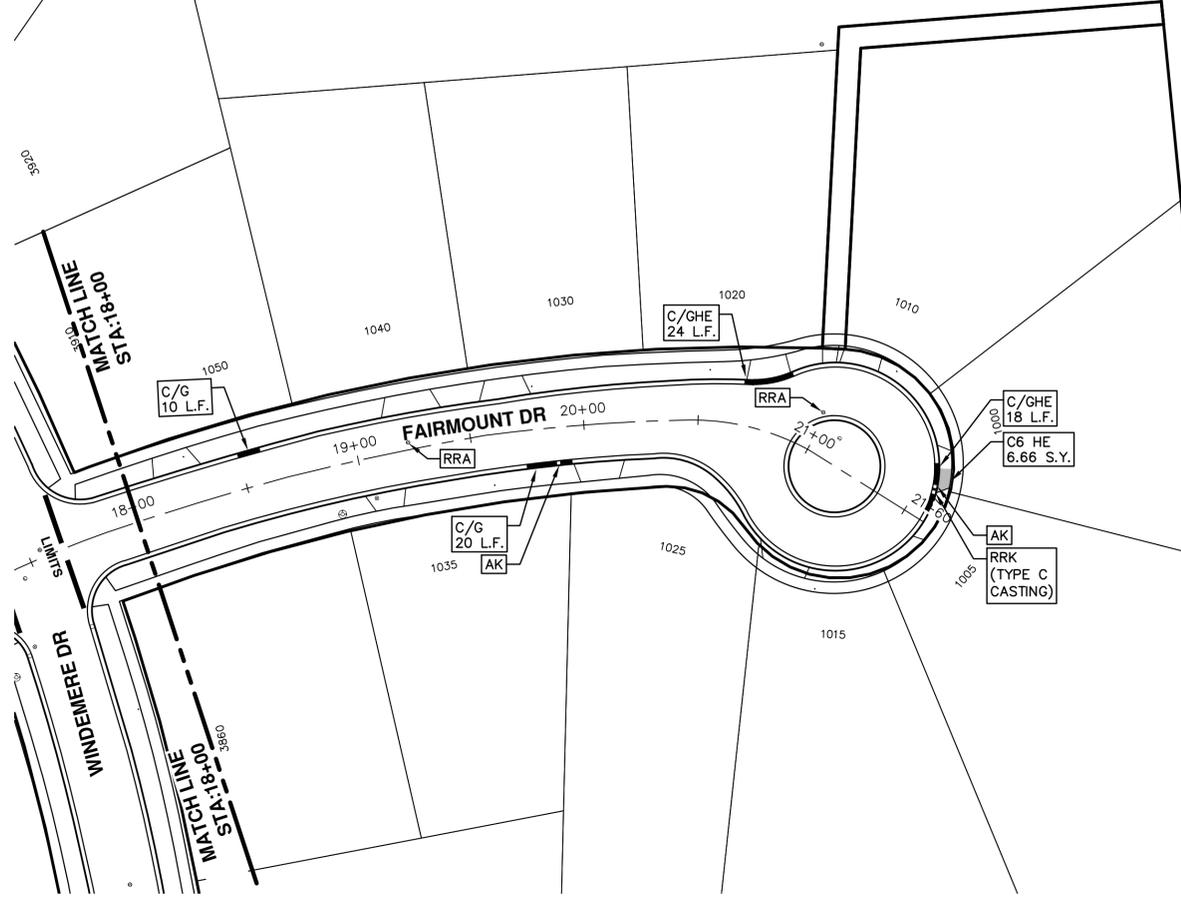
SCALE
DRAWING No. 2018004-14
SHEET No. 14 OF 79



TRAFFIC CONTROL SIGN		
	SIGN	NUMBER
①		R11-3a 60"x30"
②		W20-3 36"x36" D3-1 36"x36"



REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	3-15-18	GSCE	DAD
00	BID SET	2-27-18	GSCE	DAD



STREET RESURFACING PROJECT - 2018
 FAIRMOUNT DRIVE
 STA. 18+00 - STA. 21+60



CITY OF ANN ARBOR
 PUBLIC SERVICES
 301 EAST HURON STREET
 ANN ARBOR, MI 48106-3667
 www.a2gov.org

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	3-15-18	GSCE	DAD
00	BID SET	2-27-18	GSCE	DAD





CITY OF ANN ARBOR ENGINEERING

PROJECT LOCATION: KIPLING DRIVE

ITB No. 4529 FILE No. 2018004

QUANTITIES			
Item Code	Item Description	Units	Quantity
2030011	Dr Structure, Rem	Ea	2.00
2030015	Sewer, Rem, Less than 24 inch	Ft	20.00
2047001	_Curb, Gutter, and Curb and Gutter, Any Type, Rem	Ft	331.00
2047011	_Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem	Syd	157.00
2057011	_Grading, Driveway Approach	Syd	70.00
2057011	_Grading, Sidewalk	Syd	34.00
2057011	_Grading, Sidewalk Ramp	Syd	43.00
2057011	_Machine Grading, Special	Syd	1750.00
2057021	_Subgrade Undercutting, Type IIA	Cyd	176.00
2080020	Erosion Control, Inlet Protection, Fabric Drop	Ea	6.00
3020050	Aggregate Base, Conditioning	Syd	1750.00
4020987	Sewer, CI IV, 12 inch, Tr Det B	Ft	20.00
4030200	Dr Structure, 24 inch dia	Ea	2.00
4037050	_Dr Structure Cover, Type B, Modified	Ea	5.00
4037050	_Dr Structure Cover, Type K, Modified	Ea	5.00
4037050	_Dr Structure, Adj, Case 1, Modified	Ea	8.00
4037050	_Dr Structure, Temp Lowering, Modified	Ea	5.00
4047001	_Underdrain, Subgrade, 6 inch, Special	Ft	40.00
5010003	Cold Milling HMA Surface	Ton	1750.00
5010005	HMA Surface, Rem	Syd	37.00
5010703	HMA, LVSP	Ton	385.00
6027021	_Flowable Fill	Cyd	7.00
8017011	_Driveway, Nonreinf Conc, 6 inch, Modified	Syd	53.00
8017011	_Driveway, Nonreinf Conc, 8 inch, Modified	Syd	18.00
8027001	_Curb and Gutter, Conc, Barrier	Ft	142.00
8027001	_Driveway Opening, Conc, Det M, Modified	Ft	189.00
8037001	_Detectable Warning Surface, Modified	Ft	18.00
8037010	_Sidewalk Ramp, Conc, 6 inch, Modified	Sf	285.00
8037010	_Sidewalk, Conc, 4 inch, Modified	Sf	300.00
8110197	Pav Mrg, Thermopl, 6 inch, Crosswalk	Ft	120.00
8120012	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	Ea	2.00
8120013	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	Ea	2.00
8120260	Plastic Drum, High Intensity, Furn	Ea	30.00
8120261	Plastic Drum, High Intensity, Oper	Ea	30.00
8120350	Sign, Type B, Temp, Prismatic, Furn	Sf	77.00
8120351	Sign, Type B, Temp, Prismatic, Oper	Sf	77.00
8127050	_No Parking Sign	Ea	17.00
8167011	_Slope Restoration	Syd	60.00

QUANTITIES				
Sign, Type B, Temp, Prismatic				
Quantity	Sign Code	Description	Area (sf)	Total Area
4.0	D3-1	Street Name Sign	4,000	16,000
2.0	R11-3a	Road Closed Sign ("Road Closed To Thru Traffic")	12,500	25,000
2.0	W20-1	Road Work Ahead Sign	9,000	18,000
2.0	W20-3	Road Closed Ahead Sign	9,000	18,000
TOTAL				77.00

CONSTRUCTION KEY	
KEY	ASSOCIATED PAY ITEM(S)
AA	• _Dr Structure, Adj, Case 1, Modified • _Dr Structure, Adj, Case 2, Modified • _Dr Structure, Temp Lowering, Modified
AB	• _Dr Structure, Temp Lowering, Modified • _Gate Box, Adj, Case 1 • _Gate Box, Adj, Case 2 • Monument Box Adjust
ADST	• _Dr Structure, Adj, Add Depth, Modified
AK	• _Dr Structure, Adj, Case 1, Modified
C4	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • _Sidewalk, Conc, 4 inch, Modified
C4HE	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • Cement • _Sidewalk, Conc, 4 inch, Modified
C6	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • _Grading, Sidewalk Ramp • _Detectable Warning Surface, Modified • _Sidewalk Ramp, Conc, 6 inch, Modified • _Sidewalk, Conc, 6 inch, Modified
C8	• _Grading, Driveway Approach • _Driveway, Nonreinf Conc, 8 inch, Modified
C HE	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Driveway Approach • _Grading, Sidewalk • _Grading, Sidewalk Ramp • Cement • _Driveway, Nonreinf Conc, 6 inch, Modified • _Driveway, Nonreinf Conc, 8 inch, Modified • _Detectable Warning Surface, Modified • _Sidewalk Ramp, Conc, 6 inch, Modified • _Sidewalk, Conc, 6 inch, Modified
C/G	• _Curb, Gutter, and Curb and Gutter, Any Type, Rem • _Curb and Gutter, Conc
C/GHE	• _Curb, Gutter, and Curb and Gutter, Any Type, Rem • Cement • _Driveway Opening, Conc, Det M, Modified
CP	• _Grading, Sidewalk • _Sidewalk, Conc, 4 inch, Modified
CR	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • Dr Structure, Rem
DS	• Sewer, Rem, Less than 24 inch • Dr Structure, 24 inch dia
DSDI	• Dr Structure, Rem • Sewer, Rem, Less than 24 inch • _Dr Structure, Double Inlet
PT	• _Dr Structure, Point
RRA	• Dr Structure Cover, Type B • _Dr Structure Cover, Type B, Special • _Dr Structure, Adj, Case 1, Modified • _Dr Structure, Temp Lowering, Modified
RRK	• Dr Structure Cover, Type K • _Dr Structure, Adj, Case 1, Modified
RS	• _Dr Structure, Reconstruct
TYPE II	• Plastic Drum, High Intensity, Lighted, Furn • Plastic Drum, High Intensity, Lighted, Oper
TYPE III	• Barricade, Type III, High Intensity, Double Sided, Lighted, Furn • Barricade, Type III, High Intensity, Double Sided, Lighted, Oper

CONSTRUCTION METHOD AND SEQUENCING

1. THE WORK TO BE COMPLETED ON THIS STREET SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING ITEMS. THE ORDER OF CONSTRUCTION SHALL BE AS GIVEN UNLESS OTHERWISE AUTHORIZED OR DIRECTED BY THE ENGINEER.
2. IMPLEMENT TRAFFIC MAINTENANCE, AND SOIL EROSION CONTROLS IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
3. INSTALL ANY PROPOSED STORM SEWER, AND UNDERDRAIN AS SHOWN ON THE PLANS, AND AS DIRECTED BY THE ENGINEER.
4. LOWER ALL STRUCTURE COVERS, INCLUDING VALVE AND MONUMENT BOXES.
5. PERFORM ALL CONCRETE WORK, INCLUDING RESTORATION, IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
6. MILL 4 INCHES OF BITUMINOUS MATERIAL FROM EXISTING ROADWAY. THIS MAY INCLUDE GRANULAR ROAD BASE MATERIAL. DEPTH TO BE DETERMINED BY THE ENGINEER. PROOF ROLL WITH FULL TRUCK.
7. PERFORM UNDERCUTS AND/OR BASE REPAIRS AS DIRECTED BY THE ENGINEER.
8. GRADE, SHAPE, AND RE-COMPACT THE EXISTING ROAD BASE AS REQUIRED, AND AS DIRECTED BY THE ENGINEER.
9. PAVE 2 INCHES OF THE BITUMINOUS MIX AS SPECIFIED OR DIRECTED, AS THE LEVELING COURSE, IN ONE LIFT.
10. ADJUST ALL STRUCTURE COVERS, MONUMENT BOXES, AND VALVE BOXES TO THEIR FINISHED ELEVATIONS.
11. PAVE 2 INCH OF THE BITUMINOUS MIX AS SPECIFIED OR DIRECTED, AS THE WEARING COURSE, IN ONE LIFT.
12. COMPLETE ALL PAVEMENT MARKINGS IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
13. COMPLETE ALL MISCELLANEOUS CONSTRUCTION INCLUDING ALL CLEAN-UP AND FINAL RESTORATION.
14. REMOVE ALL TRAFFIC CONTROL DEVICES. REMOVE MISS DIG FLAGS.

NOTES

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CALL 811 OR 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

THE UNDERGROUND LOCATIONS SHOWN FOR NATURAL GAS, TELEPHONE, ELECTRICAL POWER, CABLE TV AND FIBER OPTIC LINES ARE APPROXIMATE. THE CITY OF ANN ARBOR ASSUMES NO RESPONSIBILITY FOR THEIR ACCURATE REPRESENTATION IN THIS DRAWING. MISS DIG MUST BE CONTACTED PRIOR TO CONSTRUCTION TO LOCATE THESE UTILITIES.

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE PERFORMED IN ACCORDANCE WITH MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION, INCLUDING REFERENCED MDOT PUBLICATIONS, AND THE PROJECT CONTRACT DOCUMENTS.



ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

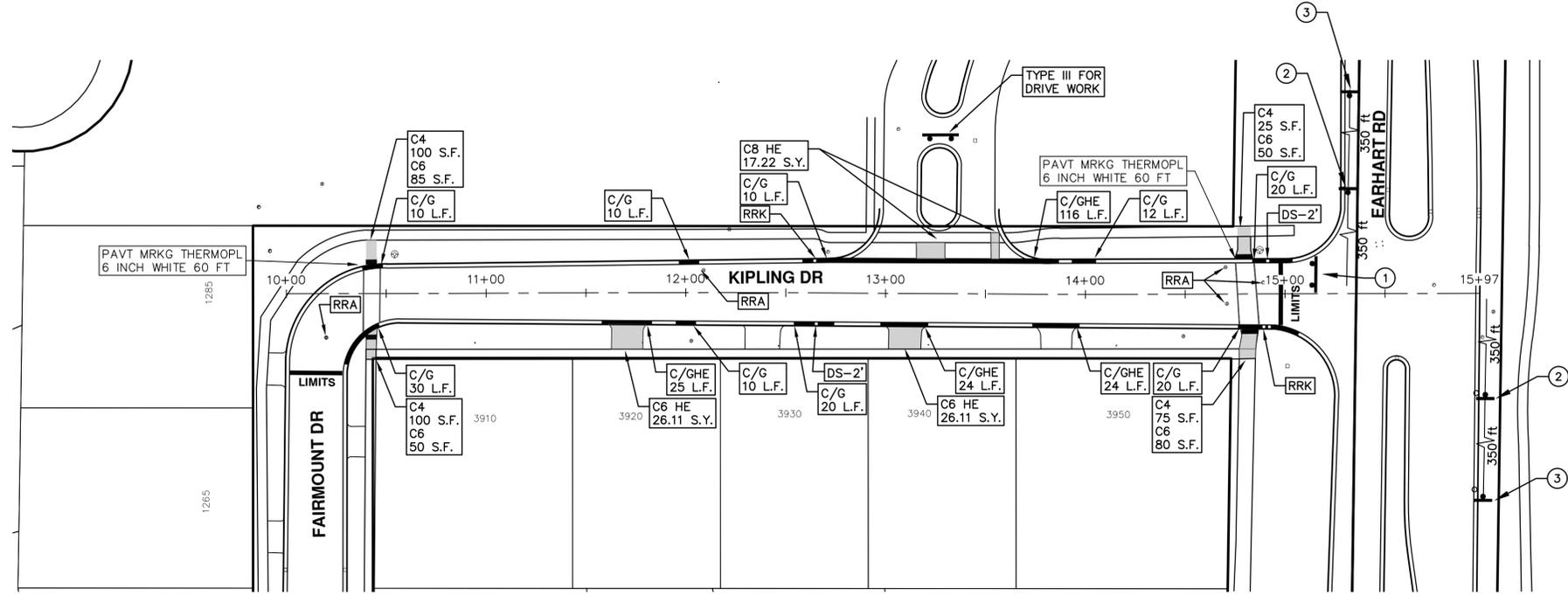


REV.	DATE	DESCRIPTION
01	3-15-18	GS CE
00	2-27-18	GS CE
		DAD
		DAD
		CHECKED

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
www.a2gov.org

ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
KIPLING DRIVE

DRAWING No. 2018004-17
SHEET No. 17 OF 79



TRAFFIC CONTROL SIGN		
	SIGN	NUMBER
①		R11-3a 60x30
②		W20-3 36"x36" D3-1 36"x36"
③		W20-1 36"x36" D3-1 36"x36"

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	3-15-18	GSCE	DAD
00	BID SET	2-27-18	GSCE	DAD



CITY OF ANN ARBOR ENGINEERING

PROJECT LOCATION: MACGREGOR LANE

ITB No. 4529 FILE No. 2018004

QUANTITIES			
Item Code	Item Description	Units	Quantity
2030011	Dr Structure, Rem	Ea	6.000
2030015	Sewer, Rem, Less than 24 inch	Ft	60.000
2047001	_Curb, Gutter, and Curb and Gutter, Any Type, Rem	Ft	295.000
2047011	_Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem	Syd	76.000
2057011	_Grading, Driveway Approach	Syd	76.000
2057011	_Machine Grading, Special	Syd	2220.000
2057021	_Subgrade Undercutting, Type IIA	Cyd	223.000
2080020	Erosion Control, Inlet Protection, Fabric Drop	Ea	10.000
3020050	Aggregate Base, Conditioning	Syd	2220.000
4020987	Sewer, CI IV, 12 inch, Tr Det B	Ft	60.000
4030200	Dr Structure, 24 inch dia	Ea	6.000
4037050	_Dr Structure Cover, Type B, Modified	Ea	5.000
4037050	_Dr Structure Cover, Type K, Modified	Ea	7.000
4037050	_Dr Structure, Adj, Case 1, Modified	Ea	8.000
4037050	_Dr Structure, Temp Lowering, Modified	Ea	7.000
4047001	_Underdrain, Subgrade, 6 inch, Special	Ft	120.000
5010003	Cold Milling HMA Surface	Ton	2220.000
5010005	HMA Surface, Rem	Syd	47.000
5010703	HMA, LVSP	Ton	489.000
6027021	_Flowable Fill	Cyd	6.000
8017011	_Driveway, Nonreinf Conc, 6 inch, Modified	Syd	76.000
8027001	_Curb and Gutter, Conc, Barrier	Ft	170.000
8027001	_Driveway Opening, Conc, Det M, Modified	Ft	125.000
8120012	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	Ea	2.000
8120013	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	Ea	2.000
8120260	Plastic Drum, High Intensity, Furn	Ea	30.000
8120261	Plastic Drum, High Intensity, Oper	Ea	30.000
8120350	Sign, Type B, Temp, Prismatic, Furn	Sft	77.000
8120351	Sign, Type B, Temp, Prismatic, Oper	Sft	77.000
8127050	_No Parking Sign	Ea	18.000
8167011	_Slope Restoration	Syd	47.000
8230431	Gate Box, Adj, Case 1	Ea	1.000

QUANTITIES				
Sign, Type B, Temp, Prismatic				
Quantity	Sign Code	Description	Area (sft)	Total Area
4.0	D3-1	Street Name Sign	4.000	16.000
2.0	R11-3a	Road Closed Sign ("Road Closed To Thru Traffic")	12.500	25.000
1.0	W20-1	Road Work Ahead Sign	9.000	9.000
3.0	W20-3	Road Closed Ahead Sign	9.000	27.000

CONSTRUCTION KEY	
KEY	ASSOCIATED PAY ITEM(S)
AA	• _Dr Structure, Adj, Case 1, Modified • _Dr Structure, Adj, Case 2, Modified • _Dr Structure, Temp Lowering, Modified
AB	• _Dr Structure, Temp Lowering, Modified • _Gate Box, Adj, Case 1 • _Gate Box, Adj, Case 2 • Monument Box Adjust
ADST	• _Dr Structure, Adj, Add Depth, Modified
AK	• _Dr Structure, Adj, Case 1, Modified
C4	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • _Sidewalk, Conc, 4 inch, Modified
C4HE	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • Cement • _Sidewalk, Conc, 4 inch, Modified
C6	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • _Grading, Sidewalk Ramp • _Detectable Warning Surface, Modified • _Sidewalk Ramp, Conc, 6 inch, Modified • _Sidewalk, Conc, 6 inch, Modified
C8	• _Grading, Driveway Approach • _Driveway, Nonreinf Conc, 8 inch, Modified
C HE	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Driveway Approach • _Grading, Sidewalk • _Grading, Sidewalk Ramp • Cement • _Driveway, Nonreinf Conc, 6 inch, Modified • _Driveway, Nonreinf Conc, 8 inch, Modified • _Detectable Warning Surface, Modified • _Sidewalk Ramp, Conc, 6 inch, Modified • _Sidewalk, Conc, 6 inch, Modified
C/G	• _Curb, Gutter, and Curb and Gutter, Any Type, Rem • _Curb and Gutter, Conc
C/GHE	• _Curb, Gutter, and Curb and Gutter, Any Type, Rem • Cement • _Driveway Opening, Conc, Det M, Modified
CP	• _Grading, Sidewalk • _Sidewalk, Conc, 4 inch, Modified
CR	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • Dr Structure, Rem
DS	• Sewer, Rem, Less than 24 inch • Dr Structure, 24 inch dia
DSDI	• Dr Structure, Rem • Sewer, Rem, Less than 24 inch • _Dr Structure, Double Inlet
PT	• _Dr Structure, Point
RRA	• Dr Structure Cover, Type B • _Dr Structure Cover, Type B, Special • _Dr Structure, Adj, Case 1, Modified • _Dr Structure, Temp Lowering, Modified
RRK	• Dr Structure Cover, Type K • _Dr Structure, Adj, Case 1, Modified
RS	• _Dr Structure, Reconstruct
TYPE II	• Plastic Drum, High Intensity, Lighted, Furn • Plastic Drum, High Intensity, Lighted, Oper
TYPE III	• Barricade, Type III, High Intensity, Double Sided, Lighted, Furn • Barricade, Type III, High Intensity, Double Sided, Lighted, Oper

CONSTRUCTION METHOD AND SEQUENCING

1. THE WORK TO BE COMPLETED ON THIS STREET SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING ITEMS. THE ORDER OF CONSTRUCTION SHALL BE AS GIVEN UNLESS OTHERWISE AUTHORIZED OR DIRECTED BY THE ENGINEER.
2. IMPLEMENT TRAFFIC MAINTENANCE, AND SOIL EROSION CONTROLS IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
3. INSTALL ANY PROPOSED STORM SEWER, AND UNDERDRAIN AS SHOWN ON THE PLANS, AND AS DIRECTED BY THE ENGINEER.
4. LOWER ALL STRUCTURE COVERS, INCLUDING VALVE AND MONUMENT BOXES.
5. PERFORM ALL CONCRETE WORK, INCLUDING RESTORATION, IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
6. MILL 4 INCHES OF BITUMINOUS MATERIAL FROM EXISTING ROADWAY. THIS MAY INCLUDE GRANULAR ROAD BASE MATERIAL. DEPTH TO BE DETERMINED BY THE ENGINEER. PROOF ROLL WITH FULL TRUCK.
7. PERFORM UNDERCUTS AND/OR BASE REPAIRS AS DIRECTED BY THE ENGINEER.
8. GRADE, SHAPE, AND RE-COMPACT THE EXISTING ROAD BASE AS REQUIRED, AND AS DIRECTED BY THE ENGINEER.
9. PAVE 2 INCHES OF THE BITUMINOUS MIX AS SPECIFIED OR DIRECTED, AS THE LEVELING COURSE, IN ONE LIFT.
10. ADJUST ALL STRUCTURE COVERS, MONUMENT BOXES, AND VALVE BOXES TO THEIR FINISHED ELEVATIONS.
11. PAVE 2 INCH OF THE BITUMINOUS MIX AS SPECIFIED OR DIRECTED, AS THE WEARING COURSE, IN ONE LIFT.
12. COMPLETE ALL PAVEMENT MARKINGS IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
13. COMPLETE ALL MISCELLANEOUS CONSTRUCTION INCLUDING ALL CLEAN-UP AND FINAL RESTORATION.
14. REMOVE ALL TRAFFIC CONTROL DEVICES. REMOVE MISS DIG FLAGS.

NOTES

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CALL 811 OR 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

THE UNDERGROUND LOCATIONS SHOWN FOR NATURAL GAS, TELEPHONE, ELECTRICAL POWER, CABLE TV AND FIBER OPTIC LINES ARE APPROXIMATE. THE CITY OF ANN ARBOR ASSUMES NO RESPONSIBILITY FOR THEIR ACCURATE REPRESENTATION IN THIS DRAWING. MISS DIG MUST BE CONTACTED PRIOR TO CONSTRUCTION TO LOCATE THESE UTILITIES.

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE PERFORMED IN ACCORDANCE WITH MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION, INCLUDING REFERENCED MDOT PUBLICATIONS, AND THE PROJECT CONTRACT DOCUMENTS.



ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

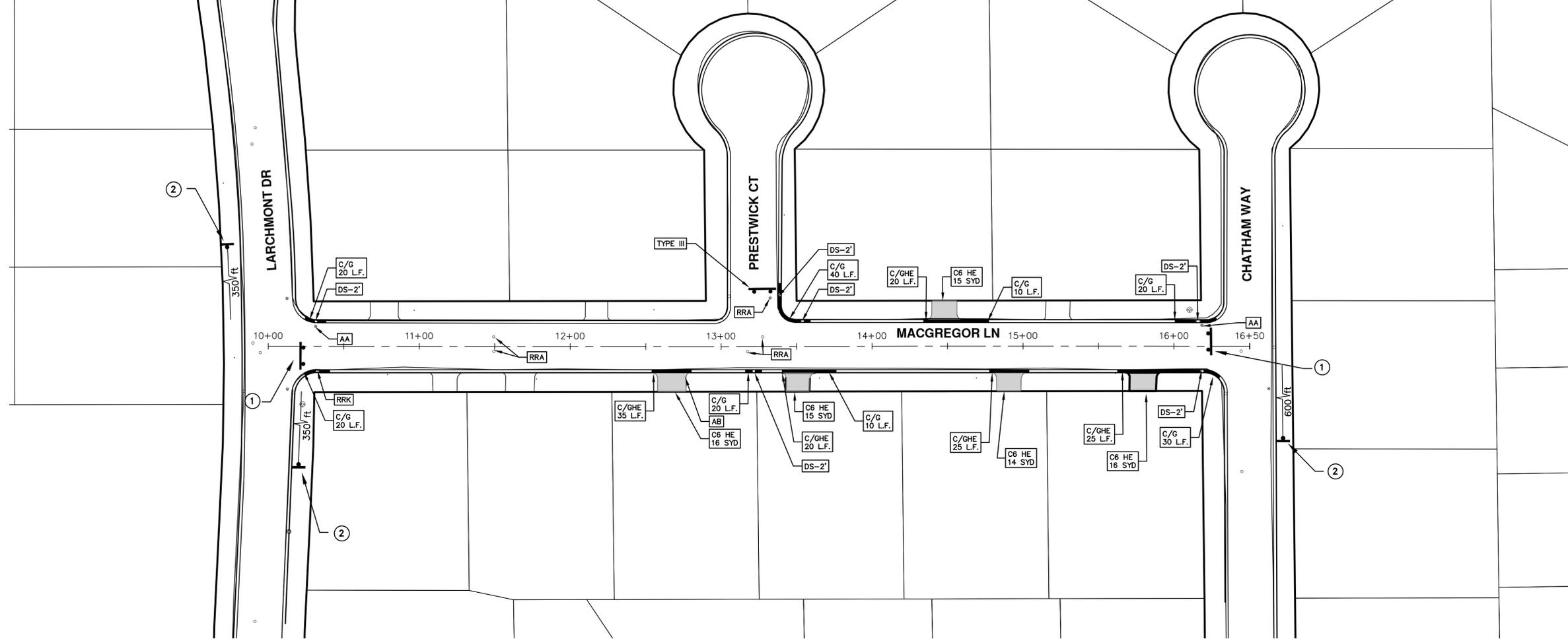


REV.	DATE	DESCRIPTION
01	3-15-18	GS CE
00	2-27-18	GS CE
		DAD
		DAD
		CHECKED

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
www.a2gov.org

ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
MACGREGOR LANE

SCALE
DRAWING No.
2018004-19
SHEET No.
19 OF 79



TRAFFIC CONTROL SIGN		
	SIGN	NUMBER
①	 ROAD CLOSED LOCAL TRAFFIC ONLY W/ TYPE III BARRICADE	R11-3a 60x30
②	 ROAD CLOSED AHEAD MACGREGOR LN	W20-3 36"x36" D3-1 36"x36"

ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
 SCALE PLAN: 1"=80'
 DRAWING No. 2018004-20

STREET RESURFACING PROJECT - 2018
 MACGREGOR LANE
 STA. 10+00 - STA. 16+50



REV.	DATE	DESCRIPTION
01	3-15-18	GS CE
00	2-27-18	GS CE





CITY OF ANN ARBOR ENGINEERING

PROJECT LOCATION: PRESTWICK COURT

ITB No. 4529 FILE No. 2018004

QUANTITIES			
Item Code	Item Description	Units	Quantity
2030011	Dr Structure, Rem	Ea	2.000
2030015	Sewer, Rem, Less than 24 inch	Ft	20.000
2047001	Curb, Gutter, and Curb and Gutter, Any Type, Rem	Ft	70.000
2047011	Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem	Syd	15.000
2057011	Grading, Driveway Approach	Syd	15.000
2057011	Machine Grading, Special	Syd	880.000
2057021	Subgrade Undercutting, Type IIA	Cyd	89.000
2080020	Erosion Control, Inlet Protection, Fabric Drop	Ea	3.000
3020050	Aggregate Base, Conditioning	Syd	880.000
4020987	Sewer, CI IV, 12 inch, Tr Det B	Ft	20.000
4030200	Dr Structure, 24 inch dia	Ea	2.000
4037050	Dr Structure Cover, Type B, Modified	Ea	2.000
4037050	Dr Structure Cover, Type K, Modified	Ea	2.000
4037050	Dr Structure, Adj, Case 1, Modified	Ea	2.000
4037050	Dr Structure, Temp Lowering, Modified	Ea	4.000
4047001	Underdrain, Subgrade, 6 inch, Special	Ft	40.000
5010003	Cold Milling HMA Surface	Ton	880.000
5010005	HMA Surface, Rem	Syd	14.000
5010703	HMA, LVSP	Ton	194.000
6027021	Flowable Fill	Cyd	2.000
8017011	Driveway, Nonreinf Conc, 6 inch, Modified	Syd	15.000
8027001	Curb and Gutter, Conc, Barrier	Ft	40.000
8027001	Driveway Opening, Conc, Det M, Modified	Ft	30.000
8120012	Barricade, Type III, High Intensity, Double Sided, Lighted, Fum	Ea	1.000
8120013	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	Ea	1.000
8120260	Plastic Drum, High Intensity, Fum	Ea	10.000
8120261	Plastic Drum, High Intensity, Oper	Ea	10.000
8127050	No Parking Sign	Ea	10.000
8167011	Slope Restoration	Syd	8.000
8230431	Gate Box, Adj, Case 1	Ea	2.000

CONSTRUCTION KEY	
KEY	ASSOCIATED PAY ITEM(S)
AA	Dr Structure, Adj, Case 1, Modified Dr Structure, Adj, Case 2, Modified Dr Structure, Temp Lowering, Modified
AB	Dr Structure, Temp Lowering, Modified Gate Box, Adj, Case 1 Gate Box, Adj, Case 2 Monument Box Adjust
ADST	Dr Structure, Adj, Add Depth, Modified
AK	Dr Structure, Adj, Case 1, Modified
C4	Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem Grading, Sidewalk Sidewalk, Conc, 4 inch, Modified
C4HE	Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem Grading, Sidewalk Cement Sidewalk, Conc, 4 inch, Modified
C6	Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem Grading, Sidewalk Grading, Sidewalk Ramp Detectable Warning Surface, Modified Sidewalk Ramp, Conc, 6 inch, Modified Sidewalk, Conc, 6 inch, Modified
C8	Grading, Driveway Approach Driveway, Nonreinf Conc, 8 inch, Modified
C HE	Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem Grading, Driveway Approach Grading, Sidewalk Grading, Sidewalk Ramp Cement Driveway, Nonreinf Conc, 6 inch, Modified Driveway, Nonreinf Conc, 8 inch, Modified Detectable Warning Surface, Modified Sidewalk Ramp, Conc, 6 inch, Modified Sidewalk, Conc, 6 inch, Modified
C/G	Curb, Gutter, and Curb and Gutter, Any Type, Rem Curb and Gutter, Conc
C/GHE	Curb, Gutter, and Curb and Gutter, Any Type, Rem Cement Driveway Opening, Conc, Det M, Modified
CP	Grading, Sidewalk Sidewalk, Conc, 4 inch, Modified
CR	Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem Dr Structure, Rem
DS	Sewer, Rem, Less than 24 inch Dr Structure, 24 inch dia Dr Structure, Rem
DSDI	Sewer, Rem, Less than 24 inch Dr Structure, Double Inlet Dr Structure, Point
PT	Dr Structure, Point
RRA	Dr Structure Cover, Type B Dr Structure Cover, Type B, Special Dr Structure, Adj, Case 1, Modified Dr Structure, Temp Lowering, Modified
RRK	Dr Structure Cover, Type K Dr Structure, Adj, Case 1, Modified
RS	Dr Structure, Reconstruct
TYPE II	Plastic Drum, High Intensity, Lighted, Fum Plastic Drum, High Intensity, Lighted, Oper
TYPE III	Barricade, Type III, High Intensity, Double Sided, Lighted, Fum Barricade, Type III, High Intensity, Double Sided, Lighted, Oper

CONSTRUCTION METHOD AND SEQUENCING

- THE WORK TO BE COMPLETED ON THIS STREET SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING ITEMS. THE ORDER OF CONSTRUCTION SHALL BE AS GIVEN UNLESS OTHERWISE AUTHORIZED OR DIRECTED BY THE ENGINEER.
- IMPLEMENT TRAFFIC MAINTENANCE, AND SOIL EROSION CONTROLS IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
- INSTALL ANY PROPOSED STORM SEWER, AND UNDERDRAIN AS SHOWN ON THE PLANS, AND AS DIRECTED BY THE ENGINEER.
- LOWER ALL STRUCTURE COVERS, INCLUDING VALVE AND MONUMENT BOXES.
- PERFORM ALL CONCRETE WORK, INCLUDING RESTORATION, IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
- MILL 4 INCHES OF BITUMINOUS MATERIAL FROM EXISTING ROADWAY. THIS MAY INCLUDE GRANULAR ROAD BASE MATERIAL. DEPTH TO BE DETERMINED BY THE ENGINEER. PROOF ROLL WITH FULL TRUCK.
- PERFORM UNDERCUTS AND/OR BASE REPAIRS AS DIRECTED BY THE ENGINEER.
- GRADE, SHAPE, AND RE-COMPACT THE EXISTING ROAD BASE AS REQUIRED, AND AS DIRECTED BY THE ENGINEER.
- PAVE 2 INCHES OF THE BITUMINOUS MIX AS SPECIFIED OR DIRECTED, AS THE LEVELING COURSE, IN ONE LIFT.
- ADJUST ALL STRUCTURE COVERS, MONUMENT BOXES, AND VALVE BOXES TO THEIR FINISHED ELEVATIONS.
- PAVE 2 INCH OF THE BITUMINOUS MIX AS SPECIFIED OR DIRECTED, AS THE WEARING COURSE, IN ONE LIFT.
- COMPLETE ALL PAVEMENT MARKINGS IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
- COMPLETE ALL MISCELLANEOUS CONSTRUCTION INCLUDING ALL CLEAN-UP AND FINAL RESTORATION.
- REMOVE ALL TRAFFIC CONTROL DEVICES. REMOVE MISS DIG FLAGS.

NOTES

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CALL 811 OR 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

THE UNDERGROUND LOCATIONS SHOWN FOR NATURAL GAS, TELEPHONE, ELECTRICAL POWER, CABLE TV AND FIBER OPTIC LINES ARE APPROXIMATE. THE CITY OF ANN ARBOR ASSUMES NO RESPONSIBILITY FOR THEIR ACCURATE REPRESENTATION IN THIS DRAWING. MISS DIG MUST BE CONTACTED PRIOR TO CONSTRUCTION TO LOCATE THESE UTILITIES.

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE PERFORMED IN ACCORDANCE WITH MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION, INCLUDING REFERENCED MDOT PUBLICATIONS, AND THE PROJECT CONTRACT DOCUMENTS.



ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

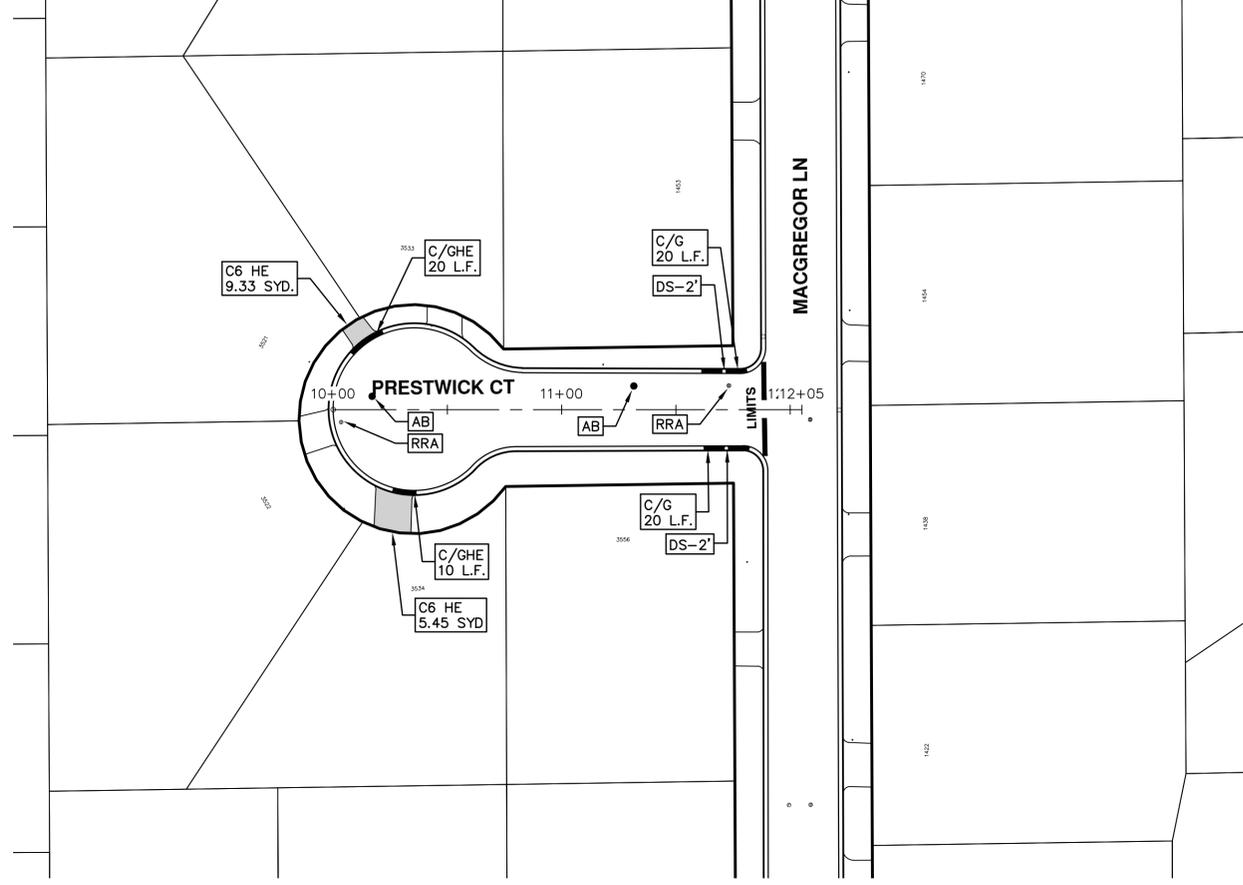


REV.	DATE	DESCRIPTION
01	3-15-18	ADDENDUM #1
00	2-27-18	BID SET
		DRAWN
		CHECKED

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
www.a2gov.org

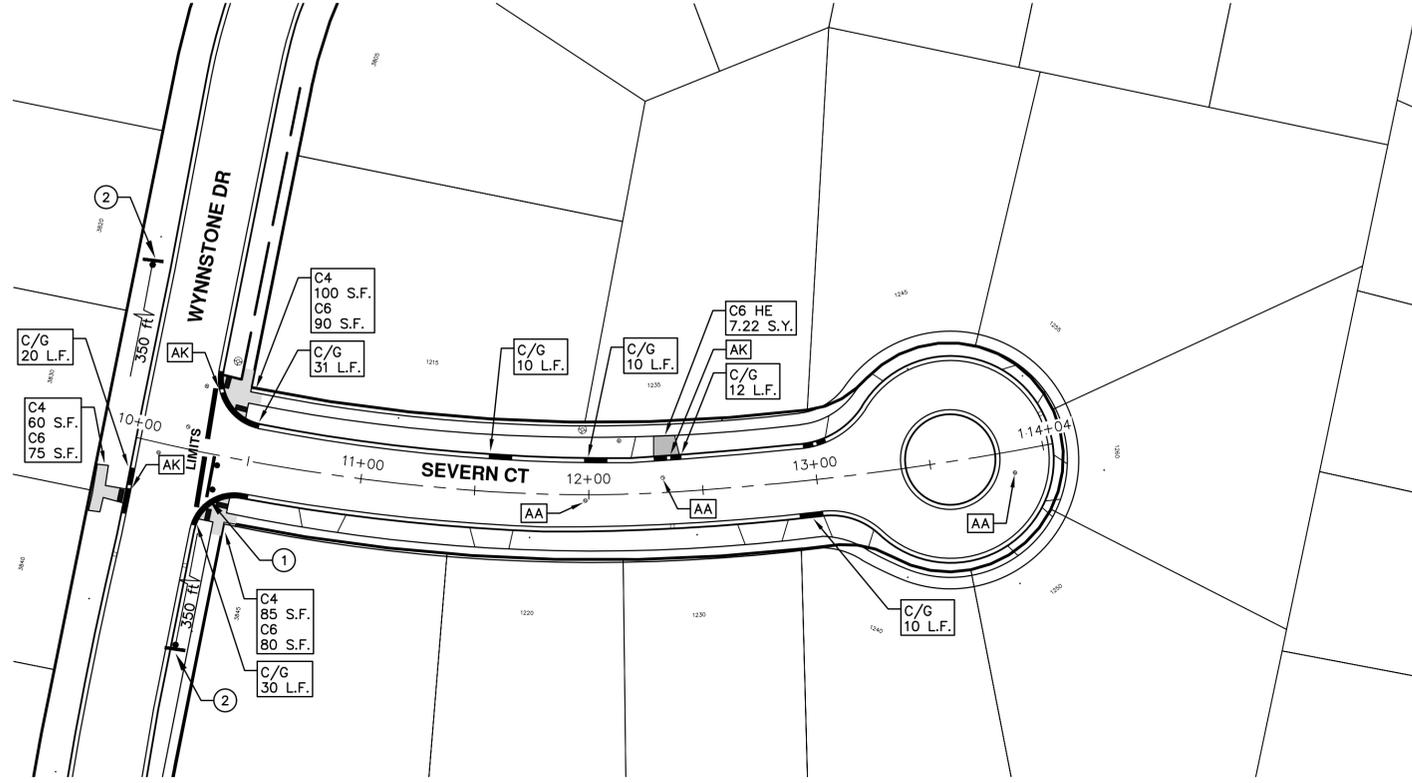
ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
PRESTWICK COURT

DRAWING No. 2018004-21
SHEET No. 21 OF 79



REV.	BID SET	DATE	DESCRIPTION
01	ADDENDUM #1	3-15-18	GSCCE
00		2-27-18	GSCCE





TRAFFIC CONTROL SIGN		
	SIGN	NUMBER
①	 W/ TYPE III BARRICADE	R11-3a 60x30
②	 SEVERN CT.	W20-1 36"x36" D3-1 36"x36"

ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR

SCALE PLAN: 1"=80'

DRAWING No.
2018004-24

STREET RESURFACING PROJECT - 2018
SEVERN COURT

STA. 10+00 - STA. 14+04

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR, MI 48106-8647
www.a2gov.org



REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	3-15-18	GSCE	DAD
00	BID SET	2-27-18	GSCE	DAD





CITY OF ANN ARBOR ENGINEERING

PROJECT LOCATION: STURBRIDGE COURT

ITB No. 4529 FILE No. 2018004

QUANTITIES			
Item Code	Item Description	Units	Quantity
2047001	_Curb, Gutter, and Curb and Gutter, Any Type, Rem	Ft	10.000
2057011	_Machine Grading, Special	Syd	1670.000
2057021	_Subgrade Undercutting, Type IIA	Cyd	168.000
2080020	Erosion Control, Inlet Protection, Fabric Drop	Ea	4.000
3020050	Aggregate Base, Conditioning	Syd	1670.000
4037050	_Dr Structure Cover, Type K, Modified	Ea	2.000
4037050	_Dr Structure, Adj, Case 1, Modified	Ea	4.000
4037050	_Dr Structure, Temp Lowering, Modified	Ea	3.000
5010003	Cold Milling HMA Surface	Ton	1670.000
5010005	HMA Surface, Rem	Syd	2.000
5010703	HMA, LVSP	Ton	368.000
6027021	_Flowable Fill	Cyd	1.000
8027001	_Curb and Gutter, Conc, Barrier	Ft	10.000
8110214	Pav Mrg, Thermopl, 12 inch, Crosswalk	Ft	80.000
8117001	Pav Mrg, Thermopl, 4 inch, Parking Sym, White	Ft	15.000
8120012	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	Ea	1.000
8120013	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	Ea	1.000
8120260	Plastic Drum, High Intensity, Furn	Ea	20.000
8120261	Plastic Drum, High Intensity, Oper	Ea	20.000
8120350	Sign, Type B, Temp, Prismatic, Furn	Sft	39.000
8120351	Sign, Type B, Temp, Prismatic, Oper	Sft	39.000
8127050	_No Parking Sign	Ea	15.000
8167011	_Slope Restoration	Syd	3.000
8230431	Gate Box, Adj, Case 1	Ea	1.000

QUANTITIES				
Sign, Type B, Temp, Prismatic				
Quantity	Sign Code	Description	Area (sft)	Total Area
2.0	D3-1	Street Name Sign	4.000	8.000
1.0	R11-4	Road Closed Sign ("Road Closed To Thru Traffic")	12.500	13.000
2.0	W20-1	Road Work Ahead Sign	9.000	18.000
TOTAL				39.000

CONSTRUCTION KEY	
KEY	ASSOCIATED PAY ITEM(S)
AA	• _Dr Structure, Adj, Case 1, Modified • _Dr Structure, Adj, Case 2, Modified • _Dr Structure, Temp Lowering, Modified
AB	• _Dr Structure, Temp Lowering, Modified • _Gate Box, Adj, Case 1 • _Gate Box, Adj, Case 2 • Monument Box Adjust
ADST	• _Dr Structure, Adj, Add Depth, Modified
AK	• _Dr Structure, Adj, Case 1, Modified
C4	• Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • Sidewalk, Conc, 4 inch, Modified
C4HE	• Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • Cement • Sidewalk, Conc, 4 inch, Modified
C6	• Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • _Grading, Sidewalk Ramp • Detectable Warning Surface, Modified • Sidewalk Ramp, Conc, 6 inch, Modified • Sidewalk, Conc, 6 inch, Modified
C8	• _Grading, Driveway Approach • Driveway, Nonreinf Conc, 8 inch, Modified
CHE	• Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Driveway Approach • _Grading, Sidewalk • _Grading, Sidewalk Ramp • Cement • Driveway, Nonreinf Conc, 6 inch, Modified • Driveway, Nonreinf Conc, 8 inch, Modified • Detectable Warning Surface, Modified • Sidewalk Ramp, Conc, 6 inch, Modified • Sidewalk, Conc, 6 inch, Modified
C/G	• _Curb, Gutter, and Curb and Gutter, Any Type, Rem • _Curb and Gutter, Conc
C/GHE	• _Curb, Gutter, and Curb and Gutter, Any Type, Rem • Cement • Driveway Opening, Conc, Det M, Modified
CP	• _Grading, Sidewalk • Sidewalk, Conc, 4 inch, Modified
CR	• Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • Dr Structure, Rem
DS	• Sewer, Rem, Less than 24 inch • Dr Structure, 24 inch dia
DSDI	• Dr Structure, Rem • Sewer, Rem, Less than 24 inch • Dr Structure, Double Inlet
PT	• Dr Structure, Point
RRA	• Dr Structure Cover, Type B • Dr Structure Cover, Type B, Special • Dr Structure, Adj, Case 1, Modified • Dr Structure, Temp Lowering, Modified
RRK	• Dr Structure Cover, Type K • Dr Structure, Adj, Case 1, Modified
RS	• Dr Structure, Reconstruct
TYPE II	• Plastic Drum, High Intensity, Lighted, Furn • Plastic Drum, High Intensity, Lighted, Oper
TYPE III	• Barricade, Type III, High Intensity, Double Sided, Lighted, Furn • Barricade, Type III, High Intensity, Double Sided, Lighted, Oper

CONSTRUCTION METHOD AND SEQUENCING

1. THE WORK TO BE COMPLETED ON THIS STREET SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING ITEMS. THE ORDER OF CONSTRUCTION SHALL BE AS GIVEN UNLESS OTHERWISE AUTHORIZED OR DIRECTED BY THE ENGINEER.
2. IMPLEMENT TRAFFIC MAINTENANCE, AND SOIL EROSION CONTROLS IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
3. INSTALL ANY PROPOSED STORM SEWER, AND UNDERDRAIN AS SHOWN ON THE PLANS, AND AS DIRECTED BY THE ENGINEER.
4. LOWER ALL STRUCTURE COVERS, INCLUDING VALVE AND MONUMENT BOXES.
5. PERFORM ALL CONCRETE WORK, INCLUDING RESTORATION, IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
6. MILL 4 INCHES OF BITUMINOUS MATERIAL FROM EXISTING ROADWAY. THIS MAY INCLUDE GRANULAR ROAD BASE MATERIAL. DEPTH TO BE DETERMINED BY THE ENGINEER. PROOF ROLL WITH FULL TRUCK.
7. PERFORM UNDERCUTS AND/OR BASE REPAIRS AS DIRECTED BY THE ENGINEER.
8. GRADE, SHAPE, AND RE-COMPACT THE EXISTING ROAD BASE AS REQUIRED, AND AS DIRECTED BY THE ENGINEER.
9. PAVE 2 INCHES OF THE BITUMINOUS MIX AS SPECIFIED OR DIRECTED, AS THE LEVELING COURSE, IN ONE LIFT.
10. ADJUST ALL STRUCTURE COVERS, MONUMENT BOXES, AND VALVE BOXES TO THEIR FINISHED ELEVATIONS.
11. PAVE 2 INCH OF THE BITUMINOUS MIX AS SPECIFIED OR DIRECTED, AS THE WEARING COURSE, IN ONE LIFT.
12. COMPLETE ALL PAVEMENT MARKINGS IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
13. COMPLETE ALL MISCELLANEOUS CONSTRUCTION INCLUDING ALL CLEAN-UP AND FINAL RESTORATION.
14. REMOVE ALL TRAFFIC CONTROL DEVICES. REMOVE MISS DIG FLAGS.

NOTES

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CALL 811 OR 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

THE UNDERGROUND LOCATIONS SHOWN FOR NATURAL GAS, TELEPHONE, ELECTRICAL POWER, CABLE TV AND FIBER OPTIC LINES ARE APPROXIMATE. THE CITY OF ANN ARBOR ASSUMES NO RESPONSIBILITY FOR THEIR ACCURATE REPRESENTATION IN THIS DRAWING. MISS DIG MUST BE CONTACTED PRIOR TO CONSTRUCTION TO LOCATE THESE UTILITIES.

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE PERFORMED IN ACCORDANCE WITH MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION, INCLUDING REFERENCED MDOT PUBLICATIONS, AND THE PROJECT CONTRACT DOCUMENTS.



ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

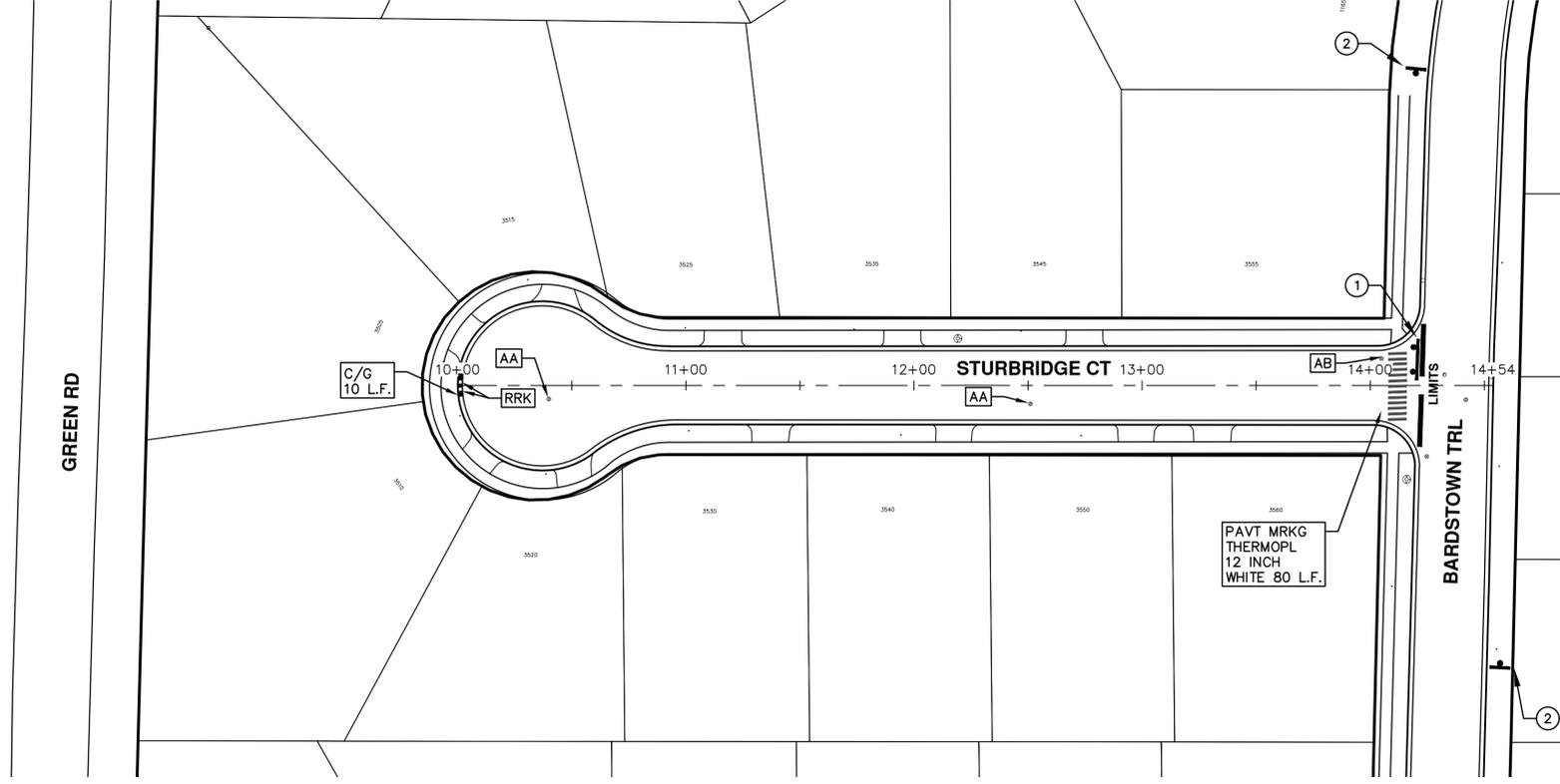


REV.	DATE	DESCRIPTION
01	3-15-18	GS CE
00	2-27-18	GS CE
		DRAWN
		CHECKED

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
www.a2gov.org

ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
STURBRIDGE COURT

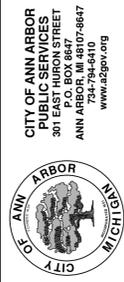
SCALE
DRAWING No. 2018004-25
SHEET No. 25 OF 79



TRAFFIC CONTROL SIGN		
	SIGN	NUMBER
①	 W/ TYPE III BARRICADE	R11-3a 60x30
②	 STURBRIDGE CT	W20-1 36"x36" D3-1 36"x36"

ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
 SCALE PLAN: 1"=80'
 DRAWING No. 2018004-26

STREET RESURFACING PROJECT - 2018
 STURBRIDGE COURT
 STA. 10+00 - STA. 14+54

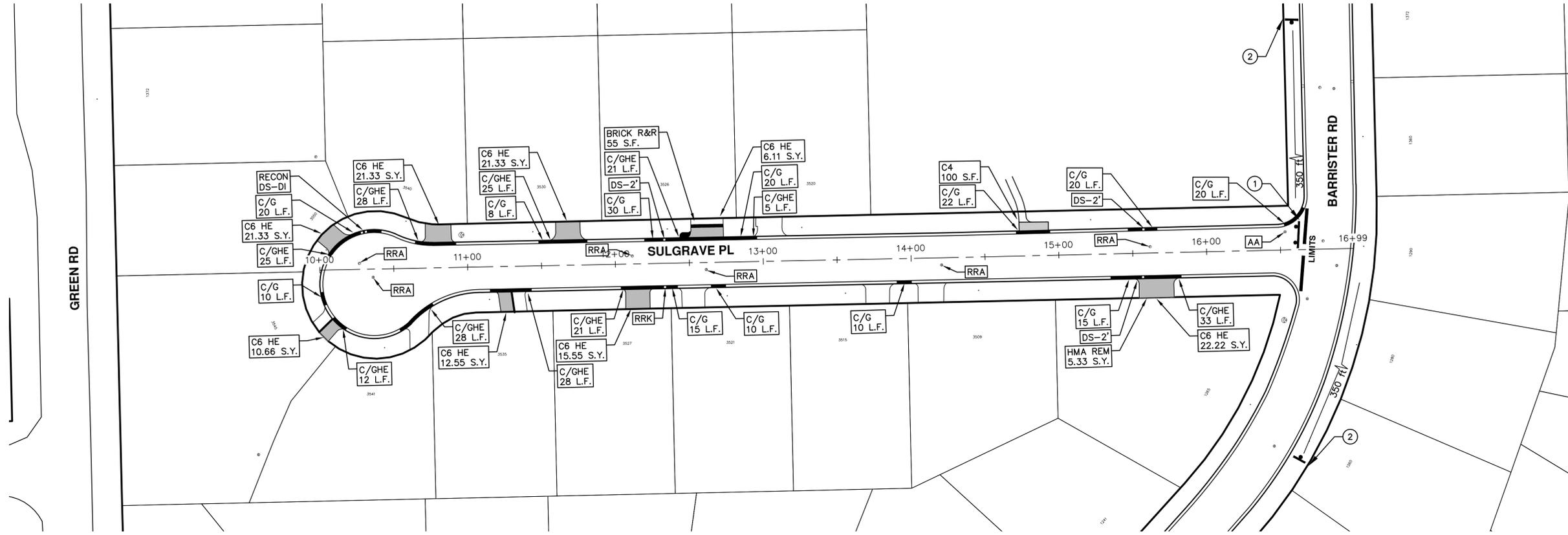


CITY OF ANN ARBOR
 PUBLIC SERVICES
 301 EAST HURON STREET
 ANN ARBOR, MI 48106-8647
 www.a2gov.org

REV.	DESCRIPTION
01	ADDENDUM #1
00	BID SET

DATE	DRAWN	CHECKED
3-15-18	GSCCE	DAD
2-27-18	GSCCE	DAD





TRAFFIC CONTROL SIGN		
	SIGN	NUMBER
①	 ROAD CLOSED LOCAL TRAFFIC ONLY W/ TYPE III BARRICADE	R11-3a 60x30
②	 ROAD WORK AHEAD SULGRAVE PL	W20-1 36"x36" D.3-1 36"x36"



CITY OF ANN ARBOR ENGINEERING

PROJECT LOCATION: WINDEMERE DRIVE

ITB No. 4529 FILE No. 2018004

QUANTITIES			
Item Code	Item Description	Units	Quantity
2030011	Dr Structure, Rem	Ea	9.000
2030015	Sewer, Rem, Less than 24 inch	Ft	90.000
2047001	Curb, Gutter, and Curb and Gutter, Any Type, Rem	Ft	794.000
2047011	Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem	Syd	159.000
2057011	Grading, Driveway Approach	Syd	31.000
2057011	Grading, Sidewalk	Syd	70.000
2057011	Grading, Sidewalk Ramp	Syd	58.000
2057011	Machine Grading, Special	Syd	9,060.000
2057021	Subgrade Undercutting, Type IIA	Cyd	302.000
2080020	Erosion Control, Inlet Protection, Fabric Drop	Ea	30.000
3020050	Aggregate Base, Conditioning	Syd	9,060.000
4020987	Sewer, CI IV, 12 inch, Tr Det B	Ft	90.000
4030200	Dr Structure, 24 inch dia	Ea	9.000
4037050	Dr Structure Cover, Type B, Modified	Ea	11.000
4037050	Dr Structure Cover, Type K, Modified	Ea	16.000
4037050	Dr Structure, Adj, Case 1, Modified	Ea	39.000
4037050	Dr Structure, Temp Lowering, Modified	Ea	28.000
4047001	Underdrain, Subgrade, 6 inch, Special	Ft	180.000
5010003	Cold Milling HMA Surface	Syd	9,060.000
5010005	HMA Surface, Rem	Syd	154.000
5010025	Hand Patching	Ton	25.000
5010061	HMA, Approach	Ton	277.000
5010703	HMA, LVSP	Ton	1,994.000
6027021	Flowable Fill	Cyd	16.000
8017011	Driveway, Nonreinf Conc, 6 inch, Modified	Syd	31.000
8027001	Curb and Gutter, Conc, Barrier	Ft	280.000
8027001	Curb and Gutter, Conc, Mountable	Ft	474.000
8027001	Driveway Opening, Conc, Det M, Modified	Ft	40.000
8037001	Detectable Warning Surface, Modified	Ft	70.000
8037010	Sidewalk Ramp, Conc, 6 inch, Modified	Sft	515.000
8037010	Sidewalk, Conc, 4 inch, Modified	Sft	615.000
8110214	Pav Mrkg, Thermopl, 12 inch, Crosswalk	Ft	240.000
8110218	Pav Mrkg, Thermopl, 24 inch, Stop Bar	Ft	125.000
8110197	Pav Mrkg, Thermopl, 6 inch, Crosswalk	Ft	995.000
8120012	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	Ea	9.000
8120013	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	Ea	9.000
8120260	Plastic Drum, High Intensity, Furn	Ea	110.000
8120261	Plastic Drum, High Intensity, Oper	Ea	110.000
8120350	Sign, Type B, Temp, Prismatic, Furn	Sft	282.000
8120351	Sign, Type B, Temp, Prismatic, Oper	Sft	282.000
8127050	No Parking Sign	Ea	180.000
8167011	Slope Restoration	Syd	189.000
8230431	Gate Box, Adj, Case 1	Ea	5.000

QUANTITIES				
Sign, Type B, Temp, Prismatic				
Quantity	Sign Code	Description	Area (sft)	Total Area
13.0	D3-1	Street Name Sign	4.000	52.000
9.0	R11-3a	Road Closed Sign ("Road Closed Local Traffic Only")	12.500	113.000
3.0	W20-1	Road Work Ahead Sign	9.000	27.000
10.0	W20-3	Road Closed Ahead	9.000	90.000
TOTAL				282.000

CONSTRUCTION KEY	
KEY	ASSOCIATED PAY ITEM(S)
AA	• Dr Structure, Adj, Case 1, Modified • Dr Structure, Adj, Case 2, Modified • Dr Structure, Temp Lowering, Modified
AB	• Dr Structure, Temp Lowering, Modified • Gate Box, Adj, Case 1 • Gate Box, Adj, Case 2 • Monument Box Adjust
ADST	• Dr Structure, Adj, Add Depth, Modified
AK	• Dr Structure, Adj, Case 1, Modified
C4	• Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • Grading, Sidewalk • Sidewalk, Conc, 4 inch, Modified
C4HE	• Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • Grading, Sidewalk • Cement • Sidewalk, Conc, 4 inch, Modified
C6	• Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • Grading, Sidewalk • Detectable Warning Surface, Modified • Sidewalk Ramp, Conc, 6 inch, Modified • Sidewalk, Conc, 6 inch, Modified
C8	• Grading, Driveway Approach • Driveway, Nonreinf Conc, 8 inch, Modified
C HE	• Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • Grading, Driveway Approach • Grading, Sidewalk • Grading, Sidewalk Ramp • Cement • Driveway, Nonreinf Conc, 6 inch, Modified • Driveway, Nonreinf Conc, 8 inch, Modified • Detectable Warning Surface, Modified • Sidewalk Ramp, Conc, 6 inch, Modified • Sidewalk, Conc, 6 inch, Modified
C/G	• Curb, Gutter, and Curb and Gutter, Any Type, Rem • Curb and Gutter, Conc
C/GHE	• Curb, Gutter, and Curb and Gutter, Any Type, Rem • Cement • Driveway Opening, Conc, Det M, Modified
CP	• Grading, Sidewalk • Sidewalk, Conc, 4 inch, Modified
CR	• Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • Dr Structure, Rem
DS	• Sewer, Rem, Less than 24 inch • Dr Structure, 24 inch dia
DSDI	• Dr Structure, Rem • Sewer, Rem, Less than 24 inch • Dr Structure, Double Inlet
PT	• Dr Structure, Point
RRA	• Dr Structure Cover, Type B • Dr Structure Cover, Type B, Special • Dr Structure, Adj, Case 1, Modified • Dr Structure, Temp Lowering, Modified
RRK	• Dr Structure Cover, Type K • Dr Structure, Adj, Case 1, Modified
RS	• Dr Structure, Reconstruct
TYPE II	• Plastic Drum, High Intensity, Lighted, Furn • Plastic Drum, High Intensity, Lighted, Oper
TYPE III	• Barricade, Type III, High Intensity, Double Sided, Lighted, Furn • Barricade, Type III, High Intensity, Double Sided, Lighted, Oper

CONSTRUCTION METHOD AND SEQUENCING

1. THE WORK TO BE COMPLETED ON THIS STREET SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING ITEMS. THE ORDER OF CONSTRUCTION SHALL BE AS GIVEN UNLESS OTHERWISE AUTHORIZED OR DIRECTED BY THE ENGINEER.
2. IMPLEMENT TRAFFIC MAINTENANCE, AND SOIL EROSION CONTROLS IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
3. INSTALL ANY PROPOSED STORM SEWER, AND UNDERDRAIN AS SHOWN ON THE PLANS, AND AS DIRECTED BY THE ENGINEER.
4. LOWER ALL STRUCTURE COVERS, INCLUDING VALVE AND MONUMENT BOXES.
5. PERFORM ALL CONCRETE WORK, INCLUDING RESTORATION, IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
6. MILL 4 INCHES OF BITUMINOUS MATERIAL FROM EXISTING ROADWAY. THIS MAY INCLUDE GRANULAR ROAD BASE MATERIAL. DEPTH TO BE DETERMINED BY THE ENGINEER. PROOF ROLL WITH FULL TRUCK.
7. PERFORM UNDERCUTS AND/OR BASE REPAIRS AS DIRECTED BY THE ENGINEER.
8. GRADE, SHAPE, AND RE-COMPACT THE EXISTING ROAD BASE AS REQUIRED, AND AS DIRECTED BY THE ENGINEER.
9. PAVE 2 INCHES OF THE BITUMINOUS MIX AS SPECIFIED OR DIRECTED, AS THE LEVELING COURSE, IN ONE LIFT.
10. ADJUST ALL STRUCTURE COVERS, MONUMENT BOXES, AND VALVE BOXES TO THEIR FINISHED ELEVATIONS.
11. PAVE 2 INCH OF THE BITUMINOUS MIX AS SPECIFIED OR DIRECTED, AS THE WEARING COURSE, IN ONE LIFT.
12. COMPLETE ALL PAVEMENT MARKINGS IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
13. COMPLETE ALL MISCELLANEOUS CONSTRUCTION INCLUDING ALL CLEAN-UP AND FINAL RESTORATION.
14. REMOVE ALL TRAFFIC CONTROL DEVICES. REMOVE MISS DIG FLAGS.

NOTES

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CALL 811 OR 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

THE UNDERGROUND LOCATIONS SHOWN FOR NATURAL GAS, TELEPHONE, ELECTRICAL POWER, CABLE TV AND FIBER OPTIC LINES ARE APPROXIMATE. THE CITY OF ANN ARBOR ASSUMES NO RESPONSIBILITY FOR THEIR ACCURATE REPRESENTATION IN THIS DRAWING. MISS DIG MUST BE CONTACTED PRIOR TO CONSTRUCTION TO LOCATE THESE UTILITIES.

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE PERFORMED IN ACCORDANCE WITH MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION, INCLUDING REFERENCED MDOT PUBLICATIONS, AND THE PROJECT CONTRACT DOCUMENTS.



ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org



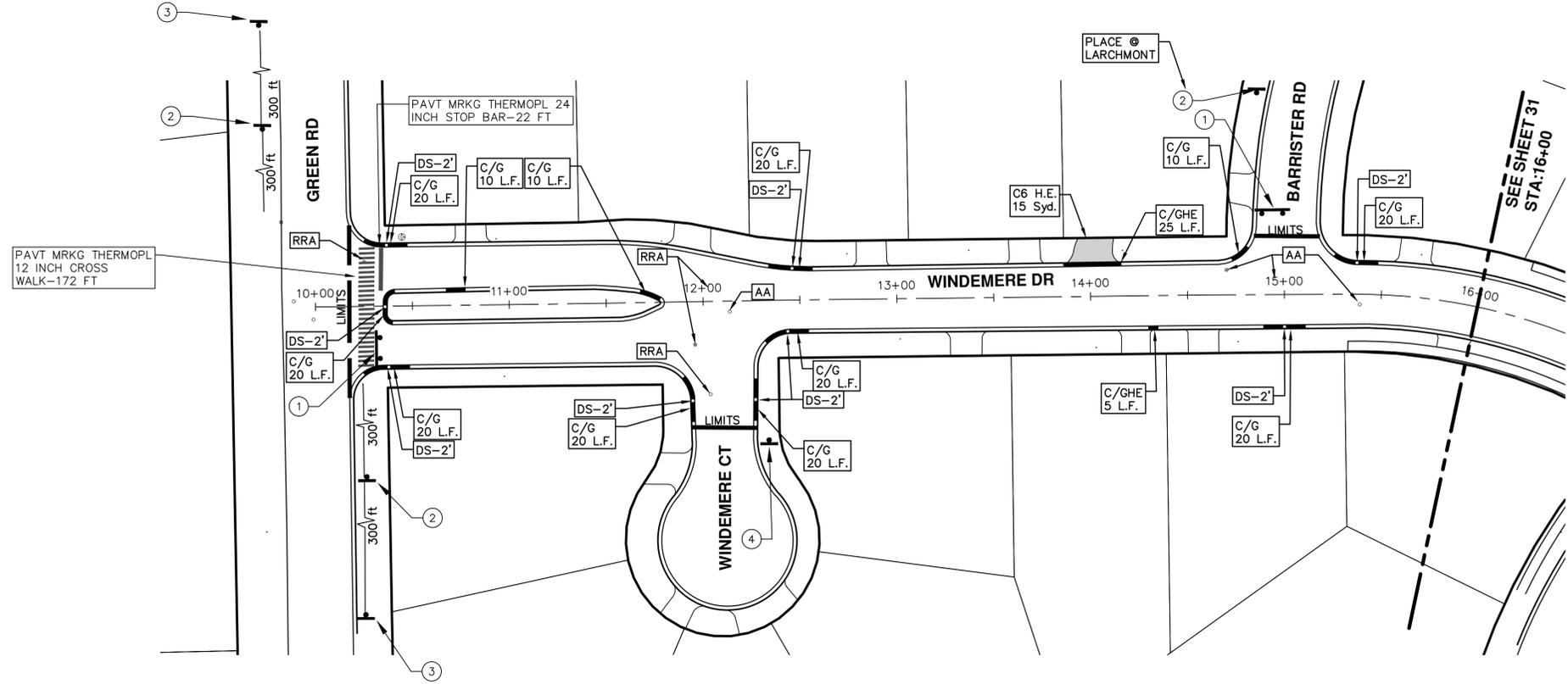
REV.	DATE	DESCRIPTION
01	3-15-18	GS CE
00	2-27-18	GS CE
		DAD
		DAD
		CHECKED

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
www.a2gov.org



ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
WINDEMERE DRIVE

SHEET No.
29 OF 79



TRAFFIC CONTROL SIGN		
	SIGN	NUMBER
①	 W/ TYPE III BARRICADE	R11-3a 60x30
②	 WINDEMERE DR	W20-3 36"x36" D3-1 36"x36"
③	 WINDEMERE DR	W20-1 36"x36" D3-1 36"x36"

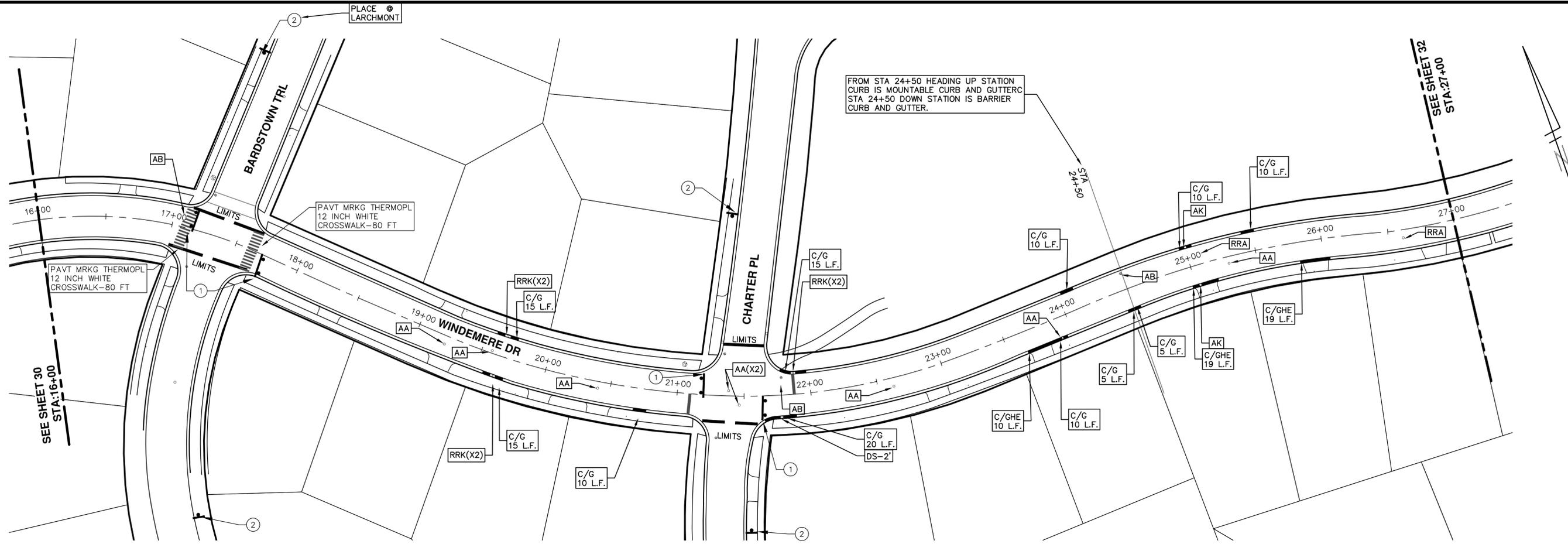
ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
 SCALE PLAN: 1"=40'
 DRAWING No. 2018004-30

STREET RESURFACING PROJECT - 2018
 WINDEMERE DRIVE
 STA. 10+00 - STA. 16+00

CITY OF ANN ARBOR
 PUBLIC SERVICES
 301 EAST HURON STREET
 ANN ARBOR, MI 48106-8647
 ANN ARBOR 734.794.4410
 www.a2gov.org

REV.	DATE	DESCRIPTION
00	2-27-18	DRAWN
01	3-15-18	GS/CE
		DAD
		CHECKED

811
 Know what's below.
 Call Before you dig.



TRAFFIC CONTROL SIGN		
	SIGN	NUMBER
①	 W/ TYPE III BARRICADE	R11-3a 60x30
②	 WINDEMERE DR	W20-3 36"x36" D3-1 36"x36"
③	 WINDEMERE DR	W20-1 36"x36" D3-1 36"x36"

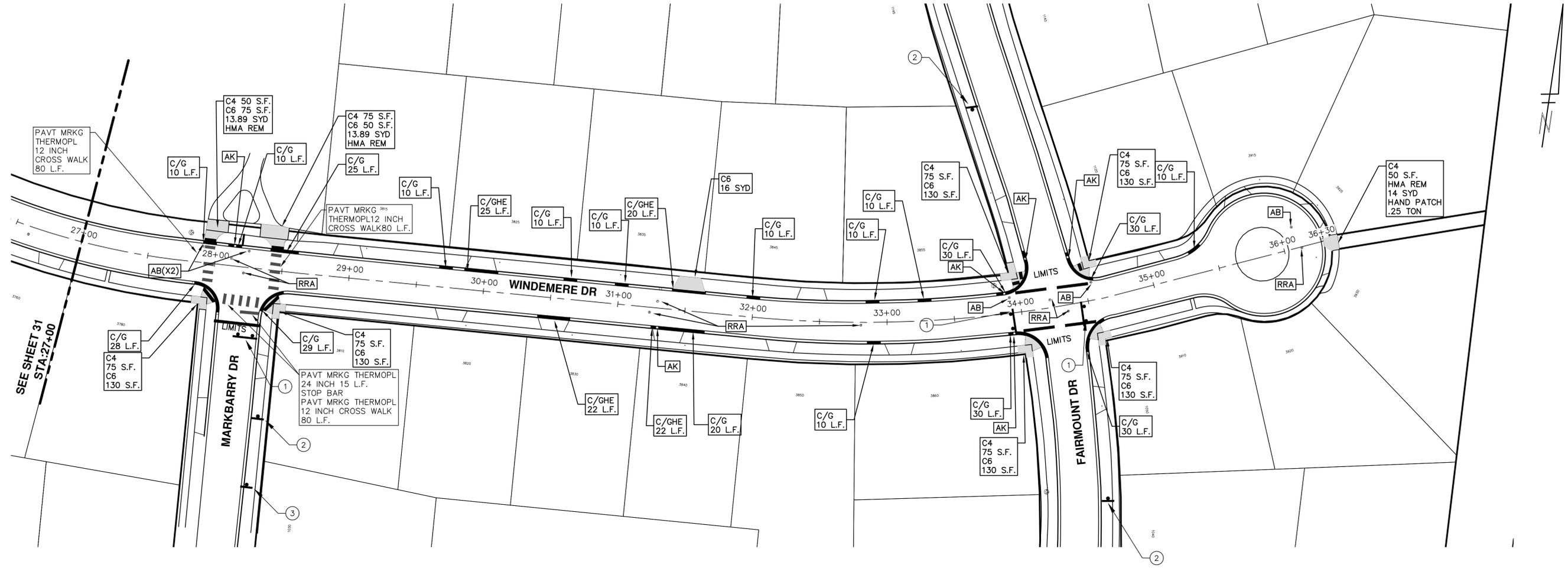
ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
 SCALE PLAN: 1"=80'
 DRAWING No. 2018004-31

STREET RESURFACING PROJECT - 2018
 WINDEMERE DRIVE
 STA. 16+00 - STA. 27+00

CITY OF ANN ARBOR
 PUBLIC SERVICES
 301 EAST HURON STREET
 ANN ARBOR, MI 48106-3667
 www.a2gov.org

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET	2-27-18	GS/CE	DAD
01	ADDENDUM #1	3-15-18	GS/CE	DAD

811
 Know what's below.
 Call Before you dig.



SEE SHEET 31
STA: 27+00

TRAFFIC CONTROL SIGN		
	SIGN	NUMBER
①	ROAD CLOSED LOCAL TRAFFIC ONLY W/ TYPE III BARRICADE	R11-3a 60x30
②	ROAD CLOSED AHEAD WINDEMERE DR	W20-3 36"x36" D3-1 36"x36"
③	ROAD WORK AHEAD WINDEMERE DR	W20-1 36"x36" D3-1 36"x36"

ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
WINDEMERE DRIVE
STA. 27+00 - STA. 36+30

SCALE PLAN: 1"=80'
DRAWING No. 2018004-32

811
Know what's below.
Call Before you dig.

REV.	DATE	DESCRIPTION
01	3-15-18	GS/CE
00	2-27-18	GS/CE

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR, MI 48106-8647
ANN ARBOR 734.754.4410
www.a2gov.org



CITY OF ANN ARBOR ENGINEERING

PROJECT LOCATION: WEST DOBSON PLACE

ITB No. 4529 FILE No. 2018004

QUANTITIES			
Item Code	Item Description	Units	Quantity
2047001	_Curb, Gutter, and Curb and Gutter, Any Type, Rem	Ft	255.000
2047011	_Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem	Syd	29.000
2057011	_Grading, Sidewalk	Syd	12.000
2057011	_Grading, Sidewalk Ramp	Syd	17.000
2057011	_Machine Grading, Special	Syd	4200.000
2057021	_Subgrade Undercutting, Type IIA	Cyd	420.000
2080020	Erosion Control, Inlet Protection, Fabric Drop	Ea	15.000
3020050	Aggregate Base, Conditioning	Syd	4200.000
4037050	_Dr Structure, Adj, Case 1, Modified	Ea	13.000
4037050	_Dr Structure, Temp Lowering, Modified	Ea	7.000
5010003	Cold Milling HMA Surface	Ton	4200.000
5010005	HMA Surface, Rem	Syd	30.000
5010703	HMA, LVSP	Ton	810.000
6027021	_Flowable Fill	Cyd	5.000
8027001	_Curb and Gutter, Conc, Mountable	Ft	267.000
8037001	_Detectable Warning Surface, Modified	Ft	15.000
8037010	_Sidewalk Ramp, Conc, 6 inch, Modified	Sft	150.000
8037010	_Sidewalk, Conc, 4 inch, Modified	Sft	100.000
8117001	Pavt Mrkg, Thermopl, 4 inch, Parking Sym, White	Ft	15.000
8120012	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	Ea	1.000
8120013	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	Ea	1.000
8120260	Plastic Drum, High Intensity, Furn	Ea	50.000
8120261	Plastic Drum, High Intensity, Oper	Ea	50.000
8120350	Sign, Type B, Temp, Prismatic, Furn	Sft	39.000
8120351	Sign, Type B, Temp, Prismatic, Oper	Sft	39.000
8127050	_No Parking Sign	Ea	35.000
8167011	_Slope Restoration	Syd	75.000

QUANTITIES				
Sign, Type B, Temp, Prismatic				
Quantity	Sign Code	Description	Area (sft)	Total Area
2.0	D3-1	Street Name Sign	4.000	8.000
1.0	R11-4	Road Closed Sign ("Road Closed To Thru Traffic")	12.500	13.000
2.0	W20-1	Road Work Ahead Sign	9.000	18.000
TOTAL				39.000

CONSTRUCTION KEY	
KEY	ASSOCIATED PAY ITEM(S)
AA	• _Dr Structure, Adj, Case 1, Modified • _Dr Structure, Adj, Case 2, Modified • _Dr Structure, Temp Lowering, Modified
AB	• _Dr Structure, Temp Lowering, Modified • _Gate Box, Adj, Case 1 • _Gate Box, Adj, Case 2 • Monument Box Adjust
ADST	• _Dr Structure, Adj, Add Depth, Modified
AK	• _Dr Structure, Adj, Case 1, Modified
C4	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • _Sidewalk, Conc, 4 inch, Modified
C4HE	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • Cement • _Sidewalk, Conc, 4 inch, Modified
C6	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • _Detectable Warning Surface, Modified • _Sidewalk Ramp, Conc, 6 inch, Modified • _Sidewalk, Conc, 6 inch, Modified
C8	• _Grading, Driveway Approach • _Dr Structure, Nonreinf Conc, 8 inch, Modified
C HE	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Driveway Approach • _Grading, Sidewalk • _Grading, Sidewalk Ramp • Cement • _Dr Structure, Nonreinf Conc, 6 inch, Modified • _Dr Structure, Nonreinf Conc, 8 inch, Modified • _Detectable Warning Surface, Modified • _Sidewalk Ramp, Conc, 6 inch, Modified • _Sidewalk, Conc, 6 inch, Modified
C/G	• _Curb, Gutter, and Curb and Gutter, Any Type, Rem • _Curb and Gutter, Conc
C/GHE	• _Curb, Gutter, and Curb and Gutter, Any Type, Rem • Cement
CP	• _Dr Structure, Nonreinf Conc, Det M, Modified
CR	• _Grading, Sidewalk • _Sidewalk, Conc, 4 inch, Modified
DS	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Dr Structure, Rem • Sewer, Rem, Less than 24 inch • _Dr Structure, 24 inch dia
DSDI	• _Dr Structure, Rem • Sewer, Rem, Less than 24 inch • _Dr Structure, Double Inlet
PT	• _Dr Structure, Point
RRA	• _Dr Structure Cover, Type B • _Dr Structure Cover, Type B, Special • _Dr Structure, Adj, Case 1, Modified • _Dr Structure, Temp Lowering, Modified
RRK	• _Dr Structure Cover, Type K • _Dr Structure, Adj, Case 1, Modified
RS	• _Dr Structure, Reconstruct
TYPE II	• Plastic Drum, High Intensity, Lighted, Furn • Plastic Drum, High Intensity, Lighted, Oper
TYPE III	• Barricade, Type III, High Intensity, Double Sided, Lighted, Furn • Barricade, Type III, High Intensity, Double Sided, Lighted, Oper

CONSTRUCTION METHOD AND SEQUENCING

1. THE WORK TO BE COMPLETED ON THIS STREET SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING ITEMS. THE ORDER OF CONSTRUCTION SHALL BE AS GIVEN UNLESS OTHERWISE AUTHORIZED OR DIRECTED BY THE ENGINEER.
2. IMPLEMENT TRAFFIC MAINTENANCE, AND SOIL EROSION CONTROLS IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
3. INSTALL ANY PROPOSED STORM SEWER, AND UNDERDRAIN AS SHOWN ON THE PLANS, AND AS DIRECTED BY THE ENGINEER.
4. LOWER ALL STRUCTURE COVERS, INCLUDING VALVE AND MONUMENT BOXES.
5. PERFORM ALL CONCRETE WORK, INCLUDING RESTORATION, IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
6. MILL 4 INCHES OF BITUMINOUS MATERIAL FROM EXISTING ROADWAY. THIS MAY INCLUDE GRANULAR ROAD BASE MATERIAL. DEPTH TO BE DETERMINED BY THE ENGINEER. PROOF ROLL WITH FULL TRUCK.
7. PERFORM UNDERCUTS AND/OR BASE REPAIRS AS DIRECTED BY THE ENGINEER.
8. GRADE, SHAPE, AND RE-COMPACT THE EXISTING ROAD BASE AS REQUIRED, AND AS DIRECTED BY THE ENGINEER.
9. PAVE 2 INCHES OF THE BITUMINOUS MIX AS SPECIFIED OR DIRECTED, AS THE LEVELING COURSE, IN ONE LIFT.
10. ADJUST ALL STRUCTURE COVERS, MONUMENT BOXES, AND VALVE BOXES TO THEIR FINISHED ELEVATIONS.
11. PAVE 2 INCH OF THE BITUMINOUS MIX AS SPECIFIED OR DIRECTED, AS THE WEARING COURSE, IN ONE LIFT.
12. COMPLETE ALL PAVEMENT MARKINGS IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
13. COMPLETE ALL MISCELLANEOUS CONSTRUCTION INCLUDING ALL CLEAN-UP AND FINAL RESTORATION.
14. REMOVE ALL TRAFFIC CONTROL DEVICES. REMOVE MISS DIG FLAGS.

NOTES

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CALL 811 OR 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

THE UNDERGROUND LOCATIONS SHOWN FOR NATURAL GAS, TELEPHONE, ELECTRICAL POWER, CABLE TV AND FIBER OPTIC LINES ARE APPROXIMATE. THE CITY OF ANN ARBOR ASSUMES NO RESPONSIBILITY FOR THEIR ACCURATE REPRESENTATION IN THIS DRAWING. MISS DIG MUST BE CONTACTED PRIOR TO CONSTRUCTION TO LOCATE THESE UTILITIES.

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE PERFORMED IN ACCORDANCE WITH MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION, INCLUDING REFERENCED MDOT PUBLICATIONS, AND THE PROJECT CONTRACT DOCUMENTS.



ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org



REV.	DATE	DESCRIPTION
01	3-15-18	GS CE
00	2-27-18	GS CE
		DAD
		DAD
		CHECKED

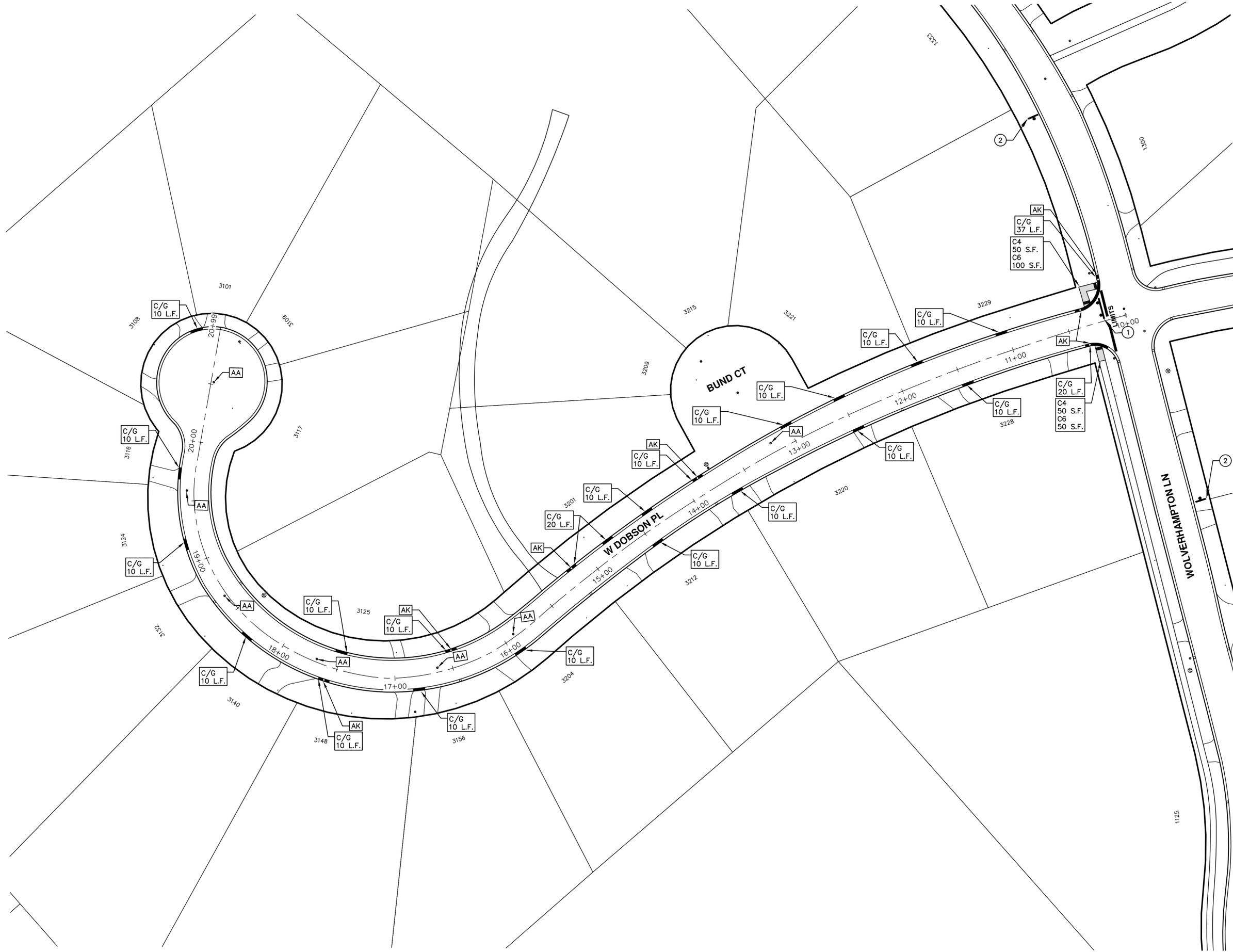
CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR, MICHIGAN 48107-8647
www.a2gov.org



ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
WEST DOBSON PL

DRAWING No.
2018004-33

T:\2018004\Plan Production\2018004 - West Dobson Place.dwg Created: 15-Dec-17 - a2_standard bw.stb - Plot Date: 15-Mar-18



TRAFFIC CONTROL SIGN		
	SIGN	NUMBER
①	 ROAD CLOSED LOCAL TRAFFIC ONLY W/ TYPE III BARRICADE	R11-3a 60x30
②	 ROAD WORK AHEAD W.DOBSON PL	W20-1 36"x36" D3-1 36"x36"

ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
 SCALE PLAN: 1"=40'
 DRAWING No. 2018004-34

STREET RESURFACING PROJECT - 2018
 WEST DOBSON PL
 STA. 10+00 - STA. 20+99

CITY OF ANN ARBOR
 PUBLIC SERVICES
 301 EAST HURON STREET
 P.O. BOX 86400-8647
 ANN ARBOR, MI 48108-8647
 www.a2gov.org

REV.	DATE	DESCRIPTION	CHECKED	DRAWN
00	2-27-18	BID SET	GS/CE	DAD
01	3-15-18	ADDENDUM #1	GS/CE	DAD

Know what's below.
Call Before you dig.



CITY OF ANN ARBOR ENGINEERING

PROJECT LOCATION: EAST DOBSON PLACE

ITB No. 4529 FILE No. 2018004

QUANTITIES			
Item Code	Item Description	Units	Quantity
2047001	_Curb, Gutter, and Curb and Gutter, Any Type, Rem	Ft	154.00
2047011	_Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem	Syd	28.00
2057011	_Grading, Sidewalk	Syd	23.00
2057011	_Grading, Sidewalk Ramp	Syd	6.00
2057011	_Machine Grading, Special	Syd	3222.00
2057021	_Subgrade Undercutting, Type IIA	Cyd	323.00
2080020	Erosion Control, Inlet Protection, Fabric Drop	Ea	11.00
3020050	Aggregate Base, Conditioning	Syd	3222.00
4037050	_Dr Structure, Adj, Case 1, Modified	Ea	8.00
4037050	_Dr Structure, Temp Lowering, Modified	Ea	8.00
5010003	Cold Milling HMA Surface	Ton	3222.00
5010005	HMA Surface, Rem	Syd	18.00
5010703	HMA, LVSP	Ton	709.00
6027021	_Flowable Fill	Cyd	3.00
8027001	_Curb and Gutter, Conc, Mountable	Ft	160.00
8037001	_Detectable Warning Surface, Modified	Ft	5.00
8037010	_Sidewalk Ramp, Conc, 6 inch, Modified	Sft	50.00
8120012	Barricade, Type III, High Intensity, Double Sided, Lighted, Fum	Ea	1.00
8120013	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	Ea	1.00
8120260	Plastic Drum, High Intensity, Fum	Ea	45.00
8120261	Plastic Drum, High Intensity, Oper	Ea	45.00
8120350	Sign, Type B, Temp, Prismatic, Fum	Sft	39.00
8120351	Sign, Type B, Temp, Prismatic, Oper	Sft	39.00
8127050	_No Parking Sign	Ea	32.00
8167011	_Slope Restoration	Syd	45.00

QUANTITIES				
Sign, Type B, Temp, Prismatic				
Quantity	Sign Code	Description	Area (sft)	Total Area
2.0	D3-1	Street Name Sign	4.000	8.000
1.0	R11-3a	Road Closed Sign ("Road Closed To Thru Traffic")	12.500	13.000
2.0	W20-3	Road Closed Ahead Sign	9.000	18.000
TOTAL				39.00

CONSTRUCTION KEY	
KEY	ASSOCIATED PAY ITEM(S)
AA	• _Dr Structure, Adj, Case 1, Modified • _Dr Structure, Adj, Case 2, Modified • _Dr Structure, Temp Lowering, Modified
AB	• _Dr Structure, Temp Lowering, Modified • _Gate Box, Adj, Case 1 • _Gate Box, Adj, Case 2 • Monument Box Adjust
ADST	• _Dr Structure, Adj, Add Depth, Modified
AK	• _Dr Structure, Adj, Case 1, Modified
C4	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • Sidewalk, Conc, 4 inch, Modified
C4HE	• Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • Cement • Sidewalk, Conc, 4 inch, Modified
C6	• Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • _Grading, Sidewalk Ramp • Detectable Warning Surface, Modified • Sidewalk Ramp, Conc, 6 inch, Modified • Sidewalk, Conc, 6 inch, Modified
C8	• _Grading, Driveway Approach • Driveway, Nonreinf Conc, 8 inch, Modified
C HE	• Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Driveway Approach • _Grading, Sidewalk • _Grading, Sidewalk Ramp • Cement • Driveway, Nonreinf Conc, 6 inch, Modified • Driveway, Nonreinf Conc, 8 inch, Modified • Detectable Warning Surface, Modified • Sidewalk Ramp, Conc, 6 inch, Modified • Sidewalk, Conc, 6 inch, Modified
C/G	• _Curb, Gutter, and Curb and Gutter, Any Type, Rem • Curb and Gutter, Conc
C/GHE	• _Curb, Gutter, and Curb and Gutter, Any Type, Rem • Cement • Driveway Opening, Conc, Det M, Modified
CP	• _Grading, Sidewalk • Sidewalk, Conc, 4 inch, Modified
CR	• Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • Dr Structure, Rem
DS	• Sewer, Rem, Less than 24 inch • Dr Structure, 24 inch dia
DSDI	• Dr Structure, Rem • Sewer, Rem, Less than 24 inch • Dr Structure, Double Inlet
PT	• Dr Structure, Point
RRA	• Dr Structure Cover, Type B • Dr Structure Cover, Type B, Special • Dr Structure, Adj, Case 1, Modified • Dr Structure, Temp Lowering, Modified
RRK	• Dr Structure Cover, Type K • Dr Structure, Adj, Case 1, Modified
RS	• Dr Structure, Reconstruct
TYPE II	• Plastic Drum, High Intensity, Lighted, Fum • Plastic Drum, High Intensity, Lighted, Oper
TYPE III	• Barricade, Type III, High Intensity, Double Sided, Lighted, Fum • Barricade, Type III, High Intensity, Double Sided, Lighted, Oper

CONSTRUCTION METHOD AND SEQUENCING

1. THE WORK TO BE COMPLETED ON THIS STREET SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING ITEMS. THE ORDER OF CONSTRUCTION SHALL BE AS GIVEN UNLESS OTHERWISE AUTHORIZED OR DIRECTED BY THE ENGINEER.
2. IMPLEMENT TRAFFIC MAINTENANCE, AND SOIL EROSION CONTROLS IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
3. INSTALL ANY PROPOSED STORM SEWER, AND UNDERDRAIN AS SHOWN ON THE PLANS, AND AS DIRECTED BY THE ENGINEER.
4. LOWER ALL STRUCTURE COVERS, INCLUDING VALVE AND MONUMENT BOXES.
5. PERFORM ALL CONCRETE WORK, INCLUDING RESTORATION, IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
6. MILL 4 INCHES OF BITUMINOUS MATERIAL FROM EXISTING ROADWAY. THIS MAY INCLUDE GRANULAR ROAD BASE MATERIAL. DEPTH TO BE DETERMINED BY THE ENGINEER. PROOF ROLL WITH FULL TRUCK.
7. PERFORM UNDERCUTS AND/OR BASE REPAIRS AS DIRECTED BY THE ENGINEER.
8. GRADE, SHAPE, AND RE-COMPACT THE EXISTING ROAD BASE AS REQUIRED, AND AS DIRECTED BY THE ENGINEER.
9. PAVE 2 INCHES OF THE BITUMINOUS MIX AS SPECIFIED OR DIRECTED, AS THE LEVELING COURSE, IN ONE LIFT.
10. ADJUST ALL STRUCTURE COVERS, MONUMENT BOXES, AND VALVE BOXES TO THEIR FINISHED ELEVATIONS.
11. PAVE 2 INCH OF THE BITUMINOUS MIX AS SPECIFIED OR DIRECTED, AS THE WEARING COURSE, IN ONE LIFT.
12. COMPLETE ALL PAVEMENT MARKINGS IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
13. COMPLETE ALL MISCELLANEOUS CONSTRUCTION INCLUDING ALL CLEAN-UP AND FINAL RESTORATION.
14. REMOVE ALL TRAFFIC CONTROL DEVICES. REMOVE MISS DIG FLAGS.

NOTES

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CALL 811 OR 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

THE UNDERGROUND LOCATIONS SHOWN FOR NATURAL GAS, TELEPHONE, ELECTRICAL POWER, CABLE TV AND FIBER OPTIC LINES ARE APPROXIMATE. THE CITY OF ANN ARBOR ASSUMES NO RESPONSIBILITY FOR THEIR ACCURATE REPRESENTATION IN THIS DRAWING. MISS DIG MUST BE CONTACTED PRIOR TO CONSTRUCTION TO LOCATE THESE UTILITIES.

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE PERFORMED IN ACCORDANCE WITH MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION, INCLUDING REFERENCED MDOT PUBLICATIONS, AND THE PROJECT CONTRACT DOCUMENTS.



ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org



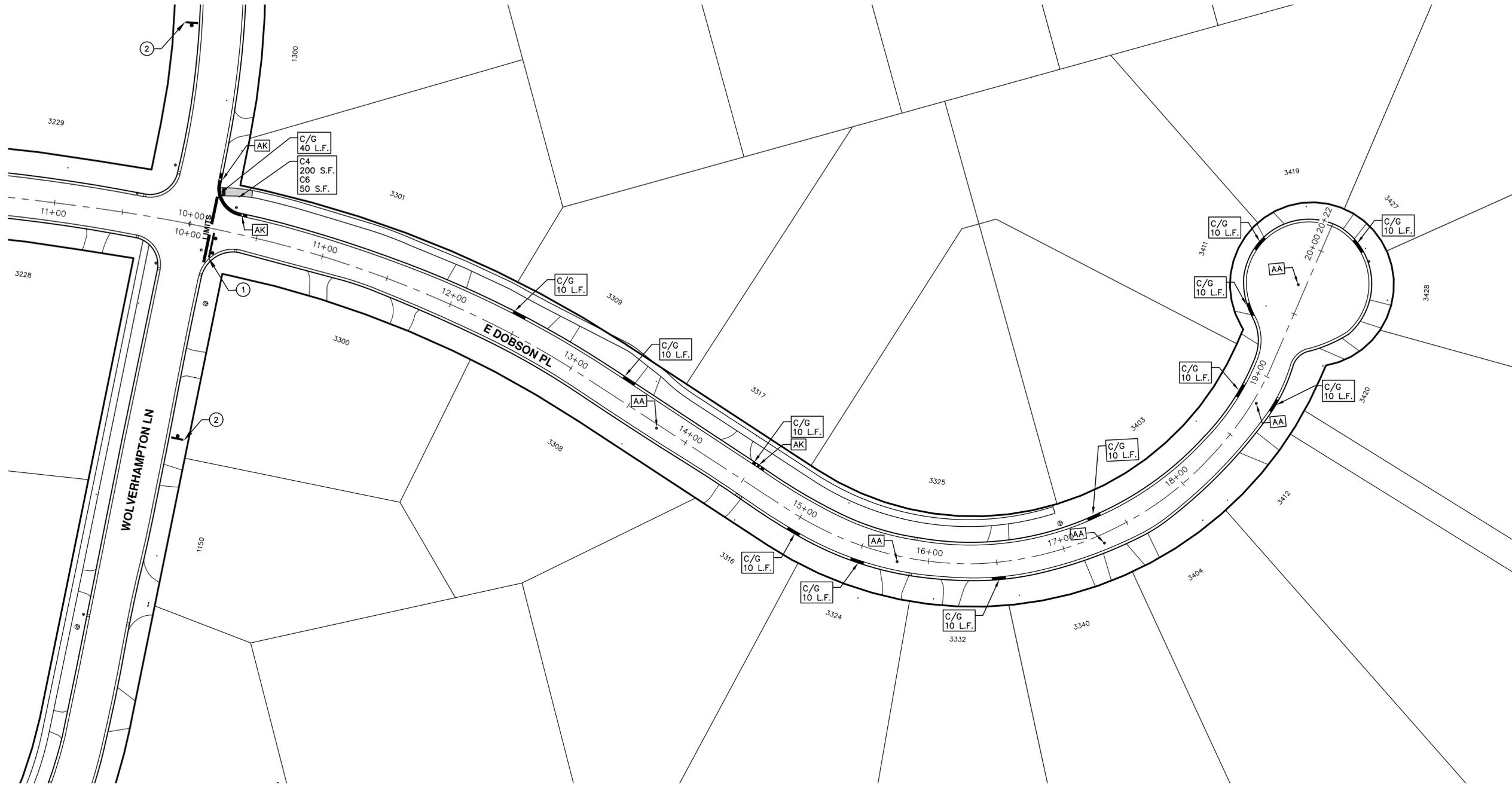
REV.	DATE	DESCRIPTION
01	3-15-18	GSCE
00	2-27-18	GSCE
		DAD
		DAD
		CHECKED

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
www.a2gov.org

ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
EAST DOBSON PL

SCALE
DRAWING No. 2018004-35
SHEET No. 35 OF 79

T:\2018004\Plan Production\2018004 - East Dobson Place.dwg Dwg Created: 27-Dec-17 - _a2_standard bw.stb - Plot Date: 15-Mar-18



TRAFFIC CONTROL SIGN		
	SIGN	NUMBER
①	 ROAD CLOSED LOCAL TRAFFIC ONLY W/ TYPE III BARRICADE	R11-3a 60"x30"
②	 ROAD CLOSED AHEAD E. DOBSON PL	W20-3 36"x36" D3-1 36"x36"



CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR, MI 48106-8647
www.a2gov.org



ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
EAST DOBSON PL
STA. 10+00 - STA. 20+22

SCALE PLAN: 1"=80'
DRAWING No. 2018004-36

REV.	DATE	DESCRIPTION
01	3-15-18	GS/CE
00	2-27-18	GS/CE
		DRAWN
		CHECKED



CITY OF ANN ARBOR ENGINEERING

PROJECT LOCATION: WOLVERHAMPTON LANE

ITB No. 4529 FILE No. 2018004

QUANTITIES			
Item Code	Item Description	Units	Quantity
2047001	_Curb, Gutter, and Curb and Gutter, Any Type, Rem	Ft	130.000
2057011	_Grading, Sidewalk	Syd	3.000
2057011	_Grading, Sidewalk Ramp	Syd	9.000
2057011	_Machine Grading, Special	Syd	4720.000
2057021	_Subgrade Undercutting, Type IIA	Cyd	473.000
3020050	Aggregate Base, Conditioning	Syd	4720.000
4037050	_Dr Structure Cover, Type B, Modified	Ea	1.000
4037050	_Dr Structure, Adj, Case 1, Modified	Ea	6.000
4037050	_Dr Structure, Temp Lowering, Modified	Ea	5.000
5010003	Cold Milling HMA Surface	Ton	4720.000
5010005	HMA Surface, Rem	Syd	15.000
5010703	HMA, LVSP	Ton	1039.000
6027021	Flowable Fill	Cyd	3.000
8027001	Curb and Gutter, Conc, Barrier	Ft	20.000
8027001	_Curb and Gutter, Conc, Mountable	Ft	110.000
8037001	_Detectable Warning Surface, Modified	Ft	5.000
8037010	_Sidewalk Ramp, Conc, 6 inch, Modified	Sft	80.000
8037010	_Sidewalk, Conc, 4 inch, Modified	Sft	25.000
8120012	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	Ea	3.000
8120013	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	Ea	3.000
8120260	Plastic Drum, High Intensity, Furn	Ea	55.000
8120261	Plastic Drum, High Intensity, Oper	Ea	55.000
8120350	Sign, Type B, Temp, Prismatic, Furn	Sft	39.000
8120351	Sign, Type B, Temp, Prismatic, Oper	Sft	39.000
8127050	_No Parking Sign	Ea	26.000
8167011	_Slope Restoration	Syd	40.000

QUANTITIES				
Sign, Type B, Temp, Prismatic				
Quantity	Sign Code	Description	Area (sft)	Total Area
2.0	D3-1	Street Name Sign	4.000	8.000
1.0	R11-4	Road Closed Sign ("Road Closed To Thru Traffic")	12.500	13.000
2.0	W20-1	Road Work Ahead Sign	9.000	18.000
TOTAL				39.000

CONSTRUCTION KEY	
KEY	ASSOCIATED PAY ITEM(S)
AA	• _Dr Structure, Adj, Case 1, Modified • _Dr Structure, Adj, Case 2, Modified • _Dr Structure, Temp Lowering, Modified
AB	• _Dr Structure, Temp Lowering, Modified • _Gate Box, Adj, Case 1 • _Gate Box, Adj, Case 2 • Monument Box Adjust
ADST	• _Dr Structure, Adj, Add Depth, Modified
AK	• _Dr Structure, Adj, Case 1, Modified
C4	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • _Sidewalk, Conc, 4 inch, Modified
C4HE	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • Cement • _Sidewalk, Conc, 4 inch, Modified
C6	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • _Grading, Sidewalk Ramp • _Detectable Warning Surface, Modified • _Sidewalk Ramp, Conc, 6 inch, Modified • _Sidewalk, Conc, 6 inch, Modified
C8	• _Grading, Driveway Approach • _Driveway, Nonreinf Conc, 8 inch, Modified
C HE	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Driveway Approach • _Grading, Sidewalk • _Grading, Sidewalk Ramp • Cement • _Driveway, Nonreinf Conc, 6 inch, Modified • _Driveway, Nonreinf Conc, 8 inch, Modified • _Detectable Warning Surface, Modified • _Sidewalk Ramp, Conc, 6 inch, Modified • _Sidewalk, Conc, 6 inch, Modified
C/G	• _Curb, Gutter, and Curb and Gutter, Any Type, Rem • _Curb and Gutter, Conc
C/GHE	• _Curb, Gutter, and Curb and Gutter, Any Type, Rem • Cement • _Driveway Opening, Conc, Det M, Modified
CP	• _Grading, Sidewalk • _Sidewalk, Conc, 4 inch, Modified
CR	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Dr Structure, Rem
DS	• Sewer, Rem, Less than 24 inch • _Dr Structure, 24 inch dia
DSDI	• _Dr Structure, Rem • Sewer, Rem, Less than 24 inch • _Dr Structure, Double Inlet
PT	• _Dr Structure, Point
RRA	• _Dr Structure Cover, Type B • _Dr Structure Cover, Type B, Special • _Dr Structure, Adj, Case 1, Modified • _Dr Structure, Temp Lowering, Modified
RRK	• _Dr Structure Cover, Type K • _Dr Structure, Adj, Case 1, Modified
RS	• _Dr Structure, Reconstruct
TYPE II	• Plastic Drum, High Intensity, Lighted, Furn • Plastic Drum, High Intensity, Lighted, Oper
TYPE III	• Barricade, Type III, High Intensity, Double Sided, Lighted, Furn • Barricade, Type III, High Intensity, Double Sided, Lighted, Oper

CONSTRUCTION METHOD AND SEQUENCING

1. THE WORK TO BE COMPLETED ON THIS STREET SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING ITEMS. THE ORDER OF CONSTRUCTION SHALL BE AS GIVEN UNLESS OTHERWISE AUTHORIZED OR DIRECTED BY THE ENGINEER.
2. IMPLEMENT TRAFFIC MAINTENANCE, AND SOIL EROSION CONTROLS IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
3. INSTALL ANY PROPOSED STORM SEWER, AND UNDERDRAIN AS SHOWN ON THE PLANS, AND AS DIRECTED BY THE ENGINEER.
4. LOWER ALL STRUCTURE COVERS, INCLUDING VALVE AND MONUMENT BOXES.
5. PERFORM ALL CONCRETE WORK, INCLUDING RESTORATION, IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
6. MILL 4 INCHES OF BITUMINOUS MATERIAL FROM EXISTING ROADWAY. THIS MAY INCLUDE GRANULAR ROAD BASE MATERIAL. DEPTH TO BE DETERMINED BY THE ENGINEER. PROOF ROLL WITH FULL TRUCK.
7. PERFORM UNDERCUTS AND/OR BASE REPAIRS AS DIRECTED BY THE ENGINEER.
8. GRADE, SHAPE, AND RE-COMPACT THE EXISTING ROAD BASE AS REQUIRED, AND AS DIRECTED BY THE ENGINEER.
9. PAVE 2 INCHES OF THE BITUMINOUS MIX AS SPECIFIED OR DIRECTED, AS THE LEVELING COURSE, IN ONE LIFT.
10. ADJUST ALL STRUCTURE COVERS, MONUMENT BOXES, AND VALVE BOXES TO THEIR FINISHED ELEVATIONS.
11. PAVE 2 INCH OF THE BITUMINOUS MIX AS SPECIFIED OR DIRECTED, AS THE WEARING COURSE, IN ONE LIFT.
12. COMPLETE ALL PAVEMENT MARKINGS IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
13. COMPLETE ALL MISCELLANEOUS CONSTRUCTION INCLUDING ALL CLEAN-UP AND FINAL RESTORATION.
14. REMOVE ALL TRAFFIC CONTROL DEVICES. REMOVE MISS DIG FLAGS.

