

CONCRETE REPAIR CONTRACT 2022

MERIDIAN TOWNSHIP

DEPARTMENT OF PUBLIC WORKS & ENGINEERING

INGHAM COUNTY, MICHIGAN

CONCRETE REPAIR CONTRACT 2022

FOR
MERIDIAN TOWNSHIP

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MERIDIAN TOWNSHIP
CONCRETE REPAIR CONTRACT 2022

ADVERTISEMENT FOR BIDS

Sealed proposals will be received by Meridian Township, Ingham County, Michigan, at the Meridian Township Clerk's Office, Municipal Building, 5151 Marsh Road, Okemos, Michigan, 48864-1198, Ph. 517.853.4000, up to 10:30 a.m., local time on Friday, April 22, 2022 for removal and replacement of 4", 6", & 7" thick concrete sidewalk, sidewalk ramps, as well as concrete curb and gutter, at various locations around the Township after which time, proposals will be opened and read aloud.

Bids are solicited on a unit price basis. The work involves the following major bid items:

- Approximately 14,000 SF of 4", 6", & 7" Concrete Pathway Installation; and,
- Approximately 102 ADA Sidewalk Ramps (approximately 4,800 SF); and,
- Approximately 7,300 FT of concrete Curb & Gutter, Removal & Replacement.

Proposals shall include the furnishing of all labor, material, and equipment necessary to complete the project.

Work on the project shall commence within ten days after issuing the Notice to Proceed. The order of repairs will generally begin with the road ramps and curb, to be coordinated with the Township's paving contractor. The water and pathway repairs will follow, or be interspersed with the road work, as appropriate. Additional repairs will be added throughout the year; such additional repairs shall be completed within two (2) weeks from the date that the Contractor receives notification, pending other work related to this contract. All work shall be completed by November 1, 2022.

The ADA sidewalk ramps and curb, outlined in Appendix B, are to be improved in association with local road resurfacing. These items shall be completed in conjunction with Meridian Township's paving contractor. This includes coordination to facilitate completion of the concrete work prior to final paving of the roads.

The Township may award portions of the work described in this contract to multiple contractors in order to facilitate completion of the concrete replacement associated with the local road resurfacing, if a single contractor is unable to progress sufficiently quickly.

This contract will be for the 2022 construction season, with the Township's option to renew at the end of each year for the first two years. If renewed, the bid unit prices will be increased by 5% per year. The price for new and lump sum pay items will be negotiated with the Contractor.

Each proposal shall be accompanied by a certified check or a bid bond by a recognized surety company similar to a U.S. Government Standard form bid bond, in the amount of five percent (5%) of the bid, payable to the Meridian Township, Ingham County, Michigan as security for the acceptance of the Contract.

Insurance and bonds are required from the successful bidder for this project; please see pages G-2 and G-3 for those requirements. *Please note Owner/Contractors Protective Liability is required for all of our contracts.*

For this contract, Prevailing Wage rates are in effect; see rate tables in the Appendices.

The contract documents may be examined at the following locations:

- Meridian Township, Dept of Public Works, 5151 Marsh Road, Okemos, MI 48864
- Builders Exchange of Lansing & Central MI, 1240 E. Saginaw St., Lansing, MI 48906-5522
- Builders Exchange of Michigan, 678 Front Ave. NW, Ste. 330, Grand Rapids, MI 49504
- Construction Assoc of MI, 43636 Woodward, Bloomfield Hills, MI 48302
- Dodge Data & Analytics, 2521 E. Michigan Avenue, Lansing, MI 48912-4010

To be added to the Township's list of prospective bidders, please make sure to contact the Engineering Office, as described below. PDF copies of the plans and contract documents may be downloaded from the Township website here:

<https://www.meridian.mi.us/businesses/requests-for-proposals-bids>.

Hard copies of the contract documents for the work may be obtained from the Department of Public Works & Engineering at 5151 Marsh Road, Okemos, Michigan, for a non-refundable fee of ten dollars (\$10). There is a five dollar (\$5.00) fee for mailing contract documents. Contract documents may be obtained via email free of charge. Questions regarding this contract may be addressed to Meridian Township Department of Public Works & Engineering by phone at (517) 853-4440, or by email at DPW@meridian.mi.us.

In submitting this bid, it is understood that the right is reserved by the Owner to reject any or all bids, to award the Contract to other than the low bidder, to award separate contracts for each project, phase and/or portion of the detailed scope of work, to waive irregularities and/or formalities, and in general, to make award in any manner deemed by it, in its sole discretion, to be in the best interest of the Owner.

INSTRUCTIONS TO BIDDERS

1. PROPOSALS

Proposals must be made upon the forms provided, without modifications or changes, and all other data submitted as required.

The proposal must be enclosed in a sealed envelope marked "**Bid Proposal - Concrete Repair Contract 2022**" clearly indicating the name and address of the bidder, and filed at the place and by the time specified in the Advertisement.

2. BASIS OF PROPOSALS

Proposals may be submitted for any one or all of the projects or phases as may be applicable.

Proposals are solicited on the basis of unit prices for the entire work of the contract.

The right is reserved by the Owner to reject any and all bids, to award the Contract to other than the low bidder, to award separate Contracts for each project, phase and/or portion of the detailed scope of work, to waive irregularities and/or formalities, and in general, to make award in any manner deemed by it, in its sole discretion, to be in the best interest of the Owner.

3. BID DEPOSITS

Each proposal shall be accompanied by a certified check, or bid bond from a recognized surety company, in the amount of five percent (5%) of the total amount of the bid, payable to the order of the Owner, to be forfeited to the Owner in case of failure on the part of the successful bidder to enter into the attached form of Contract to do the work covered by such Proposal at the price and within the time stated therein. The bid deposit of all except the successful bidder will be returned within four weeks after opening of bids. The bid deposit of the successful bidder will be returned within 48 hours after the executed Contract has been finally approved by the Owner.

4. QUALIFICATION OF BIDDERS

It is the intention of the Owner to award the Contract(s) to contractor(s) fully capable, both financially and as regards experience to perform and complete all work in a satisfactory manner. Evidence of such competency must be furnished, including a listing of similar projects which the bidder has satisfactorily undertaken and completed.

5. INTERPRETATION OF DOCUMENTS

If the bidder is in doubt as to the true meaning of any part of the plans, specifications or Contract Documents, he may submit to the Engineer a written request for an interpretation thereof. Any interpretation made in response to such query will be mailed or duly delivered to each prospective bidder. The Owner will not be responsible for any other explanation or interpretation of the Contract Documents.

6. REQUIREMENT OF SIGNING BIDS

Bids which are not signed by the individual making them shall have attached thereto a power of attorney evidencing authority to sign the bid in the name of the person for whom it is signed.

Bids, which are signed by a partnership, shall be signed by all of the partners or by an attorney-in-fact. If signed by an attorney-in-fact, there shall be attached to the bid a power of attorney evidencing authority to sign the bid, executed by the partners.

Bids which are signed for a corporation shall have the correct corporate name thereof and the signature of the president or other authorized officers of the corporation manually written below the corporate name following the word "By". If such a bid is manually signed by an officer other than the president of the corporation, a certified copy of a resolution of the board of directors evidencing the authority of such official to sign the bid shall be attached to it. Such a bid shall also bear the attested signature of the secretary of the corporation and the impression of the corporate seal.

INSTRUCTIONS TO BIDDERS

7. EXECUTION OF AGREEMENT

The bidder to whom an award is made will be required to enter into the written contract included herein, within ten (10) calendar days after being notified of the acceptance of his bid and receipt by him of the copies of the documents to be executed. In case of failure to comply with this requirement, he may be considered to have abandoned all his rights and interests in the award and his certified check or amount of bidder's bond may be declared to be forfeited to the Owner and the Contract may be awarded to another bidder.

8. INSURANCE (Ref. General Conditions - GC.2)

The contractor will be required to carry Worker's Compensation Insurance, Bodily Injury and Property Damage, Builder's Risk Insurance and Owner's Protective Liability in the amounts specified in the General Conditions. Certificates of such insurance must be attached to each copy of the executed Contract Documents.

9. BONDS (Ref. General Conditions - GC.1)

The successful bidder will be required to furnish for each set of executed Contract Documents and conformed copies thereof an original completed Performance Bond, and Labor and Material Bond with surety acceptable to the Owner as set forth in the General Conditions.

10. BIDDER'S RESPONSIBILITY FOR EXAMINING PLANS AND SITE

At the time of opening bids, each bidder will be presumed to have made a personal investigation of the site of the work and of existing structures, and to have read and be thoroughly familiar with the plans, specifications and Contract Documents (including all addenda). He shall determine to his own satisfaction the conditions to be encountered, the nature of the ground, difficulties involved in completing the Contract and all factors affecting the work proposed under this Contract.

The bidder to whom this contract is awarded will not be entitled to any additional compensation by reason of his failure to fully acquaint himself with the conditions at the site or by his failure to fully examine the plans, specifications and Contract Documents.

11. NON-DISCRIMINATION IN EMPLOYMENT

The Contractor shall adhere to all applicable Federal, State and local laws, ordinances, rules and regulations prohibiting discrimination with regards to employees and applicants for employment. The contractor and his/her subcontractors shall not discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions or privileges of employment, including a benefit plan or system or a matter directly or indirectly related to employment, because of race, color, religion, national origin, sex, age, height, weight, condition of pregnancy, marital status, physical or mental limitation, disability, source of income, familial status, educational association, sexual orientation, gender identity or expression, or HIV status. Breach of this section shall be regarded as a material breach of this Contract.

12. PREVAILING WAGES

Per Meridian Township Prevailing Wage Guidelines, all Township contracts with a value greater than fifty-thousand dollars (\$50,000) must comply with the relevant Prevailing Wage rates current at the time of the contract. This requirement includes the prime Contractor as well as all sub-contractors. Certified Payroll, on standard US Department of Labor forms, shall be submitted for the prime Contractor and all sub-contractors. Any employees found to be paid less than the relevant wage rate shall be made whole up to the prevailing wage prior to the release of any retainage on the contract. The wage rates for this contract can be found in the attached Appendices, or at <https://beta.sam.gov>.

PROPOSAL

TO: Meridian Township
5151 Marsh Road
Okemos, MI 48864

RE: CONCRETE REPAIR CONTRACT 2022

Board of Trustees:

The undersigned, as a bidder, hereby declares that these bids are made in good faith, without fraud or collusion with any person or persons bidding on the same Contract, that he has read and examined the Advertisement, Instruction to Bidders, Proposal, Contract, General Conditions, Specifications, Special Provisions and Plans and understands all of the same; that he or his representative has made personal investigation at the site and has informed himself fully with regard to the conditions to be met in the execution of the Contract.

In submitting this bid, it is understood that the right is reserved by the Owner to reject any or all bids, to award the Contract to other than the low bidder, to award separate contracts for each project, phase, and/or portion of the detailed scope of work, to waive irregularities and/or formalities, and in general, to make award in any manner deemed by it, in its sole discretion, to be in the best interest of the Owner.

It is further understood and agreed by the undersigned that any qualifying statement or conditions made to this proposal as originally published, as well as any interlineation, erasures, omissions or entered wording obscure as to its meaning, may cause the bid to be declared irregular and may be cause for rejection of the bid.

The undersigned agrees to start work within ten (10) days of issuance of the Notice to Proceed. The undersigned further agrees to complete all work covered by this Proposal to the point of use of the project by the Owner by the completion date stated in the Advertisement or within the number of calendar days stated in the Advertisement; and that for all days thereafter until final acceptance, there will be charged, as liquidated damages, the sum of \$1,000.00 per calendar day per project for each and every day thereafter until final acceptance.

The undersigned hereby proposes to perform everything required to be performed and to furnish all labor, materials, tools, equipment and all utility and transportation services necessary to complete in a workmanlike manner all the work to be done under this Contract, including addenda thereto, for the sums set forth in the following Bidding Schedule:

CONCRETE REPAIR CONTRACT 2022

PROPOSAL

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>AMOUNT</u>
1.	Traffic Control	1	LS	\$ _____	\$ _____
9.	Pavt, Rem, Concrete	2,032.5	SY	\$ _____	\$ _____
21a.	Manhole, Casting, Adj	22	EA	\$ _____	\$ _____
21b.	Manhole, Casting, ADA Compliant	4	EA	\$ _____	\$ _____
32a.	Water, Curb Box, Adj	2	EA	\$ _____	\$ _____
32b.	Water, Valve Box, Adj	2	EA	\$ _____	\$ _____
40a.	Concrete, 4 inch	11,854	SF	\$ _____	\$ _____
40b.	Concrete, 6 inch	3,196.5	SF	\$ _____	\$ _____
40c.	Concrete, 7 inch	250	SF	\$ _____	\$ _____
41a.	Sidewalk Ramp, ADA	4,809.5	SF	\$ _____	\$ _____
41b.	Detectable Warning Surface, 7 Foot	176	SF	\$ _____	\$ _____
41c.	Detectable Warning Surface, 5 Foot	985	SF	\$ _____	\$ _____
44.	Aggregate, Crushed	80	TN	\$ _____	\$ _____
45a.	Curb & Gutter, Rem	7,375	FT	\$ _____	\$ _____
45b.	Curb & Gutter, Inst	7,375	FT	\$ _____	\$ _____
53.	Riprap	85	SY	\$ _____	\$ _____
54.	Extra Restoration	1,137	SY	\$ _____	\$ _____
55.	Geotextile, Separator	200	SY	\$ _____	\$ _____

TOTAL BID:\$ _____

Give the name of the Owners and dates of other projects which the Bidder has constructed or has had responsible charge of construction:

OWNER NAME & PROJECT DESCRIPTION

DATE

_____	_____
_____	_____
_____	_____

The Bidder acknowledges that his bid is in accordance with the information contained in Addendum No. _____, _____, _____, _____.

The Bidder is hereby reminded that the Pay Items listed under the Bidding Schedule are the only items for which he will receive payment under this Contract. In the event that lesser or greater quantities of specific Pay Items are required to complete the work and place the system in operation, the total amount bid for the specific item will be adjusted by the unit price bid to the actual quantities utilized. In the event that an error is made in extending the unit prices, the Bidder is hereby notified that the unit prices as bid, will govern in determining the Total Base Bid. It is expressly understood and agreed that the Total Base Bid is the basis for establishing the amount of Bid Security on this Proposal and for comparison of bids only and is not to be constructed as a lump sum Proposal.

The undersigned attaches hereto a certified check or bidder's bond in the sum of not less than five percent (5%) of the Total Base Bid as required by the Advertisement and Instructions to Bidders and the undersigned agrees that in case he shall fail to fulfill his obligations under this Proposal and/or shall fail to furnish bonds, as specified, the Owner may, at its option determine that the certified check or amount of said certified check or bidder's bond accompanying this Proposal has been forfeited to the Owner, but otherwise the said certified check or bidder's bond shall be returned to the undersigned upon the execution of the Contract and acceptance of the bond.

The undersigned further agrees that this proposal shall be effective for a period of sixty (60) days from the date established for opening of all bids.

Date _____ Company Name _____

By _____ Address _____
Signature

_____ Printed Name _____

Title _____ Phone Number _____

_____ Email Address _____

CONCRETE REPAIR CONTRACT 2021

THIS CONTRACT, dated April, 2022, by and between _____ hereinafter called the "CONTRACTOR", and Meridian Township, 5151 Marsh Road, Okemos, MI 48864, hereinafter called the "OWNER".

WITNESSETH, that the CONTRACTOR and the OWNER for the consideration herein agree as follows:

ARTICLE I. SCOPE OF WORK.

The CONTRACTOR shall perform everything required to be performed and shall provide and furnish all labor, materials, necessary tools, expendable equipment and all utility and transportation services required to perform and complete in a workmanlike manner all the work required for constructing the project as described in the Advertisement and Proposal and for performing all related work for the OWNER, required by and in strict accordance with the plans and specifications, including any and all addenda, and other Contract Documents mentioned and made a part hereof.

ARTICLE II. THE CONTRACT PRICE.

The OWNER shall pay for constructing the project complete with all labor, materials, equipment, appurtenances, surface restoration and related work in strict accord with the Plans and Specifications, ready for use, the unit prices as listed in the Proposal and herein made a part of this Contract. Payment shall be made to the CONTRACTOR in accordance with and subject to the conditions specified under General Conditions.

ARTICLE III. TIME.

Time is of the essence in the performance of this contract. The CONTRACTOR agrees to start work within ten (10) days of issuance of the Notice to Proceed and to fully complete the work so as to permit use of the project by the OWNER by the completion date stated in the Advertisement or within the number of calendar days listed in the Advertisement.

ARTICLE IV. DELAYS AND DAMAGES.

If the CONTRACTOR refuses or fails to prosecute the work, or any separate part thereof, with such diligence as will insure its substantial completion, ready for use by the OWNER by the completion date stated in the Advertisement or within the number of consecutive calendar days stated in the Advertisement, or any extension thereof, or fails to complete said work within such time, the OWNER may, by written notice to the CONTRACTOR, terminate the CONTRACTOR's right to proceed with the work or such part of the work as to which there has been delay. In such event, the OWNER may take over the work and prosecute the same to completion by contract or otherwise, and the CONTRACTOR and his sureties shall be liable to the OWNER for any excess cost occasioned thereby. If the CONTRACTOR's right to proceed is so terminated, the OWNER will take possession of and utilize in completing work such materials, appliances, and plant as may be on the site of the work and necessary therefore.

If the OWNER does not terminate the right of the CONTRACTOR to proceed, the CONTRACTOR shall continue to work, in which event the actual damages for the delay will be impossible to determine and in lieu thereof the CONTRACTOR shall pay the OWNER the sum of one thousand dollars (\$1,000.00) per day as fixed, agreed, and liquidated damages for each calendar day of delay until the work is substantially completed, ready for operation and the CONTRACTOR and his sureties shall be liable for the amount thereof. However, the right of the CONTRACTOR to proceed shall not be terminated or the CONTRACTOR charged with liquidated damages because of any delays in the completion of the work due to unforeseeable causes beyond control and without the fault or negligence of the CONTRACTOR, including, but not restricted to acts of God, or of the public enemy, acts of the OWNER, fires, floods, epidemics, quarantine restrictions, delays of subcontractors due to such causes, if the CONTRACTOR shall, within ten (10) days from the beginning of any such delay (unless the OWNER shall grant a further period of time prior to the date of final settlement of the Contract) notify the OWNER in writing of the cause of delay and extend the time for completing the work when, in OWNER's judgement, the finding of fact justify such an extension and OWNER's findings of fact thereon shall be final and conclusive on the parties thereto. In no event shall bankruptcy or labor disputes, or the like, either of CONTRACTOR or any of its subcontractors or suppliers, be considered as an unforeseeable cause beyond the control and without the fault or negligence of the CONTRACTOR.

ARTICLE V. COMPONENT PARTS OF THIS CONTRACT.

This Contract consists of the following component parts, all of which are as fully a part of the Contract as if herein set out verbatim, or, if not attached:

- | | |
|----------------------------|---|
| 1. Advertisement | 8. General Specifications |
| 2. Instructions to Bidders | 9. Ingham County Road Department Specifications |
| 3. Proposal | 10. Standard Specifications |
| 4. Addenda | 11. Special Provisions |
| 5. Contract | 12. Plans |
| 6. Bonds and Insurance | 13. Notice of Award |
| 7. General Conditions | 14. Notice to Proceed |

ARTICLE VI. CONTRACT EXTENSION.

This contract will be for the 2022 construction season, with the Township’s option to renew at the end of each year for the first two years. If renewed, the bid unit prices will be increased by 5% per year. The price for new and lump sum pay items will be negotiated with the Contractor.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed in three (3) original counterparts the day and year first above written.

CONTRACTOR

WITNESS:

By: _____

Title: _____

Date: _____

MERIDIAN TOWNSHIP

OWNER

WITNESS:

BY: _____

Dan Opsommer

TITLE: Assistant Township Manager
Director of Public Works & Engineering

DATE: _____

NOTICE OF AWARD

Dated: April, 2022

TO: _____

ADDRESS: _____

CONTRACT: CONCRETE REPAIR CONTRACT 2022

You are notified that your Bid dated April, 2022 for the above Contract has been considered. You are the apparent Successful Bidder and have been awarded a Contract for **Concrete Repair Contract 2022.**

The Contract Price of your Contract is: \$ _____.

Three copies of each of the proposed Contract Documents accompany this Notice of Award.

You must comply with the following conditions within 10 days of the date you receive this Notice of Award.

1. Deliver to the OWNER **three** fully executed counterparts of the Contract Documents. (Each of the Contract Documents must bear your signature on page C-3.)
2. Deliver with the executed Contract Documents the Contract security (Bonds and Insurance) as specified in General Conditions (GC).

Failure to comply with these conditions within the time specified will entitle OWNER to consider your Bid in default, to annul this Notice to Award and to declare your Bid security forfeited.

Within ten days after you comply with the above conditions, OWNER will return to you one fully executed counterpart of the Contract Documents.

MERIDIAN TOWNSHIP

By: _____
Dan Opsommer
Assistant Township Manager
Director of Public Works & Engineering

NOTICE TO PROCEED

Dated: May , 2022

TO: _____

ADDRESS: _____

CONTRACT: **CONCRETE REPAIR CONTRACT 2022**

You are notified that the Contract Times under the above Contract will commence to run on **May** , 2022. In accordance with Article III of the Contract, the date of Completion for the contract is **November 1, 2022**.

Deliver to **OWNER** an acknowledged copy of this Notice to Proceed.

MERIDIAN TOWNSHIP

By: _____
Younes Ishraidi, P.E.
Chief Engineer

ACKNOWLEDGEMENT OF ACCEPTANCE OF NOTICE TO PROCEED

CONTRACTOR acknowledges acceptance of this Notice to Proceed this _____ day of May, 2022.

By: _____

GENERAL CONDITIONS

GENERAL CONDITIONS

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GENERAL CONDITIONS

GC.1 CONTRACT SECURITY

The Contractor shall furnish a surety bond, by a duly authorized surety company satisfactory to the Owner, in an amount equal to 100 percent (100%) of the Contract price as security for the faithful performance of this Contract. The Contractor shall also furnish a separate surety bond, by a duly authorized surety company satisfactory to the Owner, in an amount equal to 100 percent (100%) of the Contract price as security for the payment of all persons performing labor and/or furnishing materials.

The surety company writing the bid, performance, labor and material, and maintenance bond shall be: 1) acceptable to the Owner, 2) be listed in the Federal Register as published by the U.S. Department of Treasury under most recently revised Circular 570; 3) have an A.M. Best Company's Insurance reporting rating of no less than A- (Excellent); and 4) authorized to do business in the State of Michigan by the Michigan Department of Licensing & Regulatory Affairs Office of Financial and Insurance Regulations. Upon request, the Contractor shall submit evidence of such insurance.

GC.2 CONTRACTORS' AND SUBCONTRACTORS' INSURANCE

The Contractor shall not commence work under this Contract until he/she has obtained all the insurance required under this section and such insurance has been approved by the Owner, nor shall the Contractor allow any subcontractor to commence work on his/her subcontract until all similar insurance required of the subcontractor has been so obtained and approved. Contractors and subcontractors are required to file with the Owner completed certificates of insurance, as evidence that they carry adequate insurance to comply with the requirement of this section. New Certificates of Insurance shall be furnished to the Owner at the renewal date of all policies named on these certificates.

A. Policies, Coverages, and Endorsements

The Contractor agrees to maintain, or to cause its personnel providing services under this Contract to maintain, at its sole cost and expense or the cost and expense of his personnel, the following insurance policies, with the specified coverages and limits, to protect and insure the Owner and Contractor against any claim for damages arising in connection with Contractors responsibilities or the responsibilities of Contractors personnel under this Contract and all extensions and amendments thereto.

1. **Commercial General Liability**

a.	General Aggregate	\$2,000,000
b.	Each Occurrence	\$1,000,000

Such insurance shall include, but not be limited to, coverage for:
Comprehensive form, Premises-operations, Explosion and collapse hazard, Underground hazard, Products/completed operations hazard, Contractual insurance, Broad form property damage, Independent contractor, Personal injury

2. **Workers' Compensation & Employer' Liability** (if applicable)

a.	Medical & Indemnity	Statutory Requirements
b.	Bodily Injury by Accident	\$500,000 Each Accident
c.	Bodily Injury by Disease	\$500,000 Each Employee
d.	Bodily Injury by Disease	\$500,000 Policy Limit
e.	Employers Liability	\$500,000

3. **Automobile Liability**

Including hired and non-owned Automobiles \$1,000,000 (Combined Single Limit)
Such insurance shall include, but not be limited to, coverage for:
Comprehensive form, Owned vehicles, Hired vehicles, Non-owned vehicles

GENERAL CONDITIONS

GC.2 CONTRACTORS' AND SUBCONTRACTORS' INSURANCE (Cont'd.)

~~B. Builder's Risk Insurance (Fire and Extended Coverage)~~

~~Until the project is completed and accepted by the Owner, the Contractor is required to maintain Builder's Risk Insurance (fire and extended coverage) on a 100 percent completed value basis on the insurable portion of the project for the benefit of the Owner, the Contractor, and subcontractors as their interests may appear.~~

C. Owner's Protective Liability

The Contractor shall procure and shall maintain during the life of this Contract Owner's/Contractor's Protective Liability Insurance, listing the Owner as the named insured. The minimum limit of liability shall be not less than \$1,000,000.00 per occurrence/aggregate.

D. Insured Parties

All policies shall contain a provision naming the Owner (and its officers, agents and employees) as Additional Insured parties on the original policy and all renewals or replacements during the term of this Contract.

E. Acceptable Insurance Companies

All insurance companies required by this section shall be: 1) acceptable to the Owner; 2) authorized to do business in the State of Michigan by the Michigan Department of Licensing & Regulatory Affairs Office of Financial and Insurance Regulations, and 3) have an A.M. Best Company's Insurance reporting rating of no less than A- (Excellent). Upon request, the Contractor shall submit evidence of such insurance.

F. Indemnification and Hold Harmless

The Contractor shall, at its own expense, protect, defend, indemnify and hold harmless the Owner and its elected and appointed officers, employees, and agents from all claims, damages, costs, lawsuits and expenses, including, but not limited to, all costs for administrative proceedings, court costs and attorney fees that they may incur as a result of any acts, omissions, or negligence of the Contractor, its subcontractors, sub-subcontractors or any of their officers, employees, or agents. This includes but is not limited to injury or death to any person or persons, including the contractors employees, and damage to property. The furnishing by the Contractor of any insurance required by this Contract, or the acceptance or approval thereof by the Owner as provided in this Contract, or otherwise, shall not diminish the Contractor's obligation to fully indemnify the Owner, its elected and appointed officers, employees, and agents as required in this section.

The Contractor shall not cancel or reduce the coverage of any insurance required by this section without providing 30-day prior written notice to the Owner. All such insurance must include an endorsement whereby the insurer shall agree to notify the Owner immediately of any reduction by the Contractor. The Contractor shall cease operations on the occurrence of any such cancellation or reduction, and shall not resume operations until new insurance is in force.

GC.3 QUALIFICATION FOR EMPLOYMENT

The Contractor shall employ competent laborers and mechanics for the work under this Contract, and shall comply with all applicable regulations of the United States Department of Labor and any other agencies having jurisdiction.

GC.4 PROGRESS SCHEDULE

The Contractor, if requested by the Owner, immediately after being awarded the Contract, shall prepare and submit to the Owner and its representative an estimated progress schedule for the work in relation to the entire project. This schedule shall indicate the dates for the starting and completion of the various stages of construction.

GENERAL CONDITIONS

GC.4 PROGRESS SCHEDULE (Cont'd.)

If the Contractor chooses to work overtime, they will be backcharged for inspection. Overtime is any Township recognized holiday and/or any time other than 8:00 a.m. to 5:00 p.m., local time, Monday through Friday. No work will be allowed at the site prior to 7:00 a.m. or after 7:00 p.m., or dusk, of any working day. No work will be allowed on Sundays with the exception of work necessitated by an emergency.

GC.5 ACCIDENT PREVENTION

Precaution shall be exercised at all times for the protection of persons (including employees) and property, and hazardous conditions shall be guarded against or eliminated. The Contractor is entirely responsible for all aspects of job safety and shall execute the work under this Contract in strictest conformance with all state and local safety codes, rules and regulations.

GC.6 CONTRACT PRICE SCHEDULE

The Contractor, if requested by the Owner, shall submit to the Owner a cost breakdown for the various items of the work. The schedule shall be prepared in a manner acceptable to the Owner as to both form and completeness and supported by data as necessary to substantiate its correctness.

GC.7 PAYMENT TO CONTRACTOR

The Contractor shall submit semi-monthly, or at longer intervals, if he so desires, an invoice covering work previously performed for which he believes payment, under the Contract terms, is due, and shall deliver said invoice to the Owner. Each request for payment shall be accompanied by a statement certifying that all bills for labor and materials have been paid up for all previous pay requests.

Each progress payment request shall be paid within one of the following time periods, whichever is later:

- A. Thirty (30) days after the Owner has certified that the work is in place in the portion of the facility covered by the applicable request for payment in accordance with the documents.
- B. Fifteen (15) days after the Owner has received the funds with which to make the progress payment from a department or agency of the federal or state government, if any funds for the facility are to come from either of these sources.

To assure proper performance of the Contract by the Contractor, the Owner shall retain ten percent (10%) of the dollar value of all work in place until the work is fifty percent (50%) in place. After the work is fifty percent (50%) in place, additional retainage shall not be withheld unless the Owner determines that the Contractor is not making satisfactory progress, or for other specific cause relating to the Contractor's performance under the Contract. In the event of such a determination the Owner may retain up to but not to exceed ten percent (10%) of the dollar value of the work more than fifty percent (50%) in place.

Any funds retained by the Owner shall not exceed the prorated share of the Owner's matching requirement if the project is funded, in part, with federal or state funds. Any retained funds shall not be commingled with other funds of the Owner and shall be deposited in an interest-bearing account in a regulated financial institution.

At any time after ninety-four percent (94%) of the work under the Contract is in place and at the request of the Contractor, the Owner shall release the retainage plus interest, only if the Contractor provides to the Owner an irrevocable letter of credit in the amount of the retainage plus interest, issued by a bank authorized to do business in the State of Michigan, containing terms mutually acceptable to the Contractor and Owner.

Retainage shall be released to the Contractor together with the final progress payment.

GENERAL CONDITIONS

GC.7 PAYMENT TO CONTRACTOR (Cont'd.)

Owner and Contractor agree that disputes concerning retainage, at the option of the Owner, shall be submitted to the decision of the agent as provided in Section 4 of Act 524 of the Michigan Public Acts of 1980 (MCLA 125.1564; MSA 5.2949 (104)) and that interest earned on retainage shall be released to the Contractor together with the final progress payment except as provided in said Section 4 of 1980 PA 524.

The final progress payment request by the Contractor shall include:

- A. A final invoice in a form satisfactory to the Owner.
- B. A sworn statement certifying that all bills for labor and materials have been paid by the Contractor.
- C. A sworn statement waiving any further claims (other than the final payment, retainage and interest, if any) by the Contractor against the Owner.
- D. A certificate from Contractor's bonding company approving issuance of final payment.

All payments shall take due account of additions to or deductions from the Contract price as herein provided.

The acceptance by the Contractor of payment on the final progress payment request shall be conclusive evidence of Contractor's acceptance and approval of estimates, accounting and deductions, and of full payment by the Owner for all work, labor, materials and services done or furnished hereunder, and a full satisfaction, discharge, release and waiver of all claims and demands of or on behalf of the Contractor, its agents or employees against the Owner arising out of this agreement.

GC.8 SUBCONTRACTING

The Contractor shall not award any work to any subcontractor, supplier, manufacturer or fabricator without prior written approval of the Owner, which approval will not be given until the Contractor submits a written statement to the Owner concerning the proposed award to the subcontractor. Said statement shall contain such information as the Owner may require.

The Contractor shall be as fully responsible to the Owner for the acts and omissions of his subcontractors and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.

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 other Contract documents insofar as applicable to the work of the subcontractors, and to give the Contractor the same power of terminating any subcontract that the Owner may exercise over the Contractor under any provision of the Contract documents.

Nothing contained in this Contract shall create any contractual relation between any subcontractor and the Owner.

GC.9 ASSIGNMENTS

The Contractor shall not assign the whole or any part of this Contract or any monies due or to become due hereunder without written consent of the Owner. In case the Contractor assigns all or any part of any monies due or to become due under this Contract, the instrument of assignment shall contain a clause substantially to the effect that it is agreed that the right of the assignee in and to any monies due or to become due to the Contractor shall be subject to prior liens of all persons, firms and corporations for services rendered or materials supplied for the performance of the work called for in this Contract.

GENERAL CONDITIONS

GC.10 EXTRAS

Except as otherwise herein provided, no charge for any extra work or materials will be allowed unless the same has been ordered in writing by the Owner and the price stated in such order.

GC.11 CHANGES IN WORK/PAYMENT ADJUSTMENTS

Adjustments, if any, in the amounts to be paid by the Contractor by reason of changes in, additions to, or deductions from the work to be performed or the materials to be furnished under this Contract, shall be made on the basis of the acceptable unit prices or lump sums submitted by the Contractor covering such changes, additions or deductions.

Failing an acceptable lump sum or unit price basis for extra work caused by changes or additions, the Contractor may be directed to proceed with extra work on the basis of actual total cost of:

- A. Labor, including foremen (including fringe benefits);
- B. Materials entering permanently into the work;
- C. The ownership or rental cost of construction plant and equipment during the time of use on the extra work at a rate not to exceed AGC rates;
- D. Power and consumable supplies for the operation of power equipment;
- E. Insurance;
- F. Social Security and unemployment contributions.

