

CONTRACT ROUTING FORM

****NOTE: CITY ATTORNEY MUST REVIEW CONTRACTS
BEFORE SUBMISSION TO CITY COUNCIL**

SUBMITTED BY: Nicholas Hutchinson, PE, City Eng DATE: May 2, 2017

SERVICE AREA/UNIT: Project Management Services Unit

CONTRACTOR: Cadillac Asphalt LLC

PURPOSE: Construction Contract for the Street Resurfacing - 2017 Project

CONTRACT TYPE:

SERVICES

MATERIALS/CONSTRUCTION

CHANGE ORDER/AMENDMENT

CHANGE AMOUNT: \$ _____

OTHER:

CONTRACT AMOUNT: \$ \$6,604,749.97

RESOLUTION REQUIRED: YES NUMBER: R-17-134

NO PROJECT MEMO ATTACHED

**SIGNATURES: PLEASE MARK PAGES
(IN ORDER)**

	REQUIRED	SIGNED	DATE SIGNED
CONTRACTOR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>04/25/2107</u>
SERVICE AREA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>5/2/17</u>
CITY ATTORNEY	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>5/8/17</u>
CITY ADMINISTRATOR	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>5/9/17</u>
MAYOR	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>5.10.17</u>
CITY CLERK	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>5/10/17</u>

RETURN CONTRACT TO: D. Dykman, P.E., Project Mgr PHONE: Ext. 43685



City of Ann Arbor

301 E. Huron St.
Ann Arbor, MI 48104
<http://a2gov.legistar.com/Calendar.aspx>

Master

File Number: 17-0470

File ID: 17-0470	Type: Resolution	Status: Passed
Version: 1	Reference:	Controlling Body: City Council
		File Created Date : 05/01/2017
* File Name: 5/1/17 - Resolution for 2017 Street Resurfacing Construction Contract (Cadillac Asphalt)		Final Action: 05/01/2017

Title: Resolution to Award a Construction Contract to Cadillac Asphalt, LLC (ITB. 4477, \$6,604,749.97) for the 2017 Street Resurfacing Project, and Appropriate \$875,000.00 from the Street, Bridge, and Sidewalk Millage Unobligated Fund Balance (**8 Votes Required**)

Notes:

Agenda Date: 05/01/2017

Agenda Number: CA-13

Sponsors:

Enactment Date: 05/01/2017

Attachments: 2017-004_2017 Street Resurfacing List_2017-02-28, ITB 4477 Street Resurfacing-2017_Construction Contract Documents_2017-04-11, ITB 4477 Street Resurfacing-2017_Bid Summary

Enactment Number: R-17-134

Drafter/Contact: David Dykman

Hearing Date:

*** Admin/Mgr:** Craig Hupy, Public Services Area Administrator

Effective Date:

History of Legislative File

Ver- sion:	Acting Body:	Date:	Action:	Sent To:	Due Date:	Return Date:	Result:
1	City Council	05/01/2017	Approved Yeas: 0 Nays: 0				Pass

Text of Legislative File 17-0470

Resolution to Award a Construction Contract to Cadillac Asphalt, LLC (ITB. 4477, \$6,604,749.97) for the 2017 Street Resurfacing Project, and Appropriate \$875,000.00 from the Street, Bridge, and Sidewalk Millage Unobligated Fund Balance **(8 Votes Required)**

Attached for your review and consideration for approval, please find a resolution to authorize the award of a construction contract to Cadillac Asphalt, LLC in the amount of \$6,604,749.97 for the resurfacing of various major and local streets located throughout the City. The resolution also requests the appropriation of \$875,000.00 from the Street, Bridge, and Sidewalk Millage Unobligated Fund Balance.

This year's Resurfacing Project includes the resurfacing of approximately ten (10) major streets and thirteen (13) local streets. Attached, is a list of streets showing the proposed work locations. The schedule anticipates for construction to begin in May 2017 and be complete by late October 2017. The Contractor will provide an exact schedule for each street, as required, to coordinate with planned City and other events, such as Art Fair, U of M home football games, in-session school days, holiday periods, and other construction projects.

Staff develops the Street Resurfacing Project as a unit price contract with the understanding that the actual quantities used in construction will vary. Reflecting this flexibility, this allows for removal of any street(s) on the proposed list for any reason, and substitution with any other street(s) within the City. Depletion of available funds prior to the completion of all the streets on the list will result in termination the construction contract and deferral of the balance of the streets to a future resurfacing project. Conversely, the City may add additional streets if the available budget allows.

Budget/Fiscal Impact

The current City of Ann Arbor Capital Improvements Plan (CIP) includes the Annual Street Resurfacing Program. The estimated cost for this year's project is \$8,800,000.00, and includes estimated revenue from the following sources:

Revenue Source	Amount
Street, Bridge, and Sidewalk Millage Fund	\$7,255,000.00
County Road Millage and P.A. 283 Funds	\$1,185,000.00
Stormwater Fund	\$300,000.00
Water Fund	\$30,000.00
Sanitary Fund	\$30,000.00
Total	\$8,800,000.00

This project includes the annual planned resurfacing program utilizing Street, Bridge, and

Sidewalk Millage funds, County Road Millage and P.A. 283 funds, and various utility operating budget funds. Construction projects span fiscal years and due to fluctuations of project schedules, an appropriation of \$850,000.00 from the Street, Bridge, and sidewalk Millage funds is required to align funding with project construction costs for FY 17. The project includes no unplanned operational impacts.

Maintenance of Traffic

For all the streets, the contract requires maintaining local access throughout the majority of the construction. On the major streets, the contract requires utilizing part width construction to perform. The contractor will maintain traffic in one direction, at a minimum, with the opposite direction being temporarily detoured. The contractor, at the staff's direction, will utilize message boards to notify drivers of upcoming construction detours and related traffic delays.

Public Outreach

In January and March 2017, staff met with neighborhood residents regarding the planned resurfacing of Arlington Boulevard. In late April or early May, staff plans to meet with affected residents and property owners regarding the work planned within the "Old West Side" neighborhood.

In early April, staff will mail an informational post card to all residents/property owners within the resurfacing limits of each street. The notice will inform them of the project and provide resources to find more information (staff contacts and the web page; www.a2gov.org/RoadConstruction <<http://www.a2gov.org/RoadConstruction>>). Staff will distribute a second notification to residents prior to construction, and if desired they may choose to receive periodic e-mails to keep them informed on the progress of construction.

Bidding

The City advertised the proposed work for bid on its procurement webpage and on the Michigan Inter-governmental Trade Network (MITN) website with the bidding documents being available to interested contractors. Staff received two bids and opened them on April 3, 2017. The lowest responsible bid, from Cadillac Asphalt, LLC, in the amount of \$6,604,749.97 is 1.8% lower than the Engineer's Estimate. Attached is a summary of the bids.

Cadillac Asphalt, LLC complies with the City of Ann Arbor Non-Discrimination and Living Wage Ordinances.

Prepared by: Nicholas Hutchinson, P.E., City Engineer
Reviewed by: Craig Hupy, Public Services Area Administrator
Approved by: Howard S. Lazarus, City Administrator

Whereas, The City of Ann Arbor Adopted FY2017 Capital Budget includes the Annual Street Resurfacing Program;

Whereas, The 2017 Street Resurfacing Project includes the resurfacing of approximately

ten (10) major streets and thirteen (13) local residential streets located throughout the City;

Whereas, The 2017 Street Resurfacing Project is necessary to improve and maintain the streets in the City of Ann Arbor;

Whereas, Competitive bids were received by the City's Procurement Office on Monday, April 3, 2017, and Cadillac Asphalt, LLC was the lowest responsible bidder at \$6,604,749.97;

Whereas, The contract proposal sets forth the services to be performed by said company, and the payments to be made by the City therefore, all of which are agreeable to the City;

Whereas, It is now necessary to enter into a contract with said company for said construction project;

Whereas, Cadillac Asphalt, LLC complies with the City of Ann Arbor Non-Discrimination and Living Wage Ordinances; and

Whereas, Construction projects span fiscal years and fluctuations of project construction schedules have occurred, an appropriation of \$875,000.00 is required to align funding with project construction costs for FY 17;

RESOLVED, That a contract in the amount of \$6,604,749.97 be awarded to Cadillac Asphalt, LLC for the construction of the 2017 Street Resurfacing Project;

RESOLVED, That the 2017 Street Resurfacing Project expenditure and revenue budgets be increased by \$875,000.00 with the sources of funding being the Street, Bridge, and Sidewalk Millage Unobligated Fund Balance; and

RESOLVED, That the Mayor and City Clerk be authorized and directed to execute said contract after approval as to form by the City Attorney and approval as to substance by the City Administrator;

RESOLVED, That a contingency amount of \$660,500.00 be established within the project budget and that the City Administrator be authorized to approve additional change orders to the construction contract with Cadillac Asphalt, LLC, not to exceed \$660,500.00 in order to satisfactorily complete this project;

RESOLVED, That the City Administrator be authorized to take necessary administrative actions to implement this project, including issuing Traffic Control Orders for the streets included in the 2017 Street Resurfacing project, including parking prohibitions as needed in excess of one (1) block and/or ninety (90) days; and

RESOLVED, That the City Administrator be authorized to take the necessary administrative actions to implement this resolution.

Certificate of Insurance

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON YOU THE CERTIFICATE HOLDER. THIS CERTIFICATE IS NOT AN INSURANCE POLICY AND DOES NOT AMEND, EXTEND, OR ALTER THE COVERAGE AFFORDED BY THE POLICIES LISTED BELOW. POLICY LIMITS ARE NO LESS THAN THOSE LISTED, ALTHOUGH POLICIES MAY INCLUDE ADDITIONAL SUBLIMIT/LIMITS NOT LISTED BELOW.

This is to Certify that

Cadillac Asphalt, L.L.C.
2575 S. Haggerty Road Suite 100
Canton, MI 48188

NAME AND
ADDRESS
OF INSURED



Liberty Mutual.
INSURANCE

is, at the issue date of this certificate, insured by the Company under the policy(ies) listed below. The insurance afforded by the listed policy(ies) is subject to all their terms, exclusions and Conditions and is not altered by any requirement, term or condition of any contract or other document with respect to which this certificate may be issued.

TYPE OF POLICY	EXP DATE <input type="checkbox"/> CONTINUOUS <input type="checkbox"/> EXTENDED <input checked="" type="checkbox"/> POLICY TERM	POLICY NUMBER	LIMIT OF LIABILITY
WORKERS COMPENSATION	9/1/2017	WA7-68D-025010-976	COVERAGE AFFORDED UNDER WC LAW OF THE FOLLOWING STATES: Michigan
			EMPLOYERS LIABILITY
			Bodily Injury by Accident \$1,000,000 Each Accident Bodily Injury By Disease \$1,000,000 Policy Limit Bodily Injury By Disease \$1,000,000 Each Person
COMMERCIAL GENERAL LIABILITY <input checked="" type="checkbox"/> OCCURRENCE <input type="checkbox"/> CLAIMS MADE	9/1/2017	TB2-681-025010-026 -Per Project Aggregate included.	General Aggregate \$2,000,000
			Products / Completed Operations Aggregate \$2,000,000
			Each Occurrence \$2,000,000
			Personal & Advertising Injury \$2,000,000 Per Person / Organization
	RETRO DATE		Other Damage to Premises Rented to You: \$100,000
AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> OWNED <input checked="" type="checkbox"/> NON-OWNED <input checked="" type="checkbox"/> HIRED	9/1/2017	AS2-681-025010-016 Comp Ded \$10,000 Coll Ded \$10,000	\$2,000,000 Each Accident—Single Limit B.I. And P.D. Combined
			Each Person
			Each Accident or Occurrence
			Each Accident or Occurrence
OTHER			
ADDITIONAL COMMENTS Project: Street Resurfacing-2017, City of Ann Arbor, MI; the City of Ann Arbor is included as additional insured as required by written contract with respect to General and Automobile Liability on a primary and non-contributory basis. A waiver of subrogation applies to all coverages.			

* If the certificate expiration date is continuous or extended term, you will be notified if coverage is terminated or reduced before the certificate expiration date

NOTICE OF CANCELLATION: (NOT APPLICABLE UNLESS A NUMBER OF DAYS IS ENTERED BELOW.) BEFORE THE STATED EXPIRATION DATE THE COMPANY WILL NOT CANCEL OR REDUCE THE INSURANCE AFFORDED UNDER THE ABOVE POLICIES UNTIL AT LEAST 30 DAYS NOTICE OF SUCH CANCELLATION HAS BEEN MAILED TO:

**Liberty Mutual
Insurance Group**

Certificate Holder

City of Ann Arbor
Project Management Services Unit (David Dykman)
301 E. Huron Street
P. O. Box 8647
Ann Arbor, MI 48107-8647

Stanley S. Esposito, Jr.

Stan Esposito

AUTHORIZED REPRESENTATIVE

Pittsburgh / 0387
12 Federal Street, Ste. 310
Pittsburgh PA 15212-5706 412-231-1331 4/19/17
OFFICE PHONE DATE ISSUED

This certificate is executed by LIBERTY MUTUAL INSURANCE GROUP as respects such insurance as is afforded by those Companies NM 772 07-10

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – SCHEDULED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

A. Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by law; and
2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to "bodily injury" or "property damage" occurring after:

1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or

2. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

C. With respect to the insurance afforded to these additional insureds, the following is added to Section III – Limits Of Insurance:

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement; or
2. Available under the applicable Limits of Insurance shown in the Declarations;

whichever is less.

This endorsement shall not increase the applicable Limits of Insurance shown in the Declarations.

SCHEDULE

Name Of Additional Insured Person(s)
Or Organization(s):

All persons or organizations with whom you have entered into a written contract or agreement, prior to an "occurrence" or offense, to provide additional insured status.

Location(s) Of Covered Operations

All locations as required by a written contract or agreement entered into prior to an "occurrence" or offense.

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**ADDITIONAL INSURED – OWNERS, LESSEES OR
CONTRACTORS – COMPLETED OPERATIONS**

This endorsement modifies insurance provided under the following:

**COMMERCIAL GENERAL LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART**

A. Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury" or "property damage" caused, in whole or in part, by "your work" at the location designated and described in the Schedule of this endorsement performed for that additional insured and included in the "products-completed operations hazard".

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by law; and
2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

B. With respect to the insurance afforded to these additional insureds, the following is added to Section III – Limits Of Insurance:

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement; or
2. Available under the applicable Limits of Insurance shown in the Declarations;

whichever is less.

This endorsement shall not increase the applicable Limits of Insurance shown in the Declarations.

SCHEDULE

**Name Of Additional Insured Person(s)
Or Organization(s):**

Location And Description Of Completed Operations

All persons or organizations with whom you have entered into a written contract or agreement, prior to an "occurrence" or offense, to provide additional insured status.

All locations as required by a written contract or agreement entered into prior to an "occurrence" or offense.

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**DESIGNATED INSURED FOR
COVERED AUTOS LIABILITY COVERAGE**

This endorsement modifies insurance provided under the following:

- AUTO DEALERS COVERAGE FORM
- BUSINESS AUTO COVERAGE FORM
- MOTOR CARRIER COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by the endorsement.

This endorsement identifies person(s) or organization(s) who are "insureds" for Covered Autos Liability Coverage under the Who Is An Insured provision of the Coverage Form. This endorsement does not alter coverage provided in the Coverage Form.

SCHEDULE

<p>Name Of Person(s) Or Organization(s):</p> <p>Any person or organization whom you have agreed in writing to add as an additional insured, but only to coverage and minimum limits of insurance required by the written agreement, and in no event to exceed either the scope of coverage or the limits of insurance provided in this policy.</p>
<p>Information required to complete this Schedule, if not shown above, will be shown in the Declarations.</p>

Each person or organization shown in the Schedule is an "insured" for Covered Autos Liability Coverage, but only to the extent that person or organization qualifies as an "insured" under the Who Is An Insured provision contained in Paragraph A.1. of Section II - Covered Autos Liability Coverage in the Business Auto and Motor Carrier Coverage Forms and Paragraph D.2. of Section I - Covered Autos Coverages of the Auto Dealers Coverage Form.



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

4/20/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Liberty Mutual Insurance Co. National Insurance East
2000 Westwood Dr.
Wausau, WI 54401

CONTACT NAME: Donna Smitala
PHONE (A/C No. Ext): 715-870-6376 FAX (A/C No.): 715-842-6865
E-MAIL ADDRESS: Donna.Smitala @LibertyMutual.com

www.LibertyMutual.com

INSURED
Cadillac Asphalt, LLC
2575 S. Haggerty Road, Suite 100
Canton MI 48188

INSURER(S) AFFORDING COVERAGE		NAIC #
INSURER A:	Liberty Insurance Corporation	42404
INSURER B:		
INSURER C:		
INSURER D:		
INSURER E:		
INSURER F:		

COVERAGES

CERTIFICATE NUMBER: 35202147

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:						EACH OCCURRENCE	\$
							DAMAGE TO RENTED PREMISES (Ea occurrence)	\$
							MED EXP (Any one person)	\$
							PERSONAL & ADV INJURY	\$
							GENERAL AGGREGATE	\$
							PRODUCTS - COMP/OP AGG	\$
								\$
	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS NON-OWNED AUTOS ONLY						COMBINED SINGLE LIMIT (Ea accident)	\$
							BODILY INJURY (Per person)	\$
							BODILY INJURY (Per accident)	\$
							PROPERTY DAMAGE (Per accident)	\$
								\$
A	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED RETENTION \$			TH7-681-054545-116	9/1/2016	9/1/2017	EACH OCCURRENCE	\$ \$1,000,000
							AGGREGATE	\$ \$1,000,000
							Products/Completed Ops	\$ \$1,000,000
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below		N/A				PER STATUTE	OTH-ER
							E.L. EACH ACCIDENT	\$
							E.L. DISEASE - EA EMPLOYEE	\$
							E.L. DISEASE - POLICY LIMIT	\$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Re: Project: Street Resurfacing-2017 City of Ann Arbor MI
City of Ann Arbor is listed as additional insured with regards to the excess liability policy, on a primary and non-contributory basis, where required by written contract.
Waiver of subrogation is included in favor of the additional insured, where required by written contract, and where applicable by law.

CERTIFICATE HOLDER

Project: Street Resurfacing-2017 City of Ann Arbor MI
City of Ann Arbor, Project Management Services Unit (David Dykman)
301 E Huron St.
PO Box 8647
Ann Arbor MI 48107-8647

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Valerie Reece

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ACORD 25 (2016/03)

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CITY OF ANN ARBOR
CONTRACT DOCUMENTS



Street Resurfacing - 2017

May 2017

Public Services Area
Project Management Services Unit

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

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DS for Concrete Placement and Protection	DS-45 to 46
DS for Concrete Curb and Gutter, and Driveway Openings	DS-47 to 50
DS for Concrete Sidewalk, Sidewalk Ramps, and Driveway Approaches	Addendum-2-25 to 26 (DS-51 to 52)
DS for Sidewalk Retaining Walls	Addendum-2-27 to 30 (DS-53 to 55)
DS for Detectable Warning Surface	DS-56 to 64
DS for Cast Iron Detectable Warning Surface	Addendum-2-31
DS for Removal and Reinstallation of Concrete or Clay Brick Pavers	DS-65 to 66
DS for Fence, Protective, Modified	DS-67 to 68
DS for Pavement Markings	DS-69
DS for Wet Reflective Liquid Applied Pavement Markings	Addendum-2-32 to 33
DS for Maintenance of Traffic	Addendum-2-34 to 38 (DS-70 to 74) and DS-75 to 98
DS for Minor Traffic Control	DS-99 to 102
DS for No Parking Signs	DS-103
DS for Protecting and Preserving Irrigation Systems	DS-104
DS for Slope Restoration	DS-105 to 106
DS for Electrical and Communication Handholes	DS-107 to 108
DS for Parking Meters	Addendum-2-39 to 40
APPENDIX	APDX-1
Notices to Bidders	
Michigan Department of Transportation (MDOT) Special Provisions	
MDOT Supplemental Specifications	
MDOT Standard Plans	
Special Details	
Soil Boring Logs	

ATTACHMENTS

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

TABLE OF CONTENTS (continued)

DS for Maintenance of Traffic.....	DS-70 to 98
DS for Minor Traffic Control	DS-99 to 102
DS for No Parking Signs.....	DS-103
DS for Protecting and Preserving Irrigation Systems	DS-104
DS for Slope Restoration	DS-105 to 106
DS for Electrical and Communication Handholes.....	DS-107 to 108
APPENDIX.....	APDX-1
Notices to Bidders	
Michigan Department of Transportation (MDOT) Special Provisions	
MDOT Supplemental Specifications	
MDOT Standard Plans	
Special Details	
Soil Boring Logs	

ATTACHMENTS

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

NOTICE OF PRE-BID CONFERENCE

A pre-bid conference for this project will be held on **Thursday, March 16, 2017 at 2:30 p.m.** in the **4th Floor Conference Room of Guy C. Larcom City Hall, 301 East Huron Street, Ann Arbor, Michigan.**

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

Street Resurfacing – 2017 (ITB No. 4477) Pre-Bid Conference Summary

March 16, 2017, 2:30 p.m.,
4th Floor South Conference Room, City Hall

I. Introductions

II. General

a. Project Overview

Proposed work is a program larger in size and scope than the 2016 program mainly due to the proposed work on S. Division St. It again will utilize City and County Street/Road Millage funds approved for fiscal years 2017 and 2018 together with other funding sources.

Bid Opening – Project bids are due on Tuesday, March 28, 2018, by 10:00 a.m., and the responsible low bidder and all subcontractors assigned to the Bid must be MDOT Prequalified in order to receive award of the Contract.

b. Standard Specifications and Detailed Specifications

i. Construction Specifications (MDOT 2012 Standard Specifications for Construction)

ii. Project Schedule & Payment

- Starting Date – May 8, 2017
- Completion Date – October 28, 2017
- Project Phasing

There is no particular phasing required of the project and the detailed “Schedule of Streets” shows the proposed work locations and scheduling requirements/restrictions for each. Anticipated minor changes to this schedule are forthcoming. An addendum will address these changes.

- Hours of Work: 7:00 am – 8:00 pm Monday thru Saturday (Sundays w/approval)

iii. General Conditions

Attention was given to this Detailed Specification, and those in attendance work were advised to review its requirements.

iv. Project Supervision

Attention was given to this Detailed Specification, and those in attendance work were advised to review its requirements.

v. NEW PAY ITEM – Certified Payroll Compliance and Reporting

Attention was given to this Detailed Specification, and those in attendance work were advised to review its requirements.

III. Construction

a. Construction Methods and Sequencing

It was noted that all work on Major Streets as part this year’s project will require phased part width construction. The requirements for the construction 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.

Street Resurfacing – 2017 (ITB No. 4477)
Pre-Bid Conference Summary

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

All work on 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. Detailed M.O.T. plans are included in the plan set, and in the process of being updated with minor changes for release in a future addendum.

c. Special Concerns (local traffic access, pedestrians access, tree protection...)

IV. Addendum Items

No addenda have been issued to date for this project; however, Addendum 1 is expected to be released by Tuesday, March 21, 2017, or Wednesday, March 22, 2017, at the latest unless other necessary revisions are encountered requiring its release be delayed further. This addendum will address changes to the plans regarding incorrect quantity tables, construction keys, construction method and sequencing notes, missing or incorrect detailed specification and special details, and any missing geotechnical information. It was noted that all questions related to the bid are due by 5:00 p.m. Monday, March 20, 2017.

V. Other Items

Attendees were informed that the City is currently working with DTE Energy (Michcon) to replace gas mains on several of the streets proposed as part of this year's project. Major Streets include Arlington Blvd and Miller Rd. Minor Streets include 3rd St, 4th St, 5th St, 6th St, Arella Blvd, W Davis Ave, W Jefferson St, and Wilder Pl. DTE Energy (Michcon) will be required to coordinate this work with the Contractor awarded the project, they have been informed that gas main replacement work must not interfere with or delay that associated with this project.

VI. Questions

- 1. An inconsistency was identified on the S Division St plans between the typical cross sections and the construction methods and sequencing notes related the proposed HMA thickness. This issue will be addressed in an addendum.*
- 2. Concern was expressed with the Detailed Specification for Adjusting Structure Covers and the handling of existing structure covers that are designated for removal from the jobsite. The City will review the requirements of this detailed specification related to this concern and issue any changes in an addendum if necessary.*
- 3. Inconsistencies were identified on the Green Rd Non-motorized Path plans related to the type of proposed HMA material. There was also an inquiry related to a quantity shown for cold milling when this work item was not identified on the plans. These issues will be addressed in an addendum.*
- 4. Concerns were expressed with the use of the City's Special Provision for Acceptance of HMA Mixtures. This special provision will be reviewed further to determine if revisions are required, or if it should be removed from the bid documents and replaced with an alternate.*

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 - 2016 (ITB No. 4477)

DATE: 03/16/2017

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
Gary Shively Civil Engineering Specialist (Project Inspector)	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, x43652 Mobile: Fax: (734) 994-1744	gshively@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
JOHN SENKOWSKI	DOAN COMPANIES	Address: 3670 CARPENTER RD City, State: YPSILANTI Zip: 48197	Office: (734) 971 4678 Mobile: (246) 8660796 Fax No. (734) 971 4415	jsenkowski@ doancompanies.com
WANDA Dwyer	CADILLAC	Address: 857 S. WAGNER RD City, State: AZ Zip: 48105	Office: () Mobile: (734) 216-1006 Fax No. ()	WANDA.DWYER@ mipmc.com
Rhonda Mosher	Bailey Excavating	Address: 1073 Toro Dr City, State: Jackson MI Zip: 49201	Office: (517) 750-3030 Mobile: () Fax No. (517) 750-1095	jacobbaily@ bailey-excavating.com
MIKE ANDREWS	MICHAEL ANDREWS CONCRETE LLC	Address: 7561 CARSON HWY City, State: TEAUMSEH MI Zip: 49286	Office: (517) 431-2091 Mobile: (734) 476-2180 Fax No. ()	MIKE ANDREWS CONCRETE@ YAHOO.COM
Chris Rachwal	A2	Address: City, State: Zip:	Office: () Mobile: (734) 812-7932 Fax No. ()	C.Rachwal@ A2GOV.ORG

INSTRUCTIONS TO BIDDERS

General

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

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

Preparation of Bids

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

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

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

Questions or Clarification on ITB Specifications

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

All questions shall be due on or before **Monday, March 20, 2017 at 5:00 p.m.** and should be addressed as follows:

Specification/Scope of Work questions emailed to **ddykman@a2gov.org**
Bid Process and Compliance questions emailed to **cspencer@a2gov.org**

Any error, omissions or discrepancies in the specification discovered by a prospective contractor and/or service provider shall be brought to the attention of **David Dykman** at **ddykman@a2gov.org** after discovery as possible. Further, the contractor and/or service provide shall not be allowed to take advantage of errors, omissions or discrepancies in the specifications.

Addenda

If it becomes necessary to revise any part of the ITB, notice of the Addendum will be posted to Michigan Inter-governmental Trade Network (MITN) www.mitn.info and/or City of Ann Arbor web

site www.A2gov.org for all parties to download.

Each Bidder must in its Bid, to avoid any miscommunications, acknowledge all addenda which it has received, but the failure of a Bidder to receive, or acknowledge receipt of; any addenda shall not relieve the Bidder of the responsibility for complying with the terms thereof.

The City will not be bound by oral responses to inquiries or written responses other than written addenda.

Bid Submission

All Bids are due and must be delivered to the City of Ann Arbor Procurement Unit on or before **Tuesday, March 28, 2017 by 10:00 a.m.** Bids submitted late or via oral, telephonic, telegraphic, electronic mail or facsimile **will not** be considered or accepted.

Each Bidder must submit one (1) original Bid and one (1) Bid copies in a sealed envelope clearly marked: **ITB No. 4477: Street Resurfacing – 2017.**

Bids must be addressed and delivered to:

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

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

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

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

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

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

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

Award

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

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

Official Documents

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

Bid Security

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

Withdrawal of Bids

After the time of opening, no Bid may be withdrawn for the period of Ninety (90) days

Contract Time

Time is of the essence in the performance of the work under this Contract. The available time for work under this Contract is indicated on page C-2, Article III of the Contract. If these time requirements can not be met, the Bidder must stipulate on Bid Form Section 3 - Time Alternate its schedule for performance of the work. Consideration will be given to time in evaluating bids.

Liquidated Damages

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

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

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

Human Rights Information

All contractors proposing to do business with the City shall satisfy the contract compliance administrative policy adopted by the City Administrator in accordance with the Section 9:158 of the Ann Arbor City Code. Breach of the obligation not to discriminate as outlined in Section 5, beginning at page GC-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-2, 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 regulation. Not every relationship or situation disclosed on the Disclosure Form may be a disqualifying conflict. Depending on applicable law and regulations, some contracts may awarded on the recommendation of the City Administrator after full disclosure, where such action is allowed by law, if demonstrated competitive pricing exists and/or it is determined the award is in the best interest of the City. A copy of the Vendor Conflict of Interest Disclosure Form is attached.

Major Subcontractors

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

Debarment

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

Disclosures

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

Bid Protest

All Bid protests must be in writing and filed with the Purchasing Agent within five (5) business days of the award action. The bidder must clearly state the reasons for the protest. If a bidder contacts a City Service Area/Unit and indicates a desire to protest an award, the Service Area/Unit shall refer the bidder to the Purchasing Agent. The Purchasing Agent will provide the bidder with the appropriate instructions for filing the protest. The protest shall be reviewed by the City Administrator or designee whose decision shall be final.

Cost Liability

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

Reservation of Rights

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

INVITATION TO BID

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

Ladies and Gentlemen:

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

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

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

In accordance with these bid documents, and Addenda numbered 1, 2, 3, 4 the undersigned, as Bidder, proposes to perform at the sites in and/or around Ann Arbor, Michigan, all the work included herein for the amounts set forth in the Bid Forms.

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

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

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

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

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

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

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

SIGNED THIS 30th DAY OF MARCH, 2017

CADILLAC ASPHALT LLC

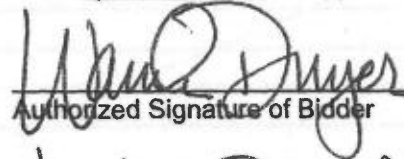
Bidder's Name

857 S. WAGNER RD
ANN ARBOR, MI 48103

Official Address

(734) 216-7006

Telephone Number



Authorized Signature of Bidder

WANDA DWYER

(Print Name of Signer Above)

WANDA.DWYER@mipmc.com

Email Address for Award Notice

LEGAL STATUS OF BIDDER

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

Bidder declares that it is:

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

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

• A limited liability company doing business under the laws of the State of MICHIGAN whom WANDA DWYER bearing the title of AREA MANAGER 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

Wanda Dwyer Date 3/30, 2017

(Print) Name WANDA DWYER Title AREA MANAGER

Company: CADILLAC ASPHALT LLC

Address: 857 S. WAGNER RD, ANN ARBOR, MI 48103

Contact Phone 734 216-7006 Fax 734 662-0439

Email WANDA.DWYER@miPMC.COM

ADDENDUM No. 1

ITB No. 4477: Street Resurfacing - 2017

Due: March 30, 2017 at 10:00 a.m. (local time)

The following changes, additions, and/or deletions shall be made to the Invitation to Bid for Street Resurfacing - 2017, ITB No. 4477, on which proposals will be received on/or before March 30, 2017 at 10:00 a.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 1 page(s).**

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 ITB document. Bids submitted without acknowledgement 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.

<u>Section/Page(s)</u>	<u>Change</u>
All mentions	As provided in ITB No. 4477 Bid Document: Bid Due Date: Tuesday, March 28, 2017 at 10:00 a.m.
	As updated herein: Bid Due Date: Thursday, March 30, 2017 at 10:00 a.m.

Comment: The Due Date and Time for responses to this ITB has been extended to Thursday, March 30, 2017 at 10:00 a.m. (local time). Note that all other dates are unchanged.

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

ADDENDUM No. 2

ITB No. 4477

Street Resurfacing - 2017

Bids Due: March 30, 2017 at 10:00 A.M. (local time)

The following changes, additions, and/or deletions shall be made to the Invitation to Bid for Street Resurfacing - 2017, ITB No. 4477, on which proposals will be received on/or before March 30, 2017, at 10:00 A.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 187 pages.**

Bidder is to acknowledge receipt of this Addendum No. 2, 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 at bid opening.

- **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/CLARIFICATIONS

Changes to the Bid documents 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.

- Item #1: Pre-Bid Conference Summary and Attendance Record/Sign-In Sheet pages Addendum-2-4 thru Addendum-2-6.
- Item #2: Bid Forms, pages BF-1 thru BF-8; replace these pages with attached pages Addendum-2-7 thru Addendum-2-14.
- Item #3: Schedule of Streets pages DS-13 and DS-14; replace with attached pages ADD-2-15 and Addendum-2-16.
- Item #4: Insert Detailed Specification for Landscape Boulder page Addendum-2-17.

- Item #5: Insert Detailed Specification for Parking Blocks page Addendum-2-18.
- Item #6: Detailed Specification for Drainage and Utility Structures page DS-26; replace with attached page Addendum-2-19.
- Item #7: Detailed Specification for Adjusting Structure Covers pages DS-29 and DS-30; replace with attached pages Addendum-2-20 and Addendum-2-21.
- Item #8: Detailed Specification for HMA Application Estimate page DS-36; replace with attached page Addendum-2-22.
- Item #9: Insert Detailed Specification for Geosynthetic Paving Layer pages Addendum-2-23 and Addendum-2-24.
- Item #10: Detailed Specification for Concrete Sidewalk, Sidewalk Ramps, and Driveway Approaches pages DS-51 and DS-52; replace with attached pages Addendum-2-25 and Addendum-2-26.
- Item #11: Detailed Specification for Sidewalk Retaining Walls pages DS-53 and DS-55; replace with attached pages Addendum-2-27 and Addendum-2-30.
- Item #12: Insert Detailed Specification for Cast Iron Detectable Warning Surface page Addendum-2-31.
- Item #13 Remove Detailed Specification for Pavement Markings page DS-69.
- Item #14 Insert Specification for Wet Reflective Liquid Applied Pavement Markings pages Addendum-2-32 and Addendum-2-33.
- Item #15 Detailed Specification for Maintenance of Traffic pages DS-70 thru DS-74; replace with attached pages Addendum-2-34 thru Addendum-2-38.
- Item #16 Insert Specification for Temporary Pedestrian Type II Barricade pages Addendum-2-41 and Addendum-2-42.
- Item #17 Insert Specification for Parking Meters pages Addendum-2-39 and Addendum-2-40.
- Item #18: Include in Appendix Notice to Bidders for Parking Meter Removal and Covers page Addendum-2-43.
- Item #19: Remove from Appendix Special Provision for Acceptance of HMA Mixtures, City of Ann Arbor (10 pages).
- Item #20: Include in Appendix Special Provision for Acceptance of Hot Mix Asphalt Mixture on Local Agency Projects pages Addendum-2-44 and Addendum-2-50.
- Item #21: Include in Appendix Special Provision for Hot Mix Asphalt Price for Adjustments page Addendum-2-51.

Item #22: Contract Plan Set; replace Bid issued plan set (sheets 1 thru 136) with that issued for this Addendum 2 (sheets 1 thru 136).

Changes include the following:

Plan Sheets 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 29, 31, 51, 59, 64, 68, 74, 82, 116, 122 and 133 of 136 (Location Cover Sheets) – Revised QUANTITY TABLE and QUANTITY TABLE for Sign, Type B, Temp, Prismatic to reflect correct pay items and quantities respective to each location, revised CONSTRUCTION METHOD AND SEQUENCING notes to reflect work required at each respective location.

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

ADDENDUM No. 3

ITB No. 4477

Street Resurfacing - 2017

Bids Due: March 30, 2017 at 10:00 A.M. (local time)

The following changes, additions, and/or deletions shall be made to the Invitation to Bid for Street Resurfacing - 2017, ITB No. 4477, on which proposals will be received on/or before March 30, 2017, at 10:00 A.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 137 pages.**

Bidder is to acknowledge receipt of this Addendum No. 3, 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 at bid opening.

- 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/CLARIFICATIONS

Changes to the Bid documents 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.

Item #1: The revised Contract Plan Set mistakenly was not included with Addendum 2; replace the original issued Bid Set dated 03-08-17 (sheets 1 thru 136) with set issued as Addendum 1 dated 03-24-17 (sheets 1 thru 136) and included with this Addendum 3.

Changes include the following:

Plan Sheets 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 29, 31, 51, 59, 64, 68, 74, 82, 116, 122 and 133 of 136 (Location Cover Sheets) – Revised QUANTITY TABLE and QUANTITY TABLE for Sign, Type B, Temp, Prismatic to reflect correct pay items and quantities respective to each location, revised CONSTRUCTION METHOD AND SEQUENCING notes to reflect work required at each respective location.

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

ADDENDUM No. 4

ITB No. 4477

Street Resurfacing - 2017

UPDATED DUE DATE: April 3, 2017, 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 - 2017, ITB No. 4477, on which proposals are to be received on/or before April 3, 2017, by 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 2 pages.**

Bidder is to acknowledge receipt of this Addendum No. 4, including all attachments (if any) in its Bid by so indicating on Page ITB-1 of the Invitation to Bid Form. Bids submitted without acknowledgement of receipt of this addendum will be considered nonconforming.

The following forms provided within the ITB Document must be included in submitted bids at bid opening.

- **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.

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I. CORRECTIONS/ADDITIONS/DELETIONS

Changes to the Bid documents 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.

<u>Section/Page(s)</u>	<u>Change</u>
All Mentions	As provided in Addendum 1: Bid Due Date: Thursday, March 30, 2017, at 10:00 a.m. (Local Time) As updated herein: Bid Due Date: Monday, April 3, 2017, at 2:00 p.m. (Local Time) <i>Comments: The Due Date and Time for responses to this ITB has been extended to Monday, April 3, 2017, at 2:00 p.m. (local time). Note that all other dates are unchanged.</i>
Detailed Specifications/ Addendum-2-41 and Addendum-2-42	Remove Detailed Specification for Temporary Pedestrian Type II Barricade previously included with Addendum 2.