NOTES

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CALL 811 OR 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

THE UNDERGROUND LOCATIONS SHOWN FOR NATURAL GAS, TELEPHONE, ELECTRICAL POWER, CABLE TV AND FIBER OPTIC LINES ARE APPROXIMATE. THE CITY OF ANN ARBOR ASSUMES NO RESPONSIBILITY FOR THEIR ACCURATE REPRESENTATION IN THIS DRAWING. MISS DIG MUST BE CONTACTED PRIOR TO CONSTRUCTION TO LOCATE THESE UTILITIES.

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE PERFORMED IN ACCORDANCE WITH MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION, INCLUDING REFERENCED MDOT PUBLICATIONS, AND THE PROJECT CONTRACT DOCUMENTS.



ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org



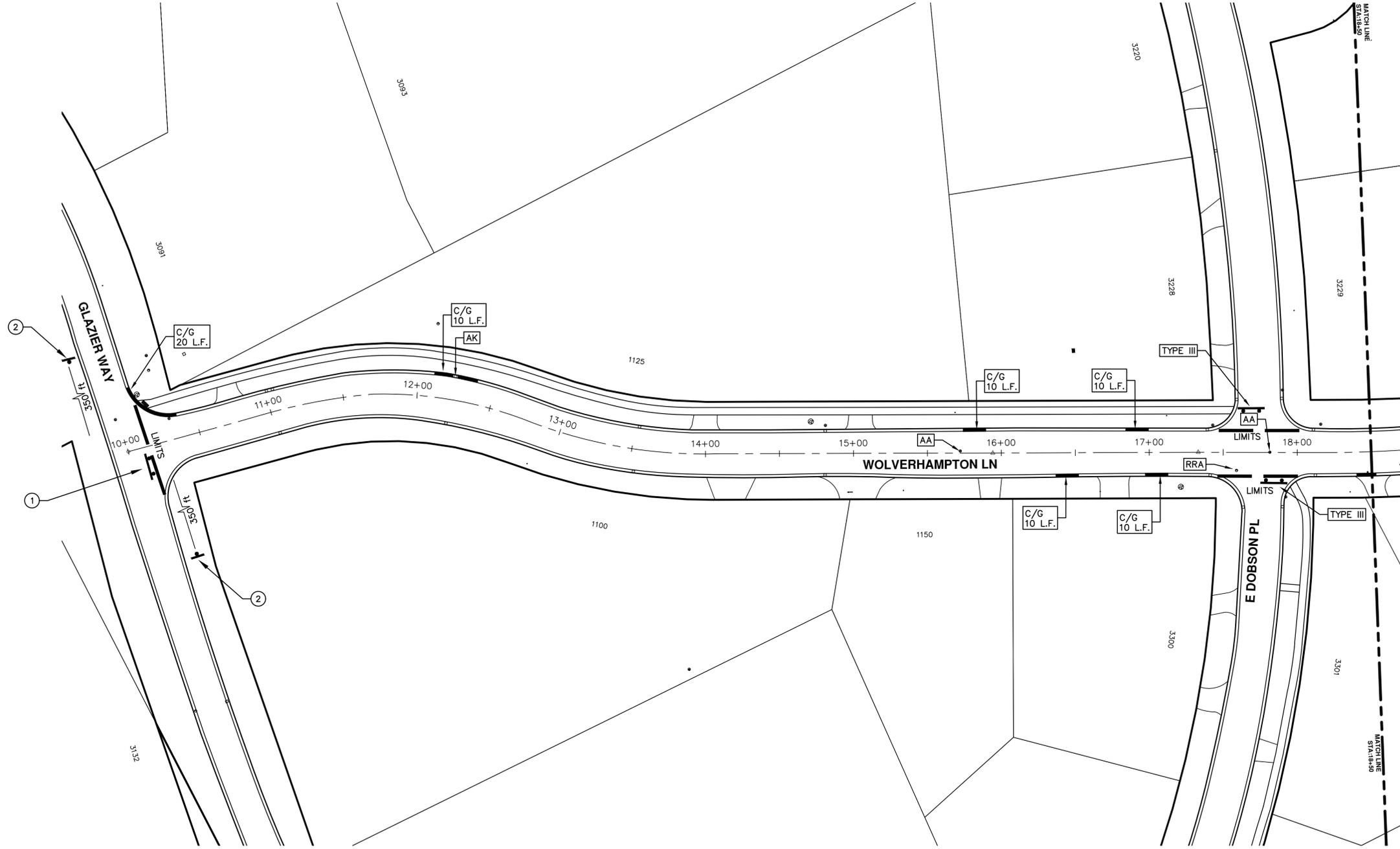
REV.	DATE	DESCRIPTION
01	3-15-18	GS CE
00	2-27-18	GS CE
		DAD
		DAD
		CHECKED

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
www.a2gov.org



ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
WOLVERHAMPTON LN

SCALE
DRAWING No.
2018004-37



TRAFFIC CONTROL SIGN		
	SIGN	NUMBER
①		R11-3a 60x30"
②		W20-1 36"x36" D3-1 36"x36"

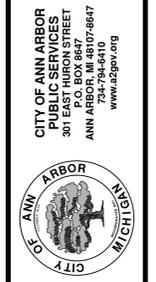
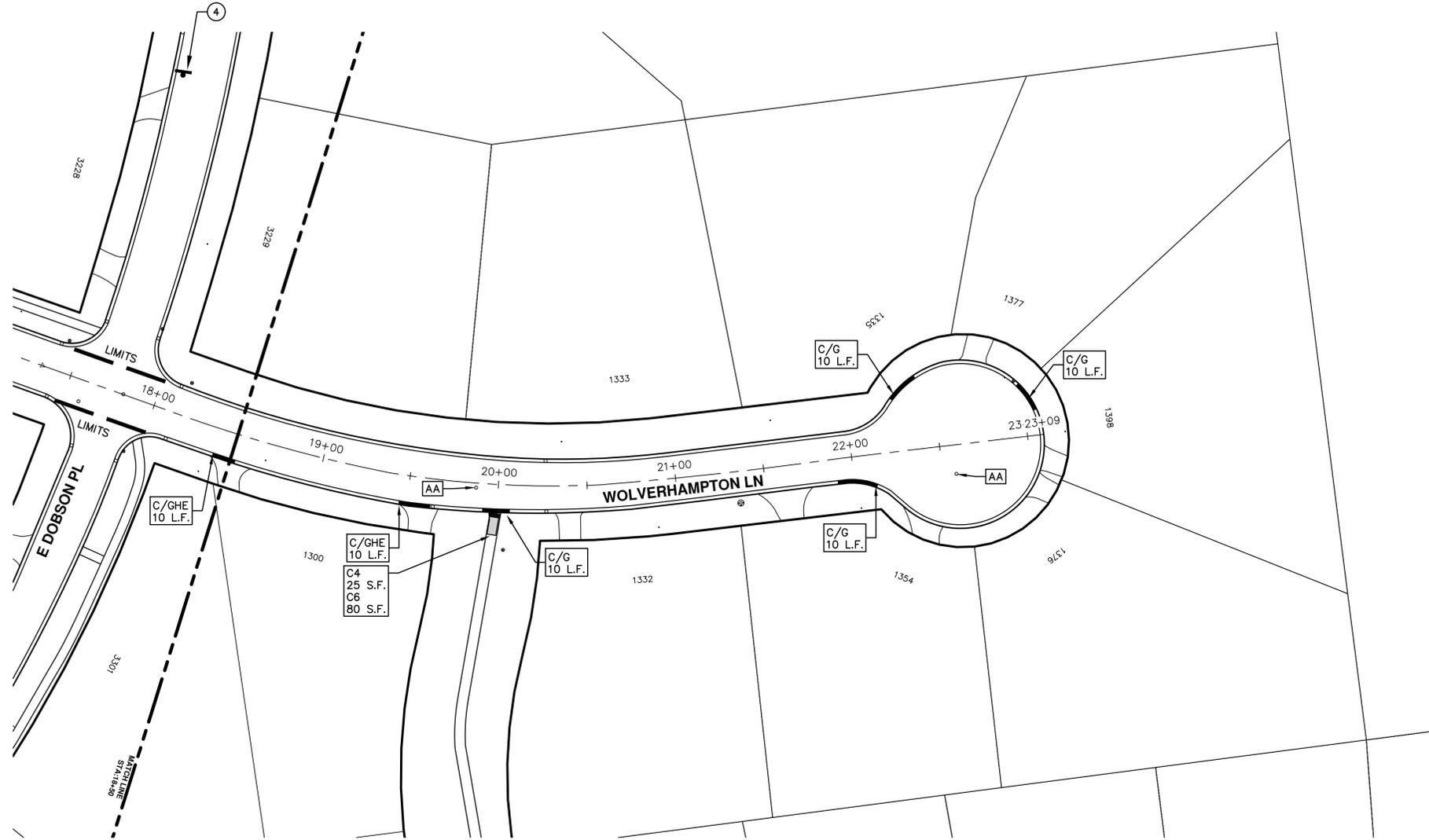
ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
 SCALE PLAN: 1"=40'
 DRAWING No. 2018004-38

STREET RESURFACING PROJECT - 2018
 WOLVERHAMPTON LN
 STA. 10+00 - STA. 18+50

CITY OF ANN ARBOR
 PUBLIC SERVICES
 301 EAST HURON STREET
 ANN ARBOR, MI 48106-8647
 ANN ARBOR 734.784.4110
 www.a2gov.org

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
01	3-15-18	ADDENDUM #1	GSCE	DAD
00	2-27-18		GSCE	DAD

811
 Know what's below.
 Call Before you dig.



CITY OF ANN ARBOR
 PUBLIC SERVICES
 301 EAST HURON STREET
 P.O. BOX 8647
 ANN ARBOR MI 48108-8647
 www.a2gov.org

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	3-15-18	GSCE	DAD
00	BID SET	2-27-18	GSCE	DAD





CITY OF ANN ARBOR ENGINEERING

PROJECT LOCATION: EB & WB JACKSON AVENUE

ITB No. 4529 FILE No. 2018004

CONSTRUCTION METHOD AND SEQUENCING

WORK ON THIS STREET INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING ITEMS. COMPLETE THE WORK IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS, AS DIRECTED BY THE ENGINEER, AND UTILIZING PART WIDTH TWO (2) PHASE CONSTRUCTION. PERFORM THE WORK IN THE ORDER INDICATED BELOW UNLESS OTHERWISE AUTHORIZED OR DIRECTED BY THE ENGINEER. COMPLETE ITEMS 7 THRU 15 UTILIZING THE M.O.T. PLAN CURRENTLY IN PLACE, LANE CLOSURES, AND FLAG CONTROL OPERATIONS AS DIRECTED BY THE ENGINEER.

PHASE I

- IMPLEMENT MAINTENANCE OF TRAFFIC (M.O.T.) PLAN, AND INSTALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES.
- CONDUCT REMOVAL WORK RELATED TO PAVEMENT, DRAINAGE, AND CONCRETE ITEMS WITH EXCEPTION TO COLDMILLING.
- INSTALL PROPOSED DRAINAGE STRUCTURES, STORM SEWER, AND UNDERDRAIN AS REQUIRED.
- PERFORM ALL CONCRETE WORK, INCLUDING RESTORATION.
- TEMPORARY LOWER ALL STRUCTURE COVERS LOCATED WITHIN THE EXISTING PAVEMENT AREA, INCLUDING GATE AND MONUMENT BOXES.

PHASE II

- REPEAT ITEMS 1 THRU 5 IN THE ORDER SHOWN ABOVE.
- REMOVE 3.5 INCHES OF EXISTING HMA SURFACE BY COLDMILLING. THIS MAY INCLUDE GRANULAR BASE MATERIAL. DEPTH TO BE DETERMINED BY THE ENGINEER. PROOF ROLL WITH FULLY LOADED TRUCK.
- PERFORM ALL JOINT AND CRACK CLEANOUT. HMA/HAND PATCHING, UNDERCUTS AND/OR BASE REPAIRS AS REQUIRED.
- GRADE, SHAPE, AND COMPACT THE EXISTING BASE MATERIAL AS REQUIRED.
- ADJUST ALL STRUCTURE COVERS, INCLUDING GATE AND MONUMENT BOXES, TO THEIR FINISH ELEVATION.
- CLEAN PAVEMENT AND PLACE 2.0 INCH LEVELING COURSE HMA MIX (MAJOR STREETS).
- CLEAN PAVEMENT AND PLACE 1.5 INCH TOP COURSE HMA MIX (MAJOR STREETS).
- CLEAN PAVEMENT AND PLACE HMA APPROACHES AS REQUIRED.
- CLEAN PAVEMENT AND COMPLETE ALL PAVEMENT MARKINGS.
- COMPLETE ALL MISCELLANEOUS CONSTRUCTION INCLUDING ALL CLEAN UP AND FINAL RESTORATION.
- REMOVE ALL TRAFFIC CONTROL DEVICES, AND MISS DIG FLAGS.

NOTES

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CALL 811 OR 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

THE UNDERGROUND LOCATIONS SHOWN FOR NATURAL GAS, TELEPHONE, ELECTRICAL POWER, CABLE TV AND FIBER OPTIC LINES ARE APPROXIMATE. THE CITY OF ANN ARBOR ASSUMES NO RESPONSIBILITY FOR THEIR ACCURATE REPRESENTATION IN THIS DRAWING. MISS DIG MUST BE CONTACTED PRIOR TO CONSTRUCTION TO LOCATE THESE UTILITIES.

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE PERFORMED IN ACCORDANCE WITH MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION, INCLUDING REFERENCED MDOT PUBLICATIONS, AND THE PROJECT CONTRACT DOCUMENTS.



ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

QUANTITIES			
Item Code	Item Description	Units	Quantity
2047001	_Curb, Gutter, and Curb and Gutter, Any Type, Rem	Ft	80.000
2057011	_Machine Grading, Special	Syd	510.000
2057021	_Subgrade Undercutting, Type IIA	Cyd	138.000
2080020	Erosion Control, Inlet Protection, Fabric Drop	Ea	22.000
2080036	Erosion Control, Silt Fence	Ft	500.000
3027011	_Aggregate Base, 8 inch, Modified	Syd	467.000
3070101	Shoulder, CI I	Ton	338.000
3070200	Trenching	Sta	6.000
4037050	_Dr Structure, Adj, Case 1, Modified	Ea	2.000
4037050	_Dr Structure, Temp Lowering, Modified	Ea	2.000
5010003	Cold Milling HMA Surface	Syd	8,478.000
5010020	Pvmt Joint and Crack Repr, Detail 7	Ft	1,930.000
5010021	Pvmt Joint and Crack Repr, Detail 8	Ft	317.000
5010025	Hand Patching	Ton	420.000
5010509	HMA, 4E3, High Stress	Ton	1,201.000
5010515	HMA, 5E3, High Stress	Ton	798.000
6020208	Joint, Expansion, E3	Syd	50.000
6020211	Joint, Plane-of-Weakness, W	Syd	150.000
6020222	Shouler, Nonreinf Conc	Syd	400.000
6030020	Joint, Contraction, Crg	Ft	105.000
6030021	Joint, Contraction, Erg	Ft	50.000
6030021	Joint, Tied, Trg	Ft	75.000
6030030	Lane Tie, Epoxy Anchored	Ea	35.000
6030048	Pav Repr, Nonreinf Conc, 10 inch	Syd	780.000
6030080	Pav Repr, Rem	Syd	780.000
6030090	Saw Cut, Intermediate	Ft	21.000
6030095	Sawing and Sealing Longit Pav Joints	Ft	30.000
6030096	Sawing and Sealing Trans Pav Joints	Ft	75.000
6030100	Resealing Trans Joints with Hot-Poured Rubber	Ft	600.000
6030101	Resealing Longit Joints with Hot-Poured Rubber	Ft	1,000.000
8017011	_Driveway, Nonreinf Conc, 6 inch, Modified	Syd	100.000
8027001	_Curb and Gutter, Conc, Barrier	Ft	80.000
8037001	_Detectable Warning Surface, Modified	Ft	40.000
8037010	_Sidewalk, Conc, 4 inch, Modified	Sft	200.000
8110049	Pav Mrkg, Ovlv Cold Plastic, Direction Arrow Sym, Bike	Ea	5.000
8110058	Pav Mrkg, Ovlv Cold Plastic, Bike, Small Sym	Ea	5.000
8110307	Rem Curing Compound, for Longit Mrkg, 4 inch	Ft	375.000
8110308	Rem Curing Compound, for Longit Mrkg, 6 inch	Ft	750.000
8110321	Rem Curing Compound, for Spec Mrkg	Sft	50.000
8110332	Rem Raised Pav Marker	Ea	20.000
8110343	Rem Spec Mrkg	Sft	364.000
8110450	Recessing Pavement Markings, Longit	Ft	11,443.000
8110451	Recessing Pavement Markings, Trans	Sft	332.000
8110500	Pav Mrkg, Wet Retrflec Polyurea, 4 inch, White	Ft	2,590.000
8110501	Pav Mrkg, Wet Retrflec Polyurea, 6 inch, White	Ft	4,934.000
8110504	Pav Mrkg, Wet Retrflec Polyurea, 4 inch, Yellow	Ft	3,919.000
8117001	_Pav Mrkg, Wet Retrflec Polyurea, 12 inch, Crosswalk	Ft	208.000
8117001	_Pav Mrkg, Wet Retrflec Polyurea, 24 inch, Stop Bar	Ft	39.000
8117050	_Pav Mrkg, Wet Retrflec Polyurea, Lt Turn Arrow Sym	Ea	1.000
8117050	_Pav Mrkg, Wet Retrflec Polyurea, Only	Ea	1.000
8117050	Pav Mrkg, Wet Retrflec, Type NR, Paint, 4 inch, White, Temp	Ea	1.000
8117050	_Pav Mrkg, Wet Retrflec Polyurea, Rt Turn Arrow Sym	Ea	1.000
8120012	Barricade, Type III, High Intensity, Double Sided, Lighted, Fum	Ea	21.000
8120013	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	Ea	21.000
8120140	Lighted Arrow, Type C, Fum	Ea	2.000
8120141	Lighted Arrow, Type C, Oper	Ea	2.000
8120210	Pav Mrkg, Longit, 6 inch or Less Width, Rem	Ft	663.000
8120260	Plastic Drum, High Intensity, Fum	Ea	279.000
8120261	Plastic Drum, High Intensity, Oper	Ea	279.000
8120310	Sign Cover	Ea	16.000
8120330	Sign, Portable, Changeable Message, Fum	Ea	2.000
8120331	Sign, Portable, Changeable Message, Oper	Ea	2.000
8120350	Sign, Type B, Temp, Prismatic, Fum	Sft	409.000
8120351	Sign, Type B, Temp, Prismatic, Oper	Sft	409.000
8167011	_Slope Restoration	Syd	622.230

CONSTRUCTION KEY	
KEY	ASSOCIATED PAY ITEM(S)
AA	• _Dr Structure, Adj, Case 1, Modified • _Dr Structure, Adj, Case 2, Modified • _Dr Structure, Temp Lowering, Modified
AB	• _Dr Structure, Temp Lowering, Modified • _Gate Box, Adj, Case 1 • _Gate Box, Adj, Case 2 • _Monument Box Adjust
ADST	• _Dr Structure, Adj, Add Depth, Modified
AK	• _Dr Structure, Adj, Case 1, Modified
C4	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • Sidewalk, Conc, 4 inch, Modified
C4HE	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • Cement • Sidewalk, Conc, 4 inch, Modified
C6	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • _Grading, Sidewalk Ramp • _Detectable Warning Surface, Modified • Sidewalk Ramp, Conc, 6 inch, Modified • Sidewalk, Conc, 6 inch, Modified
C8	• _Grading, Driveway Approach • _Driveway, Nonreinf Conc, 8 inch, Modified
C HE	• Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Driveway Approach • _Grading, Sidewalk • Cement • _Driveway, Nonreinf Conc, 6 inch, Modified • _Driveway, Nonreinf Conc, 8 inch, Modified • _Detectable Warning Surface, Modified • Sidewalk Ramp, Conc, 6 inch, Modified • Sidewalk, Conc, 6 inch, Modified
C/G	• _Curb, Gutter, and Curb and Gutter, Any Type, Rem • _Curb and Gutter, Conc
C/GHE	• _Curb, Gutter, and Curb and Gutter, Any Type, Rem • Cement • _Driveway Opening, Conc, Det M, Modified
CP	• _Grading, Sidewalk • Sidewalk, Conc, 4 inch, Modified
CR	• Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • Dr Structure, Rem
DS	• Sewer, Rem, Less than 24 inch • Dr Structure, 24 inch dia
DSDI	• Dr Structure, Rem • Sewer, Rem, Less than 24 inch • Dr Structure, Double Inlet
PT	• Dr Structure, Point
RRA	• Dr Structure Cover, Type B • Dr Structure Cover, Type B, Special • Dr Structure, Adj, Case 1, Modified • Dr Structure, Temp Lowering, Modified
RRK	• Dr Structure Cover, Type K • Dr Structure, Adj, Case 1, Modified
RS	• Dr Structure, Reconstruct
TYPE II	• Plastic Drum, High Intensity, Lighted, Fum • Plastic Drum, High Intensity, Lighted, Oper
TYPE III	• Barricade, Type III, High Intensity, Double Sided, Lighted, Fum • Barricade, Type III, High Intensity, Double Sided, Lighted, Oper

QUANTITIES				
Sign, Type B, Temp, Prismatic				
Quantity	Sign Code	Description	Area (sft)	Total Area
8.0	D3-1	Street Name Sign	4.000	32.000
4.0	G20-2	End Road Work	8.000	32.000
12.0	R2-1	Speed Limit	7.500	90.000
2.0	R5-18c	Work Zone Begins	16.000	32.000
2.0	W3-5B	Reduce Speed Zone	16.000	32.000
2.0	W4-2R	Lane Ends (Right)	16.000	32.000
5.0	W11-1	Bicycle	6.250	32.000
5.0	W16-1P	Share The Road	3.000	15.000
7.0	W20-1	Wroad Work Ahead	16.000	112.000
		TOTAL		409.000



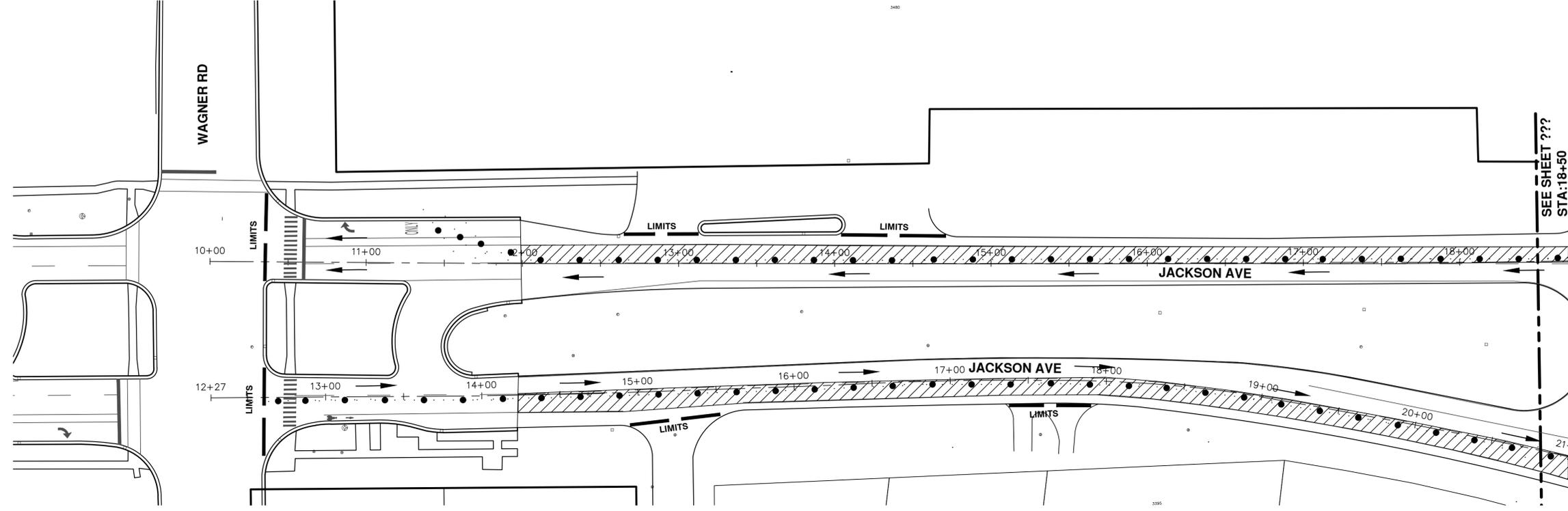
REV.	DATE	DESCRIPTION
01	3-15-18	GS CE
00	2-27-18	GS CE
		BID SET
		DRAWN
		CHECKED

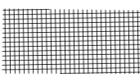
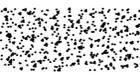
CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
www.a2gov.org



PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
EB & WB JACKSON AVENUE
DRAWING No. 2018004-40
SHEET No. 40 OF 79

T:\2018004\Plan Production\Major Streets\2018004 - WB Jackson Avenue.dwg Created: 27-Sep-17 - a2 standard bw.stb - Plot Date: 15-Mar-18



	FULL DEPTH HOT MIX ASPHALT (HMA)
	FULL DEPTH CONCRETE (PCC)
	COMPOSITE HOT MIX ASPHALT (HMA) OVER (PCC)

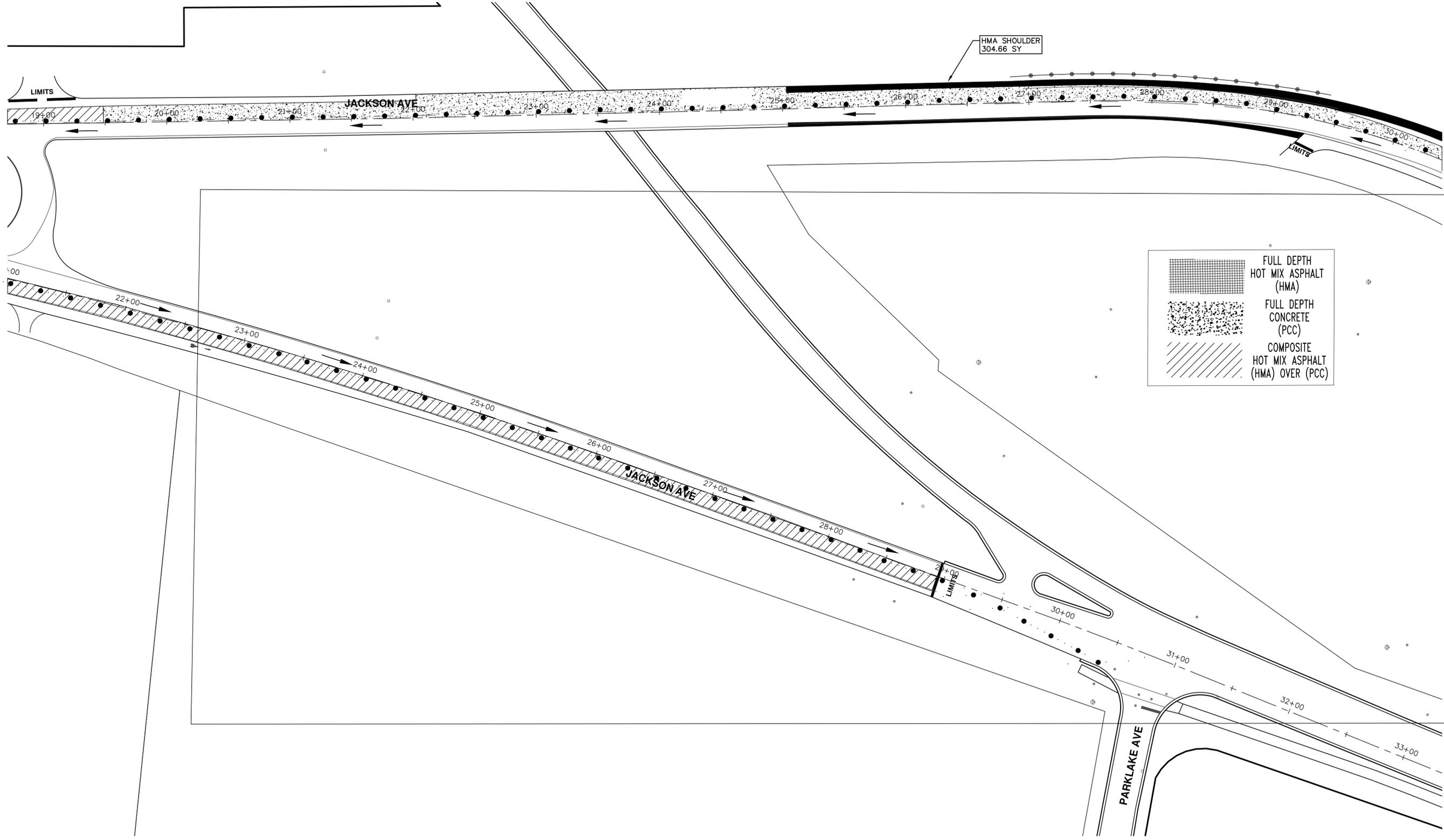


CITY OF ANN ARBOR
PUBLIC SERVICE
301 EAST HURON STREET
ANN ARBOR, MI 48106-8647
www.a2gov.org

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	APPENDIX #1	3-15-18	GSCE	DAD
00	BID SET	2-27-18	GSCE	DAD



T:\2018004\Plan Production\Major Streets\2018004 - WB Jackson Avenue.dwg Dwg Created: 27-Sep-17 - _a2 standard bw.stb - Plot Date: 15-Mar-18



PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
 SCALE PLAN: 1"=80'
 DRAWING No. 2018004-42

STREET RESURFACING PROJECT - 2018
 EB & WB JACKSON AVENUE
 STA. 18+50 - STA. 29+50 PHASE I

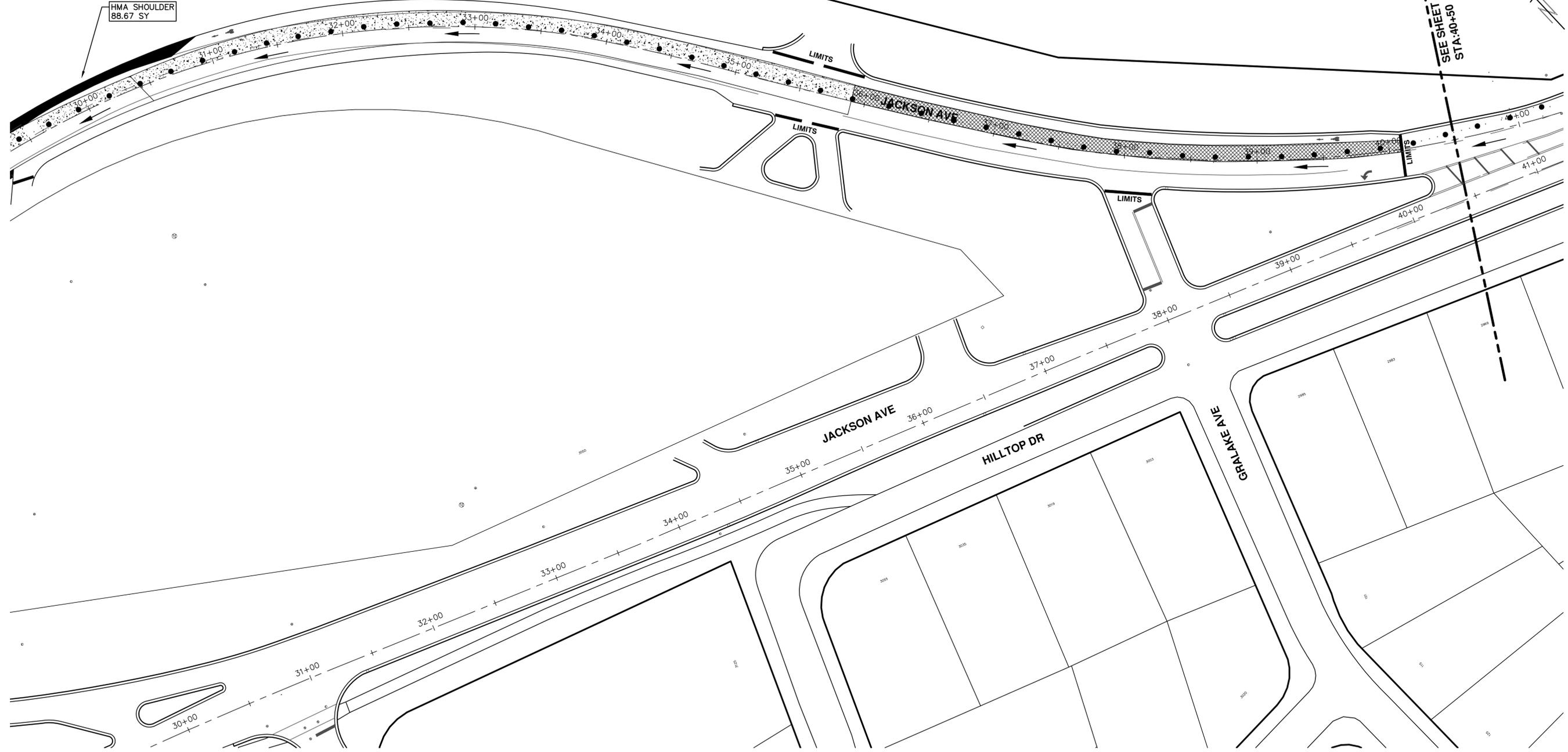
CITY OF ANN ARBOR
 PUBLIC SERVICE
 301 EAST HURON STREET
 ANN ARBOR, MI 48106-6627
 www.aagov.org

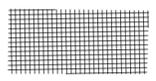
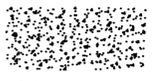


REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	3-15-18	GSCCE	DAD
00	BID SET	2-27-18	GSCCE	DAD



T:\2018004\Plan Production\Major Streets\2018004 - WB Jackson Avenue.dwg Created: 27-Sep-17 - _a2_standard_bw.stb - Plot Date: 15-Mar-18



	FULL DEPTH HOT MIX ASPHALT (HMA)
	FULL DEPTH CONCRETE (PCC)
	COMPOSITE HOT MIX ASPHALT (HMA) OVER (PCC)