To the cost of the six items above, there shall be added a fixed fee, to be agreed upon but not to exceed fifteen percent (15%) of the actual cost of the work. The single fee shall be compensation to both the Contractor and/or subcontractor to cover the cost of supervision, overhead, bond, profit and any other general expenses.

Failing an acceptable lump sum or unit price basis for adjustment for any decrease in work caused by changes or deductions, the amount of such adjustment may be determined on a similar basis to that described for extra work, with the Contractor furnishing all pertinent cost data from his/her books and records that may be available and necessary for determination of the amount of adjustment.

All changes in, additions to, or deductions from the work specified shall be made only by written order by the Owner or by an authorized representative of the Owner. No claim for extra work will be allowed, unless ordered in writing as above stated, and the claim therefore presented in writing by the Contractor on or before the fifth (5th) day of the month following that in which the work was done.

GC.12 TIME OF MAKING CLAIMS

If the Contractor shall claim compensation or extension of time for any losses, damages, or delays sustained by reason of the acts of the Owner or its agents or other causes, he/she shall make a written statement of the nature of the loss, damage, or delay sustained to the Owner, within ten (10) days after the sustaining of such loss, damage, or delay. At the time of delivery and as a part of the Contractor's Declaration as hereinafter provided, the Contractor shall file with the Owner an itemized statement of the details and amounts of the loss, damage, or delay, and unless the statement shall be made as thus required, the Contractor's claim for compensation or extension of time shall be forfeited and invalidated, and he/she shall not be entitled to payment or extension of time on account of any such loss, damage or delay.

GENERAL CONDITIONS

GC.13 MATERIALS, SERVICES, AND FACILITIES

It is understood that except as otherwise specifically stated in the Contract documents, the Contractor shall provide and pay for all materials, labor, tools, equipment, water, light, power, transportation, superintendence, temporary construction of every nature and all construction facilities whatsoever necessary to execute, complete, and deliver the work within the specified time.

Any work necessary to be performed after regular working hours, or Sundays and legal holidays, shall be performed without additional expense to the Owner.

GC.14 TERMINATION FOR BREACH

In the event that any of the provisions of this Contract are violated by the Contractor or by any of his subcontractors, the Owner may serve written notice upon the Contractor and the Surety of its intention to terminate the Contract, such notice to contain the reasons for terminating the Contract, and unless within ten (10) days after the serving of such notice upon the Contractor, the violation shall cease and satisfactory arrangements for correction be made, the Contract shall cease and terminate. In the event of a termination of the Contract, the Owner shall immediately serve notice thereof upon the Surety and the Contractor, and the Surety shall have the right to take over and perform the Contract.

However, if the Surety does not commence performance thereof within 30 days from the date of mailing said Notice of Termination to such Surety, the Owner may take over the work and prosecute the same to completion by contract for the account and at the expense of the Contractor. The Contractor and his Surety shall be liable to the Owner for any excess cost incurred by the Owner in completing the work, and Owner may take possession of and utilize in completing the work, all materials, appliances and plants as may be on the site of the work and necessary therefore.

GC.15 OWNER'S RIGHT TO WITHHOLD CERTAIN AMOUNTS AND MAKE APPLICATION THEREOF

The Owner may withhold a sufficient amount of any payment otherwise due to the Contractor to cover:

- A. Payments that may be past due and payable for just claims for labor, materials, or equipment furnished in and about the performance of the work on the project under this Contract.
- B. For defective work not remedied.
- C. For failure of the Contractor to make proper payments to his subcontractors.

The Owner shall disburse and shall have the right to act as agent for the Contractor in disbursing such funds as have been withheld pursuant to this paragraph to the party or parties who are entitled to payment therefrom. Any payment so made by the Owner shall be considered as a payment made under the Contract by the Owner to the Contractor. The Owner will render to the Contractor a proper accounting of all funds disbursed in behalf of the Contractor.

GC.16 SUPERINTENDENCE

The Contractor shall give his/her personal superintendence to the work or have a competent foreman or superintendent, satisfactory to the Owner, on the worksite at all times during work progress, with authority to act for the Contractor.

GENERAL CONDITIONS

GC.17 NOTICE AND SERVICE THEREOF

Where in any of the Contract documents there is any provision in respect to the giving of any notice, such notice shall be deemed to have been given; as to the Owner, when written notice shall be delivered to the Owner, or shall have been placed in United States mails with first-class postage pre-paid addressed to the chief executive officer of the Owner at the place where the bids or proposals for the Contract were opened; as to the Contractor, when a written notice shall be delivered to the chief representative of the Contractor, at the site of the project or by mailing such written notice in the United States mails with first-class postage pre-paid addressed to the Contractor at the place stated in the papers prepared by him to accompany his proposal as to the address of his permanent place of businesses; as to the Surety, when a written notice is placed in the United States mails with first-class postage pre-paid addressed to the Surety at the home office of such Surety or to its agent or agents who executed bonds in behalf of such surety.

GC.18 COMPLIANCE WITH LAW, APPLICABLE LAW, AND VENUE

The Contractor shall comply with all applicable Federal, State, County, and Municipal laws, ordinances, rules and regulations.

This contract shall be construed according to the laws of the State of Michigan.

The venue for the bringing of any legal or equitable action under this contract shall be the County of Ingham, of the State of Michigan. In the event that any action is brought under this Contract in Federal Court, the venue for such action shall be the Federal Judicial District of Michigan, Western District, Southern Division.

GC.19 PERMITS

The Township will secure and pay for the Building Permit from the Meridian Township Building Department. All other permits or licenses which may be needed for prosecution of the work are to be obtained by the Contractor at the Contractor's expense.

GC.20 ROYALTIES AND PATENTS

The Contractor shall pay for all royalties and patents, and defend all suits or claims for infringement on any patent right, and shall save and hold harmless the Owner from loss on account thereof.

GC.21 INSPECTIONS

The Owner and its representative shall at all times have access to the work wherever it is in preparation or progress and the Contractor shall provide facilities for such access and for inspection.

The Owner and/or its representative shall have the right to reject materials and workmanship which are defective, or require their correction. Work on the project may be ordered terminated until correction is made. Rejected workmanship shall be satisfactorily corrected, and rejected materials shall be removed from the premises without charge to the Owner. If the Contractor does not correct condemned work and remove rejected materials within a reasonable time, fixed by written notice, the Owner may remove them and charge the expense to the Contractor.

Should it be considered necessary or advisable by the Owner at any time before final acceptance of the entire work to make an examination of work already completed, by removing or tearing out same, the Contractor shall on request promptly furnish all necessary facilities, labor, and materials. If the work is found to be defective in any material respect, due to fault of the Contractor or their subcontractors, they shall defray all the expenses of examination and satisfactory reconstruction. If, however, the work is found to meet the requirements of the Contract, the actual cost of labor and material necessarily involved in the examination and replacement, plus 15 percent (15%) shall be allowed the Contractor.

GENERAL CONDITIONS

GC.22 CORRECTION OF WORK AFTER FINAL PAYMENT

Neither the final payment nor any provision in the Contract documents nor partial or entire occupancy of the premises by the Owner shall relieve the Contractor of the responsibility for negligence or faulty materials or workmanship within the extent and period provided by law, and, upon written notice, he/she shall repair any defects due thereto and pay for any damage due to other work resulting therefrom, which shall appear within **one year** after date of completion and acceptance.

GC.23 PROTECTION OF WORK

The Contractor shall continuously maintain adequate protection of all his/her work from damage and shall protect the Owner's and adjacent property from injury arising in connection with this Contract, and shall be responsible for all damage and/or injury caused by or arising out of his operations.

GC.24 USE OF JOB SITE

The Contractor shall confine his/her equipment apparatus, the storage of materials and operations of his/her workmen to limits indicated by law, ordinances, permits or directions of the Owner and shall not encumber the premises with his materials.

GC.25 "OR EQUAL" CLAUSE

Whenever in any of the Contract documents an article, material or equipment is defined by describing a proprietary product, or by using the name of a manufacturer or vendor, the term "or equal" if not inserted, shall be implied. The specific article, material or equipment mentioned shall be understood as indicating the type, function, minimum standard of design, efficiency, and quality desired and shall not be construed in a manner so as to exclude manufacturer's products of comparable quality, design and efficiency. The Contractor shall comply with the requirement of the Contract documents relative to the Owner's approval of materials and equipment before they are incorporated in the project.

GC.26 PLANS AND SPECIFICATIONS

The Contractor shall keep on the worksite a copy of the drawings and specifications and shall at all times give the Owner access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like affect as if shown or mentioned in both. In case of difference between drawings and specifications the specifications shall govern. In any case of discrepancy in the figures, drawings or specifications, the matter shall be immediately submitted to the Owner, without whose decision said discrepancy shall not be adjusted by the Contractor, save only at his/her own risk and expense.

The Owner shall furnish from time to time such detail drawings and other information as he/she may consider necessary, unless otherwise provided. The Contractor shall keep such drawings at the site of the work.

GC.27 OWNER'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 Owner three (3) days after given written notice to the Contractor and his/her Surety may, without prejudice to any other remedy the Owner may have, make good such deficiencies and may deduct the cost thereof from the payment due to the Contractor.

GENERAL CONDITIONS

GC.28 CLEANING UP

The Contractor shall at all times keep the premises free from accumulations of waste material or rubbish caused by his/her employees or work, and at the completion of the work he/she shall remove all his/her rubbish from and about the work and all his/her tools, equipment, scaffolding and surplus materials and shall leave his/her work clean and ready for use. In case of dispute, the Owner may remove the rubbish and surplus materials and charge the cost to the several Contractors in proportion to the amounts as shall be determined to be just.

GC.29 REPORTS, RECORDS AND DATA

The Contractor and each of his/her subcontractors shall submit to the Owner such schedules of quantities, costs, progress schedules, payrolls, reports, estimates, records, and other data as the Owner may request concerning work performed or to be performed under this Contract.

GC.30 NON-DISCRIMINATION IN EMPLOYMENT

The Contractor shall adhere to all applicable Federal, State and local laws, ordinances, rules and regulations prohibiting discrimination with regards to employees and applicants for employment. The Contractor, as required by law, shall not discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions or privileges of employment, or a matter directly or indirectly related to employment because of race, color, religion, national origin, age, sex, height, weight, marital status, or handicap that is unrelated to the individual's ability to perform the duties of a particular job or position. Breach of this section shall be regarded as a material breach of this Contract.

GC.31 DEFINITIONS

The following terms as used in these Contract documents are respectively defined as follows:

- (a) "Contractor" The person, firm or corporation to whom the within Contract is awarded by the Owner and who is subject to the terms hereof.
- (b) "Subcontractor" A person, firm or corporation other than a Contractor, supplying labor and materials or labor for work at the site of the project.
- (c) "Project" The total construction proposed by the Owner to be constructed in part or in whole pursuant to the within Contract.
- (d) "Work on the Project" Work to be performed, including work normally done, at the location of the project.
- (e) "Surety" Any person, firm or corporation that has executed, as surety, the Contractor's performance and/or labor and material bonds securing the attached Contract.
- (f) "Owner" The public body or authority for whom the work is to be performed and as identified in the advertisement and proposal.
- (g) "Engineer" The Director of Public Works and Engineering for the Meridian Township or their authorized representative.

GENERAL SPECIFICATIONS

GENERAL SPECIFICATIONS

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GS.1 DEFINITION

The Contractor shall furnish all materials specified herein, shown on the plans, and required to be incorporated in the work of the Contract. They shall furnish all labor, construction equipment, tools, supplies and facilities required to construct the elements designated by the Contract documents and shall construct all of the designated elements complete and in full conformance with the requirements of these documents. They shall comply with all regulatory provisions of the Contract, General Conditions and the Specifications.

GS.2 ELEVATIONS

All the elevations shown on the plans or referred to herein are in feet above mean sea level datum as established by the United States Geological Survey, unless otherwise noted. The Contractor shall verify all the existing structure locations and elevations at points of connection or possible interference between their work and the existing structures and shall report at once to the Engineer any interference's or discrepancies discovered.

GS.3 QUALITY OF MATERIALS AND EQUIPMENT FURNISHED

All materials and equipment furnished by the Contractor hereunder shall be new and conform to specifications herein.

Materials, supplies, and equipment, whether furnished by the Contractor or the Owner, shall be stored at the site of the work in such manner as not to interfere with traffic, convenience to public or other Contractors on the site or in the vicinity. The Contractor shall be responsible for any damage caused to new or existing structures by reason of such storage or handling of materials, supplies, or equipment.

Flammable materials in portable containers are not to be stored overnight on the site. This includes, but is not limited to, gasoline and diesel fuel for use in construction machinery. Portable containers suitably protected, will be allowed overnight at the site, if confined to permanent tanks which are a normal part of the construction machinery.

GENERAL SPECIFICATIONS

GS.3 QUALITY OF MATERIALS AND EQUIPMENT FURNISHED (Cont'd.)

Where the Contractor is required to do work within rights of way under the jurisdiction of governmental bodies, they shall meet the requirements of said governmental bodies for work and storage within their jurisdiction. Such requirements must be met as a minimum requirement, and if the specifications given herein impose further limitation on the work, they shall also be met as the required work standard.

The Contractor's attention is directed to the Ingham County Road Department permit specifications, Section 5. Restoration and Maintenance of Right-Of-Way (e.), for dust control requirements.

GS.4 CARE OF EXISTING STRUCTURES

The Contractor shall be solely responsible for any damage to any existing underground services or structures, or to structures and roadway above ground caused by their operations or those of their subcontractors and suppliers.

GS.5 CARE OF NEW STRUCTURES

The Contractor shall use every reasonable precaution to prevent injury to the new structures being constructed hereunder. They shall be responsible to correct all injury or damage resulting from their operations and/or occurring while the work is under their supervisory control. They shall furnish and install such guards, coverings and other protection as may be needed to ensure that the structures remain undamaged prior to completion of the entire work.

In the event damage does occur to the finished portions of the work, or to the work in progress, the Contractor shall take such corrective action and measures as may be necessary to repair the damage to the satisfaction of the Engineer.

GS.6 EXISTING PUBLIC UTILITIES

Existing public utilities and underground structures such as pipelines, electric conduits and sewers are shown on the drawings from available information. The Contractor shall, through Miss Dig and any other reasonable measures, verify the exact location of underground utilities for themselves.

The Contractor shall conduct their operations so as not to damage any existing utility whether or not shown on the plans. The Contractor shall correct, at their own expense, any damage or injury that may be caused by them during their operations or damage or injury caused during the operations of their subcontractors or suppliers.

The Contractor shall be responsible for coordinating relocation or repair of existing public and private utilities with the appropriate utility or owner. No extra payment will be allowed for repairs.

If the Contractor desires, or is required by the utility companies, to relocate any power or telephone poles to facilitate their work, any expense encountered from such relocation shall be borne by the Contractor.

GS.7 PROTECTION OF TREES AND SHRUBS

All trees and shrubs encountered along the route of the project shall be protected from damage by the Contractor and saved from harm resulting from any of their operations or operations of their subcontractors and suppliers. Only those trees and shrubs marked for removal on the plans shall be removed. All others will be saved from damage by tunneling or by slightly adjusting the alignment of the project as directed by the Engineer.

GENERAL SPECIFICATIONS

GS.8 SAFETY PRECAUTIONS

During the progress of the work, the Contractor shall maintain adequate facilities for the protection and safety of all persons and property. The Contractor and all their subcontractors and suppliers shall comply with the "Construction Safety and Health Standards" as published by the Michigan Occupational Safety and Health Administration, and to all other local, state and federal laws, ordinances, rules and regulations pertaining to safety of persons or property.

GS.9 SANITARY REQUIREMENTS

The Contractor shall provide adequate sanitary facilities for all persons employed on this Project. The sanitary facilities shall conform in every way to the requirements of the "Construction Health and Safety Standards" as published by the Construction Safety Standards Commission of the State of Michigan.

GS.10 UTILITIES

The Contractor shall make all necessary arrangements for the provision of all utility services required to prosecute the work under this Contract. The Contractor shall pay the costs for such connections and service. Where the Owner has utility service at the site, the Contractor may obtain service by connection to the Owner's service, subject to reasonable regulation of its use and satisfactory agreement as to charges. In the event that the Contractor's use of any or all of the Owner's utility services causes the Owner to have an inadequate supply of such service, the Contractor shall disconnect said service and provide their own separate supply at no cost to the Owner.

All utility services shall be inspected by and meet the requirements of the applicable local codes and governmental bodies.

GS.11 PUMPING AND DRAINAGE

Adequate pumping and drainage facilities shall be provided and water from whatever sources entering the work during any stage of construction shall be removed promptly and disposed of. All pumping and drainage shall be done with no damage to property or structures and without interference with the right of the public, owners of private property, pedestrians, vehicular traffic, or the work of other contractors. Dewatering shall be done in such a manner that the soil under or adjacent to existing structures shall not be disturbed, removed or displaced.

The overloading or obstructing of existing drainage facilities shall not be permitted, and the Contractor shall be solely responsible for damages caused to such existing drainage facilities by their operations. Additionally, sufficient measures shall be utilized to prevent migration of soil from the site due to any pumping or drainage activities.

GS.12 WINTER CONSTRUCTION

The Engineer has authority over approving the prosecution of work which is proposed to be done during the winter months. The Contractor shall provide adequate weather protection, temporary heating and take any other measures which are necessary to ensure that work performed during the winter months is properly installed and protected against damage from freezing.

Reference is made in Division 4 of the Technical Specifications to the requirements for performing concrete construction and masonry construction in cold weather.

GS.13 USE OF FACILITIES BEFORE FINAL COMPLETION

The Owner shall have the right to make use of, during construction, such portions of completed and acceptably tested facilities as it finds practicable. Such use by the Owner shall not relieve the Contractor from responsibility for any defective work which may be subsequently discovered.

GENERAL SPECIFICATIONS

GS.14 TEST OF MATERIALS

All laboratory tests, except as otherwise noted, are to be made at the expense of the Contractor as specified in the Technical Specifications. The Contractor shall furnish satisfactory containers for taking and shipping samples. The name of the laboratory making the test must be submitted by the Contractor to the Engineer for approval.

In all cases "laboratory" refers to an independent laboratory of recognized standing. Acceptance of materials tested shall be based upon compliance with the specifications hereinafter stated for the various items. Where no particular tests are specified, the tests shall be those normally made for determination of the fitness of the particular material. Certificates of tests shall be furnished by the testing laboratory or producer, in triplicate, to the Engineer.

The Owner may require, at its own option and expense, additional mill and/or shop inspection by competent parties. The Owner may require, at its own option and expense, additional field inspection by a qualified inspector.

All materials failing to meet the requirements of the specifications, as determined by test or otherwise, shall be rejected and not used in the work. The cost of testing materials which fail to meet requirements shall be paid by the Contractor. All follow-up testing required shall also be paid by the Contractor. Materials, if rejected at the site, shall be immediately removed therefrom and shall not be used in the work.

GS.15 OTHER WORK

The Contractor shall cooperate with other Contractors on the site or adjoining work to the end that the entire Project may proceed with the utmost harmony and with a minimum of delay.

Where the work under this Contract is to involve work completed under other contracts or existing facilities or structures, the Contractor shall investigate the condition of such other work or facility to determine its suitability for incorporation into the work of this Contract. Any defect or discrepancy in other work of facility making it unsuitable for proper execution of this Contract shall be immediately reported to the Owner who shall order such adjustments in the work of the project as necessary for proper completion, and unless such defect or discrepancy is reported promptly, the Contractor shall be solely responsible for any adjustments in the work as shall be found necessary to properly complete the work on this project.

GS.16 LINES AND GRADES

General control lines and grades will be established by the Owner. The Contractor shall notify the Engineer no less than 48 hours prior to requiring such control. The Contractor shall furnish all stakes and labor for driving them and rodmen to assist the Owner in this work. The Contractor shall carefully preserve the general control lines and grades established by the Engineer. The cost of replacement of stakes which are damaged or lost shall be borne by the Contractor.

Construction lines and grade shall be transferred and set by the Contractor from the control lines and grades established by the Engineer, and the Contractor shall furnish necessary instruments and competent personnel for performing such work, and they shall be responsible for the accuracy of the transferred line and grade. The Owner will check the work at intervals, as it deems necessary, and the Contractor shall make correction of error, if any, at their own expense, as may be required for the proper function and performance of the structure and installed equipment.

GS.17 COMPLETE WORK REQUIRED

It is the intent of the Contract documents to provide that the Project to be constructed under this Contract will be complete and ready for use. Any minor items not specifically called for on the plans or specifications, but which are clearly necessary, are to be included.

GENERAL SPECIFICATIONS

GS.18 PROPERTY MARKERS

The Contractor shall take precautions not to move or destroy any monuments or stakes marking the boundaries of property along or near the work. A licensed surveyor shall reestablish property irons in the proper location if disturbed. Buried property irons shall be extended 1/2" diameter rods. The Contractor shall pay for reestablishment.

GS.19 RECORDS AND MEASUREMENTS

The Contractor shall keep careful records showing measured overall length of underground facilities installed and distances of such from any available line as may be designated by the Engineer. Such records shall be turned over to the Engineer as the work progresses and the records must be accurate and complete.

GS.20 GUARANTEE

The Contractor shall guarantee and shall secure from the manufacturer of each item of manufactured equipment used in the project a written guarantee that all materials and equipment furnished by them shall be first class and free from defects, and the guarantor agrees that they will, upon notice and without delay, make good or repair without expense to the Owner the whole or any part of the equipment furnished by them hereunder, which within a year from date of acceptance of that portion of completed work incorporating such equipment shall fail or develop unfitness for the purpose for which it is intended as a result of any defect in design, material, workmanship, erection or construction.

**INGHAM COUNTY ROAD DEPARTMENT
SUPPLEMENTARY PERMIT SPECIFICATIONS
FOR UTILITY INSTALLATIONS**

As referred to herein:

“Board” shall denote the Board of Ingham County Road Commissioners or its duly appointed agents.

“Utility” shall denote any cable, conduit, pipe, structure, or similar facility installed within the road right-of-way.

“Contractor” shall denote an individual or legal entity contracted to perform a proposed utility’s installation.

1. GENERAL

- a. All proposed utility installations within county road right-of-way shall be reviewed and approved by means of a permit issued by the Board, regardless of the type, size, location, or installation method. The Board shall have absolute authority over any work to be performed within the county road right-of-way and shall exercise said authority at its discretion. The Board reserves the right to impose, at its discretion, cash bond requirements for any permit granted. The cash bond may be used to reimburse the Board for work not performed by the Contractor, restoration of roadways caused by Contractor activities, costs associated with detour signing, and other reasonable expenses incurred by the road commission.
- b. The Board shall have the authority to direct any work or stop any work, permitted or not permitted, that in its opinion is not being performed to the Board’s satisfaction. All costs for corrective work or work stoppages shall be the responsibility of the Contractor.
- c. To issue a utility installation permit, the applicant must provide drawings that illustrate all the work to be performed, the method of installation, and materials to be used. If road or lane closures are proposed, along with the information required below, the approximate start and completion date shall be provided on the permit application.

2. ROAD CROSSINGS

- a. All proposed utility crossings of county roads shall be performed using methods other than open cut methods unless otherwise permitted by the Board. The following are general specifications or provisions to be followed when installing utilities using methods other than open cut methods.
 1. The methods of utility installation described in this section include, but are not limited to, tunneling, bore and jacking, and directional boring. These methods represent preferred installation methods and are employed to allow installation of utility road crossings without closing the road to through traffic or damaging the existing road pavement. The Board, at its discretion, may require that a particular installation method be employed by the Contractor.
 2. When a utility is to be installed by tunneling methods, the tunnel shall be adequately sheeted and shored to prevent the tunnel walls from collapsing and the road pavement from settling or cracking.
 3. When a utility is to be installed by bore and jacking methods, a casing pipe will be required with the utility to be installed inside the casing pipe. The annular space between the utility and the casing pipe shall be filled and sealed using pressure grouting or other approved methods.
 4. All shafts or pits not sheeted and shored shall be located, at least, 10 feet off the edge of road pavement in rural sections and 6 feet behind the back of curb in urban sections.

5. If any settlement or other changes in grade occur in the vicinity of the utility crossing within one year of the work, upon notification the road shall be immediately reconstructed to the proper grade at the Contractor's expense. In addition, damage to the roadway embankment, shoulder, and pavement shall also be immediately repaired to the Board's satisfaction.
 6. Unless otherwise approved by the Board, all utilities shall have a minimum cover of 4 feet below the road surface. Where approved construction plans indicate cover greater than 4 feet, the plan depth shall govern.
 7. All costs for maintaining traffic, including flagging operations, shall be the responsibility of the permitted party. Traffic control shall be erected in accordance with the current edition of the Michigan Manual of Uniform Traffic Control Devices (MMUTCD) or as directed by the Board. Modifications to traffic control measures may be ordered by the Board, at its discretion, and the cost of any modifications shall be the responsibility of the Contractor. Once work is completed for the day, traffic control signs which are not appropriate shall be covered or removed so that the motoring public is made aware of the road's condition and how to safely traverse through the work zone.
 8. If, in the opinion of the Board, traffic conditions warrant suspension of utility installation operations and restoration of a road's full capacity, the Contractor shall comply immediately. All costs associated with such an action shall be borne by the Contractor.
- b. If the Board permits a proposed utility crossing of a county road using open cut methods, the following general specifications or provisions shall be followed:
1. Large projects that involve many utility crossings and or may extend for several months shall be completed in "sections". The intent being, that once a particular crossing, of many, is completed or a 1/4 mile "section" of a multi-mile utility has been installed, the Contractor shall restore the road and right-of-way to the satisfaction of the Board before moving on to the next crossing or section of utility installation.
 2. In general, open cut utility crossings will not be allowed during winter months.
 3. Open cut utility crossings shall be performed during off-peak traffic hours unless specifically permitted by the Board. Off-peak hours vary, but they are typically between the hours of 9:00 am to 3:00 pm.
 4. Unless otherwise approved by the Board, all utilities shall have a minimum cover of 4 feet between the utility and the road surface. Where approved construction plans indicate cover greater than 4 feet, the plan depth shall govern.
 5. All costs for maintaining traffic, including flagging operations, shall be the responsibility of the permitted party. For road closures intended to last one or two days, the contractor will submit a deposit with the permit application, the Ingham County Road Department will set up, maintain, and dismantle the road closure, the actual costs incurred will be subtracted from the deposit and the remainder returned to the contractor. If incurred costs exceed the deposit, the contractor will be billed for the overage. For road closures intended to last an extended period of time, the Contractor shall set up, maintain, and dismantle the closure per the approved detour plan. Regardless, traffic control shall be erected in accordance with the current edition of the Michigan Manual of Uniform Traffic Control Devices (MMUTCD) or as directed by the Board. All traffic control schemes are to be approved prior to the beginning of work. Modifications to traffic control measures may be ordered by the Board, at its sole discretion, and the cost of any modifications shall be the responsibility of the Contractor.

6. If a proposed road closure is not permitted, at least one lane of traffic shall be maintained with proper flagging operations in effect throughout the work day. Road cuts shall be backfilled, flush with the driving surface at the end of each working day, appropriately signed, and opened for overnight traffic. Depending on traffic volumes and other conditions, the Board may require the permit applicant to provide by-pass lanes (either paved or unpaved) to maintain traffic.
7. Maintenance of open cut work zones is the responsibility of the Contractor and shall be in effect 24 hours a day for the duration of the work.

3. PAVEMENT AND GRAVEL SURFACE REMOVAL AND REPLACEMENT

- a. All proposed open cut utility installations or existing utility installations needing corrective reconstruction shall conform to the following specifications or provisions:
 1. All pavement to be removed shall be saw cut, full depth, to its removal limit and carefully removed as to not damage the saw cut edge. All damaged edges shall be subsequently saw cut and removed back to sound pavement. The pavement removal limit shall extend, at least, 1 foot beyond both sides of the open cut trench.
 2. Both bituminous and concrete pavement removal shall have a minimum width of 6 feet, be perpendicular to the centerline of the road, and extend the full width of existing lanes. Diagonal pavement removal and replacements will not be allowed unless approved by the Board.
 3. Concrete pavement removal limits are to utilize existing joints whenever possible. The minimum distance between a concrete replacement slab and an existing pavement joint shall be 5.5 feet unless approved by the Board. The Contractor shall verify concrete pavement removal limits with the Board prior to pavement replacement.
- b. Pavement replacement and gravel road surface restoration shall conform to the following specifications or provisions:
 1. Aggregate base material under pavement shall be a minimum of 8-inches thick and meet MDOT 21AA or 22A aggregate specifications, as determined by the Board. The proposed aggregate base material shall conform to the characteristics of the insitu aggregate base material as much as possible. Bituminous pavement replacement shall either match the existing pavement thickness or be 5-inches thick, whichever is greater, and utilize hot mix asphalt materials that meet or exceed MDOT 13A bituminous mix specifications. Concrete pavement replacement shall either match the existing pavement thickness or be 7-inches thick, whichever is greater, and utilize 4500 psi strength concrete that meets or exceeds MDOT specifications. Concrete pavement patch size and geometry shall be determined by the Board and shall be doweled into adjacent concrete pavement. Aggregate surfaced roads and shoulder material shall be a minimum of 6-inches thick and meet MDOT 22A or 23A aggregate specifications. Aggregate base shall be compacted to 95% of its maximum density, hot mix asphalt is to be compacted to 97% of its maximum density, and aggregate shoulder material shall be sufficiently graded and compacted to prevent standing water and erosion problems.
 2. The finished driving surface shall be installed to conform to the vertical profile of the existing roadway and not exhibit “dips” or “humps” that are noticeable to the motoring public. “Mounding” over excavations to allow for future settlement will not be permitted. If settling or upheavals occur at pavement replacement locations, the Contractor may be required to remedy the situation. Failure to do so may result in a stoppage of subsequent work or denial of subsequent permits.

3. Bituminous pavements shall not be replaced using lifts that exceed 250 lbs/syd (2 1/4 inches thick). A tack coat emulsion shall be applied between successive lifts of bituminous paving.
4. Replacement concrete pavement shall be doweled into adjacent pavement using 18-inch long by #9 and #5 epoxy coated deformed bars. The dowels shall be drilled, inserted 9-inches, and grouted in accordance with current MDOT specifications. Dowels installed along the pavement edge, parallel to the lane lines (#9), shall be spaced at 18-inches on center. Dowels installed along the pavement edge, perpendicular to the lane lines (#5), shall be spaced at 24-inches on center.
5. Composite pavements, such as asphalt overlaying concrete pavement shall be replaced to match the existing pavement structure using the same provisions described above. If approved by the Board, composite pavements may be replaced with full depth asphalt equal in thickness to the existing pavement structure.

4. BACKFILLING AND COMPACTION

- a. All utility trenches, holes, bore pits, and other excavations within the county road right-of-way shall be backfilled with granular material that meets or exceeds MDOT class II material. Excavation backfill shall be placed and compacted to 95% of its maximum density in successive layers that are no more than 12-inches thick. In-place backfill density shall be verified and reported to the Board by an independent testing laboratory. The cost of said verification and reporting shall be the responsibility of the Contractor. The above backfilling and compaction provisions shall apply to that portion of the subgrade that is within the influence of the roadway pavement structure, including the shoulder. Refer to MDOT Trench Detail "B". Failure to meet said backfill and compaction requirements may result in a stoppage of subsequent work, replacement of deficient backfill, and denial of subsequent permits.
- b. All under drain systems and similar facilities destroyed or disturbed due to the utility installation shall be rebuilt using similar materials and in a manner that completely restores their function.

5. RESTORATION AND MAINTENANCE OF RIGHT-OF-WAY

- a. All drainage courses shall be restored with topsoil, seed, and mulch immediately after completion of utility installations. The Contractor shall employ and maintain soil erosion and sedimentation measures to stabilize all disturbed grounds per the Ingham County Drain Commissioner's (ICDC) standards. Disturbed drainage courses or backslopes that have steep grades, as determined by the Board, shall be stabilized with mulch blanket, rock check dams, or both. The Contractor shall follow ICDC and Michigan Department of Environmental Quality (MDEQ) Best Management Practices (BMS) for soil erosion and sedimentation control.
- b. All existing storm sewer, drainage structures, culverts, and similar facilities shall be protected during utility installation. If permitted by the Board and the structure owner, the Contractor may remove and replace said facilities if needed for utility installation. All replacement facilities shall be in accordance with current agency (owner) requirements for materials and construction standards, regardless of existing condition. Any damaged facilities left in place during utility installation shall be fully repaired to the satisfaction of the Board, or be replaced in accordance with current agency (owner) requirements. It is the responsibility of the contractor to research and obtain permission from the appropriate "owner" for the proposed work.
- c. All traffic signs requiring replacement or that need to be relocated due to utility installation shall be replaced or relocated by Ingham County Road Department personnel and their costs reimbursed by the Contractor.

- d. Encroachments (private installations) within the road right-of-way, such as fences, mailboxes, and hedges that must be removed due to utility installation may be replaced or re-installed, within the right-of-way, upon approval of the Board. In general, removed objects, other than mailboxes, cannot be re-installed within the road right-of-way. Please be aware that the Ingham County Road Department will not become involved with negotiations between the utility owner and property owners relative to encroachment removal and replacement, but the Board will ultimately approve or disapprove whether replacements are allowed, and their subsequent locations.
- e. The Contractor shall maintain a safe work area, free from dust and free from dirt and mud being tracked onto the adjacent roadway. The Contractor shall make arrangements to have paved roads swept and gravel roads treated with dust palliative for the duration of installation activities. If requested by the Board, the Contractor shall sweep roads or apply dust palliative within 4 hours of the request. Failure to do so may result in a stoppage of work.