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

BID FORM

Section 1 - Schedule of Prices

Street Resurfacing - 2017
File No. 2017-004
Bid No. 4477

Line No.	Item No.	Item Description	Unit	Estimated Quantity	Unit Price	Total Price
10	1047051	_General Conditions, Max \$75,000.00	LSUM	1.000	\$ 75,000. ⁰⁰	\$ 75,000. ⁰⁰
20	1047051	_Project Supervision, Max \$100,000.00	LSUM	1.000	\$ 100,000. ⁰⁰	\$ 100,000. ⁰⁰
30	1047051	_Certified Payroll Compliance and Reporting	LSUM	1.000	\$ 3,850. ⁰⁰	\$ 3,850. ⁰⁰
40	2030011	Dr Structure, Rem	Ea	82.000	\$ 500. ⁰⁰	\$ 41,000. ⁰⁰
50	2030015	Sewer, Rem, Less than 24 inch	Ft	806.000	\$ 20. ⁰⁰	\$ 16,120. ⁰⁰
60	2047001	_Curb, Gutter, and Curb and Gutter, Any Type, Rem	Ft	7,422.000	\$ 5. ⁵⁰	\$ 40,821. ⁰⁰
70	2047011	_Conc Pavt, Any Thickness, Rem	Syd	1,783.000	\$ 10. ⁰⁰	\$ 17,830. ⁰⁰
80	2047011	_Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem	Syd	5,021.000	\$ 8.25	\$ 41,423. ²⁵
90	2047050	_Exploratory Excavation (0-10' Deep) Tr Det I	Ea	11.000	\$ 1,500. ⁰⁰	\$ 16,500. ⁰⁰
100	2047050	_Parking Blocks, Rem	Ea	20.000	\$ 30. ⁰⁰	\$ 600. ⁰⁰
110	2047050	_Landscape Boulder, Rem and Salvage	Ea	60.000	\$ 30. ⁰⁰	\$ 1,800. ⁰⁰
120	2050010	Embankment, CIP	Cyd	239.000	\$ 25. ⁰⁰	\$ 5,975. ⁰⁰
130	2050016	Excavation, Earth	Cyd	303.000	\$ 25. ⁰⁰	\$ 7,575. ⁰⁰
140	2050023	Granular Material, CI II	Cyd	188.000	\$ 25. ⁰⁰	\$ 4,700. ⁰⁰
150	2057011	_Grading, Driveway Approach	Syd	241.000	\$ 3.60	\$ 867. ⁶⁰
160	2057011	_Grading, Sidewalk	Syd	1,255.660	\$ 3.60	\$ 4,520. ³⁸
170	2057011	_Grading, Sidewalk Ramp	Syd	894.330	\$ 3.60	\$ 3,219. ⁵⁹
180	2057011	_Machine Grading, Special	Syd	47,674.440	\$ 3.30	\$ 157,325. ⁶⁵
190	2057021	_Subgrade Undercutting, Type IIA	Cyd	6,348.000	\$ 37. ⁰⁰	\$ 234,876. ⁰⁰
200	2057021	_Subgrade Undercutting, Type IIB	Cyd	1,500.000	\$ 32. ⁰⁰	\$ 48,000. ⁰⁰
210	2080020	Erosion Control, Inlet Protection, Fabric Drop	Ea	223.000	\$ 100. ⁰⁰	\$ 22,300. ⁰⁰
TOTAL THIS PAGE						\$ 844,303. ⁴⁷

BID FORM

Section 1 - Schedule of Prices

Street Resurfacing - 2017
File No. 2017-004
Bid No. 4477

Line No.	Item No.	Item Description	Unit	Estimated Quantity	Unit Price	Total Price
220	2080036	Erosion Control, Silt Fence	Ft	2,500.000	\$ 2.50	\$ 6,250.00
230	2090001	Project Cleanup	LSUM	1.000	\$ 50,000.00	\$ 50,000.00
240	3010002	Subbase, CIP	Cyd	50.000	\$ 25.00	\$ 1,250.00
250	3020001	Aggregate Base	Ton	1,365.000	\$ 20.00	\$ 27,300.00
260	3020050	Aggregate Base, Conditioning	Syd	3,500.000	\$ 2.00	\$ 7,000.00
270	3027011	_Aggregate Base, 8 inch, 21AA	Syd	1,823.000	\$ 13.00	\$ 23,699.00
280	3027021	_Aggregate Base, CIP, 21AA	Cyd	25.000	\$ 60.00	\$ 1,500.00
290	3060020	Maintenance Gravel	Ton	350.000	\$ 22.50	\$ 7,875.00
300	3070001	Approach, CI I	Ton	250.000	\$ 22.00	\$ 5,500.00
310	3070101	Shoulder, CI I	Ton	150.000	\$ 60.00	\$ 9,000.00
320	3080010	Geotextile, Stabilization	Syd	100.000	\$ 5.00	\$ 500.00
330	3087011	_Geosynthetic Paving Layer	Syd	9,929.000	\$ 7.00	\$ 69,503.00
340	4020987	Sewer, CI IV, 12 inch, Tr Det B	Ft	822.000	\$ 90.00	\$ 73,980.00
350	4021260	Trench Undercut and Backfill	Cyd	10.000	\$ 70.00	\$ 700.00
360	4030200	Dr Structure, 24 inch dia	Ea	77.000	\$ 3,200.00	\$ 246,400.00
370	4030210	Dr Structure, 48 inch dia	Ea	12.000	\$ 4,500.00	\$ 54,000.00
380	4030306	Dr Structure, Tap, 6 inch	Ea	5.000	\$ 100.00	\$ 500.00
390	4037001	_Dr Structure, Adj, Add Depth, Modified	Ft	5.000	\$ 150.00	\$ 750.00
400	4037050	_Dr Structure Cover, Special	Ea	1.000	\$ 650.00	\$ 650.00
410	4037050	_Dr Structure Cover, Type B, Modified	Ea	132.000	\$ 550.00	\$ 72,600.00
420	4037050	_Dr Structure Cover, Type D, Modified	Ea	2.000	\$ 550.00	\$ 1,100.00
TOTAL THIS PAGE						\$ 660,057.00

BID FORM

Section 1 - Schedule of Prices

Street Resurfacing - 2017
File No. 2017-004
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Line No.	Item No.	Item Description	Unit	Estimated Quantity	Unit Price	Total Price
430	4037050	_Dr Structure Cover, Type E, Modified	Ea	2.000	\$ 650. ⁰⁰	\$ 1,300. ⁰⁰
440	4037050	_Dr Structure Cover, Type K, Modified	Ea	84.000	\$ 650. ⁰⁰	\$ 54,600. ⁰⁰
450	4037050	_Dr Structure, Adj, Case 1, Modified	Ea	320.000	\$ 445. ⁰⁰	\$ 142,400. ⁰⁰
460	4037050	_Dr Structure, Adj, Case 2, Modified	Ea	19.000	\$ 445. ⁰⁰	\$ 8,455. ⁰⁰
470	4037050	_Dr Structure, Cleaning, Modified	Ea	25.000	\$ 200. ⁰⁰	\$ 5,000. ⁰⁰
480	4037050	_Dr Structure, Double Inlet	Ea	2.000	\$ 5,000. ⁰⁰	\$ 10,000. ⁰⁰
490	4037050	_Dr Structure, Point	Ea	15.000	\$ 290. ⁰⁰	\$ 4,350. ⁰⁰
500	4037050	_Dr Structure, Reconstruct	Ea	1.000	\$ 1,950. ⁰⁰	\$ 1,950. ⁰⁰
510	4037050	_Dr Structure, Temp Lowering, Modified	Ea	243.000	\$ 350. ⁰⁰	\$ 85,050. ⁰⁰
520	4047001	_Underdrain, Subgrade, 6 inch, Special	Ft	3,000.000	\$ 24. ⁰⁰	\$ 72,000. ⁰⁰
530	5010001	Pavt, Cleaning	LSUM	1.000	\$ 39,550. ⁵³	\$ 39,550. ⁵³
540	5010003	Cold Milling HMA Surface	Ton	23,747.000	\$ 19. ⁵⁰	\$ 463,066. ⁵⁰
550	5010005	HMA Surface, Rem	Syd	3,623.880	\$ 8. ⁰⁰	\$ 28,991. ⁰⁴
560	5010015	Joint and Crack, Cleanout	Ft	2,500.000	\$ 3. ⁰⁰	\$ 7,500. ⁰⁰
570	5010020	Pvmt Joint and Crack Repr, Detail 7	Ft	240.000	\$ 30. ⁰⁰	\$ 7,200. ⁰⁰
580	5010021	Pvmt Joint and Crack Repr, Detail 8	Ft	120.000	\$ 40. ⁰⁰	\$ 4,800. ⁰⁰
590	5010025	Hand Patching	Ton	510.000	\$ 250. ⁰⁰	\$ 127,500. ⁰⁰
600	5010045	HMA, 3E3	Ton	287.000	\$ 130. ⁰⁰	\$ 37,310. ⁰⁰
610	5010051	HMA, 4E3	Ton	1,739.000	\$ 130. ⁰⁰	\$ 226,070. ⁰⁰
620	5010057	HMA, 5E3	Ton	4,153.000	\$ 120. ⁰⁰	\$ 498,360. ⁰⁰
630	5010061	HMA, Approach	Ton	1,134.000	\$ 150. ⁰⁰	\$ 170,100. ⁰⁰
TOTAL THIS PAGE						\$ 1,995,553. ⁰⁷

BID FORM

Section 1 - Schedule of Prices

Street Resurfacing - 2017
File No. 2017-004
Bid No. 4477

Line No.	Item No.	Item Description	Unit	Estimated Quantity	Unit Price	Total Price
640	5010703	HMA, LVSP	Ton	17,146.000	\$ 95. ⁰⁰	\$ 1,628,870. ⁰⁰
650	5017011	_HMA, Raised Crosswalk	Syd	60.000	\$ 95. ⁰⁰	\$ 5,700. ⁰⁰
660	5017011	_HMA, Raised Intersection	Syd	175.000	\$ 95. ⁰⁰	\$ 16,625. ⁰⁰
670	5017011	_HMA, Speed Hump	Syd	35.000	\$ 180. ⁰⁰	\$ 6,300. ⁰⁰
680	5017031	_HMA, Wedging, 36A	Ton	87.000	\$ 400. ⁰⁰	\$ 34,800. ⁰⁰
690	5017031	_Cold Milling for Curb Reveal	Ton	184.000	\$ 110. ⁰⁰	\$ 20,240. ⁰⁰
700	5017050	_HMA Surface, Around Structure Cover, Rem	Ea	123.000	\$ 85. ⁰⁰	\$ 10,455. ⁰⁰
710	6027021	_Flowable Fill	Cyd	226.852	\$ 200. ⁰⁰	\$ 45,370. ⁴⁰
720	6030005	Cement	Ton	24.000	\$ 0. ⁰¹	\$ 0. ²⁴
730	8017011	_Driveway, Nonreinf Conc, 6 inch, Modified	Syd	220.000	\$ 110. ⁰⁰	\$ 24,200. ⁰⁰
740	8017011	_Driveway, Nonreinf Conc, 8 inch, Modified	Syd	37.000	\$ 150. ⁰⁰	\$ 5,550. ⁰⁰
750	8027001	_Curb and Gutter, Conc	Ft	6,112.000	\$ 40. ⁰⁰	\$ 244,480. ⁰⁰
760	8027001	_Driveway Opening, Conc, Det M, Modified	Ft	1,536.500	\$ 40. ⁰⁰	\$ 61,460. ⁰⁰
770	8037001	_Detectable Warning Surface, Modified	Ft	610.000	\$ 32. ⁰⁰	\$ 19,520. ⁰⁰
780	8037001	_Detectable Warning Surface, Cast Iron	Ft	80.000	\$ 50. ⁰⁰	\$ 4,000. ⁰⁰
790	8037001	_Fence, Protective, Modified	Ft	1,250.000	\$ 10. ⁰⁰	\$ 12,500. ⁰⁰
800	8037010	_Sidewalk Ramp, Conc, 6 inch, Modified	Sft	7,092.000	\$ 12. ⁰⁰	\$ 85,104. ⁰⁰
810	8037010	_Sidewalk Retaining Wall, Integral, 6 inch to 18 inch Height	Sft	350.000	\$ 40. ⁰⁰	\$ 14,000. ⁰⁰
820	8037010	_Sidewalk Retaining Wall, Integral, 18 inch to 30 inch Height	Sft	150.000	\$ 40. ⁰⁰	\$ 6,000. ⁰⁰
830	8037010	_Sidewalk, Conc or Clay Brick Pavers, Rem and Reinstall	Sft	70.000	\$ 60. ⁰⁰	\$ 4,200. ⁰⁰
840	8037010	_Sidewalk, Conc, 4 inch, Modified	Sft	5,858.000	\$ 7.75	\$ 45,399. ⁵⁰
TOTAL THIS PAGE						\$ 2,294,774. ¹⁴

BID FORM

Section 1 - Schedule of Prices

Street Resurfacing - 2017
File No. 2017-004
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Line No.	Item No.	Item Description	Unit	Estimated Quantity	Unit Price	Total Price
850	8037010	_Sidewalk, Conc, 6 inch, Modified	Sft	307.000	\$ 12. ⁰⁰	\$ 3,684. ⁰⁰
860	8037010	_Sidewalk Ramp, Conc, 8 inch, Modified	Sft	1,058.000	\$ 14. ⁰⁰	\$ 14,812. ⁰⁰
870	8037010	_Sidewalk, Conc, 8 inch, Modified	Sft	3,601.000	\$ 14. ⁰⁰	\$ 50,414. ⁰⁰
880	8050020	Curb Vertical, HMA	Ft	791.000	\$ 15. ⁰⁰	\$ 11,865. ⁰⁰
890	8060040	Shared use Path, HMA	Ton	890.400	\$ 150. ⁰⁰	\$ 133,560. ⁰⁰
900	8110049	Pavt Mrkg, Ovly Cold Plastic, Direction Arrow Sym, Bike	Ea	31.000	\$ 130. ⁰⁰	\$ 4,030. ⁰⁰
910	8110058	Pavt Mrkg, Ovly Cold Plastic, Bike, Small Sym	Ea	29.000	\$ 135. ⁰⁰	\$ 3,915. ⁰⁰
920	8110079	Pavt Mrkg, Ovly Cold Plastic, Sharrow Symbol	Ea	7.000	\$ 360. ⁰⁰	\$ 2,520. ⁰⁰
930	8110520	Pavt Mrkg, Wet Retrflec, Thermopl, 4 inch, White	Ft	16,844.000	\$ 0.90	\$ 15,159. ⁶⁰
940	8110521	Pavt Mrkg, Wet Retrflec, Thermopl, 6 inch, White	Ft	16,919.000	\$ 1. ⁰⁰	\$ 16,919. ⁰⁰
950	8110524	Pavt Mrkg, Wet Retrflec, Thermopl, 4 inch, Yellow	Ft	31,745.000	\$ 0.90	\$ 28,570. ⁵⁰
960	8110332	Rem Raised Pavt Marker	Ea	105.000	\$ 40. ⁰⁰	\$ 4,200. ⁰⁰
970	8110343	Rem Spec Mrkg	Sft	375.000	\$ 3. ⁰⁰	\$ 1,125. ⁰⁰
980	8110450	Recessing Pavement Markings, Longit	Ft	3,127.000	\$ 0.50	\$ 1,563. ⁵⁰
990	8110451	Recessing Pavement Markings, Transv	Sft	2,744.000	\$ 3. ⁰⁰	\$ 8,232. ⁰⁰
1000	8110500	Pavt Mrkg, Wet Retrflec, Polyurea, 4 inch, White	Ft	910.000	\$ 0.90	\$ 819. ⁰⁰
1010	8110501	Pavt Mrkg, Wet Retrflec, Polyurea, 6 inch, White	Ft	1,903.000	\$ 1. ⁰⁰	\$ 1,903. ⁰⁰
1020	8110504	Pavt Mrkg, Wei Retrflec, Polyurea, 4 inch, Yellow	Ft	314.000	\$ 0.90	\$ 282. ⁶⁰
1030	8117001	_Pavt Mrkg, Wet Retrflec, Polyurea, 24 inch, Stop Bar	Ft	403.000	\$ 12. ⁵⁰	\$ 5,037. ⁵⁰
1040	8117001	_Pavt Mrkg, Wet Retrflec, Polyurea, 12 inch, Crosswalk	Ft	1,756.000	\$ 5. ⁵⁰	\$ 9,658. ⁰⁰
1050	8117001	_Pavt Mrkg, Wet Retrflec, Polyurea, 4 inch, Parking Sym, White	Ft	512.000	\$ 2. ⁰⁰	\$ 1,024. ⁰⁰
TOTAL THIS PAGE						\$ 319,293. ⁷⁰

BID FORM

Section 1 - Schedule of Prices

Street Resurfacing - 2017
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Line No.	Item No.	Item Description	Unit	Estimated Quantity	Unit Price	Total Price
1060	8117001	_Pavt Mrkg, Wet Retrflec, Thermopl, 6 inch, Crosswalk	Ft	2,582.000	\$ 2.50	\$ 6,455. ⁰⁰
1070	8117001	_Pavt Mrkg, Wet Retrflec, Thermopl, 12 inch, Crosswalk	Ft	3,196.000	\$ 5. ⁰⁰	\$ 15,980. ⁰⁰
1080	8117001	_Pavt Mrkg, Wet Retrflec, Thermopl, 12 inch, Cross Hatching, White	Ft	250.000	\$ 5. ⁰⁰	\$ 1,250. ⁰⁰
1090	8117001	_Pavt Mrkg, Wet Retrflec, Thermopl, 12 inch, Cross Hatching, Yellow	Ft	125.000	\$ 5. ⁰⁰	\$ 625. ⁰⁰
1100	8117001	_Pavt Mrkg, Wet Retrflec, Thermopl, 24 inch, Stop Bar	Ft	1,440.000	\$ 11.50	\$ 16,560. ⁰⁰
1110	8117001	_Pavt Mrkg, Wet Retrflec, Thermopl, 4 inch, Parking Sym, White	Ft	1,024.000	\$ 2. ⁰⁰	\$ 2,048. ⁰⁰
1120	8117050	_Pavt Mrkg, Wet Retrflec, Polyurea, Lt Turn Arrow Sym	Ea	2.000	\$ 170. ⁰⁰	\$ 340. ⁰⁰
1130	8117050	_Pavt Mrkg, Wet Retrflec, Polyurea, Only	Ea	4.000	\$ 170. ⁰⁰	\$ 680. ⁰⁰
1140	8117050	_Pavt Mrkg, Wet Retrflec, Polyurea, Rt Turn Arrow Sym	Ea	1.000	\$ 170. ⁰⁰	\$ 170. ⁰⁰
1150	8117050	_Pavt Mrkg, Wet Retrflec, Polyurea, Thru Arrow Sym	Ea	1.000	\$ 160. ⁰⁰	\$ 160. ⁰⁰
1160	8117050	_Pavt Mrkg, Wet Retrflec, Thermopl, Lt Turn Arrow Sym	Ea	14.000	\$ 160. ⁰⁰	\$ 2,240. ⁰⁰
1170	8117050	_Pavt Mrkg, Wet Retrflec, Thermopl, Rt Turn Arrow Sym	Ea	7.000	\$ 160. ⁰⁰	\$ 1,120. ⁰⁰
1180	8117050	_Pavt Mrkg, Wet Retrflec, Thermopl, Thru and Rt Turn Arrow Sym	Ea	5.000	\$ 225. ⁰⁰	\$ 1,125. ⁰⁰
1190	8117050	_Pavt Mrkg, Wet Retrflec, Thermopl, Thru and Lt Turn Arrow Sym	Ea	5.000	\$ 225. ⁰⁰	\$ 1,125. ⁰⁰
1200	8117050	_Pavt Mrkg, Wet Retrflec, Thermopl, Only	Ea	18.000	\$ 160. ⁰⁰	\$ 2,880. ⁰⁰
1210	8117050	_Pavt Mrkg, Wet Retrflec, Thermopl, School	Ea	6.000	\$ 250. ⁰⁰	\$ 1,500. ⁰⁰
1220	8117050	_Pavt Mrkg, Wet Retrflec, Thermopl, Railroad Sym	Ea	2.000	\$ 400. ⁰⁰	\$ 800. ⁰⁰
1230	8117050	_Pavt Mrkg, Wet Retrflec, Thermopl, Speed Hump Chevron, White	Ea	1.000	\$ 400. ⁰⁰	\$ 400. ⁰⁰
1240	8120012	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	Ea	145.000	\$ 65. ⁰⁰	\$ 9,425. ⁰⁰
1250	8120013	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	Ea	145.000	\$ 65. ⁰⁰	\$ 9,425. ⁰⁰
1260	8120030	Channelizing Device, 42 inch, Furn	Ea	500.000	\$ 20. ⁰⁰	\$ 10,000. ⁰⁰
TOTAL THIS PAGE						\$ 84,308. ⁰⁰

BID FORM

Section 1 - Schedule of Prices

Street Resurfacing - 2017
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Line No.	Item No.	Item Description	Unit	Estimated Quantity	Unit Price	Total Price
1270	8120031	Channelizing Device, 42 inch, Oper	Ea	500.000	\$ 20. ⁰⁰	\$ 10,000. ⁰⁰
1280	8120140	Lighted Arrow, Type C, Furn	Ea	22.000	\$ 700. ⁰⁰	\$ 15,400. ⁰⁰
1290	8120141	Lighted Arrow, Type C, Oper	Ea	16.000	\$ 700. ⁰⁰	\$ 11,200. ⁰⁰
1300	8120210	Pavt Mrkg, Longit, 6 inch or Less Width, Rem	Ft	250.000	\$ 1. ⁰⁰	\$ 250. ⁰⁰
1310	8120235	Pavt Mrkg, Wet Retrlec, Type NR, Paint, 4 inch, White, Temp	Ft	2,500.000	\$ 0.40	\$ 1,000. ⁰⁰
1320	8120236	Pavt Mrkg, Wet Retrlec, Type NR, Paint, 4 inch, Yellow, Temp	Ft	7,500.000	\$ 0.40	\$ 3,000. ⁰⁰
1330	8120245	Pavt Mrkg, Wet Retrlec, Type R, Tape, 4 inch, White, Temp	Ft	2,760.000	\$ 1.60	\$ 4,416. ⁰⁰
1340	8120246	Pavt Mrkg, Wet Retrlec, Type R, Tape, 4 inch, Yellow, Temp	Ft	2,000.000	\$ 1.60	\$ 3,200. ⁰⁰
1350	8120260	Plastic Drum, High Intensity, Lighted, Furn	Ea	1,644.000	\$ 25. ⁰⁰	\$ 41,100. ⁰⁰
1360	8120261	Plastic Drum, High Intensity, Lighted, Oper	Ea	1,644.000	\$ 25. ⁰⁰	\$ 41,100. ⁰⁰
1370	8120310	Sign Cover	Ea	50.000	\$ 40. ⁰⁰	\$ 2,000. ⁰⁰
1380	8120330	Sign, Portable, Changeable Message, Furn	Ea	12.000	\$ 4,200. ⁰⁰	\$ 50,400. ⁰⁰
1390	8120331	Sign, Portable, Changeable Message, Oper	Ea	25.000	\$ 1,500. ⁰⁰	\$ 37,500. ⁰⁰
1400	8120350	Sign, Type B, Temp, Prismatic, Furn	Sft	6,460.500	\$ 2.50	\$ 16,151. ²⁵
1410	8120351	Sign, Type B, Temp, Prismatic, Oper	Sft	6,460.500	\$ 2.50	\$ 16,151. ²⁵
1420	8120370	Traf Regulator Control	LSUM	1.000	\$ 19,850. ⁰⁰	\$ 19,850. ⁰⁰
1430	8127050	_No Parking Sign	Ea	451.000	\$ 35. ⁰⁰	\$ 15,785. ⁰⁰
1440	8127051	_Minor Traffic Control, Max \$50,000.00	LSUM	1.000	\$ 50,000. ⁰⁰	\$ 50,000. ⁰⁰
1450	8157060	_Irrigation System, Protection and Maintenance	Dlr	2,500.000	\$ 1. ⁰⁰	\$ 2,500. ⁰⁰
1460	8167011	_Slope Restoration	Syd	5,514.280	\$ 4. ⁰⁰	\$ 22,057. ¹²
1470	8190159	Conduit, Schedule 80, 3 inch	Ft	100.000	\$ 20. ⁰⁰	\$ 2,000. ⁰⁰
TOTAL THIS PAGE						\$ 365,060. ⁶²

BID FORM

Section 1 - Schedule of Prices

Street Resurfacing - 2017
 File No. 2017-004
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Line No.	Item No.	Item Description	Unit	Estimated Quantity	Unit Price	Total Price
1480	8197050	_Handhole Assembly, 12 Inch x 18 Inch	Ea	2.000	\$ 1,000. ⁰⁰	\$ 2,000. ⁰⁰
1490	8197050	_Handhole Assembly, 17 Inch x 30 Inch	Ea	2.000	\$ 1,400. ⁰⁰	\$ 2,800. ⁰⁰
1500	8197050	_Handhole Assembly, 24 inch x 36 inch	Ea	2.000	\$ 2,000. ⁰⁰	\$ 4,000. ⁰⁰
1510	8217050	_Monument Box Adjust	Ea	12.000	\$ 420. ⁰⁰	\$ 5,040. ⁰⁰
1520	8230431	Gate Box, Adj, Case 1	Ea	52.000	\$ 420. ⁰⁰	\$ 21,840. ⁰⁰
1530	8230432	Gate Box, Adj, Case 2	Ea	1.000	\$ 420. ⁰⁰	\$ 420. ⁰⁰
1540	8257050	_Remove Parking Meters	Ea	18.000	\$ 100. ⁰⁰	\$ 1,800. ⁰⁰
1550	8257050	_Install Parking Meters	Ea	14.000	\$ 250. ⁰⁰	\$ 3,500. ⁰⁰
TOTAL THIS PAGE						\$ 41,400. ⁰⁰
TOTAL FROM PAGE BF-1						\$ 844,303.47
TOTAL FROM PAGE BF-2						\$ 660,057. ⁰⁰
TOTAL FROM PAGE BF-3						\$ 1,995,553. ⁶⁷
TOTAL FROM PAGE BF-4						\$ 2,294,774. ¹⁴
TOTAL FROM PAGE BF-5						\$ 319,293. ⁷⁰
TOTAL FROM PAGE BF-6						\$ 84,308. ⁰⁰
TOTAL FROM PAGE BF-7						\$ 365,060. ⁶²
TOTAL BASE BID						\$ 6,604,750. ⁰⁰

BID FORM

Section 2 - Material and Equipment Alternates

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


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

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

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

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

Signature of Authorized Representative of Bidder

 Date 3/30/17

BID FORM

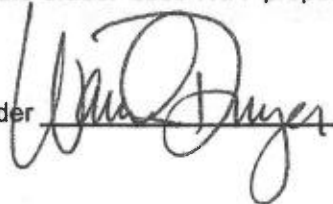
Section 3 - Time Alternate

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

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

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

Signature of Authorized Representative of Bidder

 Date 3/30/17

BID FORM

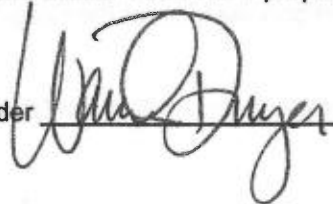
Section 3 - Time Alternate

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

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

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

Signature of Authorized Representative of Bidder

 Date 3/30/17

BID FORM

Section 5 – References

Include a minimum of ___ reference from similar project completed within the past ___ years.

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

1) Ann Arbor 2016 Resurfacing \$5,558,387.⁹³ MAY - OCT, 2016
Project Name Cost Date Constructed

DANE DYKMAN
Contact Name

(734) 645-6560
Phone Number

2) Washtenaw County Overlay \$2,770,735.⁰⁰ MAY - NOV, 2016
Project Name Cost Date Constructed

MIKE BERNBECK / JIM HARMON
Contact Name

(734) 761-1500
Phone Number

3) Central City Pkwy \$1,472,400.¹⁹ 9/16/16
Project Name Cost Date Constructed

Craig Dashner, OTHM
Contact Name

(248) 568-9610
Phone Number

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CONTRACT

THIS AGREEMENT is made on the 1st day of May, 2017, between the CITY OF ANN ARBOR, a Michigan Municipal Corporation, 301 East Huron Street, Ann Arbor, Michigan 48104 ("City") and Cadillac Asphalt LLC ("Contractor") a State of Michigan Corporation located at 857 South Wagner Road, Ann Arbor, MI, 48103.

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

ARTICLE I - Scope of Work

The Contractor agrees to furnish all of the materials, equipment and labor necessary; and to abide by all the duties and responsibilities applicable to it for the project titled "**Street Resurfacing - 2017**" in accordance with the requirements and provisions of the following documents, including all written modifications incorporated into any of the documents, which are incorporated as part of this Contract:

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

ARTICLE II - Definitions

Administering Service Area/Unit means **Public Services Area /Project Management Services Unit**

Project means **Street Resurfacing – 2017; ITB No. 4477**

ARTICLE III - Time of Completion

- (A) The work to be completed under this Contract shall begin in accordance with the "Detailed Specification for Project Schedule" contained elsewhere herein and only after the Contractor's receipt of a fully executed Contract and Notice to Proceed issued by the City.
- (B) The entire work for this Contract shall be completed by October 28, 2017. Intermediate completion dates, restricted dates, intermediate durations for completing work, and other special requirements for certain portions of the project are specified in the "Detailed Specification for Project Schedule".
- (C) Failure to complete all the work within the time specified above, including any extension granted in writing by the Supervising Professional, shall obligate the Contractor to pay the City, as liquidated damages and not as a penalty, the amount(s) specified in the "Detailed Specification for Project Schedule" found on page DS-1 of the Contract Documents for each calendar day of delay in the completion of all the work. If any liquidated damages are unpaid by the Contractor, the City shall be entitled to deduct these unpaid liquidated damages from the monies due the Contractor.

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

ARTICLE IV - The Contract Sum

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

Six Million Six Hundred Four Thousand Seven Hundred Fifty and 00/100 Dollars
(\$6,604,750.00)

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

ARTICLE V - Assignment

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

ARTICLE VI - Choice of Law

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

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

ARTICLE VII - Relationship of the Parties

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

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

ARTICLE VIII - Notice

All notices given under this Contract shall be in writing, and shall be by personal delivery or by certified mail with return receipt requested to the parties at their respective addresses as specified in the Contract Documents or other address the Contractor may specify in writing.

Notice will be deemed given on the date when one of the following first occur: (1) the date of actual receipt; or (2) three days after mailing certified U.S. mail.

ARTICLE IX - Indemnification

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

ARTICLE X - Entire Agreement

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

FOR CONTRACTOR

By

Its:



G.M. CONSTRUCTION

FOR THE CITY OF ANN ARBOR

By

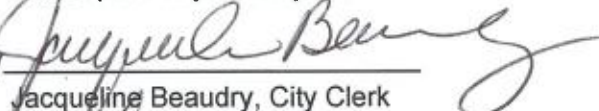
By

Approved as to substance

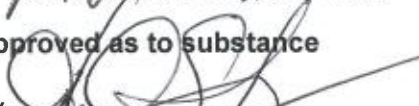
By



Christopher Taylor, Mayor



Jacqueline Beaudry, City Clerk



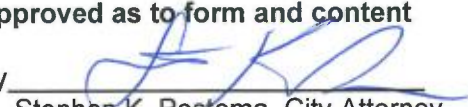
Howard S. Lazarus, City Administrator



PUBLIC SERVICES ADMINISTRATOR

Approved as to form and content

By



Stephen K. Postema, City Attorney

KE

PERFORMANCE BOND

(1) Cadillac Asphalt, L.L.C.
of 2575 S. Haggerty Road, Suite 100, Canton, MI 48188 (referred to as
"Principal"), and Western Surety Company, a
corporation duly authorized to do business in the State of Michigan (referred to as
"Surety"), are bound to the City of Ann Arbor, Michigan (referred to as "City"), for

\$ 6,604,750.00, the payment of which Principal and Surety
bind themselves, their heirs, executors, administrators, successors and assigns, jointly
and severally, by this bond.

(2) The Principal has entered a written Contract with the City dated
May 1, 2017, for: Street Resurfacing - 2017; ITB No. 4477
and
this bond is given for that Contract in compliance with Act No. 213 of the Michigan Public
Acts of 1963, as amended, being MCL 129.201 et seq.

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

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

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

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

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

SIGNED AND SEALED this 25th day of April, 2017.

Western Surety Company
(Name of Surety Company)
By [Signature]
(Signature)
Loretta J. Ravert
Its Attorney-in-Fact
(Title of Office)

DEVEN RAU
(Name of Principal)
By [Signature]
(Signature)
Its G.M. CONSTRUCTION
(Title of Office)

Approved as to form:

[Signature]
Stephen K. Postema, City Attorney

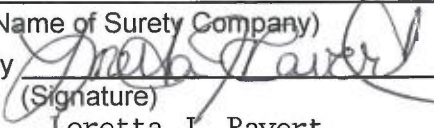
Name and address of agent:

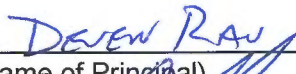
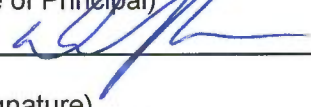
The Richmond Agency, Inc.
833 Laurence Ave, P.O. Box 907
Jackson, MI 49204

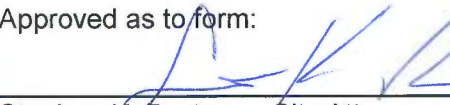
LABOR AND MATERIAL BOND

- (1) Cadillac Asphalt, L.L.C.
of 2575 S. Haggerty Road, Suite 100, Canton, MI 48188 (referred to
as "Principal"), and Western Surety Company, a corporation
duly authorized to do business in the State of Michigan, (referred to as "Surety"), are bound
to the City of Ann Arbor, Michigan (referred to as "City"), for the use and benefit of claimants
as defined in Act 213 of Michigan Public Acts of 1963, as amended, being MCL 129.201 et
seq., in the amount of
\$ 6,604,750.00, for the payment of which Principal and Surety bind themselves, their
heirs, executors, administrators, successors and assigns, jointly and severally, by this bond.
- (2) The Principal has entered a written Contract with the City, dated May 1, 2017,
for Street Resurfacing - 2017; ITB No. 4477
_____ ; and this bond is
given for that Contract in compliance with Act No. 213 of the Michigan Public Acts of 1963 as
amended;
- (3) If the Principal fails to promptly and fully repay claimants for labor and material reasonably
required under the Contract, the Surety shall pay those claimants.
- (4) Surety's obligations shall not exceed the amount stated in paragraph 1, and Surety shall have
no obligation if the Principal promptly and fully pays the claimants.

SIGNED AND SEALED this 25th day of April, 2017

Western Surety Company
(Name of Surety Company)
By 
(Signature)
Loretta J. Ravert
Its Attorney-in-Fact
(Title of Office)


(Name of Principal)
By 
(Signature)
Its G.M. Construction
(Title of Office)

Approved as to form:

Stephen K. Postema, City Attorney

Name and address of agent:
The Richmond Agency, Inc.
833 Laurence Ave, P.O. Box 907
Jackson, MI 49204

Western Surety Company

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That WESTERN SURETY COMPANY, a South Dakota corporation, is a duly organized and existing corporation having its principal office in the City of Sioux Falls, and State of South Dakota, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

Charles G Richmond, David M Underwood, Michael S Richmond, Loretta J Ravert, Individually

of Jackson, MI, its true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on its behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

and to bind it thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of the corporation and all the acts of said Attorney, pursuant to the authority hereby given, are hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law printed on the reverse hereof, duly adopted, as indicated, by the shareholders of the corporation.

In Witness Whereof, WESTERN SURETY COMPANY has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 2nd day of June, 2016.



WESTERN SURETY COMPANY

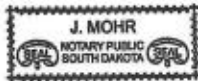
Paul T. Bruflat, Vice President

State of South Dakota }
County of Minnehaha } ss

On this 2nd day of June, 2016, before me personally came Paul T. Bruflat, to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is the Vice President of WESTERN SURETY COMPANY described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said corporation and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporation.

My commission expires

June 23, 2021



J. Mohr, Notary Public

CERTIFICATE

I, L. Nelson, Assistant Secretary of WESTERN SURETY COMPANY do hereby certify that the Power of Attorney hereinabove set forth is still in force, and further certify that the By-Law of the corporation printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said corporation this 25th day of April, 2017.



WESTERN SURETY COMPANY

L. Nelson, Assistant Secretary

GENERAL CONDITIONS

Section 1 - Execution, Correlation and Intent of Documents

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

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

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

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

Section 2 - Order of Completion

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

Section 3 - Familiarity with Work

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

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

Section 4 - Wage Requirements

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

Section 7 - Qualifications for Employment

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

Section 8 - Royalties and Patents

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

Section 9 - Permits and Regulations

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

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

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

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

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

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

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

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

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

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

Section 15 - Claims for Extra Cost

If the Contractor claims that any instructions by drawings or other media issued after the date of the Contract involved extra cost under this Contract, it shall give the Supervising Professional written notice within 7 days after the receipt of the instructions, and in any event before proceeding to execute the work, except in emergency endangering life or property. The procedure shall then be as provided for Changes in the Work-Section 13. No claim shall be valid unless so made.

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

- (1) The Contractor shall be reimbursed for all reasonable costs incurred in doing the work, and shall receive an additional payment of 15% of all the reasonable costs to cover both its indirect overhead costs and profit;
- (2) The term "Cost" shall cover all payroll charges for employees and supervision required under the specific order, together with all worker's compensation, Social Security, pension and retirement allowances and social insurance, or other regular payroll charges on same; the cost of all material and supplies required of either temporary or permanent character; rental of all power-driven equipment at agreed upon rates, together with cost of fuel and

been completed and shows the equipment to be unacceptable.

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

Section 17 - Deductions for Uncorrected Work

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

Section 18 - Correction of Work Before Final Payment

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

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

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

Section 19 - Acceptance and Final Payment

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

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

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

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

excess cost incurred. The expense incurred by the City, and the damage incurred through the Contractor's default, shall be certified by the Supervising Professional.