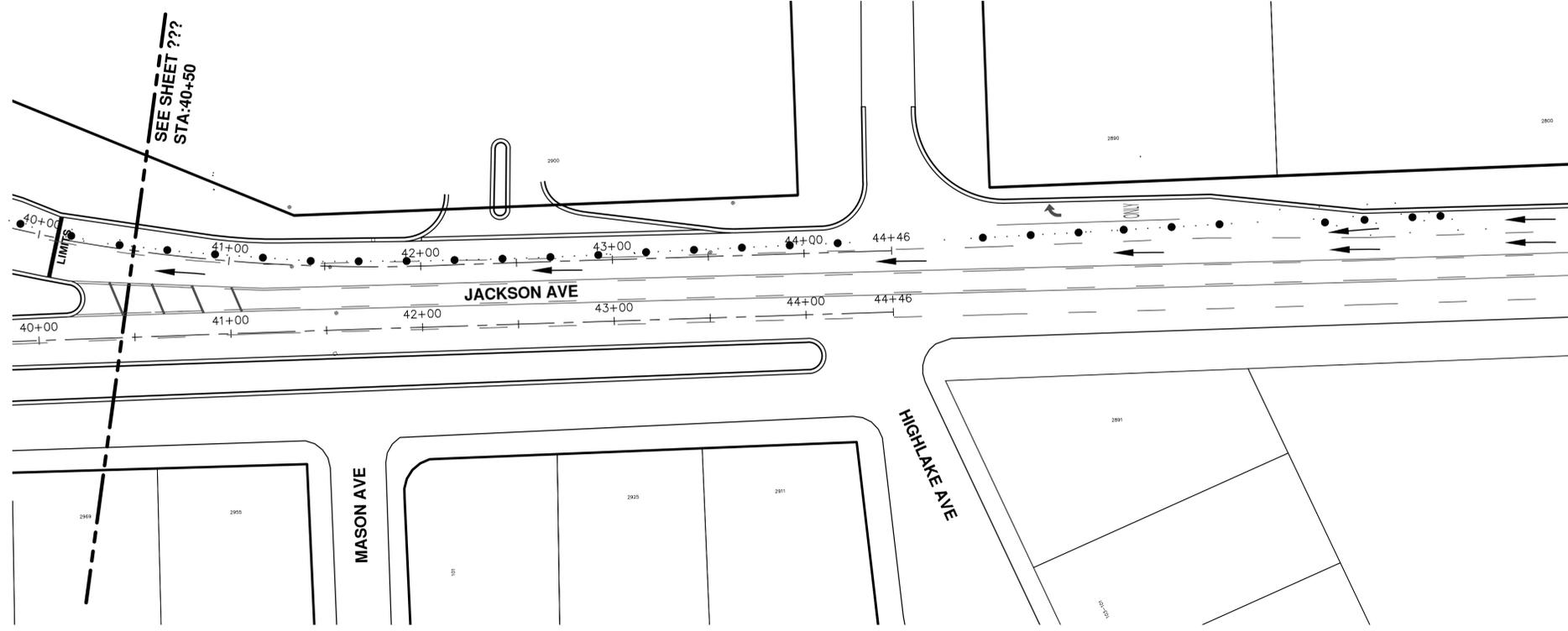
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
 EB & WB JACKSON AVENUE
 STA. 29+50 - STA. 40+50 PHASE I

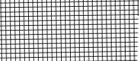
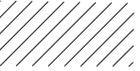
SCALE PLAN: 1"=80'
 DRAWING No. 2018004-43

811
 Know what's below.
 Call Before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	3-15-18	GSCE	DAD
00	BID SET	2-27-18	GSCE	DAD

CITY OF ANN ARBOR
 PUBLIC SERVICE
 301 EAST HURON STREET
 ANN ARBOR, MI 48106-6647
 ANN ARBOR, MI 48106-6647
 www.a2gov.org



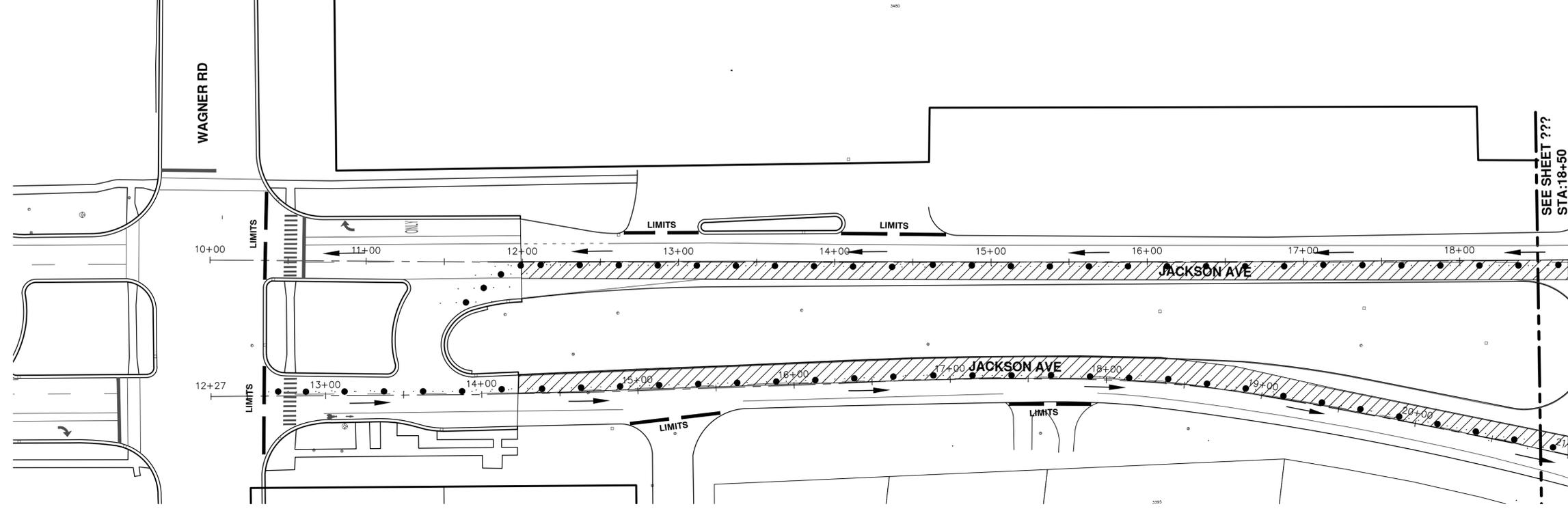
	FULL DEPTH HOT MIX ASPHALT (HMA)
	FULL DEPTH CONCRETE (PCC)
	COMPOSITE HOT MIX ASPHALT (HMA) OVER (PCC)

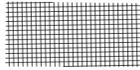
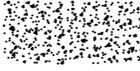


CITY OF ANN ARBOR
PUBLIC SERVICE
301 EAST HURON STREET
ANN ARBOR, MI 48106-8647
ANN ARBOR 734-794-4410
www.a2gov.org

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	3-15-18	GSCCE	DAD
00	BID SET	2-27-18	GSCCE	DAD

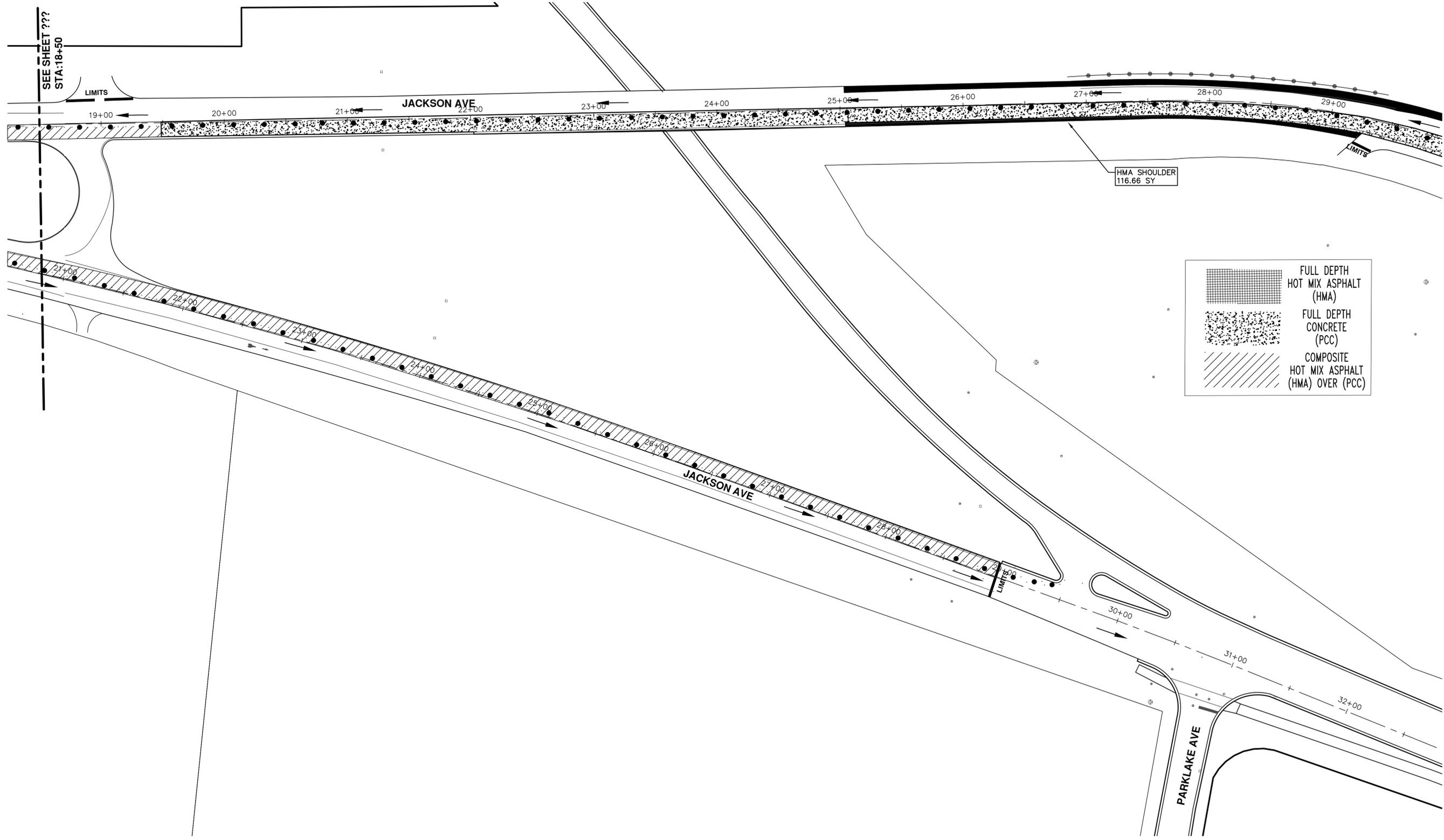


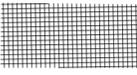
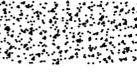


	FULL DEPTH HOT MIX ASPHALT (HMA)
	FULL DEPTH CONCRETE (PCC)
	COMPOSITE HOT MIX ASPHALT (HMA) OVER (PCC)



			
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR STREET RESURFACING PROJECT - 2018 JACKSON AVENUE STA. 10+00 - STA. 18+50 PHASE2		CITY OF ANN ARBOR PUBLIC SERVICE 301 EAST HURON STREET ANN ARBOR, MI 48106-6647 ANN ARBOR 734-794-4410 www.a2gov.org	
SCALE PLAN: 1"=80' DRAWING No. 2018004-45	SHEET No. 45 OF 79	ADDENDUM #1 3-15-18 GS/CE DATE DRAWN CHECKED	ADDENDUM #1 2-27-18 GS/CE DATE DRAWN CHECKED
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR STREET RESURFACING PROJECT - 2018 JACKSON AVENUE STA. 10+00 - STA. 18+50 PHASE2		CITY OF ANN ARBOR PUBLIC SERVICE 301 EAST HURON STREET ANN ARBOR, MI 48106-6647 ANN ARBOR 734-794-4410 www.a2gov.org	



	FULL DEPTH HOT MIX ASPHALT (HMA)
	FULL DEPTH CONCRETE (PCC)
	COMPOSITE HOT MIX ASPHALT (HMA) OVER (PCC)

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
 STREET RESURFACING PROJECT - 2018
 JACKSON AVENUE
 STA. 18+50 - STA. 29+50 PHASE 2

SCALE PLAN: 1"=80'
 DRAWING No. 2018004-46



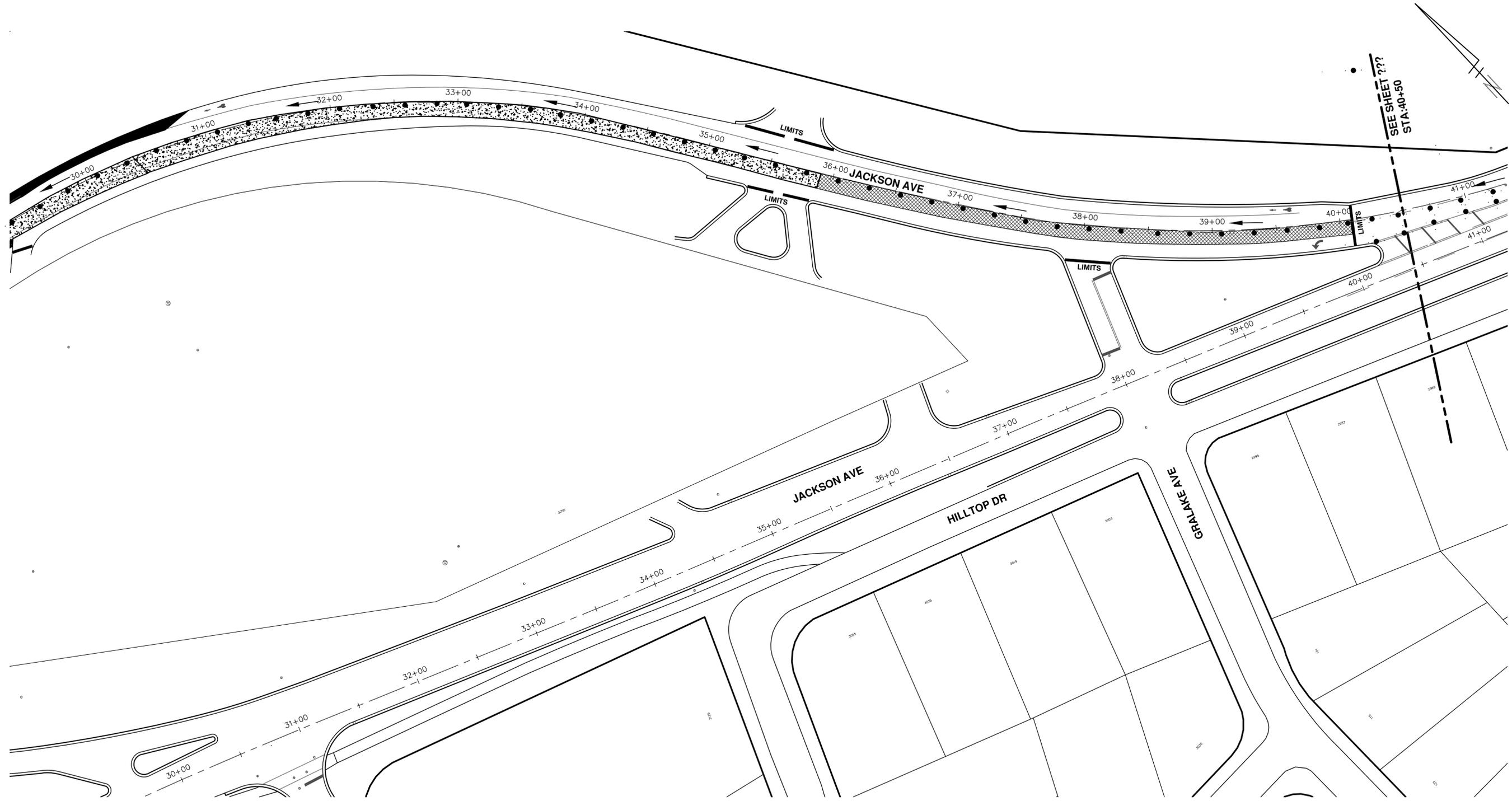
CITY OF ANN ARBOR
 PUBLIC SERVICE
 301 EAST HURON STREET
 ANN ARBOR, MI 48106-8647
 www.a2gov.org

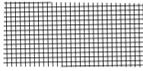
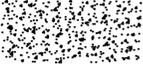
REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	3-15-18	GSCE	DAD
00	BID SET	2-27-18	GSCE	DAD



Know what's below.
 Call before you dig.

T:\2018004\Plan Production\Major Streets\2018004 - WB Jackson Avenue.dwg Created: 27-Sep-17 - _a2_standard_bw.stb - Plot Date: 15-Mar-18



	FULL DEPTH HOT MIX ASPHALT (HMA)
	FULL DEPTH CONCRETE (PCC)
	COMPOSITE HOT MIX ASPHALT (HMA) OVER (PCC)

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
 JACKSON AVENUE
 STA. 29+50 - STA. 40+50 PHASE 2

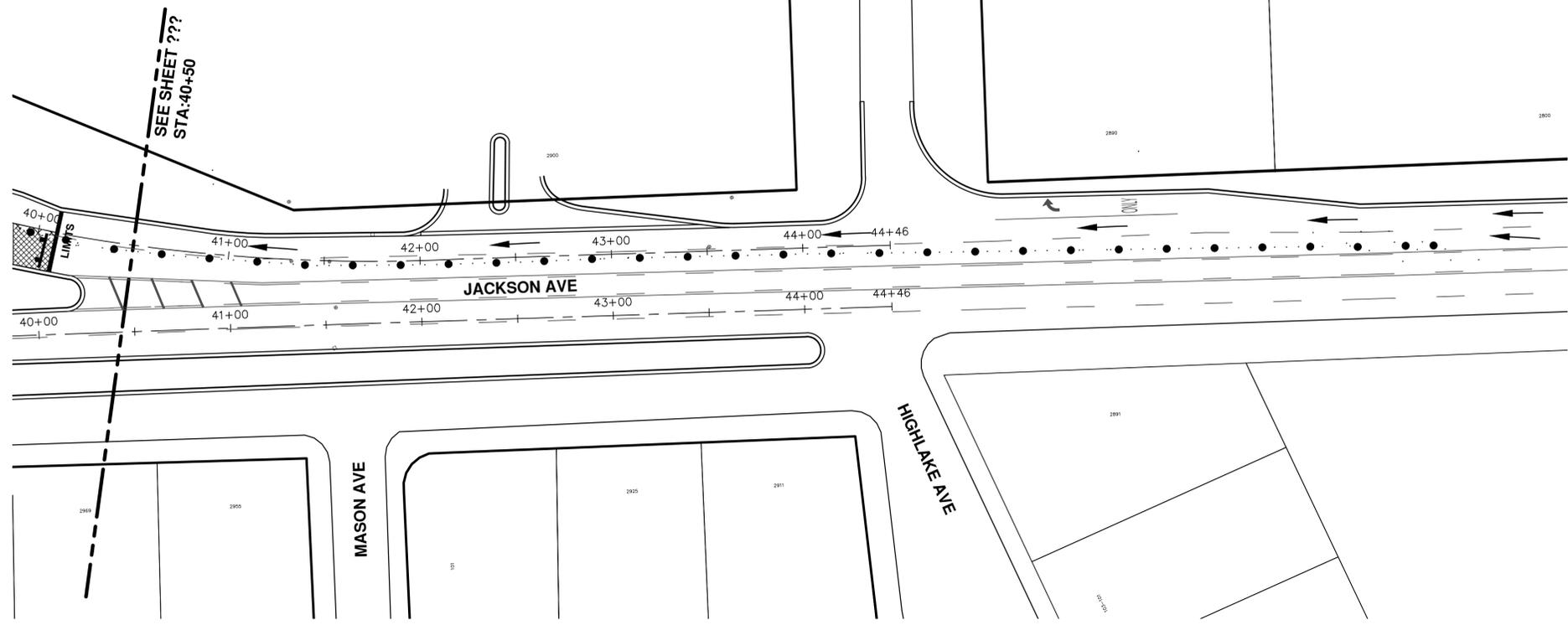
SCALE PLAN: 1"=80'
 DRAWING No. 2018004-47

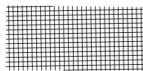
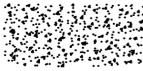
811
 Know what's below.
 Call Before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	3-15-18	GSCCE	DAD
00	BID SET	2-27-18	GSCCE	DAD

CITY OF ANN ARBOR
 PUBLIC SERVICE
 301 EAST HURON STREET
 ANN ARBOR, MI 48106-8647
 ANN ARBOR, MI 48106-4410
 www.a2gov.org

CITY OF ANN ARBOR
 MICHIGAN



	FULL DEPTH HOT MIX ASPHALT (HMA)
	FULL DEPTH CONCRETE (PCC)
	COMPOSITE HOT MIX ASPHALT (HMA) OVER (PCC)

SHEET No.
48 OF 79

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
 SCALE PLAN: 1"=80'
 DRAWING No.
2018004-48



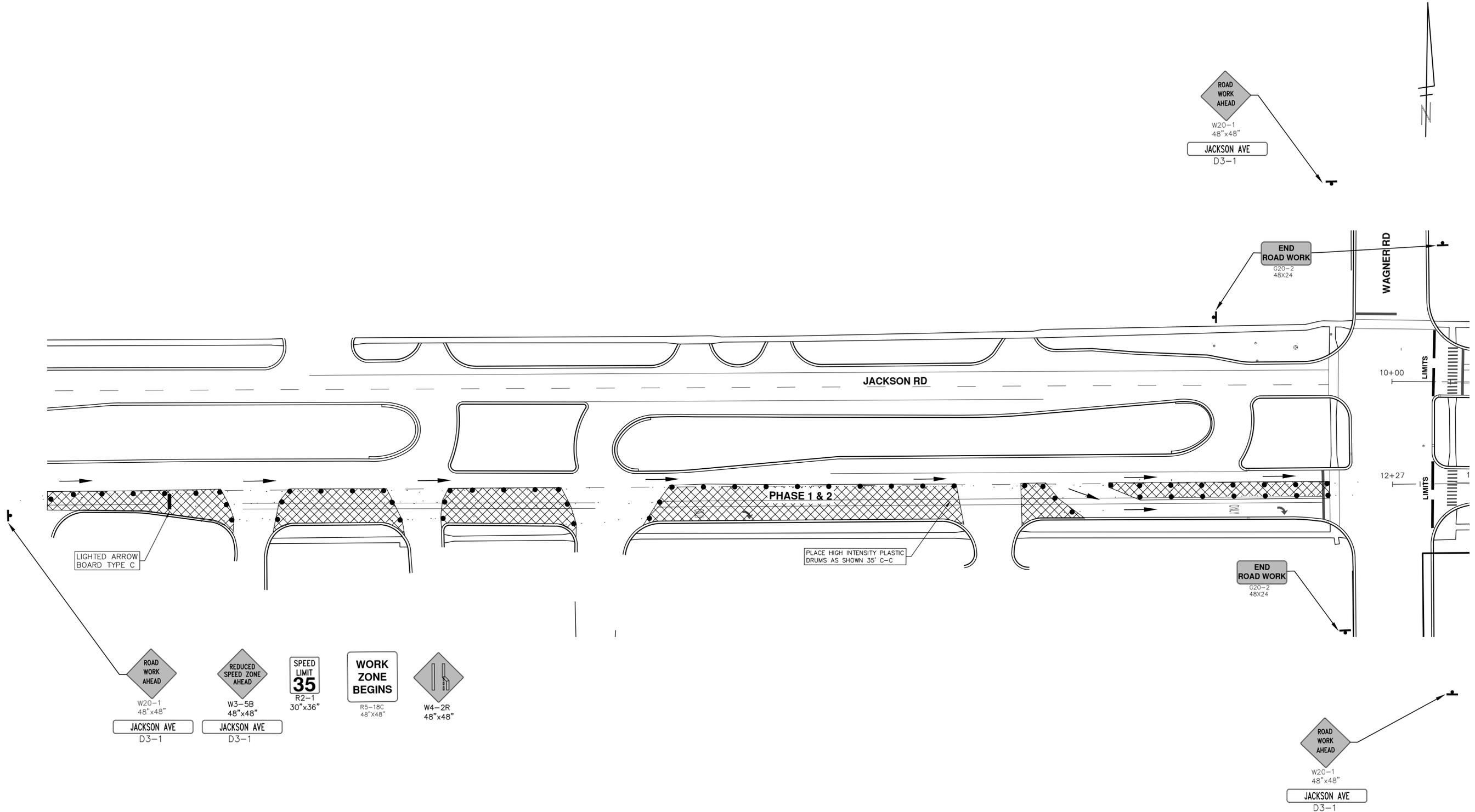
CITY OF ANN ARBOR
 PUBLIC SERVICE
 301 EAST HURON STREET
 ANN ARBOR, MI 48106-8647
 ANN ARBOR, MI 48106-8647
 www.a2gov.org

REV.	DESCRIPTION
01	ADDENDUM #1
00	BID SET

DATE	DRAWN	CHECKED
3-15-18	GSCCE	DAD
2-27-18	GSCCE	DAD



T:\2018004\Plan Production\Major Streets\2018004 - WB Jackson Avenue.dwg Dwg Created: 27-Sep-17 - a2 standard bw.stb - Plot Date: 15-Mar-18



 W20-1
48" x 48"
JACKSON AVE
D3-1

 W3-5B
48" x 48"
JACKSON AVE
D3-1

 SPEED LIMIT
35
R2-1
30" x 36"

 WORK ZONE BEGINS
R5-18C
48" x 48"

 W4-2R
48" x 48"

 Know what's below. Call Before you dig.

REV.	DATE	DESCRIPTION
01	3-15-18	GS/CE
00	2-27-18	GS/CE

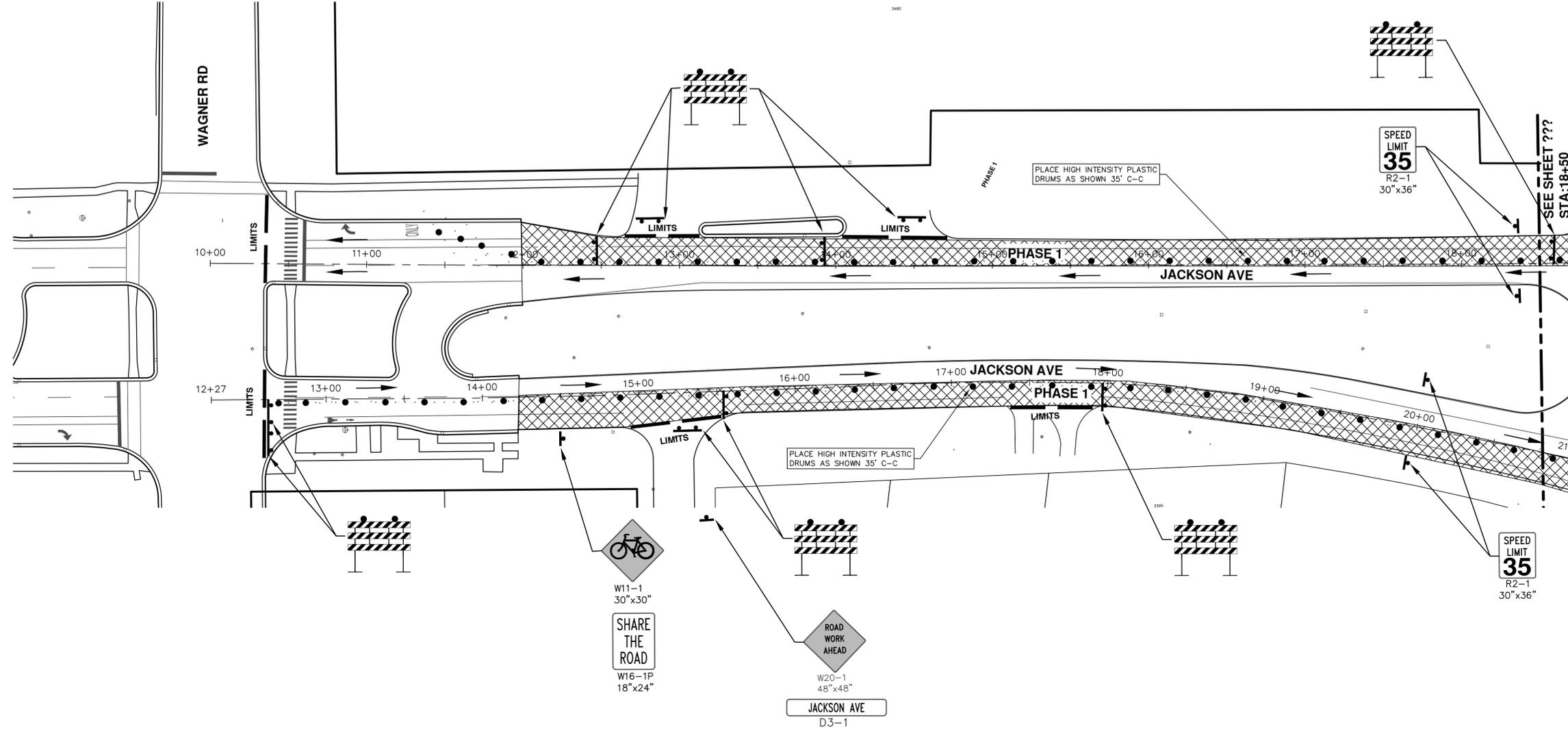
CITY OF ANN ARBOR
 PUBLIC SERVICES
 301 EAST HURON STREET
 P.O. BOX 86400
 ANN ARBOR MI 48108-6647
 www.a2gov.org



PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
 JACKSON AVENUE
 STA. 0+00 - STA. 10+00 TRAFFIC CONTROL PHASE 1 / PHASE 2

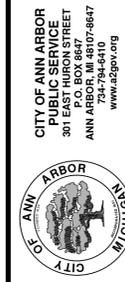
SCALE PLAN: Custom
 DRAWING No. 2018004-49

SHEET No. 49 OF 79



PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
 JACKSON AVENUE
 STA. 10+00 - STA. 18+50 TRAFFIC CONTROL PHASE 1

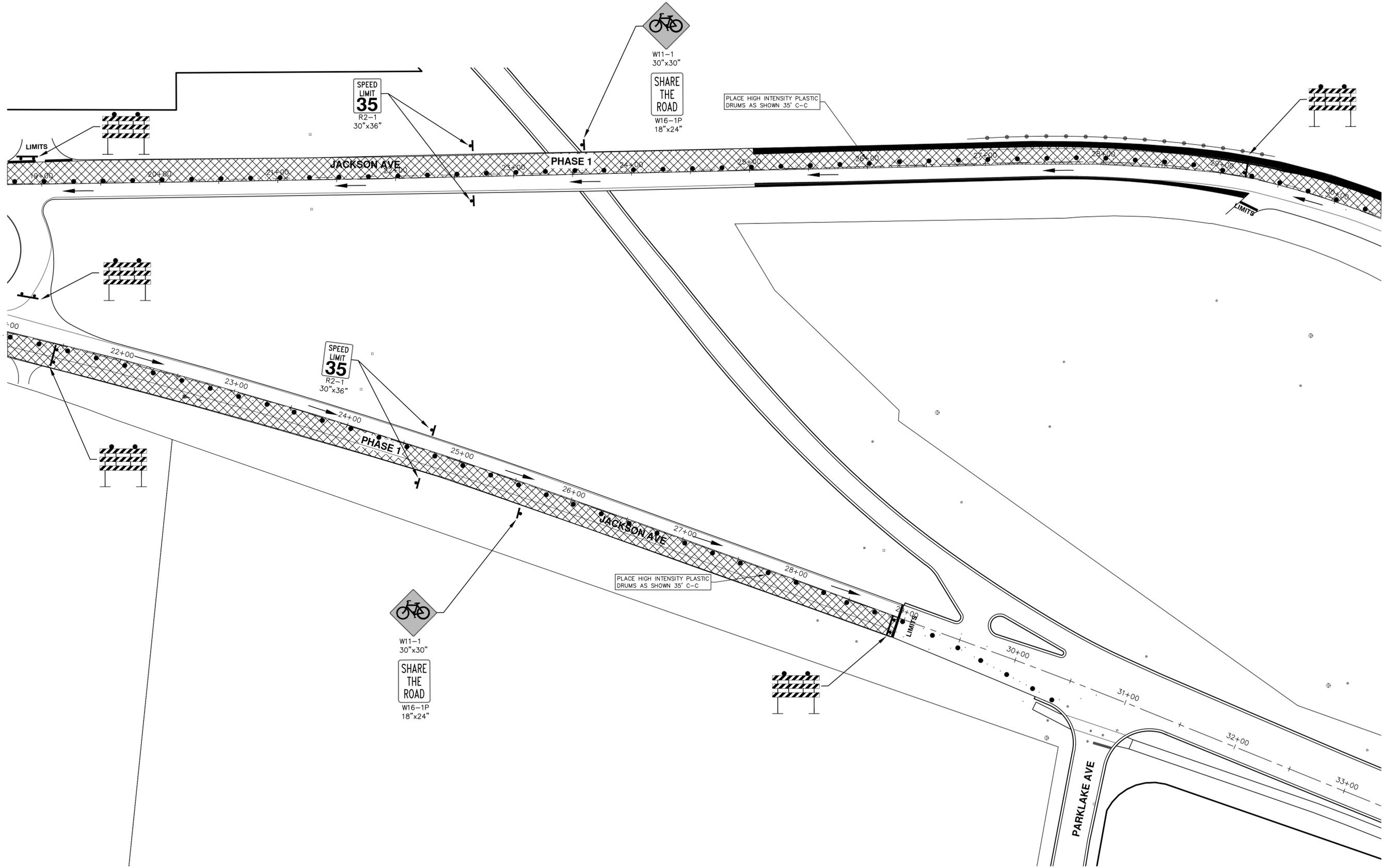
SCALE PLAN: 1"=40'
 DRAWING No. 2018004-50



REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	3-15-18	GSCE	DAD
00	BID SET	2-27-18	GSCE	DAD



T:\2018004\Plan Production\Major Streets\2018004 - WB Jackson Avenue.dwg Dwg Created: 27-Sep-17 - _a2_standard.bw.stb - Plot Date: 15-Mar-18



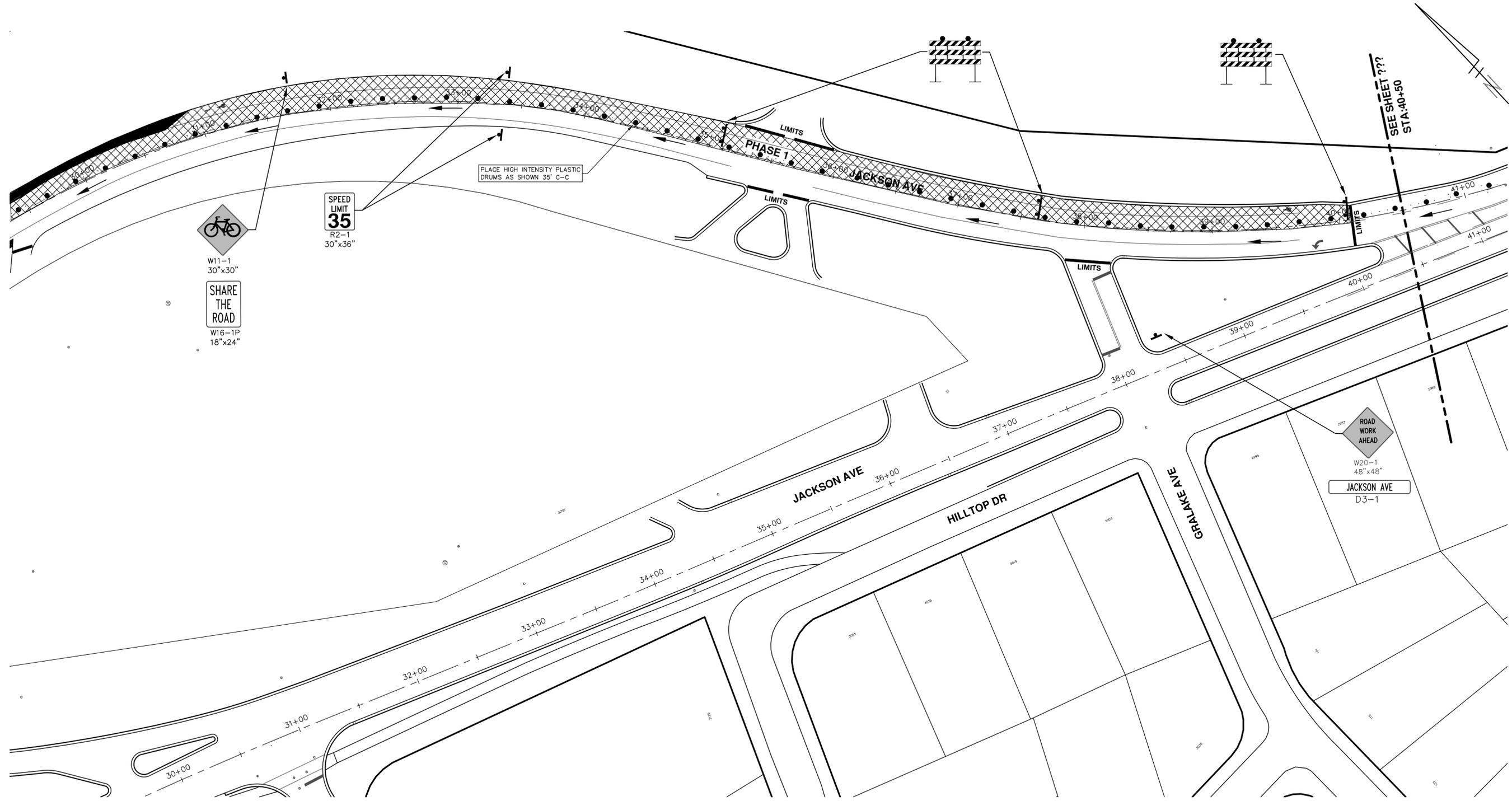
REV.	DATE	DRAWN	CHECKED	DESCRIPTION
01	3-15-18	GS/CE	DAD	ADDENDUM #1
00	2-27-18	GS/CE	DAD	BID SET

CITY OF ANN ARBOR
 PUBLIC SERVICE
 301 EAST HURON STREET
 ANN ARBOR, MI 48106-8647
 ANN ARBOR 734.794.4410
 www.a2gov.org