6. MANHOLE CASTING, VALVE, AND FIRE HYDRANT LOCATIONS

- a. Permitted utility manhole structures and vaults shall conform to the following specifications or provisions:
 - 1. In general, proposed manhole castings and valve boxes shall be located outside the paved road surface and somewhere other than in the roadside ditch. If approved by the Board, manhole castings and valve boxes installed within a paved surface or parkway shall be located flush with the existing surface, manhole castings and valve boxes installed within the traveled portion of a gravel road shall be located 6-inches below the road's surface, and manhole castings and valve boxes installed in a ditch bottom shall be located, at least 12-inches below the ditch bottom. The contractor may be required to re-route the ditch around manhole castings and valve boxes, at the discretion of the Board.
 - 2. Manhole castings and valve boxes shall not protrude from the backslope of the road or above the normal ground contour by more than 6-inches. The contractor may be required to adjust a manhole casting or regrade the area, to the Board's satisfaction, at their expense.
 - 3. Proposed manhole casting and valve box type shall be approved by the Board prior to the start of installation. If at any future time it is determined that the type of casting or valve box must be changed due to road reconstruction, widening, resurfacing, etc., the utility owner agrees, by performing under permit, to bear all costs for the change
 - 4. Proposed fire hydrant installations shall be approved by the Board prior to the start of installation. If at any future time it is determined that the fire hydrant must be moved due to road reconstruction, widening, resurfacing, etc., the utility owner agrees, by performing under permit, to bear all costs for moving the fire hydrant.

7. TREE REMOVAL, TRIMMING, AND TUNNELING

- a. All tree removals, trimming, and tunneling within county road right-of-way shall be reviewed and approved by means of permit by the Board of Ingham County Road Commissioners. Any trees, regardless of their location, that cannot be protected due to utility installation or are in eminent danger of dying as a result of utility installation shall be removed by the Contractor. All stumps shall either be removed or ground flush with the average ground surface in the vicinity of the stump.
- b. Proposed tree removals, trimming, and tunneling shall be sufficiently illustrated on construction plans along with the tree's species and size so that a proper review and site visit can be performed.
- c. Trees that are located close to proposed utility installations, in the county road right-of-way, and reside within maintained lawn areas shall be protected from above ground and below ground

damage. Any trees, as described above, that are to be removed due to utility installation, shall only be removed after the Contractor has given notice to the adjacent property of the intent to remove the tree(s) and offered replacement trees. In general, the Board will require the Contractor to replace “lawn” trees removed due to utility installation. Replacement trees shall be planted outside the road right-of-way or at locations approved by the Board.

- d. All stumps, logs, limbs, and litter shall become the property of the utility installation contractor and be properly disposed of. The adjacent property owners have the right of ownership of wood felled within the right-of-way, therefore the Contractor shall offer to leave the felled wood for the property owners use. Wood requested by the property owner shall be left outside of the county road right-of-way.

8. CONDUCT OF OPERATIONS

- a. The Contractor shall control and ensure that trucking operations related to utility installations adhere to the current Michigan Vehicle Code and restrictions imposed by the Board, including spring weight restrictions. Failure to do so will result in the truck operator being ticketed and may also result in a stoppage of work.
- b. Contractors, permitted or not permitted, who conduct utility installation operations in a manner detrimental to the Board’s statutory obligation to maintain county roads reasonably safe for the public will be required to cease utility installation activities and correct all detrimental conditions immediately. If deemed necessary by the Board, cash deposits to cover the cost of a full-time ICRD inspector to ensure proper operations may have to be submitted to the Board before utility installation continues.
- d. Dewatering water disposed of by the Contractor within the county road right-of-way must be approved by the Board in advance of any discharge and conform to Michigan Department of Environmental Quality (MDEQ) Best Management Practices (BMS) for soil erosion and sedimentation control. In general, discharge of water into roadside ditches for more than a couple of hours will not be allowed. If the Board deems it necessary that dewatering activities be modified or discontinued altogether, the Contractor shall comply and devise another method to complete their work. The Contractor, by performing under permit, accepts the responsibility of restoring the road right-of-way and affected drainage system to the satisfaction of the Board and the Ingham County Drain Commissioner after dewatering system removal.
- e. The Contractor shall store construction materials as far off the road so that the materials do not pose a hazard nor block the vision of the traveling public and those seeking egress and ingress to private property. Only materials to be installed immediately can be stored within the right-of-way. All other materials and equipment shall be stored outside of the right-of-way.
- e. For location of underground utilities, the Contractor shall call Miss Dig at 1-800-482-7171 a minimum of three working days prior to utility installation.

Rev. 01-06



INGHAM COUNTY ROAD COMMISSION RIGHT-OF-WAY APPLICATION

Reset Form

Print Form

Application Number _____

Receipt Number _____

Upon approval by the Board of County Road Commissioners of Ingham County, Michigan, this permit allows the applicant to construct, operate, maintain, use and/or remove within a county road right-of-way. If the applicant hires a contractor to perform the work, BOTH must complete this form and BOTH assume responsibility for the provisions of this Application and Permit.

APPLICANT	CONTRACTOR
NAME: _____	NAME: _____
MAILING ADDRESS: <div style="border: 1px solid black; height: 40px; width: 100%;"></div>	MAILING ADDRESS: <div style="border: 1px solid black; height: 40px; width: 100%;"></div>
TELEPHONE NO.: _____ FAX NO.: _____	TELEPHONE NO.: _____ FAX NO.: _____
SIGNATURE: _____	SIGNATURE: _____
TITLE: _____	TITLE: _____

FINANCIAL REQUIREMENTS	ATTACHMENTS REQUIRED		
PERMIT FEE: _____	PLANS & SPECIFICATIONS:	<input type="checkbox"/> YES	<input type="checkbox"/> NO
OTHER: _____	PROOF OF INSURANCE:	<input type="checkbox"/> YES	<input type="checkbox"/> NO
CASH BOND: _____	PROOF OF INSURANCE:	<input type="checkbox"/> YES	<input type="checkbox"/> NO
DEPOSIT: _____	AMOUNT OF CASH BOND: _____		
TO BE BILLED: _____	OTHER: _____		
DATED: _____			

APPLICATION

Applicant and/or contractor request a Permit and agrees to the terms of this Permit for the purpose indicated on the attached plans and specifications at the following location:

NAME OF ROAD _____ between _____ ROAD and _____ ROAD

SECTION(S) _____ TOWNSHIP _____ INGHAM COUNTY, MICHIGAN

For a period beginning _____ and ending _____

REMARKS/ROUTING:

INGHAM COUNTY ROAD COMMISSION
301 Bush Street, P.O. Box 38, Mason, Michigan 48854
Phone: (517) 676-9722 Fax: (517) 676-5914
Website: <http://www.inghamcrc.org>

RECOMMENDED FOR ISSUANCE:

_____ DATE: _____

APPROVED: _____ DATE: _____

RIGHT-OF-WAY PERMIT RULES AND REGULATIONS

- 1. SPECIFICATIONS: All work performed under this permit must be in accordance with the approved plans, specifications, maps, and statements filed with the Road Commission. The work must comply with the Road Commission's current requirements and specifications and applicable MDOT specifications.
- 2. FEES & COSTS: The permit applicant shall be responsible for all fees and costs incurred by the Road Commission in connection with this permit and shall deposit estimated fees and costs, as determined by the Road Commission, at the time the permit is issued.
- 3. CASH BOND: The permit applicant shall provide a cash deposit, certified check, cashier's check, money order, or irrevocable letter of credit drawn on a solvent bank for an amount acceptable to the Road Commission at the time the permit is issued.
- 4. INSURANCE: The permit applicant shall furnish proof of liability and property damage insurance in the amount stated below naming the Road Commission as an insured:

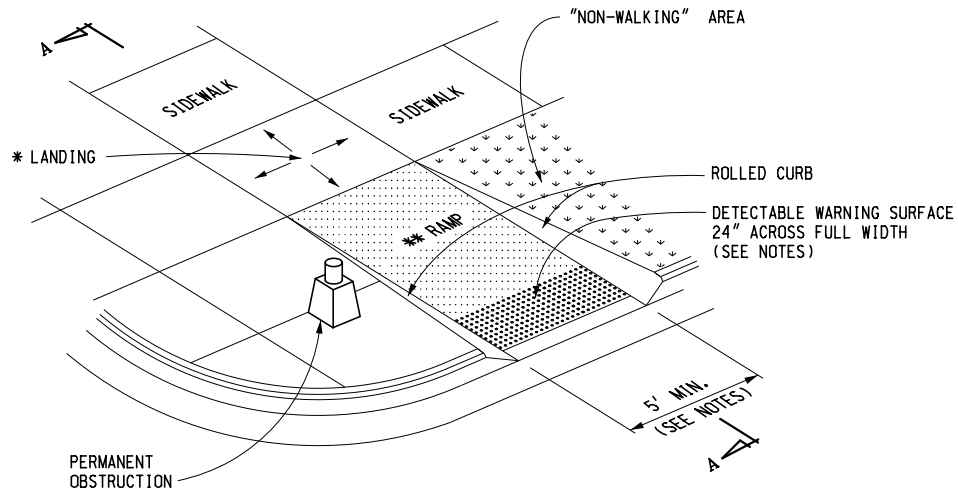
General liability - each occurrence	\$500,000.00
Automobile liability - each accident	\$1,000,000.00
Property Damage liability - each accident	\$1,000,000.00
Single Limit policy	\$1,000,000.00

Said insurance shall be effect for a period not less than the term of this permit and shall provide evidence that it cannot be cancelled without ten (10) days advanced written notice by certified mail with return receipt required to the Road Commission.

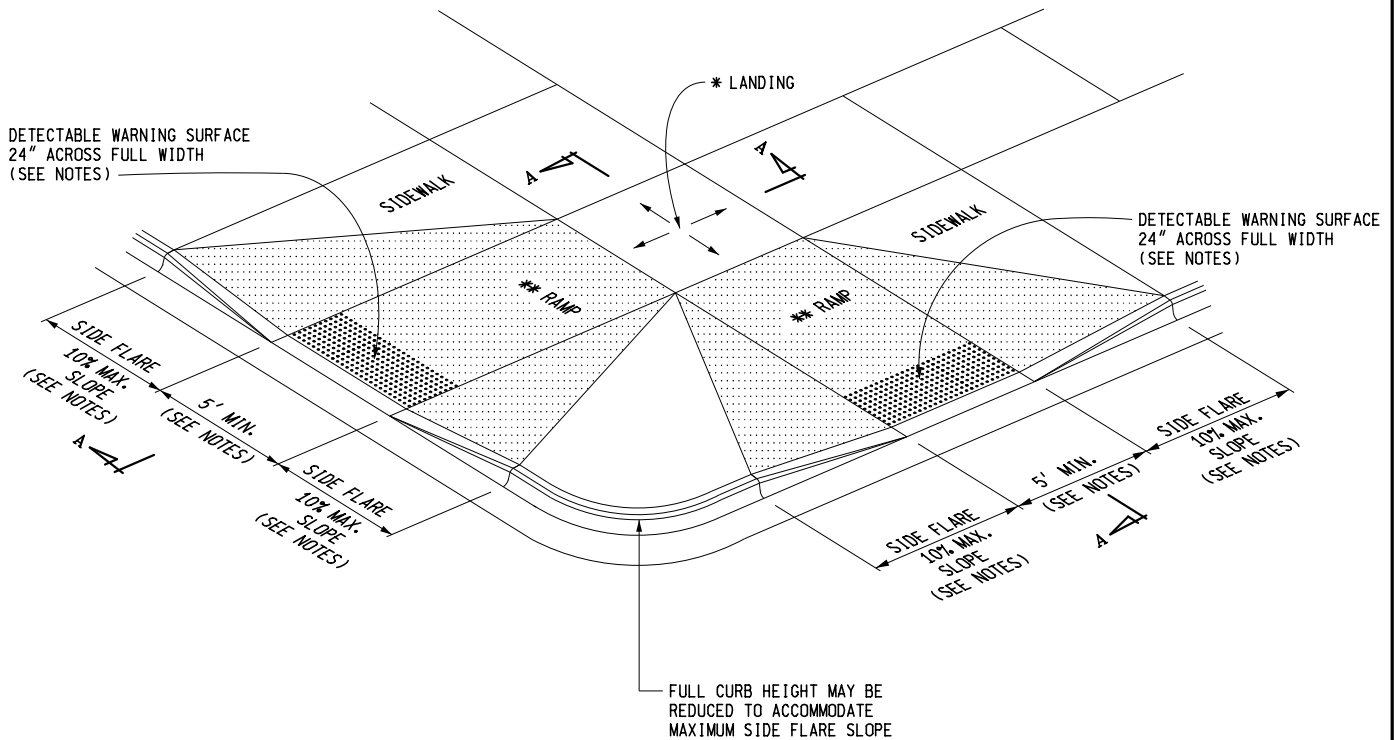
- 5. INDEMNIFICATION: The Permit Holder shall hold harmless and indemnify, and keep indemnified, the Road Commission, its officers and employees from all claims, suits, and judgments to which the Road Commission, its officers and employees may be subject. The Permit Holder shall also hold harmless and indemnify, and keep indemnified, the Road Commission, it officers and employees for all costs and actual attorney fees which may be incurred on account of injury to persons or damage to property, including property of the Road Commission, whether due to negligence of the Permit Holder or the joint negligence of the Permit Holder and the Road Commission, arising out of the work under this permit, or in connection with the work not authorized by this permit, or resulting from failure to comply with the terms of this permit, or arising out of the continued existence of the work product which is the subject of this permit.
- 6. MISS DIG: The Permit Holder must comply with the requirements of Act 53 of Public Acts of 1974, as amended. CALL MISS DIG AT (800) 482- 7171 AT LEAST TWO (2) FULL WORKING DAYS, BUT NOT MORE THAN TWENTY ONE (21) CALENDAR DAYS BEFORE THE START OF WORK. The Permit Holder assumes all responsibility for damages to or interruption of underground utilities.
- 7. NOTIFICATION OF START OF WORK AND COMPLETION OF WORK: The Permit Holder must notify the Road Commission at least 48 hours before starting work and must notify the Road Commission when work is completed.
- 8. TIME RESTRICTIONS: All permitted work must be performed Mondays through Fridays between 8:00 AM and 5:00 PM unless written approval is obtained from the Road Commission to work outside of those hours. The permitted work shall be performed during the period of time described on the permit unless an extension is granted by the Road Commission. Additional permit fees may be required to consider a time extension.
- 9. SAFETY: The Permit Holder agrees to work under this permit in a safe manner and to keep the road right-of-way affected by this permitted activity in a safe condition until the work is completed and accepted by the Road Commission. All work zone signing and flagging operations shall comply with the Michigan Manual of Uniform Traffic Control Devices and Road Commission standards.
- 10. RESTORATION AND REPAIR OF ROAD: The Permit Holder agrees to restore the road and right-of-way to a condition equal to or better, as determined by the Road Commission, than its condition before the work began. The Permit Holder further agrees to repair any subsequent damage, as determined by the Road Commission, to the road and right-of-way which is caused by the facility, or its maintenance, installed under this permit.
- 11. LIMITATION OF PERMIT: This permit does not relieve the Permit Holder from complying with regulations of other agencies or applicable laws. The Permit Holder is responsible for obtaining additional permits or releases which may be required in connection with this work from governmental agencies, public utilities, corporations, and individuals, including property owners. Permission may be required from adjoining property owners.
- 12. VIOLATION AND REVOCATION OF PERMIT: Permits are automatically invalidated by the violation of any of the conditions specified by the terms of the permit or by false information given on the application. Failure to comply with the conditions of this permit may be just cause for the immediate suspension or revocation of any or all permits and cause for the Road Commission to use bond money to restore the road and right-of-way to its satisfaction. This permit may be suspended or revoked at will. The Road Commission may require the Permit Holder to surrender this permit and alter or relocate its facilities within the right-of-way, or remove its facilities from the road right-of-way, at the permit holder's expense. The Road Commission reserves the right to remove facilities from the road right-of-way and recoup its costs from the Permit Holder.
- 13. ASSIGNABILITY: This permit may not be assigned without the prior written approval of the Road Commission. If approval is granted, the assignor shall remain liable and the assignee shall be bound by all the terms and conditions of the permit.
- 14. This permit is subject to supplemental specifications, on file with the Road Commission, and Act 200 of Public Acts of 1969, as amended.

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

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



CURB RAMP TYPE R
(ROLLED SIDES)



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



PREPARED BY
DESIGN DIVISION

DRAWN BY: B.L.T.

CHECKED BY: W.K.P.

DEPARTMENT DIRECTOR
Paul C. Ajegba

APPROVED BY: _____
DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY: _____ M-1
DIRECTOR, BUREAU OF DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**CURB RAMP AND
DETECTABLE WARNING DETAILS**

F.H.W.A. APPROVAL

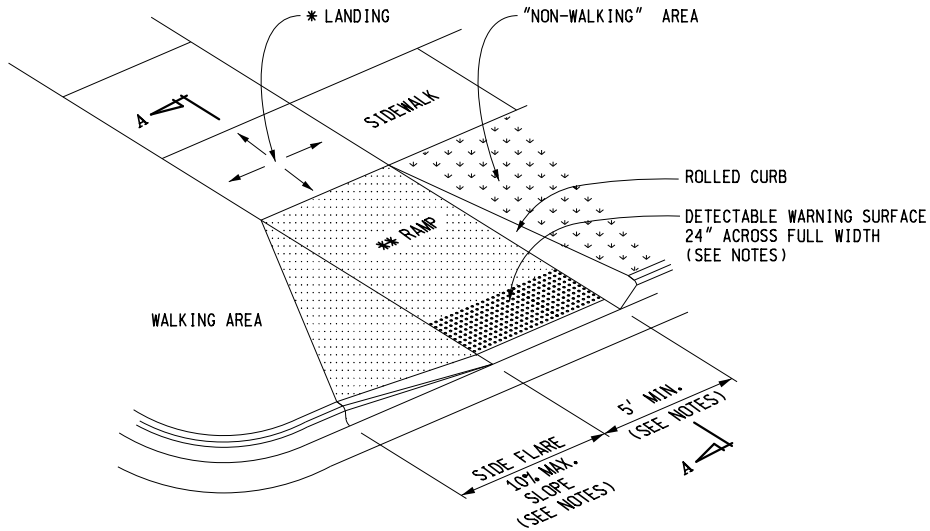
5-8-2020
PLAN DATE

R-28-J

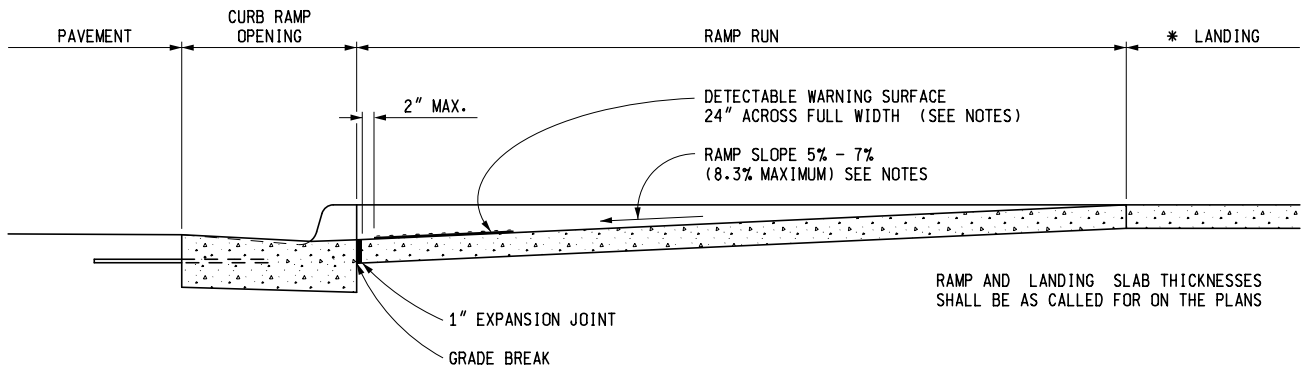
SHEET
1 OF 7

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

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



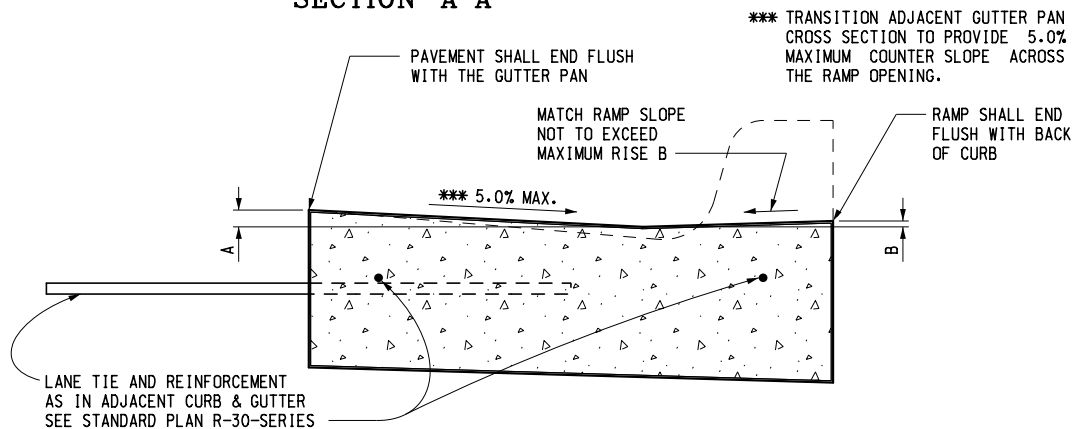
CURB RAMP TYPE RF
(ROLLED / FLARED SIDES)



SECTION A-A

CURB TYPE	MAXIMUM RISE (INCHES)	
	A	B
B1	3/4	1
B2	3/4	1
B3	3/4	1
D1	3/4	1
D2	3/4	1
D3	3/4	1
C1	1/2	1/2
C2	1/2	1/2
C3	3/4	1/2
C4	3/4	1/2
C5	1	1/2
C6	1	1/2
F1	1/2	1/2
F2	1/2	1/2
F3	3/4	1/2
F4	3/4	1/2
F5	1	1/2
F6	1	1/2

FOR CURB TYPES SEE STANDARD PLAN R-30-SERIES

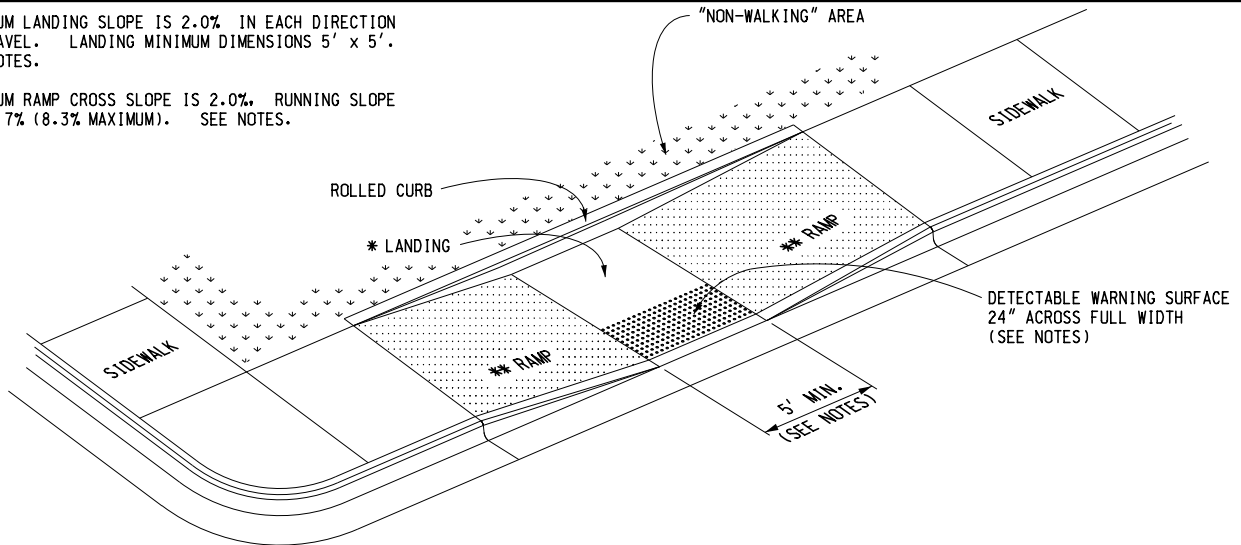


SECTION THROUGH CURB RAMP OPENING
(TYPICAL ALL RAMP TYPES)

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR
**CURB RAMP AND
DETECTABLE WARNING DETAILS**

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

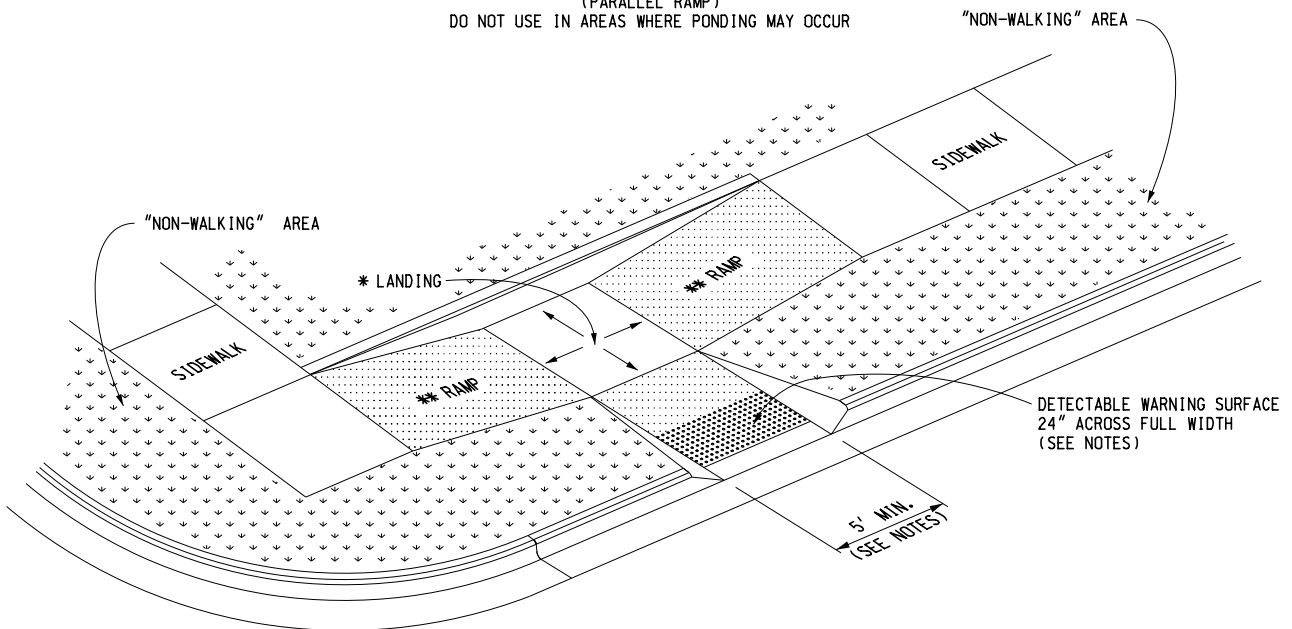
** MAXIMUM RAMP CROSS SLOPE IS 2.0%, RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.



CURB RAMP TYPE P

(PARALLEL RAMP)

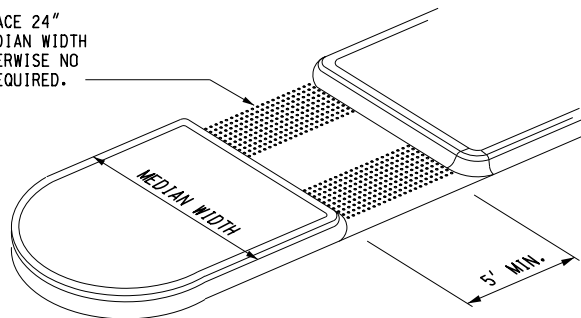
DO NOT USE IN AREAS WHERE PONDING MAY OCCUR



CURB RAMP TYPE C

(COMBINATION RAMP)

DETECTABLE WARNING SURFACE 24" ACROSS FULL WIDTH IF MEDIAN WIDTH IS AT LEAST 6'-0". OTHERWISE NO DETECTABLE WARNING IS REQUIRED.



CURB RAMP TYPE M

(MEDIAN ISLAND)

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**CURB RAMP AND
DETECTABLE WARNING DETAILS**

M-3

F.H.W.A. APPROVAL

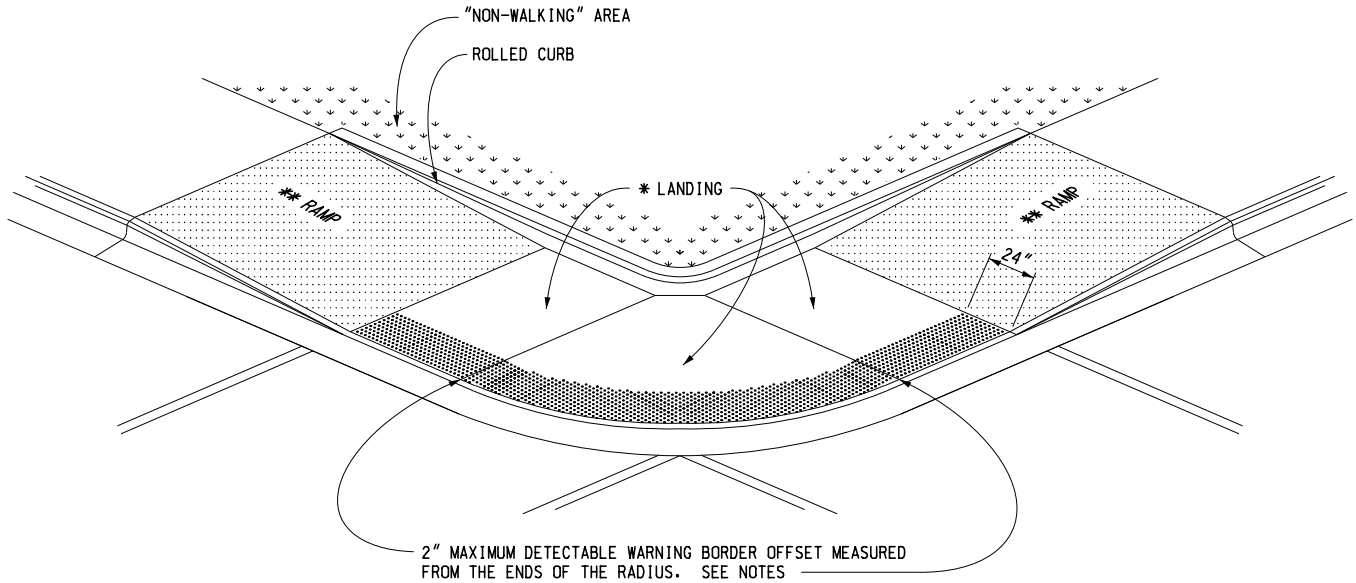
5-8-2020
PLAN DATE

R-28-J

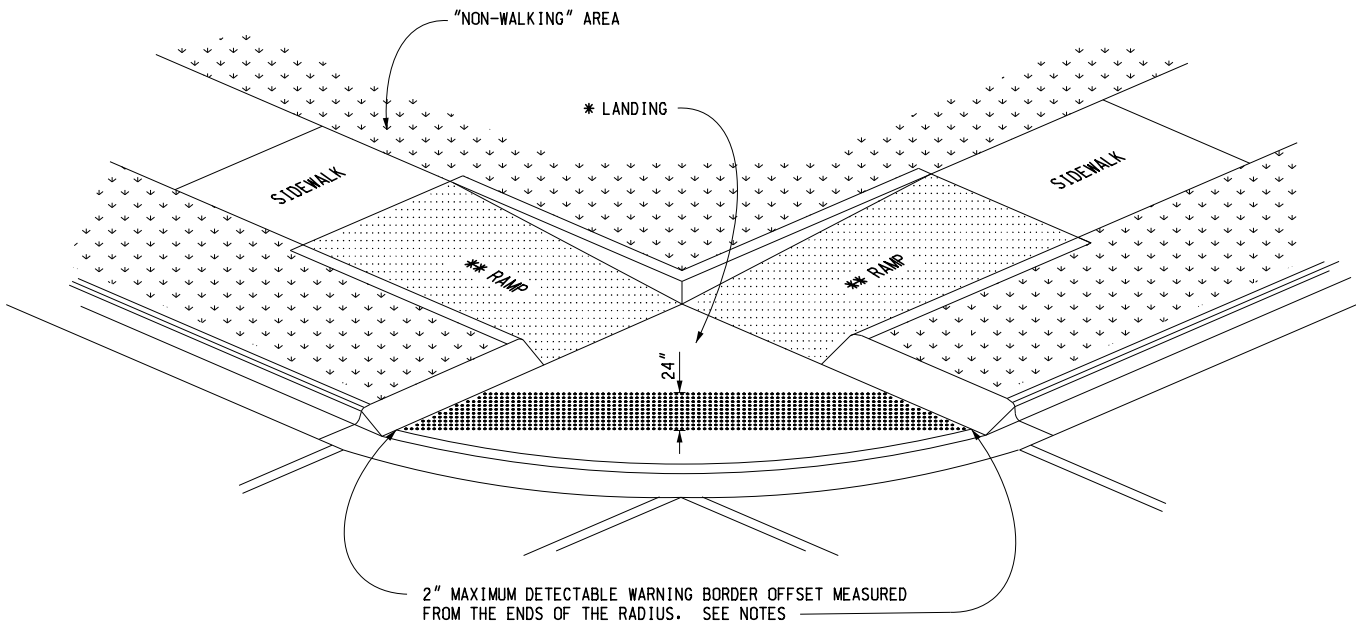
SHEET
3 OF 7

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

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



(RADIAL DETECTABLE WARNING SHOWN)