Section 22 - Contractor's Right to Terminate Contract

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

Section 23 - City's Right To Do Work

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

Section 24 - Removal of Equipment and Supplies

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

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

Section 25 - Responsibility for Work and Warranties

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

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

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

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

- (b) Commercial General Liability Insurance equivalent to, as a minimum, Insurance Services Office form CG 00 01 07 98 or current equivalent. The City of Ann Arbor shall be named as an additional insured. There shall be no added exclusions or limiting endorsements specifically for the following coverages: Products and Completed Operations, Explosion, Collapse and Underground coverage or Pollution. Further there shall be no added exclusions or limiting endorsements which diminish the City's protections as an additional insured under the policy. The following minimum limits of liability are required:

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

- (c) Motor Vehicle Liability Insurance, including Michigan No-Fault Coverages, equivalent to, as a minimum, Insurance Services Office form CA 00 01 07 97 or current equivalent. Coverage shall include all owned vehicles, all non-owned vehicles and all hired vehicles. The City of Ann Arbor shall be named as an additional insured. There shall be no added exclusions or limiting endorsements which diminish the City's protections as an additional insured under the policy. Further, the limits of liability shall be \$1,000,000 for each occurrence as respects Bodily Injury Liability or Property Damage Liability, or both combined.

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

- (2) Insurance required under subsection (1)(b) and (1)(c) above shall be considered primary as respects any other valid or collectible insurance that the City may possess, including any self-insured retentions the City may have; and any other insurance the City does possess shall be considered excess insurance only and shall not be required to contribute with this insurance. Further, the Contractor agrees to waive any right of recovery by its insurer against the City.
- (3) Insurance companies and policy forms are subject to approval of the City Attorney, which approval shall not be unreasonably withheld. Documentation must provide and demonstrate an unconditional 30 day written notice of cancellation in favor of the City of Ann Arbor. Further, the documentation must explicitly state the following: (a) the policy number; name of insurance company; name and address of the agent or authorized representative; name and address of insured; project name; policy expiration date; and specific coverage amounts; (b) any deductibles or self-insured retentions which shall be approved by the City, in its sole discretion; (c) that the policy conforms to the requirements specified Contractor shall furnish the City with satisfactory certificates of insurance and endorsements prior to commencement of any work. Upon request, the Contractor shall provide within 30 days a copy of the policy(ies) to the City. If any of the above coverages expire by their terms during the term of this Contract, the Contractor shall deliver proof of renewal and/or new policies and endorsements to the Administering Service Area/Unit at

with, utility companies and other contractors whose work impacts this project.

Section 34 - Subcontracts

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

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

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

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

Section 35 - Supervising Professional's Status

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

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

Section 36 - Supervising Professional's Decisions

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

Section 37 - Storing Materials and Supplies

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

Section 38 - Lands for Work

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

STANDARD SPECIFICATIONS

All work under this contract shall be performed in accordance with the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction. All work under this Contract which is not included in these Standard Specifications, or which is performed using modifications to these Standard Specifications, shall be performed in accordance with the City of Ann Arbor Detailed Specifications, MDOT Supplemental Specifications, and MDOT Special Provisions included in these contract documents. Any reference to the Michigan Department of Transportation (the "Department") in the above Standard Specifications, Supplemental Specifications, and Special Provisions shall also mean the City of Ann Arbor.

The Michigan Department of Transportation 2012 Standard Specification for Construction may be downloaded from the following web link:

<http://mdotcf.state.mi.us/public/specbook/2012/>

guarantees existing conditions to be the same as shown in the data. The Contractor is solely responsible for any and all conclusions he/she may draw from the data.

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

b. **Materials.** None Specified.

c. **Construction.** Not specified.

d. **Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price for the following pay item:

Pay Item

Pay Unit

General Conditions, Max \$_____Lump Sum

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

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

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PROJECT SUPERVISION

AA:DAD

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02/23/16

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's, subcontractors' and suppliers' 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's, subcontractors' and suppliers' equipment, work vehicles, and employee's vehicles.

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

The Project Supervisor shall coordinate and schedule the work of any independent survey crews that may be retained by the 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 that are needed in order 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.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PROJECT SUPERVISION

AA:DAD

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02/23/16

contract modification will be written to assess a penalty to cover the difference between the Project Supervision contract amount and the total amount of the deduction(s). It is fully expected however 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. The completed work, as described, will be measured and paid for at the contract unit price for the following pay item:

<u>Pay Item</u>	<u>Pay Unit</u>
Project Supervision, Max \$100,000	Lump Sum

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

Payment for this work will be made with each progress payment, on a pro rata basis, based on the percentage of construction completed. When all of the work of this Contract has been completed, the measurement of this item shall be 1.0 times the Lump Sum bid amount, minus any deductions incurred for inadequate performance as described herein. This amount will not be increased for any reason, including extensions of time, extras, adjustments and/or additional work.

reasonable, accurately reported, or may contain discrepancies, the City reserves the right to request additional documentation that fully supports and justifies the price as bid. Should the submitted information not be determined to be reasonable or justify the costs, the City reserves the right to pursue award of the contract to the second low bidder without penalty or prejudice to any other remedies that it may have or may elect to exercise with respect to the original low-bidder.

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

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

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

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

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

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
MATERIAL AND SUPPLIES CERTIFICATIONS

AA:DAD

1 of 1

04/08/15

a. Description. This work includes furnishing certifications to the Engineer for review and approval a minimum of three business days prior to any scheduled delivery, installation, and/or construction of same. The following materials and supplies shall be certified by the manufacturer or supplier as having been tested for compliance with the Specifications:

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

b. Materials. None specified.

c. Construction. Not specified.

d. Measurement and Payment. Costs for this work will not be paid for separately, but shall be included in the Contract pay Item "General Conditions, Maximum, \$___".

Failure to complete all work as specified herein within the times specified herein, including time extensions granted thereto as determined by the Engineer, shall entitle the City to deduct from the payments due the Contractor, the dollar amounts specified in the Schedule of Streets as "Liquidated Damages" for delays in the completion of the work for each incomplete street, for each and every calendar day.

Time is of the essence in the performance of the work of this contract. The Contractor is expected to mobilize sufficient personnel and equipment and work throughout all authorized hours to complete the project by the intermediate (location specific) and final completion dates. Should the Contractor demonstrate that they must work on some Sundays in order to maintain the project schedule, they may do so between the hours of 9:00 a.m. and 5:00 p.m. with prior approval from the City. There will be no additional compensation due to the Contractor for work performed on Sundays.

The Engineer may delay or stop the work due to threatening weather conditions. No compensation shall be due the Contractor for unused materials or downtime due to rain, or the threat of rain. The Contractor is solely responsible for repairing all damages to the work and to the site, including road infrastructures, road subgrades, and any adjacent properties resulting from its decision to work in the rain.

The Contractor shall not work in the dark except as approved by the Engineer and shall provide lighting for night work as detailed elsewhere in this contract. The Engineer may stop the work, or may require the Contractor to defer certain work to another day, if, in the Engineer's opinion, the Contractor cannot be complete the work within the remaining daylight hours, or if inadequate daylight is present to properly perform or inspect the work. No compensation shall be due to the Contractor for unused materials or downtime, when the Engineer directs work stoppage for reasons due to darkness and/or inadequate remaining daylight. The Contractor is solely responsible for repairing all damages to the work and to the site, including road infrastructures, road subgrades, and any adjacent properties, which result from working in the dark.

Assessment of Liquidated Damages will occur until the required work is complete in the current construction season. If, with the Engineer's approval, work extends beyond seasonal limitations, the assessment of Liquidated Damages will discontinue until the work resumes in the following construction season.

If the construction contract is not complete within the specified period(s) including any extensions of time granted thereto, at the sole discretion of the City of Ann Arbor, this Contract may be terminated. Should this occur no additional compensation will be due to the Contractor, and the Contractor may be forbidden to bid on future City of Ann Arbor projects for a period of at least three (3) years. If the Engineer elects to terminate the Contract, payment for contract items with a Lump Sum unit price will be up to a maximum amount equal to the percentage of the contract work that is complete at the time of termination.

The City's decision to delete streets, add streets, change the construction limits on streets, or, the City's contribution to a delay of the construction on any one street shall not entitle the Contractor to receive additional compensation for work on any other street(s), nor shall it relieve the Contractor of any responsibilities for completion of work on any other street(s).

Costs for the Contractor to organize, coordinate, and schedule all of the project work will not be paid for separately, but shall be included in the bid price of the Contract Item "General Conditions, Max \$____"

Street Resurfacing – 2017

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						
High Orchard Drive	Geddes Rd to City Limit			MMRL, INDP, LABR	18	\$500.00
High Orchard Court	End (cul-de-sac) to High Orchard Dr					
Alley (south of West Madison St)	S Seventh St to End	07/01/2017		INDP, LABR	14	\$500.00
Arella Boulevard	Martha Ave to Pauline Blvd	07/01/2017		INDP, LABR	30	\$500.00
Island Drive	Canal St to Wall St			MMRL, INDP, LABR	21	\$500.00

AAPS – No work permitted when Ann Arbor Public Schools are in session (before June 19, 2017 or after September 1, 2017).

AAAF – No work permitted from July 20, 2017 thru July 23, 2017 due to the Ann Arbor Street Art Fairs.

CAA1 – No work permitted until the City of Ann Arbor East Stadium Boulevard construction project is open to traffic (anticipated by August 15, 2017).

CAA2 – No work permitted until the City of Ann Arbor North Maple Road/Miller Avenue sidewalk construction project is complete (anticipated by September 30, 2017).

DDA – No work permitted until after the Ann Arbor Street Art Fairs or the completion of the Ann Arbor Downtown Development Authority South University Avenue Streetscape project, which occurs later (DDA project anticipated to be complete by August 19, 2017)

INDP – No work during the Independence Day holiday period from 3:00 p.m. July 3 to 7:00 a.m. July 5, 2017.

LABR – No work during the Labor Day holiday period from 3:00 p.m. September 1 to 7:00 a.m. September 5, 2017.

MMRL – No work during the Memorial Day holiday period from 3:00 p.m. May 26 to 7:00 a.m. May 30, 2017.

UMFB – No work permitted on University of Michigan home football game days.

UMSM – No work permitted during University of Michigan Student Move-in (September 1, 2017 thru September 4, 2017).

WCRC – No work permitted until the Scio Church Rd and Wagner Rd roundabout construction project is open to traffic (anticipated by July 28, 2017).

Notes:

1. Construct Church Street and South University Avenue concurrently.
2. Construct 4th Street, 5th Street (Princeton St to W Liberty St), and West Jefferson Street concurrently.
3. Construct 5th Street (W Hoover St to W Davis Ave), West Davis Avenue, and Wilder Pl concurrently.
4. Construct High Orchard Drive and High Orchard Court concurrently.
5. Construct 3rd Street and 6th Street concurrently.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PARKING BLOCKS

AA:DAD

1 of 1

03/23/17

a. Description. This work consists of excavating, as required, removing existing concrete parking blocks and disposing of removed materials, and backfilling the resulting excavated sites in accordance with section 204 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, as specified herein, and as directed by the Engineer.

b. Materials. Provide materials in accordance with subsection 204.02 of the MDOT 2012 Standard Specifications for Construction, unless otherwise directed by the Engineer.

c. Construction. Breakdown and remove existing concrete parking blocks in accordance with subsection 204.03.A of the MDOT 2012 Standard Specifications for Construction, and as directed by the Engineer.

Dispose all materials in accordance with subsection 204.03.B of the MDOT 2012 Standard Specifications for Construction, and as directed by the Engineer.

Backfill excavated sites in accordance with subsection 204.03.C of the MDOT 2012 Standard Specifications for Construction, and as directed by the Engineer.

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

<u>Pay Item</u>	<u>Pay Unit</u>
Parking Blocks, Rem	Each

Parking Blocks, Rem will be measured in place by the unit each and paid for at the contract unit price for each, which price shall be payment in full for all labor, materials, and equipment needed to accomplish this work.

The cost of breaking down and removing, sawing, disposing of materials, and providing, placing, and compacting backfill is included in the unit price for **Parking Blocks, Rem**.

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

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

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

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

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

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

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the respective contract unit prices for the following respective pay items:

<u>Pay Item</u>	<u>Pay Unit</u>
Curb, Gutter, and Curb and Gutter, Any Type, Rem	Square Yard
Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem	Square Yard

Basis of payment shall be as described in subsection 205.04 of the Standard Specifications for Construction.

All sawcutting required for removals shall be included in the appropriate item of work, and will not be paid for separately. Payment for saw cutting to create or modify Type M openings and to allow for the partial removal of existing drives shall be included in the price of the item of work, "Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem".

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

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

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

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

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. Where the inverts of abandoned, or to be abandoned or removed, conduits or pipe are less than 16 inches below the bottom of any earth excavation or undercut, the conduits and/or pipe shall be removed and the resulting void filled with an Engineer approved material. The fill material shall be compacted to 95% of its maximum unit weight in lifts not exceeding 12 inches. No separate payment will be made for removal of conduit or pipe, or any of the work, described in this section.

9. Foundation Preparation - Foundation is defined as the original earth grade upon which roadway embankment is placed. The foundation work shall be completed in accordance with subsection 205.03.A (Preparing Roadway Foundation) of the MDOT 2012 Standard Specifications for Construction as shown on the plans, and as specified herein.

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

10. Roadway Embankment Construction - Roadway embankment is defined as the construction of earth on the prepared foundation to form the subgrade. Roadway embankment work shall be completed in accordance with subsection 205.03 H (Roadway Embankment) of the MDOT 2012 Standard Specifications for Construction as shown on the

2012 Standard Specifications for Construction, as shown on the plans, as specified herein, and as directed by the Engineer.

15. Subgrade Manipulation - "Subgrade Manipulation" shall be performed on the foundation or subgrade in accordance with section 205.03.F (Subgrade Manipulation) of the MDOT 2012 Standard Specifications for Construction, as shown on the plans, as specified herein, and as directed by the Engineer.

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

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

16. Rock Excavation - Rock excavation shall be performed 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.

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

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

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

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

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

The void in the grade above the steel plates used for structure 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.

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 importing/furnishing, placement, and compaction of the material, as well as the cost of stockpiling and re-handling of imported and/or on-site Engineer approved materials as necessary to complete the work of constructing the embankment and subgrade to the cross sections shown on the plans.

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

AA:DAD

1 of 1

02/23/16

a. Description. Remove miscellaneous structures and materials and complete all earthwork required to construct the proposed cross sections within the limits shown on the plans or stated in this special provision. All lines and grades will be as shown on the plans and as directed by the Engineer. Complete this work according to the Standard Specifications for Construction, this special provision, and as directed by the Engineer.

b. Materials. Furnish and place required base and embankment materials conforming to the Standard Specifications for Construction as necessary to achieve the required typical cross sections. Excavated material, if suitable, may be used as embankment material as approved by the Engineer.

c. Construction. Complete this work according to applicable sections of the Standard Specifications for Construction. Grading for sidewalks, sidewalk ramp, and driveway approaches includes, but is not limited to, the following work:

1. Stripping and stockpiling topsoil for use in turf establishment as approved.
2. Sawcutting existing pavements and curbs.
3. Removing rocks or boulders less than 0.5 cubic yards in volume.
4. Excavating material to a depth necessary for construction.
5. Disposing of excess and unsuitable material according to Section 205.
6. Furnishing and placing embankment material to the grades necessary for construction.
7. Shaping, grading, and compacting the subgrade and embankment to proposed grades.
8. Furnishing and placing Granular Material, CI II base/bedding material to the required thickness.
9. Shaping, grading, and compacting base/bedding material to proposed grades.
10. Matching new sidewalk, sidewalk ramp, and driveway approach grades with existing grades as required.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit prices 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

The above items will be measured in area by the unit square yard and will be paid for at their respective contract unit prices, which prices shall be payment in full for all labor, equipment and material needed to accomplish this work.

CITY OF ANN ARBOR
SPECIAL PROVISION
FOR
GEOSYNTHETIC PAVING LAYER

AA:JN/DAD

1 of 2

03/26/17

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

CITY OF ANN ARBOR
 DETIALED SPECIFICATION
 FOR
 DRAINAGE AND UTILITY STRUCTURES

AA:DAD

1 of 1

03/23/17

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

b. Materials. Provide materials in accordance with section 403 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, unless otherwise directed by the Engineer.

c. Construction. Clean, point, reconstruct, and temporary lower drainage and utility structures in accordance with section 403 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. The completed work, as described, will be measured and paid for at the contract unit prices for the following pay items:

<u>Pay Item</u>	<u>Pay Unit</u>
Dr Structure, Adj, Add Depth, Modified	Foot
Dr Structure, Cleaning, Modified	Each
Dr Structure, Point	Each
Dr Structure, Reconstruct	Each
Dr Structure, Temp Lowering, Modified	Each

These items will be measured in place by their respective unit and paid for at their respective contract unit price, which price shall be payment in full for all labor, materials, and equipment needed to accomplish this work.

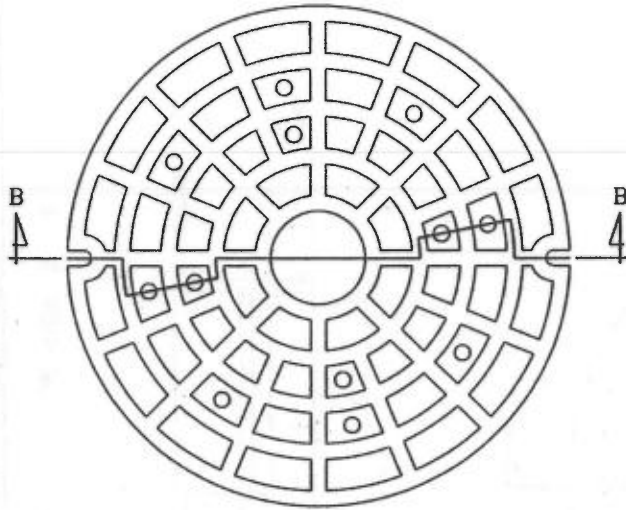
The Contractor shall deliver all salvaged covers and castings to the W.R. Wheeler Service Center within two days of their removal.

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

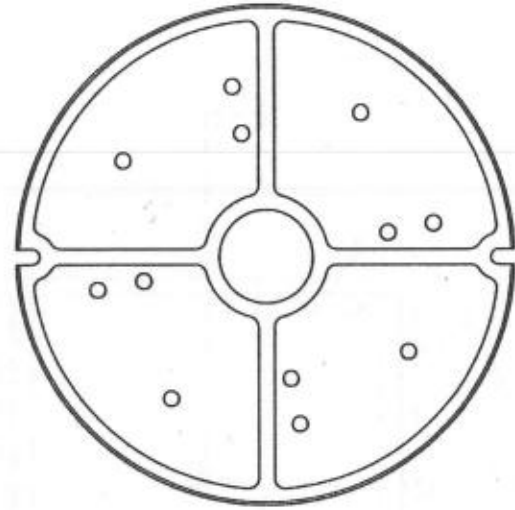
<u>Pay Item</u>	<u>Pay Unit</u>
Dr Structure Cover, Special	Each
Dr Structure Cover, Type B, Modified	Each
Dr Structure Cover, Type D, Modified	Each
Dr Structure Cover, Type E, Modified	Each
Dr Structure Cover, Type K, Modified	Each

The unit prices for these items of work shall include all labor, material, and equipment costs to perform all the work specified in the MDOT 2012 Standard Specifications and as modified by this Detailed Specification.

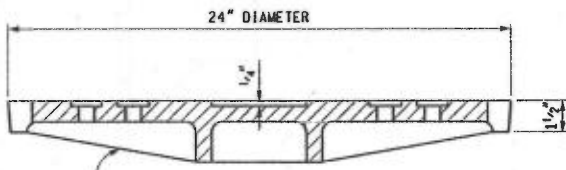
Payment for transporting new and salvaged frames and covers to and from the W.R. Wheeler Center is included in other items of work.



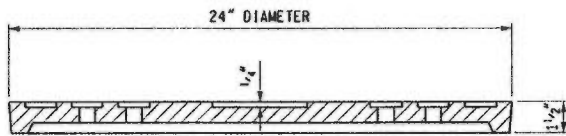
TOP VIEW OF COVER



BOTTOM VIEW OF COVER



SECTION B - B
ALTERNATE PROFILES PERMITTED



SECTION B - B
ALTERNATE PROFILE EXAMPLE

NOTES:

THE CASTINGS SHALL MEET THE REQUIREMENTS OF THE CURRENT STANDARD SPECIFICATION FOR GRAY IRON CASTINGS.

ALL CASTINGS SHALL BE CLEANED BY CURRENT APPROVED BLASTING METHODS.

THE SEATING FACE OF THE LID AND THE SEAT FOR THE SAME ON THE FRAME SHALL BE GROUND OR MACHINED SO THAT THE LID WILL HAVE AN EVEN BEARING ON ITS SEAT TO PREVENT ROCKING OR TILTING.

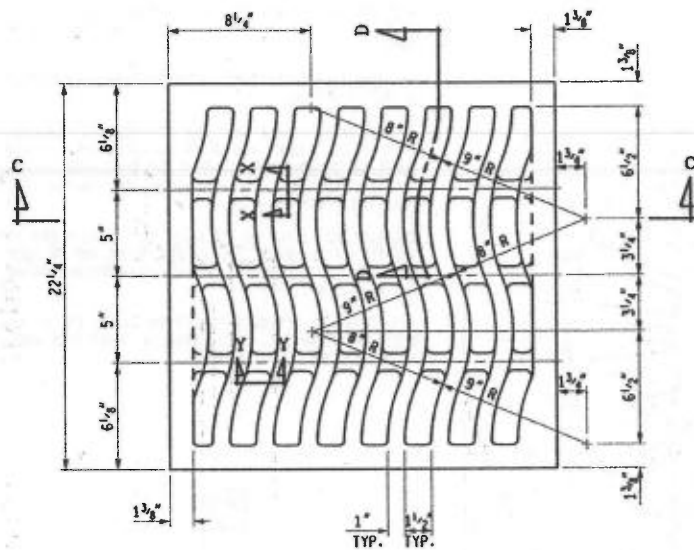
THE CASTINGS SHALL BE FREE OF POURING FAULTS, BLOW HOLES, CRACKS AND OTHER IMPERFECTIONS. THEY SHALL BE SOUND, TRUE TO FORM AND THICKNESS, CLEAN AND NEATLY FINISHED, AND SHALL BE COATED WITH COAL TAR PITCH VARNISH.

THIS COVER IS DESIGNED TO FIT ON ANY MANHOLE OR ON ANY EXISTING SIMILAR STRUCTURE WHEN SO DESIGNATED ON THE PLANS.

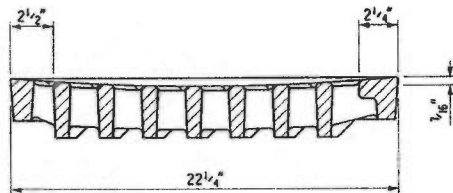
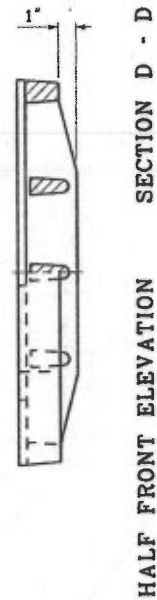
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

COVER B
FOR USE ON MANHOLES

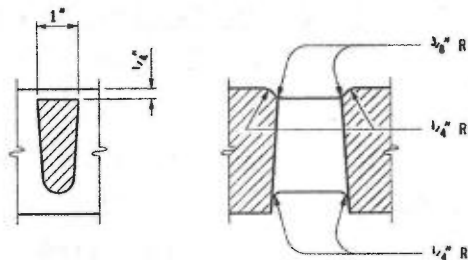
9-30-2014 F.H.W.A. APPROVAL	3-7-2014 PLAN DATE	R-7-F	SHEET 2 OF 2
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PLAN VIEW OF GRATE



SECTION C - C



SECTION X - X SECTION Y - Y

NOTES:

THE CASTINGS SHALL MEET THE REQUIREMENTS OF THE CURRENT STANDARD SPECIFICATION FOR GRAY IRON CASTINGS.

ALL CASTINGS SHALL BE CLEANED BY CURRENT APPROVED BLASTING METHODS.

THE SEATING FACE OF THE GRATE AND THE SEAT FOR THE SAME ON THE FRAME AND THE CURB BOX SHALL BE GROUND SO THAT THE GRATE WILL HAVE AN EVEN BEARING ON ITS SEAT TO PREVENT ROCKING OR TILTING.

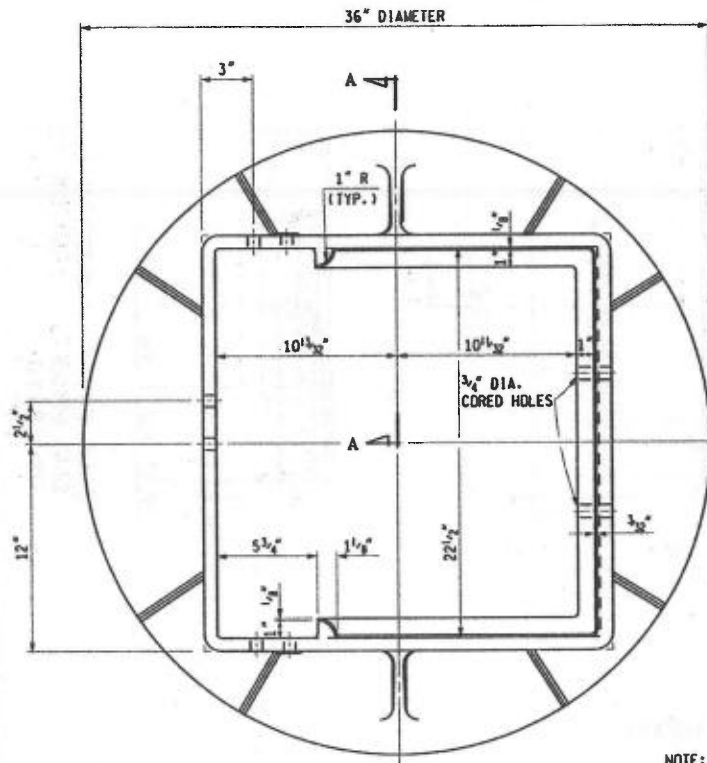
THE CASTINGS SHALL BE FREE OF POURING FAULTS, BLOW HOLES, CRACKS AND OTHER IMPERFECTIONS. THEY SHALL BE SOUND, TRUE TO FORM AND THICKNESS, CLEAN AND NEATLY FINISHED, AND SHALL BE COATED WITH COAL TAR PITCH VARNISH.

THIS COVER IS DESIGNED TO FIT ON ANY INLET, CATCH BASIN OR ON ANY EXISTING SIMILAR STRUCTURE WHEN SO DESIGNATED ON THE PLANS.

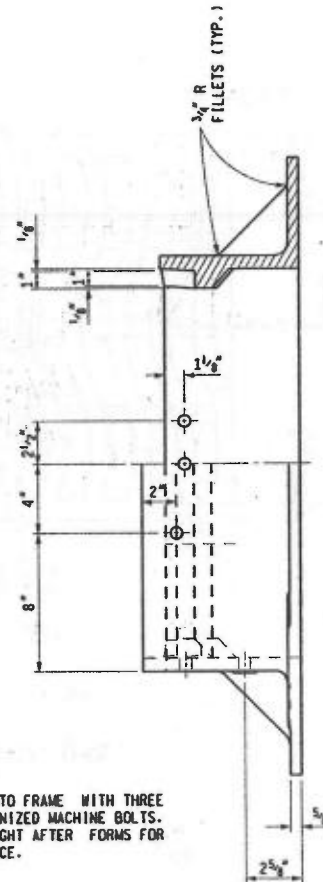
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

COVER D
FOR USE WITH
STRAIGHT CURB AND CURB & GUTTER

9-30-2014 F. H. W. A. APPROVAL	4-29-2014 PLAN DATE	R-9-D	SHEET 2 OF 2
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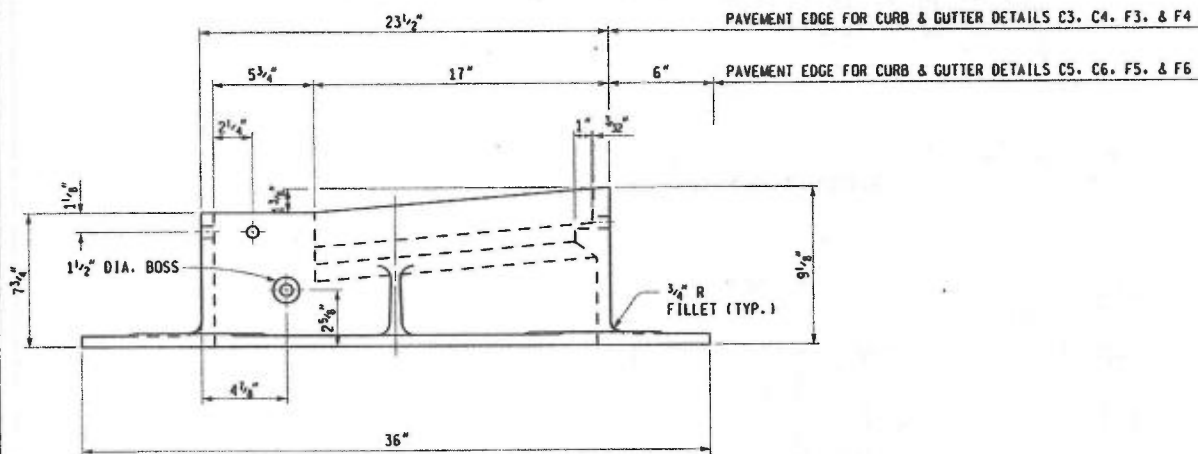
PLAN VIEW OF FRAME



SECTION A - A
OF FRAME

HALF FRONT ELEVATION
OF FRAME

NOTE:
BOLT CURB BOX TO FRAME WITH THREE
5/8" x 2 1/2" GALVANIZED MACHINE BOLTS.
ADJUST FOR HEIGHT AFTER FORMS FOR
CURB ARE IN PLACE.



SIDE ELEVATION OF FRAME



PREPARED
BY
DESIGN DIVISION

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

DEPARTMENT DIRECTOR
Kirk T. Stuedle

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

APPROVED BY: Mark A. Van Pelt
DIRECTOR, BUREAU OF HIGHWAY DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

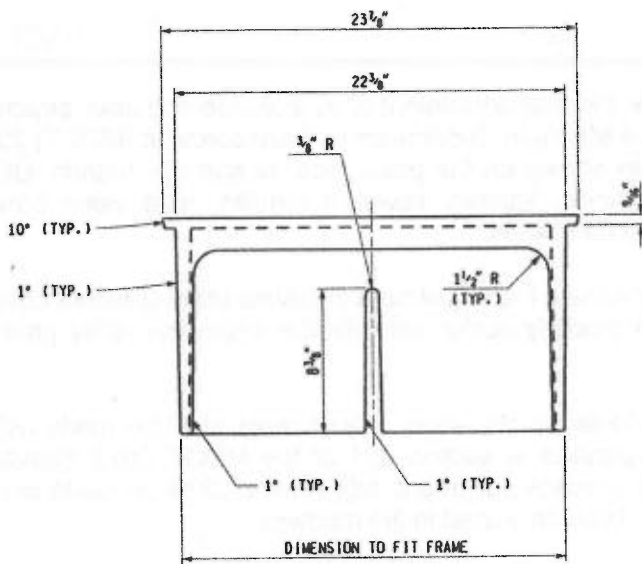
COVER K
FOR USE WITH CONCRETE CURB & GUTTER
DETAILS C, E & F

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

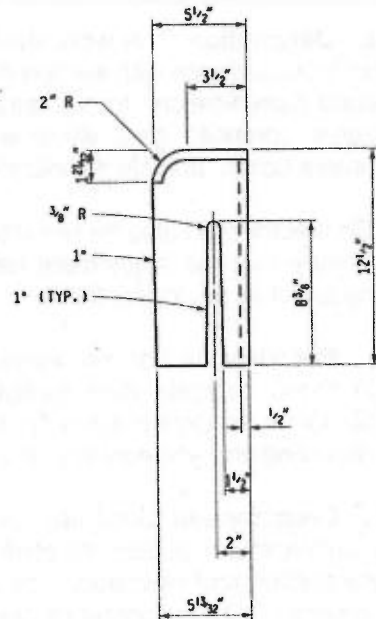
4-8-2014
PLAN DATE

R-15-F

SHEET
1 OF 3



FRONT VIEW OF CURB BOX



SIDE VIEW

NOTES:

THE CASTINGS SHALL MEET THE REQUIREMENTS OF THE CURRENT STANDARD SPECIFICATION FOR GRAY IRON OR DUCTILE IRON CASTINGS.

ALL CASTINGS SHALL BE CLEANED BY CURRENT APPROVED BLASTING METHODS.

THE SEATING FACE OF THE GRATE AND THE SEAT FOR THE SAME ON THE FRAME SHALL BE GROUND OR MACHINED SO THAT THE GRATE WILL HAVE AN EVEN BEARING ON ITS SEAT TO PREVENT ROCKING OR TILTING.

THE CASTINGS SHALL BE FREE OF POURING FAULTS, BLOW HOLES, CRACKS AND OTHER IMPERFECTIONS. THEY SHALL BE SOUND, TRUE TO FORM AND THICKNESS, CLEAN AND NEATLY FINISHED, AND SHALL BE COATED WITH COAL TAR PITCH VARNISH.

THE CURB BOX AND FRAME SHALL BE SHIPPED ASSEMBLED.

THIS COVER IS DESIGNED TO FIT ON ANY INLET, CATCH BASIN OR ON ANY EXISTING SIMILAR STRUCTURE WHEN SO DESIGNATED ON THE PLANS.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

COVER K
FOR USE WITH CONCRETE CURB & GUTTER
DETAILS C, E & F

9-30-2014 F.H.W.A. APPROVAL	4-8-2014 PLAN DATE	R-15-F	SHEET 3 OF 3
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All adjustments in areas HMA pavement shall be backfilled with Grade P-NC concrete from the depth of excavation necessary for adjustment to an elevation flush with the HMA leveling course. This material shall be included in this item of work and will not be paid for separately.

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

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

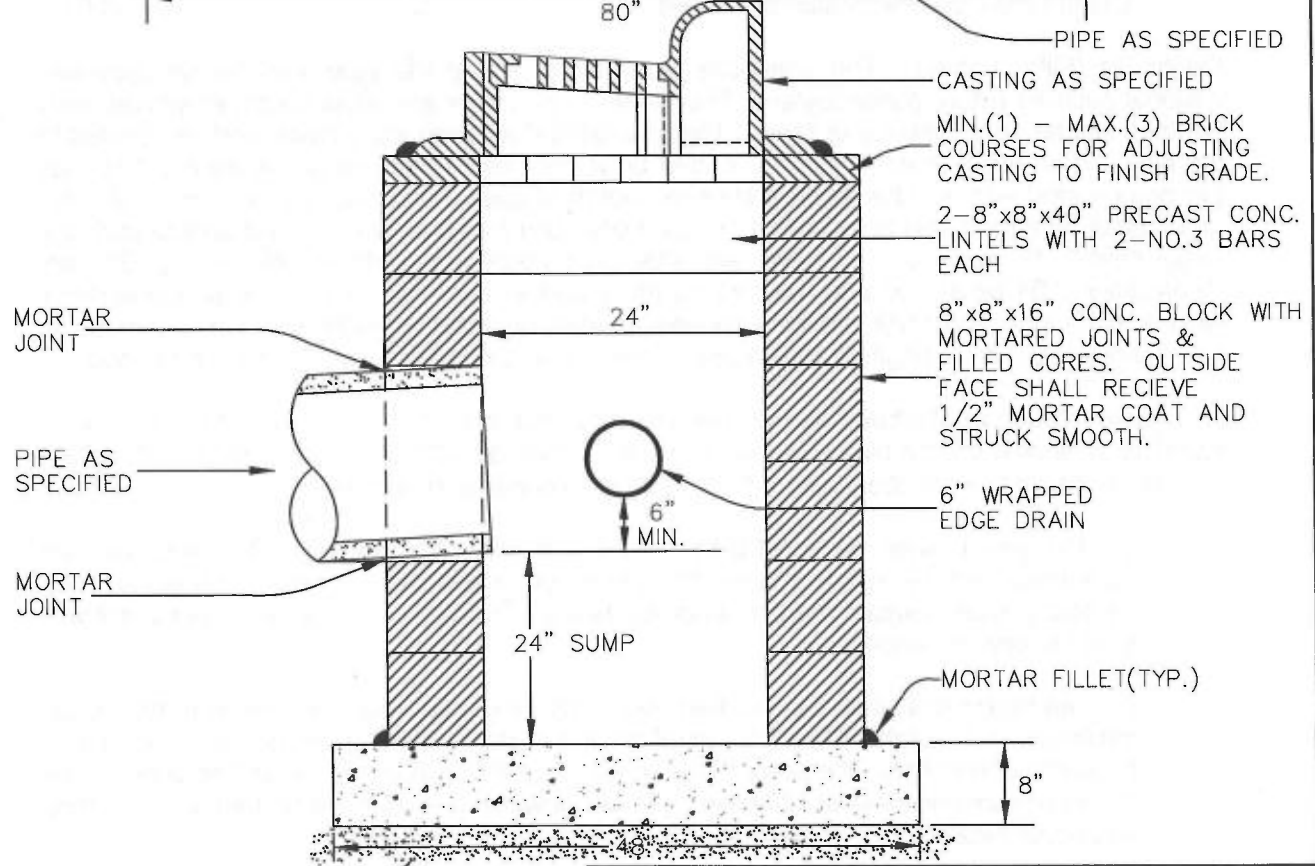
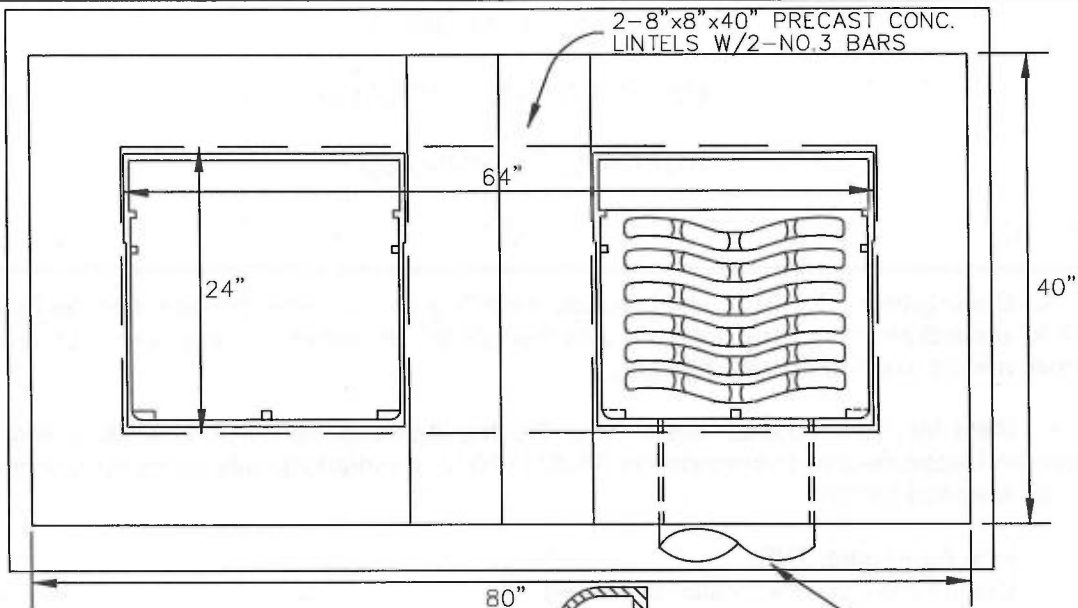
<u>Pay Item</u>	<u>Pay Unit</u>
Dr Structure Cover, Adj, Case 1, Modified	Each
Dr Structure Cover, Adj, Case 2, Modified	Each

Dr Structure Cover, Adj, Case 1, Modified and **Dr Structure Cover, Adj, Case 2, Modified** will be measured and paid for at the respective contract unit prices for each structure that is adjusted, which price shall be payment in full for all labor, equipment and material needed to accomplish this work.