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
 JACKSON AVENUE
 STA. 18+50 - STA. 29+50 TRAFFIC CONTROL PHASE 1

SCALE PLAN: 1"=80'
 DRAWING No. 2018004-51

T:\2018004\Plan Production\Major Streets\2018004 - WB Jackson Avenue.dwg Created: 27-Sep-17 - _a2 standard bw.stb - Plot Date: 15-Mar-18



W16-1P
30"x30"
SHARE
THE
ROAD
W16-1P
18"x24"



R2-1
30"x36"

PLACE HIGH INTENSITY PLASTIC
DRUMS AS SHOWN 35' C-C



W20-1
48"x48"
ROAD
WORK
AHEAD
D.3-1
JACKSON AVE



Know what's below.
Call Before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	3-15-18	GSCE	DAD
00	BID SET	2-27-18	GSCE	DAD

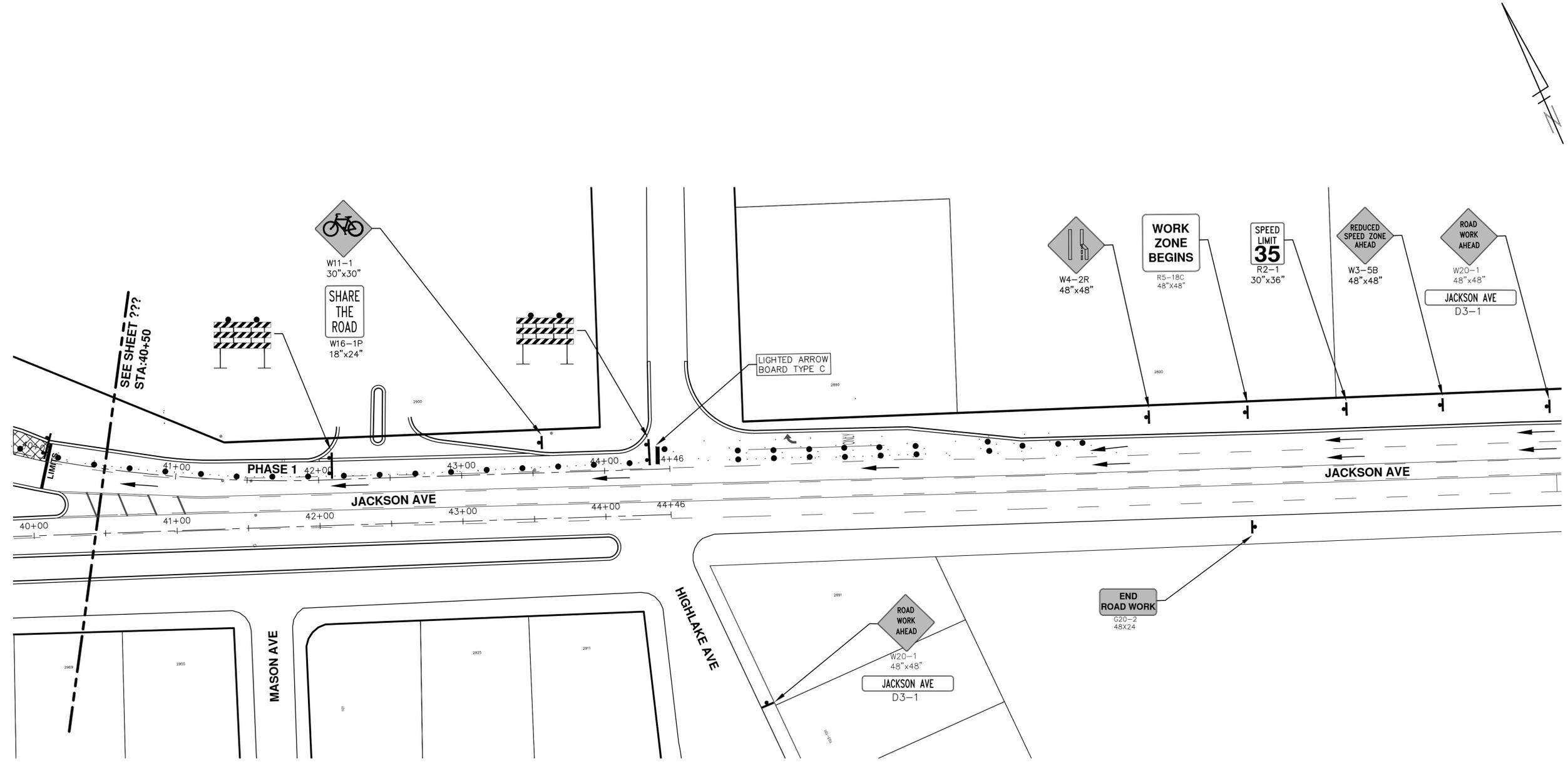
CITY OF ANN ARBOR
PUBLIC SERVICE
301 EAST HURON STREET
ANN ARBOR MI 48106-8647
www.a2gov.org



PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
JACKSON AVENUE
STA. 29+50 - STA. 40+50 TRAFFIC CONTROL PHASE 1

SCALE PLAN: 1"=80'
DRAWING No. 2018004-52

T:\2018004\Plan Production\Major Streets\2018004 - WB Jackson Avenue.dwg Dwg Created: 27-Sep-17 - _a2_standard_bw.stb - Plot Date: 15-Mar-18



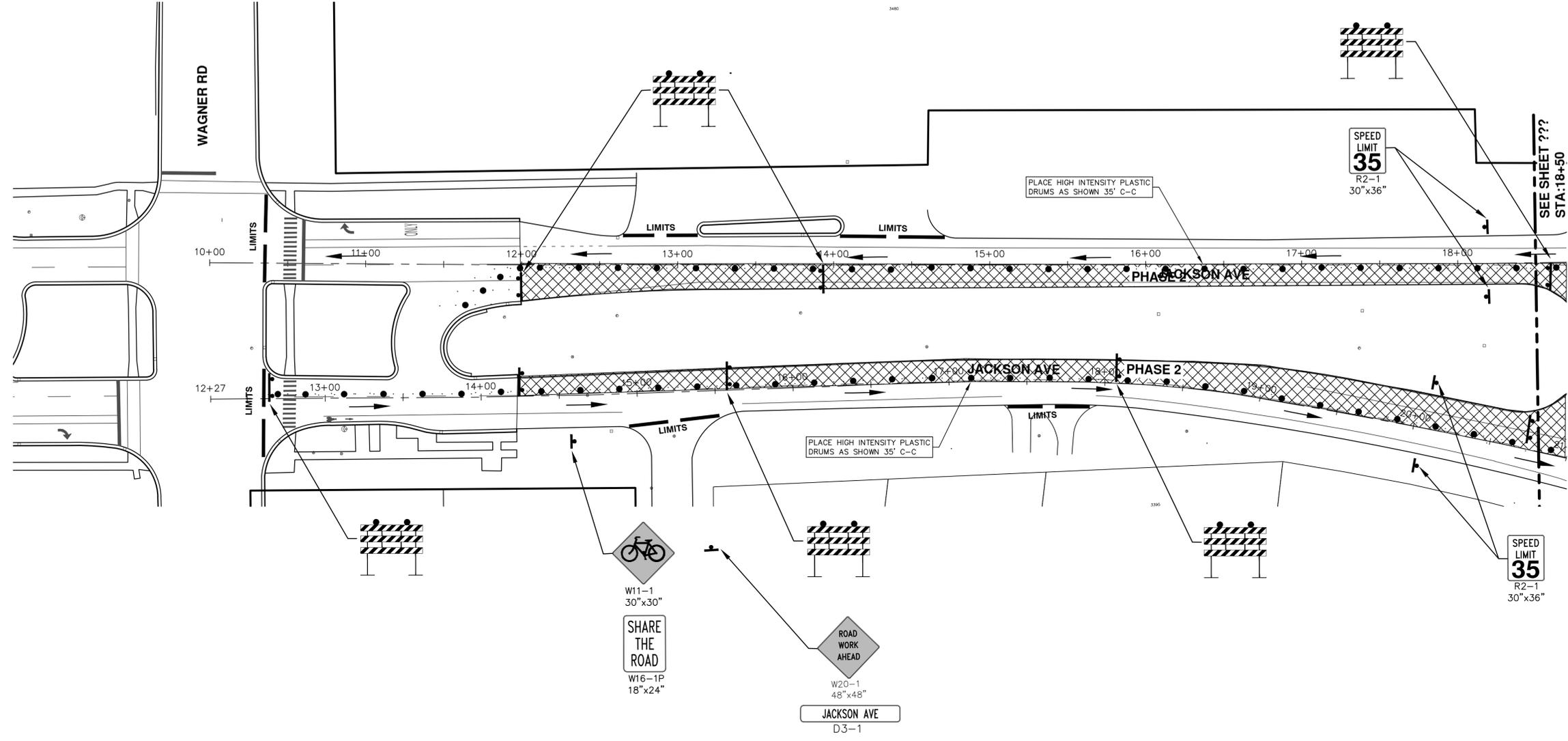
REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	3-15-18	GS/CE	DAD
00	BID SET	2-27-18	GS/CE	DAD

CITY OF ANN ARBOR
 PUBLIC SERVICES
 301 EAST HURON STREET
 ANN ARBOR, MI 48106-8647
 www.a2gov.org



PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
 JACKSON AVENUE
 STA. 40+50 - STA. 44+46 TRAFFIC CONTROL PHASE 1

SCALE PLAN: 1"=80'
 DRAWING No. 2018004-53

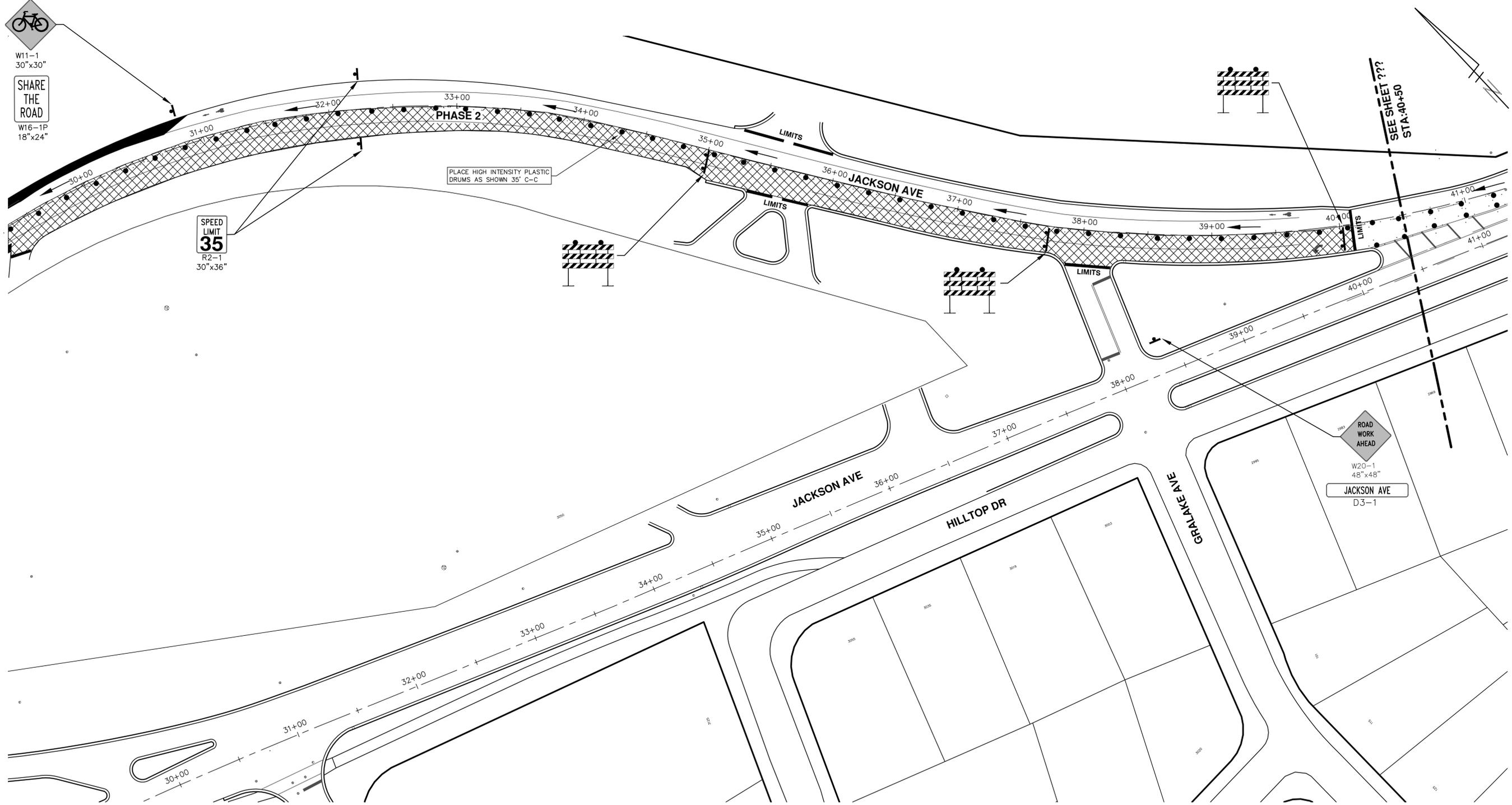


CITY OF ANN ARBOR
 PUBLIC SERVICE
 301 EAST HURON STREET
 ANN ARBOR, MI 48106-8647
 ANN ARBOR, MI 48106-8647
 www.a2gov.org

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	3-15-18	GSCE	DAD
00	BID SET	2-27-18	GSCE	DAD



T:\2018004\Plan Production\Major Streets\2018004 - WB Jackson Avenue.dwg Created: 27-Sep-17 - _a2_standard.bw.stb - Plot Date: 15-Mar-18



811
Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	3-15-18	GSCE	DAD
00	BID SET	2-27-18	GSCE	DAD

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR MI 48106-8647
www.a3gov.org

CITY OF ANN ARBOR MICHIGAN

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
JACKSON AVENUE

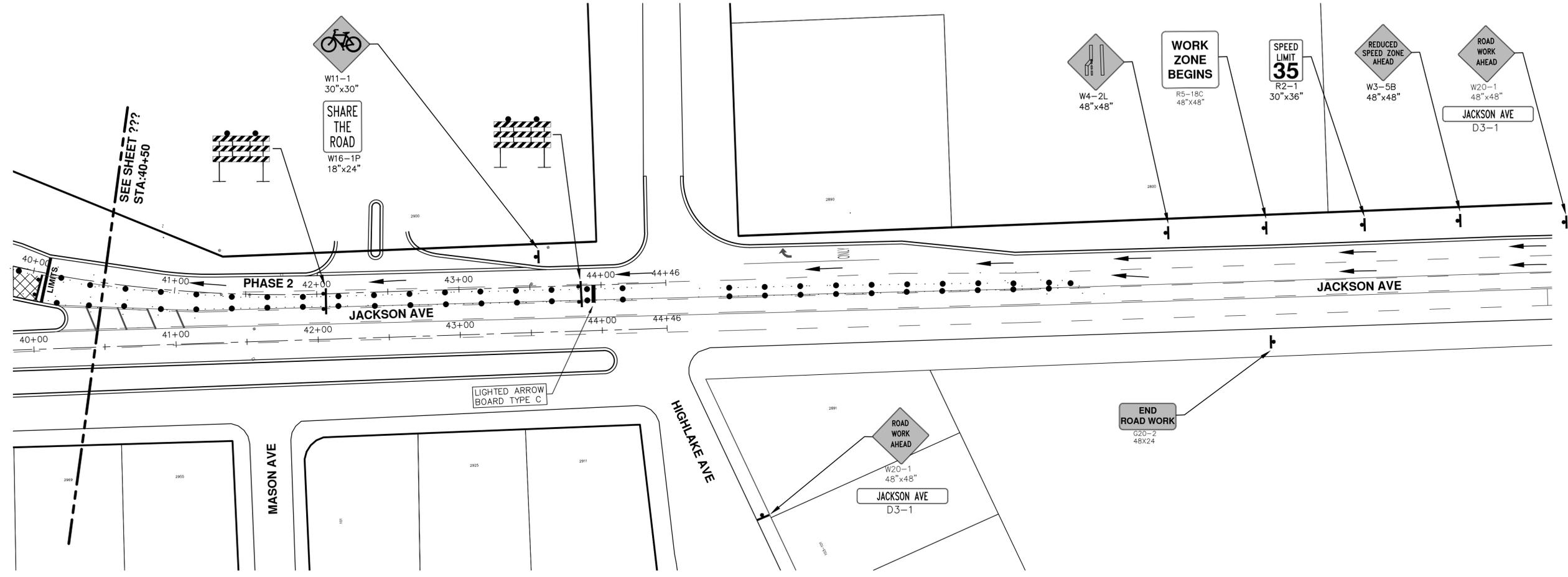
SCALE PLAN: 1"=80'

DRAWING No. 2018004-56

STA. 29+50 - STA. 40+50 TRAFFIC CONTROL PHASE 2

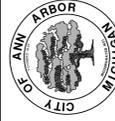
SHEET No. 56 OF 79

T:\2018004\Plan Production\Major Streets\2018004 - WB Jackson Avenue.dwg Dwg Created: 27-Sep-17 - _a2_standard_bw.stb - Plot Date: 15-Mar-18



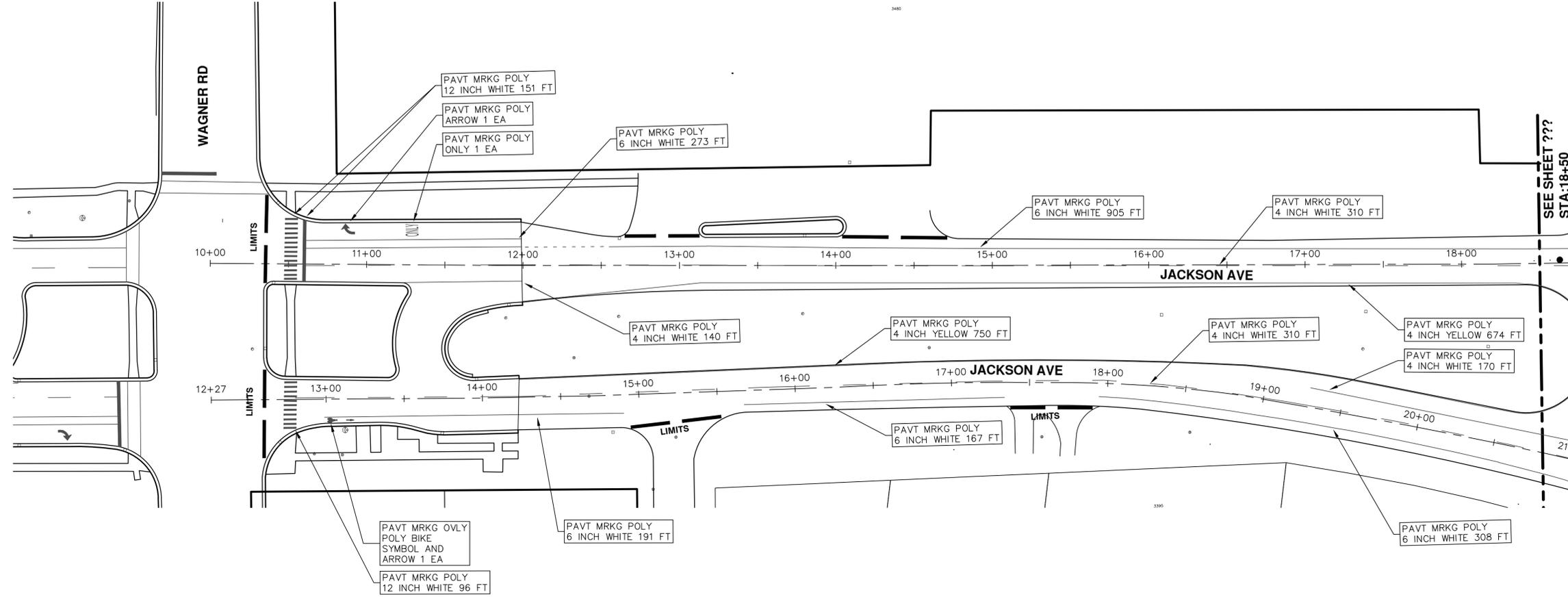
REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	3-15-18	GSCE	DAD
00	BID SET	2-27-18	GSCE	DAD

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR MI 48106-8647
www.a2gov.org



PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
JACKSON AVENUE
STA. 40+50 - STA. 44+46 TRAFFIC CONTROL PHASE 2

SCALE PLAN: 1"=80'
DRAWING No. 2018004-57



REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	3-15-18	GSCE	DAD
00	BID SET	2-27-18	GSCE	DAD

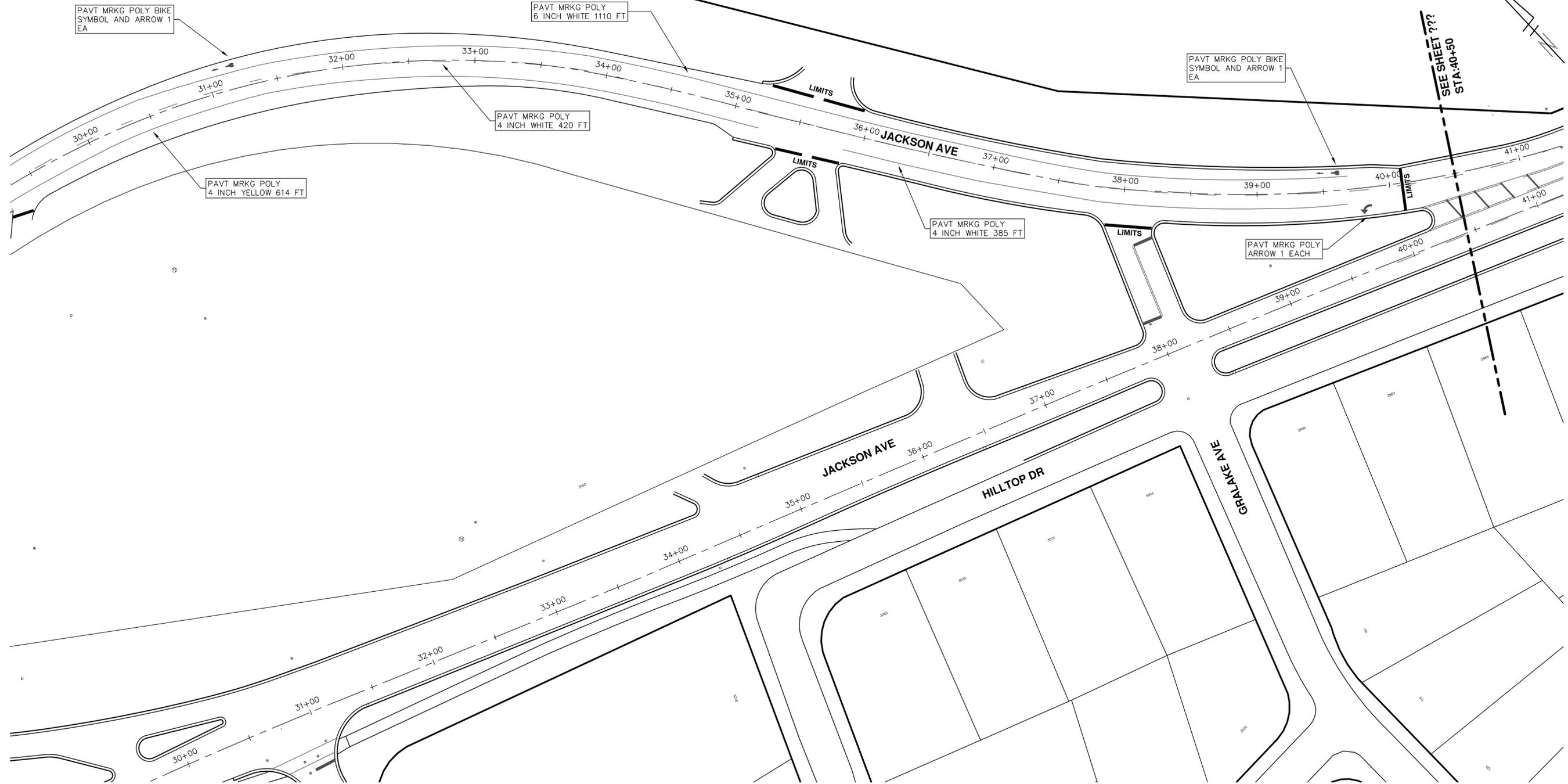
CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR MI 48106-8647
www.a2gov.org



PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
JACKSON AVENUE
STA. 10+00 - STA. 18+50 PAVEMENT MARKINGS

SCALE PLAN: 1"=80'
DRAWING No. 2018004-58

T:\2018004\Plan Production\Major Streets\2018004 - WB Jackson Avenue.dwg Dwg Created: 27-Sep-17 - _a2 standard bw.stb - Plot Date: 15-Mar-18



REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	3-15-18	GSCCE	DAD
00	BID SET	2-27-18	GSCCE	DAD

CITY OF ANN ARBOR
 PUBLIC SERVICE
 301 EAST HURON STREET
 ANN ARBOR, MI 48106-8647
 ANN ARBOR, MI 48106-8647
 www.a2gov.org



PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
 JACKSON AVENUE
 STA. 29+50 - STA. 40+50 PAVEMENT MARKINGS

SCALE PLAN: 1"=80'
 DRAWING No.: 2018004-60



CITY OF ANN ARBOR ENGINEERING

PROJECT LOCATION: STONE SCHOOL ROAD

ITB No. 4529 FILE No. 2018004

CONSTRUCTION METHOD AND SEQUENCING

1. THE WORK TO BE COMPLETED ON THIS STREET SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING ITEMS. THE ORDER OF CONSTRUCTION SHALL BE AS GIVEN UNLESS OTHERWISE AUTHORIZED OR DIRECTED BY THE ENGINEER.
2. IMPLEMENT TRAFFIC MAINTENANCE, AND SOIL EROSION CONTROLS IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
3. INSTALL ANY PROPOSED STORM SEWER, AND UNDERDRAIN AS SHOWN ON THE PLANS, AND AS DIRECTED BY THE ENGINEER.
4. LOWER ALL STRUCTURE COVERS, INCLUDING VALVE AND MONUMENT BOXES.
5. PERFORM ALL CONCRETE WORK, INCLUDING RESTORATION, IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
6. MILL 3 INCHES OF BITUMINOUS MATERIAL FROM EXISTING ROADWAY. THIS MAY INCLUDE GRANULAR ROAD BASE MATERIAL. DEPTH TO BE DETERMINED BY THE ENGINEER. PROOF ROLL WITH FULL TRUCK.
7. PERFORM UNDERCUTS AND/OR BASE REPAIRS AS DIRECTED BY THE ENGINEER.
8. GRADE, SHAPE, AND RE-COMPACT THE EXISTING ROAD BASE AS REQUIRED, AND AS DIRECTED BY THE ENGINEER.
9. PAVE 2 INCHES OF THE BITUMINOUS MIX AS SPECIFIED OR DIRECTED, AS THE LEVELING COURSE, IN ONE LIFT.
10. ADJUST ALL STRUCTURE COVERS, MONUMENT BOXES, AND VALVE BOXES TO THEIR FINISHED ELEVATIONS.
11. PAVE 1 INCH OF THE BITUMINOUS MIX AS SPECIFIED OR DIRECTED, AS THE WEARING COURSE, IN ONE LIFT.
12. COMPLETE ALL PAVEMENT MARKINGS IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
13. COMPLETE ALL MISCELLANEOUS CONSTRUCTION INCLUDING ALL CLEAN-UP AND FINAL RESTORATION.
14. REMOVE ALL TRAFFIC CONTROL DEVICES. REMOVE MISS DIG FLAGS.

NOTES:

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CALL 811 OR 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

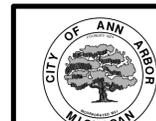
THE UNDERGROUND LOCATIONS SHOWN FOR NATURAL GAS, TELEPHONE, ELECTRICAL POWER, CABLE TV AND FIBER OPTIC LINES ARE APPROXIMATE. THE CITY OF ANN ARBOR ASSUMES NO RESPONSIBILITY FOR THEIR ACCURATE REPRESENTATION IN THIS DRAWING. MISS DIG MUST BE CONTACTED PRIOR TO CONSTRUCTION TO LOCATE THESE UTILITIES.

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE PERFORMED IN ACCORDANCE WITH MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION, INCLUDING REFERENCED MDOT PUBLICATIONS, AND THE PROJECT CONTRACT DOCUMENTS.

QUANTITIES			
Item Code	Item Description	Units	Quantity
2047001	_Curb, Gutter, and Curb and Gutter, Any Type, Rem	Ft	286.000
2047011	_Conc Pavt, Any Thickness, Rem	Syd	250.000
2047011	_Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem	Syd	28.000
2057011	_Grading, Driveway Approach	Syd	14.000
2057011	_Grading, Sidewalk	Syd	7.000
2057011	_Grading, Sidewalk Ramp	Syd	7.000
2057011	_Machine Grading, Special	Syd	250.000
2080020	Erosion Control, Inlet Protection, Fabric Drop	Ea	6.000
3020050	Aggregate Base, Conditioning	Syd	250.000
3027011	_Aggregate Base, 8 inch, 21AA	Syd	250.000
3087011	_Geosynthetic Paving Layer	Syd	1,760.000
4037050	_Dr Structure Cover, Type B, Modified	Ea	2.000
4037050	_Dr Structure Cover, Type K, Modified	Ea	1.000
4037050	_Dr Structure, Adj, Case 1, Modified	Ea	6.000
4037050	_Dr Structure, Temp Lowering, Modified	Ea	7.000
5010003	Cold Milling HMA Surface	Syd	1,760.000
5010005	HMA Surface, Rem	Syd	32.000
5010020	Pvmt Joint and Crack Repr, Detail 7	Ft	125.000
5010021	Pvmt Joint and Crack Repr, Detail 8	Ft	125.000
5010051	HMA, 4E1, High Stress	Ton	195.000
5010057	HMA, 5E1, High Stress	Ton	195.000
5017031	_HMA, Wedging, 36A	Ton	3.000
6027021	_Flowable Fill	Cyd	6.000
8017011	_Driveway, Nonreinf Conc, 6 inch, Modified	Syd	14.000
8027001	_Curb and Gutter, Conc, Barrier	Ft	198.000
8027001	_Driveway Opening, Conc, Det M, Modified	Ft	88.000
8037001	_Detectable Warning Surface, Modified	Ft	10.000
8037010	_Sidewalk Ramp, Conc, 8 inch, Modified	Sr	60.000
8037010	_Sidewalk, Conc, 4 inch, Modified	Sr	60.000
8110049	Pav Mrkg, Oly Cold Plastic, Direction Arrow Sym, Bike	Ea	2.000
8110058	Pav Mrkg, Oly Cold Plastic, Bike, Small Sym	Ea	2.000
8110195	Pav Mrkg, Thermopl, 4 inch, White	Ft	100.000
8110198	Pav Mrkg, Thermopl, 6 inch, White	Ft	658.000
8110196	Pav Mrkg, Thermopl, 4 inch, Yellow	Ft	630.000
8110214	Pav Mrkg, Thermopl, 12 inch, Crosswalk	Ft	152.000
8110218	Pav Mrkg, Thermopl, 24 inch, Stop Bar	Ft	55.000
8117050	_Pav Mrkg, Thermopl, Lt Turn Arrow Sym	Ea	2.000
8117050	_Pav Mrkg, Thermopl, Only	Ea	1.000
8120012	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	Ea	5.000
8120013	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	Ea	5.000
8120140	Lighted Arrow, Type C, Furn	Ea	1.000
8120141	Lighted Arrow, Type C, Oper	Ea	1.000
8120235	Pav Mrkg, Wet Retrefec, Type R, Tape, 4 inch, Yellow, Temp	Ft	128.000
8120260	Plastic Drum, High Intensity, Furn	Ea	20.000
8120261	Plastic Drum, High Intensity, Oper	Ea	20.000
8120265	Pav Mrkg, Wet Retrefec, Type R, Tape, 24 inch, Stop Bar	Ea	12.000
8120310	Sign Cover	Ea	10.000
8120350	Sign, Type B, Temp, Prismatic, Furn	Sr	384.000
8120351	Sign, Type B, Temp, Prismatic, Oper	Sr	384.000
8127050	No Parking Sign	Ea	12.000
8167011	_Slope Restoration	Syd	15.000

CONSTRUCTION KEY	
KEY	ASSOCIATED PAY ITEM(S)
AA	• _Dr Structure, Adj, Case 1, Modified • _Dr Structure, Adj, Case 2, Modified • _Dr Structure, Temp Lowering, Modified
AB	• _Dr Structure, Temp Lowering, Modified • _Gate Box, Adj, Case 1 • _Gate Box, Adj, Case 2 • Monument Box Adjust
ADST	• _Dr Structure, Adj, Add Depth, Modified
AK	• _Dr Structure, Adj, Case 1, Modified
C4	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • _Sidewalk, Conc, 4 inch, Modified
C4HE	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • Cement • _Sidewalk, Conc, 4 inch, Modified
C6	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Sidewalk • _Grading, Sidewalk Ramp • _Detectable Warning Surface, Modified • _Sidewalk Ramp, Conc, 6 inch, Modified • _Sidewalk, Conc, 6 inch, Modified
C8	• _Grading, Driveway Approach • _Driveway, Nonreinf Conc, 8 inch, Modified
C HE	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem • _Grading, Driveway Approach • _Grading, Sidewalk • _Grading, Sidewalk Ramp • Cement • _Driveway, Nonreinf Conc, 6 inch, Modified • _Driveway, Nonreinf Conc, 8 inch, Modified • _Detectable Warning Surface, Modified • _Sidewalk Ramp, Conc, 6 inch, Modified • _Sidewalk, Conc, 6 inch, Modified
C/G	• _Curb, Gutter, and Curb and Gutter, Any Type, Rem • _Curb and Gutter, Conc
C/GHE	• _Curb, Gutter, and Curb and Gutter, Any Type, Rem • Cement • _Driveway Opening, Conc, Det M, Modified
CP	• _Grading, Sidewalk • _Sidewalk, Conc, 4 inch, Modified
CR	• _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem
DS	• _Dr Structure, Rem • _Sewer, Rem, Less than 24 inch • _Dr Structure, 24 inch dia
DSDI	• _Dr Structure, Rem • _Sewer, Rem, Less than 24 inch • _Dr Structure, Double Inlet
PT	• _Dr Structure, Point
RRA	• _Dr Structure Cover, Type B • _Dr Structure Cover, Type B, Special • _Dr Structure, Adj, Case 1, Modified • _Dr Structure, Temp Lowering, Modified
RRK	• _Dr Structure Cover, Type K • _Dr Structure, Adj, Case 1, Modified
RS	• _Dr Structure, Reconstruct
TYPE II	• Plastic Drum, High Intensity, Lighted, Furn • Plastic Drum, High Intensity, Lighted, Oper
TYPE III	• Barricade, Type III, High Intensity, Double Sided, Lighted, Furn • Barricade, Type III, High Intensity, Double Sided, Lighted, Oper

QUANTITIES				
Sign, Type B, Temp, Prismatic				
Quantity	Sign Code	Description	Area (sft)	Total Area
24.0	D3-1	Street Name Sign	4.000	96.000
1.0	M4-10R	Detour Arrow (Right) Sign	6.000	6.000
1.0	M4-8a	End Detour Sign	3.000	3.000
3.0	M4-9L	Detour Sign (w/Left Arrow)	5.000	15.000
4.0	M4-9R	Detour Sign (w/Right Arrow)	5.000	20.000
6.0	M4-9S	Detour Sign (w/Thru Arrow)	5.000	30.000
1.0	R11-2	Road Closed Sign ("Road Closed")	12.500	13.000
1.0	R3-1	Movement Prohibition Sign ("No Right Turn")	4.000	4.000
1.0	R3-7R	Right Lane Must Turn Right	6.250	7.000
2.0	R10-6L	Stop Here on Red	6.000	12.000
1.0	W1-6	Shift Left Arrow	8.000	8.000
4.0	SP-1	Special Sign	20.000	80.000
5.0	W20-1	Road Work Ahead Sign	9.000	45.000
3.0	W20-2	Detour Ahead	9.000	27.000
2.0	W20-3	Road Closed Ahead	9.000	18.000
TOTAL				384.000



ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org



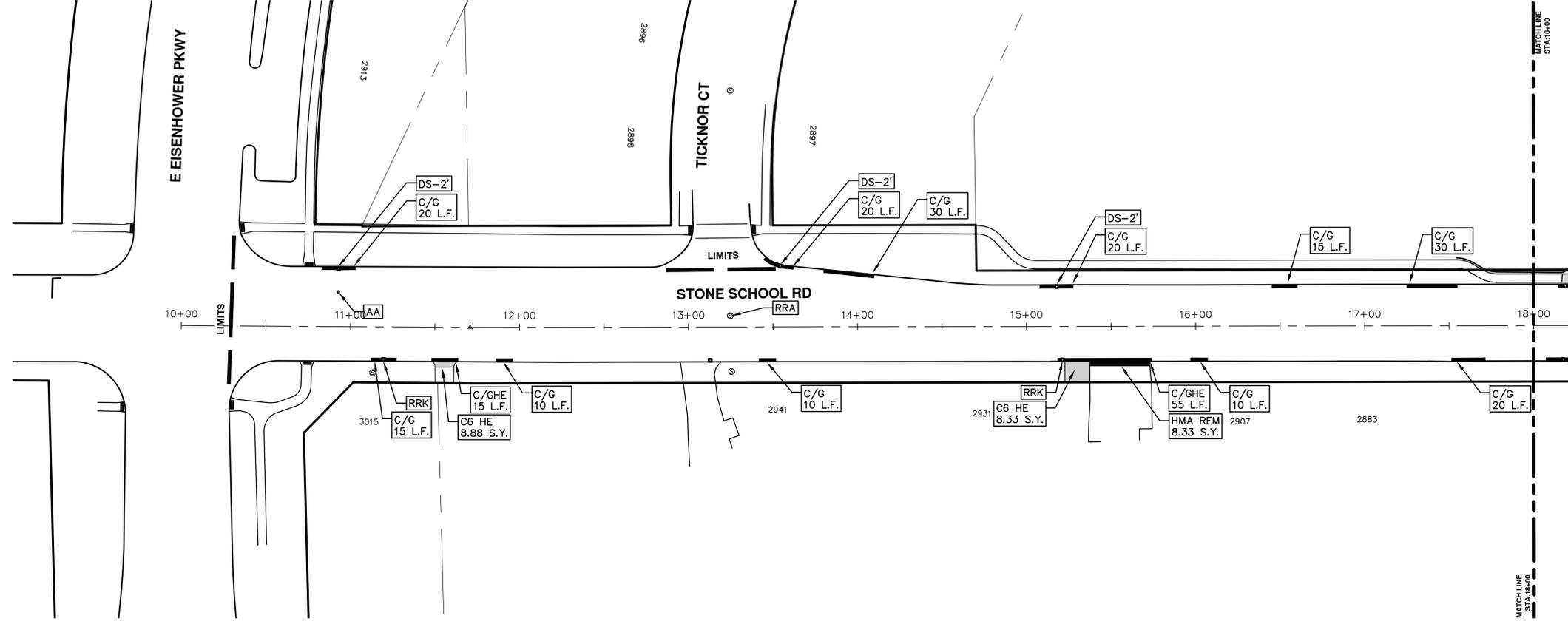
REV.	DATE	DESCRIPTION
01	3-15-18	GS CE
00	2-27-18	GS CE
		DAD
		DAD
		CHECKED

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
www.a2gov.org



ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
SCALE
DRAWING No. 2018004-61
SHEET No. 61 OF 79

T:\2018004\Plan Production\State s1\2018004-61-Ann Arbor-18 - _c02 standard bw.stb - Plot Date: 15-Mar-18

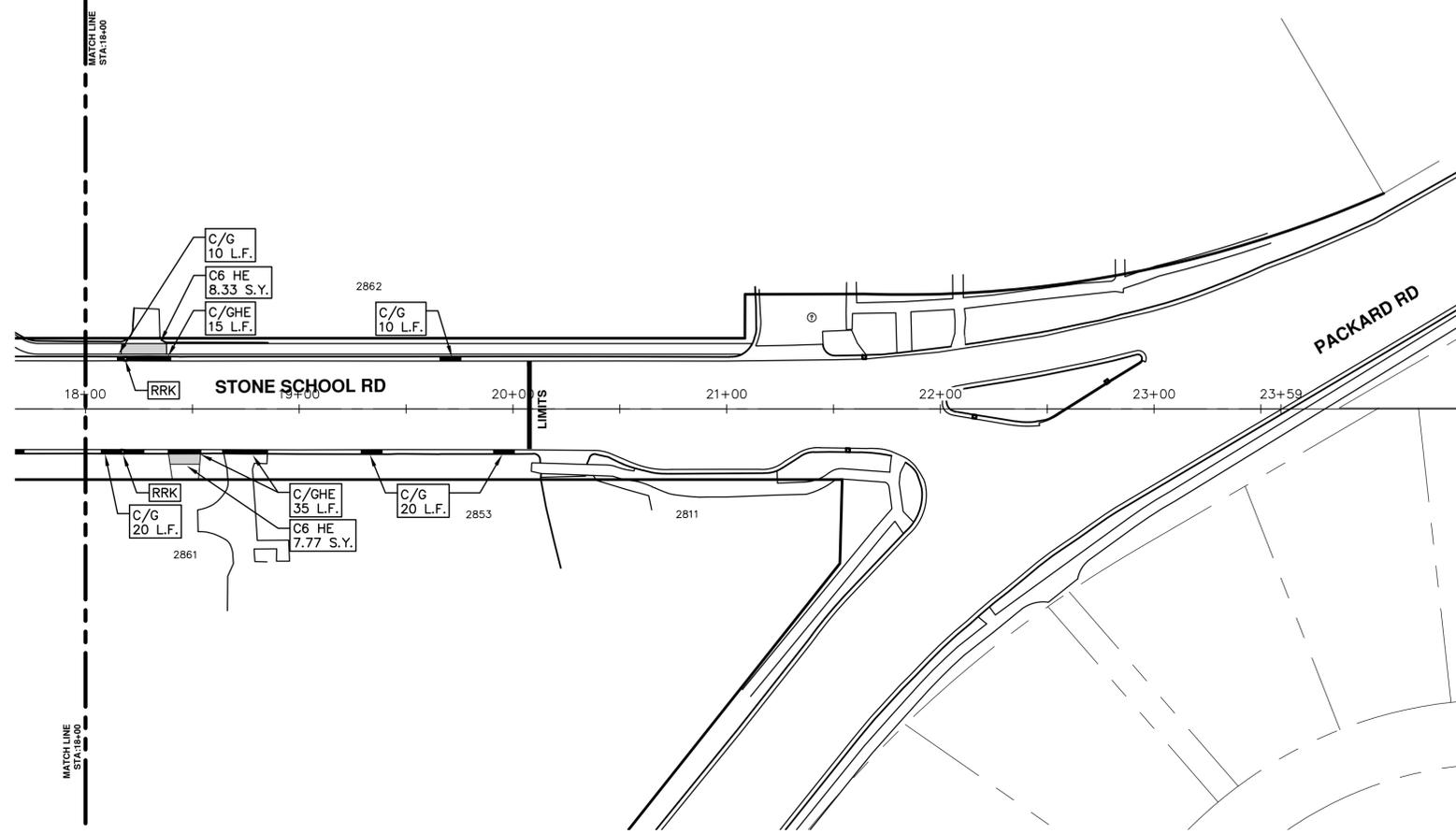


CITY OF ANN ARBOR
 PUBLIC SERVICES
 301 EAST HURON STREET
 ANN ARBOR, MI 48106-8647
 www.a2gov.org

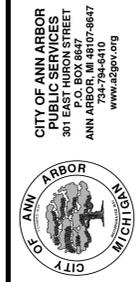
REV.	DESCRIPTION
01	ADDENDUM #1
00	BID SET

DATE	DRAWN	CHECKED
3-15-18	GSCE	DAD
2-27-18	GSCE	DAD





ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
 SCALE PLAN: 1"=40'
STREET RESURFACING PROJECT - 2018
 STONE SCHOOL RD
 STA. 18+00 - STA. 23+59
 DRAWING No. 2018004-63



REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	3-15-18	GSCE	DAD
00	BID SET	2-27-18	GSCE	DAD



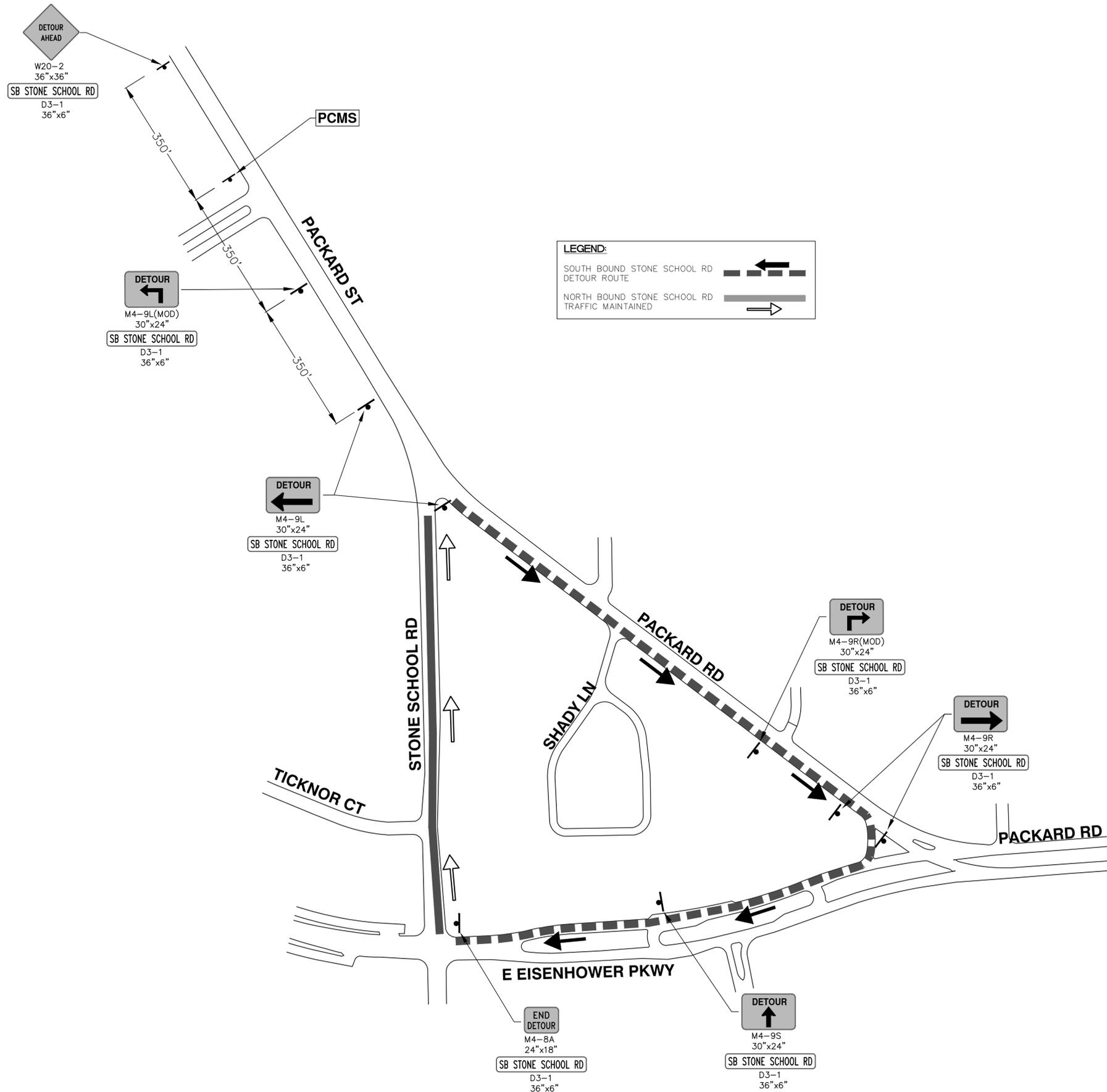
DETOUR CONSTRUCTION NOTES:

1. DEPENDING ON THE DETOUR ROUTE THAT IS PUT IN PLACE, CONFLICTING SIGNS MAY BE PRESENT. PRIOR TO THE ORDERING OR PLACEMENT OF ANY SIGNS, MEET WITH THE ENGINEER TO VERIFY THE EXACT NUMBER AND LOCATION OF THE SIGNS TO BE PLACED. THE ENGINEER AND THE CONTRACTOR SHALL WORK TOGETHER TO ELIMINATE ALL CONFLICTS.
2. THE CITY RESERVES THE RIGHT TO ORDER ADDITIONAL SIGNS AND PLACE THEM INTO SERVICE IN ORDER TO SAFELY MAINTAIN TRAFFIC. ADJUSTMENTS IN THE UNIT PRICE FOR THESE ITEMS OF WORK SHALL NOT BE ALLOWED FOR THESE OCCURRENCES.
3. THE CONTRACTOR SHALL COORDINATE HIS OPERATIONS WITH THOSE OF THE CITY OF ANN ARBOR'S SIGNS AND SIGNALS UNIT DURING THE COURSE OF THE DETOUR ROUTE ESTABLISHMENT TO EFFECTIVELY AND SAFELY MAINTAIN TRAFFIC. DO NOT ERECT ANY SIGNS UNTIL ITS LOCATION AND PROPOSED DATE OF INSTALLATION IS APPROVED BY THE ENGINEER.
4. THE DETOUR IS TO BE IN PLACE DURING STONE SCHOOL ROAD SANITARY PROJECT. AS DIRECTED BY THE ENGINEER, THE CONTRACTOR WILL CLOSE AND DETOUR SOUTH BOUND STONE SCHOOL ROAD TRAFFIC. SEE "SPECIAL PROVISION FOR MAINTAINING TRAFFIC AND CONSTRUCTION SEQUENCING" FOR DETAILS ON CONSTRUCTION STAGING, SEQUENCING, CLOSURE AND DETOUR LIMITATIONS, AND OTHER DETAILS.
5. REFERENCE THE "SPECIAL PROVISION FOR MAINTAINING TRAFFIC AND CONSTRUCTION SEQUENCING" FOR ADDITIONAL PROJECT REQUIREMENTS. THE CONTRACTOR'S ATTENTION IS SPECIFICALLY DIRECTED TO THE SECTION OF SAME SPECIAL PROVISION REGARDING COORDINATION WITH THE CITY SIGNS AND SIGNALS UNIT FOR MODIFICATIONS TO TRAFFIC SIGNALS FOR THE DETOUR.
6. THE CONTRACTOR SHALL FURNISH, ERECT, AND MAINTAIN SIGNS AS SHOWN ON THE PLANS OR OTHERWISE DIRECTED BY THE ENGINEER.
7. CONSTRUCTION WARNING SIGNS SHALL HAVE AN ORANGE, HIGH-INTENSITY, REFLECTORIZED BACKGROUND.
8. SIGNS SHALL CONFORM TO THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
9. THE CONTRACTOR SHALL DRIVE ALL SIGNS INTO EXPOSED GROUND OR INSERT INTO A BORED HOLE IN PAVEMENT AS NECESSARY TO PERMANENTLY SECURE. ALL HOLES IN PAVEMENT SHALL BE FILLED WITH ENGINEER-APPROVED MORTAR WHEN THE SIGN IS REMOVED AND NO LONGER NEEDED. COSTS FOR THIS WORK SHALL BE INCLUDED IN THE PAY ITEM "SIGN, TYPE B, TEMP, PRISMATIC, FURN" OR "SIGN, TYPE B, TEMP, PRISMATIC, FURN, SPECIAL".
10. ADVANCE WARNING SIGNS SHALL BE PROVIDED WITH TWO (2) TYPE A FLASHING LIGHTS AND ONE (1) DAY-GLOW ORANGE FLAG.
11. CITY TO BE NOTIFIED A MINIMUM OF 7 DAYS PRIOR TO IMPLEMENTING SB STONE SCHOOL ROAD DETOUR.

PCMS MESSAGE PHASING	
PRIOR TO CONSTRUCTION	DURING CONSTRUCTION
STONE SCHOOL ROAD CONSTRUCTION	SB STONE SCHOOL CLSD AT PACKARD
MONTH DATE *	FOLLOW POSTED DETOUR

NOTE: PCMS LOCATIONS AND MESSAGES WILL BE AS DIRECTED BY THE ENGINEER. TO BE PLACED ONE WEEK PRIOR TO CONSTRUCTION.

*THE CONTRACTOR SHALL PLACE THE APPROPRIATE DATE AS APPROVED BY THE ENGINEER.



T:\2018004\2017033Mtrf.dwg Dwg Created: 14-Feb-18 - a2 standard bw.stb - Plot Date: 15-Mar-18

811
Know what's below.
Call Before you dig.

REV.	DATE	DESCRIPTION
01	3-15-18	GS/CE
00	2-27-18	GS/CE

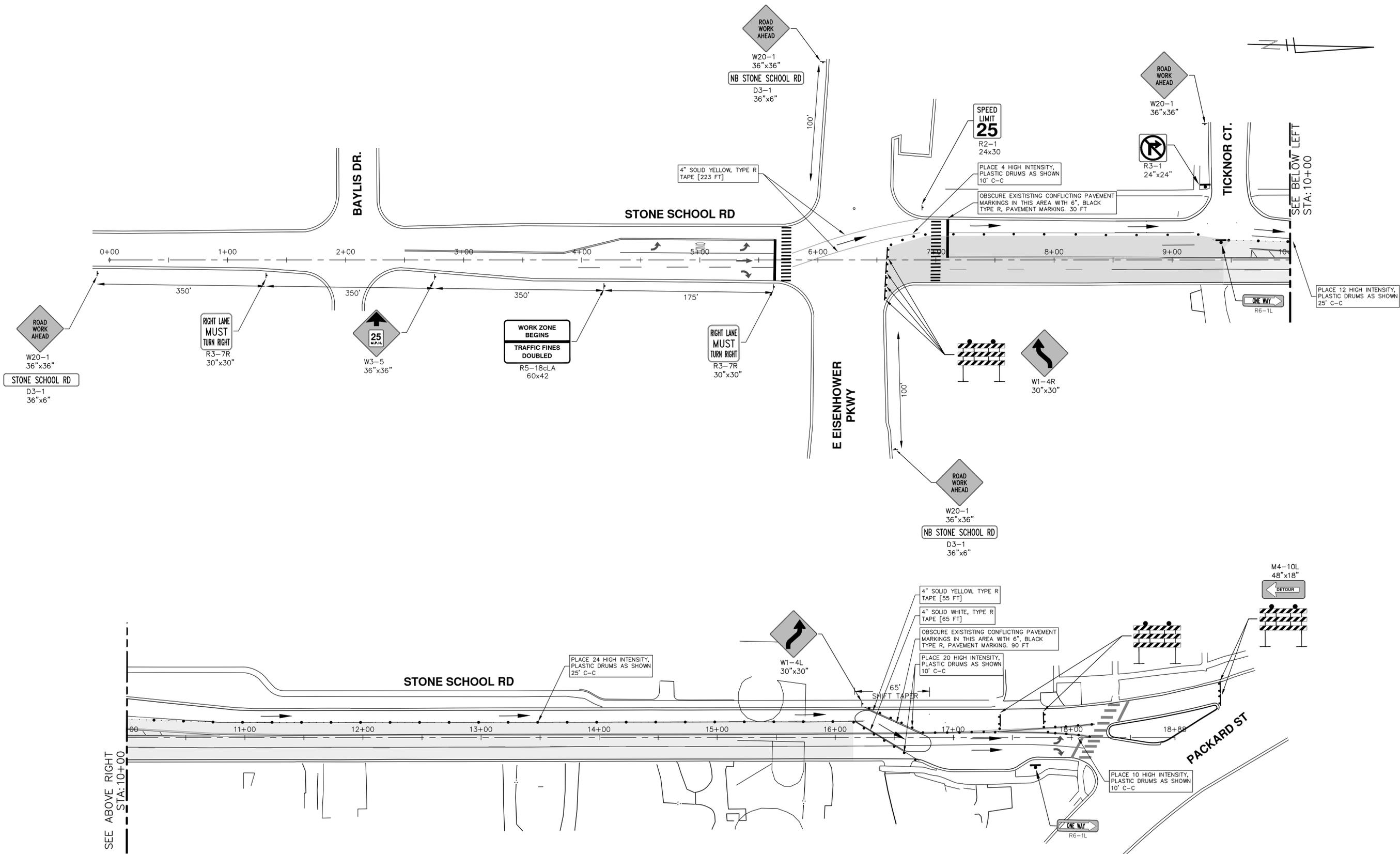
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
STREET RESURFACING PROJECT - 2018
 STONE SCHOOL RD
 DETOUR PLAN

SHEET No. **64 OF 79**

SCALE: 1" = 150'

DRAWING No. **2018004-64**

T:\2018004\Plan Production\Stone School Rd_2017033Mtrfr1.dwg Dwg Created: 14-Feb-18 - a2_standard_bw.stb - Plot Date: 15-Mar-18



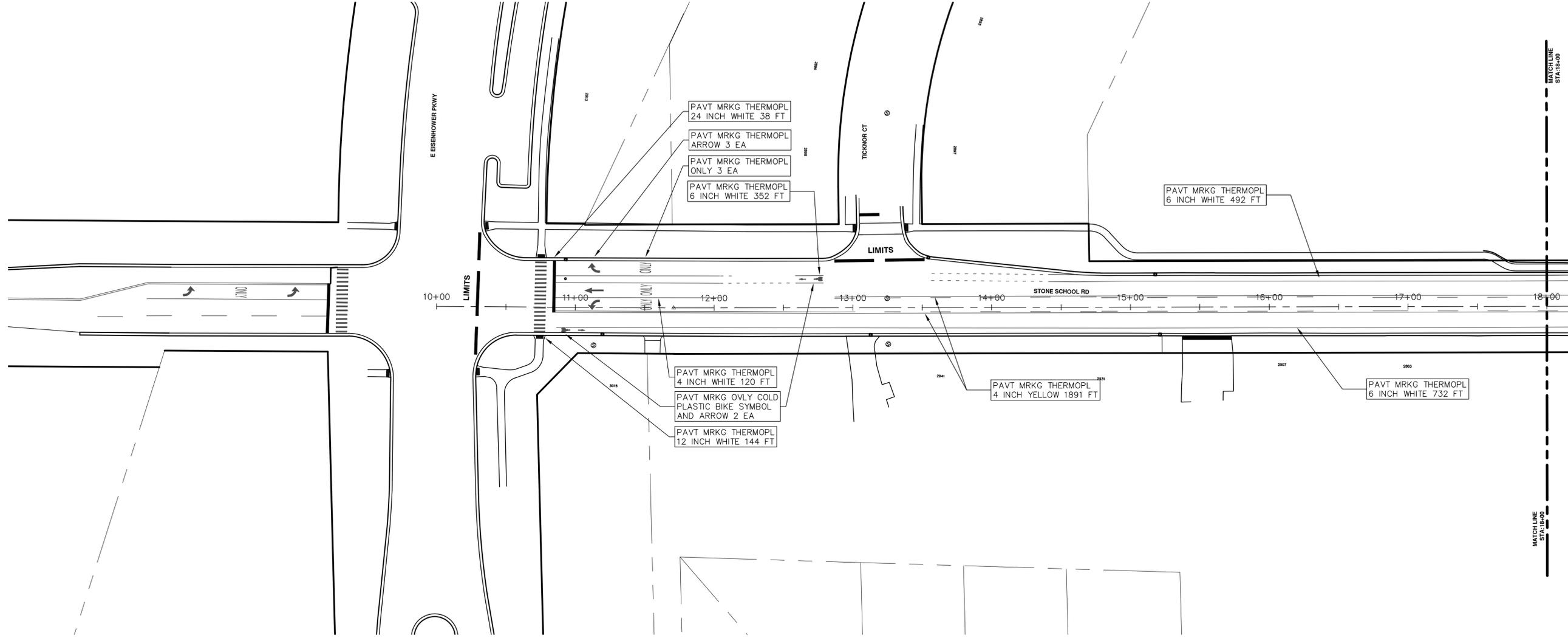
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
STREET RESURFACING PROJECT - 2018
 SCALE PLAN: 1" = 40'
 DRAWING No. 2018004-65

TRAFFIC CONTROL

REV.	DATE	DESCRIPTION
00	2-27-18	DRAWN
01	3-15-18	CHECKED

CITY OF ANN ARBOR
 PUBLIC SERVICES
 301 EAST HURON STREET
 ANN ARBOR, MI 48106-8647
 ANN ARBOR: 734-794-4410
 www.a2gov.org

811
 Know what's below.
 Call Before you dig.



ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
 SCALE PLAN: 1"=80'
 DRAWING No. 2018004-66

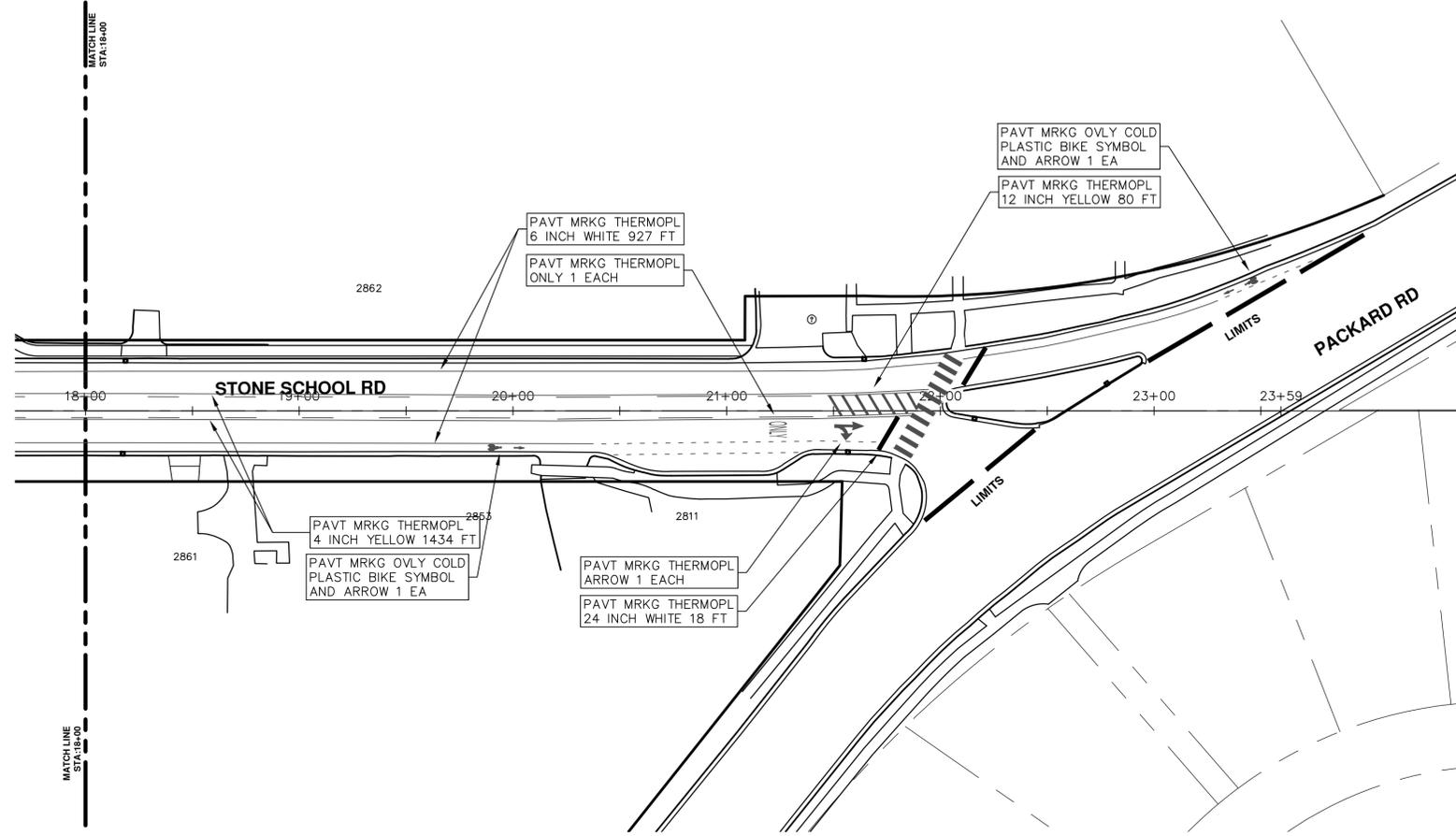
STREET RESURFACING PROJECT - 2018
 STONE SCHOOL ROAD
 STA. 10+00 - STA. 18+00 PAVEMENT MARKINGS



CITY OF ANN ARBOR
 PUBLIC SERVICES
 301 EAST HURON STREET
 ANN ARBOR, MI 48106-0667
 www.a2gov.org

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	3-15-18	GSCE	DAD
00	BID SET	2-27-18	GSCE	DAD

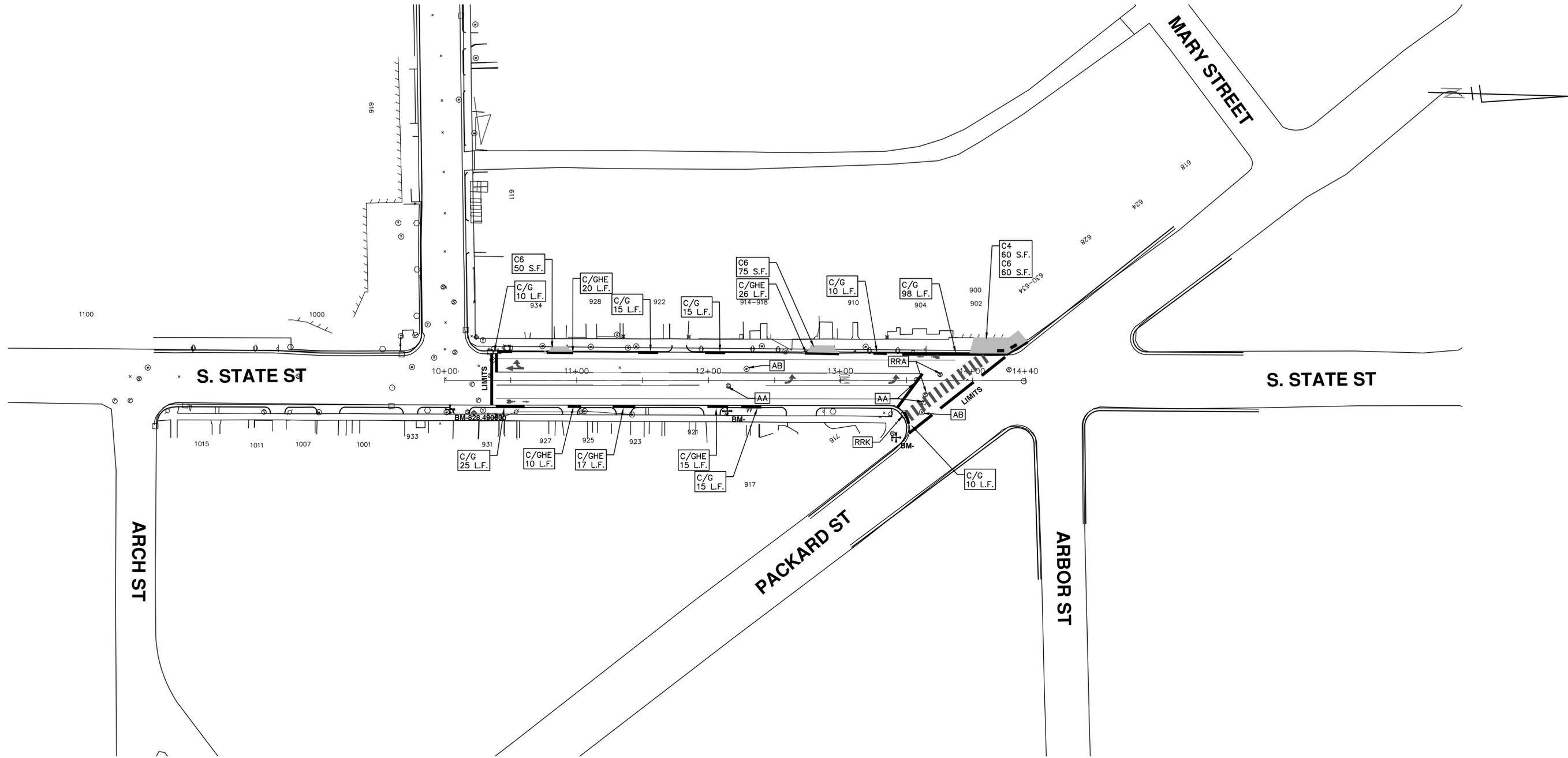




REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	3-15-18	GSCE	DAD
00	BID SET	2-27-18	GSCE	DAD



T:\2018004\Plan Production\State St\2018004-State St.dwg Dwg Created: 4-Jan-18 - _a2 standard bw.stb - Plot Date: 15-Mar-18



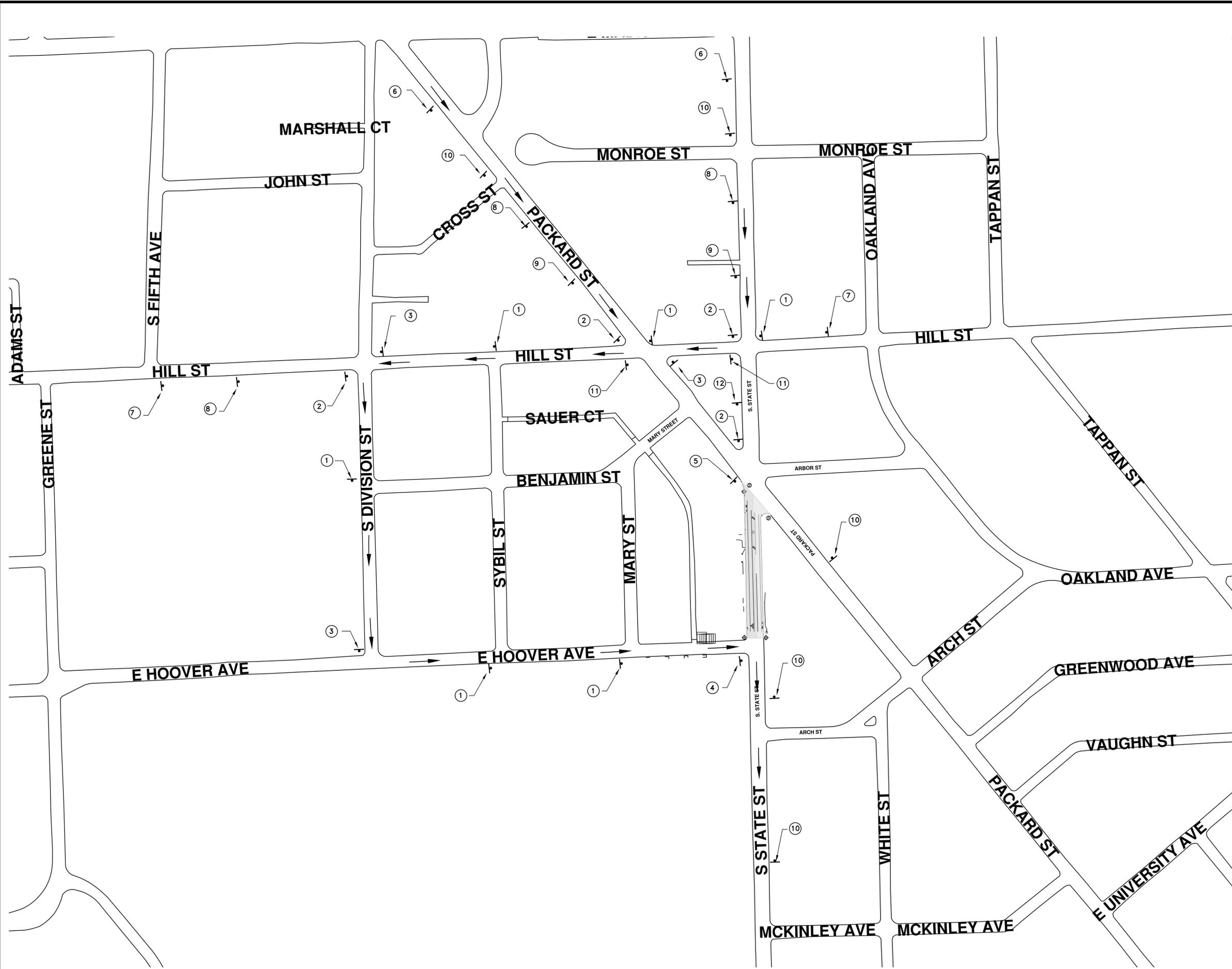
REV.	DESCRIPTION
01	ADDENDUM #1
00	BID SET
DATE	DRAWN
3-15-18	GS/CE
2-27-18	GS/CE
	CHECKED
	DAD
	DAD

CITY OF ANN ARBOR PUBLIC SERVICES
 301 EAST HURON STREET
 ANN ARBOR, MI 48106-8647
 ANN ARBOR 734-794-4410
 www.a2gov.org

ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
 STATE ST
 STA. 10+00 - STA. 14+40

SCALE PLAN: 1"=40'
 DRAWING No. 2018004-69

SHEET No. 69 OF 79



TRAFFIC CONTROL SIGN		
TAG	SIGN	NUM.
1		D3-1 48"x12" M4-9S 30x24
2		D3-1 48"x12" M4-9R 30x24
3		D3-1 48"x12" M4-9L 30x24
4		D3-1 48"x12" M4-8a 24x18
5		R3-1 24"x24"
6		SPECIAL 48x60
7		SPECIAL 48x60
8		W20-2 36"x36"
9		D3-1 48"x12"
		W20-3 36"x36"
10		D3-1 48"x12"
		W20-1 36"x36"
11		R10-6L 24"x36"
12		R3-7R 30"x30"



ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR

STREET RESURFACING PROJECT - 2018

SCALE: STATE ST

DRAWING No. 2018004-70

SHEET No. 70 OF 79



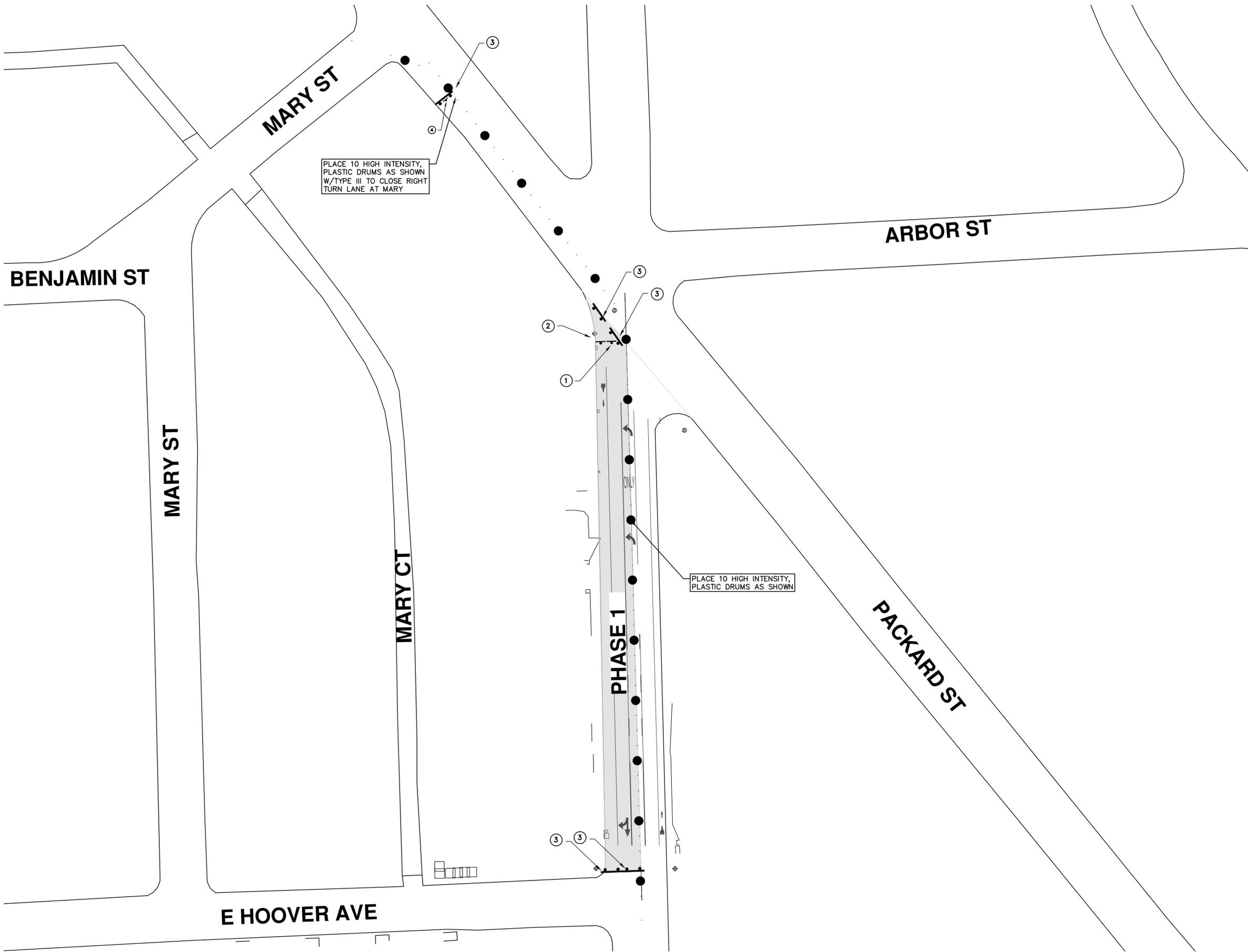
CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR, MI 48106-8647
ANN ARBOR 734-794-4410
www.a2gov.org

REV.	DATE	DRAWN	CHECKED	DESCRIPTION
01	3-15-18	GS/CE	DAD	
00	2-27-18	GS/CE	DAD	



Know what's below.
Call Before you dig.