(TANGENT DETECTABLE WARNING SHOWN)

CURB RAMP TYPE D

(DEPRESSED CORNER)

USE ONLY WHEN INDEPENDENT DIRECTIONAL RAMPS CAN NOT BE CONSTRUCTED FOR EACH CROSSING DIRECTION

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**CURB RAMP AND
DETECTABLE WARNING DETAILS**

M-4

F.H.W.A. APPROVAL

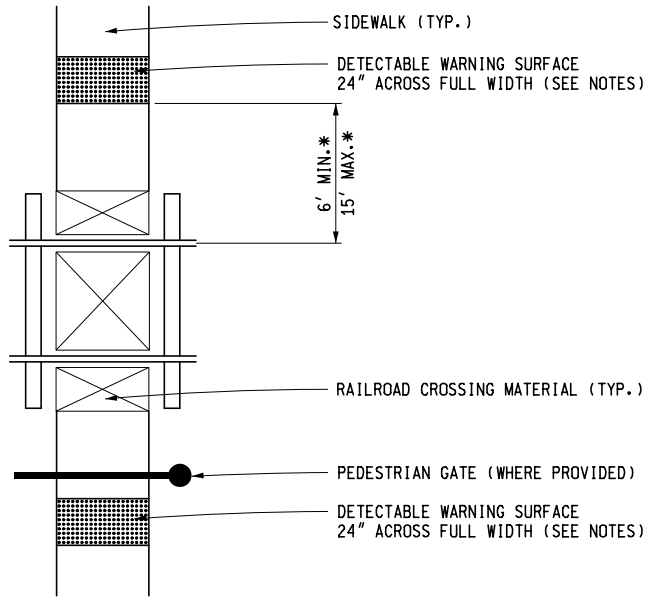
5-8-2020

PLAN DATE

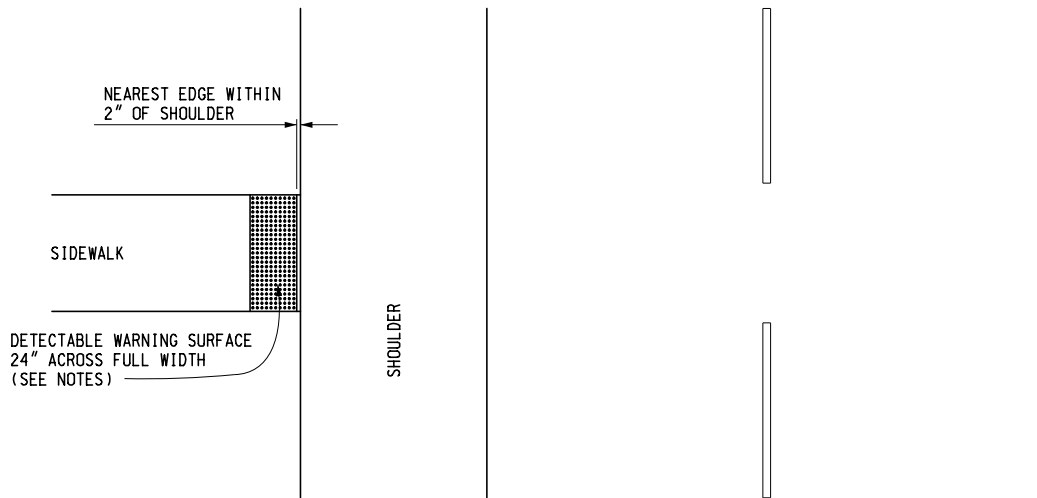
R-28-J

SHEET
4 OF 7

* 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



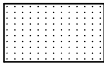




DETECTABLE WARNING AT FLUSH SHOULDER OR ROADWAY

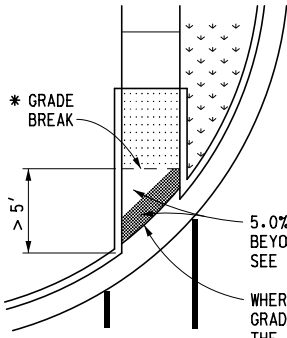
MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**CURB RAMP AND
 DETECTABLE WARNING DETAILS**

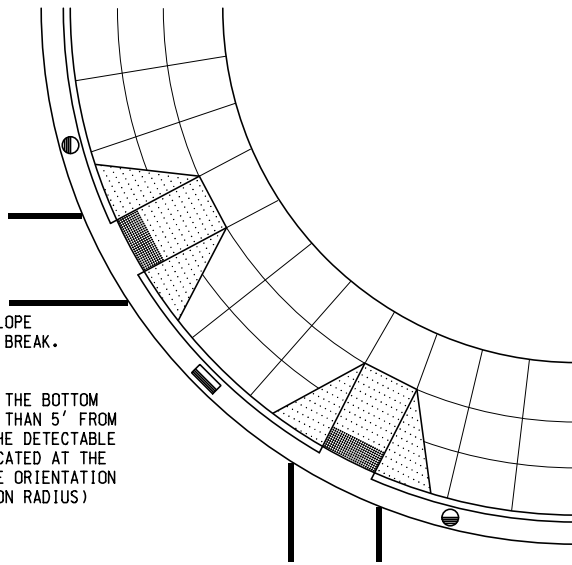
M-5	F.H.W.A. APPROVAL	5-8-2020 PLAN DATE	R-28-J	SHEET 5 OF 7
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LEGEND

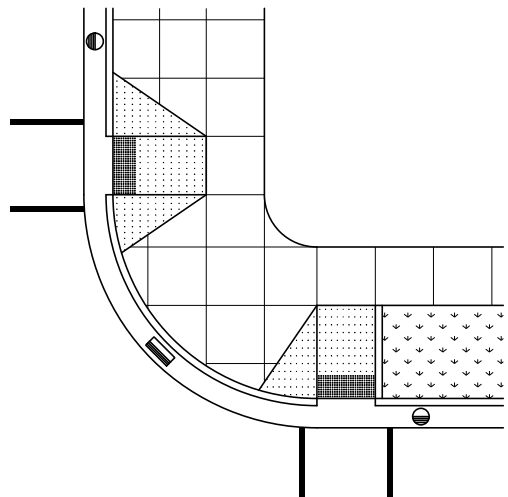
	SLOPED SURFACE
	DETECTABLE WARNING
	"NON-WALKING" AREA
	CROSSWALK MARKING
	PREFERRED LOCATION OF DRAINAGE INLET (TYP.)
	ALTERNATE LOCATION OF DRAINAGE INLET (TYP.)



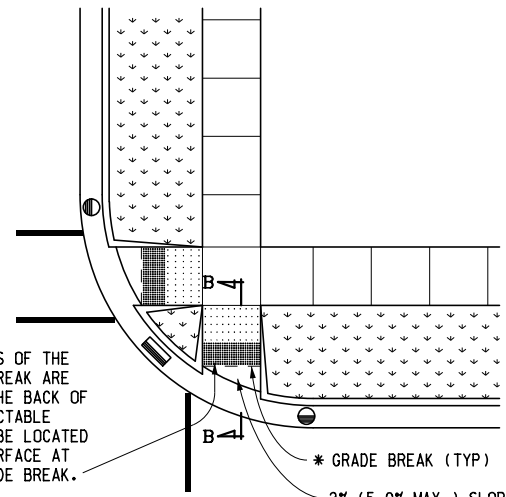
CURB RAMP LOCATED IN RADIUS (TYPE R SHOWN)
(GRADE BREAK OFFSET GREATER THAN 5')



CURB RAMP PERPENDICULAR TO RADIAL CURB (TYPE F SHOWN)
(USE WITH RADIAL CURB WHEN THE CROSSWALK AND CURB RAMP ARE NOT ALIGNED)



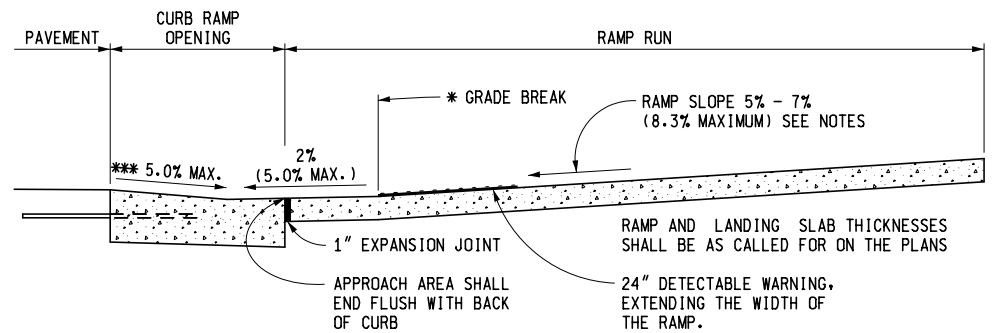
CURB RAMP PERPENDICULAR TO TANGENT CURB
(TYPE F AND TYPE RF SHOWN)



CURB RAMP LOCATED IN RADIUS (TYPE R SHOWN)
(GRADE BREAK OFFSET LESS THAN 5')

WHERE BOTH ENDS OF THE BOTTOM GRADE BREAK ARE WITHIN 5' OF THE BACK OF CURB, THE DETECTABLE WARNING SHALL BE LOCATED ON THE RAMP SURFACE AT THE BOTTOM GRADE BREAK.

* GRADE BREAK (TYP.)
2% (5.0% MAX.) SLOPE BEYOND BOTTOM GRADE BREAK



* GRADE BREAKS AT THE TOP AND BOTTOM OF CURB RAMPS SHALL BE PERPENDICULAR TO THE DIRECTION OF TRAVEL.

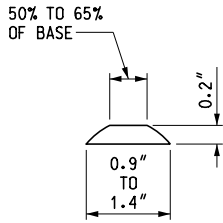
*** TRANSITION ADJACENT GUTTER PAN CROSS SECTION TO PROVIDE 5.0% MAXIMUM COUNTER SLOPE ACROSS THE RAMP OPENING.

SEE SHEET 2 FOR CURB RAMP OPENING DETAILS.

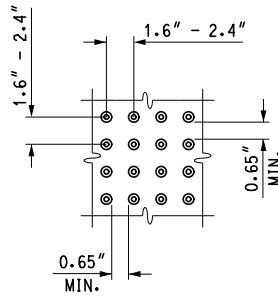
**SECTION B-B
CURB RAMP ORIENTATION**

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

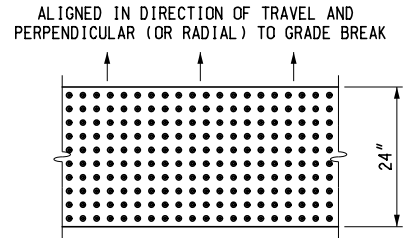
**CURB RAMP AND
DETECTABLE WARNING DETAILS**



DOMES SECTION



DOMES SPACING



DOMES 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.

CURB 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 PRACTICABLE, RAMP WIDTH MAY BE REDUCED TO NOT LESS THAN 4' AND LANDINGS TO NOT LESS THAN 4' x 4'.

CURB RAMPS WITH A RUNNING SLOPE $\leq 5\%$ DO NOT REQUIRE A TOP LANDING. HOWEVER, ANY CONTINUOUS SIDEWALK OR PEDESTRIAN ROUTE CROSSING THROUGH OR INTERSECTING THE CURB RAMP MUST INDEPENDENTLY MAINTAIN A CROSS SLOPE NOT GREATER THAN 2% PERPENDICULAR TO ITS OWN DIRECTION(S) OF TRAVEL.

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 NOT INCLUDING LANDINGS OR TRANSITIONS.

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.

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 ON 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 CURB 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

**CURB RAMP AND
DETECTABLE WARNING DETAILS**

M-7

F.H.W.A. APPROVAL

5-8-2020
PLAN DATE

R-28-J

SHEET
7 OF 7

EARTHWORK (DIVISION 1)

MERIDIAN TOWNSHIP TECHNICAL SPECIFICATIONS
DIVISION 1

EARTHWORK

INDEX

1.01 SCOPE

1.02 CONSTRUCTION METHODS

1. CLEARING THE SITE
2. PROTECTION OF TREES
3. EROSION CONTROL
4. EXCAVATION
5. BACKFILLING & ROUGH GRADING
6. EXTRA SAND BACKFILL
7. EXTRA STONE BEDDING
8. RESTORATION & CLEAN UP

1.01 SCOPE

The Contractor shall furnish all labor, materials, tools and equipment for all excavation and backfilling required for work under this contract, including all sheeting, shoring and bracing, dewatering of excavation, and other work as herein specified. All work shall be done in accordance with the current Michigan Department of Transportation Standard Specifications for Construction, except as stated within this specification.

1.02 CONSTRUCTION METHODS

1. Clearing the Site

The Contractor shall clear the site of all brush and debris which may be present and interfering with construction operations and shall remove and dispose of the same. No trees or shrubs are to be removed unless shown on the plans or permitted by the Engineer. Concrete, asphalt, trees, and shrubs shown on the plans to be removed shall be disposed of at a suitable location off the site of the work.

2. Protection of Trees

All trees which are to be preserved or which, in the opinion of the Engineer, might be subject to damage by the Contractor's operations, shall be adequately protected against damage to the bark by 2-inch thick vertical planking securely wired or tied completely around the tree trunk. Such protection shall not be removed until authorized by the Engineer.

No excavation greater than 1 foot in depth shall be made by machine within 5 feet of any tree. If the excavation cuts within the canopy (dripline) of a tree, the Contractor shall tunnel under roots and protect them from injury throughout the work. All roots greater than 2" shall be cleanly cut, if removed.

Trees which interfere with the work, and the removal of which is permitted, shall be removed by the Contractor in a safe manner and incidental to construction unless otherwise noted on plans and proposal. No trees are to be removed without the expressed approval of the governmental body or property owner having jurisdiction thereof, and of the Engineer.

Trees, trunks, and limbs to be removed that are greater than six inches in diameter shall be trimmed and cut into lengths less than eight feet and piled outside of the right of way for use if the abutting property owner so desires. If the property owner does not desire the timber, the timber becomes the property of the Contractor. All other timber, brush, limbs, and stumps shall be disposed of by the Contractor. Onsite burning will not be allowed.

EARTHWORK (DIVISION 1)

1.02 **CONSTRUCTION METHODS** (Cont'd.)

3. **Erosion Control**

Erosion Control devices shall be installed as shown on the plans and as needed to eliminate the migration of soil from the worksite. Typical devices include catch basin fabric drops (silt sacks) and silt fence. Additional requirements, as necessary, can be found in the Special Provisions.

Fabric drops shall be designed and constructed for use in the specified structure. Drops shall be installed prior to construction, cleaned and maintained in a working state for the duration of the project, and removed and disposed of upon final completion and restoration of the construction site.

Silt fence shall be a product in accordance with the MDOT 2012 SSC, Section 910.

Grass shall be growing before the erosion control measures are removed. Retainage will not be released until all erosion control measures are removed.

4. **Excavation**

A. General

Trench excavation shall be by open cut, except as otherwise shown or permitted. Excavation may be performed by any practical method consistent with the integrity and protection of the work, adjoining structures, and the protection of workers and the public.

Excavation of trenches for piping shall provide a minimum net clearance of six inches outside the barrel of the pipe and, in all cases, shall be of sufficient width to permit the convenient placing of pipe and making of joints. The bottom of the trench shall be shaped so as to conform as nearly as possible to the outside of the pipe, particular care being taken to recess the bottom of the trench in such a manner as to relieve the bell of all load and to provide continuous soil bedding under the lower quadrant of the pipe.

Excavation for structures shall be extended sufficiently beyond the limits of the structure to provide ample room for practical construction methods to be followed.

If excess excavation is made or the material becomes disturbed so as to require removal beyond the prescribed limits, the resulting space shall be refilled with selected material. It shall be thoroughly tamped into place in not more than six inch layers, to the satisfaction of the Engineer, before the construction work proceeds. Alternatively it may be filled with Class B Concrete or Flowable Fill.

Foreign materials such as slabs of wood, boulders, etc. which obstruct the excavation, shall be removed with other excavation; and where such obstructions occur at or near the bottom, requiring excavation below grade for their removal, the excavated area shall be brought back to grade as in the previous paragraph, and incidental to construction. Unnecessary excavation below grade by the Contractor shall be refilled to grade as in previous paragraph, and at the Contractor's expense.

B. Existing Utilities and Structures

The Contractor shall cooperate with all utility firms, in advance, to locate and avoid interference with and damage to existing facilities, insofar as possible. Means for elimination of interference and correction of damage shall be subject to the instruction or approval of the Engineer. Where any apparent conflicts with underground utilities become evident, the Contractor shall excavate the utility in advance of working in the area. The Engineer shall then determine if any conflict exists and, if so, shall determine the action to be taken. Exploration for underground utilities is incidental to the other work performed.

Underground pipes or structures encountered in excavation shall be adequately supported during the Contractor's operations. Before backfilling, the structure shall receive a permanent support of a suitable material approved by the Engineer, extending from the bottom of the excavation to the underside of the pipe or other structure.

EARTHWORK (DIVISION 1)

1.02 **CONSTRUCTION METHODS**

4. **Excavation**

B. Existing Utilities and Structures (Cont'd.)

The Contractor shall use care not to damage adjoining structures and existing underground utilities. Existing underground pipes and cables are shown on the plans insofar as information is reasonably available. The Contractor shall be responsible to ascertain the locations of all utilities, whether shown on the plans or not.

Work within MDOT and Ingham County Road Department (ICRD) rights of way is done under separate permit from the agency involved. In addition, to these specifications, the Contractor shall adhere to all conditions contained in such permits.

When excavating along paved roads, extreme care shall be taken that the existing pavement and structures will not be damaged or undermined. All sheeting, bracing, and other equipment necessary to prevent damage shall be furnished by the Contractor. Where a trench must be cut through a roadway or driveway, particular care shall be taken not to unnecessarily damage adjoining areas of pavement. Existing pavement shall be sawcut prior to excavation.

Sheeting or other suitable protection, as required, shall be provided wherever excavation is performed adjacent to an existing structure. Any material removed from beneath the foundation of an existing structure shall be replaced with Class B concrete. Sheeting, bracing, and shoring required to support the sides of excavation shall be removed with care after completion of the work. Any injury to the work or to adjacent property resulting from the removal shall be repaired by the Contractor.

The Contractor shall be responsible for any damage caused by their operations to pipes, structures, poles and accessories, and the like above or below ground, whether shown on the plans or not. They shall make good and repair any such damage to the satisfaction of the Engineer. Particular care shall be exercised where excavation or other work is being prosecuted near electric or telephone lines.

C. Ground Water

Excavations shall be kept dry during placing of pipe and initial backfill. The Contractor shall supply stone sumps and pumps as necessary to maintain satisfactory conditions. This work is considered incidental to the pipe cost.

The Contractor shall take all necessary precautions to prevent the accumulation of water to such a level as might cause damaging uplift pressure to partially completed structures. The Contractor shall be responsible for any damage to partially completed structures because of inadequate or improper protection from uplift pressure, and shall repair or remove and replace at their own expense, to the satisfaction of the Engineer, all work so damaged.

D. Dewatering

The Engineer may direct the installation of a dewatering system if they deem it necessary to lower the adjacent water table. This is a pay item which includes all costs to furnish and operate the system, including down-time and remobilization. Only use this method when normal methods, outlined in above paragraph (4C), prove to be insufficient.

5. **Backfilling and Rough Grading**

A. Bedding and Initial Backfill

The backfilling and bedding of utilities shall not incorporate frozen materials. Trench backfill shall be carefully placed such that pipeline and grade are not disturbed. Bedding and initial backfill shall be as specified for ductile iron, plastic, and concrete pipe in Division 2 and for ductile iron pipe in Division 3 of the Technical Specifications.

EARTHWORK (DIVISION 1)

1.02 **CONSTRUCTION METHODS**

5. **Backfilling and Rough Grading** (Cont'd.)

B. Final Backfill Outside Right of Way

The remainder of the trench, if not in a roadway, may be backfilled with excavated material unless it contains peat, muck, cinders, stones larger than 6" in diameter, or other undesirable material as determined by the Engineer. This undesirable material shall, upon written order of the Engineer, be removed and replaced with Extra Sand Backfill or material approved by the Engineer.

In a field, above a point 12-inches over the pipe, water main trenches may be backfilled completely with loose material and compacted from the top of the trench. Sewer trenches shall be backfilled and compacted in layers of 3'. In lawn areas the layers in each case shall not exceed 12".

Excavated material, above a point 12-inches over the top of the pipe, shall be compacted by running the wheel or track of excavation equipment along the trench or by methods and equipment approved by the Engineer. At least 30" cover over the top of pipe is required for wheeled or tracked vehicles and 48" cover for machine mounted compactors. Temporary mounding of excess material over the trench will be allowed only until such time as lawn repairs are completed.

C. Backfill within Roadway Zone of Influence

Where excavation cuts through a road, drive, or sidewalk, or is in the zone of influence of a pavement, the trench shall be backfilled with granular material and compacted in accordance with MDOT or ICRD specifications, whichever is applicable. Road crossings are incidental to pipe installation. Longitudinal trenches will be paid as the bid item Extra Sand Backfill, unless otherwise specified.

D. Rough Grading

At the end of each working day, all excavations shall be completely backfilled up to existing grade with all excess excavated material being removed from the site. The excavation at the point where pipe installation is to start on the next working day need not be backfilled if it is greater than 6 feet deep, adequately protected, fenced, and lighted. However, in all cases, roadways and driveways should be made accessible overnight.

Excessive soil settlement and any resulting damage which occurs within one year of final approval shall be repaired by the Contractor at no cost to the owner.

6. **Extra Sand Backfill**

When the Engineer deems the native backfill material above the pipe to be unsuitable (such as rocks, peat or landfill outside the right of way or clay within the right of way) they may order extra sand backfill.

The unsuitable material shall be removed from the site and replaced with an approved granular material. This granular material shall be compacted as previously specified for excavated material.

Sand used under paved driveways, for road crossings, for pavement sub-base or for pipe bedding and backfill to a point 12" over the pipe is considered incidental to the project and does not qualify as Extra Sand Backfill, unless it is the result of a plan change.

7. **Extra Stone Bedding**

This item is used, as directed by the Engineer, to replace any unsuitable earth foundation, (such as muck, landfill or rubble), below the pipe bedding or trench bottom. The unsuitable material shall be removed from the site and replaced with one-inch crushed stone.

Stone used for dewatering purposes and for pipe bedding and backfill is considered incidental to the project and does not qualify as Extra Stone Bedding.

EARTHWORK (DIVISION 1)

1.02 CONSTRUCTION METHODS (Cont'd.)

8. Restoration & Clean-Up

As construction operations proceed, the Contractor shall follow their operations with a general clean-up which shall include rough grading, removal of debris, temporary replacement of mailboxes, temporary restoration of driveways, etc. The general clean-up shall follow construction such that no more than 1000 feet shall remain uncompleted at any time. Access to individual homes and parcels shall remain uninterrupted during construction operations with all driveways temporarily restored to use at the end of each working day. Temporary driveways and roads shall be maintained by the Contractor during the period of construction.

After all construction has been completed, the Contractor shall finish, grade and rake all areas disturbed by construction. Topsoil shall then be spread on the prepared areas to a depth of 3-inches. All stones and lumps larger than 1-inch diameter plus all roots, litter and other foreign material shall be raked out prior to seeding or sodding.

Lawn areas and vacant land shall be repaired with seeding, fertilizer and mulch. 12-12-12 fertilizer shall be evenly applied at a rate of 200 lbs./acre. Seed shall be MDOT "THM" mixture and shall be sown following or in conjunction with the fertilizer and while topsoil is in a friable condition. Seed shall be evenly sown at a rate of 220 pounds per acre and shall not be sown through mulch. Mulch blankets shall be installed immediately after seeding and shall be pinned in place, unless otherwise specified.

If called for, lawn areas shall be repaired with first-quality commercial lawn sod. The existing sod in the excavated areas shall be cut, trimmed and removed as necessary to accept a minimum 12-inch width of new sod without overlapping new sod onto the existing or without leaving gaps between the new sod and existing. Watering of new sod shall be the responsibility of individual property owners.

Driveways and approaches shall be repaired with material of the same quality, width and thickness as that which existed prior to construction, but shall not be less than the following:

- i. Concrete shall be 6-sack, transit-mixed; formed, jointed and finished to match existing. Slabs less than 24-inches wide shall be removed and replaced with new concrete – see Division 4 of the Technical Specifications for additional requirements.
- ii. Asphalt shall be MDOT HMA 13A, three inches compacted thickness and rolled to a uniform, dense surface. Prior to placing of new asphalt, the existing asphalt shall be trimmed with a concrete saw to straight edges which are parallel with the adjoining roadway. Overlays shall be preceded by an asphalt primer. Thicknesses greater than two inches shall be placed in two layers that have cooled between courses.

It is the intent that upon completion of the work all surfaces will be returned to the standard of profile and conditions that existed prior to this work. All gravel, top soil, seeding, sodding, surface restoration, paving, etc., shall be performed under this contract. Surface restoration shall include replacement of mailboxes, posts, fences, signs, culverts, ditches and other miscellaneous improvements. No deviations from existing conditions will be allowed without the written permission of both the Engineer and the affected property owner.

CONCRETE WORK (DIVISION 4)

**MERIDIAN TOWNSHIP TECHNICAL SPECIFICATIONS
DIVISION 4**

CONCRETE WORK

INDEX

4.01	SCOPE
4.02	MATERIALS 1. SUPPLIER 2. CONCRETE MIXTURE 3. REINFORCING
4.03	CONSTRUCTION METHODS 1. SUBGRADE PREPARATION 2. FORMWORK 3. PLACEMENT 4. FINISHING 5. JOINTS 6. CURING & PROTECTION
4.04	TESTING

4.01 **SCOPE**

This work shall consist of furnishing all labor, materials and equipment necessary for the proper mixture and placement of concrete. The current MDOT Standard Specifications for Construction (SSC) shall be followed, unless otherwise specified.

4.02 **MATERIALS**

1. Supplier

The use of transit-mix concrete is required. The Contractor shall notify the Engineer who the supplier will be prior to beginning work. The Engineer must approve the concrete supplier and the mixer trucks used to transport the concrete.

2. Concrete Mixture

Batching and mixing operations shall conform to ASTM C94. Water shall not be added to the mix after the trucks leave the batching plant. The mix for sidewalk shall be MDOT P1 with approximated proportions of one part cement; two parts fine aggregate, and three parts coarse aggregate. The mix shall contain 6 sacks of cement per cubic yard, with a maximum allowable slump of 3½" (three and one-half inches).

Coarse aggregate shall conform to MDOT 6AA. Fine aggregate shall conform to MDOT 2NS. Cement shall be Type 1A air-entraining Portland cement conforming to ASTM Specification C150 or Type 1 with an air entrainment admixture. Air shall be 6% plus or minus 1%.

The compressive strength of Class A concrete shall not be less than 3,500 pounds per square inch (psi) after 28 days. The compressive strength of Class B concrete shall not be less than 3,000 psi after 28 days.

CONCRETE WORK (DIVISION 4)

4.02 **MATERIALS**

2. **Concrete Mixture** (Cont'd.)

Water shall be clean and free from deleterious substances such as oil, alkali and organic matter. Potable water shall be used from sources approved by the Engineer.

No admixtures will be used unless approval is received from the Engineer, or is specified. Admixtures, if approved, shall be used in strict accordance with manufacturer's directions and shall conform with applicable ASTM Standards.

3. **Reinforcing**

Concrete slabs, walls and footings shall be reinforced with steel bars or mesh as shown on the plans. Bars shall be rust-free, new deformed billet-steel conforming to ASTM A615, Grade 60 and mesh shall conform to ASTM A1064.

The Contractor shall prepare and submit to the Engineer shop drawings showing bending and assembly diagrams, splicing, laps of bars, shapes, dimensions and details of bars. Scaled dimensions from drawings shall not be used in determining the lengths of reinforcing bars.

4.03 **CONSTRUCTION METHODS**

1. **Subgrade Preparation**

The earthgrade shall be prepared by removing the topsoil, vegetative cover and root mat. The base shall then be prepared by excavating and/or placing of embankment material to achieve the grade and cross-section required. All soft and yielding material shall be removed and replaced with acceptable material.

When a pathway is benched into cut or fill slopes, grading shall be done in accordance with the MDOT 2012 SSC, Section 205, Roadway Earthworks. Subgrade density shall be not less than 95% of Maximum Unit Weight in fills. In cuts, the Engineer will visually inspect the grade and may order additional compaction to achieve the desired subgrade density.

A minimum of three (3) inches of Class II granular material shall be used under all pathway construction. The base shall be smoothed, trimmed and compacted prior to placement of forms. The Engineer may order additional compaction to achieve the desired subgrade density after visual inspection.

2. **Formwork**

All concrete work shall be accurately formed to the lines and grade shown on the plans. Forms shall extend to the full depth and width of the specified concrete surface. Forms shall be shored and braced from the outside to maintain ¼" tolerance in thickness, line and grade. All formwork shall be oiled with an approved non-staining form oil before placing concrete. Formwork shall be left in place until the concrete is sufficiently hard so as to not be damaged upon removal.

Construct all formwork to provide continuous, straight, smooth surfaces and edges. Exposed edges to have ½" chamfer. Curved walks shall be formed on a radius with flexible forms.

CONCRETE WORK (DIVISION 4)

4.03 **CONSTRUCTION METHODS** (Cont'd.)

3. **Placement**

All formwork and reinforcement placement shall be inspected by the Engineer prior to placement of concrete. The Contractor shall give ample notice and time so that such inspection can be made.

No concrete shall be deposited until the area has been dewatered and not until after the Contractor has made satisfactory provisions to eliminate all possibility of water entering or flowing through the concrete while it is being poured or is curing.

Subgrades shall be wetted and forms shall be oiled prior to concrete placement. All debris shall be removed from forms and reinforcement.

Time Between Charging Mixer and Placing Concrete (minutes)			
Type of Unit	Concrete Temperature (ASTM C1064)		
	<60 °F	60 °F - 85 °F	>85 °F
Truck Mixers	90	60	45
Truck Mixers with Concrete containing Water-Reducing Retarding Admixture	120	90	70

Exposed concrete shall not be poured when the atmospheric temperature is below 40 °F or when the concrete temperature is below 55 °F as placed. Concrete shall not be poured on frozen ground. Concrete shall not be cast if the temperature of the concrete is above 90 °F.

Tickets shall be prepared in accordance with the MDOT 2012 SSC, Section 601, Portland Cement Concrete For Pavements.

When placement of concrete is started, it shall be carried on as a continuous operation until the placement of the section is completed. Concrete in walls shall be placed in 24-inch lifts keeping surface of concrete level throughout. Concrete shall be deposited to the full depth of the forms in one pour. Drops of greater than 5' shall use tubes.

Reinforced concrete greater than six inches in finished thickness shall be compacted by high frequency internal vibrators. The concrete shall be thoroughly worked around the reinforcement and into the corners of the forms, using procedures which minimize air pockets and honeycombs. Care shall be taken in vibrating concrete so as not to move reinforcement out of place.

Concrete less than six inches in finished depth shall be compacted by spading along all edges and joints and by alternately tamping and striking off the surface until all voids are removed.

4. **Finishing**

Horizontal, exposed surfaces shall be floated and troweled just enough to produce a smooth, dense surface, free from irregularities. All joints and edges shall be rounded to a radius of one-quarter inch by the use of an approved edging tool. After completion of floating and finishing, a fine brush shall be drawn across the finished surface to remove tool marks, and provide a non-slip surface.

CONCRETE WORK (DIVISION 4)

4.03 CONSTRUCTION METHODS

4. **Finishing** (Cont'd.)

Formwork panels are intended to provide a satisfactory finish for vertical, exposed surfaces. Finishing shall be limited to minor rubbing, removal of fins and patching of honeycombed areas. Unexposed surfaces need not be finished except for patching of honeycombed areas.

All concrete sidewalk and driveway approaches shall be legibly stamped with the name of the Contractor and the year, with figures 1½" to 2½" tall. The stamps shall be used at the ends of each segment, each truck load, and at intervals no greater than 100 feet in length.

5. **Joints**

1. Construction cold joints not indicated on the plans shall be so made and located so as to least impair the strength of the structure. The location of all construction joints shall be approved by the Engineer. Slabs shall have a cold joint at the end of each truck load.
2. Transverse expansion joints ½" thick shall be placed in sidewalk at approximately 100 foot intervals. ½" thick expansion joints shall be placed anywhere that the walk meets the back of curb, and where the walk meets the edge of concrete driveways or building walls.

Expansion joints material shall be pre-molded of bitumen filled fiber placed at right angles to the line of the walk, perpendicular to the surface and shall extend from ¼" below the surface of the walk to the subgrade.

3. Contraction (plane of weakness) joints shall be placed at a minimum distance equal to the width of the sidewalk. Contraction joints for bicycle pathways (7-foot width) shall be spaced approximately nine feet apart. The joint shall be sawed to a width of 1/8" and to a depth of ¼ of the slab thickness.

Sawing must be accomplished as soon as the concrete has hardened such that no excess raveling or spalling occurs, but before any random cracks develop. Joints shall be at right angles to the line of the walk, and perpendicular to its surface. Tooled joints are not allowed.

6. **Curing and Protection**

Sidewalks and other slabs on grade shall be treated with a curing compound conforming to the requirements of ASTM C309. The compound shall be sprayed or rolled on to provide a continuous film over the entire surface of the walk after completion of finishing, and as soon as all free water has left the surface. Compound shall be applied at the rate of not less than one gallon per 200 square feet. Immediately upon removing sidewalk forms, the exposed concrete edge shall be sprayed with curing compounds or backfilled with earth. The final grading of topsoil will be such that the mature sod will be ½" below the concrete.