Where the required adjustment of a structure is more than 6 inches above/below the proposed finished grade of the structure, it will be measured and paid for as **Dr Structure Cover, Adj, Add Depth, Modified**. This shall also cover the repair of manholes and structures where less than the substantial rebuilding of the structure, as determined by the Engineer, is required.

There is a possibility that the Contractor may find hidden utility structures during the work. It is the Contractor's responsibility to inform the respective utility owner(s) of the findings. In such instances, the City may direct the Contractor to adjust the structure(s) to grade. This work will be paid as either **Dr Structure Cover, Adj, Case 1, Modified** or **Dr Structure Cover, Adj, Case 2, Modified** depending on the location of the hidden structure(s).

Payment for adjusting for new drainage or utility structures, monuments boxes, and valve boxes shall be included in their respective items of work and will not be paid for under this item. The work for adjusting these items, however, shall be performed in accordance with this detailed specification.



MIN. 4" 21AA STONE BEDDING AND BACKFILL UNDER BASE AND TO FIRST PIPE JOINT.

NOTE: FRONT EDGE OF INLET CASTINGS SHALL BE FLUSH WITH FRONT EDGE OF GUTTER (EDGE-OF-METAL)

CONC. BLOCK REVISED	1	NCF	CSS	1-31-94
REVISIONS	REV. NO.	DR. BY	CH. BY	DATE
PUBLIC SERVICES DEPARTMENT CITY OF ANN ARBOR				
DOUBLE INLET STRUCTURE				
DR. BY	DF/DCO	CH. BY	CSS/DF	DRAWING NO.
SCALE	NONE	DATE	11-6-92	SD-S-11
INCH	0 1			SHEET NO. _____ OF _____

4. Downgrade ends of the pipe shall generally be tapped into existing or new drainage structures. However, it may be necessary to tap underdrain into either existing or new storm sewer, or into existing or new inlet leads as directed by the Engineer.

5. The trench bottom and edge drain shall be constructed to the percent of grade indicated on the plans or as determined by the Engineer, with the minimum percent of grade being 0.5%. In addition, the underdrain shall be constructed to have a minimum cover, from top of pipe to finished pavement grade, of 36 inches.

6. During the construction of underdrain runs, it may be necessary to terminate construction due to conflicts with buried obstructions or at such time when the minimum cover is reached. The Engineer will review conflicts on a case by case basis and make a decision on whether to continue installing pipe or terminate runs prematurely. The Contract unit price will not be adjusted or additional payments made, for changes in the contract quantity due to Engineer ordered field changes associated when buried obstructions are encountered.

d. **Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price for the following pay item:

<u>Pay Item</u>	<u>Pay Unit</u>
Underdrain, Subgrade, 6 inch, Special	Foot

Underdrain, Subgrade, 6 inch, Special, will be measured in length by feet and will be paid for at the contract unit price, which price shall be payment in full for all labor, equipment and material needed to accomplish this work.

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

CITY OF ANN ARBOR
 DETAILED SPECIFICATION
 FOR
 HMA APPLICATION ESTIMATE

AA:DAD

1 of 1

03/27/17

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)
HMA, 5E3 HMA, 4E3	5E3 (top) 4E3 (leveling) <u>Major Streets</u>	165-220 lb/syd 220-275 lb/syd	1.5-2.0 inches 2.0-2.5 inches	PG 64-28 PG 64-28	260 N/A
HMA, LVSP HMA, LVSP	LVSP (top) LVSP (leveling) <u>Local Streets</u>	220 lb/syd 220 lb/syd	2.0 inches 2.0 inches	PG 58-28 PG 58-28	220 N/A
HMA, Approach	5E3 <u>Major Streets</u> LVSP <u>Local Streets</u>	220 lb/syd	Thickness may vary with maximum layer = 2.0 inches	PG 64-28 PG 58-28	260 220
Shared use Path, HMA	36A	Yield may vary between 165 and 330 lb/syd	Thickness may vary between 1.5 and 3.0 inches	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	5E3 <u>Major Streets</u> LVSP <u>Local 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

Use the respective mixes indicated above on Major and Local streets unless otherwise noted on plans, or directed by the Engineer.

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 entitled "HMA Paving". The uniform rate of application shall be a minimum of 0.10 gallons per square yard, and be approved by the Engineer. This work will not be paid for separately, but shall be included in the cost of the HMA pay items.

c. Measurement and Payment. The work shall be measured and paid for as provided elsewhere in the contract documents.

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

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 Permit to Place shall be issued after the aggregate base course or the adjacent, underlying layer of pavement section has been approved by the Engineer.

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

The top course shall be placed with a ¼" lip at the 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 longitudinal cold joints that would be required to be left "open" over night.

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

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

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

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.

CITY OF ANN ARBOR
 DETIALED SPECIFICATION
 FOR
HMA TRAFFIC CALMING MEASURES

AA:DAD

1 of 1

03/15/16

a. Description. This work consists of constructing traffic calming devices at locations directed by the Engineer, in accordance with the special details shown on the plans, 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 MDOT mixture HMA, LVSP 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.

Provide a 10-foot long straight-edge and a 10-foot long level during all paving operations.

Clean the existing surface with compressed air and/or vacuum type street cleaning equipment to remove dirt and debris prior to placement of HMA material. Provide compressed air from a source capable of supplying air at a minimum pressure of 90 psi and at a rate 150 cubic feet per minute of at the nozzle.

Apply MDOT SS-1h bond coat on all asphalt and concrete surfaces within the area where the traffic calming measure is to be installed. Apply at a rate of 0.10 gallons/square yard using a power distributor hand sprayer.

Placing traffic calming measure using an asphalt paving machine or, where approved by the Engineer, place HMA material directly by hand. Do not place HMA materials on adjacent pavement surfaces.

Construct traffic calming measures two (2) lifts/layers. Compact each lift of HMA mixture to between 92 and 96 percent (or as determined acceptable by the Engineer) of the theoretical maximum density, as listed on the approved Job Mix Formula. Place permanent thermoplastic pavement markings in accordance with the special detail on the project plans. Permanent thermoplastic pavement markings will paid separately.

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

<u>Pay Item</u>	<u>Pay Unit</u>
HMA, Raised Crosswalk	Square Yard
HMA, Raised Intersection	Square Yard
HMA, Speed Hump	Square Yard

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

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR

REMOVING HOT MIX ASPHALT AROUND STRUCTURE COVERS

AA:DAD

1 of 1

03/15/16

a. Description. This work consists of removing hot mix asphalt (HMA) from around existing (not lowered) structure covers during the cold milling operations as required, whether structures are shown or not shown on the plans, and as herein provided. Covers include those used for storm, sanitary, and water structures, gate and monument boxes, and other private utility structures.

This item does not apply to locations (streets) where structures have been temporary lowered in advance of the cold milling operations.

b. Materials. None specified.

c. Construction. Remove HMA surface around structure covers to the same depth as the cold milled surface without the removal of the aggregate or concrete base. Complete work in accordance with sections 204 and 501 of the MDOT 2012 Standard Specifications for Construction, and as directed by the Engineer.

Remove HMA surface, any thickness, from around existing structure covers using a milling machine, and/or hand tools, or other means as approved by the Engineer. Repair or replacement of any structure covers damaged during this operation is the sole responsibility of the Contractor.

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

<u>Pay Item</u>	<u>Pay Unit</u>
HMA Surface, Around Structure Cover, Rem.....	Each

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

The number of castings within the milling limits shall constitute the final amount. Measurement shall take place with both the Engineer and the Contractor (or their agents) present.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
FLOWABLE FILL

AA:DAD

2 of 2

03/15/16

3. FF Mix Number Three
Controlled Density Fill Mixture (Class C Fly Ash)

Fly Ash (Class C)	300 lbs/cyd
Granular Material	2600 lbs/cyd
Water	Sufficient amounts to produce the desired flowability (approx. 50 gal/cyd)

c. Construction. Furnish and place flowable fill at miscellaneous locations as shown on the plans, and as directed by the Engineer.

All flowable fill, after setting, is intended to be removable by conventional mechanical excavation methods.

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

<u>Pay Item</u>	<u>Pay Unit</u>
Flowable Fill	Cubic Yard

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

Flowable fill used at the Contractor's option will not be paid for separately, but shall be included either in the bid price(s) for the associated work item(s), or in the bid price for the item of work "General Conditions, Max \$___".

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

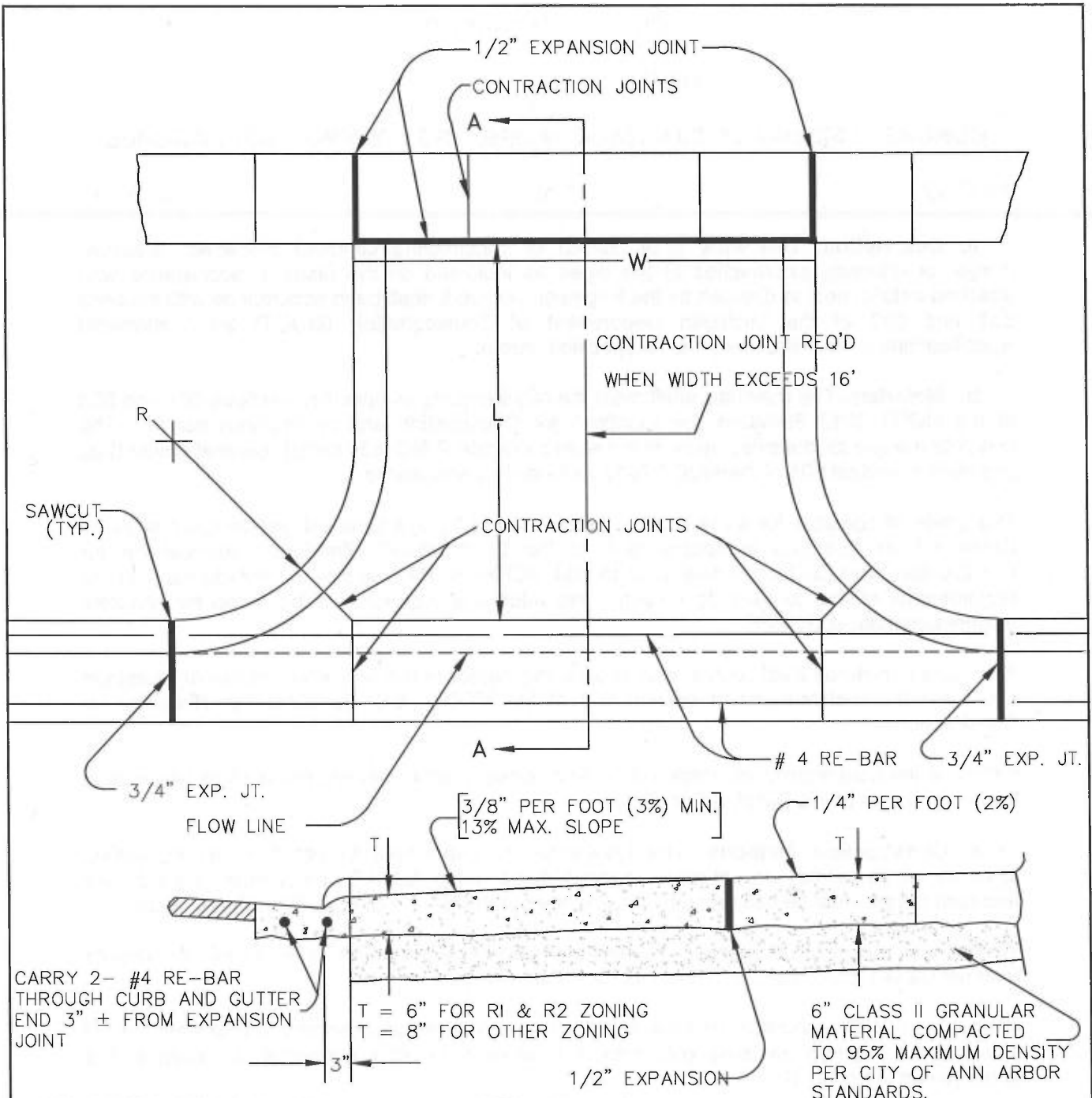
Concrete curing shall be performed in accordance with subsection 602.03.M of the MDOT 2012 Standard Specifications for Construction. Curing operations shall take precedence over texturing operations and continued concrete placement. All curing compound applied shall provide uniform coverage over the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

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

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

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

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



CARRY 2- #4 RE-BAR THROUGH CURB AND GUTTER END 3" ± FROM EXPANSION JOINT

T = 6" FOR R1 & R2 ZONING
T = 8" FOR OTHER ZONING

6" CLASS II GRANULAR MATERIAL COMPACTED TO 95% MAXIMUM DENSITY PER CITY OF ANN ARBOR STANDARDS.

MEASUREMENT OF AREA
 $W \times L = \text{AREA}$

SEC. A - A

NOTE: DRIVE APPROACH TO BE CLASS 'A' CONCRETE

NOTE: R(RADIUS) AND W(DRIVE WIDTH) AS REQUIRED FOR ZONING BY CITY CODE

NOTE: IF GUTTER IS OVERLAYED, GUTTER OF THE APPROACH SHALL BE AT SAME ELEVATION AS EXISTING GUTTER AND ASPHALT WEDGE SHALL BE PLACED IN THE APPROACH.

S/W GRADE REVISED		1	NCF	CSS	1-31-94
REVISIONS		REV. NO.	DR. BY	CH. BY	DATE
PUBLIC SERVICES DEPARTMENT CITY OF ANN ARBOR					
TYPE 'M' DRIVE APPROACH (FOR USE ON ASPHALT STREETS WITH BARRIER CURB)					
DR. BY	DF	CH. BY	CSS	DRAWING NO.	
SCALE	NONE	DATE	11-6-92	SD-R-6	
INCH	0" ————— 1"			SHEET NO. _____ OF _____	

d. **Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit prices respectively for the following 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

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

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

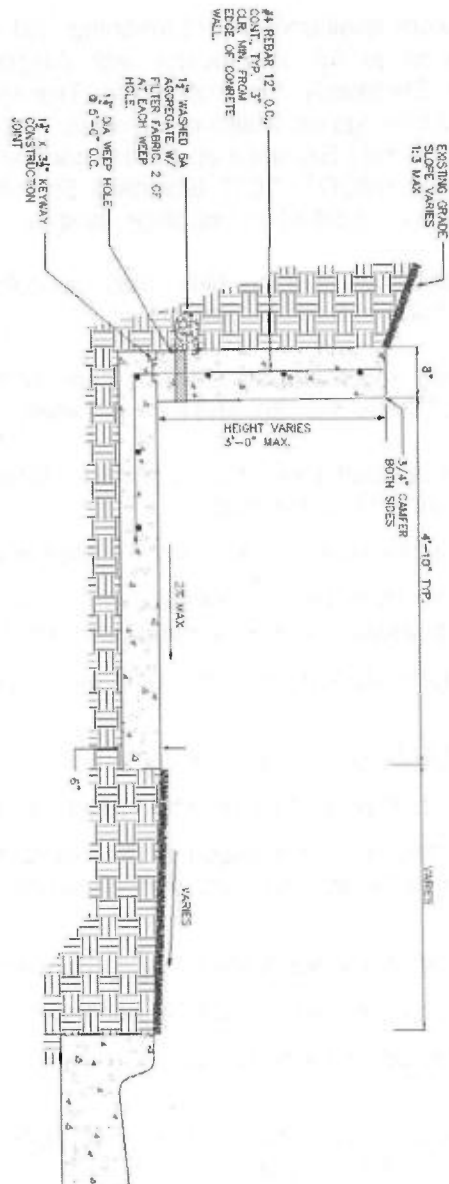
Excavation for placement of Granular Material Class II bedding material for driveways, sidewalk and sidewalk ramps shall be included in the respective items of work **Grading, Driveway Approach; Grading, Sidewalk;** and **Grading, Sidewalk Ramp;** and shall not be paid for separately.

Detectable warning units shall be paid for in accordance with the Detailed Specification for Detectable Warning Surface.

Sidewalk Retaining Wall, Integral, __ inch to __ inch Height shall be measured in place by the exposed face area above the sidewalk in square feet. The unit price for this item of work shall include all labor, materials, and equipment needed to accomplish this work.

All sidewalk work performed adjacent to any retaining wall will be paid for separately.

INTEGRAL SIDEWALK RETAINING WALL (18"-36") DETAIL



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

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

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

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

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

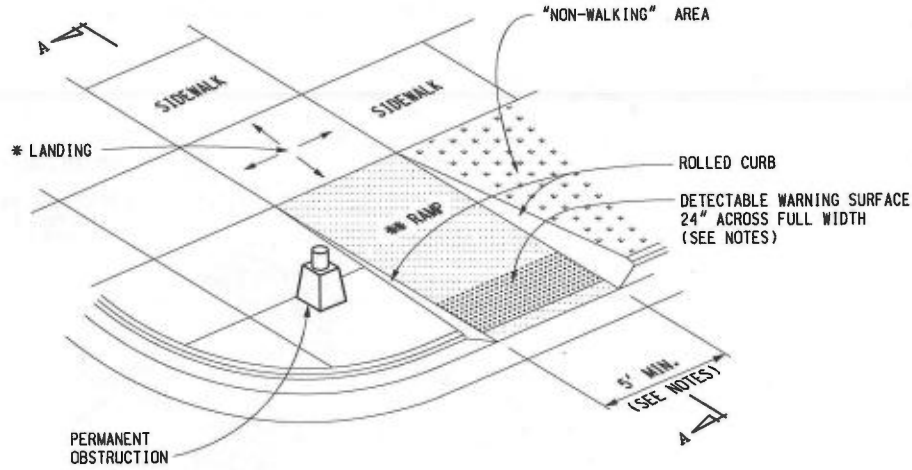
d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price for the following pay item:

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

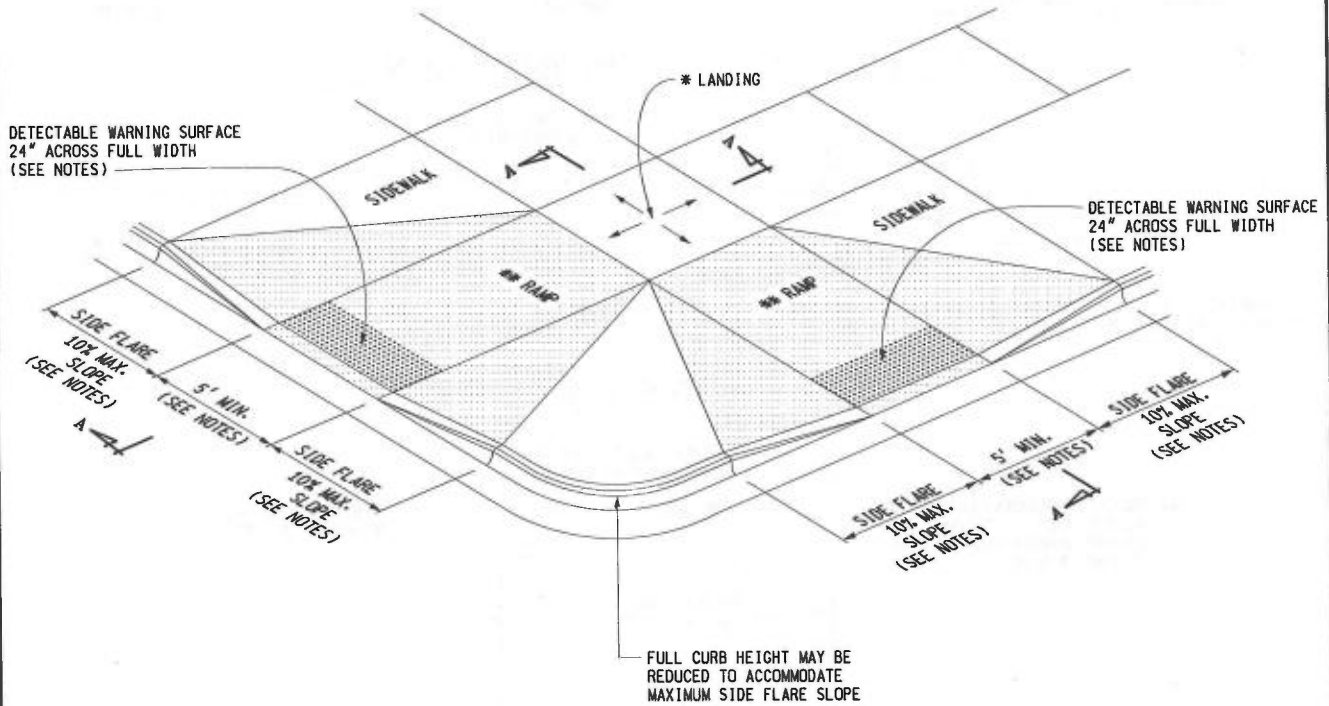
The unit price for this item shall include all labor, material, and equipment costs required to complete the work.

* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.

** MAXIMUM RAMP CROSS SLOPE IS 2.0%, RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.



SIDEWALK RAMP TYPE R
(ROLLED SIDES)

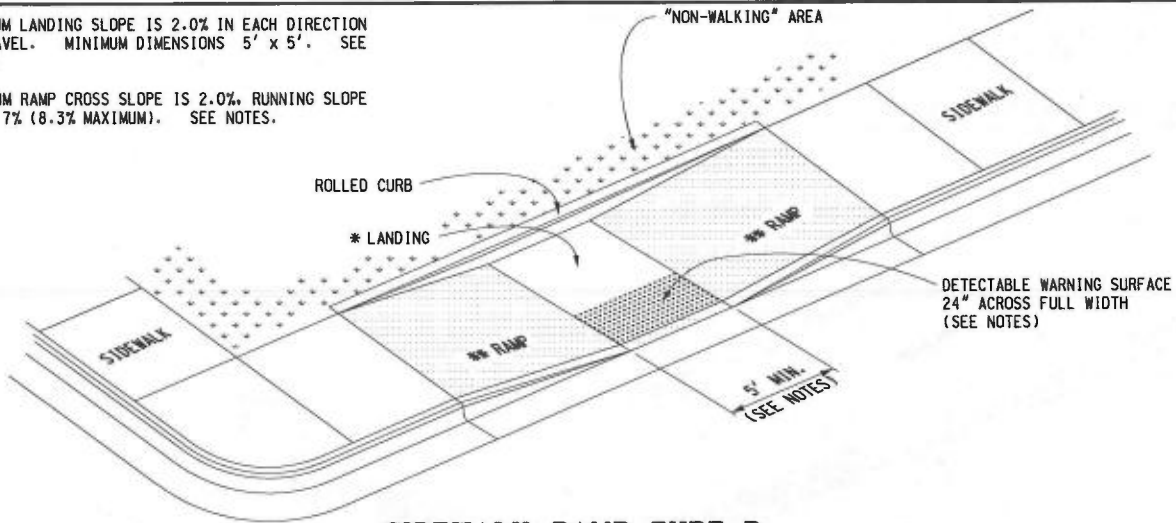


SIDEWALK RAMP TYPE F
(FLARED SIDES, TWO RAMPS SHOWN)

<p>PREPARED BY DESIGN DIVISION</p> <p>DRAWN BY: <u>B.L.T.</u></p> <p>CHECKED BY: <u>W.K.P.</u></p>	<p>DEPARTMENT DIRECTOR Kirk T. Steudle</p> <p>APPROVED BY: _____ DIRECTOR, BUREAU OF FIELD SERVICES</p>	<p>MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR</p> <p>SIDEWALK RAMP AND DETECTABLE WARNING DETAILS</p>		
	<p>APPROVED BY: _____ DIRECTOR, BUREAU OF DEVELOPMENT</p>	<p>3-15-2016 PLAN DATE</p>	<p>R-28-J</p>	<p>SHEET 1 OF 7</p>
	<p>F.H.W.A. APPROVAL</p>	<p>3-15-2016 PLAN DATE</p>	<p>R-28-J</p>	<p>SHEET 1 OF 7</p>

* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.

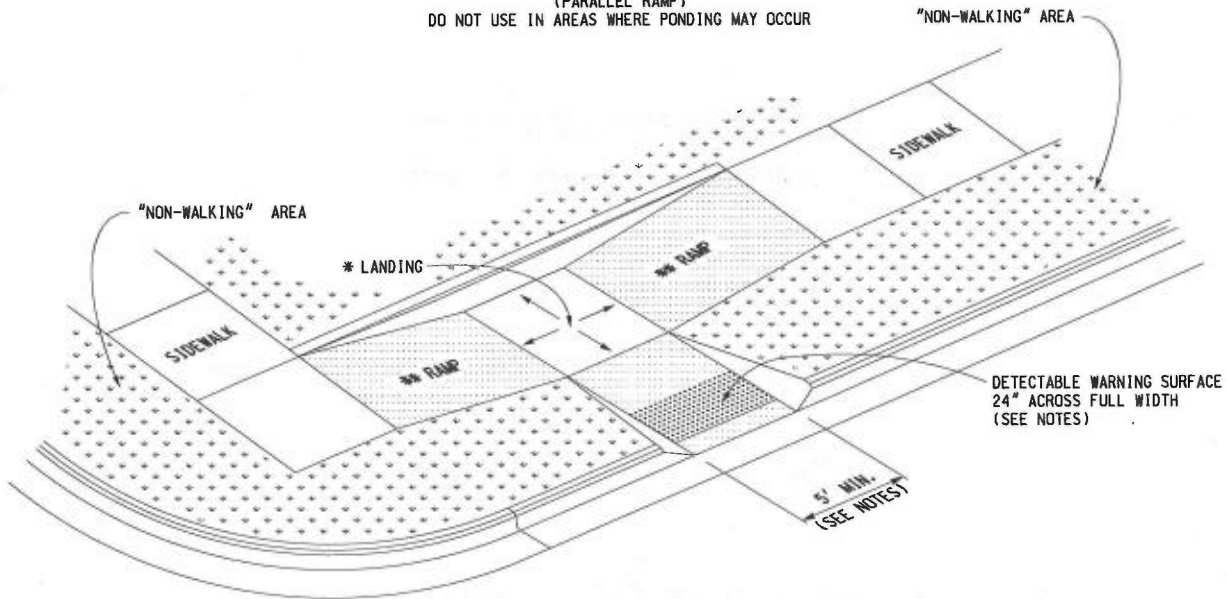
** MAXIMUM RAMP CROSS SLOPE IS 2.0%, RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.



SIDEWALK RAMP TYPE P

(PARALLEL RAMP)

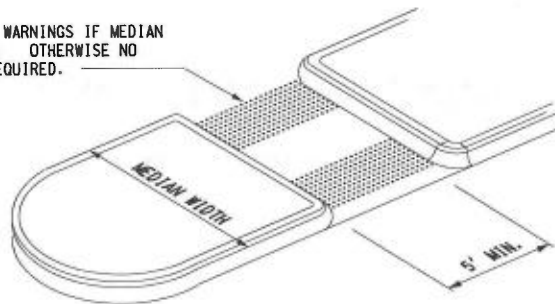
DO NOT USE IN AREAS WHERE PONDING MAY OCCUR



SIDEWALK RAMP TYPE C

(COMBINATION RAMP)

USE 24" DEEP DETECTABLE WARNINGS IF MEDIAN WIDTH IS AT LEAST 6'-0". OTHERWISE NO DETECTABLE WARNING IS REQUIRED.



SIDEWALK RAMP TYPE M

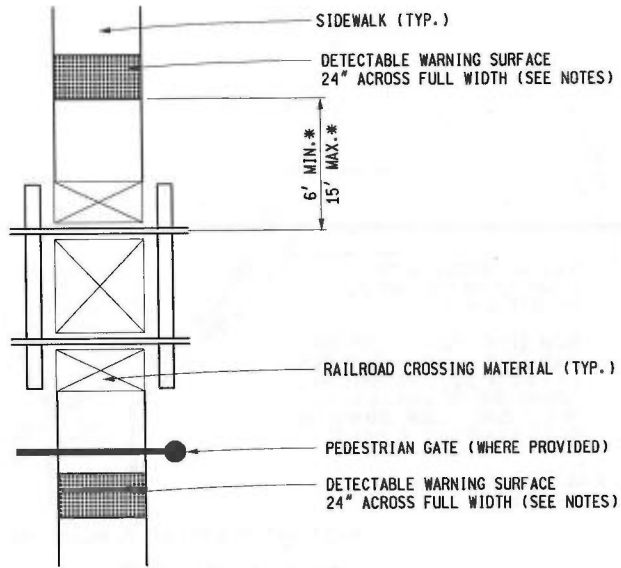
(MEDIAN ISLAND)

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

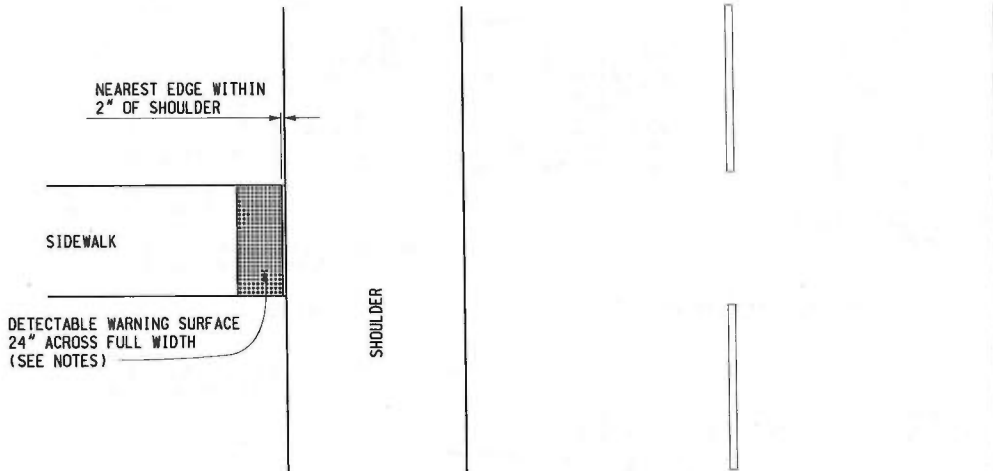
**SIDEWALK RAMP AND
DETECTABLE WARNING DETAILS**

F.H.W.A. APPROVAL	3-15-2016 PLAN DATE	R-28-J	SHEET 3 OF 7
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* THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE EDGE NEAREST THE RAIL CROSSING IS 6' MINIMUM AND 15' MAXIMUM FROM THE CENTERLINE OF THE NEAREST RAIL. DO NOT PLACE DETECTABLE WARNING ON RAILROAD CROSSING MATERIAL.

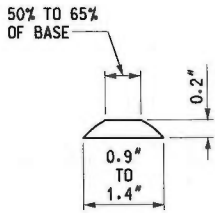


DETECTABLE WARNING AT RAILROAD CROSSING

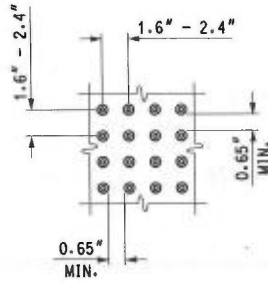


DETECTABLE WARNING AT FLUSH SHOULDER OR ROADWAY

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR			
SIDEWALK RAMP AND DETECTABLE WARNING DETAILS			
F.H.W.A. APPROVAL	3-15-2016 PLAN DATE	R-28-J	SHEET 5 OF 7

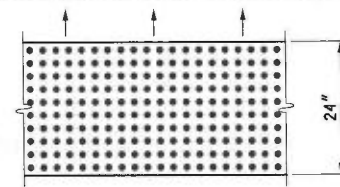


DOME SECTION



DOME SPACING

ALIGNED IN DIRECTION OF TRAVEL AND PERPENDICULAR (OR RADIAL) TO GRADE BREAK



DOME ALIGNMENT

DETECTABLE WARNING DETAILS

NOTES:

DETAILS SPECIFIED ON THIS PLAN APPLY TO ALL CONSTRUCTION, RECONSTRUCTION, OR ALTERATION OF STREETS, CURBS, OR SIDEWALKS IN THE PUBLIC RIGHT OF WAY.

SIDEWALK RAMPS ARE TO BE LOCATED AS SPECIFIED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

RAMPS SHALL BE PROVIDED AT ALL CORNERS OF AN INTERSECTION WHERE THERE IS EXISTING OR PROPOSED SIDEWALK AND CURB. RAMPS SHALL ALSO BE PROVIDED AT MARKED AND/OR SIGNALIZED MID-BLOCK CROSSINGS.

SURFACE TEXTURE OF THE RAMP SHALL BE THAT OBTAINED BY A COARSE BROOMING, TRANSVERSE TO THE RUNNING SLOPE.

SIDEWALK SHALL BE RAMPED WHERE THE DRIVEWAY CURB IS EXTENDED ACROSS THE WALK.

CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON THE RAMP. WHERE CONDITIONS PERMIT, IT IS DESIRABLE THAT THE SLOPE OF THE RAMP BE IN ONLY ONE DIRECTION, PARALLEL TO THE DIRECTION OF TRAVEL.

RAMP WIDTH SHALL BE INCREASED, IF NECESSARY, TO ACCOMMODATE SIDEWALK SNOW REMOVAL EQUIPMENT NORMALLY USED BY THE MUNICIPALITY.

WHEN 5' MINIMUM WIDTHS ARE NOT FEASIBLE, RAMP WIDTH MAY BE REDUCED TO NOT LESS THAN 4' AND LANDINGS TO NOT LESS THAN 4' x 4'.

DETECTABLE WARNING SURFACE COVERAGE IS 24" MINIMUM IN THE DIRECTION OF RAMP/PATH TRAVEL AND THE FULL WIDTH OF THE RAMP/PATH OPENING EXCLUDING CURBED OR FLARED CURB TRANSITION AREAS. A BORDER OFFSET NOT GREATER THAN 2" MEASURED ALONG THE EDGES OF THE DETECTABLE WARNING IS ALLOWABLE. FOR RADIAL CURB THE OFFSET IS MEASURED FROM THE ENDS OF THE RADIUS.

FOR NEW ROADWAY CONSTRUCTION, THE RAMP CROSS SLOPE MAY NOT EXCEED 2.0%. FOR ALTERATIONS TO EXISTING ROADWAYS, THE CROSS SLOPE MAY BE TRANSITIONED TO MEET AN EXISTING ROADWAY GRADE. THE CROSS SLOPE TRANSITION SHALL BE APPLIED UNIFORMLY OVER THE FULL LENGTH OF THE RAMP.

THE MAXIMUM RUNNING SLOPE OF 8.3% IS RELATIVE TO A FLAT (0%) REFERENCE. HOWEVER, IT SHALL NOT REQUIRE ANY RAMP OR SERIES OF RAMPS TO EXCEED 15 FEET IN LENGTH.

DRAINAGE STRUCTURES SHOULD NOT BE PLACED IN LINE WITH RAMPS. THE LOCATION OF THE RAMP SHOULD TAKE PRECEDENCE OVER THE LOCATION OF THE DRAINAGE STRUCTURE. WHERE EXISTING DRAINAGE STRUCTURES ARE LOCATED IN THE RAMP PATH OF TRAVEL, USE A MANUFACTURER'S ADA COMPLIANT GRATE. OPENINGS SHALL NOT BE GREATER THAN 1/2". ELONGATED OPENINGS SHALL BE PLACED SO THAT THE LONG DIMENSION IS PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL.

TRANSITION THE GUTTER PAN CROSS SECTION SUCH THAT THE COUNTER SLOPE IN THE DIRECTION OF RAMP TRAVEL IS NOT GREATER THAN 5.0%. MAINTAIN THE NORMAL GUTTER PAN CROSS SECTION ACROSS DRAINAGE STRUCTURES.

THE TOP OF THE JOINT FILLER FOR ALL RAMP TYPES SHALL BE FLUSH WITH THE ADJACENT CONCRETE.

CROSSWALK AND STOP LINE MARKINGS, IF USED, SHALL BE SO LOCATED AS TO STOP TRAFFIC SHORT OF RAMP CROSSINGS. SPECIFIC DETAILS FOR MARKING APPLICATIONS ARE GIVEN IN THE "MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".

FLARED SIDES WITH A SLOPE OF 10% MAXIMUM, MEASURED ALONG THE ROADSIDE CURB LINE, SHALL BE PROVIDED WHERE AN UNOBSTRUCTED CIRCULATION PATH LATERALLY CROSSES THE SIDEWALK RAMP. FLARED SIDES ARE NOT REQUIRED WHERE THE RAMP IS BORDERED BY LANDSCAPING, UNPAVED SURFACE OR PERMANENT FIXED OBJECTS. WHERE THEY ARE NOT REQUIRED, FLARED SIDES CAN BE CONSIDERED IN ORDER TO AVOID SHARP CURB RETURNS AT RAMP OPENINGS.

DETECTABLE WARNING PLATES MUST BE INSTALLED USING FABRICATED OR FIELD CUT UNITS CAST AND/OR ANCHORED IN THE PAVEMENT TO RESIST SHIFTING OR HEAVING.

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR			
SIDEWALK RAMP AND DETECTABLE WARNING DETAILS			
F.H.W.A. APPROVAL	3-15-2016 PLAN DATE	R-28-J	SHEET 7 OF 7

to settle sand into joints. Allow to surface dry and repeat process, as required, to fill joints completely. Remove excess sand upon completion.

The Contractor shall take any necessary precautions to prevent damage to pavers during removal and replacement. The Contractor is not entitled to any additional compensation for such replacement of damaged pavers.

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

<u>Pay Item</u>	<u>Pay Unit</u>
Sidewalk, Conc or Clay Brick Pavers, Rem and Reinstall.....	Square Foot

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

d. **Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price for the following pay item:

Pay Item

Pay Unit

Fence, Protective, Modified Foot

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

d. Measurement and Payment. The completed work, as described, will be measured and paid for at contract unit prices using the following pay items:

Pay Item	Pay Unit
Pavt Mrkg, Wet Retrlec Polyurea, 12 inch, Crosswalk	Foot
Pavt Mrkg, Wet Retrlec Polyurea, 24 inch, Stop Bar	Foot
Pavt Mrkg, Wet Retrlec Polyurea, 4 inch, Parking Sym, White	Foot
Pavt Mrkg, Wet Retrlec Polyurea, Lt Turn Arrow Sym	Each
Pavt Mrkg, Wet Retrlec Polyurea, Rt Turn Arrow Sym	Each
Pavt Mrkg, Wet Retrlec Polyurea, Only	Each
Pavt Mrkg, Wet Retrlec Thermopl, 6 inch, Crosswalk	Foot
Pavt Mrkg, Wet Retrlec Thermopl, 12 inch, Crosswalk	Foot
Pavt Mrkg, Wet Retrlec Thermopl, 12 inch, Cross Hatching, White	Foot
Pavt Mrkg, Wet Retrlec Thermopl, 12 inch, Cross Hatching, Yellow	Foot
Pavt Mrkg, Wet Retrlec Thermopl, 24 inch, Stop Bar	Foot
Pavt Mrkg, Wet Retrlec Thermopl, 4 inch, Parking Sym, White	Foot
Pavt Mrkg, Wet Retrlec Thermopl, Lt Turn Arrow Sym	Each
Pavt Mrkg, Wet Retrlec Thermopl, Rt Turn Arrow Sym	Each
Pavt Mrkg, Wet Retrlec Thermopl, Thru and Lt Turn Arrow Sym	Each
Pavt Mrkg, Wet Retrlec Thermopl, Thru and Rt Turn Arrow Sym	Each
Pavt Mrkg, Wet Retrlec Thermopl, Only	Each
Pavt Mrkg, Wet Retrlec Thermopl, Railroad Sym	Each
Pavt Mrkg, Wet Retrlec Thermopl, School	Each
Pavt Mrkg, Wet Retrlec Thermopl, Speed Hump Chevron, White	Each

The unit price for these items of work shall include all labor, material, and equipment costs to perform all the work.

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

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

The Contractor shall remove existing pavement markings and place temporary pavement markings as directed by the Engineer.

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

1. Construction Influence Area (CIA). The CIA shall consist of, at each location, the width of the right-of-way and easements, and the limits of any advance temporary construction signing shown on the plans and applicable maintaining traffic typicals along the street under construction and any/all cross streets. Posted detour routes are not considered part of the CIA.

The Contractor shall furnish, erect, maintain, and upon completion of the work, remove all traffic control devices within and around the CIA, and along posted detour routes, for the safety and protection of traffic. This includes, but is not limited to, regulatory and warning signs, barricades, channeling devices and other minor devices where required by the Engineer.

The Contractor shall coordinate its operations with all subcontractors, utilities, and/or other contractors performing work on this and other projects within, or adjacent to, the Construction Influence Area (CIA). The contractor shall avoid conflicts in maintaining traffic operations, signing, and orderly progress of other contract work.

2. Permits. Prior to the start of construction, the Contractor shall obtain a "Right-of-Way" Permit from City of Ann Arbor Customer Services Unit. The Contractor shall notify the Project Engineer and obtain a "Traffic Detour or Lane Closure" Permit from City of Ann Arbor Project Management Services Unit a minimum of 72 business hours prior to the implementation of any traffic shifts, lane closures and street closures. The fees for these permits will be waived.

3. Work Times and Restrictions. All work shall be conducted Monday through Saturday between 7:00am and 8:00pm; unless an alternate plan identifying the days and hours of work has been authorized by the City prior to commencement of construction. Should night work be required for any reason, the Project Engineer must be notified three (3) working days (72 hours) in advance of such work, and the work must have the approval of the City prior to commencement.

Only work of an emergency nature or work required to insure traffic safety shall be performed on Sunday and only with prior approval by the City.

6. Project Phasing (S Division St). The Contractor shall notify the Engineer a minimum of 72 hours prior to the implementation of lane or road closures. See Maintenance of Traffic plans for details and limits of construction.

- A. **Stage 1 Phase 1** The work zone is limited to the east half of South Division Street from the POB to the north quadrant of East William Street. The Jefferson Street will be closed upon commencement of bumpout construction.

Jefferson Street may remain closed for the duration of the project unless directed other by the Engineer.

- B. **Stage 1 Phase 2A & 2B** The work zone is extended to include the east half of South Division Street to East Huron Street. Implement lane restrictions and detours on East Williams, Liberty, and East Washington. Traffic restrictions will remain in place for the duration of the project.

- C. **Stage 1 Phase 3** The south lane of East Huron Street may not be closed until cold milling operations are set to begin. Upon placing the top course, open East Huron Street.

- D. **Stage 2 Phase 1** The work zone is limited to the west half of South Division Street from the POB to the north quadrant of East William Street. The Jefferson Street will be closed upon commencement of bumpout construction.

Jefferson Street may remain closed for the duration of the project unless directed other by the Engineer.

- E. **Stage 2 Phase 2A & 2B** The work zone is extended to include the west half of South Division Street to East Huron Street. Traffic restrictions of intersection streets from Stage 1 are still in effect.

- F. **Stage 2 Phase 3** The south lane of East Huron Street may not be closed until cold milling operations are set to begin. Upon placing the top course, open East Huron Street.

d. **Measurement and Payment.** The completed work for maintaining traffic, as described, will be paid for at the contract unit prices for the following items in accordance with subsection 812.04 of the Standard Specifications for Construction.

<u>Pay Item</u>	<u>Pay Unit</u>
Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	Each
Barricade, Type III, High Intensity, Double Sided, Lighted, Oper.....	Each
Channelizing Device, 42 inch, Furn	Each
Channelizing Device, 42 inch, Oper	Each
Pavt Mrkg, Longit, 6 inch or Less Width, Rem	Foot
Pavt Mrkg, Type NR, Paint, 4 inch, White, Temp	Foot
Pavt Mrkg, Type NR, Paint, 4 inch, Yellow, Temp	Foot
Pavt Mrkg, Type R, 4 inch, White, Temp	Foot
Pavt Mrkg, Type R, 4 inch, Yellow, Temp	Foot
Lighted Arrow, Type C, Furn	Each

MINIMUM MERGING TAPER LENGTH "L" (FEET)

OFFSET FEET	POSTED SPEED LIMIT, MPH (PRIOR TO WORK AREA)										TAPER LENGTH "L" IN FEET
	25	30	35	40	45	50	55	60	65	70	
1	10	15	20	27	45	50	55	60	65	70	
2	21	30	41	53	90	100	110	120	130	140	
3	31	45	61	80	135	150	165	180	195	210	
4	42	60	82	107	180	200	220	240	260	280	
5	52	75	102	133	225	250	275	300	325	350	
6	63	90	123	160	270	300	330	360	390	420	
7	73	105	143	187	315	350	385	420	455	490	
8	83	120	163	213	360	400	440	480	520	560	
9	94	135	184	240	405	450	495	540	585	630	
10	104	150	204	267	450	500	550	600	650	700	
11	115	165	225	293	495	550	605	660	715	770	
12	125	180	245	320	540	600	660	720	780	840	
13	135	195	266	347	585	650	715	780	845	910	
14	146	210	286	374	630	700	770	840	910	980	
15	157	225	307	400	675	750	825	900	975	1050	

THE FORMULAS FOR THE MINIMUM LENGTH OF A MERGING TAPER IN DERIVING THE "L" VALUES SHOWN IN THE ABOVE TABLES ARE AS FOLLOWS:

"L" = $\frac{W \times S^2}{60}$ WHERE POSTED SPEED PRIOR TO THE WORK AREA IS 40 MPH OR LESS

"L" = S x W WHERE POSTED SPEED PRIOR TO THE WORK AREA IS 45 MPH OR GREATER

- L = MINIMUM LENGTH OF MERGING TAPER
- S = POSTED SPEED LIMIT IN MPH PRIOR TO WORK AREA
- W = WIDTH OF OFFSET

TYPES OF TAPERS

UPSTREAM TAPERS


- MERGING TAPER
- SHIFTING TAPER
- SHOULDER TAPER
- TWO-WAY TRAFFIC TAPER

DOWNSTREAM TAPERS

(USE IS OPTIONAL)

TAPER LENGTH

- L - MINIMUM
- 1/2 L - MINIMUM
- 1/3 L - MINIMUM
- 100' - MAXIMUM
- 100' - MINIMUM (PER LANE)

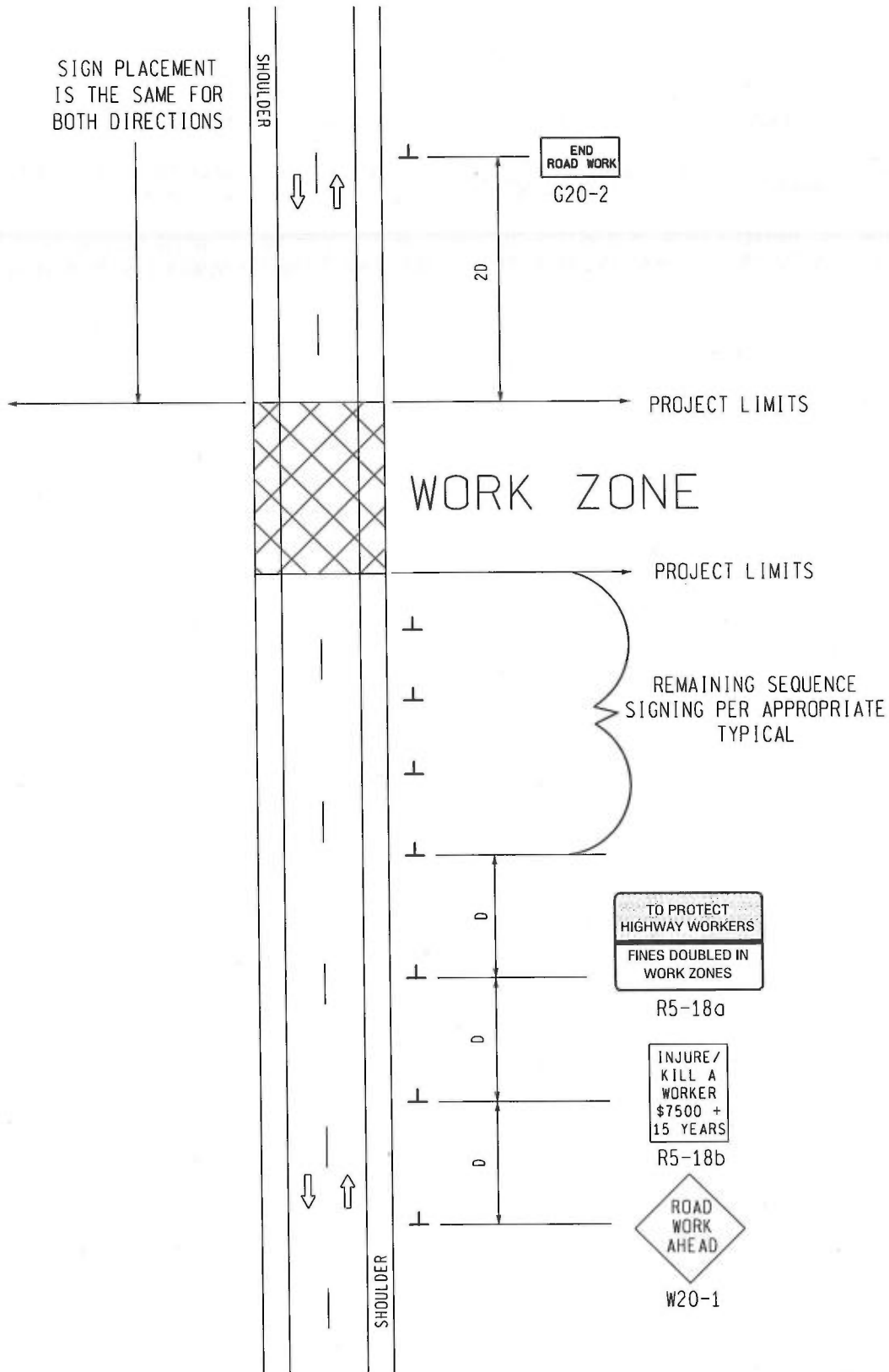


TRAFFIC AND SAFETY
MAINTAINING TRAFFIC
TYPICAL

TABLES FOR "L", "D" AND "B" VALUES

DRAWN BY: CON:AE:djf	JUNE 2006	M0020a	SHEET 1 OF 2
CHECKED BY: BMM	PLAN DATE:		
FILE: K:/DGN/TSR/STDS/ENGLISH/MNTTRF/M0020a.dgn		REV.	08/21/2006

SIGN PLACEMENT IS THE SAME FOR BOTH DIRECTIONS



SIGN = 68 ft±2 - TYPE B FOR ONE DIRECTION OF TRAFFIC W20-1 QUANTITY INCLUDED WITH APPROPRIATE TYPICAL FOR SEQUENCE SIGNING

MDOT
Michigan Department of Transportation
TRAFFIC AND SAFETY
MAINTAINING TRAFFIC TYPICAL

TYPICAL ADVANCE SIGNING TREATMENT FOR LONG, INTERMEDIATE AND SHORT TERM STATIONARY WORK ZONE OPERATIONS OF LESS THAN TWO MILES IN LENGTH WHERE TRAFFIC CONTROL DEVICES MAY REMAIN AT END OF WORK DAY ON AN UNDIVIDED TWO-WAY ROADWAY

DRAWN BY: CON:AE:djf
CHECKED BY: BMM:CRB

OCTOBER 2011
PLAN DATE:

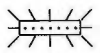

M0040a

SHEET
1 OF 2

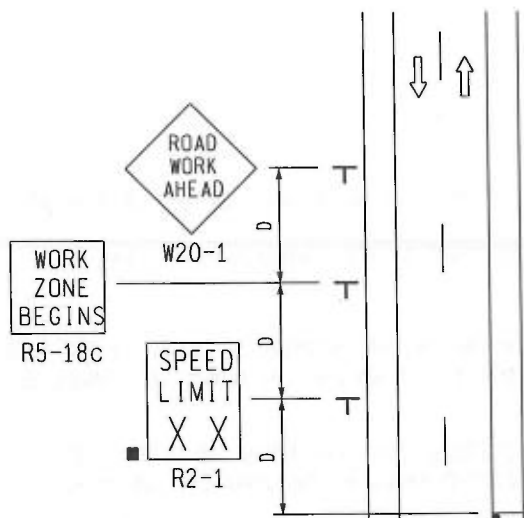
NOT TO SCALE

FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0040a.dgn REV. 10/13/2011

KEY

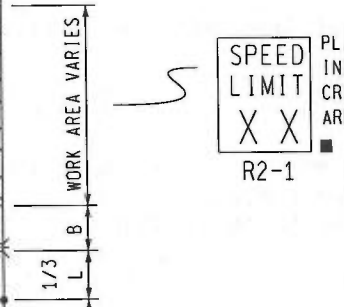
- • • CHANNELIZING DEVICES
-  LIGHTED ARROW PANEL (CAUTION MODE)
-  TRAFFIC FLOW
- REFLECTS EXISTING SPEED LIMIT
- * USE THE "NEXT __ MILES" SIGN WHEN SHOULDER CLOSURE EXCEEDS 1 MILE IN LENGTH

SIGN = 120 ft² - TYPE B
 W/PLAQUE = 132 ft² - TYPE B
 PLUS ADDITIONAL R2-1's
 THROUGHOUT WORK AREA



END ROAD WORK
 PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0080a.

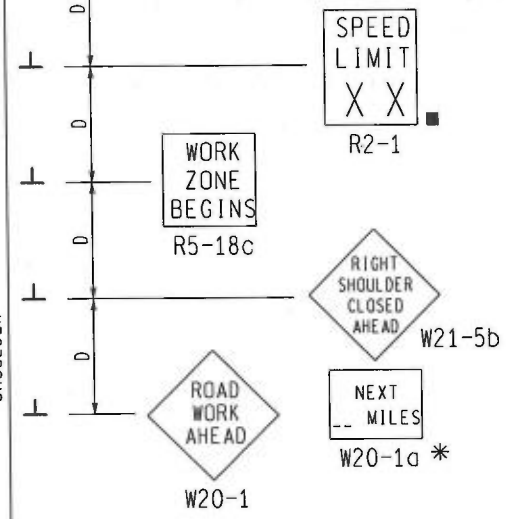
PLACE THROUGHOUT WORK AREA AS INDICATED AND AFTER ALL MAJOR CROSSROADS IF PERMANENT SIGNS ARE NOT IN PLACE.




PLACE THROUGHOUT WORK AREA AS INDICATED AND AFTER ALL MAJOR CROSSROADS IF PERMANENT SIGNS ARE NOT IN PLACE.

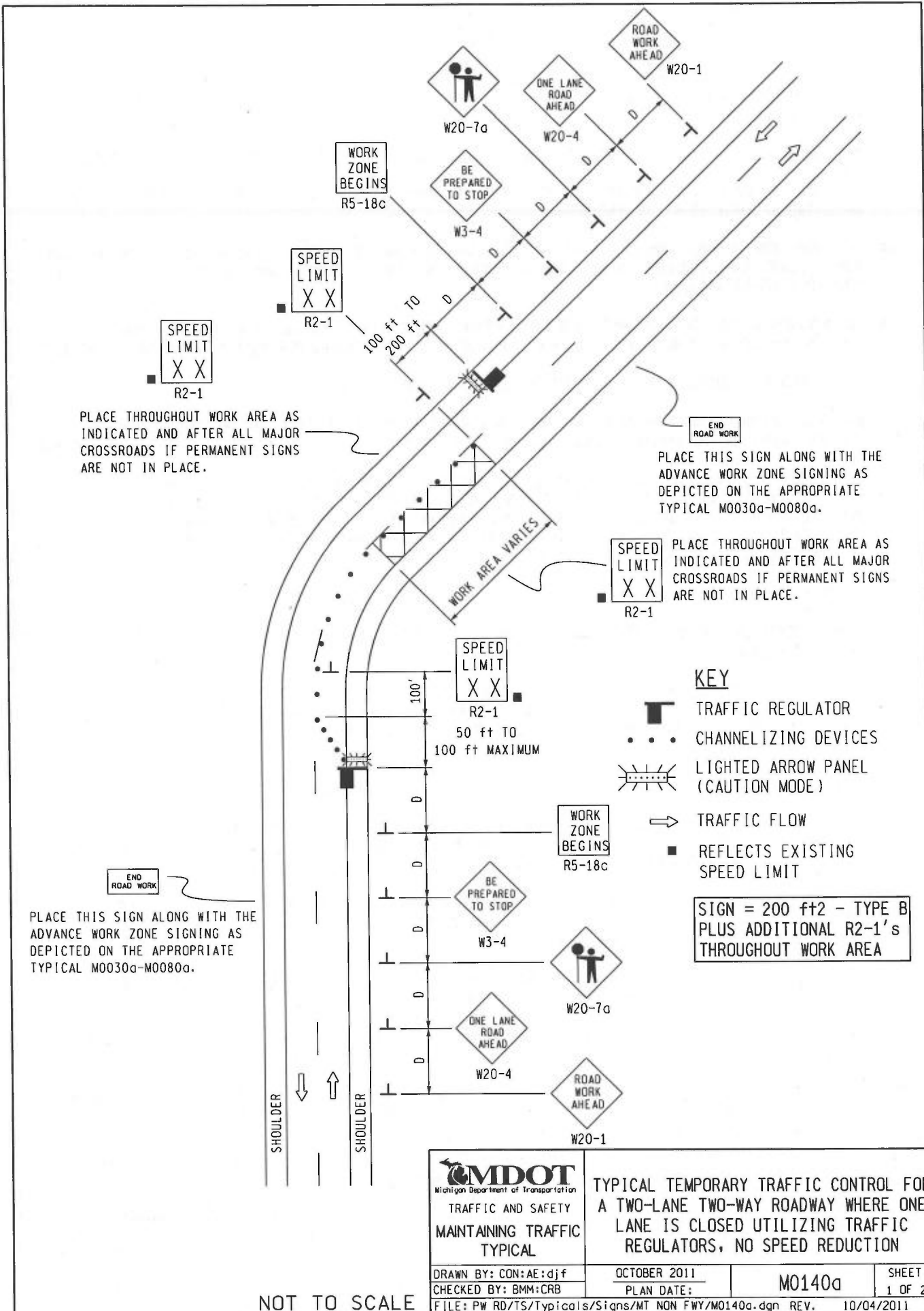
END ROAD WORK
 PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0080a.

SHOULDER



 Michigan Department of Transportation TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL	TYPICAL TEMPORARY TRAFFIC CONTROL FOR A SHOULDER CLOSURE ON A TWO LANE TWO-WAY ROADWAY NO SPEED REDUCTION		
	DRAWN BY: CON:AE:djf CHECKED BY: BMM:CRB	OCTOBER 2011 PLAN DATE:	M0110a
FILE: PW RD/TS/Typicals/Signs/MT NON Fwy/M0110a.dgn REV. 10/04/2011			

NOT TO SCALE








PLACE THROUGHOUT WORK AREA AS INDICATED AND AFTER ALL MAJOR CROSSROADS IF PERMANENT SIGNS ARE NOT IN PLACE.

PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0080a.

PLACE THROUGHOUT WORK AREA AS INDICATED AND AFTER ALL MAJOR CROSSROADS IF PERMANENT SIGNS ARE NOT IN PLACE.

PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0080a.

KEY

-  TRAFFIC REGULATOR
-  CHANNELIZING DEVICES
-  LIGHTED ARROW PANEL (CAUTION MODE)
-  TRAFFIC FLOW
-  REFLECTS EXISTING SPEED LIMIT

SIGN = 200 ft±2 - TYPE B PLUS ADDITIONAL R2-1's THROUGHOUT WORK AREA

MDOT
Michigan Department of Transportation
TRAFFIC AND SAFETY
MAINTAINING TRAFFIC
TYPICAL

TYPICAL TEMPORARY TRAFFIC CONTROL FOR
A TWO-LANE TWO-WAY ROADWAY WHERE ONE
LANE IS CLOSED UTILIZING TRAFFIC
REGULATORS, NO SPEED REDUCTION

DRAWN BY: CON:AE:djf	OCTOBER 2011	M0140a	SHEET 1 OF 2
CHECKED BY: BMM:CRB	PLAN DATE:		
FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0140a.dgn REV. 10/04/2011			

NOT TO SCALE

KEY

- CHANNELIZING DEVICES
- ⚡ LIGHTED ARROW PANEL
- ➡ TRAFFIC FLOW
- REFLECTS EXISTING SPEED LIMIT

SIGN = 136 ft² - TYPE B PLUS ADDITIONAL R2-1's THROUGHOUT WORK AREA



W20-1



R5-18c



R2-1

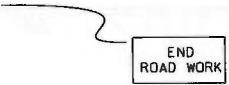


R2-1

PLACE THROUGHOUT WORK AREA AS INDICATED AND AFTER ALL MAJOR CROSSROADS IF PERMANENT SIGNS ARE NOT IN PLACE.



PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0080a.



PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0080a.



R2-1

PLACE THROUGHOUT WORK AREA AS INDICATED AND AFTER ALL CROSSROADS IF PERMANENT SIGNS ARE NOT IN PLACE.



R2-1



R5-18c



W4-2



W20-5



W20-1

SHOULDER

SHOULDER

MDOT
Michigan Department of Transportation
TRAFFIC AND SAFETY
MAINTAINING TRAFFIC
TYPICAL

TYPICAL TEMPORARY TRAFFIC CONTROL FOR A ONE-LANE CLOSURE ON AN UNDIVIDED MULTI-LANE ROADWAY, NO SPEED REDUCTION

DRAWN BY: CON:AE:djf
CHECKED BY: BMM:CRB

OCTOBER 2011
PLAN DATE:

M0240a

SHEET
1 OF 2

NOT TO SCALE

FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0240a.dgn REV. 10/11/2011

SIGN MATERIAL SELECTION TABLE

SIGN SIZE	SIGN MATERIAL TYPE		
	TYPE I	TYPE II	TYPE III
≤ 36" X 36"		X	X
>36" X 36" ≤ 96" TO WIDE		X	
> 96" WIDE TO 144" WIDE	X	X	
> 144" WIDE	X		

TYPE I ALUMINUM EXTRUSION
 TYPE II PLYWOOD
 TYPE III ALUMINUM SHEET

ROUNDING OF CORNERS IS NOT REQUIRED FOR TYPE I OR II SIGNS.
 VERTICAL JOINTS ARE NOT PERMITTED.
 HORIZONTAL JOINTS THROUGH SIGN LEGEND OR SYMBOLS ARE NOT PERMITTED.

POST SIZE REQUIREMENTS TABLE

SIGN AREA (ft ²)	POST TYPE		
	U-CHANNEL STEEL	SQUARE TUBULAR STEEL	WOOD
≤9	1 - 3 lb/ft*	1 - 2" 12 or 14 GA*	N/A
9 ≤ 20	2 - 3 lb/ft	2 - 2" 12 or 14 GA	1 - 4" X 6"*
> 20 ≤ 30	N/A	N/A	2 - 4" X 6"
> 30 ≤ 60	N/A	N/A	2 - 6" X 8"
> 60 ≤ 84	N/A	N/A	3 - 6" X 8"

*SIGNS 4 FEET AND GREATER IN WIDTH REQUIRE 2 POSTS.
 SIGNS GREATER THAN 8 FEET IN WIDTH REQUIRE 2 OR 3 WOOD
 POSTS DEPENDING ON AREA OF SIGN.
 A MAXIMUM OF 2 POSTS WITHIN A 7' PATH IS PERMITTED.

NOT TO SCALE

File:PW/Doc/RD/T&S/Typ/Dev/Sign MainTraf D/WZD-100-A Rev. 8/21/06 ECH



PREPARED BY
TRAFFIC AND SAFETY
SUPPORT AREA

DRAWN BY: CON/ECH

CHECKED BY: AUG

ENGINEER OF DELIVERY

ENGINEER OF DEVELOPMENT

PENDING

FHWA APPROVAL DATE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR

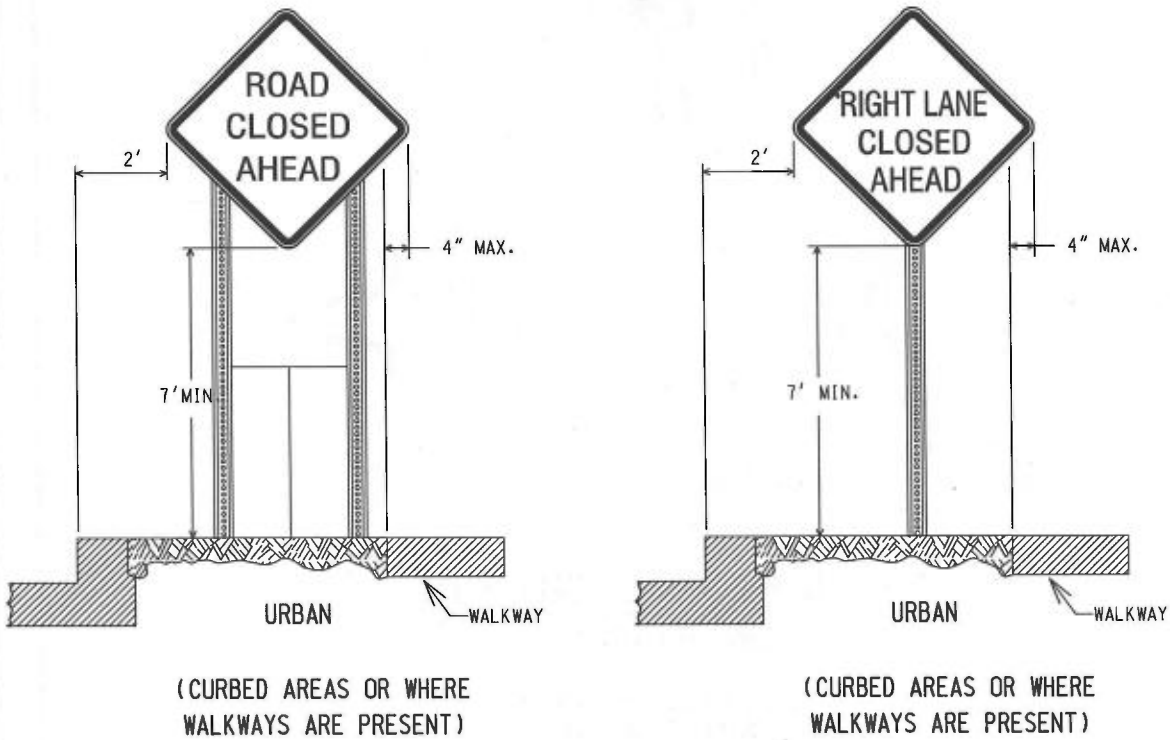
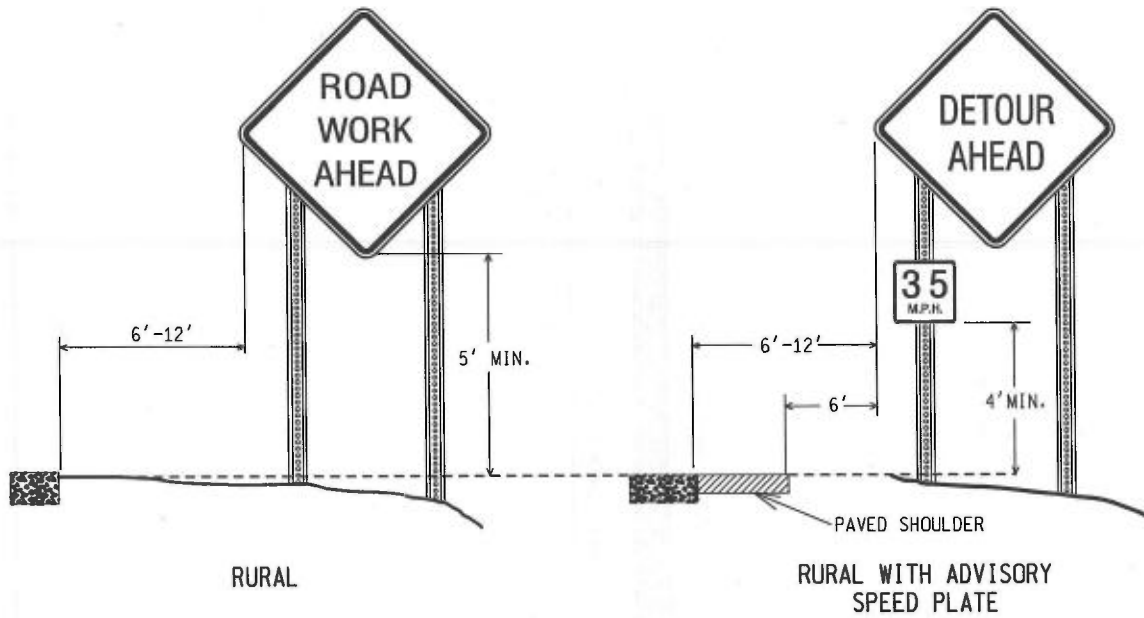
GROUND DRIVEN SIGN SUPPORTS FOR TEMP SIGNS

8/2006
PLAN DATE

WZD-100-A

SHEET
1 of 11

NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.



BOTTOM HEIGHT AND OFFSET

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN

PENDING
FHWA APPROVAL DATE

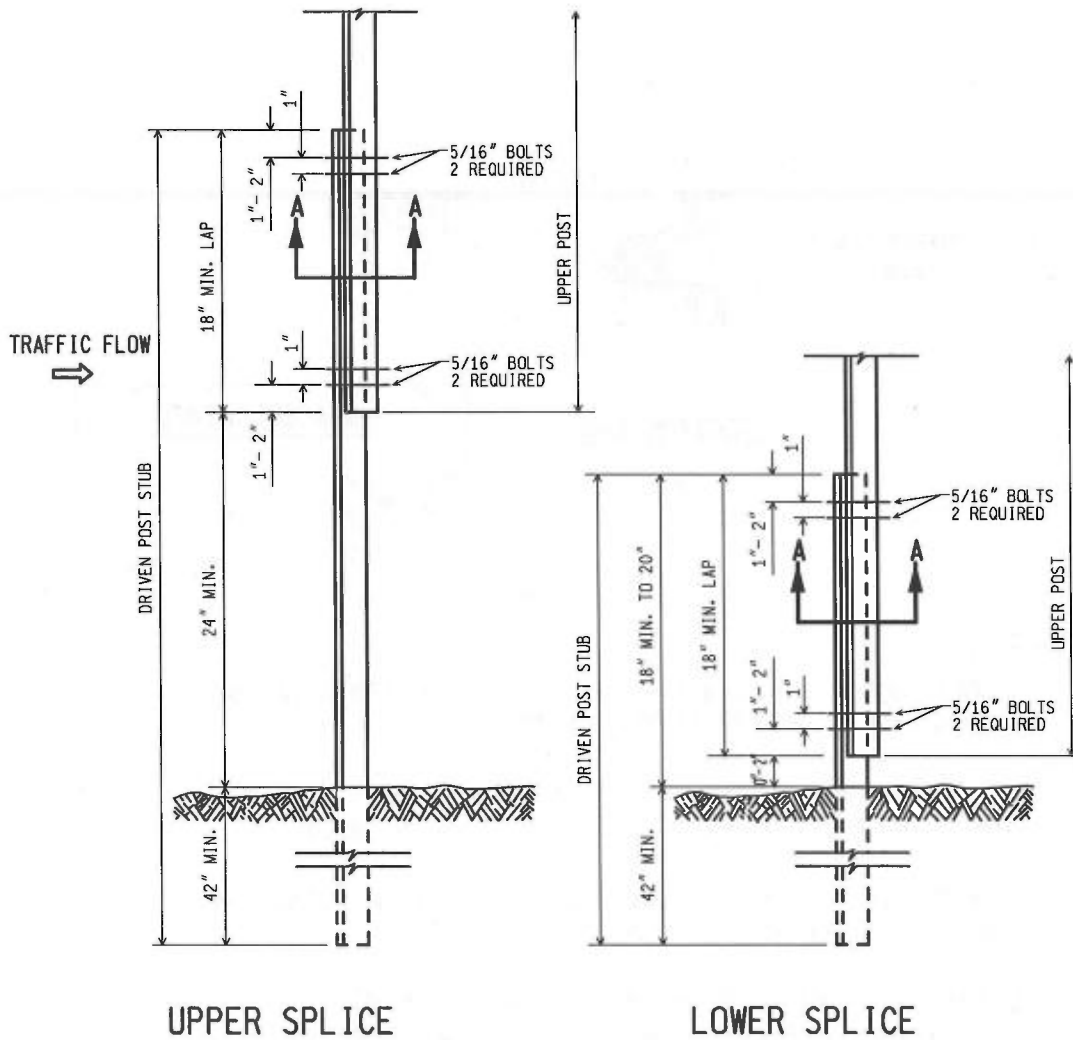
8/2006
PLAN DATE

WZD-100-A

SHEET
3 of 11

File:PW/Doc/RD/T&S/Typ/Dev/Sign MainTraf D/WZD-100-A Rev. 8/21/06 ECH

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UPPER SPLICE

LOWER SPLICE

**3 lb. U - CHANNEL STEEL POST
(WITH SPLICE)**

MOUNT SIGN ON OPEN FACE OF
UPPER U - CHANNEL STEEL POST

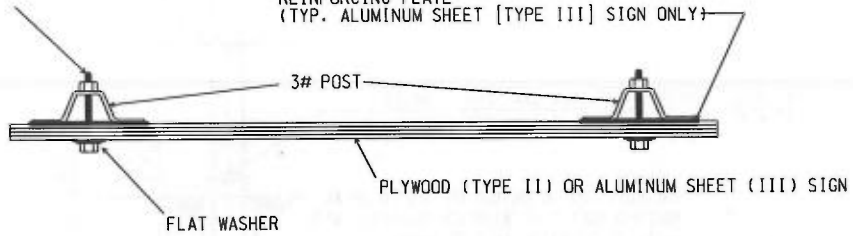
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MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN	PENDING FHWA APPROVAL DATE	8/2006 PLAN DATE	WZD-100-A	SHEET 5 of 11
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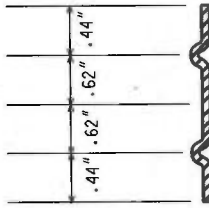
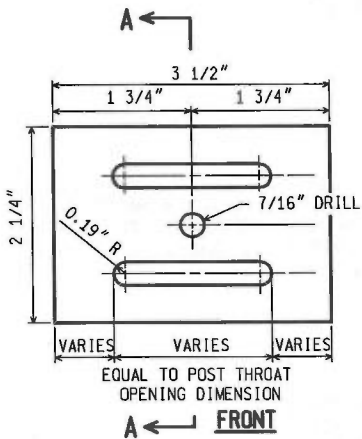
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5/16" DIAMETER GALVANIZED BOLT AND NUT

SELF-ALIGNING STEEL REINFORCING PLATE (TYP. ALUMINUM SHEET [TYPE III] SIGN ONLY)



SIGN TO 3 Ib. POST CONNECTION



SECTION A-A

NOTES: (FOR STEEL SIGN REINF' PLATE)

1. MATERIAL: 12 GAUGE CARBON STEEL.
2. TOLERANCE ON ALL DIMENSIONS $\pm 0.0625"$
3. FINISH-AFTER STAMPING AND PUNCHING, GALVANIZE ACCORDING TO CURRENT SPECIFICATIONS FOR ZINC (HOT GALVANIZE) COATINGS ON PRODUCTS FABRICATED FROM PLATES OR STRIPS

**STEEL SIGN REINFORCING PLATE
REQUIRED FOR TYPE III SIGNS ONLY**

3 Ib. U - CHANNEL STEEL POST SIGN CONNECTION

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN

PENDING
FHWA APPROVAL DATE

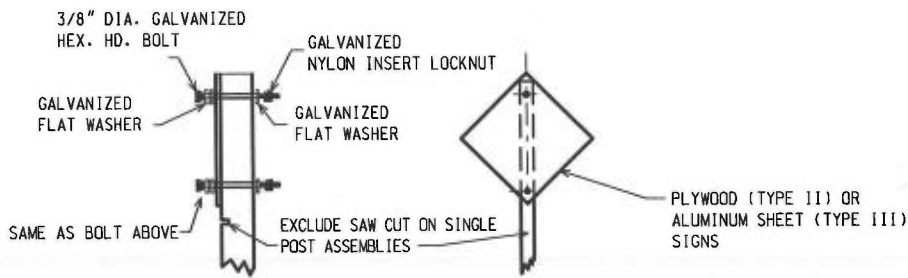
8/2006
PLAN DATE

WZD-100-A

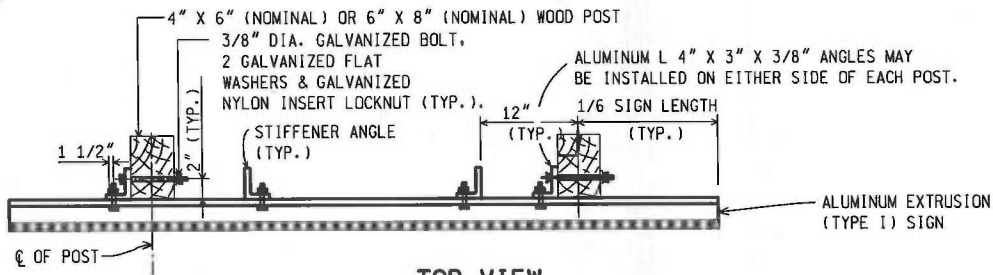
SHEET
7 of 11

File:PW/Doc/RD/T&S/Typ/Dev/Sign MainTraf D/WZD-100-A Rev. 8/21/06 ECH

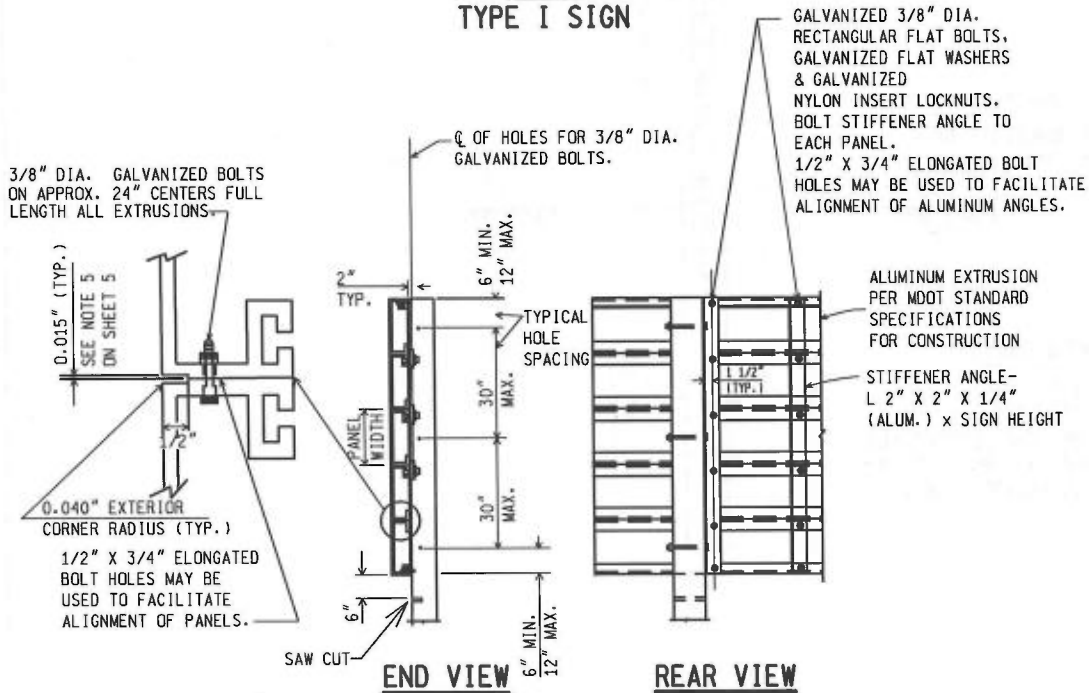
NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.



TYPE II AND TYPE III SIGNS



**TOP VIEW
 TYPE I SIGN**



TYPE I SIGN - ERECTION DETAILS

WOOD POST CONNECTIONS

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN	PENDING FHWA APPROVAL DATE	8/2006	WZD-100-A	SHEET 9 of 11
File#W/Doc/RD/T&S/Typ/Dev/Sign MainTraf D/WZD-100-A Rev. 8/21/06 ECH		PLAN DATE		

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GENERAL NOTES:

1. A MAXIMUM OF TWO POSTS WITHIN A 7 FOOT PATH IS PERMITTED.
2. ALL SIGN POSTS SHALL COMPLY WITH NCHRP 350.
3. ALL POSTS SHALL BE EMBEDDED A MINIMUM OF 42".
4. BRACING OF POST IS NOT PERMITTED.
5. SIGN SHALL BE LEVEL, AND UPRIGHT FOR THE DURATION OF INSTALLATION.
6. ERECT POSTS SO THE SIGN FACE AND SUPPORTS DO NOT VARY FROM PLUMB BY MORE THAN 3/16" IN 3'. PROVIDE A CENTER-TO-CENTER DISTANCE BETWEEN POSTS WITHIN 2 PERCENT OF PLAN DISTANCE.
7. NO MORE THAN ONE SPLICE PER POST, AS SHOWN, WILL BE PERMITTED.
8. POST TYPES SHALL NOT BE MIXED WITHIN A SIGN SUPPORT INSTALLATION.
9. NO VERTICAL JOINTS ARE PERMITTED IN SIGN. NO HORIZONTAL JOINTS THROUGH SIGN LEGEND OR SYMBOLS ARE PERMITTED IN SIGN
10. REMOVE SIGN POSTS AND/OR POST STUBS IN THEIR ENTIRETY WHEN NO LONGER REQUIRED.
11. ALL LABOR, MATERIALS, AND EQUIPMENT, INCLUDING TEMPORARY SUPPORTS REQUIRED TO INSTALL, MAINTAIN, RELOCATE, COVER, AND/OR REMOVE THE TEMPORARY SIGN, INCLUDING SUPPORTS, ARE CONSIDERED TO BE INCLUDED IN THE COST OF THE TEMPORARY SIGN.
12. SAW CUTS IN WOOD POSTS ARE TO BE PARALLEL TO THE BOTTOM OF THE SIGN.
13. POSTS SHALL NOT EXTEND MORE THAN 4" ABOVE TOP OF SIGN.

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN	PENDING FHWA APPROVAL DATE	8/2006 PLAN DATE	WZD-100-A	SHEET 11 of 11
File:PW/Doc/RD/T&S/Typ/Dev/Sign MainTraf D/WZD-100-A Rev. 8/21/06 ECH				

NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
MINOR TRAFFIC CONTROL

AA:DAD

1 of 4

03/15/16

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

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

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

b. Materials. Materials and equipment shall meet the requirements specified in section 812 of the MDOT 2012 Standard Specifications for Construction.

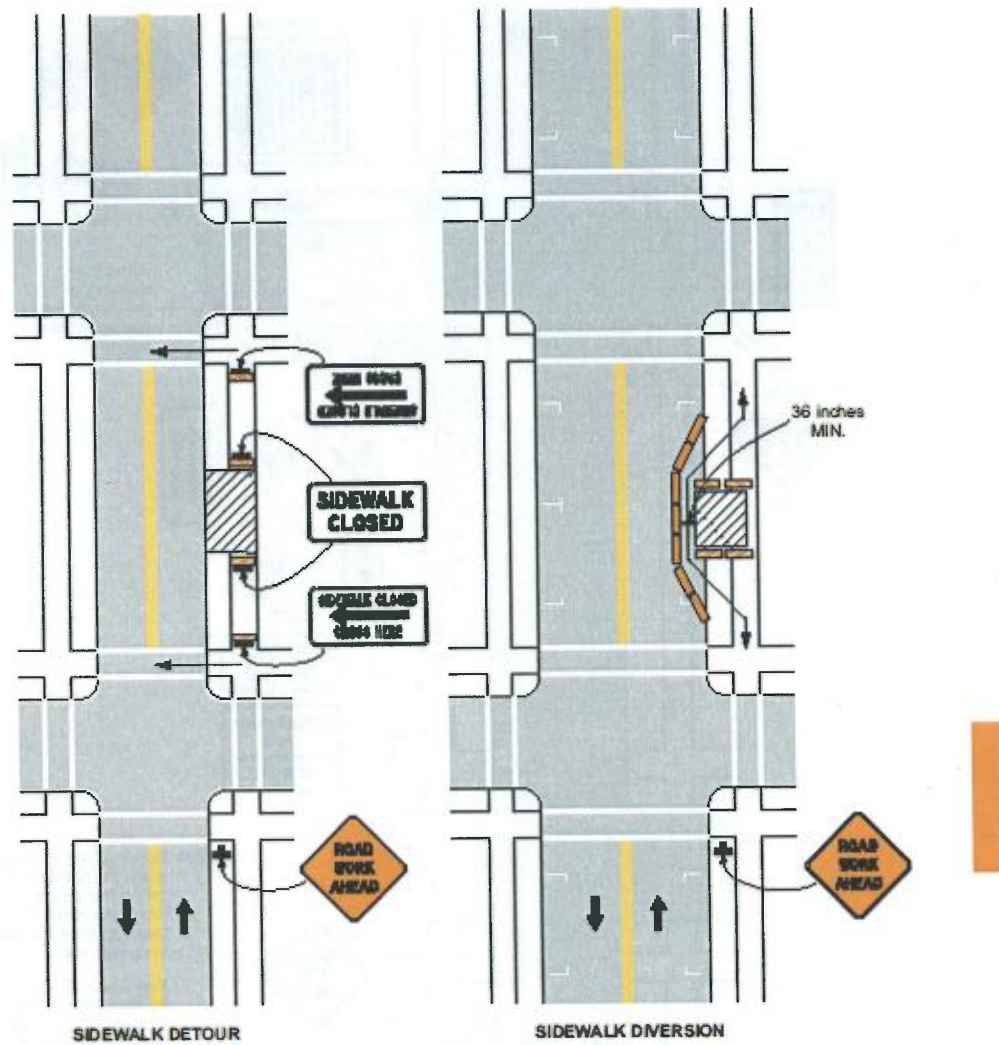
c. Construction. The Contractor shall maintain pedestrian traffic at all times. For maintaining normal pedestrian traffic while performing sidewalk and driveway repair, Plastic Drum, High Intensity, Lighted shall be placed by the Contractor as directed by the Engineer. The Contractor, when directed by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

All temporary traffic/pedestrian control devices furnished by the Contractor shall remain the property of the Contractor. The City shall not be responsible for stolen or damaged signs, barricades, barricade lights or other traffic maintenance items. The Contractor shall replace missing traffic control devices immediately, at no additional cost to the Contractor or City. All existing signs, and signs erected by the City of Ann Arbor on this project shall be preserved, protected, and maintained by the Contractor. The City will repair any existing City owned signs, at the Contractor's expense, which are damaged by the Contractor during the work.

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

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

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



Typical Application 28

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

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
NO PARKING SIGNS

AA:DAD

1 of 1

04/05/15

a. Description. This work shall consist of installing, maintaining and removing of "No Parking" signs and posts as outlined herein and as referenced on the plans. "No Parking" signs shall be installed in accordance with the section 812 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction Standard Specifications and the 2011 Michigan Manual of Uniform Traffic Control Devices (MMUTCD).

b. Materials. The City will furnish "No Parking" signs to the Contractor at no cost. The Contractor shall furnish the sign support and mounting hardware materials, which materials shall be in accordance with those specified in section 919 of the MDOT 2012 Standard Specifications for Construction.

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

The Contractor shall securely bolt the signs to the sign supports as directed by the Engineer. The Contractor shall imbed the sign supports at least two feet into the ground, and there shall be a minimum of six feet and maximum of seven feet of clearance maintained between the bottom of the sign and the ground. The signs are to be placed at intervals no more than 75 feet, and as necessary to eliminate parking in the construction area.

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

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price for the following pay item:

<u>Pay Item</u>	<u>Pay Unit</u>
No Parking Sign	Each

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

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
SLOPE RESTORATION

AA:DAD

1 of 2

04/05/15

a. Description. This work consists of preparing all manicured lawns and slopes on non-freeway projects designated for slope restoration on the plans or by the Engineer, and applying topsoil, fertilizer, seed, and mulch to those areas. Turf establishment shall be in accordance with section 816 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction and Standard Plan Series R-100, except as modified herein or otherwise directed by the Engineer.

b. Materials. The materials and application rates specified in sections 816 and 917 of the MDOT 2012 Standard Specifications for Construction apply unless modified by this special provision or otherwise directed by the Engineer.

1. Topsoil Surface: Place **4 inches** of topsoil in area disturbed areas to be restored. Topsoil shall be free of all stones one inch in diameter or greater.
2. Turf Seed Mixture: Use seed mixture type THM (Turf Loamy to Heavy).
3. Chemical Fertilizer Nutrient: Use Class A fertilizer.
4. Use Mulch Blankets on all areas to be restored.

c. Construction. Construction methods shall be in accordance to subsection 816.03 of the MDOT 2012 Standard Specifications for Construction. Begin this work as soon as possible after final grading of the areas designated for slope restoration but no later than the maximum time frames stated in subsection 208.03 of the Standard Specifications for Construction. It may be necessary, as directed by the Engineer, to place materials by hand.

Prior to placing topsoil, shape, compact and assure all areas to be seeded **are weed free**. Place topsoil to the minimum depth indicated above, to meet proposed finished grade. Remove any stones greater than or equal to 1 inch in diameter. If the area being restored requires more than the minimum depth of topsoil to meet finished grade, this additional depth must be filled using topsoil. Furnishing and placing this additional material is included in this item of work.

Topsoil shall be **weed and weed seed free** and friable prior to placing seed. Remove all stones from the topsoil greater than 1 inch in diameter. Apply seed mixture and fertilizer to prepared soil surface. Seed shall be incorporated into top ½ inch of topsoil.

If an area washes out after this work has been properly completed and approved by the Engineer, make the required corrections to prevent future washouts and replace the topsoil, fertilizer, seed and mulch. This replacement will be paid for as additional work using the applicable contract items.

If an area washes out for reasons attributable to the Contractor's activity or failure to take proper precautions, replacement shall be at the Contractor's expense.

The Engineer will inspect the seeded turf to ensure the end product is well established, weed free, in a vigorous growing condition, and contains the species called for in the seeding mixture. **If areas do not promote growth, the Contractor shall apply new seed at its expense.**

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
ELECTRICAL AND COMMUNICATION HANDHOLES

AA:DAD

1 of 2

03/15/16

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

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

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

12 inch x 18 inch handhole assemblies shall consist of "Quazite Composites" box. The box shall be #PG1118BA12. The cover shall be, #PG1118HA41, a locking heavy-duty bolt-down type with a logo that reads "Street Lighting." The total depth of the handhole shall be 12 inches.

17 inch x 30 inch handhole assemblies shall consist of two, stacked "Quazite Composites" boxes. The lower box shall be #PG1730BB18. The upper box shall be #PG1730BA18. The cover shall be, #PG1730HA46, a locking heavy-duty bolt-down type with a logo that reads "Traffic Signal." The total depth of the handhole shall be 36 inches.

24 inch x 36 inch handhole assemblies shall consist of "Quazite Composites" box. The box shall be #PG2436BA24. The cover shall be, #PG2436HA12, a locking heavy-duty bolt-down type with a logo that reads "Street Lighting." The total depth of the handhole shall be 24 inches.

Provide Granular Material, CI II in accordance with section 902 of the MDOT 2012 Standard Specifications for Construction.

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

Place foundation material consisting of four (4) inches of Granular Material, CI II compacted to 95% of its maximum unit weight.

Set the handhole or stacked units to the proper depth and elevation.

Connect handholes to new and existing conduits, whether shown on the plans or not. All conduits shall be connected to the handholes in accordance with the latest revision of Article 346 of the National Electrical Code (NEC).

Backfill around the perimeter of the handhole with Granular Material, CI II compacted to 95% of its maximum unit weight.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PARKING METERS

AA:DAD

1 of 2

03/27/17

a. Description. This work shall consist of removing parking meter standards and installing new meter standards where directed.

b. Materials. Republic Parking will supply all standards. Standards are steel tubes 60" to 63" in length and 2" square.

All sand shall meet the gradation of MDOT Class II granular material in accordance with Section 902 of the 2012 MDOT Standard Specifications for Construction.

Concrete shall be Grade P2 in accordance with Section 601 of the MDOT 2012 Standard Specifications for Construction.

c. Construction.

1. Removal. Meter standards requiring removal will be marked by the City. Prior to removal, contact Republic Parking at (734) 761-7235 for the removal of the parking meter heads. The Contractor is not permitted to remove the meter heads, nor remove the standard with the meter head still in place.

The Contractor shall remove the standard and concrete foundation. The void is to be backfilled with Class II Granular Material or Engineer approved backfill. The standards and concrete will then become of the property of the Contractor and shall be properly disposed of offsite.

2. Installation. The City will stake the location for the new meter locations. The location is approximately 18" to 24" from curb line, and 48" from front end of stall for parallel parking.

A. Installation in sidewalk/concrete. Core an 8" diameter hole through the concrete sidewalk at the meter location points. When working in close proximity of underground lines, use caution to avoid drilling beyond the thickness of the sidewalk in order to prevent damage to lines. For installation in new sidewalk, the standard may be installed prior to placing walk, or the walk may be placed around a form in the location of the proposed standard.

After drilling through the sidewalk, excavate approximately 30" deep, with an 8" diameter opening, and tapering outward to 10" at the bottom.

Set the standards into the concrete filled holes with the REAMED END to the TOP and WEEP HOLE on LOWER END FACING THE STREET. The meter standard is to project 37" above the sidewalk level.

Check the vertical plumb with the surface level, first in one direction and then in the other and then hold the standard securely in position with forms until the concrete has set.

After the standards have been plumbed, check the vertical alignment down the street and the height uniformity, making such corrections and adjustments as necessary.

APPENDIX

- Notices to Bidders
- Michigan Department of Transportation (MDOT) Special Provisions
 - MDOT Supplemental Specifications
 - Geotechnical Information

<u>Utility</u>	<u>Type of Service</u>
MCI/Verizon 5688 W Grand River Avenue Lansing, MI 48906 Attn: Rick Chalmers 517-318-8064 rick.chalmers@verizonbusiness.com	Telephone/Fiber Optic

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

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

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

The Contractor shall verify the location and depth of all utilities through Miss Dig and coordinate with the utilities to ensure that all utilities are protected during the project.

Protection of existing utility facilities is necessary during the project. Protection may include: holding utility poles, supporting underground facilities, temporary sheeting, bracing, poles, cables, sand fill or other means to complete the work. The Contractor is responsible for furnishing all labor, equipment and materials required to protect existing facilities during construction. Costs associated with protecting existing utilities will not be paid for separately.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
DEBRIS OR MATERIALS IN TRAFFIC LANES

CFS:BRZ

1 of 1

APPR:EMB:DAJ:01-10-08
FHWA:APPR:06-01-11

Delete Subsection 104.07.B.2 on page 36 of the Standard Specifications for Construction, in its entirety and replace it with the following:

2. **Construction Safety Program.** Before beginning work on the project, the Contractor must submit a written "Construction Safety Program" that outlines the plan and procedures for preventing and mitigating accidents and fires on the project and meeting all health and safety requirements of the contract. Also in the program include provisions for meeting the requirements of subsection 812.03 and details for the materials and equipment that will be used to prevent construction related debris or materials from entering the open lanes of traffic and what actions, including traffic control measures, will be taken to immediately and safely remove the debris or material from the roadway. The Contractor must meet with the Engineer to discuss the "Construction Safety Program" and to develop mutual understandings to govern the administration and enforcement of the program.

Replace the second sentence in the first paragraph of Subsection 104.07.C.3 on page 37 of the Standard Specifications for Construction with the following:

The Contractor is responsible, at the Contractor's expense, to provide the necessary materials and equipment to prevent construction related debris or materials from entering the open lanes of traffic. This includes protection of traffic controls, removal of spilled materials or debris from the roadbed or drainage courses, and repair of damaged facilities necessary for public travel and safety.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
CONSTRUCTION STAGING AREAS

DES:LFS

1 of 1

APPR:JJG:KAS:10-06-11
FHWA:APPR:10-11-11

Add the following subsection to section 107, on page 70 of the 2012 Standard Specifications for Construction:

107.22 Construction Staging Areas. The contractor must not use any public recreation area as a staging area, marshalling yard, storage facility, or for any other construction support unless it is defined in the contract.

Public recreation areas include: parks, trails, game areas, wildlife and waterfowl refuges, playgrounds, golf courses, athletic fields or similar areas which are publically owned by public school districts, local, state, or federal governments.

Any agreements negotiated between the Contractor and the owner of the public recreation area, before or after the award of the contract will not be considered valid by the Department.

If the Engineer determines the Contractor is in non-compliance with this subsection, penalties up to and including termination of the contract, in accordance with subsection 108.12, may be enacted as well as the immediate restoration of the public recreation area at the Contractor's cost.

Erosion Control, Inlet Protection, Fabric Drop will be paid for as one each for each time the alternate device listed herein is installed, maintained, and removed at a separate location within the project limits.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
RECYCLED HOT MIX ASPHALT MIXTURE ON LOCAL AGENCY PROJECTS

CFS:KPK

1 of 2

APPR:JWB:CJB:03-13-14
FHWA:APPR:03-13-14

Add the following subsection to subsection 501.02.A.2, on page 234 of the Standard Specifications for Construction.

- c. **Reclaimed Asphalt Pavement (RAP) and Binder Grade Selection.** The method for determining the binder grade in HMA mixtures incorporating RAP is divided into three categories designated Tier 1, Tier 2 and Tier 3. Each tier has a range of percentages that represent the contribution of the RAP binder toward the total binder, by weight. The tiers identified below apply to HMA mixtures with the following exception: Superpave mixture types E3, E3 High Stress, E10, E10 High Stress, E30, E30 High Stress, E50, and E50 High Stress used as leveling or top course must be limited to a maximum of 27 percent RAP binder by weight of the total binder in the mixture.

Recycled materials may be used as a substitute for a portion of the new materials required to produce HMA mixtures in accordance with contract.

- **Tier 1 (0% to 17% RAP binder by weight of the total binder in the mixture).** No binder grade adjustment is made to compensate for the stiffness of the asphalt binder in RAP.
- **Tier 2 (18% to 27% RAP binder by weight of the total binder in the mixture).** For all mixtures no binder grade change will occur in Tier 2 for all shoulder and temporary road mixtures.

The required asphalt binder grade must be at least one grade lower for the low temperature than the design binder grade required for the specified project mixture type. Lowering the high temperature of the binder one grade is optional. For example, if the design binder grade for the mixture type is PG 58-22, the required grade for the binder in the HMA mixture containing RAP would be a PG 52-28 or a PG 58-28.

For Marshall Mixes, no binder grade change will be required when Average Daily Traffic (ADT) is above 7000 or Commercial Average Daily Traffic (CADT) is above 700. No binder grade change will occur for LVSP, E03 and E1 mixtures used as leveling or top course.

The asphalt binder grade can also be selected using a blending chart for high and low temperatures. Supply the blending chart and the RAP test data used in determining the binder selection according to *AASHTO M 323*.

- **Tier 3 (\geq 28% RAP binder by weight of the total binder in the mixture).** The binder

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
MARSHALL HOT MIX ASPHALT MIXTURE

CFS:JWB

1 of 2

APPR:EHR:CJB:09-25-06
FHWA:APPR:06-06-11

a. Description. Furnish hot mix asphalt (HMA) mixture, designed using Marshall Mixture Design Methods, in accordance with the standard specifications except as modified by this special provision.

b. Mix Design. Submit the mix design for evaluation in accordance with the Department's HMA Production Manual. Use a 50 blow Marshall hammer when compacting mixtures for developing Marshall mix designs.

c. Recycled Mixtures. Substituting reclaimed asphalt pavement (RAP) for a portion of the new material required to produce HMA mixture is allowed provided that the mixture is designed and produced to meet all criteria specified herein, unless otherwise prohibited. RAP materials must be in accordance with the standard specifications.

d. Materials. Table 1 provides the mix design criteria and volumetric properties. Table 2 provides the required aggregate properties. Use aggregates of the highest quality available to meet the minimum specifications. Use the mixture designation number shown in the contract item name when determining mix design properties from Tables 1 and 2.

e. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	Pay Unit
HMA, (type)	Ton

Table 1: Mix Design Criteria and Volumetric Properties

	Mixture No.				
	2C	3C	4C	13A	36A
Target Air Void, % (a)	3.00	4.00	4.00	4.00	4.00
VMA (min) (b)	11.00	13.00	14.00	14.00	15.00
VFA	65-78	65-78	65-78	65-78	65-78
Fines to Binder Ratio (max) (c)	1.2	1.2	1.2	1.2	1.2
Flow (0.01 inch)	8 -16	8 -16	8 -16	8 -16	8 -16
Stability (min), lbs	1200	1200	1200	900	900
a. Lower target air voids by 1.00% if used in a separate shoulder paving operation. Consider reducing air void targets to 3.00% for lower traffic volume roadways when designing 13A and 36A mixtures for local agency use. b. VMA calculated using Gsb of the combined aggregates. c. Ratio of the weight of aggregate passing the No. 200 sieve to total asphalt binder content by weight; including fines and binder contributed by RAP.					

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
ACCEPTANCE OF HOT MIX ASPHALT MIXTURE ON LOCAL AGENCY PROJECTS

CFS:KPK

1 of 7

APPR:CJB:JWB:07-05-16

FHWA:APPR:07-05-16

a. Description. This special provision provides sampling and testing requirements for local agency projects using the roller method and the nuclear density gauge testing. Provide the hot mix asphalt (HMA) mixture in accordance with the requirements of the standard specifications, except where modified herein.

b. Materials. Provide aggregates, mineral filler (if required), and asphalt binder to produce a mixture proportioned within the master gradation limits shown in the contract, and meeting the uniformity tolerance limits in Table 1.

Table 1: Uniformity Tolerance Limits for HMA Mixtures

Parameter		Top and Leveling Course		Base Course		
Number	Description	Range 1 (a)	Range 2	Range 1 (a)	Range 2	
1	% Binder Content	-0.30 to +0.40	±0.50	-0.30 to +0.40	±0.50	
2	% Passing	# 8 and Larger Sieves	±5.0	±8.0	±7.0	±9.0
		# 30 Sieve	±4.0	±6.0	±6.0	±9.0
		# 200 Sieve	±1.0	±2.0	±2.0	±3.0
3	Crushed Particle Content (b)	Below 10%	Below 15%	Below 10%	Below 15%	
a. This range allows for normal mixture and testing variations. The mixture must be proportioned to test as closely as possible to the Job-Mix-Formula (JMF).						
b. Deviation from JMF.						

Parameter number 2 as shown in Table 1 is aggregate gradation. Each sieve will be evaluated on one of the three gradation tolerance categories. If more than one sieve is exceeding Range 1 or Range 2 tolerances, only the one with the largest exceedance will be counted as the gradation parameter.

The master gradation should be maintained throughout production; however, price adjustments will be based on Table 1. Aggregates which are to be used in plant-mixed HMA mixtures must not contain topsoil, clay, or loam.

c. Construction. Submit a Mix Design and a JMF to the Engineer. Do not begin production and placement of the HMA until receipt of the Engineer's approval of the JMF. Maintain the binder content, aggregate gradation, and the crushed particle content of the HMA mixture within the Range 1 uniformity tolerance limits in Table 1. For mixtures meeting the definition of top or leveling course, field regress air void content to 3.5 percent with liquid asphalt cement unless

The correlation procedure for ignition oven will be established as follows. Asphalt binder content based on ignition method from MTM 319. Gradation (*ASTM D 5444*) and Crushed particle content (*MTM 117*) based on aggregate from *MTM 319*. The incineration temperature will be established at the Pre-Production Meeting. The Contractor will provide a laboratory mixture sample to the acceptance laboratory to establish the correction factor for each mix. Ensure this sample is provided to the Engineer a minimum of 14 calendar days prior to production.

For production/mainline type paving, the mixture may be accepted by visual inspection up to a quantity of 500 tons per mixture type, per project (not per day). For non-production type paving defined as driveways, approaches, and patching, visual inspection may be allowed regardless of the tonnage.

The mixture will be considered out-of-specification, as determined by the acceptance tests, if for any one mixture, two consecutive tests per parameter, (for Parameter 2, two consecutive aggregate gradations on one sieve) are outside Range 1 or Range 2 tolerance limits. If a parameter is outside of Range 1 tolerance limits and the second consecutive test shows that the parameter is outside of Range 2, then it will be considered to be a Range 1 out-of-specification. Consecutive refers to the production order and not necessarily the testing order. Out-of-specification mixtures are subject to a price adjustment per the Measurement and Payment section of this special provision.

Contractor operations will be suspended when the mixture is determined to be out-of-specification, but contract time will continue to run. The Engineer may issue a Notice of Non-Compliance with Contract Requirements (Form 1165), if the Contractor has not suspended operations and taken corrective action. Submit a revised JMF or proposed alterations to the plant and/or materials to achieve the JMF to the Engineer. Effects on the Aggregate Wear Index (AWI) and mix design properties will be taken into consideration. Production and placement cannot resume until receipt of the Engineer's approval to proceed.

Pavement in-place density will be measured using one of two approved methods. The method used for measuring in-place density will be agreed upon at a pre-production or pre-construction meeting.

Pavement in-place density tests will be completed by the Engineer during paving operations and prior to traffic staging changes. Pavement in-place density acceptance testing will be completed by the Engineer prior to paving of subsequent lifts and being open to traffic.

Option 1 – Direct Density Method

Use of a nuclear density gauge requires measuring the pavement density using the Gmm from the JMF for the density control target. The required in-place density of the HMA mixture must be 92.0 to 98.0 percent of the density control target. Nuclear density testing and frequency will be in accordance with the *MDOT Density Testing and Inspection Manual*.

Option 2 – Roller Method

The Engineer may use the Roller Method with a nuclear or non-nuclear density gauge to document achieving optimal density as discussed below.

Base Price. Price established by the Department to be used in calculating incentives and adjustments to pay items and shown in the contract.

If acceptance tests, as described in section c. of this special provision, show that a Table 1 mixture parameter exceeds the Range 1, but not the Range 2, tolerance limits, that mixture parameter will be subject to a 10 percent penalty. The 10 percent penalty will be assessed based on the acceptance tests only unless the Contractor requests that the 10,000 gram sample part retained for possible dispute resolution testing be tested. The Contractor has 4 calendar days from receipt of the acceptance test results to notify the Engineer, in writing, that dispute resolution testing is requested. The Contractor's QC test results for the corresponding QA test results must result in an overall payment greater than QA test results otherwise the QA tests will not be allowed to be disputed. The Engineer has 4 calendar days to send the dispute resolution sample to the lab once dispute resolution testing is requested. The dispute resolution sample will be sent to an independent lab selected by the Local Agency, and the resultant dispute test results will be used to determine the penalty per parameter, if any. Ensure the independent lab is a MDOT QA/QC qualified lab or an AMRL HMA qualified lab. The independent lab must not have conflicts of interest with the Contractor or Local Agency. If the dispute testing results show that the mixture parameter is out-of-specification, the Contractor will pay for the cost of the dispute resolution testing and the contract base price for the material will be adjusted, based on all test result parameters from the dispute tests, as shown in Table 3 and Table 4. If the dispute test results do not confirm the mixture parameter is out-of-specification, then the Local Agency will pay for the cost of the dispute resolution testing and no price adjustment is required.

If acceptance tests, as described in section c. of this special provision, show that a Table 1 mixture parameter exceeds the Range 2 tolerance limits, the 10,000 gram sample part retained for possible dispute resolution testing will be sent, within 4 calendar days, to the MDOT Central Laboratory for further testing. The MDOT Central Laboratory's test results will be used to determine the penalty per mixture parameter, if any. If the MDOT Central Laboratory's results do not confirm the mixture parameter is out-of-specification, then no price adjustment is required. If the MDOT Central Laboratory's results show that the mixture is out-of-specification and the Engineer approves leaving the out-of-specification mixture in place, the contract base price for the material will be adjusted, based on all parameters, as shown in Table 3 and Table 4.

In the case that the Contractor disputes the results of the test of the second sample obtained for a particular day of production, the test turn-around time frames given would apply to the second test and there would be no time frame on the first test.

The laboratory (MDOT Central Laboratory or independent lab) will complete all Dispute Resolution testing and return test results to the Engineer, who will provide them to the Contractor, within 13 calendar days upon receiving the Dispute Resolution samples.

In all cases, when penalties are assessed, the penalty applies to each parameter, up to two parameters, that is out of specification.

Table 5: Density Frequency Curve Development

Tested by: _____ Date/Time: _____

Route/Location:		Air Temp:
Control Section/Job Number:		Weather:
Mix Type:	Tonnage:	Gauge:
Producer:	Depth:	Gmm:

Roller #1 Type:

Pass No.	Density	Temperature	Comments
1			
2			
3			
4			
5			
6			
7			
8			
Optimum			

Roller #2 Type:

Pass No.	Density	Temperature	Comments
1			
2			
3			
4			
5			
6			
7			
8			
Optimum			

Roller #3 Type:

Pass No.	Density	Temperature	Comments
1			
2			
3			
4			
5			
6			
7			
8			
Optimum			

Summary: _____

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
LOW-TRACKING BOND COAT EMULSIFIED ASPHALT, PERMISSIVE USE

CFS:TRC

1 of 2

APPR:JWB:KPK:06-01-16
FHWA APPR:06-07-16

a. Description. This work consists of electing to furnish low-tracking bond coat emulsified asphalt in lieu of standard bond coat. Ensure all work is in accordance with section 904 of the Standard Specifications for Construction and applicable special provisions, except as modified herein. The low-tracking bond coat emulsified asphalt must conform to approved acceptance test methods and procedures described in the Materials Quality Assurance Procedures Manual. No deviations to acceptance test methods and procedures will be allowed.

b. Materials. The following types of low-tracking bond coat emulsified asphalt are allowed in lieu of the standard bond coat.

Table 1: Low-Tracking Bond Coat (LTBC) Emulsified Asphalt

Emulsified Asphalt Type	Specification Requirements
LTBC-1	Table 2
LTBC-2	Table 3

Table 2: Specification Requirements for LTBC-1

Parameter	Test Method	Minimum	Maximum
Saybolt Furol Viscosity, SFS @ 25 degrees C	AASHTO T59	15	100
Storage Stability, 24 Hrs, %	AASHTO T59	--	1
Storage Stability, 5 Days, %	AASHTO T59	--	5
Residue By Distillation, %	AASHTO T59	50	--
Oil Distillate, %	AASHTO T59	--	1
Sieve Test, %	AASHTO T59	--	0.30
Tests On Residue			
Penetration, @ 25 degrees C	AASHTO T49	--	20
Softening Point Range degrees C	AASHTO T53	60	--
Solubility, %	AASHTO T44	97.5	--

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
RECESSED PAVEMENT MARKINGS

PMK:MKB

1 of 2

APPR:JJG:MWB:07-05-16

FHWA:APPR:07-13-16

a. Description. This work consists of providing all equipment and labor required to prepare (grooving) the pavement surface for recessed longitudinal, transverse, and turning guide line pavement markings in accordance with section 811 of the Standard Specifications for Construction, the plans, and this special provision.

b. Materials. None specified.

c. Construction. Install a recess (groove) in accordance with the pavement marking material manufacturer's installation instructions. Ensure all recessing configurations are in accordance with the *Michigan Manual of Uniform Traffic Control Devices* and the Department Pavement Marking Standards.

1. Grooving Concrete and Hot Mix Asphalt Pavement. If there are no markings on the pavement, paint a temporary tracer line (with no beads) exactly where the permanent markings will be placed. Use these lines as a template for the grooving operation.

Use equipment and methods approved by the manufacturer of the pavement marking material to be recessed for forming grooves in pavement surfaces. Dry-cut the grooves in a single pass using stacked diamond cutting heads on self-vacuuming equipment capable of producing a finished groove ready for pavement marking material installation.

Ensure that the bottom of the groove has a fine corduroy finish. If a coarse tooth pattern results, increase the number of blades and decrease the spaces on the cutting head until the required finish is achieved.

2. Groove Dimensions. Ensure grooves for recessed pavement markings are in accordance with the following:

Longitudinal Markings

Groove Width:	Material width +1 inch, ($\pm 1/8$ inch)
Groove Depth:	As recommended by the manufacturer, (± 5 mils)
Groove Position:	Center/Lane Lines: 2 inches from joint line, ($\pm 1/8$ inch)
	Edge Lines: On lane, 2-4 inches in from the joint line, ($\pm 1/8$ inch)
	Edge Lines for 14 foot paved lanes: as directed by the Engineer

Transverse Markings - Stop Bars, Crosswalks, and Cross Hatching

Groove Width:	Material width +1 inch, ($\pm 1/8$ inch)
Groove Depth:	As recommended by the manufacturer, (± 5 mils)

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
WET REFLECTIVE LIQUID APPLIED PAVEMENT MARKINGS

PMK:MKB

1 of 2

APPR:MWB:DBP:03-24-16

FHWA:APPR:03-24-16

a. Description. This work consists of furnishing and installing wet night retroreflective (WR) beads and/or elements and liquid applied pavement marking materials.

b. Materials.

1. Wet Night Retroreflective Beads and/or Elements. Select WR beads and/or elements from one of the following Manufacturers or a Department 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	Color	
	White	Yellow
Dry (ASTM E 1710)	700	500
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 Standard Specifications for Construction.

Submit to the Engineer prior to the start of work:

A. The Manufacturer's recommended application rate of the beads/elements and the liquid applied pavement marking binder to be used on the project. If the Manufacturer's recommended application rate differs from the specified rate in Table 811-1 of the Standard Specifications for Construction, the Manufacturer's recommended rate 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.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
PERMANENT PAVEMENT MARKINGS

PMK:MKB

1 of 2

APPR:MWB:CRB:07-07-16
FHWA:APPR:07-13-16

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 have a thickness of 125 mils.

Add the following row 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 of subsection 811.03.B, on page 592 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.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
MINOR TRAFFIC DEVICES AND TRAFFIC REGULATOR CONTROL DURING AN
APPROVED EXTENSION OF TIME

OPR:CRB

1 of 1

APPR:JJG:DBP:09-27-12

FHWA:APPR:10-04-12

Delete the first sentence of the second paragraph in subsection 812.04.U, Price Adjustments for Authorized Extensions of Time, on page 631 of the Standard Specifications for Construction and replace with the following.

The Department will not make price adjustments for temporary traffic control devices, Minor Traf Devices, and Traf Regulator Control during authorized extensions of time if liquidated damages are assessed in accordance with subsection 108.08 and subsection 108.09.

Delete the third paragraph and Formula 812-1 of subsection 812.04.U, Price Adjustments for Authorized Extensions of Time, on page 631 of the Standard Specifications for Construction, that starts with "The Department will use the following formula..." and replace with the following.

The Department will use the following formula to calculate the unit price adjustments. The adjustment for Minor Traf Devices will be at a daily rate of (a/b) not to exceed \$900.00 per calendar or work day and the adjustment for Traf Regulator Control will be at a daily rate of (a/b) not to exceed \$650.00 per calendar or work day. When calculating the adjustment, either calendar or working days will be used for both original contract time and additional days.

$a/b \times c = \text{Unit price adjustment}$

Formula 812-1

where:

a = Original contract unit price.

b = Original contract time (For calendar date projects the original contract time will be calculated as the number of calendar days from the start date to the contract completion date as identified on the progress schedule, form 1130).

c = Additional days the item was in use or required to be on standby during the authorized extension of time.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
SUPPORTS FOR TEMPORARY SIGNS

OPR:CRB

1 of 1

APPR:MWB:DBP:06-26-12

FHWA:APPR:08-18-12

Delete the last paragraph of subsection 812.03.D.3, on page 604 of the Standard Specifications for Construction in its entirety, and replace with the following.

Mount construction signs on portable sign support standards only if signs are to remain in place for 14 days or less, or as allowed by the Engineer if fixed supports are not possible.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
MEASUREMENT AND PAYMENT OF TEMPORARY TRAFFIC CONTROL DEVICES

OFS:CRB

1 of 1

APPR:MWB:JJG:02-27-14
FHWA:APPR:03-04-14

Delete subsection 812.04.A.4, on page 624 of the Standard Specifications for Construction in its entirety.

Delete the second paragraph of subsection 812.04.C, on page 624 of the Standard Specifications for Construction in its entirety, and replace with the following:

The Engineer will measure **Sign, Type __, Temp, Prismatic, Furn** as the total cumulative area of the maximum number of each sign legend that is in use during the course of the project unless previously paid. The unit price for **Sign, Type __, Temp, Prismatic, Furn** includes the cost of portable or driven sign supports.

Delete the second paragraph of subsection 812.04.D, on page 624 of the Standard Specifications for Construction in its entirety, and replace with the following:

The Engineer will measure **Sign, Type __, Temp, Prismatic, Oper** as the total cumulative area of the maximum number of each sign legend that is in use during the course of the project unless previously paid.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
TEMPORARY PAVEMENT MARKING REVISIONS

OFS:CGB

1 of 4

APPR:MWB:MKB:02-12-16

FHWA:APPR:02-23-16

Delete subsection 812.03.D.11.a, on page 610 of the Standard Specifications for Construction, in its entirety and replace with the following:

- a. **Temporary Pavement Marking – Wet Reflective Type R.** Use temporary wet reflective pavement marking Type R (removable tape) when temporary pavement markings must be placed on finished pavements and are not in the exact location as future permanent markings or at the discretion of the Engineer when temporary markings must be removed during the life of a project.

Ensure prior to installation the pavement surface is air blown or brushed to remove surface dust and dirt. Remove curing compound from new concrete surfaces before applying Type R Tape.

Place wet reflective Type R tape when it is used as a 4-foot dash or full length skip line as defined in the contract to temporarily mark finished pavement prior to the placement of permanent markings according to the Manufacturer's specifications for existing temperature and pavement condition. Offset it 1 foot from the permanent marking so that the permanent markings can be placed prior to the removal of the 4-foot dashes or full length skip line. Do not use 4-foot dashes or full length skip lines to temporarily mark a solid edge line. Ensure damaged or missing tape of more than 2 consecutive skip lines, is replaced at no cost to the Department within 24 hours after notification by the Engineer. Failure to replace the tape within the 24 hour time period will result in a contract price adjustment as described in the Special Provision for Traffic Control Quality and Compliance.

- i. Between April 15 and November 1, place wet reflective Type R tape not used as a skip line according to the Manufacturer's specifications for existing temperature and pavement condition. Replace wet reflective Type R tape of more than 50 cumulative feet that fails, at no cost to the Department within 24 hours after notification by the Engineer. Failure to replace the tape within the 24 hour time period will result in a contract price adjustment as described in the Special Provision for Traffic Control Quality and Compliance.
- ii. From November 2 to December 1 and March 15 to April 14, place wet reflective Type R tape for all temporary shifts and tapers when pavement surfaces are dry and air temperatures are 40 degrees Fahrenheit and rising. All wet reflective Type R tape placed during these times must be placed during approved daytime hours negotiated between the Engineer and the Contractor or daytime hours required in the contract. Do not place wet reflective Type R tape within 24 hours of predicted precipitation, or 24 hours after any precipitation. The Contractor will be paid to

Delete the following pay items from the list of pay items in subsection 812.04, on page 623 of the Standard Specifications for Construction:

- Pavt Mrkg, Type R, 4 inch, (color), TempFoot
- Pavt Mrkg, Type NR, Paint, 4 inch, (color), TempFoot

Add the following pay items to the list of pay items in subsection 812.04, on page 623 of the Standard Specifications for Construction:

- Pavt Mrkg, Wet Reflective, Type R, Tape, 4 inch, (color), TempFoot
- Pavt Mrkg, Wet Reflective, Type NR, Paint, 4 inch, (color), TempFoot

Delete subsection 812.04.N.2, on page 629 of the Standard Specifications for Construction, in its entirety and replace with the following:

- 2. **Non-Removable (Type NR) Pavement Markings.** The unit price for the relevant **Pavt Mrkg, Wet Reflective, Type NR, Paint, Temp** and **Pavt Mrkg, Type NR, Tape, Temp** pay items include the cost of providing and placing temporary pavement markings.

Delete subsection 812.04.N.3, on page 629 of the Standard Specifications for Construction, in its entirety and replace with the following:

- 3. **Removable (Type R) Pavement Markings.** The unit prices for **Pavt Mrkg, Wet Reflective, Type R, Tape, 4 inch, (color), Temp** and **Pavt Mrkg Cover, Type R, (color)** include the cost of providing, placing, maintaining, removing and disposing of temporary pavement marking. Payment will be per foot measured along the length of the placed pavement marking except for 8 inch gore markings and double solid lines which will be two times their measured length.

Delete subsection 922.06.A.1 on page 937 of the Standard Specifications for Construction in its entirety and replace with the following:

- 1. **Pavement Marking, Wet Reflective, Type R.** Provide wet reflective Type R temporary pavement marking as preformed tape. Select wet reflective Type R markings from the Qualified Products List (922.06A). Apply and remove preformed tape in accordance with the manufacturer's instructions. The tape must remain flexible and conform to the texture of the pavement surface during use.

Delete subsection 922.06.A.2, on page 937 of the Standard Specifications for Construction, in its entirety and replace with the following:

- 2. **Pavement Marking, Wet Reflective, Type NR Paint.** Provide Wet Reflective Type NR temporary pavement markings as paint reflectorized with glass beads and wet

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
CRUSHED CONCRETE NEAR WATER

CFS:JFS

1 of 1

APPR:KAS:DBP:02-24-12

FHWA:APPR:02-24-12

Add the following paragraph after the first paragraph of Subsection 902.05 on page 743 of the Standard Specifications for Construction:

The use of crushed concrete is prohibited on the project within 100 feet of any water course (stream, river, county drain, etc.) and lake, regardless of the application or location of the water course or lake relative to the project limits.

Add the following paragraph after the first paragraph of Subsection 902.06 on page 743 of the Standard Specifications for Construction:

The use of crushed concrete is prohibited on the project within 100 feet of any water course (stream, river, county drain, etc.) and lake, regardless of the application or location of the water course or lake relative to the project limits.

Add the following paragraph after the fourth paragraph of Subsection 902.07 on page 744 of the Standard Specifications for Construction:

The use of crushed concrete is prohibited on the project within 100 feet of any water course (stream, river, county drain, etc.) and lake, regardless of the application or location of the water course or lake relative to the project limits.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
SUPERPAVE FINAL AGGREGATE BLEND REQUIREMENTS

CFS:KPK

1 of 2

APPR:JFS:CJB:04-03-15

FHWA:APPR:04-07-15

a. **Description.** This special provision establishes the Superpave final aggregate blend gradation requirements and the Superpave final aggregate blend physical requirements.

b. **Materials.** Replace Table 902-5 and Table 902-6 of the Standard Specifications for Construction with the following tables.

Table 902-5 Superpave Final Aggregate Blend Gradation Requirements						
Standard Sieve	Percent Passing Criteria (control points)					
	Mixture Number					
	5	4	3 Leveling Course	3 Base Course	2	LVSP (a)
1½ inch	—	—	—	—	100	—
1 inch	—	—	100	100	90–100	—
¾ inch	—	100	90–100	90–100	≤90	100
½ inch	100	90–100	≤90	≤90	—	75–95
⅜ inch	90–100	≤90	—	—	—	60–90
No. 4	≤90	—	—	—	—	45–80
No. 8	47–67	39–58	35–49	23–49	19–45	30–65
No. 16	—	—	—	—	—	20–50
No. 30	—	—	—	—	—	15–40
No. 50	—	—	—	—	—	10–25
No. 100	—	—	—	—	—	5–15
No. 200	2.0–10.0	2.0–10.0	2.0–8.0	2.0–8.0	1.0–7.0	3–6

a. For LVSP, less than 50 percent of the material passing the No. 4 sieve may pass the No. 30 sieve.

MICHIGAN
DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION
FOR
PHYSICAL REQUIREMENTS FOR GEOTEXTILES

CFS:RBE

1 of 1

APPR:DMG:RWS:08-06-15

FHWA:APPR:08-11-15

Delete Table 910-1 on page 813 of the Standard Specifications for Construction in its entirety and replace with the following:

Table 910-1: Physical Requirements for Geotextiles

Geotextile Category	Property				
	Grab Tensile Strength (minimum) (pounds)	Trapezoid Tear Strength (minimum) (pounds)	CBR Puncture Strength (minimum) (pounds)	Permittivity per second (minimum)	Apparent Opening Size (maximum) (millimeters)
	Test Method				
	<i>ASTM D 4632</i>	<i>ASTM D 4533</i>	<i>ASTM D 6241</i>	<i>ASTM D 4491</i>	<i>ASTM D 4751</i>
Geotextile Blanket (a)	90	45	230	0.5	0.21
Geotextile Liner	200	75	440	0.5	0.21
Heavy Geotextile Liner	270	100	620	0.5	0.21
Woven Geotextile Separator (<50% elongation)	270	100	620	0.05	0.425
Non-Woven Geotextile Separator (>50% elongation)	200	75	440	0.05	0.425
Stabilization Geotextile	270	100	620	0.05	0.50
Silt Fence	100 (b)	45	---	0.1	0.60
Drainage Geocomposites	90	45	230	0.5	0.21

a. For pipe wrap where backfill around the pipe meets granular material Class IIAA requirements; geotextiles, including knitted polyester sock, which meet the following minimum requirements in the applied condition are permitted: Mass/Unit Area: 3.0 oz/yd²; Mullen burst strength: 100 psi; maximum apparent opening size must be 0.30 mm for pavement and foundation underdrains, and 0.60 mm in other areas. The fluid displacement rate for the Mullen burst test equipment must be 170 mL/min ±5 mL/min. Subtract tare strength from the ultimate burst strength as specified in *ASTM D 3786*.

b. Elongation at the specified grab tensile strength no greater than 40% for silt fence.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
PERMANENT PAVEMENT MARKING MATERIALS

PMK:MKB

1 of 1

APPR:MWB:CRB:07-07-16

FHWA:APPR:07-13-16

Delete the first paragraph of subsection 920.01, on page 890 of the 2012 Standard Specifications for Construction in its entirety and replace it with the following:

Select pavement marking materials from the Qualified Products List unless specified otherwise by special provision in the contract. For black liquid shadow markings and blue markings used in parking areas, either choose a product of the specified binder material and color from the Qualified Products List or select a white product of the specified binder material from the Qualified Products List and tint the product to the appropriate color.

Use liquid applied pavement marking materials manufactured in the previous 12 months or within the shelf-life directed by the manufacturer, whichever is less. Use solid applied materials within the shelf-life directed by the manufacturer. Provide certification that liquid and solid applied pavement marking materials have been stored per the manufacturer's requirements. Materials not in compliance will be rejected and removed at the Contractor's expense.

Delete the second paragraph from subsection 920.02.A, on page 891 of the Standard Specifications for Construction in its entirety and replace it with the following:

Glass beads must meet the general requirements of subsection 920.02.B, and the applicable requirements for specific applications of subsection 920.02.C. All glass beads meeting subsections 920.02.B and 920.02.C to be used on Federal-aid projects must contain no more than 200 parts per million of arsenic or lead, as determined in accordance with *Environmental Protection Agency* testing methods 3052, 6010B, or 6010C.

Add the following after the last paragraph of subsection 920.02.C, on page 892 of the 2012 Standard Specifications for Construction:

- 6. Modified Urethane.** The type, gradation, and application rates for glass beads used with modified urethane marking material must meet the modified urethane manufacturer's recommendation.

Use a double drop system of large and standard glass beads, a double drop system of ceramic elements and standard glass beads, or an Engineer-approved alternate for recessed longitudinal markings. Ensure large glass beads meet federal specification TTB-1325 for a Type 4 glass bead.

MICHIGAN
DEPARTMENT OF TRANSPORTATION
SUPPLEMENTAL SPECIFICATION
FOR
ERRATA TO THE 2012 STANDARD SPECIFICATIONS

1 of 29

07-29-16

Page	Subsection	Errata
3	101.02	Modify the abbreviation reading "AIS" to read "AISI".
4	101.02	Delete the following abbreviations and the long forms MDELEG MDNRE Add the following abbreviations and the long forms MDNR Michigan Department of Natural Resources MDEQ Michigan Department of Environmental Quality MDLARA Michigan Department of Licensing and Regulatory Affairs NESC National Electrical Safety Code
27	103.02.B.2	Change the last sentence of the first paragraph to read "For decreases below 75 percent, the maximum allowable payment for work performed, including any adjustment, will not exceed an amount equal to 75 percent of the original contract quantity times the contract unit price."
34	104.05	The first sentence of this subsection should read "If the Contractor performs unauthorized work (work performed without the inspections required by the contract, extra work performed without Department approval, work performed contrary to the inspectors direction, or work performed while under suspension by the inspector), the Engineer may reject the unauthorized work."
46	104.12	Add the following to the end of the first paragraph "The use of right-of-way in wetlands and floodplains, or the crossing of water courses by construction equipment is prohibited."
53	105.09	Add the following to the end of the second paragraph "Any specifically produced material not purchased by the Department, will remain the Contractors and must be removed from the project prior to final acceptance."
56	107.02.B.2	This sentence should read "U.S.Army Corps of Engineers' Section 404, Dredge and Fill; and Section 10, Navigable Waterway."
56	107.02.B	Add the subsection reading as follows: "3. U.S. Coast Guard Section 9, Navigable Waterway." Change "MDNRE" to "MDEQ" in this subsection.

An asterisk (*) indicates an entry which has been revised from an earlier version of this Supplemental Specification.

Page	Subsection	Errata
		"Do not operate equipment required to place backfill directly on geotextile products."
185	401.03.A	Change the first sentence of the second paragraph to read: Where unstable soil conditions, or obstructions other than rock, require excavation of the trench below the elevation detailed on the plans; undercut, backfill, and compact the trench as directed by the Engineer.
188	401.03.H	Change the second sentence of the paragraph to read "Jack steel pipes in place in accordance with subsection 401.03.G".
189	401.03.N	Add the following sentence to the end of the first paragraph "Where possible, maintain the stream flow thru a temporary channel or temporary culvert." The second sentence of the second paragraph should read "Direct water from the dewatering operations through a filter bag before discharging to an existing drainage facility."
190	401.04	Change the fourth pay item from the end of the list to read as follows: "Steel Casing Pipe, ___ inch, Tr Det ___."
195	402.03.C	Change the third sentence of the first paragraph to read as follows: "Wrap pipe joints, with a diameter greater than 24 inches, using geotextile blanket."
200	402.04	Change the third pay item from the top of the list to read as follows: "Sewer, CI ___, ___ inch, Jacked in Place"
200	402.04.A	Change the last sentence of the subsection to read as follows: "The unit price for Sewer and Sewer, Reinf Conc, Ellip includes the cost of excavation, backfill, geotextile blanket and mandrel testing."
201*	402.04.H	Change the last sentence of the first paragraph to read "The Department will not make an adjustment in the pay items of Minor Traf Devices or Traf Regulator Control ."
208	403.04.D.3	Change the sentence to read: "Removing and replacing pavement adjacent to the adjusted cover per Standard Plan R-37 Series."
218	406.03.A.2	Change the first sentence of the first paragraph to read: "Design precast box culverts less than 10 feet in span length measured along the centerline of the roadway in accordance with current AASHTO LRFD Bridge Design Specifications and ASTM C 1577." Add the following sentence to the end of the first paragraph: "Design precast box culverts greater than or equal to 10 feet in span length measured along the centerline of the roadway for HL-93 Modified live load."

Page	Subsection	Errata
		2. Headwalls, wingwalls, aprons, and curtain walls, precast or cast-in-place;
		Renumber the exist items 2 through 4 in this list to read 3 through 5.
		Delete existing item numbered 5 and replace with the following:
		6. Inserts for bars and connection hardware; and
		Renumber the existing item 6 in this list to read 7.
227	406.04.B	Delete the first and second paragraphs following the list of items in this subsection and replace with the following: "The Department will pay separately for cast-in-place concrete, other than for culvert segments, wing walls, and headwalls; excavation; protective coating; providing and placing backfill material; by plan quantity in accordance with subsection 109.01.A."
239	501.03.C.6	The first sentence of this subsection should read "Except as specified in subsection 501.03.C.4, removing HMA surface applies to removing HMA overlying a material designated for removal or that is required to remain in place."
247	501.03.O	Change footnote e in Table 501-5 to read: "Flushing severe enough to significantly affect surface friction (Friction Number <35)."
249	501.04.H	The first sentence of this subsection should read "The Engineer will measure, and the Department will pay for removing HMA surface, no greater than 12 inches thick, overlying a material designated for removal or that is required to remain in place, as HMA Surface, Rem. " The second paragraph of this subsection should read "The Engineer will measure, and the Department will pay for removing HMA surface, greater than 12 inches thick, overlying a material designated for removal or that is required to remain in place, as Pavt, Rem in accordance with subsection 204.04."
257	503.03.E	Delete this subsection in its entirety.
265	504.03.E.3	Delete this subsection in its entirety.
269	504.04.A	This subsection should read "The unit prices for Micro-Surface , regardless of the type required, include cleaning existing pavement; applying a bond coat; temporary pavement markings; stationing; corrective action; and traffic control to complete corrective action."
299	601.04	In table 601-2 delete the row for Grade P-NC concrete in its entirety.
300	601.04	In table 601-2, the first sentence of footnote b. should read: "Use coarse aggregate 6A, 6AA or 6AAA for Grades P1, P2 and M."

Page	Subsection	Errata
		countersunk screws with 3/4-inch or 1/2-inch diameter inserts for use in expansion joint cover plates."
389	706.03.D.4.b	Change the first sentence of the fourth paragraph to read "Design forms, form supports, and attachments to carry dead loads, and resultant horizontal loads due to forming of cantilever overhangs."
390	706.03.E.4	Change the forth sentence of the first paragraph to read: "Use wire ties to secure all bar intersections for the top mat. Use wire ties to secure all bar intersections for other mats where the product of the length and width of bar intersection spacing exceeds 120 square inches."
391	706.03.E.8	Change the first sentence of the second paragraph of this subsection to read: "Patch sawed or sheared ends and visible defects in accordance with ASTM A 775."
392	706.03.E.8	Change the last sentence of the third paragraph of this subsection to read: "Coat mechanical splices after splice installation in accordance with ASTM A 775 for patching damaged epoxy coating."
394	706.03.H.1	Delete the last paragraph on page 394 and replace it with the following: "Do not cast sidewalk, curb, or barrier pours until the deck concrete attains at least the minimum specified 7-day flexural or compressive strength, and after completion of the 7-day continuous wet cure. The forming of succeeding portions may occur, provided the wet cure is maintained."
406*	706.03.N.1.b	Add the following to the end of the last paragraph of the subsection: "Do not discontinue wet cure nor cast succeeding portions onto the bridge deck prior to completion of the 7-day two-phase continuous wet cure. Ensure excess or ponding cure water is removed prior to casting of succeeding structure portions."
416	707.03.C.1	Change the title of the subsection from "Shop Plans to read "Shop Drawings". Change the second sentence of this subsection to read: "Do not use design drawings in lieu of shop drawings."
426	707.03.C.17	Change the second sentence in the first paragraph of this subsection to read: "Tap oversized galvanized nuts in accordance with ASTM A 563 or AASHTO M 292 and meet Supplementary Requirement S1 of ASTM A 563 or AASHTO M 292."
430	707.03.D.7.b	Delete the first sentence of the last paragraph of this subsection.

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Page	Subsection	Errata
		<p>“Notify the Engineer of any saw cuts in the top flange. Saw cuts equal to or less than 1/32 inch deep in steel beams must be repaired by grinding, to a surface roughness no greater than 125 micro-inches per inch rms, and tapering to the original surface using a 1:10 slope. Saw cuts in excess of 1/32 inch deep in steel beams require a welded repair to be submitted to the Engineer for approval. Weld in accordance with subsection 707.03.D.8 and provide adequate notice to allow the Engineer to witness the repair work. Inspect and test all saw cut repairs (including grinding repairs) using ultrasonic testing in accordance with 707.03.D.8.c at no additional cost to the Department.”</p>
471	712.03.J	<p>Add the following to the end of the second paragraph of the subsection: “Select adhesive anchor systems from the Qualified Products List.”</p>
471	712.03.J.1	<p>Delete the first paragraph in this subsection and replace it with the following: “Propose complete details of drilling, cleaning, and bonding systems for anchoring reinforcement and submit for the Engineer’s approval before use. The minimum embedment depth must be nine times the anchor diameter for threaded rod or bolt and twelve times the anchor diameter for reinforcing bar. Propose a drilling method that does not cut or damage existing reinforcing steel. Prepare at least three proof tests per anchor diameter and type in the same orientation in which they will be installed on the existing structure, on a separate concrete block, in the presence of the Engineer. The Engineer will proof test the proposed systems. The Engineer will base approval of the anchoring system on the following criteria:”</p>
471	712.03.J.2	<p>Change the third sentence of the first paragraph to read: “Use a tension testing device for unconfined testing, in accordance with ASTM E 488.”</p>
473	712.03.L.2	<p>Change the first sentence in the second paragraph of this subsection to read: “If using epoxy coated steel reinforcement, epoxy coat mechanical reinforcement splices in accordance with ASTM A 775.”</p>
473	712.03.L.3	<p>Delete the existing first sentence in the first paragraph.</p>
473	712.03.L.3	<p>Change the third sentence of the first paragraph to read “Provide two test splices on the largest bar size.”</p>
473*	712.03.L.3	<p>Change the sentence beginning “Demonstrate to the.... to read: “Demonstrate to the Engineer that splices have a tensile strength of 125 percent of the bar yield strength and high strength splices have a tensile strength of 150 percent of the bar yield strength.”</p>
488	713.02	<p>Add the following as subsection 713.02.C: “C. Structural Steel for Retrofitting and Welded Repairs. Structural steel material used for retrofitting and welded repairs of primary</p>

Page	Subsection	Errata
		"The Engineer will measure Guardrail Salv and Guardrail, Mult, Salv along the face of the rail (one face for multiple beams), including terminals and end shoes."
567	808.04.C	Change the first paragraph of this subsection to read: "The Department will not pay separately for protective fence required in accordance with subsection 104.07."
569	809.04.A	Change the first sentence to read: "The unit price for Field Office, CI __ includes the cost of setup, providing access, grading, maintaining, plowing snow, and utility hook-up charges."
570	809.04.B	Delete the existing second and third sentences in the first paragraph and replace them with the following: "The unit price for Field Office, Utility Fees includes the cost of monthly usage fees for electricity, gas, telephone service and charges, fuel for the stove, monthly water and sanitary service."
570	809.04.B	Change the existing fourth sentence in the first paragraph to read: "The Department will reimburse the Contractor for monthly usage fees for electricity, gas, telephone, water and sanitary charges incurred by the Department."
575	810.03.K	Change the subsection to read "K. Drilled Piles for Cantilever and Truss Foundations. Construct drilled piles for cantilever and truss foundations in accordance with section 718."
578	810.03.N.2	Add the following sentence after the first sentence of the second paragraph on this page: "Mark each nut and bolt to reference the required rotation."
584	810.04	Delete the last pay item in the list: Truss Fdn Anchor Bolts, Replace.....Each
596	811.03.G	Delete this subsection in its entirety.
597*	811.03.H	Rename this subsection as follows: "G. Raised Pavement Marker (RPM) Removal. "
597*	811.04	Change "Crosshatching" in the last pay item of the list on this page to "Cross Hatching".
598*	811.04	Delete the following pay items from the list: Pavt Mrkg, (material), 4 inch, SRSM, (color).....Foot Pavt Mrkg, (material), 4 inch, SRSM, 2 nd Application, (color).....Foot Add the following pay items to the list: "Pavt Mrkg, Polyurea, (legend).....Each

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Page	Subsection	Errata
608	812.03.D.10.b	Add the following sentence after the second paragraph of this subsection: "Install impact attenuation devices as shown on the plans, as directed by the Engineer, or both."
609	812.03.D.10.e	Delete the second paragraph of this subsection.
613	812.03.D.14.a.iii	Change the sentence in this subsection to read "Place an ET Type or SKT Type extruder guardrail ending on both blunt guardrail ends."
615	812.03.F	The second sentence of the second paragraph of this subsection should read: "The Contractor may use a Type R temporary pavement marking cover, per subsection 812.03.D.12 when authorized by the Engineer."
616	812.03.F.2	The last sentence of the first paragraph should read: "If the removal equipment cannot collect all removal debris, operate a self-propelled sweeper capable of continuously vacuuming up the removal debris immediately behind the removal equipment."
617	812.03.G.3	The first sentence of the second paragraph should read: "Sweep the shoulder and remove debris prior to placing traffic on the shoulder and throughout the time the shoulder is used to maintain traffic."
617	812.03.G.4.a	Delete "48 inch by 48 inch" from the first sentence of this subsection.
618*	812.03.G.7	The first sentence of the first paragraph should read: "Clean barrier reflectors, plastic drums, 42 inch channelizing devices, tubular markers, signs, barricades, and attached lights in operation on the project to ensure they meet required luminosity."
619	812.03.G.8	The second sentence of the third paragraph from the end of the subsection should read: "Illuminate traffic regulator stations at night per subsection 812.03.H."
621	812.03.I.6	Delete "48 inch by 48 inch" from the second sentence of this subsection.
622*	812.03.J	The second paragraph should read "Apply one 2-inch wide horizontal stripe of red and white conspicuity tape along at least 50 percent of each side of, and across the full width of the rear of the vehicle or equipment."
622	812.04	Change the second item down the list to read: "Traf Regulator Control" Change the sixth item down the list to read: "Sign Cover, Type I"
626	812.04.I	Change the reference "812.04.E" in the first sentence to "812.04.D".
628	812.04.M.4	Add the following as the first sentence of this subsection:

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Page	Subsection	Errata
650	816.03.B.2	Change the sentence to read: "For Class B fertilizer, evenly apply 120 pounds of chemical fertilizer nutrient per acre on a prepared seed bed."
650*	816.03.B.3	Change the sentence to read: "For Class C fertilizer, evenly apply 80 pounds of chemical fertilizer nutrient per acre on established turf."
663*	819.01	<p>Delete the first paragraph in the subsection and replace it with the following:</p> <p>"This work consists of providing operating electrical and lighting units; removing, salvaging, or disposing of existing electrical and lighting components; excavating, backfilling, restoring the site in accordance with section 816; and disposing of waste excavated materials. Complete this work in accordance with this section, section 820, and the contract and to the requirements of the NEC, the National Electrical Safety Code, and the MDLARA for those items not identified in the contract."</p> <p>Change the third sentence of the second paragraph in this subsection to read:</p> <p>"Contact the MDLARA for electrical service inspection and pay the applicable fees."</p>
671	819.03.F.1	<p>Change the paragraph to read:</p> <p>"Install light standard foundations as shown on the plans and the standard plans, as applicable."</p>
673	819.03.G.4.b	<p>Change the last sentence of the first paragraph to read:</p> <p>"Tighten the anchor bolts to a snug tight condition as described in the third paragraph of subsection 810.03.N.2 ensuring the lock washer is completely compressed."</p>
673	819.03.G.4.b	<p>Delete the first two sentences of the second paragraph and replace with the following:</p> <p>"Tighten bolts connecting the pole to the frangible base to a snug tight condition. Snug tight is the tightness attained by a few impacts of an impact wrench, or the full effort of a person using an ordinary spud wrench. The lock washers must be fully compressed."</p>
678*	819.04	<p>Delete the last item in the list on this page reading:</p> <p>"DB Cable, in Conduit, 600 Volt, (number) 1/C# (size) Foot"</p>
680	819.04	<p>Change the first paragraph to read:</p> <p>"Unless otherwise required, the unit prices for the pay items listed in this subsection include the cost of excavation, granular material, backfill, and disposal of waste excavated material. If the contract does not include pay items for restoring the site in kind in accordance with section 816, the Department will consider the cost of restoration included in the pay items listed in this subsection."</p>
680	819.04.A	Add the following paragraph after the first paragraph of the subsection.

Page	Subsection	Errata
		"7. A 3/4 inch minimum flexible conduit (non-metallic and rated for underground use) from the pavement to the handhole."
706	821.01.B	Change the website address listed after the second paragraph on this page to read: " http://www.ngs.noaa.gov/heightmod/GuidelinesPublications.shtml "
711	822.03.B	Change the second paragraph to read: "If corrugations are required on concrete shoulders and the method of installation is not shown on the plans or directed by the Engineer, construct corrugations by grinding, or cutting."
720	823.04	Change the pay item seventh from the bottom of the list to read: "Water Shutoff, Adj, Temp, Case ___"
730	824.03.Q	Change the third sentence of the fourth paragraph to read: "Ensure placement of monumentation in accordance with section 821."
730	824.03.Q	Change the first sentence of the last paragraph to read: "The Department will not pay for work dependent on lost or destroyed stakes until the Contractor replaces the stakes."
732	824.04	Change the first sentence of the first paragraph following the list of pay items to read: "If the Engineer determines the Contractor will perform staking as extra work, the Department will pay for staking in accordance with section 103."
733	824.04	Change the left column header in Table 824-2 to read: " Percent of Original Contract Amount Earned "
739	902.02	Change the last aggregate testing description to read: "Determining Specific Gravity and Absorption of Fine Aggregates.....MTM 321"
742	902.03.C.1.a	Change the sentence to read: "Coarse aggregate includes all aggregate particles greater than or retained on the 3/4-inch sieve."
742	902.03.C.2.a	Change the sentence to read: "Intermediate aggregate includes all aggregate particles passing the 3/4-inch sieve through those retained on the No. 4 sieve."
742	902.03.C.2.b.iii	Change the sentence to read as follows: "Maximum Loss by Washing per MTM 108 of 3.0 percent".
744	902.07	Delete the fourth paragraph of the subsection and replace it with the following: "The Engineer will only allow the use of granular material produced from crushed portland cement concrete for embankment and as trench

Page	Subsection	Errata
		"Epoxy coated steel reinforcement, if required, must be coated in accordance with ASTM A 775, with the following exceptions and additions."
768	905.03.C.3	Change the first sentence of this subsection to read: "Include written certification that the coated reinforcing bars were cleaned, coated, and tested in accordance with ASTM A 775 with the coating applicator."
768	905.05	Change the first sentence of the first paragraph to read: "Deformed steel bars must meet the requirements of ASTM A 706 or the requirements for Grade 40, Grade 50, or Grade 60 of ASTM A 615 or ASTM A 996 (Type R or Type A only)".
768	905.06	Delete this subsection in its entirety and replace it with the following: "Deformed wire fabric for prestressed concrete and fabric for concrete pavement reinforcement must meet the requirements of ASTM A 1064 and fabricated as required."
772	906.07	Change the first paragraph to read: "High-strength bolt fasteners for structural joints must meet the requirements of ASTM A 325 Type 1 bolts. High-strength nuts for structural joints must meet the requirements of ASTM A 563 Grade DH or AASHTO M 292 Grade 2H. High-strength washers for structural joints must meet the requirements of ASTM F 436 Type 1 for circular, beveled, clipped circular, and clipped beveled washers." Change the second sentence of the second paragraph of this subsection to read: "Galvanized nuts must be tapped oversize in accordance with ASTM A 563 and meet Supplementary Requirements S1, Lubricant and Rotational Capacity Test for Coated Nuts and S2, Lubricant Dye."
777*	907.03.D.2.a	Change the first sentence of the second paragraph to read: "Angle sections must be nominal 2½ inch by 2½ inch by ¼ inch."
777*	907.03.D.2.b	Change the first sentence of the first paragraph to read: "Angle section braces must be nominal 1¾ inch by 1¾ inch by ¼ inch or nominal 2 inch by 2 inch ³/₁₆ inch."
782	908.04	Change the first sentence of the first paragraph of this subsection to read: "Steel castings for steel construction must meet the requirements of ASTM A 148 for Grade 60/90 carbon steel castings, as shown on the plans, unless the Engineer approves an alternate in writing."
783*	908.09.A	Change the title of this subsection and the first sentence to read "A. Base Plates, Angle, and Non-Tubular Post Elements. Galvanized base plates, angle, rail splice elements, and non-tubular

Page	Subsection	Errata
787	908.14.B	Change the second sentence of the fourth paragraph to read "After coating, the maximum limit of pitch and major diameter for bolts with a diameter no greater than 1 inch may exceed the Class 2A limit by no greater than 0.021 inch, and by no greater than 0.031 inch for bolts greater than 1 inch in diameter".
787*	908.14.C	Change the first paragraph to read "Provide either four or six high strength anchor bolts per the contract plans, meeting the mechanical requirements of ASTM F 1554, for Grade 105, with each standard. Anchor bolts for traffic signal strain poles must meet the requirements of subsection 908.14.B with the following exceptions and additions:"
789	909.03	Change the second sentence of the second paragraph to read: "As an alternative to the AASHTO M 36 requirements for metal pipe, the Contractor may use gasket material meeting the low temperature flexibility and elevated temperature flow test requirements of ASTM C 990, excluding the requirements for softening point, flashpoint and fire point."
793	909.06	Change the first sentence of the second paragraph of this subsection to read: "Provide Corrugated Polyvinyl Chloride Pipe (CPV) and required fittings meeting the requirements of AASHTO M 304."
793*	909.05.D	Change the second sentence of the paragraph to read "Provide a continuous welded joint to create a watertight casing that is capable of withstanding handling and installation stresses. Perform field welding by the SMAW process using E7018 electrodes."
794*	909.08.A	Change the first sentence to read: "Provide bridge deck downspouts of PE pipe meeting the requirements of ASTM F 714, PE 4710, DR 26."
804	Table 909-9	In the note area at the bottom of the table change the designation of the second note from "c." to "b."
811	910.04	Add the following sentence to the end of this subsection: "Fabricate silt fence according to subsection 916.02."
814	Table 911-1	In the 4 th row of the 5 rows in the table change the Property listed as "Total Organic Content (TOC)" to read "Total Organic Carbon (TOC)".
829*	912.08.K	Replace Table 912-10 with the Table 912-10 below.
833*	913.03.B	Change the first sentence of the first paragraph to read: "Clay brick, to construct manholes, catch basins, and similar structures, must meet the requirements of ASTM C 32, for Grade MS."
837*	914.04	Add the following as subsection 914.04.C:

An asterisk (*) indicates an entry which has been revised from an earlier version of this Supplemental Specification.

Page	Subsection	Errata
		"The net must meet the requirements of subsection 917.15.D and be capable of reinforcing the blanket to prevent damage during shipping, handling, and installation."
857	918.01	Add the following two paragraphs following the first paragraph of this subsection: "Wall thickness and outside diameter dimensions must conform to ASTM D 1785 for smooth-wall schedule 40 and 80 PVC conduit material. The Department will allow no more than 3 percent deviation from the minimum wall thickness specified. Wall thickness range must be within 12 percent in accordance with ASTM D 3035 for smooth-wall coilable schedule 40 and 80 PE conduit."
858	918.01.E	Delete the first three sentences of the second paragraph shown on page 858.
863	918.06.F.1	Delete the third paragraph in this subsection in its entirety and replace it with the following: "Provide smooth or deformed welded wire fabric in accordance with ASTM A 1064."
864	918.07.C	Change the first sentence of the first paragraph to read: "Provide anchor bolts, nuts, and washers meeting the requirements of subsection 908.14.A and subsection 908.14.B."
864	918.07.C	Delete the second sentence of the second paragraph.
864	918.07.C	Change the third sentence to read: "Provide anchor bolts threaded 4 inches beyond the anchor bolt projection shown on the plans."
867	918.08.C	Change the last sentence of the first paragraph on this page to read: "Galvanize bolts, nuts, washers, and lock washers as specified in subsection 908.14.B."
867	918.08.C	Change the last sentence of the subsection to read: "Provide each frangible base with manufacturer access covers as shown on the plans."
867*	918.08.D	Delete this subsection in its entirety and replace with the following: "Provide galvanized anchor bolts, studs, nuts, couplings, and washers in accordance with subsection 908.14."
879	918.10.J	Change the third sentence of the second paragraph of this subsection to read: "Provide anchor bolts and associated nuts, washers, and hardware meeting the requirements of subsection 908.14."
887	919.06	Change the second paragraph to read:

Page	Subsection	Errata
		Add the following pay items to the list:
		"Pavt Mrkg, Polyurea, (legend).....598.....811
		Pavt Mrkg, Polyurea, (symbol).....598.....811
		Pedestal, Pushbutton, Alum.....696.....820
		Pedestal, Pushbutton, Rem.....696.....820"
962	Pay Item Index	Change the following pay items in the list to read: "Pile Driving Equipment, Furn (Structure No.) Pile, Galv (Structure No.)"
963	Pay Item Index	Change the following pay item to read: "Rem Curing Compound, for Longit Mrkg, __ inch598 811"
964	Pay Item Index	Change the following pay item to read: "Sewer, Cl __, __ inch, Jacked in Place200 402" "Sign Cover, Type I622 812"
965*	Pay Item Index	Change the following pay item in the list to read: "Steel Casing Pipe, __ inch, Tr Det __ Site Preparation, Max (dollar)646 815"
966	Pay Item Index	Delete the following pay item form the list; Temp Casing.....533.....718
967*	Pay Item Index	Delete the following pay item from the list; Truss Fdn Anchor Bolts, Replace.....584.....810
967	Pay Item Index	Change the following pay item in the list to read: "Traf Regulator Control"
968*	Pay item Index	Change the following pay item in the list to read: "Water Shutoff, Adj, Temp, Case __ Watering and Cultivating, First Season, Min (dollar).....646 815 Watering and Cultivating, Second Season, Min (dollar)646 815"
969	Pay item Index	Change the following pay item in the list to read: "Witness, Log, Layout, \$1000.00"
993	General Index	Change "Shop Plans (see Plans and Working Drawings)" to read "Shop Drawings (see Plans and Working Drawings)".

An asterisk (*) indicates an entry which has been revised from an earlier version of this Supplemental Specification.

**Table 902-6
Superpave Final Aggregate Blend Physical Requirements**

Est. Traffic (million ESAL)	Mix Type	Percent Crushed Minimum Criteria		Fine Aggregate Angularity Minimum Criteria		% Sand Equivalent Minimum Criteria		Los Angeles Abrasion % Loss Maximum Criteria		% Soft Particles Maximum Criteria (b)		% Flat and Elongated Particles Maximum Criteria (c)	
		Top & Leveling Courses	Base Course	Top & Leveling Courses	Base Course	Top & Leveling Courses	Base Course	Top & Leveling Courses	Base Course	Top & Leveling Courses	Base Course	Top & Leveling Courses	Base Course
< 0.3	LVSP	55/—	—	—	—	40	40	45	45	10	10	—	—
< 0.3	E03	55/—	—	—	—	40	40	45	45	10	10	—	—
≥0.3 - <1.0	E1	65/—	—	40	—	40	40	40	45	10	10	—	—
≥1.0 - < 3	E3	75/—	50/—	40(a)	40(a)	40	40	35	40	5	5	10	10
≥3 - <10	E10	85/80	60/—	45	40	45	45	35	40	5	5	10	10
≥10 - <30	E30	95/90	80/75	45	40	45	45	35	35	3	4.5	10	10
≥30 - <100	E50	100/10 0	95/90	45	45	50	50	35	35	3	4.5	10	10

(a) For an E3 mixture type that enters the restricted zone as defined in Table 902-5, the minimum is 43. If these criteria are satisfied, acceptance criteria and associated incentive/disincentive or pay adjustment tied to this gradation restricted zone requirement included in contract, do not apply. Otherwise, final gradation blend must be outside of the restricted zone.

(b) Soft particles maximum is the sum of the shale, siltstone, ochre, coal, clay-ironstone and particles that are structurally weak or are non-durable in service.

(c) Maximum by weight with a 1 to 5 aspect ratio.

Note: "85/80" denotes that 85 percent of the coarse aggregate has one fractured face and 80 percent has at least two fractured faces.

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MSU Soil Testing Lab Recommendations for Phosphorus Applications to Turfgrass
3/8/2012

		Sand based rootzone establishment	Golf greens and tees est. or mature; Kentucky bluegrass or perennial ryegrass athletic fields est. or mature; sand based rootzone mature	Lawns, golf course fairways; establishment or mature	Establishment without soil test	
Bray P1, Mehlich 3 Soil Test Value (ppm): pH<7.4	Olsen Soil Test Value (ppm) pH>7.4	Recommendation (lbs. P ₂ O ₅ /1000 ft. ²)	Recommendation (lbs. P ₂ O ₅ /1000 ft. ²)	Recommendation (lbs. P ₂ O ₅ /1000 ft. ²)	Recommendation (lbs. P ₂ O ₅ /1000 ft. ²)	
0	0	4.4	3.4	2.5	2.5 lbs. year (Maximum single application of 1.5 lbs.)	
2	1.3	4.1	3.1	2.2		
4	2.7	3.9	2.7	1.9		
6	4	3.6	2.4	1.6		
8	5.3	3.4	2.0	1.3		
10	6.7	3.1	1.7	1.0		
12	8	2.8	1.4	0.7		
14	9.3	2.6	1.0	0.4		
16	10.7	2.3	0.7	0.1		
18	12	2.1	0.3	0.0		109 lbs/acre year (maximum single application of 65 lbs/acre)
20	13.3	1.8	0.0			
22	14.7	1.5				
24	16	1.3				
26	17.3	1.0				
28	18.7	0.8				
30	20	0.5				
32	21.3	0.2				
34	22.7	0.0				

Web resources: www.turf.msu.edu or www.bephosphorusmart.msu.edu

An asterisk (*) indicates an entry which has been revised from an earlier version of this Supplemental Specification.



CTI and Associates, Inc.

51331 W. Pontiac Trail

Wixom, MI 48393

248.486.5100 Main

248.486.5050 Fax

November 13, 2012

Mr. Nicholas Hutchinson, P.E., Project Engineer
City of Ann Arbor
Public Services Area - Project Management
301 E. Huron Street
P.O. Box 8647
Ann Arbor, Michigan 48104-8647

**RE: Geotechnical Investigation
Miscellaneous Geotechnical Services –
North Area Borings
Ann Arbor, Michigan
CTI Project No. 3122040060-1**

Dear Mr. Hill:

As requested, CTI and Associates, Inc. (CTI) has completed a geotechnical investigation as part of the Miscellaneous Geotechnical Services contract for the "North Area" soil borings. This phase of work included performing a total of 114 soil borings on seventeen different streets within Ann Arbor city limits. The majority of the soil borings were performed for the design phase of the City of Ann Arbor's Street Resurfacing program. The remaining borings were performed to support utility design projects.

The enclosed report presents the results of our findings and an engineering interpretation of these with respect to the soil related phases of the project including pavement and construction recommendations. Based on the soils encountered, we anticipate subgrade improvement will be necessary on Depot Street and several isolated areas on the remaining streets. The specific areas requiring subgrade improvement should be anticipated during the design phase, based on the information contained in this report, and further defined during the construction phase.

The pavement cores and soil samples will be retained in our laboratory for a period of thirty (30) days, unless instructed otherwise, and may be examined upon request.

We appreciate the opportunity to be of service to you on this project. If you have any questions regarding this report or if we can be of further assistance, such as providing field monitoring and quality control inspection services during construction, please contact our office.

Sincerely,

CTI and Associates, Inc.

Theresa M. Marsik, P.E., LEED AP
Senior Project Engineer

Kevin Foye, Ph.D., P.E.
Project Engineer



**GEOTECHNICAL INVESTIGATION
MISCELLANEOUS GEOTECHNICAL SERVICES –
NORTH AREA BORINGS
ANN ARBOR, MICHIGAN
CTI PROJECT NO. 3122040060-1**

NOVEMBER 13, 2012

1.0 INTRODUCTION

1.1. General

This report presents the results of the geotechnical investigation performed by CTI and Associates, Inc. (CTI) for the “North Area” soil borings as part of the Miscellaneous Geotechnical Services contract. The majority of the soil borings were performed for the design phase of the City of Ann Arbor’s Street Resurfacing program. The remaining borings were performed to support utility design projects.

Recommendations for the construction observation and preparation of the encountered subgrade soils to make them suitable for pavement construction are included in the report sections that follow. Of particular concern is the poor-draining nature of the encountered soils and fill materials in the subgrade. These materials may not be suitable for direct pavement support and will require further evaluation and improvement as detailed below.

Our evaluation was performed in general accordance with the scope of services outlined in the CTI Proposal No. 112PR02040-100 dated July 12, 2012 and the Professional Services Agreement between the City of Ann Arbor and CTI dated August 1, 2012. Purchase Order No. 2013-00000194 was issued by City of Ann Arbor on September 17, 2012.

1.2. Purpose and Scope

The purpose of this study was to determine the general subsurface conditions at the site by performing pavement cores and drilling test borings, and to evaluate these conditions with respect to pavement support requirements for the proposed project. Specifically, the report presents our evaluations and recommendations regarding the following items:



2.0 SITE CONDITIONS AND PROJECT DESCRIPTION

2.1. Project Description

CTI was awarded the “North Area” borings on September 14, 2012. Additional borings were added to the scope and boring depths were modified through October 1, 2012. This phase of work included performing a total of 114 soil borings on seventeen different streets within Ann Arbor city limits. The proposed boring locations were marked in the field by the City of Ann Arbor personnel prior to our field activities. CTI was notified on September 25, 2012 that all of the boring locations were marked. Once we were notified that the boring locations had been marked, CTI requested the Miss Dig service to locate the existing underground utility locations at each boring location. Several borings were off-set from the marked location due to conflicts with underground utilities, overhead obstructions (trees and overhead electric lines) and/or to maintain traffic flow. Table 1 presents the specific breakdown of the number of borings per street, the boring depths, and the limits of exploration.

3.0 INVESTIGATION PROCEDURES

3.1. Field Investigation

Our field investigation consisted of drilling 114 soil borings on seventeen different streets within Ann Arbor city limits. The approximate as-drilled locations of the borings are listed on the boring logs, included with this report. As requested, the majority of the borings were extended to a depth of approximately 5 feet below the top of pavement. Those borings performed on Rock Creek Drive/Court were extended to a depth of 7½ feet, and those borings performed on Pontiac Trail were extended to a depth of 25 feet below the existing grade.

Several boring locations on Pontiac Trail were in conflict with overhead and underground utilities. Miss Dig was contacted and all utilities were supposed to have been marked by September 28, 2012. During the drilling operations on October 12, 2012, a utility marking company arrived at the site to mark fiber optic lines which had not previously been marked, and they informed CTI and Stearns Drilling personnel that a high voltage underground electric line was present at the site which had also not been marked. CTI made several telephone calls to the various utilities – both through the Miss Dig system and directly – but the marking was not completed. Therefore, drilling activities have not been completed for Pontiac Trail. The information from the seven borings for Pontiac Trail will be transmitted separately once drilling on Pontiac Trail has been completed.

The borings were located in the field by City of Ann Arbor personnel prior to the drilling activities. The drilling operations were performed by Stearns Drilling, under direction of CTI personnel between October 3 and October 12, 2012. Prior to drilling the soil borings, the pavement structure was explored with a core drill equipped with a four-inch nominal diameter core barrel. After extraction of the cores at each location, the core samples were measured and labeled. The soil borings were drilled with a CME-1050 rotary drill rig using continuous flight hollow stem augers. Soil samples were obtained at select intervals by the Standard Penetration Test Method (ASTM D-1586), whereby a 2-inch outside diameter split-barrel sampler is driven into the soil with a 140-pound weight falling freely through a distance of 30 inches. The sampler is generally driven three successive 6-inch increments, with the number



laboratory tests are indicated on the boring logs at the depths the samples were obtained and/or on the "Summary of Laboratory Test Results" included in the Appendix, with the exception of the corrosivity testing which is presented in Table 2 of this report.

soils ranged from 7 to 10 blows per foot. The unconfined compressive strength of the tested samples typically ranged from 6,000 pounds per square foot (psf) to 7,000 psf, indicating a very stiff consistency.

4.1.3. Depot Street

Four borings were performed on Depot Street to a depth of 5 feet. A pavement section consisting of approximately 7 to 8 inches of asphalt with 4 to 8 inches of sand and gravel aggregate base material was encountered. The pavement sections were underlain by granular fill to depths of about 3 to 4½ feet. The native subgrade soils typically consisted of loose to medium dense silty sand, with N-values in the range of 9 to 22 blows per foot. The native subgrade soils encountered within B-1 through B-3 contained some organics. Loss-on-Ignition (organic content) of the subgrade soils encountered within B-2 was 8.4 percent.

4.1.4. S. Division Street

Nine borings were performed on S. Division Street to a depth of 5 feet. Approximately 2 to 14 inches of asphalt pavement was encountered, underlain by 0 to 12 inches of concrete pavement. Below the concrete pavement, 4 to 10 inches of crushed limestone aggregate base was typically encountered, with the exceptions of Borings B-1, B-2 and B-8 where 6 inches of sand and gravel aggregate base materials were encountered. Below the aggregate base materials encountered within B-1 and B-4, clay fill containing trace amounts of organics was encountered to depths of about 3½ to 4 feet. The native subgrade soils typically consisted of loose to medium dense sand with varying amounts of silt and isolated layers of stiff clay. The N-values recorded within the native granular soils ranged from 5 to 25 blows per foot, indicating loose to medium dense relative densities.

4.1.5. Geddes Avenue

Ten borings were performed on Geddes Avenue to a depth of 5 feet. Approximately 3 to 12 inches of asphalt pavement was encountered, underlain by 0 to 9 inches of concrete pavement. Below the concrete pavement, 3 to 18 inches of sand and gravel



remaining borings consisted of sand with varying amounts of silt and clay. The N-values recorded within the native sand layers typically ranged from 7 to 20 blows per foot, indicating loose to medium dense relative densities.

4.1.8. Miller Avenue

Nine borings were performed on Miller Avenue to a depth of 5 feet. Approximately 3 to 12 inches of asphalt pavement was encountered. At the location of Borings B-1, B-8 and B-9, approximately 6 to 16 inches of sand and gravel aggregate base material was encountered; a defined aggregate base course was not observed within the remaining Miller Avenue borings. Below the aggregate base materials encountered within B-8 and B-9, and below the asphalt pavement encountered at B-2 through B-7, granular fill materials were encountered to depths of about 2½ to 4½ feet. Below the aggregate base course encountered within B-1 and below the granular fill materials encountered within the remaining borings, apparently native clay was encountered to the final explored depth of the borings. N-values for the native clay soils typically ranged from 7 to 15 blows per foot. The unconfined compressive strength of the tested samples typically ranged from 4,500 psf to more than 9,000 psf, indicating very stiff to hard consistencies. Within Boring B-6, the unconfined compressive strength was approximately 1,000 psf, indicating a stiff consistency. Trace amounts of organics (Loss-on-Ignition values ranging from 1.6 to 1.8 percent) were observed within the clay subgrade soils at the location of B-1 and B-6.

4.1.9. Moore Street

Two borings were performed on Moore Street to a depth of 5 feet. Approximately 9 to 10 inches of asphalt pavement was encountered. A defined aggregate base course was not observed within the test borings. Below the asphalt pavement, granular fill materials were encountered to depths of about 2½ to 3 feet. The native subgrade soils encountered below the granular fill materials consisted of loose to medium dense sand, with N-values ranging from 4 to 10 blows per foot.



blows per foot. The unconfined compressive strength of the tested samples ranged from 3,000 psf to more than 9,000 psf, indicating stiff to hard consistencies. Within the granular soils, N-values ranged from 12 to 25 blows per foot, indicating a medium dense relative density.

4.1.12. Rock Creek Drive/Court

Six borings were performed on Rock Creek to a depth of 7½ feet. Pavement sections consisting of approximately 2 to 3 inches of asphalt with 9 to 15 inches of sand and gravel aggregate base materials were encountered. The pavement sections at the locations of Borings B-2 and B-4 through B-6 were underlain by sand and clay fill to depths of about 3 to 4 feet. The native subgrade soils consisted of clay and/or sand with varying amounts of silt and clay. N-values for the native clay soils ranged from 9 to 25 blows per foot. The unconfined compressive strength of the tested samples ranged from 3,500 psf to more than 9,000 psf, indicating stiff to hard consistencies. The N-values recorded within the native granular soils ranged from 6 to 15 blows per foot, indicating loose to medium dense relative densities.

4.1.13. S. State Street

Six borings were performed on S. State Street to a depth of 5 feet. At the location of Borings B-1 and B-4 through B-6, 9 to 18 inches of asphalt pavement was encountered. The aggregate base course within B-1, B-5 and B-6 was comprised of 4 to 6 inches of sand and gravel; 9 inches of crushed limestone was encountered below the asphalt pavement at the location of Boring B-4. At the location of Borings B-2 and B-3, approximately 3 to 6 inches of asphalt pavement was encountered, underlain by 4 inches of red brick. The brick was underlain by 3 to 17 inches of sand and gravel aggregate base material. The aggregate base course encountered within B-2 was underlain by 4 inches of concrete pavement. Sand and clay fill materials were encountered to depths of about 4 to 5 feet within B-1, B-5 and B-6. The native subgrade soils consisted of clay and/or sand with varying amounts of silt. The N-values recorded within the native clay soils ranged from 11 to 14 blows per foot. The unconfined compressive strength of the tested samples ranged from 3,000 psf to 6,500



containing trace amounts of organics. Below the clay fill encountered within B-2 and below the aggregate base course in the remaining borings, native subgrade soils consisting of clay were encountered to the final explored depth of the borings. The N-values recorded within the native clay ranged from 4 to 9 blows per foot. The unconfined compressive strength of the tested samples ranged from 3,000 psf to more than 9,000 psf, indicating stiff to hard consistencies.

Corrosivity testing consisting of pH determination, resistivity testing and oxidation-reduction potential testing were performed in our laboratory on the samples collected at depths between 3½ to 5 feet. The American Water Works Association (AWWA) developed an American National Standard – ANSI/AWWA C105/A21.5 – that addressed the need for polyethylene encasement for ductile iron pipes. The corrosivity testing was performed in accordance with the Soil Survey Tests and Observations section of that standard, which assigns a number of points based on the results of the corrosivity testing. If a soil meets or exceeds a score of 10 points, the standard states that the soils are corrosive to ductile iron pipe and protection is needed. The results of our laboratory corrosivity tests are presented in Table 2 below, along with the points assigned by the standard based on the test results.

Table 2. Corrosivity Test Results for Yellowstone Drive						
Boring Number	Resistivity (ohm-cm)	pH	Oxidation-Reduction Potential (mV)	Sulfides (Negative, Trace or Positive)	Moisture (Poor, Fair or Good Drainage)	Total Points per ANSI/AWWA C105/A21.5
B-1	6,200	6.4	211	Not Tested	Poor	2
B-2	5,100	6.7	243	Not Tested	Poor	2
B-3	5,400	7.0	196	Not Tested	Poor	2
B-4	3,800	6.5	238	Not Tested	Poor	2
B-5	4,800	7.1	251	Not Tested	Poor	2

As directed, the presence of sulfides in the soil samples was not tested. If the soil tests positive for sulfides, the maximum additional points that would be assigned would be 3.5. Therefore, the maximum total point value based on these test results would be 5.5



5.0 ANALYSIS AND DESIGN RECOMMENDATIONS

At the time this report was prepared, the overall project was in the planning and design stage. The following recommendations have been developed based on the previously assumed/described project characteristics and subsurface conditions. If there is any significant change in the project characteristics from those presented earlier, a review should be made by CTI to determine if any modifications in the evaluations and recommendations included in this report will be required.

As noted previously, several boring locations on Pontiac Trail were staked in direct conflict with utilities. Due to incomplete utility markings, four of the seven borings on Pontiac Trail have been postponed. The information from the seven borings for Pontiac Trail will be transmitted separately once drilling has been completed.

In general, granular and cohesive fill materials containing trace amounts of organics were encountered to varying depths across portions of every explored street. The presence and thickness of fill materials and/or organic-containing soils may vary across the site. If the owner is willing to assume the risks related to decreased pavement life/serviceability by doing so, some or all of the fill could be left in place for pavement support, following proper subgrade preparation activities described in Section 5.1 of this report.

5.1. Site Preparation and Engineered Fill Placement

At the start of earthwork operations, the existing pavement and any other deleterious materials are to be stripped from the new roadway areas. The thickness of the existing pavement, aggregate base and near surface fill layer (where present) should be expected to vary across the site. The depth of unsuitable soil removal should be determined by a representative of CTI at the time of stripping and rough grading.

On Depot Street, the fill was typically underlain by apparently native soils containing some (greater than 5 percent) organics. The subgrade soils on Depot Street will likely require some measure of improvement to provide adequate, long-term pavement support. Improvement measures such as undercutting the upper unsuitable soils and replacing them with engineered



After subgrade preparation and observation have been completed, any fill placement required to bring the site to the design subgrade level (i.e. the bottom of the proposed aggregate base course) may begin. Any fill placed below the proposed pavement area should be an approved material that is free of topsoil, organics, frozen soil or any other unsuitable material. If granular soils containing greater than 12 percent fines (i.e., silt or clay) are used as fill, close moisture content control will be required to achieve the recommended degree of compaction. Any fill materials encountered at locations other than the boring locations can be further evaluated during site preparation to determine if some of the soils can be reused as engineered fill.

The engineered fill should be placed in uniform horizontal layers not exceeding 8 to 12 inches in loose thickness for clean granular soils and 4 to 6 inches in loose thickness for clay soils (or clayey granular soils exhibiting cohesive characteristics), depending on the type and size of compaction equipment used. The lift thickness for sands that have an appreciable amount of fines should be decreased accordingly. The engineered fill should be compacted to achieve a density of not less than 95 percent of the maximum dry density as determined by the Modified Proctor Compaction Test (ASTM D1557). Also, the upper 12 inches of the subgrade soils should be compacted, prior to any fill placement, to achieve a density of not less than 95 percent of the maximum dry density as determined by the Modified Proctor test. The as-compacted moisture content of the engineered fill should be within 2 to 3 percent of the optimum moisture content for the soil. The placement and testing of engineered fill should be observed and properly documented in the field by CTI.

We recommend that the contract specifications include provisions for moisture conditioning of any on-site soils that are to be used as engineered fill. Some of the natural soils may require moisture conditioning to allow for proper compaction. The success of aeration and drying of clay soils will be dependent on the time of year, the prevailing weather conditions and the contractor's effort. During cold and/or wet periods of the year, the saturated or disturbed clay soils will be more difficult to dry. In this case, the contractor may have to use drier on-site soils or imported sand.

If site grading or other construction activity is planned during cold weather, it is recommended that proper winter construction practices are followed. All snow and ice should be removed



aggregate base course layer of the pavement system and be properly protected with free-draining coarse aggregate material and filter fabric.

All pavements require regular maintenance and occasional repairs to keep them in a serviceable condition. Of particular value is timely sealing of joints and cracks, which if left unrepaired, can serve to permit water to enter the pavement section and cause rapid deterioration of the pavement during freeze-thaw cycles. The need for such routine maintenance and repair is not necessarily indicative of premature pavement failure. However, if appropriate maintenance and repairs are not performed on a timely basis, the serviceable life of the pavement can be reduced significantly.

Actual pavement section thickness should be provided by the design civil engineer based on design traffic loads and volume and the owner's design life requirements. All pavement materials and procedures should conform to standard MDOT, City of Ann Arbor or appropriate local municipal agency requirements.

Based on the results of the soil borings performed, Resilient Modulus values (M_r) for the encountered soils have been estimated and are presented in Table 3, along with a summary of the encountered pavement and subgrade conditions.

6.0 GENERAL CONSTRUCTION PROCEDURES / RECOMMENDATIONS

6.1. General

Experience indicates that variations in soil conditions are encountered during construction. In order to permit correlation between the soil boring data and the actual soil conditions encountered during construction, it is recommended that a continuous inspection and review of the soil related phases of construction work be carried out. We recommend the site preparation activities, engineered fill placement and pavement construction be observed by a qualified engineering technician. The technician should perform the appropriate type and number of field tests needed to verify compliance with construction specifications and that the pavement subgrade soils are suitable.

The existing silty soils at the site could be potentially troublesome for some earthwork operations, depending on the prevailing moisture content. These soils have relatively poor drainage characteristics and are susceptible to ponding, subsequent softening and pumping due to construction traffic. During a wet season or periods of heavy precipitation, the silty and clayey subgrade soils may become unstable and provide limited support for some rubber-tired construction equipment. If pumping of the subgrade occurs due to construction traffic, an evaluation of the site and construction procedures should be made by a geotechnical engineer.

6.2. Groundwater Control

Based on the observed groundwater conditions in the test borings, no significant groundwater related problems are anticipated during pavement construction. However, the conditions encountered at the majority of the boring locations are conducive to the development of perched water accumulations within the granular soils. If perched accumulations occur, some groundwater seepage could be encountered.

Proper groundwater control measures should be maintained during all earthwork activities in order to limit the disturbance of the subgrade soils. These measures should include a provision of temporary drainage ditches to discharge any perched water outside the construction area.



CTI and Associates, Inc.

APPENDIX

Boring Logs
Summary of Laboratory Test Results
General Notes for Soil Classification



CTI and Associates Inc

BORING NUMBER: Division B-1

PAGE 1 OF 1

CLIENT City of Ann Arbor **PROJECT NAME** 2012 Ann Arbor Misc. Geotechnical Services - North Area Borings
PROJECT NUMBER 3122040060-1 **PROJECT LOCATION** Ann Arbor, Michigan
DATE STARTED 10/10/12 **COMPLETED** 10/10/12 **GROUND ELEVATION** N/A
DRILLING CONTRACTOR Stearns Drilling **GROUND WATER LEVELS:**
DRILLING METHOD 2-1/4 inch HSA **DURING DRILLING** None
LOGGED BY G. Geerlings **CHECKED BY** T. Marsik **AFTER DRILLING** None
NOTES Boring backfilled with auger cuttings and patched. **COLLAPSE DEPTH** 3' 6"

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf) UNC. STRENGTH (psf)	NATURAL MOISTURE CONTENT (%)	▲ SPT N VALUE ▲					
								20	40	60	80		
0.0		6 inches of ASPHALT PAVEMENT											
		6 inches of CONCRETE PAVEMENT											
		6 inches of brown moist fine to medium SAND with some gravel and silt - (FILL)											
2.5		Reddish-brown moist loose silty fine SAND with some gravel and clay - (SM)	SS 1	100	5-3-7 (10)								
5.0			SS 2	56	3-3-2 (5)								

Bottom of borehole at 5.0 feet.

Boring performed 8' east of curb, 50' north of Washington Street



CTI and Associates Inc

BORING NUMBER: Division B-3

PAGE 1 OF 1

CLIENT City of Ann Arbor **PROJECT NAME** 2012 Ann Arbor Misc. Geotechnical Services - North Area Borings
PROJECT NUMBER 3122040060-1 **PROJECT LOCATION** Ann Arbor, Michigan
DATE STARTED 10/10/12 **COMPLETED** 10/10/12 **GROUND ELEVATION** N/A
DRILLING CONTRACTOR Stearns Drilling **GROUND WATER LEVELS:**
DRILLING METHOD 2-1/4 inch HSA **DURING DRILLING** None
LOGGED BY G. Geerlings **CHECKED BY** T. Marsik **AFTER DRILLING** None
NOTES Boring backfilled with auger cuttings and patched. **COLLAPSE DEPTH** 3' 6"

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf) UNC. STRENGTH (psf)	NATURAL MOISTURE CONTENT (%)	▲ SPT N VALUE ▲						
								20	40	60	80			
0.0		4 inches of ASPHALT PAVEMENT												
		10 inches of CONCRETE PAVEMENT												
		10 inches of gray moist crushed LIMESTONE - (FILL)	SS 1	100	11-8-9 (17)									
2.5		Brown moist medium dense fine to medium SAND with some gravel and trace of silt - (SP)	SS 2	100	10-5-6 (11)									
5.0														

Bottom of borehole at 5.0 feet.

Boring performed 8' west of curb, at 307 S. Division Street



CTI and Associates Inc

BORING NUMBER: Division B-5

PAGE 1 OF 1

CLIENT City of Ann Arbor **PROJECT NAME** 2012 Ann Arbor Misc. Geotechnical Services - North Area Borings
PROJECT NUMBER 3122040060-1 **PROJECT LOCATION** Ann Arbor, Michigan
DATE STARTED 10/10/12 **COMPLETED** 10/10/12 **GROUND ELEVATION** N/A
DRILLING CONTRACTOR Stearns Drilling **GROUND WATER LEVELS:**
DRILLING METHOD 2-1/4 inch HSA **DURING DRILLING** None
LOGGED BY G. Geerlings **CHECKED BY** T. Marsik **AFTER DRILLING** None
NOTES Boring backfilled with auger cuttings and patched. **COLLAPSE DEPTH** 3' 6"

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf) UNC. STRENGTH (psf)	NATURAL MOISTURE CONTENT (%)	▲ SPT N VALUE ▲			
								20	40	60	80
0.0		2 inches of ASPHALT PAVEMENT 12 inches of CONCRETE PAVEMENT						PL	MC	LL	
		5 inches of moist gray crushed LIMESTONE - (FILL)	SS 1	100	8-13-12 (25)			□ FINES CONTENT (%) □			
2.5		Brown moist medium dense fine to medium SAND with some gravel and trace of silt - (SP)									
5.0			SS 2	89	4-5-5 (10)						

Bottom of borehole at 5.0 feet.

Boring performed 8' west of curb, 10' south of driveway to 335 S. Division Street



CTI and Associates Inc

BORING NUMBER: Division B-7

PAGE 1 OF 1

CLIENT City of Ann Arbor
 PROJECT NUMBER 3122040060-1
 DATE STARTED 10/10/12 COMPLETED 10/10/12
 DRILLING CONTRACTOR Stearns Drilling
 DRILLING METHOD 2-1/4 inch HSA
 LOGGED BY G. Geerlings CHECKED BY T. Marsik
 NOTES Boring backfilled with auger cuttings and patched.

PROJECT NAME 2012 Ann Arbor Misc. Geotechnical Services - North Area Borings
 PROJECT LOCATION Ann Arbor, Michigan
 GROUND ELEVATION N/A
 GROUND WATER LEVELS:
 DURING DRILLING None
 AFTER DRILLING None
 COLLAPSE DEPTH 3' 6"

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf) UNC. STRENGTH (psf)	NATURAL MOISTURE CONTENT (%)	▲ SPT N VALUE ▲						
								20	40	60	80			
0.0		14 inches of ASPHALT PAVEMENT												
2.5		6 inches of dark brown moist fine to medium SAND with some gravel and silt - (FILL) Dark brown to reddish-brown moist sandy CLAY with silt, some gravel and traces of sand and organics - (FILL)	SS 1	100	2-2-2 (4)									
5.0		Brown moist loose fine to medium SAND with some gravel and silt - (SP-SM)	SS 2	89	2-3-4 (7)									

Bottom of borehole at 5.0 feet.

Boring performed 18' west of curb, at entrance to 443 S. Division Street



CTI and Associates Inc

BORING NUMBER: Division B-9

PAGE 1 OF 1

CLIENT City of Ann Arbor **PROJECT NAME** 2012 Ann Arbor Misc. Geotechnical Services - North Area Borings
PROJECT NUMBER 3122040060-1 **PROJECT LOCATION** Ann Arbor, Michigan
DATE STARTED 10/10/12 **COMPLETED** 10/10/12 **GROUND ELEVATION** N/A
DRILLING CONTRACTOR Stearns Drilling **GROUND WATER LEVELS:**
DRILLING METHOD 2-1/4 inch HSA **DURING DRILLING** None
LOGGED BY G. Geerlings **CHECKED BY** T. Marsik **AFTER DRILLING** None
NOTES Boring backfilled with auger cuttings and patched. **COLLAPSE DEPTH** 3' 6"

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf) UNC. STRENGTH (psf)	NATURAL MOISTURE CONTENT (%)	▲ SPT N VALUE ▲					
								20	40	60	80		
0.0		5 inches of ASPHALT PAVEMENT											
		12 inches of CONCRETE PAVEMENT											
		7 inches of gray moist crushed LIMESTONE - (FILL)	SS 1	100	6-7-7 (14)								
2.5		Brown moist medium dense fine to coarse SAND with gravel and some silt - (SP-SM)											
		Brown moist medium density silty fine to medium SAND with some gravel and clay - (SM)	SS 2	100	4-7-10 (17)								
5.0													

Bottom of borehole at 5.0 feet.

Boring performed 4' west of curb, at entrance to Krazy Jim's Blimpy Burger

**CITY OF ANN ARBOR
LIVING WAGE ORDINANCE**

RATE EFFECTIVE APRIL 30, 2017 - ENDING APRIL 29, 2018

\$13.13 per hour

If the employer provides health care benefits*

\$14.65 per hour

If the employer does NOT provide health care benefits*

Employers providing services to or for the City of Ann Arbor or recipients of grants or financial assistance from the City of Ann Arbor for a value of more than \$10,000 in a twelve-month period of time must pay those employees performing work on a City of Ann Arbor contract or grant, the above living wage.

ENFORCEMENT

The City of Ann Arbor may recover back wages either administratively or through court action for the employees that have been underpaid in violation of the law. Persons denied payment of the living wage have the right to bring a civil action for damages in addition to any action taken by the City.

Violation of this Ordinance is punishable by fines of not more than \$500/violation plus costs, with each day being considered a separate violation. Additionally, the City of Ann Arbor has the right to modify, terminate, cancel or suspend a contract in the event of a violation of the Ordinance.

* Health Care benefits include those paid for by the employer or making an employer contribution toward the purchase of health care. The employee contribution must not exceed \$.50 an hour for an average work week; and the employer cost or contribution must equal no less than \$1/hr for the average work week.

The Law Requires Employers to Display This Poster Where Employees Can Readily See It.

**For Additional Information or to File a Complaint Contact:
Colin Spencer at 734/794-6500 or cspencer@a2gov.org**



Vendor Conflict of Interest Disclosure Form

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

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

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

Conflict of Interest Disclosure*	
Name of City of Ann Arbor employees, elected officials or immediate family members with whom there may be a potential conflict of interest.	<input type="checkbox"/> Relationship to employee <input type="checkbox"/> Interest in vendor's company <input type="checkbox"/> Other (please describe in box below)
<div style="font-size: 24px; font-weight: bold;">NONE</div>	

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

I certify that this Conflict of Interest Disclosure has been examined by me and that its contents are true and correct to my knowledge and belief and I have the authority to so certify on behalf of the Vendor by my signature below:		
CADILLAC ASPHALT LLC	(734) 216-7006	
Vendor Name	Vendor Phone Number	
	3/30/17	WANDA DWYER
Signature of Vendor Authorized Representative	Date	Printed Name of Vendor Authorized Representative

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

**CITY OF ANN ARBOR
DECLARATION OF COMPLIANCE**

Non-Discrimination Ordinance

The "non discrimination by city contractors" provision of the City of Ann Arbor Non-Discrimination Ordinance (Ann Arbor City Code Chapter 112, Section 9:158) requires all contractors proposing to do business with the City to treat employees in a manner which provides equal employment opportunity and does not discriminate against any of their employees, any City employee working with them, or any applicant for employment on the basis of actual or perceived age, arrest record, color, disability, educational association, familial status, family responsibilities, gender expression, gender identity, genetic information, height, HIV status, marital status, national origin, political beliefs, race, religion, sex, sexual orientation, source of income, veteran status, victim of domestic violence or stalking, or weight. It also requires that the contractors include a similar provision in all subcontracts that they execute for City work or programs.

In addition the City Non-Discrimination Ordinance requires that all contractors proposing to do business with the City of Ann Arbor must satisfy the contract compliance administrative policy adopted by the City Administrator. A copy of that policy may be obtained from the Purchasing Manager

The Contractor agrees:

- (a) To comply with the terms of the City of Ann Arbor's Non-Discrimination Ordinance and contract compliance administrative policy.
- (b) To post the City of Ann Arbor's Non-Discrimination Ordinance Notice in every work place or other location in which employees or other persons are contracted to provide services under a contract with the City.
- (c) To provide documentation within the specified time frame in connection with any workforce verification, compliance review or complaint investigation.
- (d) To permit access to employees and work sites to City representatives for the purposes of monitoring compliance, or investigating complaints of non-compliance.

The undersigned states that he/she has the requisite authority to act on behalf of his/her employer in these matters and has offered to provide the services in accordance with the terms of the Ann Arbor Non-Discrimination Ordinance. The undersigned certifies that he/she has read and is familiar with the terms of the Non-Discrimination Ordinance, obligates the Contractor to those terms and acknowledges that if his/her employer is found to be in violation of Ordinance it may be subject to civil penalties and termination of the awarded contract.

CADILLAC ASPHALT LLC

Company Name

[Signature] 3/30/17

Signature of Authorized Representative

Date

WANDA DWYER, AREA MGR.

Print Name and Title

857 S. WAGNER RD, ANN ARBOR

Address, City, State, Zip

(734) 216-7006 / WANDA.DWYER@miPMC.com

Phone/Email address

Questions about the Notice or the City Administrative Policy, Please contact:
Procurement Office of the City of Ann Arbor
(734) 794-6500