T:\2018004\Plan Production\State St\2018004-State St.dwg Dwg Created: 4-Jan-18 - _a2 standard bw.stb - Plot Date: 15-Mar-18



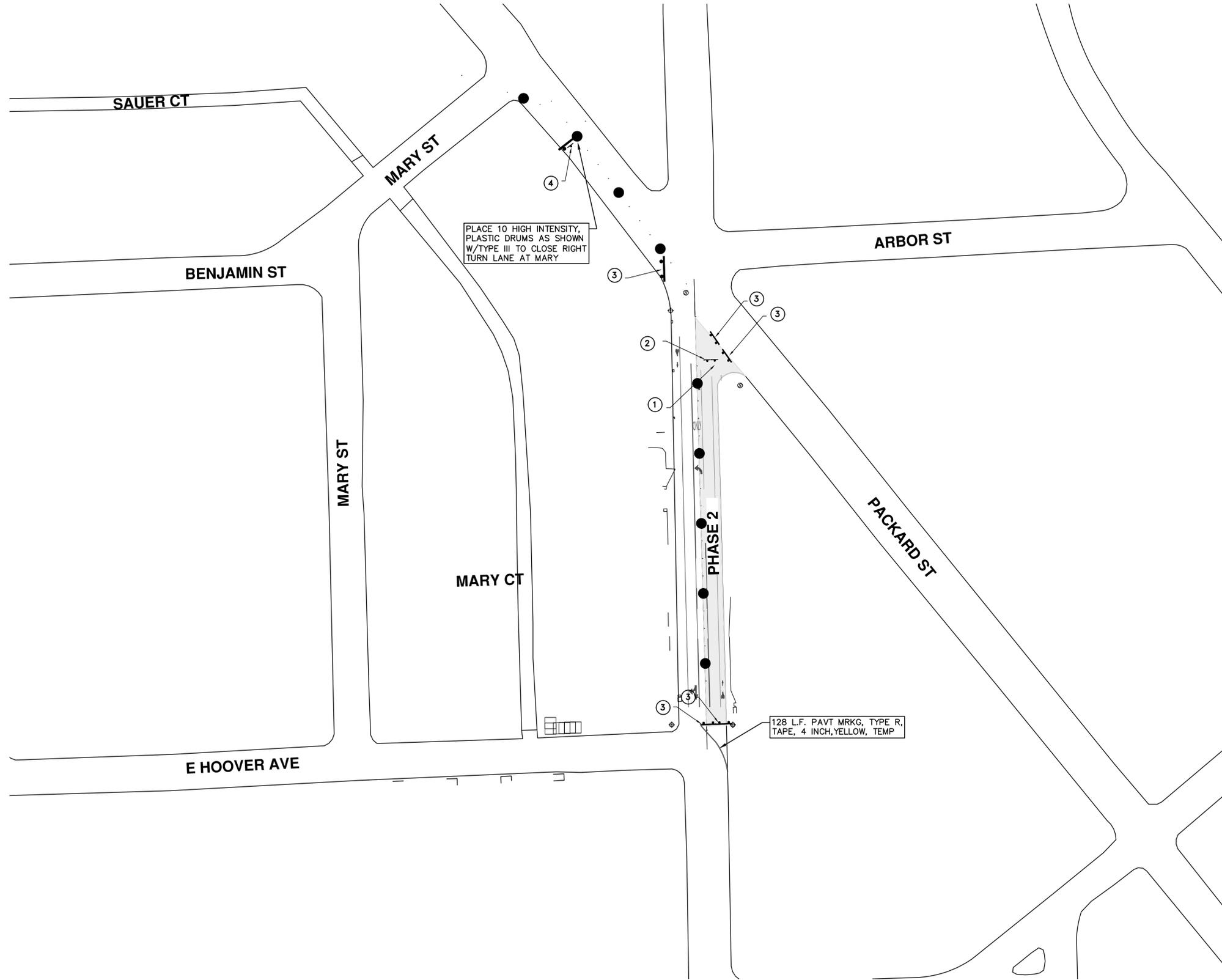
TRAFFIC CONTROL SIGN		
	SIGN	NUMBER
①		R11-2 60x30
②		M4-10R 48"x18"
③		TYPE-III BARRICADE
④		W1-6 48"x24"



CITY OF ANN ARBOR
 PUBLIC SERVICES
 301 EAST HURON STREET
 ANN ARBOR, MI 48106-8647
 ANN ARBOR, MI 48106-8647
 www.a2gov.org

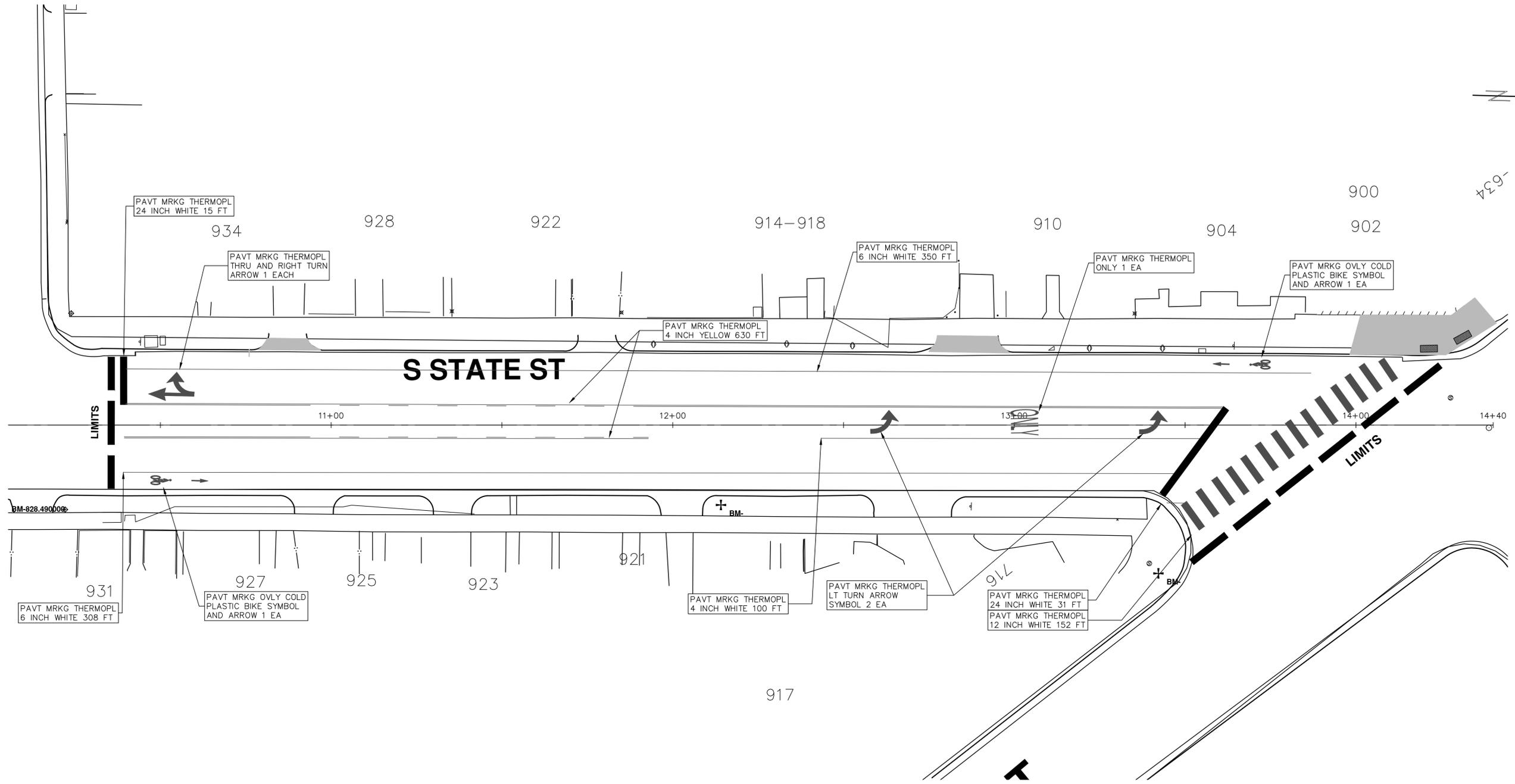
REV.	DATE	DESCRIPTION
01	3-15-18	ADDENDUM #1
00	2-27-18	BID SET
		DRAWN
		CHECKED





TRAFFIC CONTROL SIGN		
	SIGN	NUMBER
①		R11-2 60x30
②		M4-10R 48"x18"
③		TYPE-III BARRICADE
④		W1-6 48"x24"

T:\2018004\Plan Production\State St\2018004-State St.dwg Dwg Created: 4-Jan-18 - _a2 standard bw.stb - Plot Date: 15-Mar-18



REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	3-15-18	GSCE	DAD
00	BID SET	2-27-18	GSCE	DAD

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR MI 48106-1667
www.a2gov.org



ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
STATE ST
STA. 10+00 - STA. 14+40 PAVT MARKG

SCALE PLAN: Custom
DRAWING No. 2018004-73



CITY OF ANN ARBOR ENGINEERING

PROJECT LOCATION: ANN ARBOR - SALINE ROAD SHARED USE PATH

ITB No. 4529 FILE No. 2018004

CONSTRUCTION METHOD AND SEQUENCING

WORK ON THIS HMA PATH INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING ITEMS. COMPLETE THE WORK IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS, AS DIRECTED BY THE ENGINEER, AND UTILIZING A TWO (2) PHASE APPROACH TO CONSTRUCT THE PATH ON ONE SIDE OF THE ROADWAY AND THEN SUBSEQUENTLY ON THE OTHER SIDE. PERFORM THE WORK IN THE ORDER INDICATED BELOW UNLESS OTHERWISE AUTHORIZED OR DIRECTED BY THE ENGINEER. COMPLETE ITEMS 7 THRU 9 UTILIZING THE M.O.T. PLAN CURRENTLY IN PLACE, LANE CLOSURES, AND FLAG CONTROL OPERATIONS AS DIRECTED BY THE ENGINEER. TEMPORARY TRAFFIC CONTROL DEVICES TO BE REMOVED AT THE END OF THE DAY. WORK HOURS ARE 9:00 A.M. TO 3:30 P.M.

PHASE I

- INSTALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES.
- CONDUCT PAVEMENT REMOVAL WORK.
- PLACE, GRADE, SHAPE AND COMPACT BASE MATERIAL AS REQUIRED.
- PERFORM ALL JOINT AND CRACK CLEANOUT. HMA/HAND PATCHING, UNDERCUTS AND/OR BASE REPAIRS AS DIRECTED.
- CLEAN PAVEMENT AND PLACE 2.25 INCH TOP COURSE HMA MIX (LVSP).

PHASE II

- REPEAT ITEMS 1 THRU 5 IN THE ORDER SHOWN SHOWN ABOVE.
- PLACE, GRADE, SHAPE, AND COMPACT ANY EMBANKMENT MATERIAL AS REQUIRED
- COMPLETE ALL SLOPE RESTORATION.
- COMPLETE ANY MISCELLANEOUS WORK AND ALL CLEAN UP.
- REMOVE ALL TRAFFIC CONTROL DEVICES, AND MISS DIG FLAGS.

NOTES

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CALL 811 OR 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

THE UNDERGROUND LOCATIONS SHOWN FOR NATURAL GAS, TELEPHONE, ELECTRICAL POWER, CABLE TV AND FIBER OPTIC LINES ARE APPROXIMATE. THE CITY OF ANN ARBOR ASSUMES NO RESPONSIBILITY FOR THEIR ACCURATE REPRESENTATION IN THIS DRAWING. MISS DIG MUST BE CONTACTED PRIOR TO CONSTRUCTION TO LOCATE THESE UTILITIES.

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE PERFORMED IN ACCORDANCE WITH MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION, INCLUDING REFERENCED MDOT PUBLICATIONS, AND THE PROJECT CONTRACT DOCUMENTS.



ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

QUANTITIES			
Item Code	Item Description	Units	Quantity
2047001	_Curb, Gutter, and Curb and Gutter, Any Type, Rem	Ft	325.000
2047011	_Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem	Syd	205.000
2057011	_Grading, Sidewalk	Syd	1780.000
2057011	_Grading, Sidewalk Ramp	Syd	85.000
2080020	Erosion Control, Inlet Protection, Fabric Drop	Ea	35.000
2080036	Erosion Control, Silt Fence	Ft	1,850.000
3020001	Aggregate Base	Ton	365.000
4037050	_Dr Structure, Adj, Case 1, Modified	Ea	8.000
4037050	_Dr Structure, Adj, Case 2, Modified	Ea	4.000
5010005	HMA Surface, Rem	Syd	1,650.000
8027001	_Curb and Gutter, Conc, Barrier	Ft	325.000
8037001	_Detectable Warning Surface, Modified	Ft	80.000
8037010	_Sidewalk Ramp, Conc, 6 inch, Modified	Sft	752.000
8037010	_Sidewalk, Conc, 4 inch, Modified	Sft	1,232.000
8060040	Shared use Path, HMA	Ton	918.000
8120012	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	Ea	10.000
8120013	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	Ea	10.000
8120030	Channelizing Device, 42 inch, Furn	Ea	80.000
8120031	Channelizing Device, 42 inch, Oper	Ea	80.000
8120140	Lighted Arrow, Type C, Furn	Ea	1.000
8120141	Lighted Arrow, Type C, Oper	Ea	1.000
8120310	Sign Cover	Ea	10.000
8120350	Sign, Type B, Temp, Prismatic, Furn	Sft	120.000
8120351	Sign, Type B, Temp, Prismatic, Oper	Sft	120.000
8167011	_Slope Restoration	Syd	4,400.000
8190244	Hh, Adj	Ea	8.000

QUANTITIES				
Sign, Type B, Temp, Prismatic				
Quantity	Sign Code	Description	Area (sf)	Total Area
1.0	D3-1	Street Name Sign	4.000	4.000
2.0	R2-1	Speed Limit	7.500	15.000
2.0	W3-5B	Reduce Speed Zone	16.000	32.000
1.0	G20-2	End Road Work	4.500	5.000
2.0	W20-1	Road Work Ahead Sign	16.000	32.000
1.0	W20-5	Right Lane Closed Ahead	16.000	16.000
1.0	W4-2R	Lane Ends	16.000	16.000
TOTAL				120.000

CONSTRUCTION KEY	
KEY	ASSOCIATED PAY ITEM(S)
AA	_Dr Structure, Adj, Case 1, Modified _Dr Structure, Adj, Case 2, Modified _Dr Structure, Temp Lowering, Modified
AB	_Dr Structure, Temp Lowering, Modified _Gate Box, Adj, Case 1 _Gate Box, Adj, Case 2 _Monument Box Adjust
ADST	_Dr Structure, Adj, Add Depth, Modified
AK	_Dr Structure, Adj, Case 1, Modified
AHH	_Hh, Adj
C4	_Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem _Grading, Sidewalk _Sidewalk, Conc, 4 inch, Modified
C4HE	_Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem _Grading, Sidewalk Cement _Sidewalk, Conc, 4 inch, Modified
C6	_Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem _Grading, Sidewalk _Detectable Warning Surface, Modified _Sidewalk Ramp, Conc, 6 inch, Modified _Sidewalk, Conc, 6 inch, Modified
C8	_Grading, Driveway Approach _Driveway, Nonreinf Conc, 8 inch, Modified _Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem _Grading, Driveway Approach _Grading, Sidewalk _Grading, Sidewalk Ramp Cement _Driveway, Nonreinf Conc, 6 inch, Modified _Driveway, Nonreinf Conc, 8 inch, Modified _Detectable Warning Surface, Modified _Sidewalk Ramp, Conc, 6 inch, Modified _Sidewalk, Conc, 6 inch, Modified
CHE	_Driveway, Nonreinf Conc, 6 inch, Modified _Driveway, Nonreinf Conc, 8 inch, Modified _Detectable Warning Surface, Modified _Sidewalk Ramp, Conc, 6 inch, Modified _Sidewalk, Conc, 6 inch, Modified
C/G	_Curb, Gutter, and Curb and Gutter, Any Type, Rem _Curb and Gutter, Conc
C/GHE	_Curb, Gutter, and Curb and Gutter, Any Type, Rem Cement _Driveway Opening, Conc, Det M, Modified
CP	_Grading, Sidewalk _Sidewalk, Conc, 4 inch, Modified
CR	_Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem _Dr Structure, Rem
DS	_Sewer, Rem, Less than 24 inch _Dr Structure, 24 inch dia
DSDI	_Dr Structure, Rem _Sewer, Rem, Less than 24 inch _Dr Structure, Double Inlet
PT	_Dr Structure, Point
RRA	_Dr Structure Cover, Type B _Dr Structure Cover, Type B, Special _Dr Structure, Adj, Case 1, Modified _Dr Structure, Temp Lowering, Modified
RRK	_Dr Structure Cover, Type K _Dr Structure, Adj, Case 1, Modified
RS	_Dr Structure, Reconstruct
TYPE II	Plastic Drum, High Intensity, Lighted, Furn Plastic Drum, High Intensity, Lighted, Oper
TYPE III	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn Barricade, Type III, High Intensity, Double Sided, Lighted, Oper



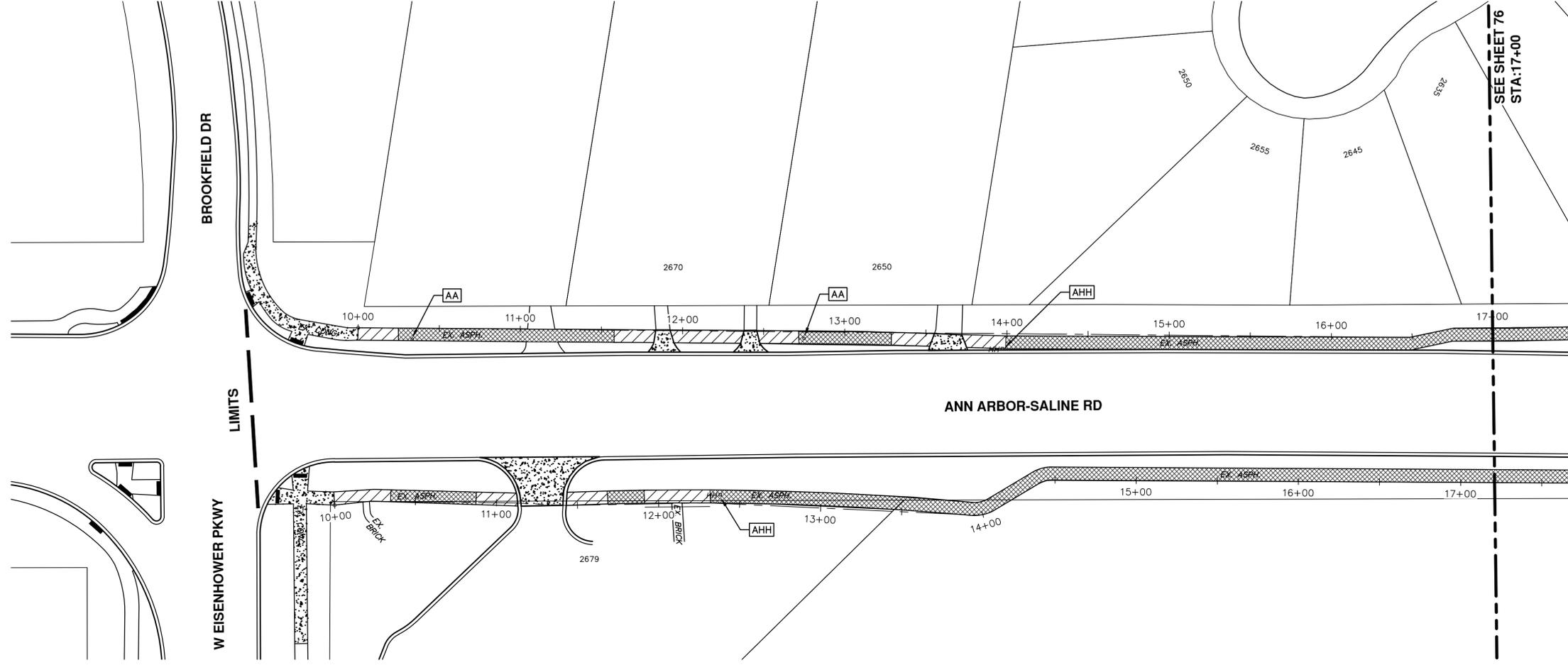
REV.	DATE	DESCRIPTION
01	3-15-18	ADDENDUM #1
00	2-27-18	BID SET
		DRAWN
		CHECKED

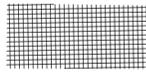
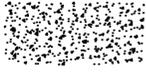
CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
ANN ARBOR, MICHIGAN 48107-8647
www.a2gov.org



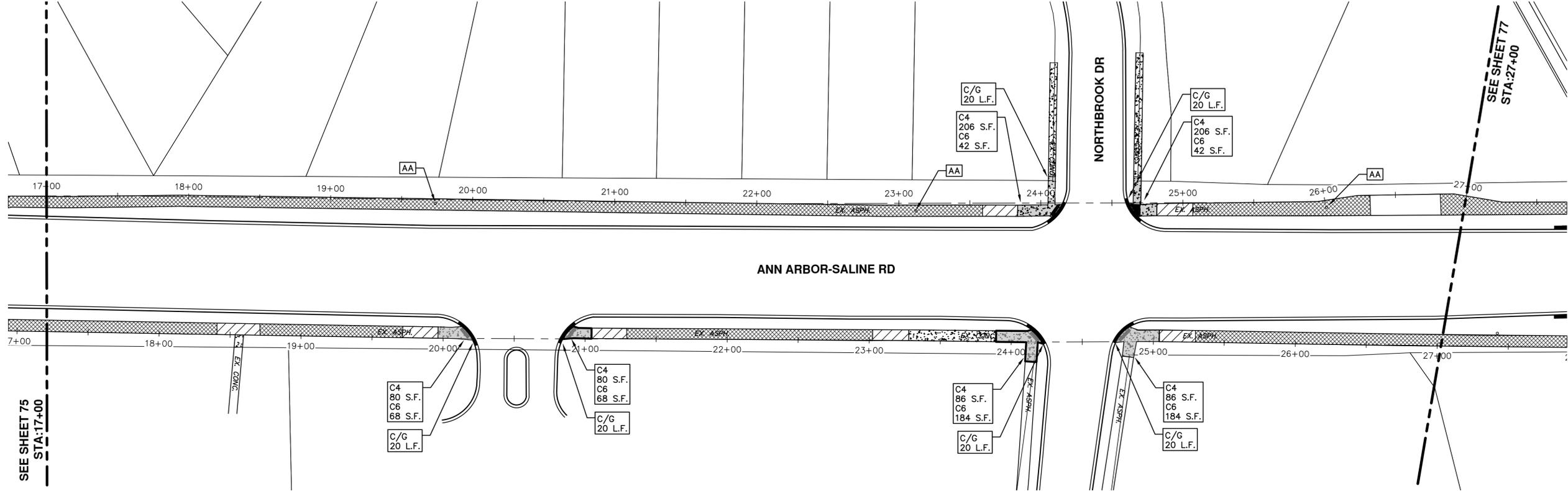
ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
STREET RESURFACING PROJECT - 2018
ANN ARBOR - SALINE RD BIKEPATH

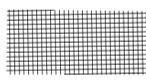
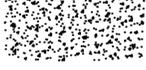
DRAWING No.
2018004-74



	OVERLAY EXISTING HMA PATH
	EXISTING CONCRETE
	REMOVE & REPLACE EXISTING HMA PATH

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	3-15-18	GSCE	DAD
00	BID SET	2-27-18	GSCE	DAD

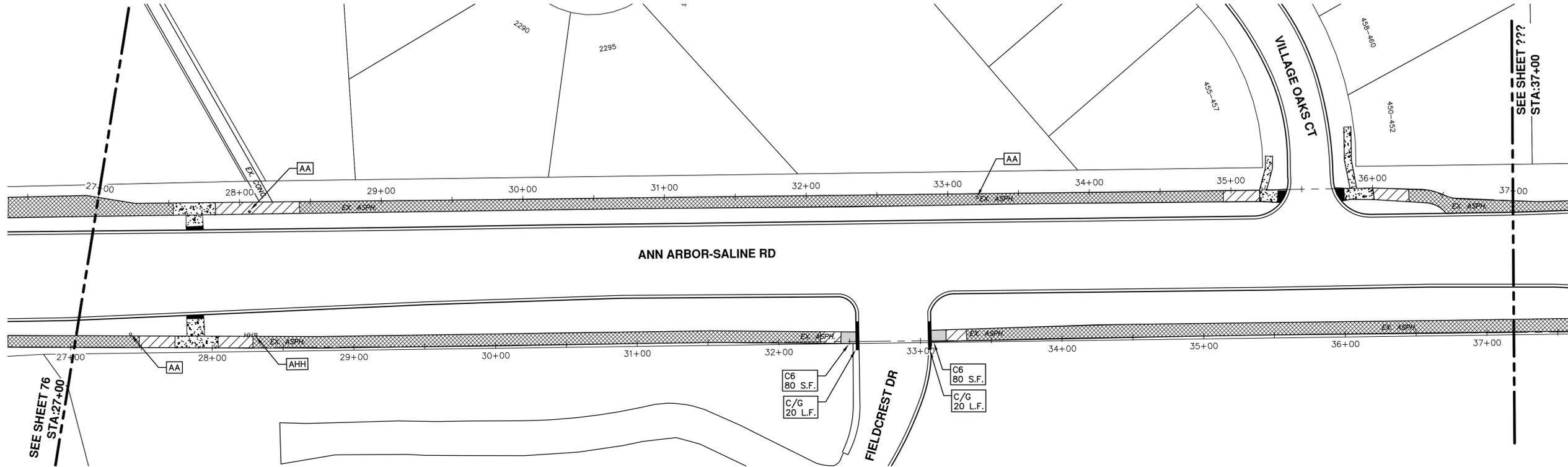


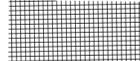
	OVERLAY EXISTING HMA PATH
	EXISTING CONCRETE
	REMOVE & REPLACE EXISTING HMA PATH

SEE SHEET 75
STA: 17+00

SEE SHEET 77
STA: 27+00

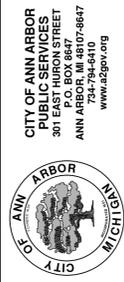
 Know what's below. Call Before you dig.	
CITY OF ANN ARBOR PUBLIC SERVICES 301 EAST HURON STREET ANN ARBOR, MI 48106-1667 734.794.4410 www.a2gov.org	01 ADDENDUM #1 3-15-18 GS CE
00 BID SET 2-27-18 GS CE	DATE DRAWN CHECKED
ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR STREET RESURFACING PROJECT - 2018 ANN ARBOR - SALINE RD BIKEPATH STA. 17+00 - STA. 27+00	SHEET No. 76 OF 79



	OVERLAY EXISTING HMA PATH
	EXISTING CONCRETE
	REMOVE & REPLACE EXISTING HMA PATH

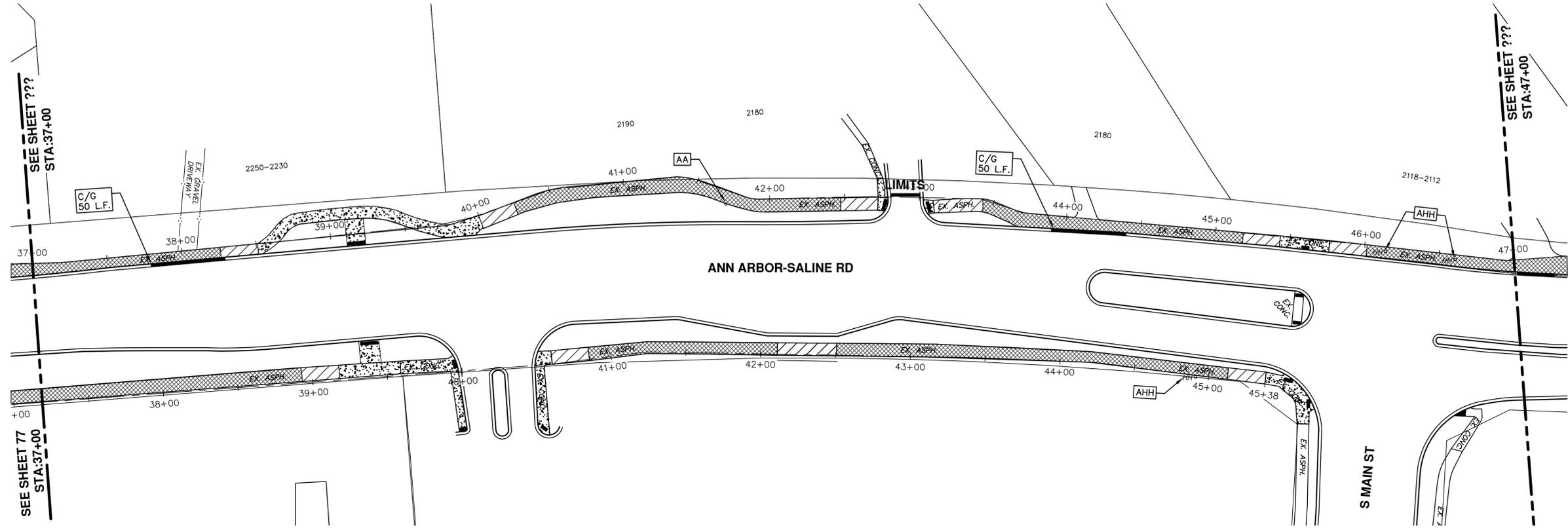
ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
 SCALE PLAN: 1"=80'
 DRAWING No. 2018004-77

STREET RESURFACING PROJECT - 2018
 ANN ARBOR - SALINE RD BIKEPATH
 STA. 27+00 - STA. 37+00



REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	3-15-18	GSCE	DAD
00	BID SET	2-27-18	GSCE	DAD





	OVERLAY EXISTING HMA PATH
	EXISTING CONCRETE
	REMOVE & REPLACE EXISTING HMA PATH

ENGINEERING - PUBLIC SERVICES - CITY OF ANN ARBOR
 SCALE PLAN: 1"=80'
 DRAWING No. 2018004-78

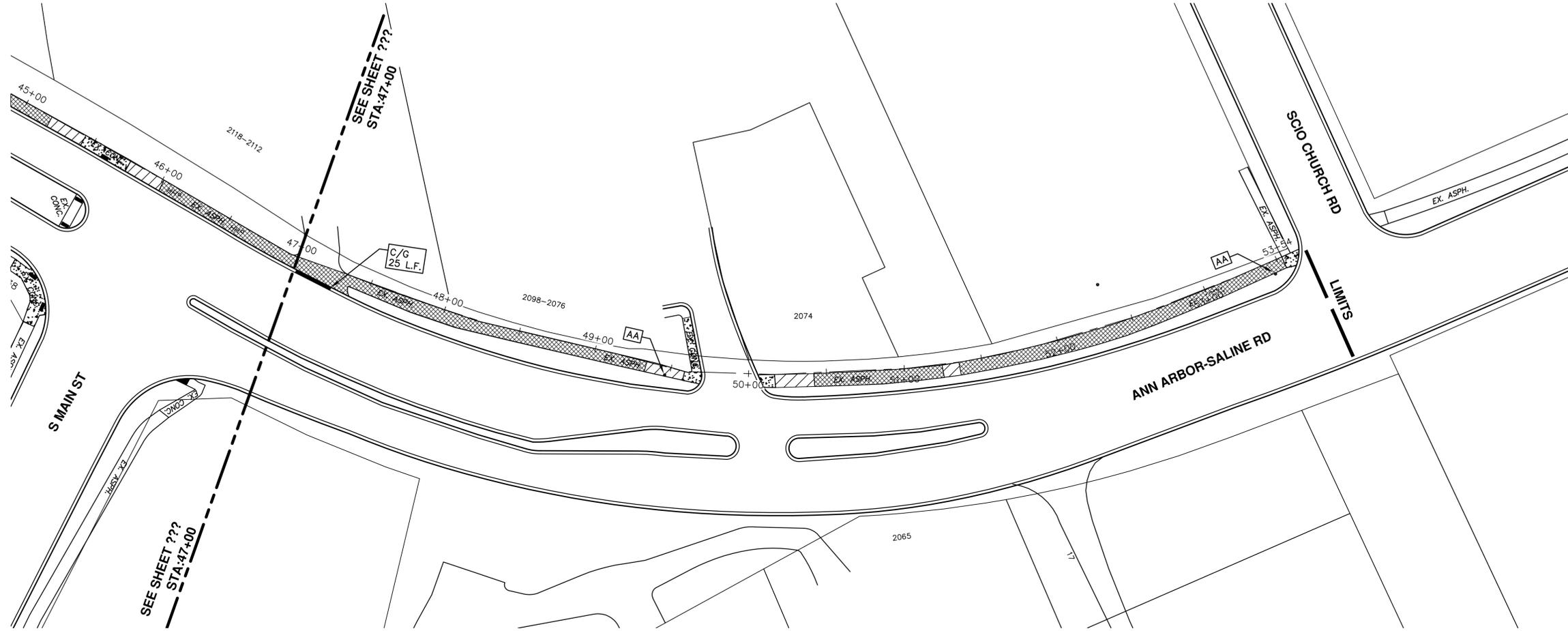
STREET RESURFACING PROJECT - 2018
 ANN ARBOR - SALINE RD BIKEPATH
 STA. 37+00 - STA. 47+00

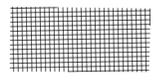
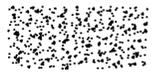
CITY OF ANN ARBOR
 PUBLIC SERVICES
 301 EAST HURON STREET
 ANN ARBOR, MI 48106-3667
 www.aagov.org



REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	3-15-18	GSCE	DAD
00	BID SET	2-27-18	GSCE	DAD





	OVERLAY EXISTING HMA PATH
	EXISTING CONCRETE
	REMOVE & REPLACE EXISTING HMA PATH

SEE SHEET ???
STA:47+00

SEE SHEET ???
STA:47+00

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	BID SET	3-15-18	GSCE	DAD
00		2-27-18	GSCE	DAD