All concrete shall be protected from vehicles for the first 72 hours after placing. The period of protection will increase to 7 days as the temperature decreases to 40 degrees. Any concrete found to be defective or damaged due to weather, vandalism, or other causes shall be removed and replaced, at the Contractor's expense. Damaged sections of sidewalk and curb and gutter shall be removed back to the nearest joint or as indicated by the Engineer.

Freshly placed concrete shall be protected from rain by covering with polyethylene film.

CONCRETE WORK (DIVISION 4)

4.03 **CONSTRUCTION METHODS**

6. **Curing and Protection** (Cont'd.)

Concrete shall not be allowed to freeze for 72 hours. Protection must be provided when there is a forecast for freezing.

Barricades shall be placed at the areas under repair from the time the damaged section is removed until it is ready for use. Lighted barricades will be required for intersection areas left under repair overnight.

4.04 **TESTING**

The Contractor shall make arrangements for and coordinate various concrete tests as ordered by the Engineer. The testing company will be selected by the Township and the Township will pay for the tests. The Contractor will be charged for any waiting time suffered by the testing company. All tests will be done according to ASTM standards.

**MERIDIAN TOWNSHIP TECHNICAL SPECIFICATIONS
DIVISION 7**

PAY ITEMS, METHOD OF MEASUREMENT & BASIS OF PAYMENT

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PAY ITEMS (DIVISION 7)

7.01 SCOPE

It is intended that payment for all work done under the Contract Documents including the furnishing of all labor, equipment and materials and the performing of all operations in connection with the construction of the project, will be made under the following pay items. Other work for which there is not a specific pay item will be considered included in the Contract Unit Price for the various specified pay items and no additional compensation will be allowed.

The Owner reserves the right to alter the plans, extend or shorten the improvement and increase or decrease the quantities of work to be performed to accord with such changes, including the deduction or cancellation of any one or more of the Pay Items. Such changes shall not be considered as a waiver of any conditions of the Contract nor to invalidate any of the provisions thereof. A supplemental agreement between the Contractor and the Owner will be required when such changes involve a net increase or decrease in the total amount of the original contract of more than 25 percent. For a net increase or decrease of less than 25 percent, the Contractor will accept payment according to contract prices for such items of work as appear in the original contract.

The work will be done in compliance with the Contract Documents and paid for under the Pay Items or Contract Items herein listed. The Contractor shall take no advantage of any apparent error or omission in the plans or specifications, and the Engineer shall be permitted to make such corrections and interpretations as may be deemed necessary for the fulfillment of the intent of the Contract.

7.02 SPECIFIC PAY ITEMS

1-19 GENERAL

1. Traffic Control

- A. Description: The Contract Unit Price on this item includes labor, equipment, and material necessary to complete traffic control for this project in accordance with the Michigan Manual of Uniform Traffic Control Devices and, as applicable, Michigan Department of Transportation (MDOT) or Ingham County Road Department (ICRD) requirements.
- B. Method of Measurement & Basis of Payment: This item will be paid for at the Contract Unit Price on the following basis: after first use of traffic control measures, 25% will be paid; once 50% of the original contract price is completed, 50% will be paid; once 75% of the original contract price is completed, 75% will be paid; once the contract work is complete, 100% will be paid.

2. Road Repair

- A. Description: The Contract Unit Price on this item includes restoration of all public roads to at least their conditions as existed prior to the start of construction. Specific examples are furnishing and placing of subbase, gravel or asphalt base and gravel, asphalt or concrete surface plus all other miscellaneous work associated with the complete restoration of all public roads including shoulders. All work shall be done in accordance with the plans and specifications.
- B. Method of Measurement & Basis of Payment: This item will be paid for at the Contract Unit Price when all public roads have been restored to their original condition.

PAY ITEMS (DIVISION 7)

7.02 SPECIFIC PAY ITEMS

1-19 GENERAL (Cont'd.)

3. Extra Sand Backfill [Ref. Sec. 1.02 (E)]

- A. Description: When the Engineer deems the native backfill material above the pipe to be unsuitable (such as rocks, peat or landfill outside the right of way and clay within the right of way) the Engineer may order extra sand backfill. It includes the excavation and disposal of the unsuitable material. Fill material shall be Class II granular material and placed at the direction of and to the satisfaction of the Engineer.

Sand used under paved driveways, for pavement subbase at road crossings, or for pipe bedding and initial backfill is considered incidental to sewers or water main and will not be paid for under this item.

- B. Method of Measurement & Basis of Payment: This item will be paid for at the Contract Unit Price for the total volume actually furnished and placed. Volume will be determined compacted-in-place (CIP) by measurements obtained at the site unless otherwise stated.

4. Extra Stone Bedding [Ref. Sec. 1.02 (F)]

- A. Description: The Contract Unit Price on this item includes the furnishing and placing of crushed stone bedding material to replace unsuitable subgrade material under the pipe. This work shall be done at the direction of, and to the satisfaction of, the Engineer.

Stone used for dewatering purposes or to stabilize water sand is considered incidental to sewers or water main and will not be paid for under this item.

- B. Method of Measurement & Basis of Payment: This item will be paid for at the Contract Unit Price for the total volume actually furnished and placed. Volume will be determined in place by measurements obtained at the site unless otherwise stated.

5. Road and Railroad Crossing

- A. Description: The Contract Unit Price on this item includes all extra work over and above that described under Sewers, Site Restoration, and Road Repair herein. Specific work includes furnishing and installing the steel casing pipe (by methods other than open cut), placing crushed stone around the carrier pipe, sealing the casing ends plus all miscellaneous related work.

- B. Method of Measurement & Basis of Payment: This item will be paid for the Contract Unit Price after the work is completed. The lineal footage of pipe installed inside the casing will be paid for under the pay item sewer or water main in addition to this item.

6. Abandonment

- A. Description: The Contract Unit Price on this item includes everything necessary to abandon the structure or facility as described in the contract.

- B. Method of Measurement & Basis of Payment: This item will be paid for at the Contract Unit Price per pile set for the actual number placed and incorporated into the finished work.

7. Dewatering [Ref. Sec. 1.02 (4.D)]

- A. Description: The Contract Unit Price on this item includes the furnishing, installation, operation and removal of all materials and equipment to lower the groundwater level adjacent to the construction area to expedite the excavation for and installation of the work.

PAY ITEMS (DIVISION 7)

7.02 **SPECIFIC PAY ITEMS**

1-19 GENERAL

7. Dewatering (Cont'd.) [Ref. Sec. 1.02 (4.D)]

- B. Method of Measurement & Basis of Payment: This item will be paid for at the Contract Unit Price per lineal foot of excavation actually dewatered or as lump sum. Measurement will be along the centerline of the pipeline.

8. Special Structure

- A. Description: The Contract Unit Price on this item includes the furnishing and installation of labor and materials to complete the structure as shown on the plans, including excavation, backfilling, access openings and covers, floor drains and associated piping, pre-cast concrete sections, poured-in-place concrete, waterproofing, vent piping, removal of surplus excavated material and restoration of surface to within three inches of finished grade.
- B. Method of Measurement & Basis of Payment: This item will be paid for at the Contract Unit Price for each special structure as actually installed.

9. Pavement Removal

- A. Description: The Contract Unit Price on this item includes all labor, equipment, and material necessary to remove and dispose of existing concrete or asphalt as marked in the field by the Engineer and as described herein. The Contractor shall **SAWCUT** the existing pavement to the full depth to ensure clean and proper removal. Any additional sawcutting, removal, and replacement necessitated by damage caused by the Contractor shall be incidental.
- B. Method of Measurement & Basis of Payment: This item will be paid for at the Contract Unit Price as measured in the field.

10. Miscellaneous Items

- A. Description: This item includes the complete labor, equipment, and materials for constructing and/or placing in service a bid item not found elsewhere in this division.
- B. Method of Measurement & Basis of Payment: This item will be paid for at the Contract Unit Price.

20-29 SANITARY

20. Sewer Mains

- A. Description: The Contract Unit Price on this item includes clearing the work site of all trees, brush, structures and other objects which interfere with the placement of the sewer under construction, all excavation, the furnishing and placing of sewer pipe complete including wyes or tees, bedding material, backfilling, removal of surplus excavated material, testing, concrete work, protection and replacement or repair of existing utilities, and restoration of the surface to within three inches of original grade or to bottom of pavement base course. All work shall be done in accordance with the plans and specifications.

20. Sewer Mains

- B. Method of Measurement & Basis of Payment: The length of sewers to be paid for at the Contract Unit Price will be determined by measurement along the centerline of the various diameters, classes and depths of pipe as actually furnished and installed. Diameters, classes and depths shall be as shown on the proposal. Measurements shall be from center to center of adjacent manholes with no deduction for manhole diameter. Depth shall be determined by measuring the distance from sewer invert to existing grade at each manhole plus at a point midway between manholes; the average of the three measurements shall be the average depth of the sewer.

PAY ITEMS (DIVISION 7)

7.02 SPECIFIC PAY ITEMS

20-29 SANITARY (Cont'd.)

21. Manholes

- A. Description: The Contract Unit Price on this item includes all excavation, the furnishing and placing of precast sections and cast iron frame and cover, concrete work, drop pipes, connection of existing and new pipes, backfilling, removal of surplus excavated material, and restoration of surface to within three inches of original grade. All work shall be in accordance with the plans and specifications.
- B. Method of Measurement & Basis of Payment: This item will be paid for at the Contract Unit Price per manhole for the various depths as actually installed. The depth shall be determined by measuring the distance from sewer invert to top of casting.

22. Sewer Services

- A. Description: The Contract Unit Price on this item includes all the work and materials (excepting wyes and tees but including necessary bends) as described in sewer main above.
- B. Method of Measurement & Basis of Payment: The length of sewers to be paid for at the Contract Unit Price will be determined by measurement along the centerline of the pipe including risers as actually furnished and installed. Measurement shall be from end of tee or wye to end of service.

23. Bypass Pumping

- A. Description: The Contract Unit Price on this item includes everything necessary to provide bypass pumping sufficient to complete the contract work.
- B. Method of Measurement & Basis of Payment: This item will be paid for at the Contract Unit Price.

30-39 WATER

30. Ductile Iron Water Mains

- A. Description: The Contract Unit Price on this item includes clearing the work site of all trees, brush, structures and other objects which interfere with the placement of the water main under construction, all excavation, the furnishing and placing of water main testing, concrete work, disinfecting, backfilling and the removal of surplus excavated material, protection and replacement or repair of existing utilities, and restoration of the surface to within three inches of original grade or to bottom of pavement base course. All work shall be done in accordance with the plans and/or specifications.
- B. Method of Measurement & Basis of Payment: The length of water mains will be paid for on a lineal foot basis for pipe measured along the centerline of the various diameters and classes of pipe actually furnished and installed. There will be no deductions for fitting lengths. Unit price includes all labor and materials and related work described above.

31. Water Main Fittings

- A. Description: The contract unit price includes the furnishing and installation of the fittings delineated in the proposal.
- B. Method of Measurement & Basis of Payment: Fittings will be paid for at the Contract Unit Price for each piece, complete with restraints, thrust block, and required appurtenances.

PAY ITEMS (DIVISION 7)

7.02 SPECIFIC PAY ITEMS

30-39 WATER (Cont'd.)

32. Water Valves and Boxes

- A. Description: The Contract Unit Price on this item includes the furnishing and installation of valves and valve boxes. All work shall be done in accordance with the Plans and/or Specifications and result in an operating valve.
- B. Method of Measurement & Basis of Payment: This work will be paid for at the Contract Unit Price per valve specified by size of valve on the proposal, which price includes all labor, materials, and related work as described above.

33. Fire Hydrants

- A. Description: The Contract Unit Price on this item will consist of furnishing and installing fire hydrants. It shall also include the furnishing and installation of the tee, auxiliary valve, valve box, connecting piping, thrust block, drainage pit, and miscellaneous appurtenances. All work shall be done in accordance with the plans and/or specifications and result in an operating hydrant.
- B. Method of Measurement & Basis of Payment: Fire hydrants will be paid for at the Contract Unit Price per complete Fire Hydrant assembly, which payment includes the furnishing and placing of all materials, the labor, and all related work necessary to complete the work as described above.

34. Live Tap

- A. Description: The Contract Unit Price on this item will consist of furnishing and installing tapping sleeves and valves on existing mains without loss of pressure in the existing main. It shall also include the installation of a valve box and a thrust block. All work shall be done in accordance with the plans and/or specifications.
- B. Method of Measurement & Basis of Payment: This work will be paid for at the Contract Unit Price per live tap as specified on the proposal, which price includes all labor, materials, and related work as described above.

35. Water Services

- A. Description: The Contract Unit Price on this item includes the furnishing and installation of corporation stops, curb stops, curb boxes and service pipe in accordance with the plans and or specifications. Work includes all excavation, backfill, furnishing and replacement of sand backfill, tapping of main, and removal of surplus excavated material. Long side service leads includes crossing of roads. Short side service leads are those which do not cross roads.
- B. Method of Measurement & Basis of Payment: This item will be paid for at the Contract Unit Price for each service lead completely installed.

40-49 PAVEMENT

40. Concrete Sidewalk

- A. Description: The Contract Unit Price on this item includes furnishing all labor, equipment, and materials required in connection with forming, placing, and curing of the concrete sidewalk to the lines and grade shown on the plans or as directed. All work shall be done in accordance with the plans and specifications.

PAY ITEMS (DIVISION 7)

7.02 SPECIFIC PAY ITEMS

40-49 PAVEMENT

40. Concrete Sidewalk (Cont'd.)

- B. Method of Measurement: Concrete sidewalk will be measured and paid for in square feet, determined by multiplying the actual length as measured along the centerline of the surface of the pathway, by the actual width. The area of fillets and odd shaped sidewalk will be computed separately. Deductions will be made for structures, crossroads, sidewalk ramps, and other discontinuities in the sidewalk. Sidewalk ramps and other appurtenances included in the contract as pay items will be paid for separately.

41. Sidewalk Ramps

- A. Description: Sidewalk Ramps consist of several different pay items, the combination of which include all labor, equipment, and material necessary to construct an ADA compliant curb ramp, in accordance with MDOT Special Detail R-28. The ramp pay items are depicted below in **7.04 RAMP PAY ITEMS**. All work shall be done in accordance with the plans and specifications.
- B. Method of Measurement & Basis of Payment: The ramp components will be measured and paid for at each Contract Unit Price.

42. Bituminous Construction

- A. Description: The Contract Unit Price on this item includes all labor, equipment, and material necessary for the construction of a bituminous surface, on a prepared foundation, at the specified application rate. If the bituminous mixture is not specified, the type used shall meet the approval of the Engineer. Construction methods shall conform to the latest edition of the MDOT Standard Specifications for Construction (SSC). All work shall be done in accordance with the plans and specifications.
- B. Method of Measurement & Basis of Payment: This item will be paid for at the Contract Unit Price as verified at the site through load tickets from the supplier or by field measurements.

43. Embankment

- A. Description: The Contract Unit Price on this item includes all labor, equipment, and materials required in connection with delivery and placement of granular embankment material. Embankment includes areas requiring fill as called for on the plans and the 3" of base for concrete sidewalk. All work shall be done in accordance with the plans and specifications. Granular material as noted shall mean Class II material per the MDOT 2012 SSC, Section 902.
- B. Method of Measurement & Basis of Payment: Embankment material shall be as measured in the vehicle transporting the material to the site. Load tickets from the supplier are required to verify the delivered amount.

44. Aggregate Base or Surface Course

- A. Description: The Contract Unit Price for this item includes all labor, equipment, and materials required in connection with the delivery and placement of the material. This work includes the required shaping, grading, and compacting of the material for the foundation of the asphalt ramps and driveway approaches.

The material shall be 21AA or 22A aggregate per the MDOT 2012 SSC, Section 902, unless otherwise specified. All work shall be done in accordance with the plans and specifications.

- B. Method of Measurement & Basis of Payment: Aggregate Surface Course shall be as measured in the vehicle transporting the material to the site. Load tickets from the supplier are required to verify the delivered amount.

PAY ITEMS (DIVISION 7)

7.02 SPECIFIC PAY ITEMS

40-49 PAVEMENT (Cont'd.)

45. Curb and Gutter

- A. Description: The Contract Unit Price on this item includes furnishing all labor, equipment, and materials required for forming, placing, and curing of the concrete curb and gutter to the line and grade as shown on the plans, including excavation, backfill, reinforcing steel, removal of existing curb and gutter, and all joints and joint materials. All work shall be done in accordance with the plans and specifications.
- B. Method of Measurement & Basis of Payment: The length of curb and gutter to be paid for at the Contract Unit Price will be determined by measurement along the face of the curb as actually installed, with no deductions in length for catch basins, inlet castings or gutters through concrete driveway openings.

46. Subgrade Preparation

- A. Description: The work of subgrade preparation includes furnishing all labor, equipment, and material necessary for clearing and grubbing, including all tree and bush removal, tree trimming, topsoil stripping, grading to shape the earth to develop the typical cross section shown on the plans, and any additional excavation required to construct the pavement to the grade shown on the plans.
- B. Method of Measurement & Basis of Payment: This item will be paid on a basis of lineal feet of pathway for work completed according to the specifications.

50-59 LANDSCAPE

50. Retaining Wall

- A. Description: The Contract Unit Price for this item includes all labor, equipment, and materials required in connection with the construction of a retaining wall, as shown on the plans. All work shall be done in accordance with the plans and specifications.
- B. Method of Measurement & Basis of Payment: Retaining walls will be measured by the square foot of the exposed face, above the pathway/sidewalk.

51. Fence

- A. Description: The Contract Unit Price for this item includes all labor, equipment, and materials required in connection with the construction of a fence, as shown on the plans. All work shall be done in accordance with the plans and specifications.
- B. Method of Measurement & Basis of Payment: The fence will be measured along the centerline of the fence, from centerline to centerline of the end posts.

52. Ditching

- A. Description: The Contract Unit Price on this item includes all excavation, and grading to develop the cross sections such that upon completion of site restoration the final grade shall be within plus or minus 0.1 foot of the required lines and grade. This item will also include clearing the work site of all trees, brush, structures and other objects which interfere with the performance of the work. All work shall be done in accordance with the plans and specifications. Final restoration will be paid for separately.
- B. Method of Measurement & Basis of Payment: This item will be paid for at the Contract Unit Price when the required cross section has been obtained. Measurement will be made along the centerline of the ditch. Payment for any final trimming of the subgrade required prior to site restoration is included in this pay item.

PAY ITEMS (DIVISION 7)

7.02 SPECIFIC PAY ITEMS

50-59 LANDSCAPE (Cont'd.)

53. Erosion Control

- A. Description: The Contract Unit Price on these items includes all labor, equipment, and material necessary to install and maintain the specified erosion control device(s).
- B. Method of Measurement & Basis of Payment: This item will be paid for at the Contract Unit Price for each erosion control item used.

54. Site Restoration

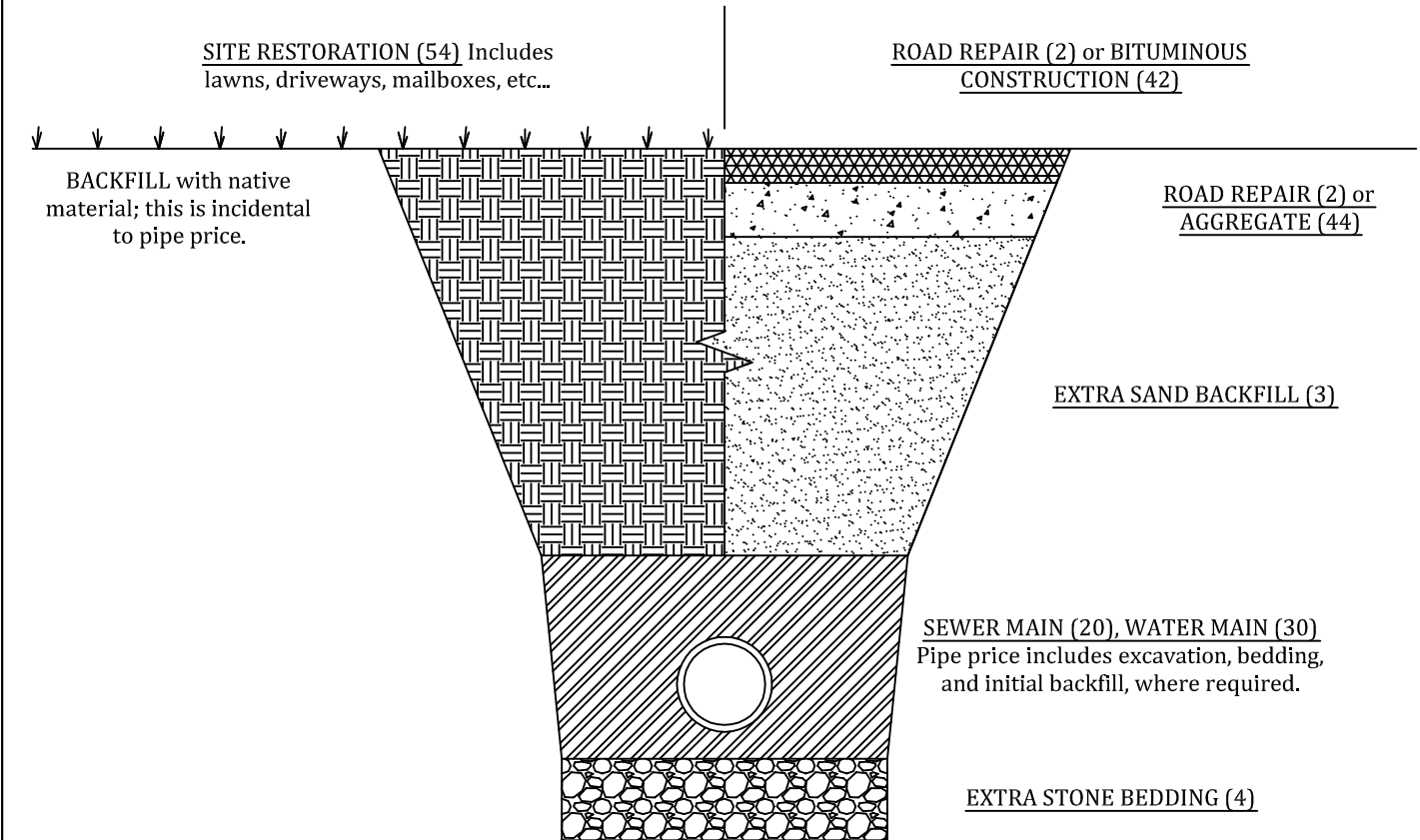
- A. Description: The Contract Unit Price on this item includes restoration of the ground surface to at least its preconstruction state. Specific examples are final grading of the top three inches of ground surface, furnishing and installation of seed and mulch, driveway and parking area repair, culvert replacement, sidewalk repair, replacement of signs, mailboxes, and fences, plus all other miscellaneous work associated with the complete restoration of the project site. The slope between new sidewalks and a lawn shall not exceed 1:3. All work shall be done in accordance with the plans and specifications.
- B. Method of Measurement & Basis of Payment: This item will be paid for at the Contract Unit Price when the complete project site has been restored to its original condition.

55. Drainage Pipe

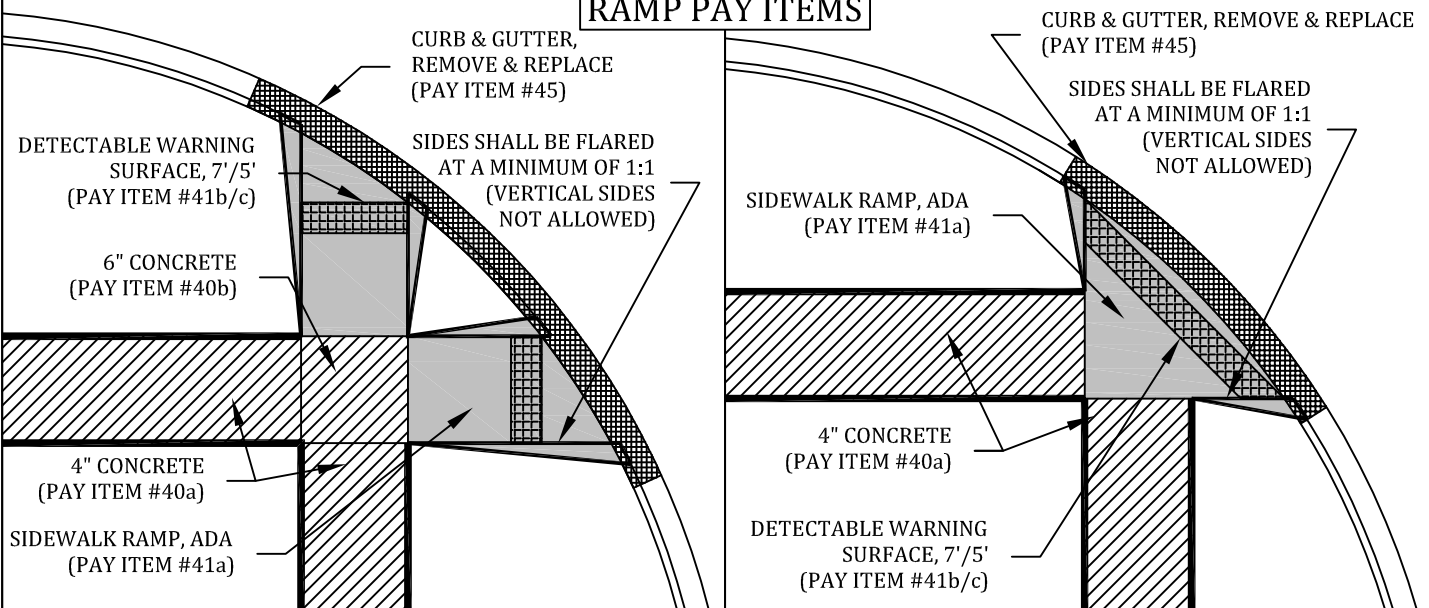
- A. Description: The Contract Unit Price on these items includes all labor, equipment, and material necessary to install drainage pipe of the type and size specified, as shown on the plans.
- B. Method of Measurement & Basis of Payment: This item will be paid for at the Contract Unit Price for the length installed, as measured along the ground surface.

PAY ITEM SCHEMATICS

TRENCH PAY ITEMS



RAMP PAY ITEMS



CONCRETE REPAIR CONTRACT 2022

SPECIAL PROVISIONS

These Special Provisions are in addition to the provisions in the General and Technical Specifications and supersede the other specifications in the event of a conflict.

GENERAL

LOCATION AND ORDER OF REPAIRS – Appendix A lists all of the current repair locations. Appendix B details the ADA sidewalk ramps and curb to be improved in association with local road resurfacing. The quantities listed in Appendix B are estimated; the actual amount will be identified and marked in the field.

Appendix A also lists Order to Maintain repairs. These are various sidewalk replacements throughout a specific subdivision. The subdivisions have been selected (see maps – Appendix C) but the exact repair addresses have not been identified. The quantities listed in Appendix A are estimated; the actual amount will be identified and marked in the field.

The order of repairs will generally begin with the ROAD RAMPS and CURB, to be coordinated with the Township's paving contractor. The WATER REPAIRS and the PATHWAY REPAIRS will follow, or be interspersed with the road work, as appropriate. The ORDER TO MAINTAIN locations will be last. Additional repairs typically develop throughout the duration of the contract. **Any additional repairs must be addressed within two (2) weeks of the Contractor being notified, pending other work related to this contract.**

COORDINATION – Local road resurfacing, associated with the work in Appendix B, is being bid as a separate asphalt contract. The bid timeframe for the asphalt contract is the same as this Concrete Repair Contract. Contractors selected for both the concrete work and the roadway work will be at a joint preconstruction meeting to facilitate coordination. The Contractors shall coordinate to complete a Progress Schedule (*MDOT Form 1130*, see page **PS-1**).

CONTRACTOR PRESENCE & CONTINUITY OF WORK – Once begun, the Contractor shall prosecute the work without delay until all contract work has been substantially completed. It is expected that at least one crew will be required onsite for the majority of the construction season. In order to get out in front of the asphalt contractor with the associated road work (Appendix B), the use of two or more crews may be required.

If the selected Contractor cannot make sufficient progress, the Township may award portions of the work to multiple contractors.

NOTIFICATION – The Contractor shall notify the homeowner to mark private utilities seven (7) days prior to work in front of the subject property. In addition, the Contractor shall notify the homeowner a minimum of 24 hours before removing any driveway concrete. Meridian Township will supply the Contractor with the necessary notification forms (door hangers).

SEQUENCE OF EVENTS – Construction shall proceed in the following order without delay: *Traffic Control Setup, Concrete Removal, Concrete Placement, Basic Restoration, and Traffic Control Removal*. **Install new concrete within 24 hours of concrete removal.**

TESTING – The Contractor will be responsible for scheduling concrete and compaction testing at the direction of the Engineer. Testing will be done by Soil and Materials Engineers, Inc. (SME), (517) 887-9181. The cost will be paid by Meridian Township, except for any wait time.

RESTORATION – Restoration is incidental for those areas which are disturbed as part of the concrete replacement. Areas which were disturbed prior to the work under this contract (e.g. water repairs), or where slope or grade changes necessitate large areas of cut or fill (e.g. ramp improvements), will be paid for separately as **Extra Restoration**. Restore the disturbed areas to grade with three (3) inches of screened topsoil, using only hydroseeding or hand-seeding with fertilizer, loose mulch, and a spray-applied tackifier.

TREE TRIMMING – Trimming of all shrubs, foliage, and tree limbs up to six (6) inches in diameter which are closer than two (2) feet from the edge of or nine (9) feet above the sidewalk is incidental to the contract. Cuts are to be made cleanly and at the trunk.

PROPERTY IRONS – A licensed surveyor shall reestablish property irons in the proper location, if disturbed. Buried property irons shall be extended using ½" diameter rods. The Contractor shall pay for reestablishment.

ROAD RIGHT-OF-WAY – All work in the road right-of-way is done under permit and approval of the Ingham County Road Department (ICRD) or the Michigan Department of Transportation (MDOT). The Contractor shall secure the necessary right-of-way permit(s) from ICRD (see section RC for ICRD permit specifications); Meridian Township will secure any necessary MDOT permit(s).

CLEANLINESS – Clean adjacent pavement and lawn areas of any mess created during construction, especially cement deposited by construction tools. Cleanup shall occur on a daily basis.

PROTECTION – Do not place concrete on frozen ground. Where overnight temperatures are projected to be 35°F or below, protect the concrete with insulated blankets.

SIGN RELOCATION – Careful removal and relocation of signs or posts, especially in conjunction with the ramp upgrades (Appendix B), is incidental to the contract work.

PAY ITEMS

1. **TRAFFIC CONTROL** – This pay item includes all labor, equipment, and materials necessary to provide and maintain traffic control devices that are in accordance with the Michigan Manual of Uniform Traffic Devices, and meet all ICRD and MDOT permit requirements, when applicable. Additionally, a lighted, Type II barricade must be placed on either side of each repair location, as a physical barrier to sidewalk users. The lights must be maintained in good working order throughout the duration of the contract.

See Appendix D for the typical details covering the majority of situations found in this contract.

TRAFFIC CONTROL shall be paid for at the Contract Unit Price on the following basis: after first use of traffic control measures 25% of **Traffic Control** will be paid; once 50% of the original contract price is completed 50% of **Traffic Control** will be paid; once 75% of the original contract price is completed 75% of **Traffic Control** will be paid; once the contract work is complete 100% of **Traffic Control** will be paid.

9. **PAVT, REM, CONCRETE** – This pay item includes all labor, equipment, and material necessary to remove and dispose of existing concrete as marked in the field by the Engineer and as described herein. The Contractor shall **SAWCUT** the existing pavement to ensure clean and proper concrete removal. The concrete shall be sawcut to the full thickness of the slab. Sawcutting is incidental to the concrete removal and replacement process. Any additional removal, necessitated by damage caused by the Contractor, is incidental. Removal of any other materials, including bituminous materials or gravel, is incidental.

Dust masks must be used during all sawcutting activity. Use of a wet saw is required in the vicinity of Thistlewood and Crooked Creek, and as directed by the Engineer.

All roots located beneath repair locations shall be removed. All roots and debris removed shall be properly disposed of. The subgrade shall be backfilled with class II granular material, if necessary, and compacted prior to pouring concrete.

21a. **MANHOLE, CASTING, ADJ** – This pay item includes all labor, equipment, and material necessary to remove an existing manhole casting, clean and prep the manhole cone, install new concrete riser rings, and re-install the existing casting. Apply non-shrink mortar on the inside and outside of the new chimney.

21b. **MANHOLE, CASTING, ADA COMPLIANT** – This pay item includes all labor, equipment, and material necessary to furnish and install a new ADA compliant cast iron storm casting from East Jordan Iron Works (EJ Co.).

32a.b. **ADJUST, CURB BOX / ADJUST, VALVE BOX** – This pay item includes all labor, equipment, and material necessary to adjust a curb box (pay item #32a) or a valve box (pay item #32b) below the finished concrete grade and install a Township provided frost riser flush with the finished grade of concrete. Township Water Department personnel may be available to adjust curb or valve boxes, to be coordinated with the Engineer. If Township personnel perform the adjustment the Contractor will still be required to install the Township provided riser but no payment will be made for the adjustment. If the Contractor damages any of the water utilities, Township personnel will repair the utilities at the Contractor’s cost.

40a-c. **CONCRETE, 4/6/7 INCH** – This pay item includes all labor, equipment, and material necessary to install concrete of the specified depth in accordance with Division 4 and the Pathway/Sidewalk Detail Sheet. This work includes joining the proposed concrete to the existing concrete as shown in the Concrete Pinning Detail on the Detail Sheet.

41a. **SIDEWALK RAMP, ADA** – This pay item includes all labor, equipment, and material necessary to install sidewalk ramps in accordance with MDOT Standard Plan R-28 and the Meridian Township Pathway/Sidewalk Detail Sheet. The ramp shall be six (6) inches thick with no lip between the gutter and the ramp.

Payment will be made as described and depicted in Division 7 (Pay Items), page 10. Payment for curb and gutter work will be made separately as **Curb & Gutter, Remove**, or **Curb & Gutter, Install**. However, the sidewalk ramp shall be poured separately from the adjacent gutter pan and shall be connected to it by installing #4 epoxy-coated rebar at 16 inches on-center at least nine (9) inches into each element. Per the ICRD the sidewalk ramp may not be poured monolithic with the curb and gutter.

The sides of ramps shall be flared (see Division 7, page 10) at a minimum of 1:1. Vertical sides are not allowed. Any vertical sides will be removed and replaced at the Contractor’s expense.

The Contractor is responsible to ensure that all new sidewalk ramps meet ADA requirements as detailed on MDOT Standard Plan R-28 and described herein. The Engineer will be available to provide advice and any necessary interpretation of the specification; however, final responsibility for the proper installation of the ramps lies with the Contractor. Any noncompliant work for ADA Sidewalk Ramps will be removed and replaced at the Contractor’s expense.

41b.c. **DETECTABLE WARNING SURFACE, 7’/5’** – These pay items include all labor, equipment, and material necessary to install the requisite detectable warning surfaces, as described herein.

Pay Item #41b shall be East Jordan Iron Works (EJ Co.) DURALAST plates, product lines 7005/7006, with Black Asphaltic Coating. Where the detectable warning surface is placed perpendicular to the direction of pedestrian travel the plates shall be EJIW 7005; where the detectable warning surface is placed radially at the back-of-curb the plates may be EJIW 7005 or 7006, see note below.

Pay Item #41c shall be a cast-in-place detectable warning surface, of “Brick Red” color, such as one of the following, or approved equal:

- ARMOR-TILE, Standard Cast-In-Place, www.armor-tile.com
- ARMOR-TILE, Replaceable Cast-In-Place, www.armor-tile.com
- ADA SOLUTIONS, Wet Set ADA Replaceable Unit, www.adatale.com
- ADA SOLUTIONS, Embedment Panel System, www.adatale.com

Note: Where the detectable warning surface is required to follow the back-of-curb, either radial or straight plates may be utilized. Where straight plates are utilized the sides must be cut to provide complete coverage of the detectable warning surface (see MDOT Standard Plan R-28, sheet 4).

44. **AGGREGATE, CRUSHED** – This pay item includes all labor, equipment, and material necessary to install crushed stone or concrete, graded to an MDOT 6A or larger, for use as a drainage layer. Such aggregate shall be wrapped in **Geotextile, Separator**.

45a.b. **CURB & GUTTER, REMOVE/REPLACE** – These pay items include all labor, equipment, and material necessary to remove and replace curb and gutter. New curb and gutter shall be tied to the existing with 18 inch, #4 epoxy coated dowels drilled 9 inches into the adjacent curb in accordance with ICRD requirements.

Sawcut along the front edge of curb to be removed, when adjacent to asphalt that is in good condition. Carefully remove such curb and gutter away from the roadway to prevent damage to the asphalt. Any damage caused by the Contractor shall be repaired at their sole expense. Use **HMA, 13A** to repair such damage. Asphalt shall be used to repair the road only; asphalt shall not extend onto adjacent curb, gutter, or ramps, unless directed by the Engineer. Damaged asphalt shall be sawcut in order to provide a proper surface for the asphalt repair. All such asphalt repair work shall be considered incidental.

Where the asphalt roadway is being replaced (Appendix B), sufficient asphalt may be removed to facilitate proper placement of the new curb and gutter. Use millings or cold patch to fill the resultant void and provide a temporary safe and drivable surface.

53. **RIPRAP** – This pay item includes all labor, equipment, and material necessary to install riprap material as directed by the Engineer, and as described herein. Use only natural stone or broken concrete, with sharp edges sufficient to lock together on a 1:1 slope. Place the riprap material over the top of **Geotextile, Separator** at a minimum of six (6) inches thick, measured perpendicular to the slope. Begin placement at the toe of the slope and progress upward, ensuring that all adjacent pieces are thoroughly interlocked and embedded into the slope.

54. **EXTRA RESTORATION** – This pay item includes all labor, equipment, and material necessary to restore areas which were disturbed prior to the work under this contract (e.g. water repairs), or where slope or grade changes necessitate large areas of cut or fill (e.g. sidewalk ramps). Restore the disturbed areas to grade with three (3) inches of screened topsoil, using only hydroseeding or hand-seeding with fertilizer, loose mulch, and a spray-applied tackifier.

55. **GEOTEXTILE, SEPARATOR** – This pay item includes all labor, equipment, and material necessary to install the specified geotextile in accordance with Section 308 of the MDOT Standard Specifications for Construction.

CONCRETE REPAIR LOCATIONS

#	LOCATION	#9 PAVT. REM, CONCRETE (SY)	#21a MANHOLE, CASTING, ADJ (EA)	#21b MH, CAST, ADA COMPL (EA)	#32a WATER, CURB BOX, ADJ (EA)	#32b WATER, VALVE BOX, ADJ (EA)	#40a CONCRETE, 4 INCH (SF)	#40b CONCRETE, 6 INCH (SF)	#40c CONCRETE, 7 INCH (SF)	#41a SIDEWALK RAMP, ADA (SF)	#41b DET WRNG SRF, 7 FT (SF)	#41c DET WRNG SRF, 5 FT (SF)	#44 AGG, CRUSHED (TN)	#45a CURB & GUTTER, REM (FT)	#45b CURB & GUTTER, INST (FT)	#53 RIPRAP (SY)	#54 EXTRA REST (SY)	#55 GEOTEX, SEP. (SY)	
PATHWAY REPAIRS:																			
1	Burcham & W. Hidden Lake (south side @ drain)	11.5					105						10.0			9.0			40
2	Cornell & Hatch (pathway through woods)	23					206.5												
3	Dobie & Country View, NW	26.5					162			75	24			15	15				
4	955 Haslett (to the east @ drain)	11.5					105						10.0		9.0				40
5	2260 Jolly Oak (along Okemos Road)	13					119												
6	5151 Marsh (Municipal Complex)	15.5					140												
7	Marsh & Thihart (west side)	39					350						60.0		67.0				120
8	5968 Park Lake (south of The Marquette)	8					70										5		
9	Park Lake & Meadow Woods (to the north)	8					70												
10	Powell & Thihart (west of the drain)						70			35	14						10		
WATER REPAIRS:																			
1	1250 Ethel						70											5	
2	2220 Kenmore	9						80										5	
3	Marsh & Lake Lansing, NE & SE						140											5	
4	4321 Okemos (Okemos library)	3.5								30		12							
5	1606 Pebblestone	11						200											
6	6353 E. Reynolds	9						80											
7	2045 Towner (Towner Road Park)													10	10		5		
***	Future Water Repairs (Estimate)	80	1	1	2	2	1,000	500.5	250					50	50		200		
SUBDIVISION / OTM REPAIRS:																			
***	Order to Maintain Repairs (see map in Appendix C)	556					4000	1000											
estimated quantities for bid, approximately 150 repair locations																			
LOCAL ROADS:																			
***	Ramps & Curb (see Appendix B)	1,199.0	21	3			5,246.5	1,255.0		4,669.5	138	973		7,280	7,280		902		
1	1122 W. Woodside	9						81						20.0	20.0				
TOTAL		2,032.5	22.0	4.0	2.0	2.0	11,854.0	3,196.5	250.0	4,809.5	176.0	985.0	80.0	7,375.0	7,375.0	85.0	1,137.0	200.0	
***	RDS																		
1																			

List Date
4/11/2022

2022 ROAD IMPROVEMENTS FOR CHARTER TOWNSHIP OF MERIDIAN INGHAM COUNTY MICHIGAN

AREA A:
ROYAL OAK DRIVE
SUNHOLLOW COURT
WILDER STREET
WILDER COURT
CREST STREET

AREA B:
OAK PARK TRAIL
WILD GINGER TRAIL
WOODWIND TRAIL

AREA C:
AMBER DRIVE
RAPHAEL ROAD
BLUE HAVEN DRIVE
BLUE HAVEN COURT
LINDEN STREET

AREA D:
QUARRY ROAD
JESSALEE CIRCLE
LAMPEN DRIVE

AREA E:
HURON HILL DRIVE

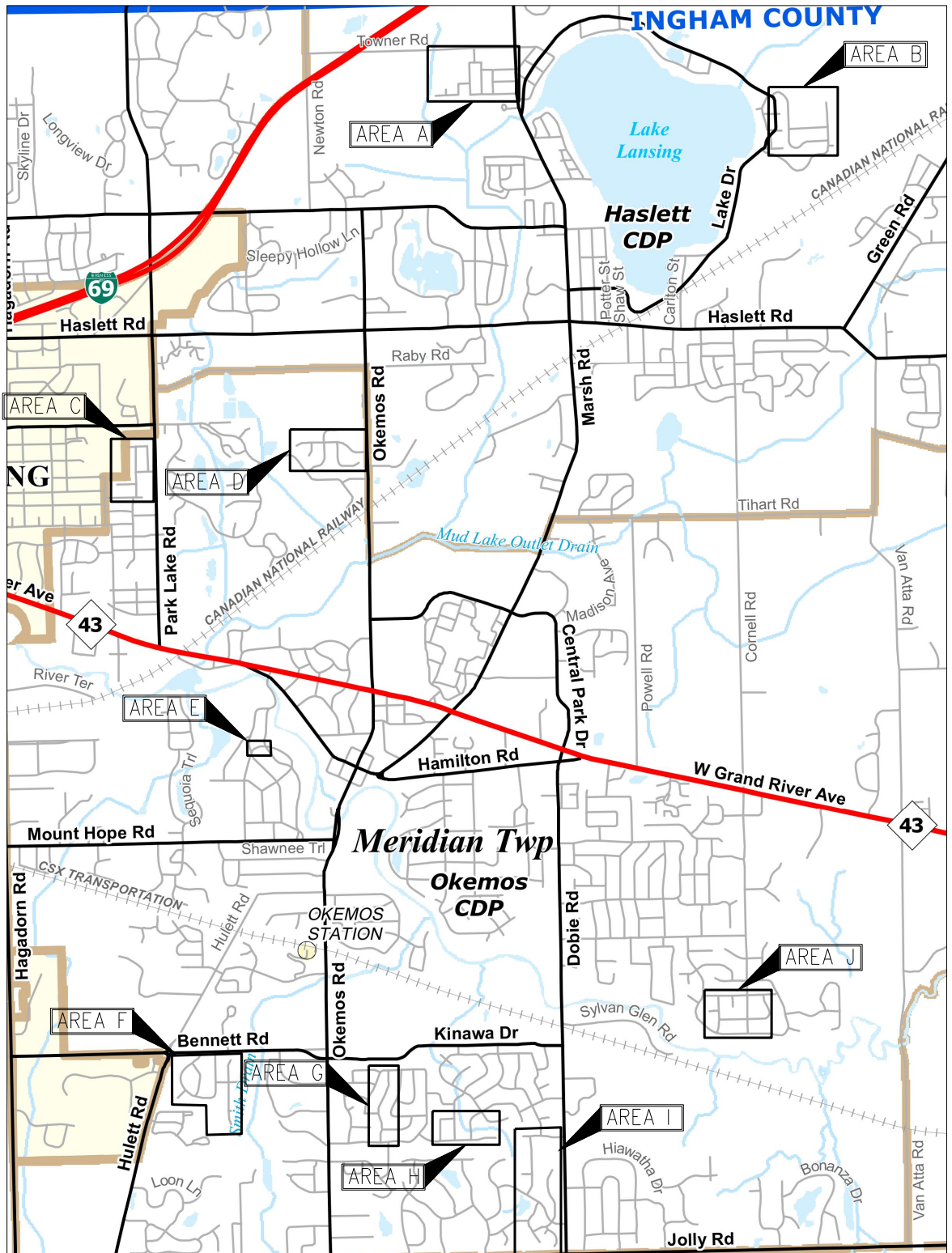
AREA F:
WINDY HEIGHTS DRIVE
AEOLION DRIVE
SUNWIND DRIVE

AREA G:
SANDLEWOOD DRIVE

AREA H:
THISTLEWOOD ROAD
YOSEMITE DRIVE
CIMARRON DRIVE

AREA I:
SASHABAW COURT
CREEKVIEW TERRACE
CHIPPENDALE DRIVE

AREA J:
SPICE CIRCLE
WHARF DRIVE
MIZZEN DRIVE



PREPARED BY:

PREPARED FOR:



TECHNICAL SKILL.
CREATIVE SPIRIT.



5151 MARSH ROAD
OKEMOS, MI 48864

CHARTER TOWNSHIP OF MERIDIAN 2022 ROADWAY IMPROVEMENTS

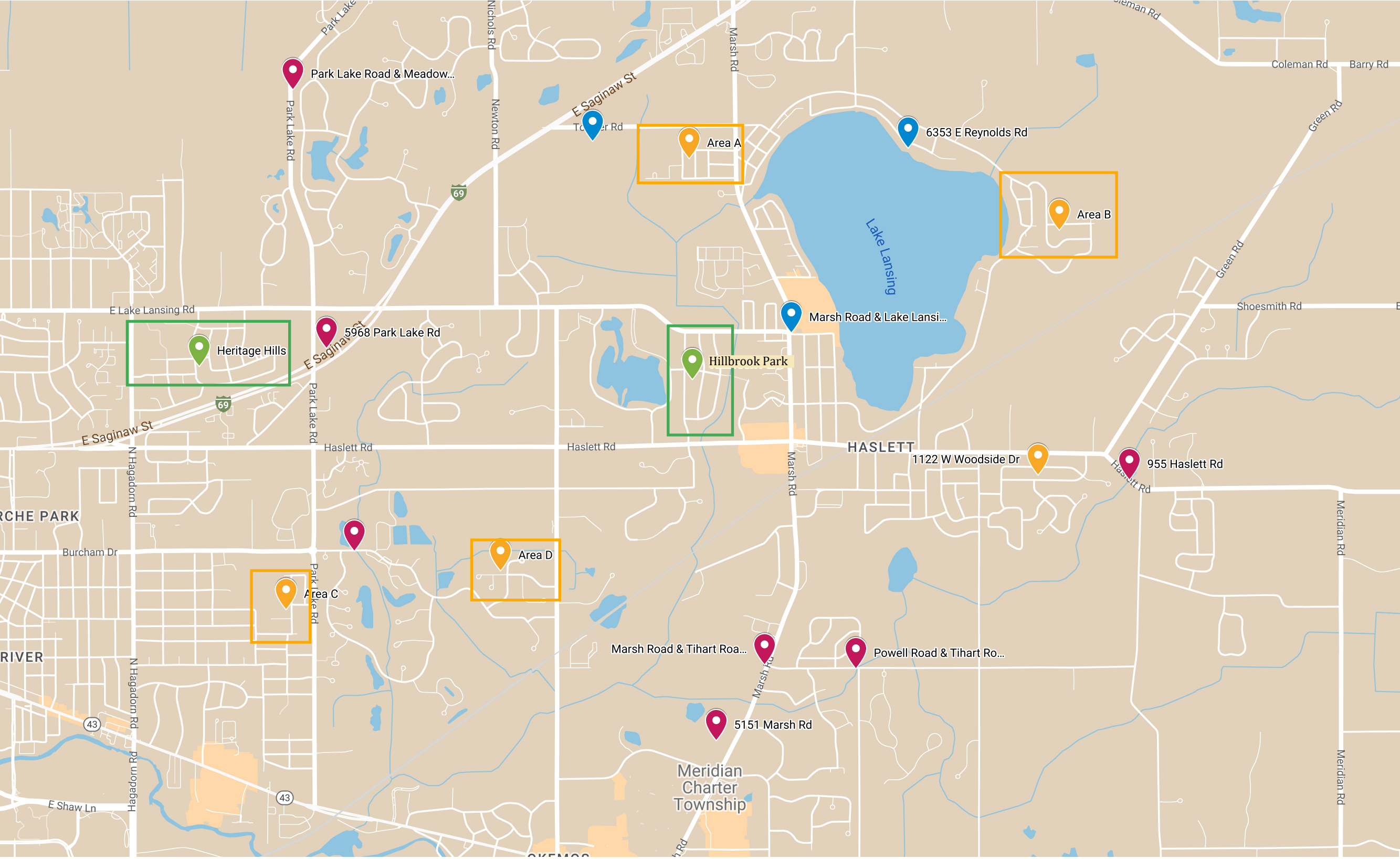
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DATE: 03/03/2022
PROJ. NO.: M4150014
DRAWN BY: KHW
REVISION: CAV

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Concrete Repair Contract 2022

- 2022 Pathway Repairs
 - All items
- 2022 Water Repairs
 - All items
- 2022 Local Road - Ramps & Curb
 - All items
- 2022 Order to Maintain - Subdivision Sidewalks
 - All items



Concrete Repair Contract 2022

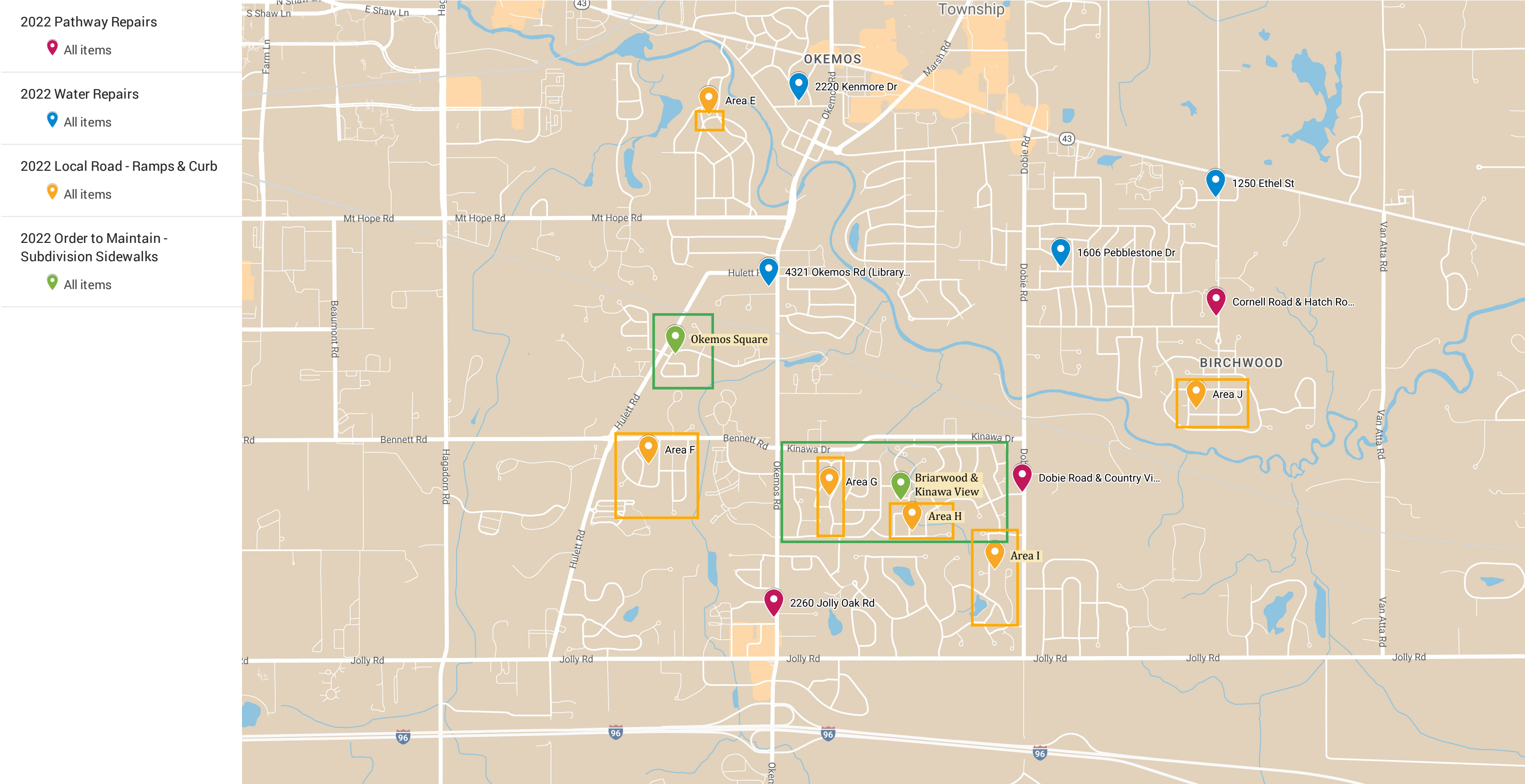


Table 6H-2. Meaning of Symbols on Typical Application Diagrams (MI)
























	Arrow panel
	Arrow panel support or trailer (shown facing down)
	Changeable message sign or support trailer
	Channelizing device
	Crash Cushion
	Direction of temporary traffic detour
	Direction of traffic
	Traffic Regulator
	High level warning device (Flag tree)
	Luminaire
	Pavement markings that should be removed for a long term project
	Sign (shown facing left)
	Surveyor
	Temporary barrier
	Temporary barrier with warning lights
	Traffic or Pedestrian signal
	Truck mounted attenuator
	Type III Barricade
	Warning lights
	Work space
	Work vehicle

Table 6H-3. Meaning of Letter Codes on Typical Application Diagrams

Road Type	Distance Between Signs**		
	A	B	C
Urban (low speed)*	30 (100)	30 (100)	30 (100)
Urban (high speed)*	100 (350)	100 (350)	100 (350)
Rural	150 (500)	150 (500)	150 (500)
Expressway / Freeway	300 (1,000)	450 (1,500)	800 (2,640)

* Speed category to be determined by highway agency

** Distances are shown in meters (feet). The column headings A, B, and C are the dimensions shown in Figures 6H-1 through 6H-46. The A dimension is the distance from the transition or point of restriction to the first sign. The B dimension is the distance between the first and second signs. The C dimension is the distance between the second and third signs. (The third sign is the first one in a three-sign series encountered by a driver approaching a TTC zone.)

Table 6H-4. Formulas for Determining Taper Lengths

Speed Limit (S)	Taper Length (L) Meters	Speed Limit (S)	Taper Length (L) Feet
60 km/h or less	$L = \frac{WS^2}{155}$	40 mph or less	$L = \frac{WS^2}{60}$
70 km/h or more	$L = \frac{WS}{1.6}$	45 mph or more	$L = WS$

Where: L = taper length in meters (feet)

W = width of offset in meters (feet)

S = posted speed limit, or off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in km/h (mph)

Notes for Figure 6H-18—Typical Application 18 (MI)
Lane Closure on Minor Street

Standard:

1. This TTC shall be used only for low-speed facilities having low traffic volumes.

Option:

2. Where the work space is short, where road users can see the roadway beyond, and where volume is low, vehicular traffic may be self-regulating.

Standard:

3. Where vehicular traffic cannot effectively self-regulate, one or two traffic regulators shall be used as illustrated in Figure 6H-10.

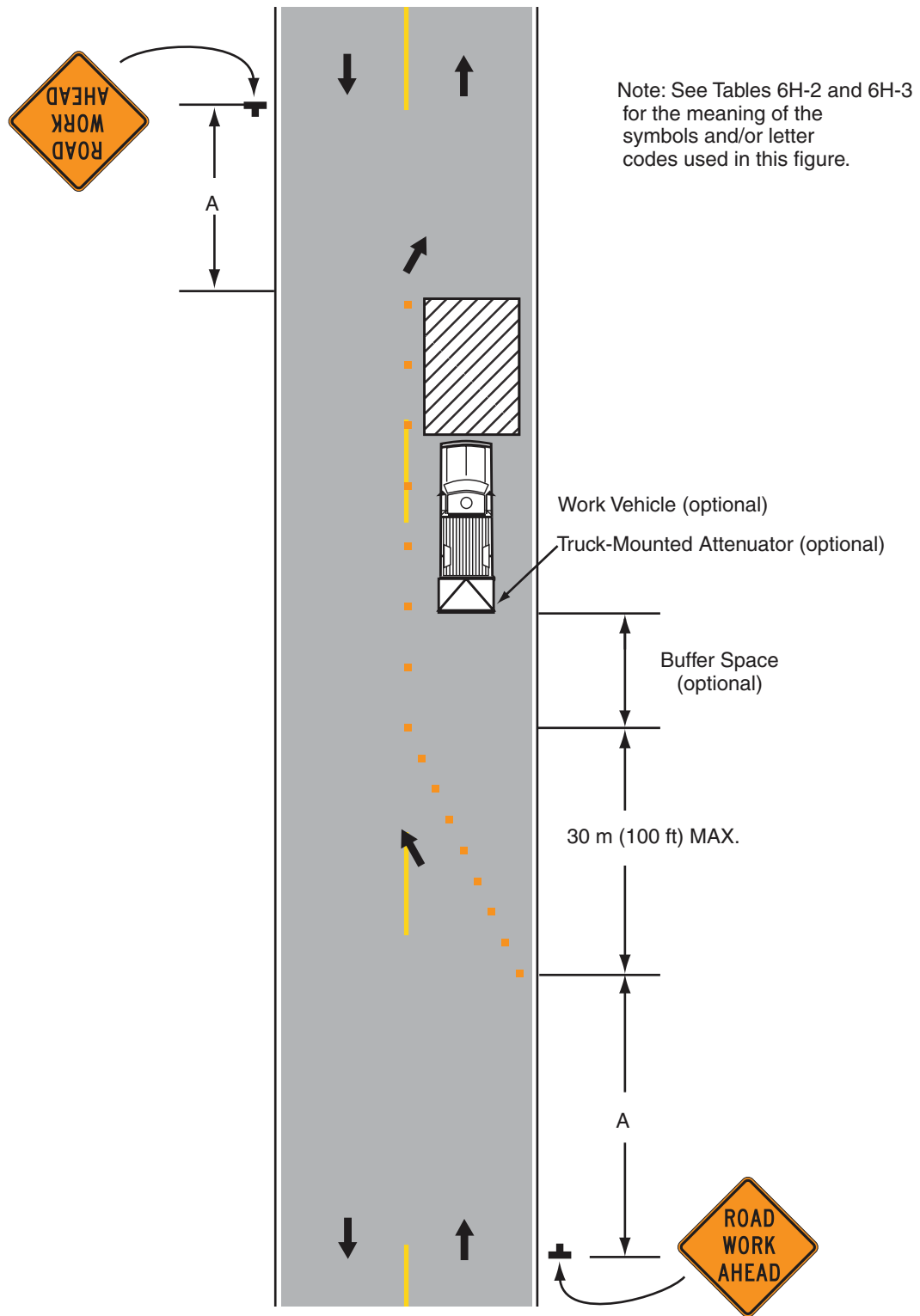


Option:

4. Flashing warning lights and/or flags may be used to call attention to the advance warning signs.
5. A truck-mounted attenuator may be used on the work vehicle and the shadow vehicle.



Figure 6H-18. Lane Closure on Minor Street (MI) (TA-18)



Typical Application 18

MINIMUM MERGING TAPER LENGTH "L" (FEET)

OFFSET FEET	POSTED SPEED LIMIT, MPH (PRIOR TO WORK AREA)									
	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

TAPER LENGTH "L" IN FEET

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	M0020d
CHECKED BY: BMM	PLAN DATE:	1 OF 2	
FILE: K:/DGN/TSR/STDS/ENGLISH/MNTTRF/M0020a.dgn		REV.	08/21/2006

DISTANCE BETWEEN TRAFFIC CONTROL DEVICES "D"
AND LENGTH OF LONGITUDINAL BUFFER SPACE ON
"WHERE WORKERS PRESENT" SEQUENCES


"D" DISTANCES	POSTED SPEED LIMIT, MPH (PRIOR TO WORK AREA)									
	25	30	35	40	45	50	55	60	65	70
D (FEET)	250	300	350	400	450	500	550	600	650	700

GUIDELINES FOR LENGTH OF
LONGITUDINAL BUFFER SPACE "B"



SPEED* MPH	LENGTH FEET
20	33
25	50
30	83
35	132
40	181
45	230
50	279
55	329
60	411
65	476
70	542

* POSTED SPEED, OFF PEAK 85TH PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED

1 BASED UPON AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) BRAKING DISTANCE PORTION OF STOPPING SIGHT DISTANCE FOR WET AND LEVEL PAVEMENTS (A POLICY ON GEOMETRIC DESIGN OF HIGHWAY AND STREETS), AASHTO. THIS AASHTO DOCUMENT ALSO RECOMMENDS ADJUSTMENTS FOR THE EFFECT OF GRADE ON STOPPING AND VARIATION FOR TRUCKS.

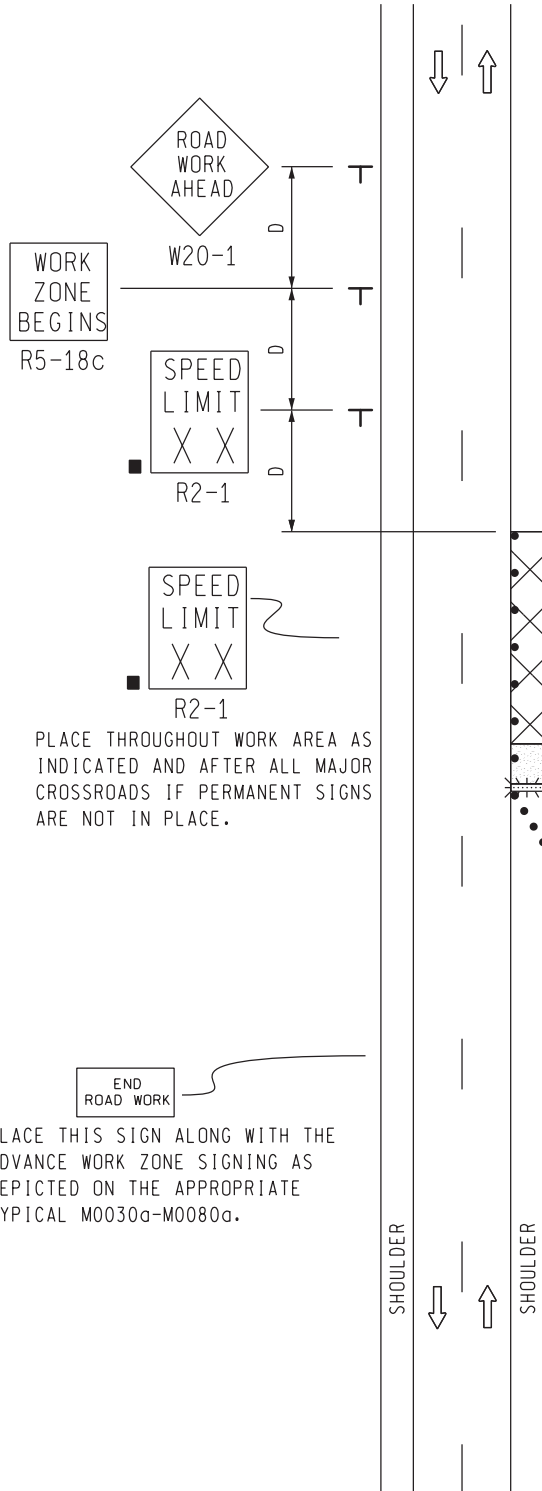
 TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL	TABLES FOR "L", "D" AND "B" VALUES		
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FILE: K:/DGN/TSR/STDS/ENGLISH/MNTTRF/M0020a.dgn REV. 08/21/2006			

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 ft± - TYPE B
 W/PLAQUE = 132 ft± - TYPE B
 PLUS ADDITIONAL R2-1's
 THROUGHOUT WORK AREA

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.

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.

MDOT
 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	OCTOBER 2011	M0110a	SHEET 1 OF 2
CHECKED BY: BMM:CRB	PLAN DATE:		
FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0110a.dgn REV. 10/04/2011			

NOTES


1. D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES
 $1/3 L$ = MINIMUM LENGTH OF TAPER
 B = LENGTH OF LONGITUDINAL BUFFER
 SEE M0020a FOR "D," "L," AND "B" VALUES
2. ALL NON-APPLICABLE SIGNING WITHIN THE CIA SHALL BE MODIFIED TO FIT CONDITIONS, COVERED OR REMOVED.
3. DISTANCES BETWEEN SIGNS, THE VALUES FOR WHICH ARE SHOWN IN TABLE D, ARE APPROXIMATE AND MAY NEED ADJUSTING AS DIRECTED BY THE ENGINEER.
- 3A. THE "WORK ZONE BEGINS" (R5-18c) SIGN SHALL BE USED ONLY IN THE INITIAL SIGNING SEQUENCE IN THE WORK ZONE. SUBSEQUENT SEQUENCES IN THE SAME WORK ZONE SHALL OMIT THIS SIGN AND THE QUANTITIES SHALL BE ADJUSTED APPROPRIATELY.
- 4E. THE MAXIMUM RECOMMENDED DISTANCE(S) BETWEEN CHANNELIZING DEVICES SHOULD BE EQUAL IN FEET TO THE POSTED SPEED IN MILES PER HOUR ON TAPER(S) AND TWICE THE POSTED SPEED IN THE PARALLEL AREA(S).
5. FOR OVERNIGHT CLOSURES, TYPE III BARRICADES SHALL BE LIGHTED.
6. WHEN CALLED FOR IN THE FHWA ACCEPTANCE LETTER FOR THE SIGN SYSTEM SELECTED, THE TYPE A WARNING FLASHER, SHOWN ON THE WARNING SIGNS, SHALL BE POSITIONED ON THE SIDE OF THE SIGN NEAREST THE ROADWAY.
7. ALL TEMPORARY SIGNS, TYPE III BARRICADES, THEIR SUPPORT SYSTEMS AND LIGHTING REQUIREMENTS SHALL MEET NCHRP 350 CRASHWORTHLY REQUIREMENTS STIPULATED IN THE CURRENT EDITION OF THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS. ONLY DESIGNS AND MATERIALS APPROVED BY MDOT WILL BE ALLOWED.
8. WHEN BUFFER AREAS ARE ESTABLISHED, THERE SHALL BE NO EQUIPMENT OR MATERIALS STORED OR WORK CONDUCTED IN THE BUFFER AREA.
- 29A. THE TYPE OF REFLECTIVE SHEETING USED FOR THE W20-1a PLAQUE SHALL BE THE SAME AS THE TYPE USED FOR THE PARENT SIGN.

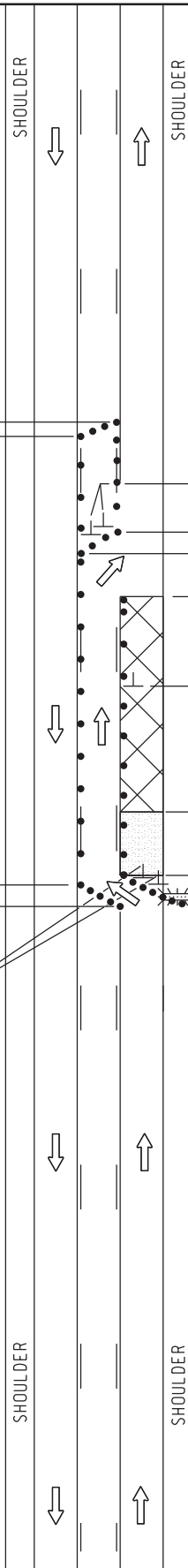
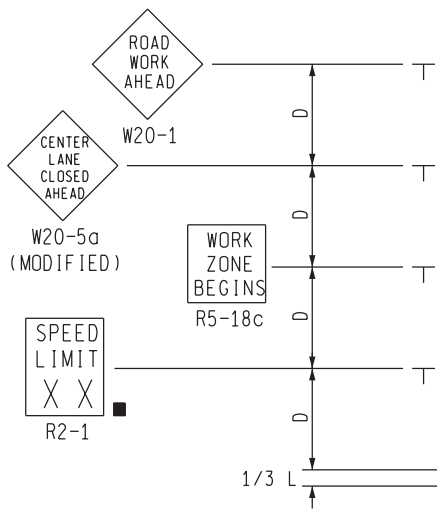
SIGN SIZES

DIAMOND WARNING	- 48" x 48"
W20-1a PLAQUE	- 48" x 36"
R2-1 REGULATORY	- 48" x 60"
R5-18c REGULATORY	- 48" x 48"

APX - D-8

NOT TO SCALE

 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:
FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0110a.dgn REV. 10/04/2011		



END ROAD WORK

PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0050a.

SPEED LIMIT XX R2-1

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

WORK AREA VARIES

W1-4

SPEED LIMIT XX R2-1

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-M0050a.

KEY

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

SIGN = 184 ft± - TYPE B PLUS ADDITIONAL R2-1's THROUGHOUT WORK AREA

APX - D-9

NOT TO SCALE

MDOT
Michigan Department of Transportation

TRAFFIC AND SAFETY
MAINTAINING TRAFFIC
TYPICAL

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

TYPICAL TEMPORARY TRAFFIC CONTROL FOR CLOSING ONE LANE OF A THREE LANE ROADWAY WITH CLFLT0 AND SHIFTING ONE THROUGH LANE INTO THE CLFLT0 NO SPEED REDUCTION

FILE: PW: RD/T&S/Typicals/Signs/MT/MT nonFwy/M0231a	OCTOBER 2011 PLAN DATE:	M0231a	SHEET 1 OF 2
REV. 10/18/2011			

NOTES


- 1F. D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES
 $1/2 L$, AND $1/3 L$ = MINIMUM LENGTH OF TAPER
 B = LENGTH OF LONGITUDINAL BUFFER
 SEE M0020a FOR "D," "L," AND "B" VALUES
2. ALL NON-APPLICABLE SIGNING WITHIN THE CIA SHALL BE MODIFIED TO FIT CONDITIONS, COVERED OR REMOVED.
3. DISTANCES BETWEEN SIGNS, THE VALUES FOR WHICH ARE SHOWN IN TABLE D, ARE APPROXIMATE AND MAY NEED ADJUSTING AS DIRECTED BY THE ENGINEER.
- 3A. THE "WORK ZONE BEGINS" (R5-18c) SIGN SHALL BE USED ONLY IN THE INITIAL SIGNING SEQUENCE IN THE WORK ZONE. SUBSEQUENT SEQUENCES IN THE SAME WORK ZONE SHALL OMIT THIS SIGN AND THE QUANTITIES SHALL BE ADJUSTED APPROPRIATELY.
- 4E. THE MAXIMUM RECOMMENDED DISTANCE(S) BETWEEN CHANNELIZING DEVICES SHOULD BE EQUAL IN FEET TO THE POSTED SPEED IN MILES PER HOUR ON TAPER(S) AND TWICE THE POSTED SPEED IN THE PARALLEL AREA(S).
5. FOR OVERNIGHT CLOSURES, TYPE III BARRICADES SHALL BE LIGHTED.
6. THE TYPE A WARNING FLASHER SHOWN ON THE WARNING SIGNS SHALL BE POSITIONED ON THE SIDE OF THE SIGN NEAREST THE ROADWAY.
7. ALL TEMPORARY SIGNS, TYPE III BARRICADES, THEIR SUPPORT SYSTEMS AND LIGHTING REQUIREMENTS SHALL MEET NCHRP 350 CRASHWORTHY REQUIREMENTS STIPULATED IN THE CURRENT EDITION OF THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS. ONLY DESIGNS AND MATERIALS APPROVED BY MDOT WILL BE ALLOWED.
8. WHEN BUFFER AREAS ARE ESTABLISHED, THERE SHALL BE NO EQUIPMENT OR MATERIALS STORED OR WORK CONDUCTED IN THE BUFFER AREA.
21. ALL EXISTING PAVEMENT MARKINGS WHICH ARE IN CONFLICT WITH EITHER PROPOSED CHANGES IN TRAFFIC PATTERNS OR PROPOSED TEMPORARY TRAFFIC MARKINGS, SHALL BE REMOVED BEFORE ANY CHANGE IS MADE IN THE TRAFFIC PATTERN. EXCEPTION WILL BE MADE FOR DAYTIME-ONLY TRAFFIC PATTERNS THAT ARE ADEQUATELY DELINEATED BY OTHER TRAFFIC CONTROL DEVICES.

SIGN SIZES

DIAMOND WARNING	-	48" x 48"
W1-6 WARNING	-	48" x 24"
R2-1 REGULATORY	-	48" x 60"
R5-18c REGULATORY	-	48" x 48"

APX - D-10

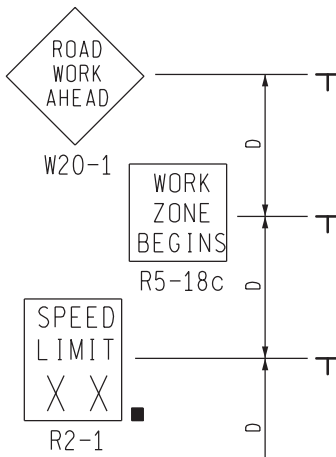
NOT TO SCALE

 MDOT Michigan Department of Transportation TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL	TYPICAL TEMPORARY TRAFFIC CONTROL FOR CLOSING ONE LANE OF A THREE LANE ROADWAY WITH CLFLTO AND SHIFTING ONE THROUGH LANE INTO THE CLFLTO NO SPEED REDUCTION		
	DRAWN BY: CON:AE:DJF	OCTOBER 2011	M0231a
CHECKED BY: BMM:CRB	PLAN DATE:	2 OF 2	
FILE: PW: RD/T&S/Typicals/Signs/MT/MT nonFwy/M0231a REV. 10/18/2011			

KEY

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

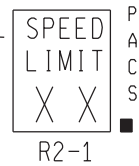
SIGN = 136 ft±2 - TYPE B PLUS ADDITIONAL R2-1's THROUGHOUT WORK AREA



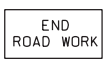
END ROAD WORK
PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0080a.



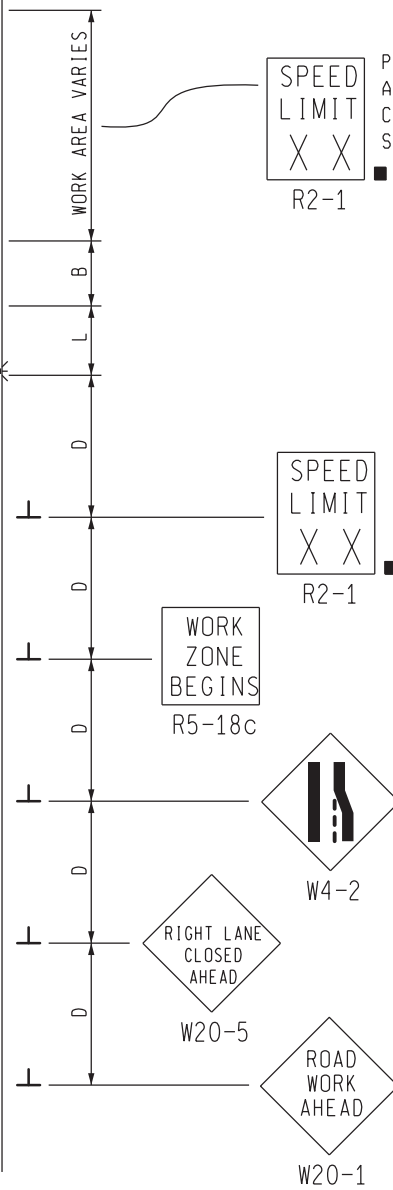
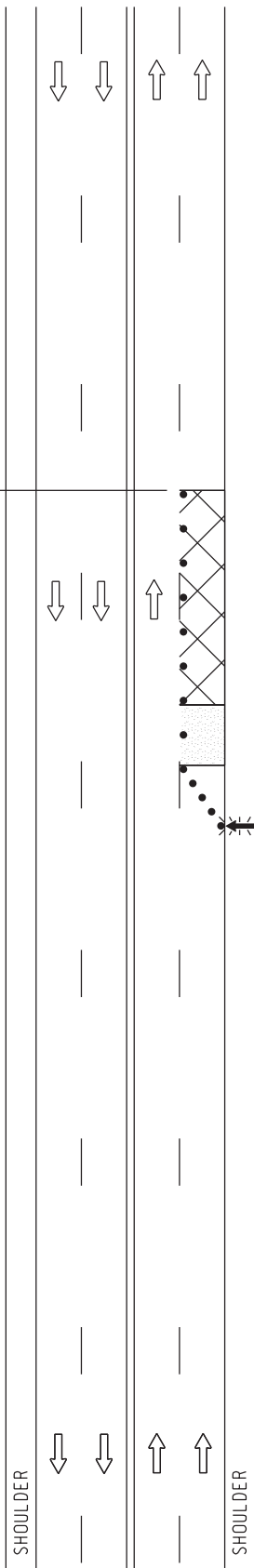
PLACE THROUGHOUT WORK AREA AS INDICATED AND AFTER ALL MAJOR CROSSROADS IF PERMANENT SIGNS ARE NOT IN PLACE.



PLACE THROUGHOUT WORK AREA AS INDICATED AND AFTER ALL 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.



<p>TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL</p>	<p>TYPICAL TEMPORARY TRAFFIC CONTROL FOR A ONE-LANE CLOSURE ON AN UNDIVIDED MULTI-LANE ROADWAY, NO SPEED REDUCTION</p>	
	<p>DRAWN BY: CON:AE:djf CHECKED BY: BMM:CRB</p>	<p>OCTOBER 2011 PLAN DATE:</p>
<p>FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0240a.dgn REV. 10/11/2011</p>		

NOTES


- 1B. D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES
L = MINIMUM LENGTH OF TAPER
B = LENGTH OF LONGITUDINAL BUFFER
SEE **M0020a** FOR "D," "L," AND "B" VALUES
2. ALL NON-APPLICABLE SIGNING WITHIN THE CIA SHALL BE MODIFIED TO FIT CONDITIONS, COVERED OR REMOVED.
3. DISTANCES BETWEEN SIGNS, THE VALUES FOR WHICH ARE SHOWN IN TABLE D, ARE APPROXIMATE AND MAY NEED ADJUSTING AS DIRECTED BY THE ENGINEER.
- 3A. THE "WORK ZONE BEGINS" (R5-18c) SIGN SHALL BE USED ONLY IN THE INITIAL SIGNING SEQUENCE IN THE WORK ZONE. SUBSEQUENT SEQUENCES IN THE SAME WORK ZONE SHALL OMIT THIS SIGN AND THE QUANTITIES SHALL BE ADJUSTED APPROPRIATELY.
- 4E. THE MAXIMUM RECOMMENDED DISTANCE(S) BETWEEN CHANNELIZING DEVICES SHOULD BE EQUAL IN FEET TO THE POSTED SPEED IN MILES PER HOUR ON TAPER(S) AND TWICE THE POSTED SPEED IN THE PARALLEL AREA(S).
5. FOR OVERNIGHT CLOSURES, TYPE III BARRICADES SHALL BE LIGHTED.
6. WHEN CALLED FOR IN THE FHWA ACCEPTANCE LETTER FOR THE SIGN SYSTEM SELECTED, THE TYPE A WARNING FLASHER, SHOWN ON THE WARNING SIGNS, SHALL BE POSITIONED ON THE SIDE OF THE SIGN NEAREST THE ROADWAY.
7. ALL TEMPORARY SIGNS, TYPE III BARRICADES, THEIR SUPPORT SYSTEMS AND LIGHTING REQUIREMENTS SHALL MEET NCHRP 350 CRASHWORTHLY REQUIREMENTS STIPULATED IN THE CURRENT EDITION OF THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS. ONLY DESIGNS AND MATERIALS APPROVED BY MDOT WILL BE ALLOWED.
8. WHEN BUFFER AREAS ARE ESTABLISHED, THERE SHALL BE NO EQUIPMENT OR MATERIALS STORED OR WORK CONDUCTED IN THE BUFFER AREA.
21. ALL EXISTING PAVEMENT MARKINGS WHICH ARE IN CONFLICT WITH EITHER PROPOSED CHANGES IN TRAFFIC PATTERNS OR PROPOSED TEMPORARY TRAFFIC MARKINGS, SHALL BE REMOVED BEFORE ANY CHANGE IS MADE IN THE TRAFFIC PATTERN. EXCEPTION WILL BE MADE FOR DAYTIME-ONLY TRAFFIC PATTERNS THAT ARE ADEQUATELY DELINEATED BY OTHER TRAFFIC CONTROL DEVICES.
26. THE LIGHTED ARROW PANEL SHALL BE LOCATED AT THE BEGINNING OF THE TAPER AS SHOWN. WHEN PHYSICAL LIMITATIONS RESTRICT ITS PLACEMENT AS INDICATED, THEN IT SHALL BE PLACED AS CLOSE TO THE BEGINNING OF THE TAPER AS POSSIBLE.

SIGN SIZES

DIAMOND WARNING - 48" x 48"
R2-1 REGULATORY - 48" x 60"
R5-18c REGULATORY - 48" x 48"

APX - D-12

NOT TO SCALE

 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	OCTOBER 2011	M0240a	SHEET
CHECKED BY: BMM:CRB	PLAN DATE:		2 OF 2
FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0240a.dgn REV. 10/11/2011			

"General Decision Number: MI20220001 04/08/2022

Superseded General Decision Number: MI20210001

State: Michigan

Construction Types: Highway (Highway, Airport & Bridge xxxxx and Sewer/Incid. to Hwy.)

Counties: Michigan Statewide.

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$15.00 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2022.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$11.25 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Modification Number	Publication Date
0	01/07/2022
1	01/21/2022
2	02/11/2022

3 02/25/2022
 4 03/25/2022
 5 04/08/2022

CARP0004-004 06/01/2019

REMAINDER OF STATE

	Rates	Fringes
CARPENTER (Piledriver).....	\$ 27.62	20.59

 CARP0004-005 06/01/2018

LIVINGSTON (Townships of Brighton, Deerfield, Genoa, Hartland, Oceola & Tyrone), MACOMB, MONROE, OAKLAND, SANILAC, ST. CLAIR AND WAYNE COUNTIES

	Rates	Fringes
CARPENTER (Piledriver).....	\$ 30.50	27.28

 ELEC0017-005 06/01/2021

STATEWIDE

	Rates	Fringes
Line Construction		
Groundman/Driver.....	\$ 29.11	7.20+32%
Journeyman Signal Tech, Communications Tech, Tower Tech & Fiber Optic Splicers.	\$ 42.55	7.20+32%
Journeyman Specialist.....	\$ 48.93	7.20+32%
Operator A.....	\$ 35.96	7.20+32%
Operator B.....	\$ 33.57	7.20+32%

Classifications

Journeyman Specialist: Refers to a crew of only one person working alone.
 Operator A: Shall be proficient in operating all power equipment including: Backhoe, Excavator, Directional Bore and Boom/Digger truck.
 Operator B: Shall be proficient in operating any 2 of the above mentioned pieces of equipment listed under Operator A.

 ENGI0324-003 06/01/2021

ALCONA, ALPENA, ARENAC, BAY, CHEBOYGAN, CLARE, CLINTON, CRAWFORD, GENESEE, GLADWIN, GRATIOT, HURON, INGHAM, IOSCO, ISABELLA, JACKSON, LAPEER, LENAWEE, LIVINGSTON, MACOMB, MIDLAND, MONROE, MONTMORENCY, OAKLAND, OGEMAW, OSCODA, OTSEGO, PRESQUE ISLE, ROSCOMMON, SAGINAW, ST. CLAIR, SANILAC, SHIAWASSEE, TUSCOLA, WASHTENAW AND WAYNE COUNTIES:

	Rates	Fringes
OPERATOR: Power Equipment (Steel Erection)		
GROUP 1.....	\$ 48.02	24.85

GROUP 2.....	\$ 49.02	24.85
GROUP 3.....	\$ 46.52	24.85
GROUP 4.....	\$ 47.52	24.85
GROUP 5.....	\$ 45.02	24.85
GROUP 6.....	\$ 46.02	24.85
GROUP 7.....	\$ 44.75	24.85
GROUP 8.....	\$ 45.75	24.85
GROUP 9.....	\$ 44.30	24.85
GROUP 10.....	\$ 45.30	24.85
GROUP 11.....	\$ 43.57	24.85
GROUP 12.....	\$ 44.57	24.85
GROUP 13.....	\$ 43.21	24.85
GROUP 14.....	\$ 44.21	24.85
GROUP 15.....	\$ 42.57	24.85
GROUP 16.....	\$ 39.37	24.85
GROUP 17.....	\$ 24.89	12.00
GROUP 18.....	\$ 28.38	12.00

FOOTNOTE:

Paid Holidays: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Engineer when operating combination of boom and jib 400' or longer

GROUP 2: Engineer when operating combination of boom and jib 400' or longer on a crane that requires an oiler

GROUP 3: Engineer when operating combination of boom and jib 300' or longer

GROUP 4: Engineer when operating combination of boom and jib 300' or longer on a crane that requires an oiler

GROUP 5: Engineer when operating combination of boom and jib 220' or longer

GROUP 6: Engineer when operating combination of boom and jib 220' or longer on a crane that requires an oiler

GROUP 7: Engineer when operating combination of boom and jib 140' or longer

GROUP 8: Engineer when operating combination of boom and jib 140' or longer on a crane that requires an oiler

GROUP 9: Tower crane & derrick operator (where operator's work station is 50 ft. or more above first sub-level)

GROUP 10: Tower crane & derrick operator (where operator's work station is 50 ft. or more above first sub-level) on a crane that requires an oiler

GROUP 11: Engineer when operating combination of boom and jib 120' or longer

GROUP 12: Engineer when operating combination of boom and jib 120' or longer on a crane that requires an oiler

GROUP 13: Crane operator; job mechanic and 3 drum hoist and excavator

GROUP 14: Crane operator on a crane that requires an oiler

GROUP 15: Hoisting operator; 2 drum hoist and rubber tired backhoe

GROUP 16: Forklift and 1 drum hoist

GROUP 17: Compressor or welder operator

GROUP 18: Oiler

ENGI0324-004 06/01/2021

AREA 1: ALLEGAN, BARRY, BERRIEN, BRANCH, CALHOUN, CASS, EATON, HILLSDALE, IONIA, KALAMAZOO, KENT, LAKE, MANISTEE, MASON, MECOSTA, MONTCALM, MUSKEGON, NEWAYGO, OCEANA, OSCEOLA, OTTAWA, ST. JOSEPH, VAN BUREN

AREA 2: ANTRIM, BENZIE, CHARLEVOIX, EMMET, GRAND TRAVERSE, KALKASKA, LEELANAU, MISSAUKEE AND WEXFORD COUNTIES:

	Rates	Fringes
OPERATOR: Power Equipment (Steel Erection)		
AREA 1		
GROUP 1.....	\$ 48.02	24.85
GROUP 2.....	\$ 44.75	24.85
GROUP 3.....	\$ 43.21	24.85
GROUP 4.....	\$ 39.37	24.85
GROUP 5.....	\$ 24.89	12.00
GROUP 6.....	\$ 28.38	12.00
AREA 2		
GROUP 1.....	\$ 48.02	24.85
GROUP 2.....	\$ 44.75	24.85
GROUP 3.....	\$ 43.21	24.85
GROUP 4.....	\$ 39.37	24.85
GROUP 5.....	\$ 24.89	12.00
GROUP 6.....	\$ 28.38	12.00

FOOTNOTES:

Crane operator with main boom and jib 300' or longer: \$1.50 additional to the group 1 rate. Crane operator with main boom and jib 400' or longer: \$3.00 additional to the group 1 rate.

PAID HOLIDAYS: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS:

GROUP 1: Crane Operator with main boom & jib 400', 300', or 220' or longer.

GROUP 2: Crane Operator with main boom & jib 140' or longer, Tower Crane; Gantry Crane; Whirley Derrick.

GROUP 3: Regular Equipment Operator, Crane, Dozer, Loader, Hoist, Straddle Wagon, Mechanic, Grader and Hydro Excavator.

GROUP 4: Air Tugger (single drum), Material Hoist Pump 6" or over, Elevators, Brokk Concrete Breaker.

GROUP 5: Air Compressor, Welder, Generators, Conveyors

GROUP 6: Oiler and fire tender

ENGI0324-005 09/01/2021

AREA 1: GENESEE, LAPEER, LIVINGSTON, MACOMB, MONROE, OAKLAND,
ST. CLAIR, WASHTENAW AND WAYNE COUNTIES

AREA 2: ALCONA, ALLEGAN, ALGER, ALPENA, ANTRIM, ARENAC, BARAGA,
BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS,
CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD,
DELTA, DICKINSON, EATON, EMMET, GLADWIN, GOGEBIC, GRAND
TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA,
IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT,
KWEENAW, LAKE, LEELANAU, LENAWEE, LUCE, MACKINAC, MANISTEE,
MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE,
MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW,
ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE,
ROSCOMMON, SAGINAW, SANILAC, SCHOOLCRAFT, SHIAWASSEE, ST.
JOSEPH, TUSCOLA, VAN BUREN AND WEXFORD COUNTIES

Rates Fringes

OPERATOR: Power Equipment
(Underground construction
(including sewer))

AREA 1:

GROUP 1.....	\$ 37.63	24.85
GROUP 2.....	\$ 32.90	24.85
GROUP 3.....	\$ 32.17	24.85
GROUP 4.....	\$ 31.60	24.85
GROUP 5.....	\$ 23.15	12.05

AREA 2:

GROUP 1.....	\$ 35.92	24.85
GROUP 2.....	\$ 31.03	24.85
GROUP 3.....	\$ 30.53	24.85
GROUP 4.....	\$ 30.25	24.85
GROUP 5.....	\$ 23.15	12.05

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Backfiller tamper; Backhoe; Batch plant operator
(concrete); Clamshell; Concrete paver (2 drums or larger);
Conveyor loader (Euclid type); Crane (crawler, truck type
or pile driving); Dozer; Dragline; Elevating grader;
Endloader; Gradall (and similar type machine); Grader;
Mechanic; Power shovel; Roller (asphalt); Scraper
(self-propelled or tractor drawn); Side boom tractor (type
D-4 or equivalent and larger); Slip form paver; Slope
paver; Trencher (over 8 ft. digging capacity); Well
drilling rig; Concrete pump with boom operator; Hydro
Excavator

GROUP 2: Boom truck (power swing type boom); Crusher; Hoist;
Pump (1 or more - 6-in. discharge or larger - gas or
diesel- powered or powered by generator of 300 amperes or
more - inclusive of generator); Side boom tractor (smaller
than type D-4 or equivalent); Tractor (pneu-tired, other
than backhoe or front end loader); Trencher (8-ft. digging
capacity and smaller); Vac Truck and End dump operator;

GROUP 3: Air compressors (600 cfm or larger); Air compressors

(2 or more-less than 600 cfm); Boom truck (non-swinging, non-powered type boom); Concrete breaker (self-propelled or truck mounted - includes compressor); Concrete paver (1 drum-1/2 yd. or larger); Elevator (other than passenger); Maintenance person; Pump (2 or more-4-in. up to 6-in. discharge-gas or diesel powered - excluding submersible pumps); Pumpcrete machine (and similar equipment); Wagon drill (multiple); Welding machine or generator (2 or more-300 amp. or larger - gas or diesel powered)

GROUP 4: Boiler; Concrete saw (40 hp or over); Curing machine (self-propelled); Farm tractor (with attachment); Finishing machine (concrete); Hydraulic pipe pushing machine; Mulching equipment; Pumps (2 or more up to 4-in. discharge, if used 3 hours or more a day, gas or diesel powered - excluding submersible pumps); Roller (other than asphalt); Stump remover; Trencher (service); Vibrating compaction equipment, self-propelled (6 ft. wide or over); Sweeper (Wayne type); Water wagon and Extend-a boom forklift

Group 5: Fire Person, Oiler

 * ENGI0324-006 06/01/2021

GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW, WAYNE, ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LIVINGSTON, LUCE, MACKINAC, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SAGINAW, ST. CLARE, ST. JOSEPH, SANILAC, SCHOOLCRAFT, SHIAWASSEE, TUSCOLA, VAN BUREN AND WEXFORD COUNTIES

Rates Fringes

Power equipment operators:
 (AIRPORT, BRIDGE & HIGHWAY
 CONSTRUCTION)

GROUP 1.....	\$ 36.86	24.85
GROUP 2.....	\$ 30.13	24.85
GROUP 3.....	\$ 29.52	24.85
GROUP 4.....	\$ 29.40	24.85

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Asphalt plant operator; Crane operator (does not include work on bridge construction projects when the crane operator is erecting structural components); Dragline operator; Shovel operator; Locomotive operator; Paver operator (5 bags or more); Elevating grader operator; Pile driving operator; Roller operator (asphalt); Blade grader operator; Trenching machine operator (ladder or wheel type); Auto-grader; Slip form paver; Self-propelled or tractor-drawn scraper; Conveyor loader operator (Euclid type); Endloader operator (1 yd. capacity and over); Bulldozer; Hoisting engineer; Tractor operator; Finishing machine operator (asphalt); Mechanic; Pump operator (6-in. discharge or over, gas, diesel powered or generator of 300

amp. or larger); Shouldering or gravel distributing machine operator (self-propelled); Backhoe (with over 3/8 yd. bucket); Side boom tractor (type D-4 or equivalent or larger); Tube finisher (slip form paving); Gradall (and similar type machine); Asphalt paver (self-propelled); Asphalt planer (self-propelled); Batch plant (concrete-central mix); Slurry machine (asphalt); Concrete pump (3 in. and over); Roto-mill; Swinging boom truck (over 12 ton capacity); Hydro demolisher (water blaster); Farm-type tractor with attached pan; Vacuum truck operator; Batch Plant (concrete dry batch); Concrete Saw Operator (40h.p. or over; Tractor Operator (farm type); Finishing Machine Operator (concrete); Grader Operator (self-propelled fine grade or form (concrete)).

GROUP 2: Screening plant operator; Washing plant operator; Crusher operator; Backhoe (with 3/8 yd. bucket or less); Side boom tractor (smaller than D-4 type or equivalent); Sweeper (Wayne type and similar equipment); Greese Truck; Air Compressor Operator (600 cu.ft. per min or more); Air Compressor Operator (two or more, less than 600 cfm);

GROUP 3: Boiler fire tender; Tractor operator (farm type with attachment); Concrete Breaker; Wagon Drill Operator;

GROUP 4: Oiler; Fire tender; Trencher (service); Flexplane operator; Cleftplane operator; Boom or winch hoist truck operator; Endloader operator *under 1 yd. capacity); Roller Operator (other than asphalt); Curing equipment operator (self-propelled); Power bin operator; Plant drier (6 ft. wide or over); Guard post driver operator (power driven); All mulching equipment; Stump remover; Concrete pump (under 3-in.); Mesh installer (self-propelled); End dump; Skid Steer.

 ENGI0324-007 05/01/2021

ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES:

	Rates	Fringes
OPERATOR: Power Equipment (Steel Erection)		
Compressor, welder and forklift.....	\$ 35.90	24.60
Crane operator, main boom & jib 120' or longer.....	\$ 42.37	24.60
Crane operator, main boom & jib 140' or longer.....	\$ 42.67	24.60
Crane operator, main boom & jib 220' or longer.....	\$ 43.26	24.60
Mechanic with truck and tools.....	\$ 41.50	24.60
Oiler and fireman.....	\$ 34.36	24.60
Regular operator.....	\$ 39.72	24.60

 ENGI0324-008 10/01/2020

ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA,

DICKINSON, EATON, EMMET, GENESEE, GLADWIN, GOGEBIC, GRAND TRVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LIVINGSTON, LUCE, MACKINAC, MACOMB, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MONROE, MUSKEGON, NEWAYGO, OAKLAND, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SAGINAW, ST. CLARE, ST. JOSEPH, SANILAC, SCHOOLCRAFT, SHIAWASSEE, TUSCOLA, VAN BUREN, WASHTENAW, WAYNE AND WEXFORD COUNTIES

	Rates	Fringes
OPERATOR: Power Equipment (Sewer Relining)		
GROUP 1.....	\$ 35.37	14.31
GROUP 2.....	\$ 33.33	14.31

SEWER RELINING CLASSIFICATIONS

GROUP 1: Operation of audio-visual closed circuit TV system, including remote in-ground cutter and other equipment used in connection with the CCTV system

GROUP 2: Operation of hot water heaters and circulation systems, water jettors and vacuum and mechanical debris removal systems

* ENGI0325-012 05/01/2021

	Rates	Fringes
Power equipment operators - gas distribution and duct installation work:		
GROUP 1.....	\$ 33.48	24.85
GROUP 2.....	\$ 31.45	24.85
GROUP 3.....	\$ 28.85	23.85

SCOPE OF WORK: The construction, installation, treating and reconditioning of pipelines transporting gas vapors within cities, towns, subdivisions, suburban areas, or within private property boundaries, up to and including private meter settings of private industrial, governmental or other premises, more commonly referred to as ""distribution work,"" starting from the first metering station, connection, similar or related facility, of the main or cross country pipeline and including duct installation.

Group 1: Backhoe, crane, grader, mechanic, dozer (D-6 equivalent or larger), side boom (D-4 equivalent or larger), trencher(except service), endloader (2 yd. capacity or greater).

GROUP 2: Dozer (less than D-6 equivalent), endloader (under 2 yd. capacity), side boom (under D-4 capacity), backfiller, pumps (1 or 2 of 6-inch discharge or greater), boom truck (with powered boom), tractor (wheel type other than backhoe or front endloader). Tamper (self-propelled), boom truck (with non-powered boom), concrete saw (20 hp or larger), pumps (2 to 4 under 6-inch discharge), compressor (2 or more or when one is used continuously into the second day) and trencher(service). Oiler, hydraulic pipe pushing

machine, grease person and hydrostatic testing operator.

IRON0008-007 06/01/2021

ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON,
IRON, KEWEENAW, LUCE, MACKINAC MARQUETTE, MENOMINEE, ONTONAGON
AND SCHOOLCRAFT COUNTIES:

	Rates	Fringes
Ironworker - pre-engineered metal building erector.....	\$ 23.70	6.95
IRONWORKER		
General contracts \$10,000,000 or greater.....	\$ 36.45	27.65
General contracts less than \$10,000,000.....	\$ 36.45	27.65

Paid Holidays: New Year's Day, Memorial Day, July 4th, Labor
Day, Thanksgiving Day & Christmas Day.

IRON0025-002 06/01/2021

ALCONA, ALPENA, ARENAC, BAY, CHEBOYGAN, CLARE, CLINTON,
CRAWFORD, GENESEE, GLADWIN, GRATIOT, HURON, INGHAM, IOSCO,
ISABELLA, JACKSON, LAPEER, LIVINGSTON, MACOMB, MIDLAND,
MONTMORENCY, OAKLAND, OGEMAW, OSCODA, OTSEGO, PRESQUE ISLE,
ROSCOMMON, SAGINAW, SANILAC, SHIAWASSEE, ST. CLAIR, TUSCOLA,
WASHTENAW AND WAYNE COUNTIES:

	Rates	Fringes
Ironworker - pre-engineered metal building erector		
Alcona, Alpena, Arenac, Cheboygan, Clare, Clinton, Crawford, Gladwin, Gratiot, Huron, Ingham, Iosco, Isabella, Jackson, Lapeer, Livingston (west of Burkhardt Road), Montmorency, Ogemaw, Oscoda, Otsego, Presque Isle, Roscommon, Sanilac, Shiawassee, Tuscola & Washtenaw (west of U.S. 23).	\$ 24.26	22.11
Bay, Genesee, Lapeer, Livingston (east of Burkhardt Road), Macomb, Midland, Oakland, Saginaw, St. Clair, The University of Michigan, Washtenaw (east of U.S. 23) & Wayne...	\$ 25.48	23.11
IRONWORKER		
Ornamental and Structural...	\$ 36.77	29.03
Reinforcing.....	\$ 32.99	30.76

IRON0055-005 07/01/2021

LENAWEE AND MONROE COUNTIES:

	Rates	Fringes
IRONWORKER		
Pre-engineered metal buildings.....	\$ 23.59	19.35
All other work.....	\$ 31.25	26.90

IRON0292-003 06/01/2020

BERRIEN AND CASS COUNTIES:

	Rates	Fringes
IRONWORKER (Including pre-engineered metal building erector).....	\$ 31.75	22.84

IRON0340-001 06/19/2017

ALLEGAN, ANTRIM, BARRY, BENZIE, BRANCH, CALHOUN, CHARLEVOIX, EATON, EMMET, GRAND TRAVERSE, HILLSDALE, IONIA, KALAMAZOO, KALKASKA, KENT, LAKE, LEELANAU, MANISTEE, MASON, MECOSTA, MISSAUKEE, MONTCALM, MUSKEGON, NEWAYGO, OCEANA, OSCEOLA, OTTAWA, ST. JOSEPH, VAN BUREN AND WEXFORD COUNTIES:

	Rates	Fringes
IRONWORKER (Including pre-engineered metal building erector).....	\$ 24.43	24.67

LAB00005-006 10/01/2020

	Rates	Fringes
Laborers - hazardous waste abatement: (ALCONA, ALPENA, ANTRIM, BENZIE, CHARLEVOIX, CHEBOYGAN, CRAWFORD, EMMET, GRAND TRAVERSE, IOSCO, KALKASKA, LEELANAU, MISSAUKEE, MONTMORENCY, OSCODA, OTSEGO, PRESQUE ISLE AND WEXFORD COUNTIES - Zone 10)		
Levels A, B or C.....	\$ 17.45	12.75
class b.....	\$ 18.64	12.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D.....	\$ 16.45	12.75
class a.....	\$ 17.64	12.90

Zone 10

Laborers - hazardous waste abatement: (ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES - Zone 11)		
Levels A, B or C.....	\$ 23.58	12.90

<p>Work performed in conjunction with site preparation not requiring the use of personal protective equipment; Also, Level D.....\$ 22.58</p>	12.90
<p>Laborers - hazardous waste abatement: (ALLEGAN, BARRY, BERRIEN, BRANCH, CALHOUN, CASS, IONIA COUNTY (except the city of Portland); KALAMAZOO, KENT, LAKE, MANISTEE, MASON, MECOSTA, MONTCALM, MUSKEGON, NEWAYGO, OCEANA, OSCEOLA, OTTAWA, ST. JOSEPH AND VAN BUREN COUNTIES - Zone 9)</p>	
<p>Levels A, B or C.....\$ 21.80</p>	12.90
<p>Work performed in conjunction with site preparation not requiring the use of personal protective equipment; Also, Level D.....\$ 20.80</p>	12.90
<p>Laborers - hazardous waste abatement: (ARENAC, BAY, CLARE, GLADWIN, GRATIOT, HURON, ISABELLA, MIDLAND, OGEMAW, ROSCOMMON, SAGINAW AND TUSCOLA COUNTIES - Zone 8)</p>	
<p>Levels A, B or C.....\$ 21.39</p>	12.90
<p>Work performed in conjunction with site preparation not requiring the use of personal protective equipment; Also, Level D.....\$ 20.80</p>	12.90
<p>Laborers - hazardous waste abatement: (CLINTON, EATON AND INGHAM COUNTIES; IONIA COUNTY (City of Portland); LIVINGSTON COUNTY (west of Oak Grove Rd., including the City of Howell) - Zone 6)</p>	
<p>Levels A, B or C.....\$ 25.64</p>	12.90
<p>Work performed in conjunction with site preparation not requiring the use of personal protective equipment; Also, Level D.....\$ 24.64</p>	12.90
<p>Laborers - hazardous waste abatement: (GENESEE, LAPEER AND SHIAWASSEE COUNTIES - Zone 7)</p>	
<p>Levels A, B or C.....\$ 24.20</p>	13.80
<p>Work performed in conjunction with site preparation not requiring the use of personal protective equipment; Also, Level D.....\$ 23.20</p>	13.80
<p>Laborers - hazardous waste abatement: (HILLSDALE, JACKSON AND LENAWEE COUNTIES</p>	

- Zone 4)		
Levels A, B or C.....	\$ 25.17	12.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D.....	\$ 24.17	12.90
Laborers - hazardous waste abatement: (LIVINGSTON COUNTY (east of Oak Grove Rd. and south of M-59, excluding the city of Howell); AND WASHTENAW COUNTY - Zone 3)		
Levels A, B or C.....	\$ 29.93	14.20
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D.....	\$ 28.93	14.20
Laborers - hazardous waste abatement: (MACOMB AND WAYNE COUNTIES - Zone 1)		
Levels A, B or C.....	\$ 29.93	16.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D.....	\$ 28.93	16.90
Laborers - hazardous waste abatement: (MONROE COUNTY - Zone 4)		
Levels A, B or C.....	\$ 31.75	14.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D.....	\$ 31.75	14.90
Laborers - hazardous waste abatement: (OAKLAND COUNTY and the Northeast portion of LIVINGSTON COUNTY bordered by Oak Grove Road on the West and M-59 on the South - Zone 2)		
Level A, B, C.....	\$ 29.93	16.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D.....	\$ 28.93	16.90
Laborers - hazardous waste abatement: (SANILAC AND ST. CLAIR COUNTIES - Zone 5)		
Levels A, B or C.....	\$ 25.75	16.35
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D.....	\$ 24.75	16.35

AREA 1: MACOMB, OAKLAND AND WAYNE COUNTIES

AREA 2: ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GENESEE, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LIVINGSTON, LUCE, MACKINAC, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONROE, MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SAGINAW, ST. CLARE, ST. JOSEPH, SANILAC, SCHOOLCRAFT, SHIAWASSEE, TUSCOLA, VAN BUREN, WASHTENAW AND WEXFORD COUNTIES

	Rates	Fringes
Laborers - tunnel, shaft and caisson:		
AREA 1		
GROUP 1.....	\$ 23.62	16.95
GROUP 2.....	\$ 23.73	19.95
GROUP 3.....	\$ 23.79	16.95
GROUP 4.....	\$ 23.97	16.95
GROUP 5.....	\$ 24.22	16.95
GROUP 6.....	\$ 24.55	16.95
GROUP 7.....	\$ 17.83	16.95
AREA 2		
GROUP 1.....	\$ 25.15	12.95
GROUP 2.....	\$ 25.24	12.95
GROUP 3.....	\$ 25.34	12.95
GROUP 4.....	\$ 25.50	12.95
GROUP 5.....	\$ 25.76	12.95
GROUP 6.....	\$ 26.07	12.95
GROUP 7.....	\$ 18.34	12.95

SCOPE OF WORK: Tunnel, shaft and caisson work of every type and description and all operations incidental thereto, including, but not limited to, shafts and tunnels for sewers, water, subways, transportation, diversion, sewerage, caverns, shelters, aquifers, reservoirs, missile silos and steel sheeting for underground construction.

TUNNEL LABORER CLASSIFICATIONS

GROUP 1: Tunnel, shaft and caisson laborer, dump, shanty, hog house tender, testing (on gas) and watchman

GROUP 2: Manhole, headwall, catch basin builder, bricklayer tender, mortar machine and material mixer

GROUP 3: Air tool operator (jackhammer, bush hammer and grinder), first bottom, second bottom, cage tender, car pusher, carrier, concrete, concrete form, concrete repair, cement invert laborer, cement finisher, concrete shoveler, conveyor, floor, gasoline and electric tool operator, gunite, grout operator, welder, heading dinky person, inside lock tender, pea gravel operator, pump, outside lock tender, scaffold, top signal person, switch person, track, tugger, utility person, vibrator, winch operator, pipe jacking, wagon drill and air track operator and concrete

saw operator (under 40 h.p.)

GROUP 4: Tunnel, shaft and caisson mucker, bracer, liner plate, long haul dinky driver and well point

GROUP 5: Tunnel, shaft and caisson miner, drill runner, key board operator, power knife operator, reinforced steel or mesh (e.g. wire mesh, steel mats, dowel bars, etc.)

GROUP 6: Dynamite and powder

GROUP 7: Restoration laborer, seeding, sodding, planting, cutting, mulching and top soil grading; and the restoration of property such as replacing mailboxes, wood chips, planter boxes, flagstones, etc.

LAB00334-001 09/01/2021

	Rates	Fringes
Laborers - open cut:		
ZONE 1 - MACOMB, OAKLAND AND WAYNE COUNTIES:		
GROUP 1.....	\$ 23.47	16.95
GROUP 2.....	\$ 23.58	16.95
GROUP 3.....	\$ 23.63	16.95
GROUP 4.....	\$ 23.71	16.95
GROUP 5.....	\$ 23.77	16.95
GROUP 6.....	\$ 21.22	16.95
GROUP 7.....	\$ 17.84	16.95
ZONE 2 - LIVINGSTON COUNTY (east of M-151 (Oak Grove Rd.)); MONROE AND WASHTENAW COUNTIES:		
GROUP 1.....	\$ 24.80	12.95
GROUP 2.....	\$ 24.91	12.95
GROUP 3.....	\$ 25.03	12.95
GROUP 4.....	\$ 25.10	12.95
GROUP 5.....	\$ 25.25	12.95
GROUP 6.....	\$ 22.55	12.95
GROUP 7.....	\$ 19.19	12.95
ZONE 3 - CLINTON, EATON, GENESEE, HILLSDALE AND INGHAM COUNTIES; IONIA COUNTY (City of Portland); JACKSON, LAPEER AND LENAWEE COUNTIES; LIVINGSTON COUNTY (west of M-151 Oak Grove Rd.); SANILAC, ST. CLAIR AND SHIAWASSEE COUNTIES:		
GROUP 1.....	\$ 22.99	12.95
GROUP 2.....	\$ 23.13	12.95
GROUP 3.....	\$ 23.25	12.95
GROUP 4.....	\$ 23.30	12.95
GROUP 5.....	\$ 23.44	12.95
GROUP 6.....	\$ 20.74	12.95
GROUP 7.....	\$ 17.89	12.95
ZONE 4 - ALCONA, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CLARE,		

CRAWFORD, EMMET,
 GLADWIN, GRAND TRAVERSE,
 GRATIOT AND HURON
 COUNTIES; IONIA COUNTY
 (EXCEPT THE CITY OF
 PORTLAND); IOSCO,
 ISABELLA, KALAMAZOO,
 KALKASKA, KENT,
 LAKE, LEELANAU, MANISTEE,
 MASON, MECOSTA, MIDLAND,
 MISSAUKEE, MONTCALM,
 MONTMORENCY, MUSKEGON,
 NEWAYGO, OCEANA, OGEMAW,
 OSCEOLA, OSCODA, OTSEGO,
 OTTAWA, PRESQUE ISLE,
 ROSCOMMON, SAGINAW, ST.
 JOSEPH, TUSCOLA, VAN BUREN
 AND WEXFORD COUNTIES:

GROUP 1.....	\$ 22.02	12.95
GROUP 2.....	\$ 22.15	12.95
GROUP 3.....	\$ 22.26	12.95
GROUP 4.....	\$ 22.33	12.95
GROUP 5.....	\$ 22.45	12.95
GROUP 6.....	\$ 19.67	12.95
GROUP 7.....	\$ 18.01	12.95

ZONE 5 - ALGER, BARAGA,
 CHIPPEWA, DELTA,
 DICKINSON, GOGEBIC,
 HOUGHTON, IRON,
 KEWEENAW, LUCE, MACKINAC,
 MARQUETTE, MENOMINEE,
 ONTONAGON AND SCHOOLCRAFT
 COUNTIES:

GROUP 1.....	\$ 22.24	12.95
GROUP 2.....	\$ 22.38	12.95
GROUP 3.....	\$ 22.51	12.95
GROUP 4.....	\$ 22.56	12.95
GROUP 5.....	\$ 22.61	12.95
GROUP 6.....	\$ 19.99	12.95
GROUP 7.....	\$ 18.10	12.95

SCOPE OF WORK:

Open cut construction work shall be construed to mean work which requires the excavation of earth including industrial, commercial and residential building site excavation and preparation, land balancing, demolition and removal of concrete and underground appurtenances, grading, paving, sewers, utilities and improvements; retention, oxidation, flocculation and irrigation facilities, and also including but not limited to underground piping, conduits, steel sheeting for underground construction, and all work incidental thereto, and general excavation. For all areas except the Upper Peninsula, open cut construction work shall also be construed to mean waterfront work, piers, docks, seawalls, breakwalls, marinas and all incidental work. Open cut construction work shall not include any structural modifications, alterations, additions and repairs to buildings, or highway work, including roads, streets, bridge construction and parking lots or steel erection work and excavation for the building itself and back filling inside of and within 5 ft. of the building and foundations, footings and piers for the building. Open cut construction work shall not include any work covered under Tunnel, Shaft and Caisson work.

OPEN CUT LABORER CLASSIFICATIONS

GROUP 1: Construction laborer

GROUP 2: Mortar and material mixer, concrete form person, signal person, well point person, manhole, headwall and catch basin builder, headwall, seawall, breakwall and dock builder

GROUP 3: Air, gasoline and electric tool operator, vibrator operator, driller, pump person, tar kettle operator, bracer, rodder, reinforced steel or mesh person (e.g., wire mesh, steel mats, dowel bars, etc.), welder, pipe jacking and boring person, wagon drill and air track operator and concrete saw operator (under 40 h.p.), windlass and tugger person and directional boring person

GROUP 4: Trench or excavating grade person

GROUP 5: Pipe layer (including crock, metal pipe, multi-plate or other conduits)

GROUP 6: Grouting man, audio-visual television operations and all other operations in connection with closed circuit television inspection, pipe cleaning and pipe relining work and the installation and repair of water service pipe and appurtenances

GROUP 7: Restoration laborer, seeding, sodding, planting, cutting, mulching and top soil grading; and the restoration of property such as replacing mailboxes, wood chips, planter boxes, flagstones, etc.

LAB00465-001 06/01/2021

LABORER: Highway, Bridge and Airport Construction

AREA 1: GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES

AREA 2: ALLEGAN, BARRY, BAY, BERRIEN, BRANCH, CALHOUN, CASS, CLINTON, EATON, GRATIOT, HILLSDALE, HURON, INGHAM, JACKSON, KALAMAZOO, LAPEER, LENAWEE, LIVINGSTON, MIDLAND, MUSKEGON, SAGINAW, SANILAC, SHIAWASSEE, ST. CLAIR, ST. JOSEPH, TUSCOLA AND VAN BUREN COUNTIES

AREA 3: ALCONA, ALPENA, ANTRIM, ARENAC, BENZIE, CHARLEVOIX, CHEBOYGAN, CLARE, CRAWFORD, EMMET, GLADWIN, GRAND TRAVERSE, IONIA, IOSCO, ISABELLA, KALKASKA, KENT, LAKE, LEELANAU, MANISTEE, MASON, MECOSTA, MISSAUKEE, MONTCALM, MONTMORENCY, NEWAYGO, OCEANA, OGEMAW, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON AND WEXFORD COUNTIES

AREA 4: ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES

	Rates	Fringes
LABORER (AREA 1)		
GROUP 1.....	\$ 30.52	13.45
GROUP 2.....	\$ 30.65	13.45

GROUP 3.....	\$ 30.83	13.45
GROUP 4.....	\$ 30.91	13.45
GROUP 5.....	\$ 31.12	13.45
GROUP 6.....	\$ 31.42	13.45
LABORER (AREA 2)		
GROUP 1.....	\$ 26.92	12.90
GROUP 2.....	\$ 27.12	12.90
GROUP 3.....	\$ 27.36	12.90
GROUP 4.....	\$ 27.71	12.90
GROUP 5.....	\$ 27.58	12.90
GROUP 6.....	\$ 27.92	12.90
LABORER (AREA 3)		
GROUP 1.....	\$ 26.22	12.90
GROUP 2.....	\$ 26.43	12.90
GROUP 3.....	\$ 26.72	12.90
GROUP 4.....	\$ 27.16	12.90
GROUP 5.....	\$ 26.78	12.90
GROUP 6.....	\$ 27.21	12.90
LABORER (AREA 4)		
GROUP 1.....	\$ 26.22	12.90
GROUP 2.....	\$ 26.43	12.90
GROUP 3.....	\$ 26.72	12.90
GROUP 4.....	\$ 27.16	12.90
GROUP 5.....	\$ 26.78	12.90
GROUP 6.....	\$ 27.21	12.90

LABORER CLASSIFICATIONS

GROUP 1: Asphalt shoveler or loader; asphalt plant misc.; burlap person; yard person; dumper (wagon, truck, etc.); joint filling laborer; miscellaneous laborer; unskilled laborer; sprinkler laborer; form setting laborer; form stripper; pavement reinforcing; handling and placing (e.g., wire mesh, steel mats, dowel bars); mason's tender or bricklayer's tender on manholes; manhole builder; headwalls, etc.; waterproofing, (other than buildings) seal coating and slurry mix, shoring, underpinning; pressure grouting; bridge pin and hanger removal; material recycling laborer; horizontal paver laborer (brick, concrete, clay, stone and asphalt); ground stabilization and modification laborer; grouting; waterblasting; top person; railroad track and trestle laborer; carpenters' tender; guard rail builders' tender; earth retention barrier and wall and M.S.E. wall installer's tender; highway and median installer's tender (including sound, retaining, and crash barriers); fence erector's tender; asphalt raker tender; sign installer; remote control operated equipment.

GROUP 2: Mixer operator (less than 5 sacks); air or electric tool operator (jackhammer, etc.); spreader; boxperson (asphalt, stone, gravel); concrete paddler; power chain saw operator; paving batch truck dumper; tunnel mucker (highway work only); concrete saw (under 40 h.p.) and dry pack machine; roto-mill grounds person.

GROUP 3: Tunnel miner (highway work only); finishers tenders; guard rail builders; highway and median barrier installer; earth retention barrier and wall and M.S.E. wall installer's (including sound, retaining and crash barriers); fence erector; bottom person; powder person; wagon drill and air track operator; diamond and core drills; grade checker; certified welders; curb and side rail setter's tender.

GROUP 4: Asphalt raker

GROUP 5: Pipe layers, oxy-gun

GROUP 6: Line-form setter for curb or pavement; asphalt screed checker/screw man on asphalt paving machines.

LAB01076-005 04/01/2021

MICHIGAN STATEWIDE

	Rates	Fringes
LABORER (DISTRIBUTION WORK)		
Zone 1.....	\$ 23.92	12.95
Zone 2.....	\$ 22.22	12.95
Zone 3.....	\$ 20.35	12.95
Zone 4.....	\$ 19.77	12.95
Zone 5.....	\$ 19.75	12.95

DISTRIBUTION WORK - The construction, installation, treating and reconditioning of distribution pipelines transporting coal, oil, gas or other similar materials, vapors or liquids, including pipelines within private property boundaries, up to and including the meter settings on residential, commercial, industrial, institutional, private and public structures. All work covering pumping stations and tank farms not covered by the Building Trades Agreement. Other distribution lines with the exception of sewer, water and cable television are included.

Underground Duct Layer Pay: \$.40 per hour above the base pay rate.

- Zone 1 - Macomb, Oakland and Wayne
- Zone 2 - Monroe and Washtenaw
- Zone 3 - Bay, Genesee, Lapeer, Midland, Saginaw, Sanilac, Shiawassee and St. Clair
- Zone 4 - Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontonagon and Schoolcraft
- Zone 5 - Remaining Counties in Michigan

PAIN0022-002 07/01/2008

HILLSDALE, JACKSON AND LENAWEЕ COUNTIES; LIVINGSTON COUNTY (east of the eastern city limits of Howell, not including the city of Howell, north to the Genesee County line and south to the Washtenaw County line); MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES:

	Rates	Fringes
PAINTER.....	\$ 25.06	14.75

FOOTNOTES: For all spray work and journeyman rigging for spray work, also blowing off, \$0.80 per hour additional (applies only to workers doing rigging for spray work on off the floor work. Does not include setting up or moving rigging on floor surfaces, nor does it apply to workers engaged in covering up or tending spray equipment. For all sandblasting and spray work performed on highway bridges, overpasses, tanks or steel, \$0.80 per hour additional. For

all brushing, cleaning and other preparatory work (other than spraying or steeplejack work) at scaffold heights of fifty (50) feet from the ground or higher, \$0.50 per hour additional. For all preparatorial work and painting performed on open steel under forty (40) feet when no scaffolding is involved, \$0.50 per hour additional. For all swing stage work-window jacks and window belts-exterior and interior, \$0.50 per hour additional. For all spray work and sandblaster work to a scaffold height of forty (40) feet above the floor level, \$0.80 per hour additional. For all preparatorial work and painting on all highway bridges or overpasses up to forty (40) feet in height, \$0.50 per hour additional. For all steeplejack work performed where the elevation is forty (40) feet or more, \$1.25 per hour additional.

 PAIN0312-001 06/01/2018

EXCLUDES: ALLEGAN COUNTY (Townships of Dorr, Fillmore, Heath, Hopkins, Laketown, Leighton, Manlius, Monterey, Overisel, Salem, Saugatuck and Wayland); INCLUDES: Barry, Berrien, Branch, Calhoun, Cass, Hillsdale, Kalamazoo, St. Joseph, Van Buren

	Rates	Fringes
PAINTER		
Brush and roller.....	\$ 23.74	13.35
Spray, Sandblast, Sign		
Painting.....	\$ 24.94	13.35

 PAIN0845-003 05/10/2018

CLINTON COUNTY; EATON COUNTY (does not include the townships of Bellevue and Olivet); INGHAM COUNTY; IONIA COUNTY (east of Hwy. M 66); LIVINGSTON COUNTY (west of the eastern city limits of Howell, including the city of Howell, north to the Genesee County line and south to the Washtenaw County line); AND SHIAWASSEE COUNTY (Townships of Bennington, Laingsbury and Perry):

	Rates	Fringes
PAINTER.....	\$ 25.49	13.74

 PAIN0845-015 05/10/2018

MUSKEGON COUNTY; NEWAYGO COUNTY (except the Townships of Barton, Big Prairie, Brooks, Croton, Ensley, Everett, Goodwell, Grant, Home, Monroe, Norwich and Wilcox); OCEANA COUNTY; OTTAWA COUNTY (except the townships of Allendale, Blendone, Chester, Georgetown, Holland, Jamestown, Olive, Park, Polkton, Port Sheldon, Tallmadge, Wright and Zeeland):

	Rates	Fringes
PAINTER.....	\$ 25.49	13.74

 PAIN0845-018 05/10/2018

ALLEGAN COUNTY (Townships of Dorr, Fillmore, Heath, Hopkins,

Laketown, Leighton, Manlius, Monterey, Overisel, Salem, Saugatuck and Wayland); IONIA COUNTY (west of Hwy. M-66); KENT, MECOSTA AND MONTCALM COUNTIES; NEWAYGO COUNTY (Townships of Barton, Big Prairie, Brooks, Croton, Ensley, Everett, Goodwell, Grant, Home, Monroe, Norwich and Wilcox); OSCEOLA COUNTY (south of Hwy. #10); OTTAWA COUNTY (Townships of Allendale, Blendone, Chester, Georgetown, Holland, Jamestown, Olive, Park, Polkton, Port Sheldon, Tallmadge, Wright and Zeeland):

	Rates	Fringes
PAINTER.....	\$ 25.49	13.74

FOOTNOTES: Lead abatement work: \$1.00 per hour additional.

 PAIN1011-003 06/02/2021

ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES:

	Rates	Fringes
PAINTER.....	\$ 26.71	14.38

FOOTNOTES: High pay (bridges, overpasses, watertower): 30 to 80 ft.: \$.65 per hour additional. 80 ft. and over: \$1.30 per hour additional.

 PAIN1474-002 06/01/2010

HURON COUNTY; LAPEER COUNTY (east of Hwy. M-53); ST. CLAIR, SANILAC AND TUSCOLA COUNTIES:

	Rates	Fringes
PAINTER.....	\$ 23.79	12.02

FOOTNOTES: Lead abatement work: \$1.00 per hour additional. Work with any hazardous material: \$1.00 per hour additional. Sandblasting, steam cleaning and acid cleaning: \$1.00 per hour additional. Ladder work at or above 40 ft., scaffold work at or above 40 ft., swing stage, boatswain chair, window jacks and all work performed over a falling height of 40 ft.: \$1.00 per hour additional. Spray gun work, pick pullers and those handling needles, blowing off by air pressure, and any person rigging (setting up and moving off the ground): \$1.00 per hour additional. Steeplejack, tanks, gas holders, stacks, flag poles, radio towers and beacons, power line towers, bridges, etc.: \$1.00 per hour additional, paid from the ground up.

 PAIN1803-003 06/01/2019

ALCONA, ALPENA, ANTRIM, ARENAC, BAY, BENZIE, CHARLEVOIX, CHEBOYGAN, CLARE, CRAWFORD, EMMET, GLADWIN, GRAND TRAVERSE, GRATIOT, IOSCO, ISABELLA, KALKASKA, LAKE, LEELANAU, MANISTEE, MASON, MIDLAND, MISSAUKEE, MONTMORENCY AND OGEMAW COUNTIES; OSCEOLA COUNTY (north of Hwy. #10); OSCODA, OTSEGO, PRESQUE ISLE, ROSCOMMON, SAGINAW AND WEXFORD COUNTIES:

Rates Fringes

PAINTER

Work performed on water, bridges over water or moving traffic, radio and powerline towers, elevated tanks, steeples, smoke stacks over 40 ft. of falling heights, recovery of lead-based paints and any work associated with industrial plants, except maintenance of industrial plants.....	\$ 25.39	14.68
All other work, including maintenance of industrial plant.....	\$ 25.39	14.68

FOOTNOTES: Spray painting, sandblasting, blowdown associated with spraying and blasting, water blasting and work involving a swing stage, boatswain chair or spider: \$1.00 per hour additional. All work performed inside tanks, vessels, tank trailers, railroad cars, sewers, smoke stacks, boilers or other spaces having limited egress not including buildings, opentop tanks, pits, etc.: \$1.25 per hour additional.

 PLAS0514-001 06/01/2018

ZONE 1: GENESEE, LIVINGSTON, MACOMB, MONROE, OAKLAND, SAGINAW, WASHTENAW AND WAYNE COUNTIES

ZONE 2: ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LUCE, MACKINAC, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SANILAC, SCHOOLCRAFT, SHIAWASSEE, ST. CLAIR, ST. JOSEPH, TUSCOLA, VAN BUREN AND WEXFORD COUNTIES

Rates Fringes

CEMENT MASON/CONCRETE FINISHER

ZONE 1.....	\$ 31.47	13.81
ZONE 2.....	\$ 29.97	13.81

 PLUM0190-003 05/01/2015

ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GENESEE, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LIVINGSTON, LUCE,

MACKINAC, MACOMB, MANISTEE, MARQUETTE, MASON, MECOSTA,
 MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MONROE,
 MUSKEGON, NEWAYGO, OAKLAND, OCEANA, OGEMAW, ONTONAGON, OSCEOLA,
 OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SAGINAW, ST.
 CLARE, ST. JOSEPH, SANILAC, SCHOOLCRAFT, SHIAWASSEE, TUSCOLA,
 VAN BUREN, WASHTENAW, WAYNE AND WEXFORD COUNTIES

	Rates	Fringes
Plumber/Pipefitter - gas distribution pipeline:		
Welding in conjunction with gas distribution pipeline work.....	\$ 33.03	20.19
All other work:.....	\$ 24.19	12.28

 * TEAM0007-004 06/01/2020

AREA 1: ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA,
 BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX,
 CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA,
 DICKINSON, EATON, EMMET, GLADWIN, GOGEBIC, GRAND TRAVERSE,
 GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO,
 IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW,
 LAKE, LAPEER, LEELANAU, LENAWEE, LUCE, MACKINAC, MANISTEE,
 MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE,
 MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW,
 ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE,
 ROSCOMMON, SAGINAW, SANILAC, SCHOOLCRAFT, SHIAWASSEE, ST.
 CLAIR, ST. JOSEPH, TUSCOLA, VAN BUREN AND WEXFORD COUNTIES

AREA 2: GENESEE, LIVINGSTON, MACOMB, MONROE, OAKLAND, WASHTENAW
 AND WAYNE COUNTIES

	Rates	Fringes
TRUCK DRIVER		
AREA 1		
Euclids, double bottoms and lowboys.....	\$ 28.05	.50 + a+b
Trucks under 8 cu. yds.....	\$ 27.80	.50 + a+b
Trucks, 8 cu. yds. and over.....	\$ 27.90	.50 + a+b
AREA 2		
Euclids, double bottomms and lowboys.....	\$ 24.895	.50 + a+b
Euclids, double bottoms and lowboys.....	\$ 28.15	.50 + a+b
Trucks under 8 cu. yds.....	\$ 27.90	.50 + a+b
Trucks, 8 cu. yds. and over.....	\$ 28.00	.50 + a+b

Footnote:
 a. \$470.00 per week
 b. \$68.70 daily

 TEAM0247-004 04/01/2013

AREA 1: ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA,
 BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX,
 CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA,
 DICKINSON, EATON, EMMET, GLADWIN, GOGEBIC, GRAND TRAVERSE,
 GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO,

IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LUCE, MACKINAC, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SANILAC, SCHOOLCRAFT, SHIAWASSEE, SAGINAW, ST. CLAIR, ST. JOSEPH, TUSCOLA, VAN BUREN AND WEXFORD COUNTIES

AREA 2: GENESEE, LIVINGSTON, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES

	Rates	Fringes
Sign Installer		
AREA 1		
GROUP 1.....	\$ 21.78	11.83
GROUP 2.....	\$ 25.27	11.8375
AREA 2		
GROUP 1.....	\$ 22.03	11.83
GROUP 2.....	\$ 25.02	11.8375

FOOTNOTE:

a. \$132.70 per week, plus \$17.80 per day.

SIGN INSTALLER CLASSIFICATIONS:

GROUP 1: performs all necessary labor and uses all tools required to construct and set concrete forms required in the installation of highway and street signs

GROUP 2: performs all miscellaneous labor, uses all hand and power tools, and operates all other equipment, mobile or otherwise, required for the installation of highway and street signs

TEAM0247-010 04/01/2018

AREA 1: LAPEER AND SHIAWASSEE COUNTIES

AREA 2: GENESEE, MACOMB, MONROE, OAKLAND, ST. CLAIR, WASHTENAW AND WAYNE COUNTIES

	Rates	Fringes
TRUCK DRIVER (Underground construction)		
AREA 1		
GROUP 1.....	\$ 23.82	19.04
GROUP 2.....	\$ 23.91	19.04
GROUP 3.....	\$ 24.12	19.04
AREA 2		
GROUP 1.....	\$ 24.12	19.04
GROUP 2.....	\$ 24.26	19.04
GROUP 3.....	\$ 24.45	19.04

PAID HOLIDAYS: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day.

SCOPE OF WORK: Excavation, site preparation, land balancing, grading, sewers, utilities and improvements; also including

but not limited to, tunnels, underground piping, retention, oxidation, flocculation facilities, conduits, general excavation and steel sheeting for underground construction. Underground construction work shall not include any structural modifications, alterations, additions and repairs to buildings or highway work, including roads, streets, bridge construction and parking lots or steel erection.

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Truck driver on all trucks (EXCEPT dump trucks of 8 cubic yards capacity or over, pole trailers, semis, low boys, Euclid, double bottom and fuel trucks)

GROUP 2: Truck driver on dump trucks of 8 cubic yards capacity or over, pole trailers, semis and fuel trucks

GROUP 3: Truck driver on low boy, Euclid and double bottom

 * SUMI2002-001 05/01/2002

	Rates	Fringes
Flag Person.....	\$ 10.10 **	0.00
LINE PROTECTOR (ZONE 1: GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE)....	\$ 22.89	13.45
LINE PROTECTOR (ZONE 2: STATEWIDE (EXCLUDING GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE).....	\$ 20.19	13.45
Pavement Marking Machine (ZONE 1: GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES) Group 1.....	\$ 30.52	13.45
Pavement Marking Machine (ZONE 1: GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE) Group 2.....	\$ 27.47	13.45
Pavement Marking Machine (ZONE 2: STATEWIDE (EXCLUDING GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES) Group 1.....	\$ 26.92	13.45
Pavement Marking Machine (ZONE 2: STATEWIDE (EXCLUDING GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE) Group 2.....	\$ 24.23	13.45

WORK CLASSIFICATIONS:

PAVEMENT MARKER GROUP 1: Drives or operates a truck mounted striper, grinder, blaster, groover, or thermoplastic melter

for the placement or removal of temporary or permanent pavement markings or markers.

PAVEMENT MARKER GROUP 2: Performs all functions involved for the placement or removal of temporary or permanent pavement markings or markers not covered by the classification of Pavement Marker Group 1 or Line Protector.

LINE PROTECTOR: Performs all operations for the protection or removal of temporary or permanent pavement markings or markers in a moving convoy operation not performed by the classification of Pavement Marker Group 1. A moving convoy operation is comprised of only Pavement Markers Group 1 and Line Protectors.

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$15.00) or 13658 (\$11.25). Please see the Note at the top of the wage determination for more information.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISIO"