CONSTRUCTION CONTRACT BETWEEN  
PAINT CREEK TRAILWAYS COMMISSION AND WCI CONTRACTORS, INC.

This Construction Contract ("Agreement") is made effective this _____ day of ____________, 2019, by and between Paint Creek Trailways Commission (the "Commission"), of 4480 Orion Road, Rochester, Michigan 48306 and WCI Contractors, Inc. ("WCI"), of 20210 Conner Street, Detroit, Michigan 48234. For good and valuable consideration, the parties agree that this Agreement consists of and incorporates the following documents:

1. Bid Form completed by WCI to the Commission with Addendum No. 1 dated May 3, 2019, Addendum No. 2 dated May 14, 2019 and Addendum No. 3 dated May 15, 2019, supplemented by certain deletions from the Bid Form as agreed by the Commission and WCI so that the Contract Price is $571,621.

2. Bid Proposal for Paint Creek Trail Resurfacing, Paint Creek Trail Observation Deck and Bear Creek Nature Park Resurfacing, to which are attached, or which incorporates, the following documents:

   (a) Division 1 - General Requirements;

   (b) Division 30 - Supplemental Specifications;

   (c) Division A - Instructions to Bidders and Proposal Documents;

   (d) Division B - General Conditions;


   (f) Special Provision for General Specifications, dated March 22, 2019;

   (g) Notice to Bidders (Progress Clause), dated April 22, 2019;

   (h) Notice to Bidders (Project Coordination), dated March 23, 2019;

   (i) Special Provision for Maintaining Traffic, dated March 23, 2019;
(j) Special Provision for Parking Block, REM, dated April 11, 2019;
(k) Special Provision for Shared Use Path, Grading, dated March 23, 2019;
(l) Special Provision for Shared Use Path, Security, Grade and Compact, dated January 23, 2019;
(m) Special Provision for Shared Use Path, Surface Preparation, dated March 23, 2019
(n) Special Provision for Aggregate Surface CSE, Special, dated April 22, 2019;
(o) Special Provision for Shared Use Path, Aggregate, dated March 21, 2019;
(p) Special Provision for Erosion Control, Permanent, Log Barrier, dated March 15, 2019;
(q) Special Provision for Retaining Wall, dated March 15, 2019;
(r) Special Provision for Trail Edge Drainage, Inlet Special, dated March 15, 2019;
(s) Special Provision for Observation Deck, dated April 22, 2019;
(t) Special Provision for Split Rail Fence, dated April 22, 2019;
(u) Special Provision for Steps, dated April 22, 2019;
(v) Special Provision for Timber Rail, dated February 16, 2019;
(w) Special Provision for Bollard, dated March 28, 2019;
(x) Special Provision for Bumper Block, Timber, dated April 11, 2019;
(y) Special Provision for Removable Bollard, dated April 22, 2019;
(z) Special Provision for Rock Drain, dated April 15, 2019;
(aa) Special Provision for Seeding, Paint Creek Mixture, dated March 7, 2018;
(bb) Special Provision for Slope Restoration, Modified, dated February 19, 2018;
(cc) All Drawings provided to WCI.
3. Payment Bond.
4. Performance Bond.
5. Labor and Materials Bond.
6. All the foregoing constitutes the Agreement between the parties with respect to the Paint Creek Trail project.

Paint Creek Trailways Commission

By: ________________________________
Its: ______________________________

WCI Contractors, Inc.

By: ________________________________
Its: ______________________________
BID PROPOSAL

FOR

PAINT CREEK TRAIL RESURFACING,
PAINT CREEK TRAIL OBSERVATION DECK AND
BEAR CREEK NATURE PARK RESURFACING

In CITY OF ROCHESTER, CITY OF ROCHESTER HILLS,
OAKLAND CHARTER TOWNSHIP, ORION CHARTER TOWNSHIP
AND VILLAGE OF LAKE ORION
OAKLAND COUNTY, MICHIGAN

BID OPENING:
Thursday, May 16, 2019 at 3:00 p.m.

Paint Creek Trailways Commission

Officers
David Becker, Chairman
Rock Blanchard, Vice-Chairman
Han Van Agen, Secretary
Donni Steele, Treasurer
Melissa Ford, Trail Manager

Commissioners
Linda Gamage, City of Rochester
Kim Russell, City of Rochester
Susan Bowyer, Rochester Hills
Frank Ferriolo, Oakland Township
Jeff Stout, Orion Township
Brad Mathisen, Village of Lake Orion

MSG PROJECT NO. P3290002
Sealed bids for the **PAINT CREEK TRAIL RESURFACING, PAINT CREEK TRAIL OBSERVATION DECK AND BEAR CREEK NATURE PARK RESURFACING** will be received at the City of Rochester Hills’ Purchasing Division located at 1000 Rochester Hills Drive (Lower Level), Rochester Hills, Michigan 48309 until **EXACTLY 3:00 P.M.**, Michigan Time, on **THURSDAY, MAY 16, 2019** at which time the bids will be publicly opened and read aloud. The City of Rochester Hills is receiving bids for this project for the Owner, The Paint Creek Trailways Commission.

The City of Rochester Hills officially distributes bid documents through the Michigan Intergovernmental Trade network (MITN). Copies of bid documents obtained from any other source are not considered official copies. The first step to do business with the City is to become a registered vendor by visiting the City website at [www.rochesterhills.org](http://www.rochesterhills.org), click on Business, Purchasing/Bids, then Quick Links and Vendor Registration. All addendum and final bid results will be posted on the MITN website after award. The Contract and Specifications documents for this project are available on the MITN system. A complete paper copy of the Contract and Specification documents can viewed at the Oakland Township Parks and Recreation Department offices, 4480 Orion Road, Rochester, MI 48306.

Each bid shall be accompanied by a certified check or a bid bond in an amount not less than 5% of the bid amount. The bond shall be with a Surety licensed and admitted to do business in the State of Michigan and in a form acceptable to the Paint Creek Trailways Commission.

All bids shall be opened publicly at the date and time specified. Each bid shall be recorded together with the name of the bidder. Bids shall be in accordance with the Purchasing Ordinance and the requirements of this notice in order to be deemed “responsive.”

The accepted bidder will be required to furnish Insurance Certificates, Payment, Performance and Maintenance Bonds underwritten by a Surety licensed and admitted to do business in the State of Michigan and acceptable to the Commission.

A mandatory pre-bid meeting will be held at the Oakland Township Parks and Recreation offices (at Paint Creek Cider Mill), 4480 Orion Road, Rochester, MI 48306 on Thursday, May 2nd, at 10:00 a.m.

Inquiries in regards to the Drawings, Specifications or Contract Documents will be accepted until close of business (5 p.m.) on May 8, 2019 by emailing any requests for information or clarifications to kmcdevitt@manniksmithgroup.com. Addenda, if required, will be issued on MITN by close of business (5 p.m.) on May 10, 2019.

Bids are to be submitted in a sealed envelope, plainly marked “**PAINT CREEK TRAIL RESURFACING**” and received by the City of Rochester Hills’ Purchasing Division on or before the time and date given above. No late bids will be accepted.

It is the intention of the Paint Creek Trailways Commission to award this Contract to a Contractor fully capable both financially and with previous experience in this type of
work. Selection of bidder will include qualifications and performance records as outlined in instructions to bidders.

The right to accept any bid, to reject any or all proposals and to waive defects in bids is reserved by the Paint Creek Trailways Commission. Portions of this Contract may be deleted due to unforeseen circumstances without compensation.

The Commission reserves the right to change or amend the bid documents, prior to the bid opening date by the issuance of addendum posted on the MITN website. It shall be the contractor’s responsibility to make inquiry as to the changes or addenda issued. All such changes or addenda shall become a part of the contract and all contractors shall be bound by such changes or addenda.

The Commission’s acceptance of a bid and approval of the award of a contract shall not constitute a formed contract, and the acceptance of a bid and award of a contract shall be contingent and conditioned upon the parties’ entry into and execution of a written agreement acceptable to the Commission.

Dated: April 26, 2019
INDEX

DIVISION 1 – GENERAL REQUIREMENTS

<table>
<thead>
<tr>
<th>PAGE</th>
<th>01.01 SUMMARY OF WORK</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-1</td>
<td>01.01.01 Work Covered by Contract Documents</td>
</tr>
<tr>
<td>1-1</td>
<td>01.01.02 Contractor's Use of Premises</td>
</tr>
<tr>
<td>1-1</td>
<td>01.01.03 Existing Facilities Operations</td>
</tr>
<tr>
<td>1-2</td>
<td>01.01.04 Hours of Work</td>
</tr>
<tr>
<td>1-2</td>
<td>01.01.05 Cutting and Patching</td>
</tr>
<tr>
<td>1-2</td>
<td>01.01.06 Subsurface Exploration</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1-2</th>
<th>01.02 PROJECT MEETING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
<td>01.02.01 Preconstruction Meeting</td>
</tr>
<tr>
<td>1-3</td>
<td>01.02.02 Progress Meeting</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1-3</th>
<th>01.03 SUBMITTALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>01.03.01 Materials Certification</td>
</tr>
<tr>
<td>1-3</td>
<td>01.03.03 Samples</td>
</tr>
<tr>
<td>1-4</td>
<td>01.03.05 Contractor's Progress Schedule</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1-4</th>
<th>01.04 QUALITY CONTROL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-4</td>
<td>01.04.01 Grades, Lines and Levels</td>
</tr>
<tr>
<td>1-5</td>
<td>01.04.02 Inspection of Parts of the Work by Permit Agencies</td>
</tr>
<tr>
<td>1-5</td>
<td>01.04.03 Inspection by Owner</td>
</tr>
<tr>
<td>1-7</td>
<td>01.04.04 Construction Contract Administration by Owner's Representative</td>
</tr>
<tr>
<td>1-8</td>
<td>01.04.05 Materials Testing &amp; Inspection</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1-9</th>
<th>01.05 TEMPORARY FACILITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-9</td>
<td>01.05.01 Soil Erosion and Sedimentation Control</td>
</tr>
<tr>
<td>1-10</td>
<td>01.05.02 Siltation and Erosion Control at Stream Crossings</td>
</tr>
<tr>
<td>1-12</td>
<td>01.05.03 Temporary Access Roads &amp; Drives</td>
</tr>
<tr>
<td>1-12</td>
<td>01.05.04 Traffic Control</td>
</tr>
<tr>
<td>1-13</td>
<td>01.05.05 Pumping, Maintaining Sewage Flow, and Drainage</td>
</tr>
</tbody>
</table>
INDEX
(Continued)

DIVISION 1 – GENERAL REQUIREMENTS

PAGE

1-14  01.05.06  Temporary Sanitary Facilities
1-14  01.05.07  Project Sign
1-15  01.05.08  Temporary Utilities
1-15  01.05.09  Materials and Equipment Storage on Site
1-15  01.05.10  Fences, Mailboxes and Other Physical Features

1-16  01.06  EXISTING PROPERTIES, STRUCTURES AND UTILITIES

1-16  01.06.01  Notification of Governing Agencies and Utilities
1-16  01.06.02  Preservation of Property, Trees, Monuments, etc.
1-16  01.06.03  Cleanliness of the Project
1-17  01.06.04  Truck Routes
1-17  01.06.05  Rights-of-Way and Easements
1-17  01.06.06  Highway and Street Requirements
1-18  01.06.08  Overhead Utilities
1-18  01.06.09  Underground Utilities
1-19  01.06.10  Structures

1-19  01.07  PROJECT CLOSE OUT

1-19  01.07.01  Final Inspection of the Completed Work and Engineer's Punch List
1-19  01.07.02  Contractor’s Close Out Submittals
DIVISION 1 – GENERAL REQUIREMENTS

01.01 SUMMARY OF THE WORK

01.01.01 Work Covered By Contract Documents

The following Specifications for Contract Work, Divisions 1 thru 30, as included, set forth conditions or requirements peculiar to the Work to be performed under this Contract. The Work to be performed shall be as described in Division 30 - Supplemental Specifications. The method of measurement and basis of payment for Work performed shall be as indicated in the Proposal and described in the following divisions. Under each item of Work listed in the Proposal and herein described, the Contractor shall furnish: all labor and materials; tools, plant, equipment, supplies, and bonds; costs of heating, lighting, and power; tests of construction materials as required under any section of these Specifications; and all Work that may be specifically described and included in the following divisions (under the respective items, whether incidental or otherwise) necessary to complete the Work in accordance with the obvious or expressed intent of the Contract.

01.01.02 Contractor's Use of Premises

The Contractor shall confine his operations at the site to areas permitted by Law, Ordinances, Permits, and the Contract Documents.

The Contractor shall not load or permit any part of any existing or proposed structures to be subjected to any forces that will endanger their safety.

The Contractor shall not discharge any smoke, dust, or other contaminants into the atmosphere, or discharge any fluids or materials into any waterway as will violate regulations of any legally constituted authority.

The Contractor shall assume full responsibility for protection and safekeeping of any products stored on the premises.

The Contractor shall move any stored products which interfere with the operations of the Owner or other Contractors. The Contractor shall obtain and pay for any additional storage or work areas needed for his operations.

01.01.03 Existing Facilities Operations

The existing facilities are to be operated as described in the Supplemental Specifications. The Contractor shall plan and conduct the construction operations to avoid disturbing the existing facilities, equipment and services in any manner that will interrupt or impair operations, except as approved by the Engineer.

The Contractor shall submit for approval a construction sequence, detailed Drawings, and written explanations of all temporary facilities and appurtenances intended to be used in maintaining the uninterrupted operations of the existing facilities, if described in the Supplemental Specifications.
01.01.04  Hours of Work

The Contractor is required to prosecute Work done under this Contract during the hours of daylight, and no Work will be permitted at night, on Sundays, or on holidays unless specifically authorized by the Engineer and by written approval of the local unit of government. Should the Contractor elect to work at night, Sundays, or on holidays, a copy of the written approval of the local unit of government and regulatory agencies shall be submitted to the Owner and to the Engineer prior to commencence said Work. The detailed hours of work for each municipality are listed in the Progress Clause.

01.01.05  Cutting and Patching

The Contractor shall do all cutting, fitting, or patching of his Work that may be required to make its several parts come together properly and fit it to receive or be received by Work of other Contractors shown upon, or reasonably implied by, the Drawings and Specifications for the completed Work as the Engineer may direct.

01.01.06  Subsurface Exploration

The Contractor shall assume all risks and responsibility because of existing soil conditions. The Contractor shall make his own determination as to soil conditions and he shall complete the Work in whatever manner and under whatever conditions he may encounter or create. This shall apply whether or not borings are included in the Contract Documents. Any soil information shown in the Contract Documents, or attached in the Appendix, is given solely for the Contractor's information and is to be used at his own discretion.

It shall be the Contractor's responsibility to evaluate data provided, along with making any onsite inspections which he may consider necessary, to protect his interests in the Project. It will also be the responsibility of the Contractor to report to the Engineer as soon as possible any subsurface conditions found to be contradictory to those outlined in the above mentioned report.

It is also noted that there will be no compensations made to the Contractor for soil explorations and/or analysis thereof. All Work, either incidental or directly related to the Contract, shall be performed at the Contract Prices regardless of soil conditions encountered.

01.02  PROJECT MEETINGS

01.02.01  Preconstruction Meeting

After receipt of the “Notice of Award”, the Contractor shall submit to the owner a construction progress schedule showing in a clear graphical manner, satisfactory to the Owner, the proposed dates for commencement, progress, and completion for the Work. After the Contractor's schedule has been approved, the Owner shall schedule a preconstruction meeting. The Contractor shall attend the preconstruction meeting at the time and place arranged by the Owner, at which various utility companies, the Engineer, the designated inspection-agencies, local municipal officials, governmental agency representatives and the Owner's Representatives will be present to discuss the Project. It is expected that the pre-construction meeting for this Trailways project will include an on-site walk-through of the entire trail to determine specific locations of the work, as identified by the Trail Commission’s representative in the field.
01.02.02  Progress Meeting

Periodic progress meetings shall be conducted, as determined necessary by the owner, during the life of the Contract. The Contractor shall attend these progress meetings and their Subcontractor shall also attend these meetings when requested. The purpose of these meetings shall be to update the construction schedule, discuss and resolve construction related problems, and obtain and exchange Project related information from the owner and the Engineer. It is expected that these meetings will either be held at the Trail Commission offices (at the Paint Creek Cider Mill) or at Oakland Township Offices.

01.03  SUBMITTALS

01.03.01  Materials Certification

Where called for in the Specifications or requested by the Engineer, the Contractor shall secure and submit to the Engineer 2 copies of materials certificates.

01.03.03  Samples

All samples called for in the Specifications or required by the Engineer shall be furnished by the Contractor and shall be submitted to the Engineer for his review. Samples shall be furnished so as not to delay fabrication, allowing the Engineer reasonable time for the consideration of the samples submitted. Contractor shall furnish such samples of material as may be required for examination and test. All materials for tests shall be taken according to methods provided in the Specifications. The Contractor shall furnish such assistance and facilities as the Engineer may require for collecting, storing, and forwarding the samples. The entire cost of taking the samples and delivering them to the testing authority shall be paid for by the Contractor at no cost to the Owner. The physical cost of testing by the testing authority shall be paid for by the Owner at no cost to the Contractor.

Failure of samples to meet Contract requirements shall be sufficient cause for refusal to consider any further samples of the same brand from the manufacturer whose equipment has failed.

Any of the materials or equipment delivered on the site or in place may be taken by the Owner or Engineer for testing. Materials or equipment which fail to meet Contract requirements will automatically void previous approvals of the items tested. The Contractor shall replace all such disapproved materials or equipment at his own cost.

Tests will be made by such methods and in such numbers as the Engineer determines to be adequate and equitable. When materials are required to conform to Federal, NCPI, AWWA, or ASTM specifications, and such specifications are accepted as establishing the technical qualities and testing methods, they shall not necessarily govern the number of tests required to be made. The Engineer may require laboratory tests on samples submitted or may approve materials on the basis of data submitted in certificates with the samples.

If the tests of the samples submitted indicate that the proposed material will not conform to the Contract requirements, the Engineer will notify the Contractor that the proposed material is unacceptable and rejected and will furnish the Contractor the basic reasons for such rejection. However, the Engineer will not be required to furnish the Contractor with copies of all the test data and results.
All materials rejected by the Owner or his Representative shall be indelibly marked and immediately removed from the site of the Work.

01.03.05  Contractor’s Progress Schedule

The Contractor shall prepare a detailed construction progress schedule in graphic form showing the proposed dates of starting and completing each major division of the Work. The schedule shall be consistent with the time, order of Work and requirements of the Specifications, and shall be the basis of the Contractor’s proposed operations. Information included on the progress schedule shall include, but not be limited to the following:

- Beginning and completion dates for major items of Work for each Stage of the work.
- Contractor’s proposed method of construction
- Designation of the Project Superintendent
- Proposed number of crews
- Estimated open to traffic date.
- Estimated date of completion (including delayed acceptance items).
- Contractor’s proposed Construction Safety Program to include weekend, emergency, traffic, and maintenance telephone numbers. Personnel listed for contact should be fully qualified to act on behalf of the Contractor as his agent.
- The name, address, telephone number, and specialty of any Subcontractors proposed to conduct Work
- The source and Supplier of materials and equipment to be furnished

The Contractor shall submit 1 reproducible copy of the proposed progress schedule to the Engineer for review 1 week prior to the scheduled preconstruction meeting. If requested by the Engineer, the Contractor will revise and resubmit the progress schedule prior to the preconstruction meeting. If during the execution of the Work the Contractor falls behind or advances ahead of the proposed schedule, said schedule, upon request by the Engineer, will be revised by the Contractor based on the current status of the Work.

01.04  QUALITY CONTROL

01.04.01  Grades, Lines, and Levels

a. General

All Work under this Contract shall be built in accordance with the lines and grades shown on the Drawings or as altered or modified by the authority of the Owner.

All construction survey work provided by the Contractor shall be performed under the supervision and direction of a Registered Land Surveyor licensed to practice in the State of Michigan.
The Contractor shall have the responsibility to carefully preserve and protect the United States Government corners, established reference points, bench marks, property corners, monuments, and construction stakes.

The Contractor shall notify the Engineer whenever any of these points are lost, disturbed, or require relocation. In case of loss or disturbance of these points during the construction period, the Contractor shall pay the cost of replacement and restaking, and shall be responsible for any mistakes that may be caused by such loss or disturbance.

Wherever in the Contract Documents there are given survey stations, bearings, or similar survey designations for the location of structures, or portions of structures, it is understood that they are approximate only, and no change of such designations caused by the developments of construction shall be made the basis of claims for payment other than provided for in the Contract.

The Owner will provide construction control baselines and will provide a Master Bench Mark at the site. The Contractor shall be responsible for the layout and location of all new construction, including the proper elevation of such construction.

The Contractor shall provide the Engineer with reasonable and necessary opportunities to check the accuracy of all Work as to the lines and grades shown on the Drawings. This shall consist of the placement and removal of alignment points, and furnishing such materials and giving such assistance to the Engineer as may be necessary to check the Work. It may be necessary to stop construction during the checking operation. No compensation shall be paid to the Contractor for any Work, materials, labor, or delays as a result of making these checks or other necessary measurements. If it is found necessary to carry on these operations at any time other than normal working hours (namely, over 8 hours a day, Saturday, Sunday, and holidays), the Contractor shall pay the owner all additional overtime cost of such checking Work.

01.04.02 Inspecti on of Parts of the Work by Permit Agencies

Inspection of that part of the Work requiring special permits from agencies such as road commissions, drain commissions, railroads, the state highway department, and the Department of Natural Resources may be performed by that agency. The cost of inspection of special permit work by agencies other than the Owner shall be at the Contractor's expense.

01.04.03 Inspection by Owner

The Engineer and his representatives shall at all times have access to the Work. In addition, authorized representatives and agents of any participating federal or state agency shall be permitted to inspect all Work, materials, payrolls, records of personnel, invoices of materials, and other relevant data and records. The Contractor shall provide proper facilities for such access and observation of the Work and also for any inspection or testing thereof.

If any Work is covered without prior inspection or contrary to the instructions of the Engineer, it must, if requested by the Engineer, be uncovered for his observation and replaced at the Contractor's expense.
If the Engineer considers it necessary or advisable that Work previously approved for covering be inspected or tested by others, the Contractor, at the Engineer’s request, will uncover, expose, or otherwise make available for observation, inspection, or testing as the Engineer may require, that portion of the Work in question, furnishing all necessary labor, materials, tools, and equipment. If it is found that such Work is defective, the Contractor shall bear all the expenses of such uncovering, exposure, observation, inspection, and testing and of satisfactory reconstruction. If, however, such Work is not found to be defective, the Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, and reconstruction and an appropriate Change Order will be issued.

In addition to that inspection required by Permit Agencies, the Owner and Oakland Township Parks and Recreation, may provide Engineers and/or Inspectors to inspect the Work performed under this and related Contracts. The Owner has determined that construction and related operations requiring full time inspection are generally defined as follows:

a. **General**
   1. Check for required permits
   2. Inspect the plant operations of manufacturers, including batch plants, and/or Suppliers of materials to be incorporated in the Work
   3. Check for certification and Engineer approval of all materials and equipment (including compliance with approved Shop Drawings) delivered to the job site
   4. Attendance at preconstruction meeting and construction progress meetings
   5. Review of Contractor’s payment requests
   6. Preparation and review of Field Orders and Change Orders
   7. Witness all final inspection of Work
   8. Restoration of conditions existing prior to construction, including drives, sidewalks, fences, landscaping, cleanup, etc.
   9. Resolution of construction complaints, including the viewing of audiovisual record of construction area
   10. Construction of appurtenances
   11. Preparation of Punch Lists
   12. Change plans to as-built conditions

b. **Streets and Roads**
   1. Excavation and preparation of the site
      (a) Salvage of gravel or base material
      (b) Construction of compacted fills
   2. Subbase construction Base construction

c. **Sewers and Drains**
   1. Excavation, bedding, and backfill
   2. Installation of materials
   3. Final inspection of underground facilities and utilities
The Contractor shall notify the Owner or the Engineer and the affected permit agency 24 hours in advance of any Work to be performed on the Project.

The Owner will provide inspection of the Project up to the “Completion Date as Bid” determined in the Notice to Proceed at no cost to the Contractor.

However, the Contractor shall reimburse the Owner the cost of inspection of work performed after said Completion Date at the rate per Inspection-day shown in the Proposal.

An Inspection-day is defined as 1 construction operation requiring 1 full-time Inspector for 8 hours. Partial days or overtime hours will be computed as follows:

Through 4 hours/day 1/2 Inspection-day
Over 4 through 8 hours/day 1 Inspection-day
Over 8 hours/day 1/6 Inspection-day/hour
Holiday or weekend 1/6 Inspection-day/hour (min. 4 hours)

01.04.04  Construction Contract Administration by Owner’s Representative

During the execution of the Work, the Owner will provide one, or more, Representatives designated to perform Construction Contract Administration (CCA). These Representatives will make periodic visits to the Project site to observe the progress and quality of the executed Work and will determine in general if the Work is proceeding in accordance with the Contract Documents. CCA time will be supplemental to Inspection time; therefore, it is not intended that CCA will include exhaustive or continuous onsite inspections to check the quality and quantity of the Work. Nor will CCA by the Owner’s Representatives assume any of the Contractor’s responsibility for the construction means, methods, techniques, sequences, procedures, or safety precautions incidental thereto or the Contractor’s obligation to perform the Work in accordance with the Contract Documents. The intention of CCA is to provide assurance to the Owner that the Work is executed and when completed will conform essentially to the requirements of the Contract Documents.

Each eight man-hours of CCA time will be considered a “CCA-day. "The cost of CCA time will be based on the number of “CCA-days” expended to perform this function by the Owner's Representative.

Until the Completion Date as Bid, the Owner will provide, at no cost to the Contractor, the CCA time required to perform the normal CCA described as follows:

- Preliminary review and approval of Audiovisual Tape Coverage of the construction area
- Original review of Shop Drawings
- General contract correspondence
- The negotiation and preparation of Field orders and/or Change Orders originated by the Owner or his Representatives
- Review and approval of construction progress schedules
- Attendance at preconstruction meetings and progress meetings scheduled under this Contract
- The resolution of citizen complaints caused by construction operations done in accordance with the Contract Documents
However, the actual amount of time required for CCA may be largely determined by the Contractor's organization of the Work and his efficiency. All CCA time consumed for work that is not included in the above-listed normal categories shall therefore be paid for by the Contractor at the cost per CCA-day shown in the Proposal. These general categories of CCA time, for which the Contractor will be back-charged, will include, but are not necessarily limited to, the following:

- All CCA-days consumed after the established “Completion Date as Bid”
- Re-review of Shop Drawings
- Any site visits by the Owner's Representatives that are required to resolve construction conflicts directly caused by, or the result of, the Contractor's activities
- The resolution of citizen complaints caused by construction operations not done in accordance with the Contract Documents
- Negotiation and preparation of Field Orders originated by the Contractor Orders and/or Change
- Any job related meetings other than those normally scheduled under this Contract

01.04.05  Materials Testing & Inspection

All materials and equipment used in the construction of the Project shall be subject to adequate inspection and testing in accordance with generally accepted standards, as required and defined in the Contract Documents. Material tests and inspection may be made by the Engineer or his authorized representative during manufacture and/or upon delivery. All material rejected after delivery shall be removed from the job site within 5 days after notification of rejection. The Contractor shall pay all costs for such removal and replacement with acceptable material, including all handling, loading, and transportation charges.

The Owner will provide, at his expense, the testing services required by the Contract Documents. The Contractor shall pay for all re-testing.

If the Contract Documents, laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction require any Work to specifically be inspected, tested, or approved by someone other than the Owner, the Contractor will give the Engineer timely notice of readiness. The Contractor shall then furnish the Engineer the required certificates of inspection, testing, or approval.

Inspections, tests, or approvals by the Engineer or others shall not relieve the Contractor from his obligations to perform the Work in accordance with the requirements of the Contract Documents.

Approval of any material or equipment shall be only for the characteristics of uses named in such approval and shall not constitute a change or modification of the Contract or a waiver of the Owner's right to demand full compliance with the Drawings and Specifications.

When materials or equipment have been approved, no change or substitution will be permitted.

01.05  TEMPORARY FACILITIES

01.05.01  Soil Erosion and Sedimentation Control

The Contractor shall construct this Project in compliance with part 17 of Section 5 of Act No. 347 of 1972 (being Section 282.105 of the Michigan Compiled Laws entitled “Soil Erosion and
Sedimentation Control") under the control of the local permit agency charged with administering the provisions of this Act. The Contractor shall follow the procedures delineated below and construct and maintain the facilities shown on the Drawings to control water and wind erosion during construction of this Project.

All disturbed surface areas (including utility trenches) shall be temporarily graded and/or ditched to direct all water runoff from such areas to sedimentation control devices so as to prevent water carrying soil from entering a watercourse, sewer, or adjacent lands. Such sedimentation control devices shall include, but not be limited to: protective ditches, sediment traps, sediment filters, ditch traps, pipe barriers, straw bale berms, and filters, as detailed and required and located on the Drawings. After the Project Work has been completed, inspected, and approved, the Contractor shall remove all sedimentation control devices, material, and their collected silt and debris and complete the Project Work in accordance with the Drawings.

In roadway areas temporary aggregate surfacing shall be completed immediately after the backfilling operation has been completed. Positive dust control measures shall be taken at all times.

Within 15 days from the date a Project improvement is installed, the Contractor shall proceed with final cleanup and restoration of the Project area disturbed (including spill areas) and complete such operations within the next 15 days. If seasonal conditions prevent final cleaning and restoration, the Contractor shall proceed with temporary stabilization of the disturbed area. Final cleanup and restoration shall consist of final grading, topsoiling, seeding and mulching, and/or sodding of all disturbed areas of the Project. Temporary stabilization shall consist of rough grading the disturbed area to a condition ready to receive topsoil, seeding with 70 pounds per acre of perennial rye grass, and mulching the disturbed area in accordance with these Specifications. Temporary stabilization materials shall be removed and disposed of and final cleanup and restoration shall be completed not later than 60 days after seasonal conditions allow performance of the required Work.

All Soil Erosion and Sedimentation Work described herein and shown on the Drawings will be incidental to the Contract, unless otherwise noted.

01.05.02 Siltation and Erosion Control at Stream Crossings

The Contractor shall comply with the following excerpts from the Michigan Department of Natural Resources Specifications for erosion and siltation control at stream crossings. All costs in connection with these requirements shall be borne by the Contractor and shall be considered as Incidental to the Contract.

The Owner shall secure required permits from the DNR for all stream crossings and the Contractor shall pay the cost of any inspection charges by that agency for Work done under those permits.

a. Notice for Inspection

The Contractor shall give 10 days’ notice to the Engineering Division of DNR before the beginning of Work so that arrangements can be made for field inspection by the Department.

b. Notice of Work Adjacent to a Stream
Five days’ notice of crossing or ditching within 50 feet of any stream shall be given to the DNR Engineering Division.

c. **Prevention of Damage to Fish and Wildlife Habitat**

   The Contractor shall take necessary steps in carrying out the Contract to prevent damage to fish and game habitat, and to preserve the natural resources of the state. Excavation shall be carried out so as to prevent discharge of damaging material into any stream, lake, or reservoir.

d. **Time of Construction**

   Construction Work across major streams shall be done following special weekend holidays (Memorial Day - Labor Day) rather than just before and during such times.

e. **Need for Expeditious Completion of Work**

   The work of clearing, grading, ditching, backfilling, and final cleanup in close proximity to streams, lakes, and reservoirs shall be completed as soon as possible in order to prevent erosion occurring from wind and precipitation.

f. **Settling Basins**

   Temporary settling basins may be required at some crossings. Settling basins when required shall be constructed prior to any other Work at the site crossing. Cofferdams will be in the same category. Cold water streams will in most cases require this type of treatment.

g. **Cofferdams**

   Cofferdams are to be removed, including any materials trapped by them in the control of siltation. Intermittent removal of silt or sand during construction may be required for proper operation of settling basins.

h. **Trench Excavation**

   All pipe trenches shall be excavated to a depth that will provide a minimum depth of 30 inches from bed of stream to top of pipe.

   Appropriate trench excavation methods shall be employed to minimize the entry of material from the trench into the stream, giving due consideration to the soil, terrain, cover, side slope, and weather conditions involved.

   The pipe trench excavation shall stop some distance from the stream to leave a 10 to 20 foot long protective plug of unexcavated material at each bank. These plugs shall be left in place until the pipe laying operation across the stream is begun.

   Trench excavation across the stream shall be done first. The landward portion of the plug shall be next. The plugs shall not be completely removed until absolutely necessary. They shall be protected from ditch erosion by sheet piling, sandbagging, or side cut diversion openings.
Earth plugs shall be replaced on each bank as soon as the pipe is laid and protected, as specified above.

The trench in the stream bed shall not be backfilled except where necessary to provide a foundation for the stream bank riprap, or to protect the pipe line from possible damage by partially filling the trench with coarse aggregate. In no event shall any type of backfill be used which will cause excessive siltation.

Construction water shall be prevented from entering the stream by construction of diversion ditches or by pumping water from trench excavations to appropriate sedimentation basins on private lands secured from land owners.

i. Final Cleanup

Final cleanup shall consist of reshaping the stream to its original configuration, width and depth and bottom material; protection of the stream banks as specified and removing all construction material and debris from the crossing site, including any material and debris deposited downstream from the site as a result of the pipeline construction. Exposed beds and banks of streams shall not remain unprotected over 7 days.

j. Stream Bank Protection

All disturbed stream banks with raw soil exposure shall have a finished slope no steeper than one on two (one vertical to two horizontal to prevent sloughing until stabilized by vegetative cover or riprap. The one on two slope shall be graded back to the top of the natural bank. If the top of the natural bank is more than 3 feet above the high-water line, a 10 foot berm may be placed at this level and the remaining slopes constructed upward parallel with the natural bank.

All raw soil exposed above the water line shall be sodded, riprapped, or seeded, fertilized, and mulched with Type SS-IS Emulsion.

Mulch is to consist of 3 inches of straw or other approved material. Mulch on slopes greater than 10 percent shall be held in place by a spray, of asphalt Type SS-1S Emulsion mixed with an equal amount of water.

At crossings through or near stream bends permanent riprap shall be used from the stream bed up to the high-water line. Permanent riprap shall also be used on any disturbed stream bank where the stream velocity measured within 10 feet of the bank is greater than 5 feet per second. Permanent riprap shall be natural rock. Crush concrete shall not be allowed within 500 feet of a stream.

At crossings on straight sections of streams permanent type riprap shall be placed along the stream bank from the stream bed up to an elevation 2 rows of riprap above the normal water line. Sandbags shall be placed from this elevation to the high-water line.

Deflection dikes reinforced by 1 row of sandbags shall be used to divert runoff from steep slopes to undisturbed areas adjacent to the right-of-way where the contributing runoff could be great enough to cause slope erosion.
These dikes shall be placed along the top of all stream banks where the entire slope is not protected with riprap. They shall also be placed at the top of and at 100 foot intervals or less on slopes greater than 20 percent.

01.05.03 Temporary Access Roads and Drives

The Contractor shall, where necessary, construct and maintain temporary access roads and drives as directed by the Engineer.

These roads and drives shall serve as access for local public or private use or as access to the construction site both for the Contractor's equipment and for the delivery or removal of materials.

The temporary access roads and drives shall be removed by the Contractor when directed by the Engineer. The areas shall be restored as near the condition found as is practical and shall be compatible with the adjacent undisturbed areas.

01.05.04 Traffic Control

Closing of any street to through traffic, even if just temporary, may be done, if at all, only as specifically authorized by the governing agencies. Unobstructed access to fire hydrants and water and gas valves shall always be provided.

Where any street is to be partially blocked, temporary roadways, sidewalks, bridges, crossings, barricades, lights, signs, and the like shall be provided and maintained as the Engineer considers necessary to accommodate and protect the public. Should the Contractor fail to promptly provide or neglect to maintain the required temporary facilities, or be dilatory in carrying out specific instructions of the Engineer, those having authority may, with or without notice to the Contractor, take such remedial measures deemed necessary and charge the Contractor with any costs incurred therefore. Any such action, however, shall in no way serve to release the Contractor from his general or particular liability for the safety of the traveling public or the protection of property. Where street obstruction is authorized, the Contractor shall inform the Municipal Fire Department in advance of such obstruction, so that plans may be prepared for servicing the area. He shall, likewise, notify the authorities having jurisdiction over the streets and roads at least 1 week prior to the contemplated obstruction so that regulatory traffic controls may be arranged.

In the event the Contractor is authorized to close the road to all traffic, it will be the responsibility of the Contractor to notify the local police department, the governing agency, local fire department, local school board, and residents on the road affected by the road closure. Furthermore, it will be the Contractor's responsibility to provide any temporary facilities required by the local governing authorities due to the temporary closing of the road, and to obtain permits prior to closing any road.

All traffic signs or trail sign disturbed or damaged during the construction of the Project shall be replaced in their original condition. Any sign or light temporarily disturbed or removed during construction shall be replaced with temporary signs or flagmen during construction in the immediate area and then permanently replaced immediately after construction in that area is essentially finished. The cost of this replacement shall be incidental to the Project and no separate payment will be made therefore.

The trail may be closed to pedestrian traffic only as allowed for in the Progress Clause included in the Log of Work.
01.05.05  Pumping, Maintaining Sewage Flow, and Drainage

Adequate pumping and drainage facilities shall be provided, and all water from whatever sources entering the Work during any stage of construction shall be promptly removed and disposed of. All pumping and drainage shall be done without damage to property or structures and without interference with the rights 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 will not be permitted and the Contractor shall be solely responsible for damage caused by his operations.

Both dry weather sewage flow and storm flows in all existing sewers, ditches, streams, rivers and drains, which may in any way be affected by the new construction, shall be adequately maintained. Only such methods shall be used in maintaining flows as will prevent raising the levels of the sewage in upstream sewers to the extent to cause basement flooding or other damage. All gutters, ditches, catch basins, and other surface water inlets and drains shall be kept clear for proper surface drainage. Surface water inlets and drains that interfere with the Contractor's operations shall be temporarily altered or relocated by the Contractor as directed or approved by the Engineer.

All alterations, relocation, or use of any existing facilities shall be approved by the proper governing agency and shall be restored to the original location, and to as good a condition as found; all as approved by the governing agency. Should the Contractor desire to place or remove any restrictions (such as bulkheads, curtain walls, dams, sandbags, or flumes) or to leave temporary openings in any sewer wall, approval shall first be obtained from the Engineer.

Any temporary obstruction so placed shall be promptly removed when no longer needed. Any temporary opening made in an existing sewer structure shall, likewise, be promptly closed when no longer needed. Such closure shall be made as directed by the Engineer to provide structural and hydraulic conditions equivalent to those originally existing.

Should flooding or damage to construction Work result from storm conditions, the Contractor will not be entitled to any extra compensation for such loss as he may sustain, or for the extra Work that may result therefrom.

01.05.06  Temporary Sanitary Facilities

The Contractor shall provide and maintain during the life of the Contract sanitary conveniences for the use of all persons employed on the Work, including his Subcontractors, in sufficient number, in such manner and at such places as shall be approved by the Engineer, and all persons connected with the Work shall be obligated to use them. The Contractor shall prohibit the committing of a nuisance within the Work or upon lands about the Work. Any employee found violating these provisions shall be discharged and not again employed without the written consent of the Engineer.

In addition, the Contractor shall provide separate sanitary conveniences for the use of the Engineer and Inspectors. This facility shall be located at the site designated for the Inspector's field office.
01.05.07  Project Sign

When required by the Supplemental Specifications, the Contractor shall provide, erect, and maintain in good condition throughout the life of the Project, a Project Sign in the location selected by the Owner. The Project Sign shall be constructed in accordance with the following Specifications:

- **Size:** 4 feet x 8 feet
- **Material:** The panels shall be exterior type high density overlaid 3/4 inch plywood. The frame shall be 1-1/4 inch by 4 inch fir dressed on all 4 sides.
- **Assembly:** 1-1/4 inch by 4 inch fir frame to fit 4 foot by 8 foot by 3/4 inch plywood panel with 2 center braces.
- **Mounting:** The sign shall be mounted to 4 inch by 4 inch wood posts with four 3/8 inch bolts and nuts including washers on each side of the sign.
- **Erection:** The 4 inch by 4 inch posts shall be set in concrete 12 inches in diameter to a depth of 3 feet below grade.
- **Paint:** The face of the panel shall receive 3 coats of exterior enamel (sprayed). The rear of the panel shall receive 1 coat of exterior enamel (sprayed). The frame and posts shall receive 3 coats of blue exterior enamel.
- **Lettering:** Silk screen enamels where possible or hand painted enamels.

The information to be shown on the Project Sign, and the format to be used, will be provided by the Owner after the award of the Contract.

01.05.08  Temporary Utilities

Except as specifically noted, the Contractor shall furnish and pay for all required labor, materials and equipment, tools, construction equipment and machinery, samples, shipping costs and tests, all necessary utilities, such as water, electric power, telephones, roads, fences, and sanitary facilities, including maintenance thereof, and any other facilities and services necessary for proper execution and completion of the Work.

01.05.09  Materials and Equipment Storage on Site

Materials and equipment shall be so stored as to insure the preservation of their quality and fitness for the Work. When considered necessary, they shall be placed on wooden platforms or other hard, clean surfaces, and not on the ground, and/or they shall be placed under cover. Stored materials shall be located so as to facilitate prompt inspection. Private property shall not be used for storage purposes without the written permission of the Owner or lessee.
All materials and equipment shall be handled in a manner to avoid damage or breakage and delay
in the completion of the Work. The Contractor shall repair or replace, without cost to the Owner
and to the satisfaction of the Engineer, all items damaged or broken as a result of his operation.

All materials shall be so delivered, stored, and handled as to prevent the inclusion of foreign
materials and/or damage by water, breakage, or other causes. Packaged materials shall be
delivered in original unopened containers and shall be stored until ready for use. Packages or
materials showing evidence of damage or contamination, regardless of cause, will be rejected.
All materials which have been stored shall be subject to retest and shall meet the requirements
of these Specifications at the time they are used in the Work and at the time of final acceptance
of the Work.

All materials to be incorporated in the Work shall be properly arranged, covered, and protected
and the Contractor shall be solely responsible for the safety of the same. Material improperly
stored shall not be included in estimates for partial payment, or if already included, shall be
deducted for subsequent estimates.

Private property shall not be used for storage purposes without written permission of the Owner
or lessee.

01.05.10  Fences, Mailboxes and Other Physical Features

All fences, mailboxes and other physical features disturbed or damaged during the Work under
this Contract shall be maintained and if damaged, repaired or replaced in a workmanlike manner
with materials satisfactory to the property owner affected and the Engineer. In addition, the
Contractor shall furnish, erect and maintain any temporary construction fencing required during
the performance of the Work or ordered by the Engineer.
01.06 EXISTING PROPERTIES, STRUCTURES, AND UTILITIES

01.06.01 Notification of Governing Agencies and Utilities

At least a week in advance of beginning Work, the Contractor shall notify all public bodies and other Owners of such facilities of the proposed location of his operations, advising them that their property may be affected and that such measures as they may deem necessary should be promptly taken to protect, adjust, remove and/or rebuild them.

01.06.02 Preservation of Property, Trees, Monuments, etc.

The Contractor shall be responsible for the preservation of all public and private property affected by operations within his control. He shall use the precautions necessary to prevent damage or injury thereto. All such protective and corrective work shall be in accordance with the Contract Documents.

The Contractor shall be responsible for the damage or destruction of property of any character resulting from neglect, misconduct, or non-execution of the Work, or caused by defective work or the use of unsatisfactory materials.

The Contractor shall not injure or destroy trees or shrubs nor remove or cut them without authorization by the Owner. All trees and shrubs except those ordered to be removed shall be adequately protected by boxes or otherwise by the Contractor. No excavated material shall be placed so as to injure such trees and shrubs. Trees and shrubs destroyed by negligence of the Contractor or his employees shall be replaced by him with new stock, or with other stock satisfactory to the Owner, at the proper season, and at the sole expense of the Contractor.

Parkways shall be left in as good condition as before the commencement of the Work. Where sod is removed, it shall be carefully preserved and later replaced with sod of equivalent quality to that removed.

When or where any direct or indirect damage or injury is done to public or private property resulting from the Contractor's operations, such property shall be restored by the Contractor, at his expense, to a condition similar or equal to that existing before commencement of his work.

01.06.03 Cleanliness of the Project

The Contractor shall keep the Work area and all property occupied by him in a neat and orderly condition at all times. Waste materials, rubbish, and debris shall not be allowed to accumulate. The Contractor's equipment, temporary buildings, scaffolding, and excess materials shall be promptly removed as they become no longer needed for the progress of the Work. At the completion of the Work, the Work area shall be restored to as good as, if not better than, that prior to construction.

If, in the opinion of the Engineer, cleanliness of the Project is not progressing in a reasonable manner, he shall have the right to direct the Contractor to proceed with such Work, or any portion thereof, immediately. In the event the Contractor does not then immediately proceed with this Work, the Engineer may order any or all other operations of the Contractor, under this Contract, to cease until the cleanliness of the Project is proceeding in an acceptable manner.
01.06.04  Truck Routes

The Contractor shall work with the appropriate government agency(ies) in determining truck routes on this Project and shall have such routes approved by the same before the routes can be used. It may further be required that truck routes be audio visually taped before, during, and after construction by the Contractor when so requested by the Engineer. It shall thereafter be the responsibility of the Contractor to maintain the truck routes for the period of time such routes are used by the Contractor.

The Contractor shall keep clean all streets used in his operations. Trucks hauling excavated materials, cement, sand, stone, or other loose materials from or to the site, shall be tight so that no spilling will occur. Before trucks start away from the site, their loads shall be carefully trimmed to prevent spillage.

The above requirements likewise apply to Suppliers making deliveries to the site, and the Contractor will be held responsible for compliance by his Suppliers.

01.06.05  Rights-of-Way and Easements

All available rights-of-way and easements have been shown on the Drawings. If the Contractor requires additional easements for his construction operations he shall obtain such easements and furnish copies of such to the Owner and Engineer. In carrying out the Work within private rights-of-way and easements, the Contractor shall take due and proper precautions against any injury to adjacent properties and structures and shall comply with the conditions outlined in the easement and/or right-of-way Agreements included in the Contract. Prior to performing any Work, the Contractor shall obtain any required permits and furnish bonds that may be required to construct within any public right-of-way.

01.06.06  Highway and Street Requirements

The highway and street requirements contained herein shall be considered requirements for the use of both public and private roads in this Project. All costs in connection with these requirements shall be borne by the Contractor and shall be considered as incidental to the Project.

Snow fencing, unless otherwise specified, shall be the minimum provided to preclude the entrance of the public into the construction area. Where the construction disrupts or interferes with the normal walkways (other than the Paint Creek Trail itself) used by pedestrians, they shall be duplicated in kind so that pedestrians may traverse the construction area safely.

Trench excavation shall be done so as to minimize interference to the operating roadway and where trench sides are within 5 feet or closer to the traveled portion of the roadway, bypasses shall be constructed. All signing construction of bypasses, and construction of permanent restoration shall be in accordance with the governing agency municipality, or state highway department Specifications.

In all primary roads where open cut crossings will be made, the Contractor shall submit Plans for re-routing of traffic to the Road Commission or Municipal Traffic Engineer for approval before proceeding with construction across primary road.

The Contractor shall rough grade, and open, road waterways every night before closing down the job.
Existing ditches disturbed during construction shall be re-ditched in the location and to the cross section, as determined by the Engineer prior to final grading. The cost of such re-ditching shall be incidental to the Project and no separate payment will be made therefore.

Materials and equipment shall not be stockpiled within the right-of-ways so as to obstruct or cause a problem to any driveway or side street.

All obstruction within 8 feet of pavement edge shall be lighted from sunset to sunrise.

If it is necessary to direct motorists more than 3 feet laterally, street lighting shall be provided.

The Contractor shall maintain the traveled portion of the roadway clear from mud, dirt, debris, and other materials. The Contractor shall maintain the road surface in the working area safe for the motoring public, shall salt when hazardous ice or snow conditions require it, and shall chloride the roads to alleviate dust conditions engendered by his operations whenever necessary.

All signs, lighting, and other necessary safety requirements shall comply with the governing agency and the state highway department Specifications. In addition, the Contractor shall take all necessary precautions as directed by the governing agency as are deemed necessary to protect the public.

Unless otherwise indicated in the Supplemental Specifications, the Contractor shall pay all permit fees and inspection charges for Work performed by all governing agencies, the state highway department, and railroads.

01.06.08 Overhead Utilities

All utility poles and overhead lines may not be shown or identified on the Drawings. The Contractor shall make his own determination of existing utility poles and facilities attached thereto and overhead lines. Where overhead utilities are encountered in the Work, Contractor shall arrange with the utility owner for the necessary relocation or protection of their facilities. Protection, removal and replacement, tunneling or supporting of existing utility poles and protection and removal and replacement of utilities which are installed on the poles shall be provided either by the Contractor or by the utility at the Contractor’s expense, all in accordance with requirements of the utility owner.

01.06.09 Underground Utilities

All underground utilities as shown on the Drawings have been plotted utilizing the best information available. Prior to excavating in any area, the Contractor shall notify MISS DIG or the involved utility companies and request verification of the utility locations as shown. Any variances in location which occur shall be brought to the attention of the Engineer prior to the commencement of any digging operations. In the event that the installation of a proposed utility is depended upon knowing the exact elevation or location of any existing utility, the Contractor shall excavate and locate such utilities in advance of the Work and inform the Engineer of their exact location.

Should the Contractor discover conflicts that exist between the location of the existing utility and those proposed, he shall notify the Engineer in writing in advance of any Work so that adjustments can be made.
Where underground utilities are encountered in the Work, the Contractor shall arrange with the utility owner for any necessary protection or relocation of their facilities.

All protection, maintenance of service, removal and replacement etc. - shall be in conformance with the requirements of the utility owner. Protection, maintenance of service, removal and replacement, and supporting of existing underground utilities, shall be provided by the Contractor or by the utility at the Contractor's expense unless relocation or removal and replacement of certain utilities are specifically covered by a separate pay item in the Proposal.

01.06.10 Structures

The Contractor shall assume full responsibility for the protection of all buildings, utilities, or other structures and their foundations, as well as other improvements, such as pavement, etc., that might be encountered during, or affected by, his operations. Should settlement or lateral movement of adjacent structures or surface features occur, such conditions shall be rectified at the Contractor's expense. If damage to any structures, utilities, or other improvements occurs by reason of the Contractor's operations, even though special precautions have been employed, the Contractor shall be entirely responsible for such damage.

01.07 PROJECT CLOSE OUT

01.07.01 Final Inspection of the Completed Work and Engineer's Punch List

When the Contractor considers the Work to be complete he shall submit written certification to the Owner and Oakland Township Parks and Recreation (copies should be forwarded to Engineer, and governing agency representatives) that:

1. The Contract Documents have been reviewed in reference to the completed Work.
2. All Work has been completed in accordance with the Contract Documents or written clarification and modifications thereof.
3. All equipment and systems have been tested in the presence of the Owner's Representative and are operational in the manner set forth in the plans and/or specifications.

01.07.02 Contractor's Close Out Submittals

When the Engineer finds that the Work is acceptable and conforms to the Contract Documents, the Contractor shall make the following close out submittals:

1. Evidence of compliance with requirements of governing agencies
2. Record documents
3. Keys and key schedule
4. Guarantees
5. Spare parts and maintenance materials
6. Final request for payment with supporting data (i.e. Contractor's Declaration, Contractor's Affidavit, Release and Waivers of Liens, Agencies' Releases, etc.).
<table>
<thead>
<tr>
<th>PAGE</th>
<th>SEC.</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>30-1</td>
<td></td>
<td>LOCATION MAP</td>
</tr>
<tr>
<td>30-2</td>
<td>30.01</td>
<td>PURPOSE</td>
</tr>
<tr>
<td>30-2</td>
<td>30.02</td>
<td>LOCATION</td>
</tr>
<tr>
<td>30-2</td>
<td>30.03</td>
<td>SCOPE</td>
</tr>
<tr>
<td>30-2</td>
<td>30.04</td>
<td>ADDITIONAL NAMED INSURED</td>
</tr>
<tr>
<td>30-2</td>
<td>30.05</td>
<td>REFERENCE SPECIFICATIONS AND DOCUMENTS</td>
</tr>
<tr>
<td>30-2</td>
<td>30.06</td>
<td>UNDERCUT EXCAVATION</td>
</tr>
<tr>
<td>30-3</td>
<td>30.07</td>
<td>ALTERNATE CROSS SLOPE</td>
</tr>
<tr>
<td>30-3</td>
<td>30.08</td>
<td>HAULING LIMITATIONS</td>
</tr>
<tr>
<td>30-4</td>
<td></td>
<td>LOG OF WORK</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DESCRIPTION OF SITE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DESCRIPTION OF WORK</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STAGING OF WORK</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STAGING AREAS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SCHEDULE</td>
</tr>
<tr>
<td>30-8</td>
<td></td>
<td>SPECIAL PROVISIONS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DRAWINGS</td>
</tr>
</tbody>
</table>
DIVISION 30 -- SUPPLEMENTAL SPECIFICATIONS

30.01 PURPOSE

It is the purpose of the Supplemental Specifications to cover special items of work not covered elsewhere on the Drawings or in the Specifications or to correct conflicts which may exist in the Specifications. These Supplemental Specifications take precedence over other parts of the Contract Documents.

30.02 LOCATION

The proposed Paint Creek Trail Rehabilitation Project Limit is located approximately 6800’ north of the southerly township line of Orion Township and 3500’ south of the northerly city limits of the City of Rochester.

30.03 SCOPE

The work to be done on the Paint Creek Trail includes repairing erosion areas, constructing drainage structures, scarifying the existing aggregate surface, placing, grading and compacting 2” of aggregate surface course (3“ loose measure), removing and replacing wooden bollards, removing and replacing deteriorated stairs and retaining wall and restoring vegetation to disturbed areas.

In addition a new side trail accessing the Clinton River and a new deck overlooking the Clinton River is to be constructed in the City of Rochester and the existing trail network in Bear Creek Nature Park in Oakland Township is to be resurfaced.

30.04 ADDITIONAL NAMED INSURED

The Contractor shall include in his insurance supplied according to Sections B.04.08 a. and B.04.09 of DIVISION B - GENERAL CONDITIONS, the following named insured:

   a. The Paint Creek Trailways Commission
   b. The Mannik & Smith Group, Inc.
   c. Township of Orion
   d. Township of Oakland
   e. Oakland Township Parks and Recreation Commission
   f. City of Rochester Hills
   g. City of Rochester
   h. Village of Lake Orion

and their consultants, agents, and employees.

30.05 REFERENCE SPECIFICATIONS AND DOCUMENTS

The improvements covered by these contract documents shall be done in accordance with the Michigan Department of Transportation 2012 Standard Specifications for Construction and the Special Provisions provided herein.
30.06 UNDERCUT EXCAVATION

Where unstable material underlies the proposed trailbed, subgrade undercutting shall be performed, consisting of excavation of all muck, peat or other spongy or unsuitable material located below the planned trailway subgrade and the ROW grading cross-section. Also, included in this work is disposal of this material off the Trail ROW according to the following order of preference:

1. On abutting land if desirable and approved in writing by the owners of said land.
2. Elsewhere at the Contractor’s discretion subject to the written permission of the owners of the proposed dumping land.

All dumps shall be graded to a smooth uniform surface, graded to provide surface drainage. Sound embankment shall be placed and compacted to 95% of maximum density before continuing to place aggregate surface course.

All labor, equipment, materials and associated costs necessary to complete this work shall be paid for by the work item Shared Use Path, Scarify, Grade and Compact, Shared Use Path, Grading or Shared Use Path, Surface Preparation.

30.07 ALTERNATE CROSS SLOPE

The contract drawings illustrate a 1.5% crown to be constructed on the aggregate Trail surface. The Contractor may construct a 1.5% straight slope section if the accepted bid indicates a cost savings to construct this alternative straight slope.

30.08 HAULING LIMITATIONS

Vehicle weight limitations on the trailway bridges will be limited to 4700 lbs per axle. Horizontal clearance on the trailway bridges is 10 feet, except at bridge number 6 in Oakland Township, with a horizontal clearance of 8 feet, 9-1/2 inches. Vehicles allowed on the trailway are limited to 12,000 lbs per axle, with a maximum of three axles, unless otherwise approved by the Trail Commission.
Log of Work
Rehabilitation of the Paint Creek Trail

DESCRIPTION OF SITE

The Paint Creek Trail consists of 8.9 miles of 8-foot wide non-motorized trailway with an aggregate surface. Over the years, the trail has become narrower in some areas, due to overgrowth of ground vegetation and additional aggregate has been placed in other areas to repair washed-out or eroded trailbed and slopes. In other areas, the trail has grown wider with the large amount of use, particularly within the City of Rochester. In the areas, the existing trail width will be maintained. Overall, the Trail condition is fair to good, with only specific areas of failure. The Trail crosses public streets at seven locations with access controlled by wooden bollards and/or gates at the crossings, preventing cars or trucks from entering. Eight structures along the trailway carry the Trail over roadways or waterways.

Plans have been included that identify rough locations for items of work to be directed by the Engineer.

DESCRIPTION OF WORK

Work to be completed under this contract includes:

1. Repair slope failures and eroded areas
2. Replace Stairs north of bridge 31.7.
3. Replace retaining wall south of Ludlow Avenue.
4. Remove grassy overgrowth (root mat) and re-establish 8 foot Trail width
5. Scarify Trail surface; place, grade and compact new aggregate
6. Remove and replace wooden bollards
7. Resurface gravel parking areas at trailheads
8. Constructed a new deck overlooking the Clinton River and side access trail.
9. Resurfacing of Bear Creek Nature Park trails.
10. Establish new grass on all disturbed areas

General descriptions of the proposed work follows. See log plans for more details. Prior to start of work, the Contractor shall participate in a site walk-through of the entire trail to determine specific locations of the work, as identified by the Trail Commission’s representative in the field.

Repairing slope failures and eroded areas
Two types of erosion exist along the trailway: erosion of the trailbed and erosion of the slopes. The erosion of the trailbed is primarily along the edges of the trailbed and will require excavation of loose material and placement, grading and compaction of new material. Erosion on the foreslopes and backslopes is due to pedestrian traffic, concentration of drainage and slope instability. Slope failures shall be corrected by removing any loose material and material displaced from erosion (typically heaped at the bottom of the slopes) and new embankment shall be placed and the slope and ditch shall be regraded to match the adjacent slopes and ditches. All disturbed
areas shall be restored with new turf. Certain areas have been identified for construction of trail edge drainage structures to control future erosion.

All labor, equipment, materials and associated costs necessary to complete this work shall be paid for by the work items:

- Shared Use Path, Scarify, Grade and Compact (Station)
- Trail Edge Drainage Inlet, Special (Each)
- Slope Restoration, Modified (Square Yard)

**Replace Stairs northern bridge 31.7**
The existing stairs accessing the dinosaur hills area north of bridge 31.7 have deteriorated to a point where they are no longer safe. The stairs and railing are to be replaced as identified in the plans.

**Replace retaining wall south of Ludlow Avenue**
The existing retaining wall on the west side of the trail approximately 300 feet south of Ludlow Avenue has become unstable causing erosion of the trail surface. The retaining wall is to be removed and reconstructed as identified in the plans and the trail surface repaired prior to resurfacing.

**Remove grassy overgrowth (root mat) and re-establish 8-foot trailway width**
In some areas, particularly in the more rural locations, the Trail width is compromised due to grass growing over the edges of the Trail. In these areas, the vegetation is to be removed (including root mat) and the trail bed is to be re-established to an 8-foot width.

In areas where the trail has become wider, the existing trail width will be maintained. However, at the direction of the Engineer, the trail may be narrowed depending on clearance from unsafe slopes or trail side obstructions.

All labor, equipment, materials and associated costs necessary to complete this work shall be paid for by the work items:

- Shared Use Path, Scarify, Grade and Compact (Station)
- Shared Use Path, Aggregate (Ton)
- Slope Restoration, Modified (Square Yards)

**Scarify Trail surface; place, grade and compact new aggregate**
The surface of the Trail shall be scarified to assure that new aggregate will bind with the existing aggregate when compacted into a homogeneous layer. New aggregate shall be placed such that the final compacted thickness is two inches. Note that a three inch lift of specified aggregate, when properly compacted, will result in the specified compacted depth of two inches. The new aggregate shall be graded with a crown of 1.5%. An alternate straight slope of 1.5% may be proposed by the Contractor in the bid documents, if there is a cost savings offered in the contract bid price.

Estimated length of trail being scarified and resurfaced: 8.7 miles
All labor, equipment, materials and associated costs necessary to complete this work shall be paid for by the work items:

- Shared Use Path, Scarify, Grade and Compact (Station)
- Shared Use Path, Aggregate (Ton)

**Remove and replace wooden bollards**
Trail crossings at public streets are protected from vehicles entering by wooden bollards and gates. All existing gates are to remain in place and undisturbed. All wooden bollards are to be removed (to allow access for construction activities) and replaced with new, treated 8x8 wood bollards, at a spacing approved by the Trail Commission and as directed by the Engineer. If new spacing differs from old spacing, any holes or depressions left form the removals shall be filled in to create a level trail surface. Bollards shall be set in concrete, if necessary to achieve adequate stability.

All labor, equipment, materials and associated costs necessary to complete this work shall be paid for by the work items:

- Bollard, Remove (Each)
- Bollard (Each)

**Resurface gravel parking areas at trailheads**
The project will include resurfacing of gravel parking areas at trailheads throughout the system. Two parking lots are not included in the base bid (Dutton Road and Gallagher Road) and the Owner may remove those from the project at their discretion. Contractor is to provide unit pricing bids for all parking areas.

**Constructed a new deck overlooking the Clinton River and side access trail**
The project includes construction of a new deck overlooking the Clinton River on the Trail connecting the Clinton Rive Trail to Bloomer Park east of Letica Drive in the City of Rochester. In addition, the project includes a new side access trail near the overlook deck and resurfacing the existing trail surface adjacent to the new overlook deck.

**Resurfacing of Bear Creek Nature Park Trails**
The project includes resurfacing of trails within the Bear Creek Nature Park in Oakland Township as identified in the plans. Some areas of the trail connecting Oakland Township Hall to the park have had drainage improvements and trail base improvements constructed by the Township parks personnel. These areas are to be roller compacted by the Contractor and have new trail surface placed as identified in the plans.

**Establish new grass on all disturbed areas**
All areas of disturbed vegetation shall be restored to establish new grass. This is not limited to areas immediately adjacent to the Trail, but any areas that are disturbed due to the Contractor’s activity. Restoration will include placement of topsoil, fertilizer, seed and mulch. It is expected that most of the materials will be placed by hand due to the narrowness of areas to be restored.

Due to the season of seeding, the Contractor will be allowed to dormant seed, on unfrozen ground, and mulch to lie dormant over winter and germinate the following spring. If the seed does not germinate in the spring, the Contractor will be required to re-seed and mulch in the spring.
All restoration shall be performed per the Special Provision for Slope Restoration, Modified.

If a restored area is completed and consequently disturbed or washed out due to the Contractor’s activities, the Contractor shall replace as described above, at the Contractor’s expense. All restoration is to be completed prior to November 24, 2004, unless otherwise approved by the Trail Commission.

All labor, equipment, materials and associated costs necessary to complete this work shall be paid for by the work item:
   Slope Restoration, Modified (Square Yard)

STAGING OF WORK
See the Progress Clause for work staging requirements.

STAGING AREAS
Potential staging areas exist for Contractor materials and equipment at the parking lots at the Kern/Clarkston Road and the Silverbell Road trailhead (coordinate with Bridge Contractor). Also, areas at Tienken Road crossing (north of the Trailhead parking) and Albertson Road may be used for some storage.

All proposed staging areas must be approved by the Trail Commission prior to stockpiling or storing materials and equipment. All areas used for Contractor’s staging activities will be restored to their original condition at the Contractor’s expense. This will not be paid as Slope Restoration but considered included in the Contractors staging costs.

SCHEDULE
Please see the Progress Clause for work schedule.
INDEX

DIVISION A - INSTRUCTIONS TO BIDDERS AND PROPOSAL DOCUMENTS

PAGE Sec.
A-2 1. PREPARATION OF PROPOSAL
A-2 2. INTERPRETATION OF PROPOSAL QUANTITIES
A-2 3. DISCREPANCIES
A-2 4. MODIFICATIONS
A-3 5. EXAMINATION OF CONTRACT DOCUMENTS, SITE OF WORK, AND SOIL CONDITIONS
A-3 6. MANDATORY PRE-BID MEETING
A-3 7. DELIVERY OF PROPOSAL
A-3 8. WITHDRAWAL OF PROPOSAL
A-3 9. OPENING OF PROPOSAL
A-4 10. INTERPRETATION OF DOCUMENTS
A-4 11. ADDENDA
A-4 12. BIDDERS INTERESTED IN MORE THAN ONE PROPOSAL
A-4 13. INSURANCE REQUIREMENTS
A-4 14. REJECTION OF PROPOSALS
A-5 15. BIDDER'S QUALIFICATIONS
A-6 16. AWARD OF CONTRACT
A-6 17. EXECUTION OF CONTRACT
A-7 18. TIME OF STARTING AND COMPLETING THIS WORK
A-7 19. LIQUIDATED DAMAGES
A-8 20. INDEMNIFICATION
A-8 21. MISCELLANEOUS
A-9  PROPOSAL
A-15  BID BOND
A-16  PERFORMANCE BOND
A-18  LABOR AND MATERIAL PAYMENT BOND
A-20  MAINTENANCE BOND
A-22  AGREEMENT
INSTRUCTIONS TO BIDDERS

1. PREPARATION OF PROPOSAL

The Proposal shall be typewritten or legibly prepared with ink on forms provided herein. The Bidder shall properly fill in blank spaces provided in the Proposal forms. The Bidder shall show, in the column provided therefore, the products of the respective quantities times the Unit Prices; and shall show the sum for which the Bidder will perform the proposed work. Additionally, the Bidder shall attach a statement of available equipment and personnel with experience records showing:

1. An equipment list and evidence that the Bidder owns or currently leases the major equipment items necessary to perform the work or a copy of a lease agreement or purchase order indicating it shall purchase or lease the major equipment necessary to perform the work.

2. Experience record of the Bidder's key personnel, including project superintendent, which makes them capable of performing the work including the name of the Project superintendent proposed for the work.


The Proposal shall be legally signed and the complete business address of the Bidder given thereon. In the event that any entry made by the Bidder in the Proposal is to be altered, it shall be crossed out with ink. The new entry shall be made and initialed by the Bidder in ink.

2. INTERPRETATION OF PROPOSAL QUANTITIES

The quantities as shown in the Proposal shall be used for the comparison of proposals upon which the award of the Contract will be made. These quantities are not guaranteed, and the furnishing of this information creates no liability on the part of the Owner. The actual quantities of work to be performed are subject to increase or decrease as determined by conditions encountered in the prosecution of the work.

3. DISCREPANCIES

In case of a discrepancy between the Unit Price and the extended amount for any Item, the Unit Price figure shall govern.

4. MODIFICATIONS
Proposals shall not contain any recapitulations of the work to be done. No alternate proposals will be considered unless specifically called for. Oral proposals or modifications will not be considered.

5. EXAMINATION OF CONTRACT DOCUMENTS, SITE OF WORK, AND SOIL CONDITIONS

Before submitting a Proposal, Bidders shall carefully examine the Project site, review all the Contract Documents, and employ such other means as may be appropriate or required to prepare and submit a Bid. Bidders shall fully inform themselves as to all existing conditions and limitations, including the existing soil and groundwater condition that might affect the work to be performed. Soils information may be included in the appendix of the Contract.

All work to be performed under the Contract shall be paid for under the specific bid items set forth in the Proposal. The Bidder should include in its Proposal the cost of performing all work required under this Contract. No payment will be made to the successful Bidder for considerations other than those included and established by the successful Proposal.

6. MANDATORY PRE-BID MEETING

Prospective bidders are required to attend a MANDATORY pre-bid meeting Thursday, May 2nd at 10:00 AM at the Oakland Township Parks and Recreation office (at the Paint Creek Cider Mill), 4480 Orion Road, Rochester, MI 48306.

7. DELIVERY OF PROPOSAL

Proposals shall be delivered to the Oakland Township Parks and Recreation office (at the Paint Creek Cider Mill), 4480 Orion Road, Rochester, MI 48306, on Thursday, May 16th, 2019 by 2:00 PM. It is the sole responsibility of the Bidder to see that its Proposal is received in proper time. Any Proposal received after the proposal opening time shall be returned to the Bidder unopened.

8. WITHDRAWAL OF PROPOSAL

Any Bidder may withdraw its Proposal, either personally or by written request, at any time prior to the scheduled closing time for receipt of Proposals.

9. OPENING OF PROPOSAL
Proposals will be opened and may be publicly read aloud at the time and place set forth in the Bid Documents. After such opening, all proposals shall be deemed public records.

10. INTERPRETATION OF DOCUMENTS

If any person contemplating submitting a Proposal is in doubt as to the true meaning of any part of the Drawings, Specifications or other Contract Documents, or finds discrepancies in or omissions in the Drawings or Specifications or the Contract Documents, it may submit to the Owner a written request for an interpretation or correction thereof. The person submitting the request will be responsible for its prompt delivery by end of business on May 8th, 2019. Any interpretation or correction of the Documents will be made only by Addendum duly issued and a copy of the Addendum will be posted on the Michigan Inter-governmental Trade Network (MITN) by May 10th close of business. Neither the Owner nor the Engineer will be responsible for any other explanations or interpretations of the Contract Documents. Owner will assume that all Bidders are thoroughly knowledgeable and informed regarding the Project.

11. ADDENDA

Any Addenda issued during the time of bidding, or forming a part of the Contract Documents, furnished to the Bidder for the preparation of its Proposal, shall be covered in the Proposal and shall be made a part of the Contract. Receipt of each Addendum shall be acknowledged in the Proposal.

12. BIDDERS INTERESTED IN MORE THAN ONE PROPOSAL

No person, firm, or corporation shall be allowed to make, file, or be interested in more than one Proposal for the same work, unless alternate Proposals are called for. However, a person, firm, or corporation who has submitted a sub proposal to a Bidder, or who has quoted prices on materials to a Bidder, is not hereby disqualified from submitting a sub proposal or quoting prices to other Bidders.

13. INSURANCE REQUIREMENTS

The successful Bidder will be required to furnish the insurance coverages as called for in the GENERAL CONDITIONS OF THE CONTRACT.

14. REJECTION OF PROPOSALS
Owner may reject any and all bids. Proposals will be rejected if the Bidder fails or neglects to fill in any Unit Prices, the Proposal is filled out in pencil, the Proposal is not signed, or no Proposal Guaranty is included. Proposals may be rejected if they show any alterations, are conditional or irregular in any way, are unbalanced, or do not indicate acknowledgement of Addenda. Owner may request modification of proposals, may request new proposals, and may request in person interviews with any Bidder.

15. BIDDER'S QUALIFICATIONS

Proposals are solicited from responsible Bidders known to be skilled and regularly engaged in work of similar character and magnitude to that covered by the Contract Documents. After the opening of Proposals, the Bidder shall promptly submit a certified written statement with the following information, if requested by the Engineer/Owner:

a. The Bidder's financial statement showing his net equity of construction equipment and depreciation of construction equipment certified by an independent certified public accountant.

b. The Bidder's list of outstanding contracts with the tabular list of value of uncompleted work.

c. List of all contracts (over $100,000 in value each) entered into within the last 3 years with a statement showing for each:

   2. Name, address, and phone number of project owner.
   3. Name of owner's representative.

d. The Bidder shall list the major parts of the work proposed to be sublet, the name of the Subcontractor, and the value of each part to be subcontracted. All Subcontractors are subject to the approval of Owner.

e. the Bidder shall provide an overview including the following information about the Bidder:

   1. Company name, date established, number of employees, business address, phone number, fax number, e-mail address;
2. Brief statement of the Bidder's background, demonstrating longevity and financial stability;
3. Strategic partnerships;
4. Lines of business conducted by the Bidder;
5. Description of any recent mergers or acquisitions.

f. Bidder shall provide information as to the financial viability and stability of the Bidder.

h. The Bidders have the option of subcontracting parts of the Work. The Bidder must include a description of any anticipated subcontracting arrangements and the information stated below. The successful Bidder shall ensure fulfillment of all contractual provisions by Subcontractors. Each Subcontractor is subject to the approval of the Owner if the Bidder wishes to include a Subcontractor after the successful Bidder has been awarded the Contract. If the Bidder will be using outside Subcontractors to complete the project, please provide the following:

1. Provide the Subcontractor’s company information and its qualifications.
2. List projects that the Subcontractor has completed.
3. Describe how the Bidder manages its Subcontractors.

In addition to the above, and when so requested by the Engineer, the Bidder shall meet with the Owner and his Representatives and give further information in relation to its proposed tentative construction plan and schedule of operations, and such other matters as the Owner may deem necessary in order to determine the Bidder's ability to perform and complete the work in accordance with the Contract requirements.

16. AWARD OF CONTRACT

The Contract may be awarded to the lowest responsible Bidder complying with the requirements of the Contract Documents, provided its Bid is in the best interest of the Owner as determined solely by Owner.

The Contract shall be deemed to have been awarded after the Owner has accepted the Proposal and a formal Notice of Award has been served upon the intended awardee by the Owner. Notice placed in the United States Mail properly addressed to the address given by the Bidder in its Proposal shall constitute valid service.
17. EXECUTION OF CONTRACT

Three original counterparts of the Agreement, Bonds, Insurance Policies and Certificates, and other Contract Documents will be required to be executed.

18. TIME OF STARTING AND COMPLETING THIS WORK

Upon approval and confirmation of the executed Contract, the Owner will issue a written Notice to Proceed to the successful Bidder. The Bidder will commence work under the Contract as soon as possible after receipt of the Notice to Proceed. The Bidder further agrees to fully complete the work within the number of consecutive calendar days indicated in the Proposal.

Time being of the essence for the Contract, the Contractor shall prosecute the work diligently so as to assure the completion of the entire work not later than the time prescribed, or the date to which the time of completion may have been extended pursuant to the provisions of the GENERAL CONDITIONS.

The Contractor is required to prosecute work under this contract during the hours of daylight, Monday through Saturday, subject to the approval of Owner and any affected municipalities. The Contractor will need to coordinate its work so as to minimize interference with the activities of any municipality or other person or entity owning a portion of the area where the work is to be performed. Sunday holiday and night work is permitted only by prior approval of the Owner and the governmental authority in which the work is being performed.

Final completion of the entire work of the Contract consists of completing all work called for in the Contract Documents. This work will include (but not be limited to): furnishing and installing all materials and equipment so as to provide a completed operating facility as intended, seasonal restoration, completion of punch-list items, resolution of claims and complaints, submission of all documents required, and conformance with all Contract provisions.

19. LIQUIDATED DAMAGES

The Owner shall have, and is hereby given, the right to deduct and retain from monies due the Contractor, not as a penalty but as liquidated damages, a sum of money for each and every day that the work is delayed in its completion beyond the specified time. Liquidated damages
will be calculated as specified in the Michigan Department of Transportation’s Standard Specifications for Construction section 108.10.C

20. INDEMNIFICATION

The successful Bidder shall save and keep harmless and indemnify the Owner against any and all liability, claims and costs of whatsoever kind and nature for injury to or death of any person or persons and for loss or damage to any property occurring in connection with or in any incident to or arising out of occupancy, use, service, operations or performance of Work in connection with the Contract, resulting in whole or in part from the negligent acts or omissions of the successful Bidder.

21. MISCELLANEOUS

All Bidders must disclose any potential conflict of interest with the Owner, any of its employees or its Engineer.

Each Bidder shall hold all information provided in its Proposal in confidence and shall not reveal its Proposal to or discuss its Proposal with others until all relevant Contracts to have been awarded. By the submission of a Proposal, the Bidder represents and warrants that in connection with the Proposal:

1. The prices or other information stated in the Proposal have been arrived at independently, without consultation, communication or agreement with any other Bidder for the purpose of restricting competition;
2. The prices or other information stated in the Proposal have not knowingly been disclosed by the Bidder and shall not knowingly be disclosed by the Bidder prior to the award of any contracts.
3. No attempt has been made nor will be made by the Bidder for the purpose of restricting competition, to induce any other person or Bidder to submit, or conspire with any other parties to restrict or otherwise manipulate prices or competition relating to this Contract or any resultant contracts.

The Owner does not and shall not discriminate on the basis of race, color, religion (creed), gender, gender expression, age, national origin (ancestry), disability, marital status, sexual orientation, or military status, in any of its activities or operations. These activities include, but are not limited to, hiring and firing of staff, selection of volunteers and vendors, and provision of services. The Owner is committed to providing an inclusive and welcoming environment for all members of our staff, citizens, volunteers, contractors, vendors and clients. The Owner expects the Bidder to comply with these standards.

Owner does not necessarily own the land upon which the Project will be conducted, but Owner has permission from the relevant landowners, or the right, to have the Project conducted on such land. Contractor understands that the Work will have to be coordinated with the various landowners.
We, the contractors, acknowledge receipt of the following addenda:

Addendum 1 dated 5/3/19
Addendum 2 dated 5/14/19
Addendum 3 dated 5/15/19

BID FORM

THE FOLLOWING PROPOSAL IS HEREBY MADE TO:

PAINT CREEK TRAILWAYS COMMISSION
OWNER

4393 Collins Road
BUSINESS ADDRESS

Rochester, MI 48306
CITY, STATE, ZIP CODE

The undersigned Bidder, having examined the Drawings, Specifications, and related documents, and the site of the proposed Work, and being familiar with all the conditions surrounding the construction of the proposed Project including the availability of materials and labor, hereby proposes to furnish all labor, materials, equipment, tools and services to construct the Project in accordance with the Contract Documents, within the time set forth therein, and at the prices stated below. These prices are to cover all expenses incurred in performing the Work required under the Contract Documents, of which this Proposal is a part, for the construction of the Project identified as follows:

Job No. P3290002 Contract No.

Job Title: REHABILITATION OF PAINT CREEK TRAIL

located within the City of Rochester Hills, City of Rochester, Oakland Township, and Orion Township all in accordance with the Drawings, Specifications, and other Contract Documents prepared by The Mannik & Smith Group, Inc. Consulting Engineers, Monroe, Michigan.

PROPOSAL GUARANTY: The Proposal Guaranty attached, in the sum of not less than 5 percent of the Proposal, in the form of a bid bond or certified check, is furnished to the
Owner as a guarantee that the Agreement will be executed and a Performance Bond, a Labor and Material Payment Bond, and a Maintenance Bond in the amount of 100% of the contract, by a surety acceptable to the Paint Creek Trailways Commission and licensed to do business in the State of Michigan, will be furnished within 10 days after award of the Contract, but prior to execution of the Contract, to the undersigned Bidder.

WAIVER: The undersigned Bidder affirms: that it has sufficiently informed itself in all matters affecting the cost of the Work; that it has checked its Bid and this Proposal for errors and omissions; that the prices stated in this Proposal are as intended by it; and that the total Bid is a complete and correct statement of this price for doing all of the Work required by the Contract Documents. The undersigned Bidder does hereby waive any claim for the return of its Proposal Guaranty if, on account of errors or omissions claimed to have been made by it in its Bid or in this Proposal, or if for any other reason, it shall refuse or fail to execute the Contract or furnish the required bonds.
EXECUTION OF AGREEMENT AND FURNISHING BONDS: Within 10 days after being awarded the Contract, the undersigned agrees to execute the form of Agreement included as one of the Contract Documents, and to furnish a Performance Bond, a Labor and Material Payment Bond, and a Maintenance Bond, each in an amount equal to 100 percent of the Contract Amount, by a surety acceptable to the Owner and licensed to do business in the State of Michigan. The Bonds may be in the form attached or other form acceptable to Owner.

No special payments will be made to the Contractor for Work described in these Contract Documents unless a specific Item for such Work has been provided for in this Proposal. When Work to be performed is not specifically listed in this Proposal, such Work shall be considered incidental to the construction of the Project. The cost of such incidental Work shall, therefore, be considered to be included in the amount Bid for Items specifically listed.

The undersigned Bidder understands that the quantities of Work as shown herein are approximations. These quantities are subject to change. The undersigned Bidder offers to do the Work, whether the quantities are increased or decreased, at the Unit Prices or Lump Sum stated in the schedule on the following pages.
# Proposal Form
## Paint Creek Trail Rehabilitation
City of Rochester Hills, City of Rochester, Oakland Township, Orion Township and Village of Lake Orion, Michigan

MSG Job No. P3290002

## Category 001 - Paint Creek Trail

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Description</th>
<th>Unit</th>
<th>Quantity</th>
<th>Unit Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1500001</td>
<td>Mobilization, Max 5%</td>
<td>LSUM</td>
<td>0.85</td>
<td>49000</td>
<td>39200</td>
</tr>
<tr>
<td>2010001</td>
<td>Clearing</td>
<td>Acre</td>
<td>0.1</td>
<td>60000</td>
<td>6000</td>
</tr>
<tr>
<td>2030001</td>
<td>Culv, Rem, Less than 24 inch</td>
<td>Ea</td>
<td>2</td>
<td>1200</td>
<td>2400</td>
</tr>
<tr>
<td>2040050</td>
<td>Pavt, Rem</td>
<td>Syd</td>
<td>5</td>
<td>240</td>
<td>1200</td>
</tr>
<tr>
<td>2047050</td>
<td>Parking Block</td>
<td>Ea</td>
<td>7</td>
<td>840</td>
<td></td>
</tr>
<tr>
<td>2047050</td>
<td>Parking Block, Rem</td>
<td>Ea</td>
<td>7</td>
<td>420</td>
<td></td>
</tr>
<tr>
<td>2050006</td>
<td>Ditch Cleanout</td>
<td>Sta</td>
<td>4</td>
<td>7200</td>
<td></td>
</tr>
<tr>
<td>2050010</td>
<td>Embankment, CIP</td>
<td>Cyd</td>
<td>130</td>
<td>90</td>
<td>11700</td>
</tr>
<tr>
<td>2050016</td>
<td>Excavation, Earth</td>
<td>Cyd</td>
<td>145</td>
<td>90</td>
<td>13050</td>
</tr>
<tr>
<td>2057002</td>
<td>Shared Use Path, Scarify, Grade and Compact</td>
<td>Sta</td>
<td>448.4</td>
<td>120</td>
<td>53808</td>
</tr>
<tr>
<td>2080036</td>
<td>Erosion Control, Silt Fence</td>
<td>Ft</td>
<td>2000</td>
<td>3.60</td>
<td>7200</td>
</tr>
<tr>
<td>2087001</td>
<td>Erosion Control, Permanent, Log Barrier</td>
<td>Ft</td>
<td>40</td>
<td>60</td>
<td>2400</td>
</tr>
<tr>
<td>3020001</td>
<td>Aggregate Base</td>
<td>Ton</td>
<td>88</td>
<td>75</td>
<td>6600</td>
</tr>
<tr>
<td>3020010</td>
<td>Aggregate Base, 4 inch</td>
<td>Syd</td>
<td>162</td>
<td>36</td>
<td>5832</td>
</tr>
<tr>
<td>3067031</td>
<td>Aggregate Surface Cse, Special</td>
<td>Ton</td>
<td>307</td>
<td>63</td>
<td>19341</td>
</tr>
<tr>
<td>4010012</td>
<td>Culv End Sect, 12 inch</td>
<td>Ea</td>
<td>4</td>
<td>600</td>
<td>2400</td>
</tr>
<tr>
<td>4010539</td>
<td>Culv, Cl E, 12 inch</td>
<td>Ft</td>
<td>32</td>
<td>240</td>
<td>7200</td>
</tr>
<tr>
<td>4037050</td>
<td>Trail Edge Drainage Inlet, Rem</td>
<td>Ea</td>
<td>1</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td>4037050</td>
<td>Trail Edge Drainage Inlet, Special</td>
<td>Ea</td>
<td>4</td>
<td>1200</td>
<td>4800</td>
</tr>
<tr>
<td>4040041</td>
<td>Underdrain, Pipe, Open-Graded, 4 inch</td>
<td>Ft</td>
<td>800</td>
<td>18</td>
<td>14400</td>
</tr>
<tr>
<td>4040091</td>
<td>Underdrain Outlet, 4 inch</td>
<td>Ft</td>
<td>200</td>
<td>18</td>
<td>3600</td>
</tr>
<tr>
<td>4040111</td>
<td>Underdrain, Outlet Ending, 4 inch</td>
<td>Ea</td>
<td>4</td>
<td>960</td>
<td></td>
</tr>
<tr>
<td>7097001</td>
<td>Timber Approach Rail</td>
<td>Ft</td>
<td>350</td>
<td>320</td>
<td>112000</td>
</tr>
<tr>
<td>Pay Item</td>
<td>Description</td>
<td>Unit</td>
<td>Quantity</td>
<td>Unit Price</td>
<td>Total</td>
</tr>
<tr>
<td>----------</td>
<td>----------------------------------------------</td>
<td>----------</td>
<td>----------</td>
<td>------------</td>
<td>---------</td>
</tr>
<tr>
<td>7097001</td>
<td>Timber Approach Rail, Rem</td>
<td>Ft</td>
<td>210</td>
<td>48</td>
<td>10,080</td>
</tr>
<tr>
<td>7097051</td>
<td>Retaining Wall</td>
<td>LSUM</td>
<td>1</td>
<td>4000</td>
<td>4000</td>
</tr>
<tr>
<td>7097051</td>
<td>Retaining Wall, Rem</td>
<td>LSUM</td>
<td>1</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td>7097051</td>
<td>Steps</td>
<td>LSUM</td>
<td>1</td>
<td>11600</td>
<td>11600</td>
</tr>
<tr>
<td>7097051</td>
<td>Steps, Rem</td>
<td>LSUM</td>
<td>1</td>
<td>1200</td>
<td>1200</td>
</tr>
<tr>
<td>8010003</td>
<td>Driveway, Reinf Conc, 8 inch</td>
<td>Syd</td>
<td>27</td>
<td>170</td>
<td>4590</td>
</tr>
<tr>
<td>8030020</td>
<td>Railing for Steps</td>
<td>Ft</td>
<td>32</td>
<td>36</td>
<td>1152</td>
</tr>
<tr>
<td>8030046</td>
<td>Sidewalk, Conc, 6 inch</td>
<td>Sft</td>
<td>745</td>
<td>18</td>
<td>13,410</td>
</tr>
<tr>
<td>8060010</td>
<td>Shared use Path, Aggregate</td>
<td>Ton</td>
<td>5175</td>
<td>54</td>
<td>279,294</td>
</tr>
<tr>
<td>8077050</td>
<td>Bollard</td>
<td>Ea</td>
<td>45</td>
<td>120</td>
<td>5400</td>
</tr>
<tr>
<td>8077050</td>
<td>Bollard, Rem</td>
<td>Ea</td>
<td>58</td>
<td>120</td>
<td>6960</td>
</tr>
<tr>
<td>8077050</td>
<td>Removable Bollard</td>
<td>Ea</td>
<td>2</td>
<td>120</td>
<td>240</td>
</tr>
<tr>
<td>8077050</td>
<td>Removable Bollard, Rem</td>
<td>Ea</td>
<td>1</td>
<td>120</td>
<td>120</td>
</tr>
<tr>
<td>8087001</td>
<td>Split Rail Fence</td>
<td>Ft</td>
<td>300</td>
<td>36</td>
<td>10,800</td>
</tr>
<tr>
<td>8087001</td>
<td>Split Rail Fence, Rem</td>
<td>Ft</td>
<td>300</td>
<td>6</td>
<td>1800</td>
</tr>
<tr>
<td>8100380</td>
<td>Post, Wood, 4 inch by 6 inch</td>
<td>Ft</td>
<td>8</td>
<td>60</td>
<td>480</td>
</tr>
<tr>
<td>8100396</td>
<td>Sign, Type II, Erect, Salv</td>
<td>Ea</td>
<td>1</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td>8100397</td>
<td>Sign, Type II, Rem</td>
<td>Ea</td>
<td>1</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td>8110126</td>
<td>Pavt Mrkg, Regular Dry, 4 inch, Yellow</td>
<td>Ft</td>
<td>220</td>
<td>4.00</td>
<td>890</td>
</tr>
<tr>
<td>8120012</td>
<td>Barricade, Type III, High Intensity, Double Sided, Lighted, Fum</td>
<td>Ea</td>
<td>10</td>
<td>114</td>
<td>1140</td>
</tr>
<tr>
<td>8120013</td>
<td>Barricade, Type III, High Intensity, Double Sided, Lighted, Oper</td>
<td>Ea</td>
<td>10</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>8120199</td>
<td>Dust Paliative, Applied</td>
<td>Ton</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8120170</td>
<td>Minor Traf Devices</td>
<td>LSUM</td>
<td>0.85</td>
<td>2900</td>
<td>17,000</td>
</tr>
<tr>
<td>8120250</td>
<td>Plastic Drum, High Intensity, Fum</td>
<td>Ea</td>
<td>50</td>
<td>350</td>
<td>1500</td>
</tr>
<tr>
<td>8120251</td>
<td>Plastic Drum, High Intensity, Oper</td>
<td>Ea</td>
<td>50</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>8120350</td>
<td>Sign, Type B, Temp, Prismatic, Fum</td>
<td>Sft</td>
<td>400</td>
<td>7.20</td>
<td>2980</td>
</tr>
<tr>
<td>8120351</td>
<td>Sign, Type B, Temp, Prismatic, Oper</td>
<td>Sft</td>
<td>400</td>
<td>1.60</td>
<td>400</td>
</tr>
<tr>
<td>8120352</td>
<td>Sign, Type B, Temp, Prismatic, Special, Fum</td>
<td>Sft</td>
<td>320</td>
<td>15.00</td>
<td>4800</td>
</tr>
</tbody>
</table>
### SUBTOTAL CATEGORY 001 = $816,083

### Category 002 - Bear Creek Nature Park Trails

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Description</th>
<th>Unit</th>
<th>Quantity</th>
<th>Unit Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1500001</td>
<td>Mobilization, Max 5%</td>
<td>LSUM</td>
<td>0.15</td>
<td>4,900</td>
<td>6,600</td>
</tr>
<tr>
<td>2057002</td>
<td>Shared Use Path, Surface Preparation</td>
<td>Sta</td>
<td>60.5</td>
<td>180</td>
<td>10,890</td>
</tr>
<tr>
<td>2080036</td>
<td>Erosion Control, Silt Fence</td>
<td>Ft</td>
<td>100</td>
<td>4,80</td>
<td>4,800</td>
</tr>
<tr>
<td>8060010</td>
<td>Shared use Path, Aggregate</td>
<td>Ton</td>
<td>545</td>
<td>57</td>
<td>3,168</td>
</tr>
<tr>
<td>8067031</td>
<td>Shared Use Path, Crushed HMA</td>
<td>Ton</td>
<td>190</td>
<td>66</td>
<td>12,540</td>
</tr>
<tr>
<td>8120170</td>
<td>Minor Traf Devices</td>
<td>LSUM</td>
<td>0.15</td>
<td>29,000</td>
<td>30,000</td>
</tr>
</tbody>
</table>

### SUBTOTAL CATEGORY 002 = $63,925

**Total Proposal Base Bid Amount:** $880,058.00

(Category 001 + Category 002)

The contract drawings illustrate a proposed 1.5% crown to be constructed on the Trail surface. If the Contractor believes that a 1.5% straight slope can be constructed more economically, he may offer an alternative bid price per station for the item 2057002 Shared Use Path, Scarify, Grade and Compact.

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Description</th>
<th>Unit</th>
<th>Quantity</th>
<th>Unit Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>8067031</td>
<td>Shared Use Path, Scarify, Grade and Compact</td>
<td>Sta</td>
<td>448.4</td>
<td>100</td>
<td>44,840</td>
</tr>
</tbody>
</table>

A-14
# ALTERNATE BID ITEMS

**Alternate Bid 001 - Dutton Road Parking Area**

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Description</th>
<th>Unit</th>
<th>Quantity</th>
<th>Unit Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2047001</td>
<td>Parking Block</td>
<td>Ea. ft</td>
<td>6</td>
<td>120</td>
<td>720</td>
</tr>
<tr>
<td>2047001</td>
<td>Parking Block, Rem</td>
<td>Ea. ft</td>
<td>6</td>
<td>60</td>
<td>360</td>
</tr>
<tr>
<td>3067031</td>
<td>Aggregate Surface Cse, Special</td>
<td>Ton</td>
<td>80</td>
<td>100</td>
<td>8000</td>
</tr>
<tr>
<td>8167011</td>
<td>Slope Restoration, Type A</td>
<td>Syd</td>
<td>140</td>
<td>12</td>
<td>1680</td>
</tr>
</tbody>
</table>

**SUBTOTAL ALTERNATE BID 001 =** 10,760

**Alternate Bid 002 - Silverbell Road Parking Area**

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Description</th>
<th>Unit</th>
<th>Quantity</th>
<th>Unit Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>3067031</td>
<td>Aggregate Surface Cse, Crushed HMA, Special</td>
<td>Ton</td>
<td>75</td>
<td>100</td>
<td>7500</td>
</tr>
<tr>
<td>8067031</td>
<td>Shared Use Path, Crushed HMA</td>
<td>Ton</td>
<td>12</td>
<td>180</td>
<td>2160</td>
</tr>
</tbody>
</table>

**SUBTOTAL ALTERNATE BID 002 =** 9660

**Alternate Bid 003 - Gallagher Road Parking Area**

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Description</th>
<th>Unit</th>
<th>Quantity</th>
<th>Unit Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2047001</td>
<td>Parking Block</td>
<td>Ea. ft</td>
<td>12</td>
<td>120</td>
<td>1440</td>
</tr>
<tr>
<td>2047001</td>
<td>Parking Block, Rem</td>
<td>Ea. ft</td>
<td>12</td>
<td>60</td>
<td>720</td>
</tr>
<tr>
<td>3067031</td>
<td>Aggregate Surface Cse, Special</td>
<td>Ton</td>
<td>103</td>
<td>100</td>
<td>10,300</td>
</tr>
<tr>
<td>8077050</td>
<td>Bollard</td>
<td>Ea</td>
<td>10</td>
<td>110</td>
<td>1100</td>
</tr>
<tr>
<td>8077050</td>
<td>Bollard, Rem</td>
<td>Ea</td>
<td>9</td>
<td>120</td>
<td>1080</td>
</tr>
<tr>
<td>8167011</td>
<td>Slope Restoration, Type A</td>
<td>Syd</td>
<td>145</td>
<td>12</td>
<td>1740</td>
</tr>
</tbody>
</table>

**SUBTOTAL ALTERNATE BID 003 =** 26,280

A-15
## Alternate Bid 004 - Clinton River Access Trail & Observation Deck

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Description</th>
<th>Unit</th>
<th>Quantity</th>
<th>Unit Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010001</td>
<td>Clearing</td>
<td>Acre</td>
<td>0.12</td>
<td>37000</td>
<td>3600</td>
</tr>
<tr>
<td>2050016</td>
<td>Excavation, Earth</td>
<td>Cyd</td>
<td>47</td>
<td>120</td>
<td>5540</td>
</tr>
<tr>
<td>2057002</td>
<td>Shared Use Path, Scarify, Grade and Compact</td>
<td>Sta</td>
<td>1</td>
<td>8400</td>
<td>8400</td>
</tr>
<tr>
<td>2080036</td>
<td>Erosion Control, Silt Fence</td>
<td>Ft</td>
<td>400</td>
<td>5.00</td>
<td>2000</td>
</tr>
<tr>
<td>3020020</td>
<td>Aggregate Base, 8 inch</td>
<td>Syd</td>
<td>167</td>
<td>50</td>
<td>8350</td>
</tr>
<tr>
<td>7097051</td>
<td>Observation Deck</td>
<td>LSUM</td>
<td>1</td>
<td>41200</td>
<td>41200</td>
</tr>
<tr>
<td>7097051</td>
<td>Alternate Decking, Ipe Hardwood</td>
<td>LSUM</td>
<td>1</td>
<td>48000</td>
<td>48000</td>
</tr>
<tr>
<td>7097051</td>
<td>Alternate Decking, Composite Lumber</td>
<td>LSUM</td>
<td>1</td>
<td>43000</td>
<td>43000</td>
</tr>
<tr>
<td>8060010</td>
<td>Shared use Path, Aggregate</td>
<td>Ton</td>
<td>32</td>
<td>100</td>
<td>3200</td>
</tr>
<tr>
<td>8060030</td>
<td>Shared use Path, Grading</td>
<td>Ft</td>
<td>250</td>
<td>25</td>
<td>6250</td>
</tr>
<tr>
<td>8167011</td>
<td>Slope Restoration, Modified</td>
<td>Syd</td>
<td>250</td>
<td>15</td>
<td>3750</td>
</tr>
</tbody>
</table>

**SUBTOTAL ALTERNATE BID 004 = 173,390**

### Alternative Total Gross Proposal Amount: $1,001,488.00

(Category 001 + Category 002 + all Alternate Bid Items)

The undersigned Bidder hereby agrees to commence Work under this Contract within 10 calendar days after receipt of a written "Notice to Proceed" from the Owner. The Work must be completed within 90 consecutive calendar days from the date of the "Notice to Proceed, or from the date the Contractor begins work, whichever is sooner. The date so determined will herein be referred to as the "Completion Date as Bid."

As hereinafter provided in the General Conditions, the undersigned Bidder further agrees to pay the Owner, as liquidated damages, a sum as determined in the MDOT 2012 Standard Specifications for Construction.

The undersigned Bidder agrees that this Proposal shall be good and may not be withdrawn for a period of 120 calendar days after the scheduled closing time for receipt of Bids.

The Owner agrees to furnish normal Construction Contract Administration (CCA) for the project, at no cost to the Contractor, until the "Completion Date as Bid." After that date, the successful Bidder shall reimburse the Owner $800.00 per CCA-day for
Construction Contract Administration, in accordance with Section 01.04.04 of DIVISION 1 – GENERAL REQUIREMENTS.

The undersigned Bidder understands that the Owner reserves the right to reject any or all Proposals or to waive any informality or technicality in any Proposal that serves the interest of the Owner.

The undersigned Bidder hereby acknowledges receipt of the following Addenda:

Addendum No. _______ Date __________________
Addendum No. _______ Date __________________
Addendum No. 1 to
the Paint Creek Trail Resurfacing,
Paint Creek Trail Observation Deck and
Bear Creek Nature Park Resurfacing

Issued: May 3, 2019

The following clarifications, modifications and/or revisions to the above project shall be considered a part of the original specifications:

Add to Division A – Instructions to Bidders, Section 6 (on page A-3):

A second mandatory Pre-Bid meeting will be held on Wednesday, May 8th, 2019, 10:00 a.m. at the Paint Creek Trail Cider Mill, 4480 Orion Road, Rochester, MI 48306. After the meeting, Contractors will be allowed to traverse the trail in its entirety to review actual field conditions. Contractor’s that attended the first Pre-Bid meeting (on May 2, 2019) will not be required to attend this Pre-Bid meeting but are welcome to.

Revise Division A – Instructions to Bidders, Section 10 (on page A-4):

Change text: “The person submitting the request will be responsible for its prompt delivery by end of business on May 8th, 2019. Any interpretation or correction of the Documents will be posted on the Michigan Inter-governmental Trade Network (MITN) by May 10th close of business.”

To: “The person submitting the request will be responsible for its prompt delivery by close of business on May 10, 2019 (5:00 p.m.). Any interpretation or correction of the Documents will be posted on the Michigan Inter-governmental Trade Network (MITN) by close of business, May 13th, 2019.”

Receipt and understanding of this Addendum must be acknowledged by bidders on the bid form.
Addendum No. 2 to
the Paint Creek Trail Resurfacing,
Paint Creek Trail Observation Deck and
Bear Creek Nature Park Resurfacing

Issued: May 14, 2019

The following clarifications, modifications and/or revisions to the above project shall be considered a part of the original specifications:

Replace the Progress Clause with the attached Progress Clause –
Revisions to the Progress Clause are summarized as follows:

a. Milestones.
   1. Open to Traffic date has been revised to December 20, 2019.
   2. Entire Project and Restoration date has been revised to December 20, 2019.
   3. Live Stakings Plantings date has been revised to May 15, 2020.
   4. Tree Removal Limitations have not changed.
   5. Entire Project including Delayed Acceptance Items date has been revised to May 30, 2020.

d. Work day, hour, and other work restrictions imposed by local communities
   B. Added to Holiday Restrictions:
   “or Christmas and New Years Day (from 3:00 pm Friday, December 20th, 2019 to 6 a.m. Thursday, January 2nd, 2020) or Easter 2020 (from Friday, April 10, 2020 to 6 a.m. Monday, April 13, 2020).”

Bidder Requests for Information

Question: Is the Contractor required to obtain building permit for construction of the Observation Deck?
Answer: Yes, a building permit will be required from the City of Rochester Building Department.

Question: Are soil borings required for the design of the Observation Deck?
Answer: A geotechnical investigation has not been performed and no data is available at this site. The Contractor shall design the deck to meet the specification. It is the Contractor’s responsibility to get sufficient soil information to design the deck.

Question: Project includes a pay item for Dust Palliative but special provision states that it is included in other contract items. Please clarify.
**Answer:** Dust Palliative shall not be utilized on the project due to the sensitive nature of the Paint Creek being a trout stream. Contractor to use sprayed water as necessary to control dust. This shall be included in other contract items. Dust Palliative is to be non-performed. Strike item from the Bid Form.

**Question:** Clarify locations for Slope Restoration, Modified and Slope Restoration, Type A.

**Answer:** Slope Restoration, Modified is to be utilized on disturbed areas adjacent to wetlands, prairies or the Paint Creek. Slope Restoration, Type A is to be utilized in areas adjacent to woods and parking lots and/or non-environmentally sensitive areas and shall use MDOT seed mixture TUF, which has a higher shade tolerance than THV.

It is expected that trail-side seeding in trail resurfacing areas should not be necessary with standard Contractor operations. Topsoil wedging is not expected to be necessary in areas with 2” Aggregate resurfacing but will be reviewed in areas of thicker resurfacing or full depth construction.

**Question:** Clarify ‘variable width’ for the trail resurfacing.

**Answer:** The width of the trail resurfacing is to match the current ‘travelled width’ of the trail. This is roughly 8’ wide for the majority of the trail (from North of Tienken Road into Lake Orion). Some areas of trail (particularly through Rochester Municipal Park) have a wider travelled width and will require resurfacing out to the existing trail width.

**Receipt and understanding of this Addendum must be acknowledged by bidders on the bid form.**
Addendum No. 3 to
the Paint Creek Trail Resurfacing,
Paint Creek Trail Observation Deck and
Bear Creek Nature Park Resurfacing

Issued: May 15, 2019

The following clarifications, modifications and/or revisions to the above project shall be considered a part of the original specifications:

Replace the Special Provision for Shared Use Path, Aggregate with the attached Revised Special Provision -
Revisions to the Shared Use Path, Aggregate Special Provision are as follows:

b. Materials.
   The gradation for the Shared Use Path, Aggregate material was revised and a 1% variation from specification limits was included.

Receipt and understanding of this Addendum must be acknowledged by bidders on the bid form.
a. Description. This work shall consist of furnishing, placing, grading and compacting an aggregate surface course on a prepared subgrade or existing scarified surface as shown in the contract drawings and as directed by the Engineer. The work shall be in accordance with the provisions of Section 306 of the 2012 MDOT Standard Specifications for Construction or as modified herein.

b. Materials. This work shall consist of furnishing limestone aggregate (for Shared Use Path, Aggregate) or crushed HMA aggregate (for Shared Use Path, Crushed HMA) for the trail in accordance with Section 902 of the 2012 Michigan Department of Transportation Standard Specifications for Construction, except as herein provided.

All aggregate for Shared Use Path, Aggregate shall be derived from natural stone formations. Stone is defined as rock that has been crushed; rock is defined as consolidated mineral matter. All components of the aggregate mix are to be derived from crushed rock material that meets specifications below for abrasion resistance, and free from contaminants.

The fines for Shared Use Path, Aggregate passing the #200 sieve must be rock material. No crushed concrete, clay or silt soil may be added. Limestone material passing the #200 sieve may be used to make up a deficit in the distribution of sandstone aggregate rock, and vice versa. All added material passing the #200 sieve must be derived from rock material that conforms to MDOT Standard Specifications. Lime kiln dust and cement kiln dust may be added to the Shared Use Path, Aggregate to account for up to 50% of the fines passing the #200 sieve.

The amount of particles passing the #200 sieve shall be determined using the washing procedures specified in MTM 108.

The acceptable limit as measured by weight loss is “less than 40% loss”. Los Angeles Abrasion test, MTM102 shall be used to determine this property. Existing data obtained from tests made for and approved by MDOT will be accepted.

Material is to be delivered and placed at optimum moisture content +/- 1% as determined for that particular source. The optimum percentage moisture is to be determined using one point Michigan Cone Test Method described in the MDOT Density Control Handbook.

The material for Shared Use Path, Aggregate shall meet the following gradation criteria. Any aggregate utilized must meet the criteria of 100% passing the 1/2 inch sieve. However, other sieves will be allowed a 1% variation from specification which will allow variation between different suppliers:

<table>
<thead>
<tr>
<th>Sieve (U.S. Standard)</th>
<th>Percent passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2 inch</td>
<td>100</td>
</tr>
</tbody>
</table>
All aggregate for Shared Use Path, Crushed HMA must be derived from HMA millings.

The material for Shared Use Path, Crushed HMA shall meet the gradation criteria for MDOT 23A Aggregate with the following exceptions: The material must contain a minimum of 15-25 percent material passing the number 200 sieve. Up to 50% of the fines passing the #200 sieve may be derived from natural crushed rock material or lime kiln dust or cement kiln dust.

The contractor shall prepare a sample mix for review and approval prior to delivery.

c. Construction. The subgrade and/or existing trail surface shall be established so that the compacted depth of the aggregate surface course is of the minimum thickness and cross-section as shown on the contract drawings.

The material is to be spread either with a paver or with another Engineer approved process that limits consolidation of the aggregate material. The Contractor is to take care not to overwork the surface aggregate to ensure that the aggregate remains well mixed. The material shall be at the optimum moisture content for proper compaction. If the aggregate sticks to the drum (a sign that moisture content is too high), compaction shall be suspended to allow the material to dry further.

The surface is to be compacted with a minimum 3 ton vibratory roller. The first rolling pass is to be performed with the roller in static mode to avoid consolidation of the surface aggregate material. After the first pass with the roller, additional pass(es) shall be made with the vibration on.

The aggregate surface course shall be compacted to not less than 95% of the maximum unit weight.

Tarps are to be used to cover 100% of the load’s exposed surface from the time of loading until immediately before dumping. This requirement includes standing time waiting to dump.

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

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shared Use Path, Aggregate</td>
<td>Ton</td>
</tr>
<tr>
<td>Shared Use Path, Crushed HMA</td>
<td>Ton</td>
</tr>
</tbody>
</table>

Shared Use Path, Aggregate and Shared Use Path, Crushed HMA will be paid at the contract unit price per Ton. The item includes furnishing all materials, labor and equipment for placing, grading and compacting the aggregate surface course to the line and grade shown on the contract drawings and as directed by the Engineer.
In no case shall any work be commenced prior to receipt of formal notice of award by the Commission. Work shall begin within 2 weeks of the formal notice of award.

The Contractor shall prepare and submit a complete, detailed, and signed MDOT Form 1130, Progress Schedule, according to 12SP-101A.

The Progress Schedule shall include, at minimum, the controlling work items for the completion of the project, as well as planned dates or work days that these items will be controlling operations. All contract dates including open to traffic, project completion, interim completion and any other controlling dates in the contract, must be included in the progress schedule.

If the bidding Proposal specifies other controlling dates, these shall also be included in the Progress Schedule.

After award and prior to the start of work, the Contractor must attend a preconstruction meeting with the Engineer. The Engineer will determine the day, time and place for the preconstruction meeting. The meeting will be conducted after project award and may be rescheduled if there are delays in the award of the project. The named subcontractor(s) for Designated and/or Specialty Items, as shown in the Proposal, should attend the preconstruction meeting if such items materially affect the work schedule.

a. Milestones
The Contractor shall be expected to mobilize sufficient labor and equipment to complete the project within the specified time frames:

1. **Open to traffic**
   The project shall be sufficiently complete and in suitable condition to be designated Opened to Traffic as directed by the Engineer, on or before December 20, 2019.

2. ** Entire Project and Restoration**
   Other than the delayed acceptance requirements for Turf Establishment the entire project, including the placement of permanent soil erosion control item shall be completed on or before December 20, 2019.

3. **Live Stake Plantings**
   The entire project, including sodding or seeding, its watering, and established growth but excluding watering and cultivating of live stakes, shall be completed on or before May 15, 2020.

   The entire project, including watering and cultivating of live stakes, shall be completed on or before May 15, 2020.
4. **Trees Removal Limitations**
The tree removal time for the bats ranges from **October 1 until March 31**. The bats are present in Michigan from **April 1 until September 30**. Tree removals have been completed prior to bidding this project.

5. **Entire Project Including Delayed Acceptance Items.**
The entire project including delayed acceptance requirements for Raised Pavement Markings and Turf Establishment shall be completed on or before **May 29, 2020**.

6. **Trail Closure Limitation.**
The trail and bridge shall not be closed to pedestrian use for more than 90 continuous calendar days once construction begins. No more than 2 miles of continuous trail shall be closed to pedestrian use at a single time and work shall be continuous on any closed section until complete. Each section of trail closed shall be opened to traffic within 30 days of closure.

b. **Staging of the Work**
The Contractor shall coordinate the proposed work in three stages, affecting only one segment of the Trail at a time. Work must be completed on a segment before the Contractor will be allowed to begin work on another segment.

- Segment 1, from POB of Trail in the City of Rochester to Dutton Road
- Segment 2, from Dutton Road to Silverbell Road (coordinate with MDOT/RCOC Bridge 33.7 Project)
- Segment 3, from Silverbell Road to Adams Road
- Segment 4, from Adams Road to the POE of Trail in Village of Lake Orion

When working within each segment, the Contractor shall place a Type III barricade, as described by the Michigan Manual of Uniform Traffic Control Devices, at all public access points of the trail segment under construction. A sign with legend “TRAIL CLOSED DURING RESURFACING” shall be mounted on the Type III barricade (include in cost of the Barricade).

All labor, equipment, materials and associated costs necessary to perform the work in stages, including signing, shall not be paid for separately, but will be included in payment of other contract work items.

c. **Liquidated damages for failure to meet milestones**

Liquidated Damages shall be assessed in accordance with Section 108.10 of the 2012 Standard Specifications for Construction. Liquidated damages shall be assessed for each section of trail closed for longer than specified above, and for the final Open to Traffic date and Completion dates as listed above. Liquidated damages will be assessed separately, simultaneously, and concurrently for failure to meet interim, final, and any stage completion dates.

d. **Work day, hour, and other work restrictions imposed by local communities**
The work hours described may be modified or changed by the Engineer due to Holidays, Special Events, or Traffic Volumes.
A. Contractors operations shall be limited by local municipality work time, noise, and dust ordinance as follows unless approved by the local municipality and the Engineer and/or local municipality in writing. If possible, the trail shall be left in a passable state during weekend and/or holiday restrictions:

(1) The City of Rochester limits work hours to 7 a.m. to 6 p.m. Monday through Friday unless a permit to work outside these restrictions is first obtained from the City Manager.

(2) City of Rochester Hills limits work to between the hours of 7 a.m. and 8 p.m. Monday through Saturday (Zoning Ordinance 18-9). Nighttime, Sunday or Holiday hours will only be allowed with written permission granted by the Mayor (Zoning Ordinance 18-10).

(3) Oakland Township ordinance limits work to between the hours of 7:00 a.m. and 9:00 p.m. on weekdays. Weekend, early morning or nighttime work will not be allowed without the prior written consent of the Township.

(4) Orion Township limits work hours to between 7 a.m. and 7 p.m. Monday through Saturday.

(5) Village of Lake Orion ordinance limits work to between the hours of 7:00 a.m. and 7:00 p.m. Monday through Saturday. Construction is not allowed on Sunday.

B. No work or lane closures, unless approved by the Engineer, shall be performed during:

Memorial Day (from 3:00 pm Friday, May 24th – 6:00 am Tuesday, May 28th) or Independence Day (from 3:00 pm Wednesday, July 3rd – 6:00 am Friday, July 5th) or Labor Day (from 3:00 pm Friday August 30th – 6:00 am Tuesday, September 3rd) or Thanksgiving (from 3:00 pm Wednesday November 27 to 6:00 a.m. Monday, December 2) or Christmas and New Years Day (from 3:00 pm Friday, December 20th, 2019 to 6 a.m. Thursday, January 2nd, 2020) or Easter 2020 (from Friday, April 10, 2020 to 6 a.m. Monday, April 13, 2020).

The following special events will be happening on or along the trail during the Construction of the project. For any event, Contractor is to be available the day before the event to assist making trail passable and protecting hazards due to construction. Not all events are listed as many are held on weekend days already restricted above. Contractor to coordinate with local municipalities.

Contractor to adhere to the following restrictions:

Entire Length of Trail
- CrossRoad Bike for Life – September 21st. Contractor may not work Thursday September 19 (from affected municipalities evening work limits) through Monday morning (to effected municipalities morning work limits).
City of Rochester:
In addition to the work hours listed above, no work will be allowed in or around Municipal Park for the following events:
- Heritage Days Festival – Thursday May 16, 6 p.m. through Monday May 20, 7 a.m.
- Rochester Fringe Fest – Friday June 7. Contractor to cease operations by 3 p.m.
- Labor Day weekend through Art and Apples Festival: Friday, August 30 through Monday, September 9, 7 a.m.

Oakland Township
In addition to the work hours listed above, work will be restricted in Bear Creek Nature Park on the following dates. Contractor is restricted from working in the park and must have all work areas secured a day prior to and during each of these events:
- June 7, June 20, July 12 and September 14.

The Township also has nature programs scheduled on the weekends of June 30, July 27 and August 10. No Saturday work will be allowed on these weekends.

In addition, various classes utilize the lawn area south of the playground near the Snell Road parking area. Contractor shall not utilize the Snell Road parking area for storage of equipment on these afternoons and shall limit operations to other areas of the park. All equipment must cease operations by 6 p.m. on these dates:
- Tuesdays May 7 through June 25, 6 p.m.
- Mondays June 17 through July 22, 6 p.m.
- Tuesdays August 6 through September 24, 6 p.m.

The pavilion area must remain accessible and open to the public during weekends throughout the summer. The Snell Road parking area must remain accessible to the public at all times, with the exception on day/days of resurfacing around the small storage building west of the parking area. Days of closure to be coordinated with Oakland Township Parks and Recreation.

Orion / Village of Lake Orion
- Run with Fire 5k – Saturday, September 28 - Village of Lake Orion Children’s Park to Clakston/Kern intersection – Contractor may not work on this section of trail from Thursday, September 26, 7 p.m. through Monday September 30, 7 a.m.
- Lake Orion Challenge – Saturday, October 5 – Village of Lake Orion to Gallagher Road. – Contractor may not work from Thursday, October 3, 7 p.m. through Monday, October 7, 7 a.m.
THE ABOVE PROPOSAL IS HEREBY RESPECTFULLY SUBMITTED BY:

CONTRACTOR: WCI Contractors, Inc. a duly organized: ______ proprietorship; ___ partnership; or ___ corporation authorized to do business in the Project state.

BY ___________________________ President
(Signature) (Title)

BY Thomas A. Maliszewski 5/16/19
(Print Name of Signer) (Date)
20210 Conner St. 48234
(Address) (City) & (State) (Zip Code)

Telephone No. 313-368-2100 Federal Employer ID No. 38-3007970

NOTE: Bidder, if a corporation, shall cause the following Certificate to be executed:

CERTIFICATE

I, Brad A. Gable, certify that I am a duly authorized officer of the corporation entitled WCI Contractors, Inc., and do certify that the following named persons

1. Thomas A. Maliszewski President
   (Name) (Title)

2. Thomas A. Maliszewski III Vice President
   (Name) (Title)

3. ___________________________
   (Name) (Title)

4. ___________________________
   (Name) (Title)

by authority of the above-named corporation's Board of Directors and within the scope of its corporate power, are authorized to sign the Proposal, the Agreement, the Contract Bonds, and all other Contract Documents related to this Contract.

By ___________________________ Secretary/Treasurer
(Signature) (Title)

By ___________________________
(Signature) (Title)
BID BOND

OWNER Paint Creek Trailways Commission CONTRACT IDENT. NO.

ADDRESS 4393 Collins Road, Rochester, MI 48306

CONTRACTOR WCI Contractors, Inc. DATE OF BID 5-16-19

ADDRESS 20210 Conner St, Detroit, MI 48234

SURETY DATE BOND EXECUTED

ADDRESS 6700 Westown Parkway, West Des Moines, IA 50266

AMOUNT OF (Express in words and figures) BOND Merchants Bonding Company (Mutual)

FIVE PERCENT OF ACCOMPANYING BID (5%)

WHEREAS, the Principal above-named has submitted to the Owner a proposal or bid, dated as shown above, on the above-numbered Contract. NOW, THEREFORE, we, the Principal and Surety, bind ourselves to the Owner in the amount of the bond stated above, that if the above Proposal is accepted, the Principal will promptly enter into contract in accordance with the Proposal and the Surety will furnish the required bonds, otherwise the Principal and/or Surety will pay the amount stated above unto the Owner as liquidated damages.

Witnessed by: Brad A. Gable, Secretary/Treasurer

CONTRACTOR PRINCIPAL

By: Thomas A. Maliszewski

Title President

If the Contractor is a corporation, the following corporate certification must be executed.

I certify that I am the secretary of the corporation named as WCI Contractors, Inc.

Contractor Principal in the within bond; that Thomas A. Maliszewski who signed the said bond on behalf of the principal, was then President of said corporation; that I know his signature, and his signature thereof is genuine; and that said bond was duly signed and witnessed for and in behalf of said corporation by authority of its governing body.

Witnessed by: McNish Group, Inc.

CORPORATE SURETY

By: Michelle Graham, Attorney-in-Fact

Title

McNish Group, Inc. 248-544-4800

LOCAL AGENT AGENT'S PHONE

A-19
MERCHANTS
BONDING COMPANY™

POWER OF ATTORNEY

Know All Persons By These Presents, that MERCHANTS BONDING COMPANY (MUTUAL) and MERCHANTS NATIONAL BONDING, INC., both being corporations of the State of Iowa (herein collectively called the "Companies") do hereby make, constitute and appoint, individually, Cory French; John W McNish; Michelle Graham; Suzanne M Moser.

their true and lawful Attorney(s)-in-Fact, to sign its name as surety(ies) and to execute, seal and acknowledge any and all bonds, undertakings, contracts and other written instruments in the nature thereof, on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

This Power-of-Attorney is granted and is signed and sealed by facsimile under and by authority of the following By-Laws adopted by the Board of Directors of Merchants Bonding Company (Mutual) on April 23, 2011 and amended August 14, 2015 and adopted by the Board of Directors of Merchants National Bonding, Inc., on October 16, 2015.

"The President, Secretary, Treasurer, or any Assistant Treasurer or any Assistant Secretary or any Vice President shall have power and authority to appoint Attorneys-in-Fact, and to authorize them to execute on behalf of the Company, and attach the seal of the Company thereto, bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof."

"The signature of any authorized officer and the seal of the Company may be affixed by facsimile or electronic transmission to any Power of Attorney or Certification thereof authorizing the execution and delivery of any bond, undertaking, recognizance, or other suretyship obligations of the Company, and such signature and seal when so used shall have the same force and effect as though manually fixed."

In connection with obligations in favor of the Florida Department of Transportation only, it is agreed that the power and authority hereby given to the Attorney-in-Fact includes any and all consents for the release of retained percentages and/or final estimates on engineering and construction contracts required by the State of Florida Department of Transportation. It is fully understood that consenting to the State of Florida Department of Transportation making payment of the final estimate to the Contractor and/or its assignee, shall not relieve this surety company of any of its obligations under its bond.

In connection with obligations in favor of the Kentucky Department of Highways only, it is agreed that the power and authority hereby given to the Attorney-in-Fact cannot be modified or revoked unless prior written personal notice of such intent has been given to the Commissioner-Department of Highways of the Commonwealth of Kentucky at least thirty (30) days prior to the modification or revocation.

In Witness Whereof, the Companies have caused this instrument to be signed and sealed this 8th day of March, 2018.

STATE OF IOWA
COUNTY OF DALLAS ss.
On this the 6th day of March, 2019, before me appeared Larry Taylor, to me personally known, who being by me duly sworn did say that he is President of MERCHANTS BONDING COMPANY (MUTUAL) and MERCHANTS NATIONAL BONDING, INC.; and that the seals affixed to the foregoing instrument are the Corporate Seals of the Companies; and that the said instrument was signed and sealed in behalf of the Companies by authority of their respective Boards of Directors.

Alicia K. Gram
Commission Number 767430
My Commission Expires
April 1, 2020

Notary Public
(Expiration of notary’s commission does not invalidate this instrument)

I, William Warner, Jr., Secretary of MERCHANTS BONDING COMPANY (MUTUAL) and MERCHANTS NATIONAL BONDING, INC., do hereby certify that the above and foregoing is a true and correct copy of the POWER-OF-ATTORNEY executed by said Companies, which is still in full force and effect and has not been amended or revoked.

In Witness Whereof, I have hereunto set my hand and affixed the seal of the Companies on this 19th day of May, 2019.

POA 0018 (3/17)
PERFORMANCE BOND

<table>
<thead>
<tr>
<th>OWNER</th>
<th>Paint Creek Trailways Commission</th>
<th>CONTRACT IDENT. NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADDRESS</td>
<td>4393 Collins Road, Rochester, MI 48306</td>
<td>DATE OF BID</td>
</tr>
<tr>
<td>CONTRACTOR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADDRESS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SURETY</td>
<td></td>
<td>DATE BOND EXECUTED</td>
</tr>
<tr>
<td>ADDRESS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMOUNT OF BOND (Express in words and figures)</td>
<td>BOND</td>
<td></td>
</tr>
</tbody>
</table>

KNOW ALL MEN BY THESE PRESENTS, that we, the CONTRACTOR and SURETY above named, are held and firmly bound unto the Owner in the amount stated above, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that, whereas, the Contractor entered into a certain contract with the Owner (as above numbered and dated), which is attached hereto and shall be deemed a part hereof as fully as if set out herein;

NOW, THEREFORE, if the Contractor (1) shall well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of said Contract during the original term of said Contract and any extensions thereof that may be granted by the Owner (including, also, the period of any guaranty required under the Contract), with or without notice to the Surety, and (2) shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of said Contract that may hereafter be made, notice of which modifications to the surety being hereby waived, then, this obligation shall be void; otherwise, this obligation shall remain in full force and effect and the Surety will be responsible for the proper completion of this Construction Contract, or, in lieu thereof, shall pay the Owner the amount stated above, as liquidated damages.
IN WITNESS WHEREOF, the above-bounded parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Witnessed by:                            INDIVIDUAL CONTRACTOR

______________________________________

______________________________________

Witnessed by:                            CORPORATE CONTRACTOR

______________________________________

Title

Witnessed by:                            CORPORATE SURETY

______________________________________

By                                            Title

LOCAL AGENT                            AGENT'S PHONE
LABOR AND MATERIAL PAYMENT BOND

<table>
<thead>
<tr>
<th>OWNER</th>
<th>Paint Creek Trailways Commission</th>
<th>CONTRACT IDENT. NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADDRESS</td>
<td>4393 Collins Road, Rochester, MI 48306</td>
<td></td>
</tr>
<tr>
<td>CONTRACTOR</td>
<td></td>
<td>DATE OF BID</td>
</tr>
<tr>
<td>ADDRESS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SURETY</td>
<td></td>
<td>DATE BOND EXECUTED</td>
</tr>
<tr>
<td>ADDRESS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMOUNT OF BOND</td>
<td>(Express in words and figures)</td>
<td>BOND</td>
</tr>
</tbody>
</table>

KNOW ALL MEN BY THESE PRESENTS, that we, the CONTRACTOR and SURETY above named, are held and firmly bound unto the Owner awarding the contract, as shown above, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that, whereas, the Contractor entered into a certain contract with the Owner (as above numbered and dated), which is attached hereto and shall be deemed a part hereof as fully as if set out herein;

AND WHEREAS, this Bond is given in compliance with and subject to the provisions of Act No. 213 of the Public Acts of Michigan, for the year 1963, as amended, being Section 129.201 to 129.211 inclusive, Compiled Laws of 1963.

NOW, THEREFORE, if the Contractor shall promptly make payment to all persons supplying labor and material in the prosecution of the work provided for in said Contract, and any and all duly authorized modifications of said Contract that may hereafter be made, notice of which modifications to the Surety being hereby waived, then, this obligation shall be void; otherwise, this obligation shall remain in full force and effect and the Surety will be responsible for the proper completion of the Construction Contract and payment of all such persons supplying labor and materials, or, in lieu thereof, shall pay the Owner the amount stated above, as liquidated damages.
IN WITNESS WHEREOF, the above-bounded parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Witnessed by: INDIVIDUAL CONTRACTOR
________________________
________________________(L.S.)

Witnessed by: CORPORATE CONTRACTOR
________________________
________________________(L.S.)

Witnessed by: CORPORATE SURETY
________________________
________________________(L.S.)

LOCAL AGENT
________________________
AGENT’S PHONE
MAINTENANCE BOND

OWNER   Paint Creek Trailways Commission
ADDRESS 4393 Collins Road, Rochester, MI 48306

CONTRACTOR

ADDRESS

SURETY

ADDRESS

AMOUNT OF BOND (Express in words and figures)

KNOW ALL MEN BY THESE PRESENTS, that we, the CONTRACTOR and SURETY above named, are held and firmly bound unto the Owner in the amount stated above, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that under the conditions of the above identified Contract between the Owner and the Contractor, the Contractor agreed to maintain the Contract Work in good condition and to repair any defects in the Work that may develop due to improper materials, defective equipment and workmanship and any other Work affected by those deficiencies at no cost to the Owner for a period of three years after the date of final payment for the Contract Work. Such maintenance, repair or replacement shall be accomplished immediately by the Contractor upon receipt of a Notice of Deficiency in the Contract Work from the Owner, should the Contractor fail to make good such deficiencies within one week or immediately if emergency repairs are required, the Owner shall made good such deficiencies and be reimbursed the cost thereof by the Contractor and the Surety.

NOW, THEREFORE, if the Contractor shall well and truly perform the duties described above, this obligation shall be void; otherwise to remain in full force and effect.

IN WITNESS WHEREOF, the above Contractor and his Surety have respectively executed this instrument pursuant to the authority of their respective governing bodies on the date indicated above.
AGREEMENT

ARTICLES OF AGREEMENT, made and entered into this ____________________________
day of _____________, 2019 by and between ________________________________
of ________________________________, hereinafter called the Contractor,
(City and State)

and ________________________________ of ________________________________, hereinafter called the Owner,
(Owner) (City of State)

hereinafter called the Owner; WITNESSETH, that the Contractor and the Owner for the
considerations hereinafter named agree as follows:

1. That all Contract Documents (as defined in the "General Conditions" of the
Specifications) herein attached or herein referred to for the Project identified
below, shall be and are hereby made a part of this Contract.

   Job No.: P3290002 Contract No. ____________

   Job Title: Rehabilitation of Paint Creek Trail ________________________________

   for which the Gross Proposal Amount is $ ____________

2. The Contractor shall furnish all labor, materials, equipment, tools, and services
necessary to construct the Project, as set forth in his Proposal and defined in
Section B.03.01 of the General Conditions, in strict accordance with the Contract
Documents in the manner, time, and place as therein set forth.

3. The Owner agrees to pay to the Contractor the amounts provided in the attached
Proposal, being either a Lump Sum or the projection of the Unit Prices therein set
forth, multiplied by the number of units actually constructed, all in the time and
manner as set forth in Section B.12 of the "General Conditions."

4. IN WITNESS whereof, said parties have hereon set their hands and seals the
day and year first above written.

   ____________________________________________

   By ________________________________ Title

   ____________________________________________

   By ________________________________ Title

Owner ________________________________

   By ________________________________ Title

By______________________________ Title
INDEX

DIVISION B – GENERAL CONDITIONS

PAGE

B-1   B.01   DEFINITIONS
B-3   B.02   ABBREVIATIONS
B-5   B.03   DRAWINGS, SPECIFICATIONS, AND RELATED DATA
  B-5    B.03.01   Intent of Drawings and Specifications
  B-5    B.03.02   Adequacy of Drawings and Specifications
  B-6    B.03.03   Dimensions
  B-6    B.03.04   Conflicts
  B-6    B.03.05   Discrepancies in Drawings and Specifications
  B-6    B.03.06   Specifications by Reference
  B-6    B.03.07   Copies of Drawings and Specifications
  B-7    B.03.08   Drawings and Specifications at the Project Site
  B-7    B.03.09   Additional Instructions and Detailed Drawings
  B-7    B.03.10   Physical Conditions Ordinarily Encountered and Inherent in the Work to
                   be Performed
B-7   B.04   LIMITATION OF LIABILITY, INDEMNIFICATION, AND INSURANCE
  B-7    B.04.01   Limitation of Liability
  B-7    B.04.02   Indemnification
  B-8    B.04.03   Qualification of Insurance Companies
  B-8    B.04.04   Workmen's Compensation and Employer's Liability Insurance
  B-8    B.04.05   Comprehensive General Liability Insurance
  B-9    B.04.06   Comprehensive Motor Vehicle Liability Insurance
  B-9    B.04.07   Umbrella Excess Liability Insurance
  B-10   B.04.08   Protective Public Liability Insurance
  B-10   B.04.09   Additional Insured
  B-10   B.04.10   Cancellation Notice
B-11   B.05   CONTRACT BONDS
  B-11    B.05.01   Performance Bond
  B-11    B.05.02   Labor and Material Payment Bond
  B-11    B.05.03   Maintenance and Guarantee Bond
B-11   B.06   ENGINEER-OWNER-CONTRACTOR RELATIONS AND AUTHORITIES
  B-11    B.06.01   Contractor's Responsibility and Authority
  B-12    B.06.02   Contractor's Superintendent
  B-12    B.06.03   Contractor's Right to Suspend Work or Terminate Contract
  B-12    B.06.04   Suspension of Work By Owner
INDEX
(Continued)
DIVISION B – GENERAL CONDITIONS

PAGE
B-12   B.06.05   Owner's Right to Correct Deficiencies
B-12   B.06.06   Owner's Right to Terminate Contract and Complete the Work
B-13   B.06.07   Authority of Owner's Agent
B-13   B.06.08   Engineer's Responsibility and Authority
B-13   B.06.09   Engineer's Decisions
B-13   B.06.10   Suspension of Work by the Engineer
B-13   B.06.11   Rights of Various Interests

B-13   B.07   CONTRACT EXECUTION
B-13   B.07.01   Assignment of Contract
B-14   B.07.02   Notice of Award
B-14   B.07.03   Notice to Proceed
B-14   B.07.04   Contractor's Responsibility to Notify Owner and Engineer
B-14   B.07.05   Contractor's Responsibility to Notify Governing Agencies
B-14   B.07.06   Separate Contracts
B-14   B.07.07   Subcontracts
B-15   B.07.08   Oral Agreement
B-15   B.07.09   Changes in the Work
B-15   B.07.10   Contracts over $75,000 in Subsurface Physical Condition
B-16   B.07.11   Extra Work
B-16   B.07.12   Time for Completion and Liquidated Damages
B-16   B.07.13   Extension of the Contract Time

B-16   B.08   USE OF LANDS AND PROPERTY
B-17   B.08.01   Permits and Licenses
B-17   B.08.02   Lands By Owner
B-17   B.08.03   Lands By Contractor
B-17   B.08.04   Private Property
B-17   B.08.05   Patents and Royalties
B-17   B.08.06   Laws to be Observed

B-18   B.09   SURVEYS AND PROJECT CONTROL POINTS
B-18   B.09.01   Construction Surveys and Survey Control Points
B-18   B.09.02   Protection of Survey Control Points
INDEX
(Continued)
DIVISION B – GENERAL CONDITIONS

PAGE

B-18   B.10 WORKMANSHIP AND MATERIALS

B-18   B.10.01 Quality of Equipment and Materials
B-18   B.10.02 Character of Workmen
B-19   B.10.03 Materials Furnished by the Contractor
B-19   B.10.04 Materials Furnished by the Owner

B-19   B.11 PUBLIC SAFETY

B-19   B.11.01 Compliance with Applicable Safety Standards and Regulations
B-20   B.11.02 Warning Signs and Barricades
B-20   B.11.03 Public Safety and Convenience
B-20   B.11.04 Work During an Emergency

B-20   B.12 MEASUREMENT AND PAYMENT

B-20   B.12.01 Breakdown of Contract Amount
B-21   B.12.02 Requests for Payment
B-21   B.12.03 Engineer's Certificate for Payment
B-21   B.12.04 Progress Payments to the Contractor
B-22   B.12.05 Owner's Right to Withhold Progress Payments
B-22   B.12.06 Payment for Rejected Work and Materials
B-22   B.12.07 Payment for Uncorrected Work
B-22   B.12.08 Payment for Work by the Owner
B-22   B.12.09 Payment for Work Suspended by the Owner
B-23   B.12.10 Payment for Work by the Owner Following His Termination of the Contract
B-23   B.12.11 Payment for Work Terminated by the Contractor
B-23   B.12.12 Payment for Replacing Survey Control Points and Construction Stakes
B-23   B.12.13 Payment for Extra Work

B-24   B.13 COMPLETION AND ACCEPTANCE OF THE WORK

B-24   B.13.01 Guarantees
B-24   B.13.02 Use of Completed Portions of the Work
B-24   B.13.03 Release of Liens
B-24   B.13.04 Acceptance and Final Payment
B-25   B.13.05 Correction of Faulty Work After Final Acceptance

FORMS

B-26   CONTRACTOR'S DECLARATION
B-27   CONTRACTOR'S AFFIDAVIT
B-28   PARTIAL WAIVER OF LIEN
B-29   FINAL WAIVER OF LIEN
DIVISION B – GENERAL CONDITIONS

B.01 DEFINITIONS

Whenever used in the Contract Documents, the following terms shall have the meanings indicated, which shall be applicable to both the singular and plural thereof:

-- ACT OF GOD: An earthquake, cyclone, or other cataclysmic phenomenon of nature. Rain, wind, flood, or other natural phenomenon of normal intensity for the locality shall not be construed as an Act of God and no representation shall be made to the Contractor for damages to the Work resulting therefrom.

-- ADDENDA: Written or graphic instruments issued prior to the execution of the Agreement which modify or interpret the Contract Documents, Drawings, and Specifications, by additions, deletions, clarifications, or corrections.

-- AGREEMENT: The page executed by the Owner and Contractor covering the performance of the Work described in the Contract Documents.

-- BID: The offer or Proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

-- BIDDER: Any person, firm, or corporation submitting a Bid for the Work.

-- BONDS: Bid Bond, Performance Bond, Labor and Material, Payment Bond, Maintenance Bond, and other instruments of security, furnished by the Contractor and his Surety in accordance with the Contract Documents.

-- CHANGE ORDER: A written amendment of the Contract between the Owner and the Contractor authorizing an addition, deletion, or revision in the Work within the general scope of the Contract Documents, or authorizing an adjustment in the Contract Price or Contract Time.

-- CONTRACT AMOUNT (CONTRACT PRICE): The total monies payable to the Contractor under the terms and conditions of these Contract Documents.


-- CONTRACT TIME: The number of calendar days stated in the Proposal for the completion of the Work.

-- CONTRACTOR: The person, firm, or corporation with whom the Owner has executed the Agreement.

-- DRAWINGS: The part of the Contract Documents which show the characteristics and scope of the Work to be performed and which have been prepared or approved by the Engineer.
-- **ENGINEER:** The Mannik & Smith Group, Inc.

-- **FIELD ORDER:** Written directives issued by the Engineer, as authorized by the Owner, to the Contractor. Field Orders may take the form of instructions or authorizations in reference to performance of the Work. Field Orders may also be interpretations or clarifications of the Contract Documents. Field Orders do not change the content, nor shall they be interpreted as a change in the Contract Documents.

-- **GOVERNING AGENCY:** Public authority (state, county, township, or other public agency) or their boards, commissions, departments, etc. which has statutory ownership or control of the referred to facility or area.

-- **GROSS PROPOSAL AMOUNT:** The total sum of all of the amounts obtained by extending the Contractor's Bid Prices times the Engineer's Estimated Quantities; on Lump Sum Contracts, the Lump Sum Amount Bid.

-- **INCIDENTAL TO THE PROJECT:** Incidental items of Work required but not specifically listed in the Proposal and for which no separate payment will be made. The costs associated with such incidental items are to be included in the Prices Bid for Items of Work specifically listed in the Proposal and included in the Gross Proposal Amount.

-- **INCIDENTAL TO ITEM (AS DESIGNATED):** Incidental items of Work required but not specifically listed in the Proposal and for which no separate payment will be made. The costs associated with such Work are to be included in the Price Bid for the specific Item so designated.

-- **NOTICE OF AWARD:** The written notice of the acceptance of the Bid from the Owner to the successful Bidder.

-- **NOTICE TO PROCEED:** Written communication issued by the Owner to the Contractor authorizing him to proceed with the Work and establishing the commencement date and completion date for the Work.

-- **OWNER:** The Owner is the Paint Creek Trailways Commission except for Bear Creek Nature Park Trail Resurfacing portion of Project which is located on property owned and operated by Charter Township of Oakland and Oakland Township Parks and Recreation Commission. The Charter Township of Oakland and Oakland Township Parks and Recreation Commission are third-party beneficiaries of this contract relative to such portions of the overall resurfacing project.

-- **OWNER'S AGENT:** A duly appointed representative delegated by the Owner to perform as its Agent in the administration of the Work. All business conducted by an Owner's Agent shall be in the best interest of the Owner and shall be as if conducted by the Owner.

-- **OWNER'S REPRESENTATIVE:** A duly appointed representative of the Owner delegated to assist in the administration of the Contract.

-- **PLANS:** The Drawings as prepared by the Engineer which show the characteristics and scope of the Work to be performed and which are a part of the Contract Documents.
-- **PROJECT:** The undertaking to be performed as provided in the Contract Documents.

-- **PROPOSAL:** The offer of a Bidder to perform the Work described in the Contract Documents when made out and submitted on the prescribed proposal forms, properly signed and guaranteed.

-- **PROPOSAL GUARANTY:** The cashier's check, certified check, or Bid Bond accompanying the Proposal submitted by a Bidder as a guarantee that the Bidder will enter into an agreement with the Owner for construction of the Work if the Contract is awarded to him.

-- **PUNCH LIST:** A list of uncompleted work given to the Contractor by the Engineer.

-- **SHOP DRAWINGS:** All drawings, diagrams, illustrations, brochures, schedules, and other data prepared by the Contractor, a Subcontractor, manufacturer, Supplier, or distributor, which illustrate how specific portions of the Work shall be fabricated or installed.

-- **SPECIFICATIONS:** A part of the Contract Documents consisting of written descriptions of a technical nature of materials, equipment, construction systems, standards, and workmanship.

-- **SUBCONTRACTOR:** An individual, firm, or corporation having a direct contract with the Contractor, or with another Subcontractor, for the construction of a part of the project.

-- **SUBSTANTIAL COMPLETION DATE:** That date as certified by the Engineer when the construction of the Project, or a specified part thereof, is sufficiently completed, in accordance with the Contract Documents, so that the Project or specified part can be utilized for the purposes for which it is intended.

-- **SUPPLEMENTAL GENERAL CONDITIONS AND SUPPLEMENTAL INSTRUCTIONS TO Bidders:** Modifications to General Conditions and Instructions to Bidders required by a federal or state agency for participation in the Project and approved by the agency in writing prior to inclusion in the Contract Documents, or such requirements that may be imposed by applicable State laws.

-- **SUPPLIER:** Any person or organization who supplies materials or equipment for the Work, including that fabricated to a special design, but who does not perform labor at the site.

-- **SURETY:** The corporation that executes the Contractor's Bid Bond, Performance Bond, Labor and Material Payment Bond, or Maintenance Bond.

-- **WORK:** All labor necessary to produce the construction required by the Contract Documents, and all materials and equipment incorporated or to be incorporated in the Project.

-- **WRITTEN NOTICE:** Any notice to any party of the Agreement relative to any part of this Agreement in writing and considered delivered and the service thereof completed, when posted by certified or registered mail to the said party at its last given address or delivered in person to said party or its authorized representative on the Work.

**B.02 ABBREVIATIONS**

The following abbreviations as used in the Contract Documents have the listed meanings:
AAN. ...............American Association of Nurserymen, Inc.
AAR .................Association of American Railroads
AASHTO ..........American Association of State Highway and Transportation Officials
AC..................Alternating Current, Acres
ACI ..................American Concrete Institute
AGA ................American Gas Association
AGC ................The Associated General Contractors of America, Inc.
AIA ..................American Institute of Architects
AISC ...............American Institute of Steel Construction
AISI ................American Iron and Steel Institute
ANSI ..............American National Standards Institute
APHA ..............American Public Health Association
API ..................American Petroleum Institute
APWA ..........American Public Works Association
ARBA ..........American Road Builders' Association
AREA ..............American Railway Engineering Association
ARI. ...............Air Conditioning and Refrigeration Institute
ASCE ..............American Society of Civil Engineers
ASHRAE ..........American Society of Heating, Refrigerating and Air Conditioning Engineers
ASLA ..............American Society of Landscape Architects
ASME ..............American Society of Mechanical Engineers
ASTM ..............American Society for Testing and Materials
AUC ...............Associated Underground Contractors, Inc.
AWG ...............American Wire Gauge
AWWA ..........American Water Works Association
BOCA ............Building Officials Conference of America, Inc.
BTU ..............British Thermal Unit
C .....................Centigrade, Celsius
CF ....................Cubic Foot, Feet
CFS ...............Cubic Feet per Second
CPCO .............Consumers Power Company
CRSI ............Concrete Reinforcing Steel Institute
CSI ............Construction Specification Institute
CY ..............Cubic Yards
DC ...............Direct Current
DE ...............The Detroit Edison Company
DNR ........ Department of Natural Resources
DWSD ..........Detroit Water and Sewerage Department
EA ...............Each
EEI ..........Edison Electric Institute
EPA ...........Environmental Protection Agency
F .................Fahrenheit
FOB ...............Free on Board
FT ...............Feet
GPM. ............Gallons per Minute
HP ..............Horsepower
IDENT ............Identification
IEEE ............Institute of Electrical and Electronic Engineers
IES ............Illuminating Engineering Society
IN ............Inches
ISA ..........Instrument Society of America
The intent of the Drawings and Specifications is that the Contractor furnish all labor, materials, equipment, and transportation necessary for the proper execution of the Work unless specifically noted otherwise. The Contractor shall do all the Work shown on the Drawings and described in the Specifications and all incidental Work considered necessary to fully complete the Project in a substantial and acceptable manner ready for use, occupancy, and operation by the Owner.

Responsibility for adequacy of the design and for sufficiency of the Drawings and Specifications shall be borne by the Owner. The complete requirements of the Work to be performed under the Contract shall be set forth in Drawings and Specifications to be supplied by the Owner through the Engineer or by the Engineer as representative of the Owner. Drawings and Specifications
furnished shall be in accordance with the Contract Documents and shall be true and accurate developments thereof. All information concerning utilities shown on the Drawings were obtained using the best information available. No guarantee is given or implied that the information or the location as shown is absolutely correct, or that other facilities, in addition to those shown, are not present and may be encountered.

B.03.03  Dimensions

Figured dimensions on the Drawings will be used in preference to scaling the Drawings. Where dimensions are not shown on the Drawings and are required for the Contractor to properly construct the Work, he shall obtain such dimensions from the Engineer.

B.03.04  Conflicts

If there are conflicts among the Supplemental Specifications, the Drawings, and/or the Detailed Specifications, the Supplemental Specifications shall govern over both the Drawings and the Detailed Specifications; and the Drawings shall govern over the Detailed Specifications.

B.03.05  Discrepancies in Drawings and Specifications

Any discrepancies found between the Drawings and Specifications and site conditions or any errors or omissions in the Drawings or Specifications shall be immediately reported to the Engineer, who shall promptly correct such error or omission in writing. Any Work done by the Contractor after his discovery of such discrepancies, errors, or omissions shall be done at the Contractor's risk.

B.03.06  Specifications By Reference

Where reference is made in the Specifications to specifications or standards of any technical society, association, governmental agency, etc., it is understood and agreed that the latest edition (unless otherwise stated) of such specifications or standards are a part of the Specifications as though fully repeated therein. In interpreting any specification or standard referred to, terms such as "Purchaser," "Owner," and the like shall be understood to mean the person or organization designated as the Owner in the Contract, acting by and through its duly constituted legislative body. Terms such as "Manufacturer," "Supplier," and the like shall mean the Contractor.

It is also understood and agreed that the use or application of any specification or standard referred to shall not necessarily be restricted to that which may be named in the title or the specification or standard, but shall be used or applied as set forth in these Specifications.

The Contractor shall secure copies of standards and specifications referred to herein. A copy of each specification or standard referred to is on file in the Engineer's office; however, it is assumed that a qualified Contractor experienced in the type of Work involved will have access to the specifications or standards referred to.

B.03.07  Copies of Drawings and Specifications

Except as provided for otherwise, all copies of Drawings and Specifications reasonably necessary for the execution of the Work shall be furnished to the Contractor without charge.
B.03.08 Drawings and Specifications at the Project Site

One complete set of all Drawings and Specifications shall be maintained at the job site and shall be available to the Engineer at all times.

B.03.09 Additional Instructions and Detailed Drawings

Further instructions may be issued by the Engineer during the progress of the Work by means of Drawings or otherwise to make more clear or specific the Drawings and Specifications or as may be necessary to explain or illustrate changes in the Work to be done. Moreover, the Contractor shall attend a preconstruction meeting, at a time and place as arranged by the Owner, at which time various utility companies and governmental agency representatives will be present.

B.03.10 Physical Conditions Ordinarily Encountered and Inherent in the Work to be Performed

Contractor agrees and stipulates that following physical conditions may exist at the site and are of a nature ordinarily encountered and generally recognized as inherent in the work to be performed:

a. Groundwater and soil conditions such that the utilization of dewatering equipment up to and including trench boxes, well points and deep wells as well as additional backfill to support structures is required.

b. Trees and other vegetation requiring boring and special care to avoid damage.

c. Public utilities whose exact location is unknown from plans, including gas, water, electric, sanitary and storm sewer structures.

B.04 LIMITATION OF LIABILITY, INDEMNIFICATION, AND INSURANCE

B.04.01 Limitation of Liability

The Contractor affirmatively represents that he is skilled and experienced in the use and interpretation of Drawings and Specifications such as those included in the Bid Documents of this Contract. Further, he also affirmatively represents that he has carefully reviewed the Drawings and Specifications of this Contract and that he has based his Bid solely on these Documents, not relying in any way on any explanation or interpretation -- oral or written -- from any other source. Unless the Contractor shall give written notice to the Engineer of any ambiguities contained in the Drawings and Specifications prior to the submission of its Bid, the Contractor agrees that it shall be conclusively presumed that the Contractor has exercised his aforementioned skill and experience and found the Drawings and Specifications sufficient and free from ambiguities, errors, or omissions for the purpose of determining its Contract Bid Price for the performance of the Work in conformity with the Drawings and Specifications.

Submission of a Bid without prior written notice to the Engineer of any claimed ambiguities, errors, or omissions shall constitute a waiver of any and all bid-price-related claims by the Contractor that are based upon any alleged ambiguities, errors, omissions, or the like in the Drawings or Specifications.

B.04.02 Indemnification
To the fullest extent permitted by law, the Contractor agrees to defend, pay on behalf of, indemnify, and hold harmless the Paint Creek Trailways Commission, City of Rochester Hills, City of Rochester, Oakland Township, Oakland Township Parks and Recreation Commission, Orion Township and The Mannik & Smith Group, Inc., their elected and appointed officials, employees and volunteers and others working on behalf of the Paint Creek Trailways Commission, City of Rochester Hills, City of Rochester, Oakland Township, Oakland Township Parks and Recreation Commission, Orion Township and The Mannik & Smith Group, Inc. against any and all claims, demands, suits, or loss, including all costs connected therewith, and for any damages which may be asserted, claimed or recovered against or from the Paint Creek Trailways Commission, City of Rochester Hills, City of Rochester, Oakland Township, Orion Township and The Mannik & Smith Group, Inc. by reason of personal injury, including bodily injury or death and/or property damage, including loss of use thereof, which arises out of or is in any way connected or associated with this Contract.

B.04.03 Qualification of Insurance Companies

All insurance required under these Specifications shall be furnished by an insurance company qualified and licensed to do business in Michigan and shall have a rating of "A" as listed in the latest issue of A.M. Best's "Key Rating Guide."

Certificates of Insurance shall be on the form of certificate included in these Specifications.

B.04.04 Workmen's Compensation and Employer's Liability Insurance

The Contractor shall procure and maintain in force during the life of this Contract Workmen's Compensation Insurance as required by the statutes of the state in which the Work is located for all his employees engaged in the Work connected with this Contract. If the Work involves maritime or railroad exposure which requires coverage under the Longshoreman's and Harbor Worker's Act or under the Maritime and Federal Employers' Liability Act, in lieu of or in addition to Workmen's Compensation coverage, the Workmen's Compensation policy shall be endorsed to provide such coverage. In addition, the Workmen's Compensation policy shall be endorsed to define the scope of coverage for the Contractor's corporate officers or partners if required by the Workmen's Compensation Law of the state in which the Work is located.

The Contractor shall also procure, and maintain in force during the life of this Contract, Employer's Liability Insurance in an amount not less than $100,000.

Before starting the Work, the Contractor shall file with the Owner and the Engineer certificates of the above-described insurance, acceptable to the Owner.

B.04.05 Comprehensive General Liability Insurance

The Contractor shall procure and maintain during the life of this Contract Comprehensive General Liability Insurance to protect from claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees including claims insured by personal injury liability coverage and from claims for injury or destruction of tangible property including loss of use resulting therefrom -- any and all of which may arise out of or result from the
Contractor’s operations under the Contract whether such operations be by himself or by any Subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of them may be legally liable. Such insurance shall include coverage for:

a. Operation and Premises
b. Independent Contractor Protective Liability
c. Completed Operation - Products Liability
d. Contractual Liability
e. Explosion, Collapse, or Underground Damage
f. Broad Form Property Damage

The limits of liability for bodily injury including accidental death shall be $2,000,000 per occurrence and a total limit of $2,000,000 for all completed Operations-Products bodily injury claims during a single policy year.

The limits of liability for property damage shall be $100,000 per occurrence and $250,000 aggregate limit individually each for Operations, Independent Contractor Protective, and Contractual for each Project, and $250,000 aggregate limit for Completed Operation - Products property damage during a single policy year. Before starting the Work, the Contractor shall file with the Owner and the Engineer certificates of the above described insurance, acceptable to the Owner.

In addition, the Contractor shall extend the above described Completed Operations-Products Liability insurance coverage to the end of the Contract Guaranty period and shall furnish the Owner a certificate of insurance to that effect for the entire Guaranty period prior to final payment for Work done under this Contract.

In addition, Contractor shall require all Subcontractors to obtain and provide to Owner proof of insurance coverages similar to those required of Contractor hereunder, and naming Owner as an Additional Insured as required below of Contractor.

B.04.06   Comprehensive Motor Vehicle Liability Insurance

The Contractor shall procure and maintain during the life of this Contract Comprehensive Motor Vehicle Liability Insurance to a combined limit for bodily injury and property damage liability in the amount of $2,000,000 per accident. The policy shall include coverage for owned, non-owned, and hired motor vehicles.

Before starting the Work, the Contractor shall file with the Owner and the Engineer certificates of the above-described insurance acceptable to the Owner.

B.04.07   Umbrella Excess Liability Insurance

The Contractor shall procure and maintain during the life of the Contract, Umbrella Excess Liability Insurance in the single limit of at least $2,000,000. This insurance shall cover all insureds for at least all risks described in the Comprehensive General Liability and Comprehensive Motor Vehicle Liability policies.

Before starting the Work, the Contractor shall file with the Owner and the Engineer certificates of the above-described insurance acceptable to the Owner.
B.04.08  Protective Public Liability Insurance

a.  Owners Protective Public Liability Insurance

The Contractor shall procure and maintain during the life of the Contract Owners Protective Public Liability Insurance in the name of the Owner to protect against claims for damages because of bodily injury or death, and for property damage caused by the Contractor or his Subcontractors including coverage for costs of defense from all such claims. The limits of liability for bodily injury including death shall be $2,000,000 per occurrence.

The limits of liability for property damage shall be $500,000 per occurrence and $500,000 aggregate limits.

The Owners Protective Public Liability Insurance Policy shall include as Additional Insureds the Engineer and his consultants, agents, and employees, and all public corporations in whose jurisdiction the Work is located.

Before starting the Work, the Contractor shall file with all Additional Insureds a copy of the policy for the above-described insurance acceptable to the Owner.

b.  Railroad Protective Public Liability Insurance

When the Contract Work includes construction crossing railroads, the Contractor shall procure and maintain during the life of the Contract Protective Public Liability Insurance in the name of the railroad to protect against claims for damages because of bodily injury or death and for property damage caused by the Contractor or his Subcontractors. The form of the policy and the amount of the liability coverage shall be determined by the railroads involved.

Before starting the Work, the Contractor shall file with each of the named insured and the Owner and the Engineer a copy of the policy for the above-described insurance acceptable to the railroad.

B.04.09  Additional Insured

All insurance coverages required under the Contract Documents, shall include an endorsement stating the following shall be Additional Insureds: “The Paint Creek Trailways Commission, The Mannik & Smith Group, Inc., Township of Orion, Township of Oakland, Oakland Township Parks and Recreation Commission, City of Rochester Hills, and City of Rochester, all elected and appointed officials, all employees and volunteers, all boards, commissions and/or authorities and board members, including employees and volunteers thereof. This coverage shall be primary to the Additional Insureds, and not contributing with any other insurance or similar protection available to the Additional Insureds, whether other available coverage be primary, contributing or excess.”

B.04.10  Cancellation Notice

Workers’ Compensation Insurance, Commercial General Liability Insurance and Motor Vehicle Liability Insurance, as described above, shall include an endorsement stating the following: “It is understood and agreed that Sixty (60) days Advance Written Notice of Cancellation, Non-Renewal, Reduction and/or Material Change shall be sent to Paint Creek Trailways Commission,
Contractor shall submit a Certificate of Insurance on an Accord Certificate form prior to the execution of a contract meeting the minimum limits of liabilities as outlined. All insurance carriers must be acceptable to the Paint Creek Trailways Commission and licensed in the State of Michigan. Failure of the Contractor to maintain the required insurance shall be grounds for Contract cancellation. No work shall be performed on the site in the absence of any insurance coverage required herein.

B.05 CONTRACT BONDS

B.05.01 Performance Bond

At the time of execution of the Agreement by the Owner, the Contractor shall furnish a Performance Bond in an amount equal to 100 percent of the Contract Amount. Only the form of bond enclosed or otherwise approved in writing by the Owner will be acceptable. The Surety shall be licensed/authorized to do business in the state where the Work is located.

B.05.02 Labor and Material Payment Bond

At the time of execution of the Agreement by the Owner, the Contractor shall furnish a Labor and Material Payment Bond in an amount equal to 100 percent of the Contract Amount. Only the form of bond enclosed or otherwise approved in writing by the Owner will be acceptable. The Surety shall be licensed/authorized to do business in the state where the Work is located.

B.05.03 Maintenance and Guarantee Bond

At the time of execution of the Agreement by the Owner, the Contractor shall furnish a Maintenance Bond in an amount equal to 100 percent of the Contract Amount. Only the form of bond enclosed or otherwise approved in writing by the Owner will be acceptable. The Surety shall be licensed/authorized to do business in the state where the Work is located.

B.06 ENGINEER-OWNER-CONTRACTOR RELATIONS AND AUTHORITIES

B.06.01 Contractor's Responsibility and Authority

The Engineer shall maintain a competent and qualified Resident Project Representative (RPR) and assistants (the "RPR staff") at the Project site. Through more extensive on-site observations of the work in progress and field checks of materials and equipment by the RPR staff, the Engineer shall endeavor to provide further protection for the Owner against defects and deficiencies in the work of the Contractor. But the furnishing of such services shall, in no way, make the Engineer responsible for either (a) the quality of any of the work for which the Contractor is intended to be responsible or (b) for the Contractor's failure to perform the Work in accordance with the Construction Contract Documents.

The Contractor shall supervise and direct the Work efficiently and with his best skill and attention. He will be held solely responsible for the means, methods, techniques, sequences, and procedures of construction. The Contractor will be responsible for ensuring that the finished Work complies accurately with the Contract Documents.
The Contractor's attention is directed to the "Safety and Health Regulations for Construction" (and subsequent amendments) promulgated by the United States Department of Labor, identified as OSHA Safety and Health Standards (29 CFR 1910) General Industry Standards, and the current rules and regulations of the Michigan Occupational Safety and Health Act (MIOSHA) covering Safety and Health Standards for construction. These rules and regulations are incorporated by reference in these Contract Documents and all Work under this Contract shall be performed in compliance with them.

B.06.02 Contractor's Superintendent

A qualified superintendent who is acceptable to the Engineer shall be maintained on the Work and shall give efficient supervision to the Work until its completion. The superintendent shall have full authority to act in behalf of the Contractor.

B.06.03 Contractor's Right to Suspend Work or Terminate Contract

The Contractor may suspend Work or terminate the Contract upon 10 days written notice to the Owner and the Engineer, for any of the following reasons:

a. If an order of any court, or other public authority caused the Work to be stopped or suspended for a period of 6 months through no act or fault of the Contractor or his employees.

b. If the Owner should fail to make any progress payment within 45 days after an Engineer's Certificate for Payment has been issued.

B.06.04 Suspension of Work By Owner

The Work or any portion thereof may be suspended at any time by the Owner for his convenience, provided that he gives the Contractor 5-days' written notice of said suspension. The Contractor shall resume the Work upon written notice from the Owner. If the Owner does not give written notice to resume Work within 30 days of the date of the notice of suspension, the Contractor may abandon that portion of the Work so suspended and shall be entitled to payment in accordance with these Specifications.

B.06.05 Owner's Right to Correct Deficiencies

Upon failure of the Contractor to perform the Work in accordance with the Contract Documents, including any requirements with respect to the Schedule of Completion, and after 5-days' written notice to the Contractor and the receipt of a written statement of deficiencies from the Engineer, the Owner may, without prejudice to any other remedy he may have, correct such deficiencies.

B.06.06 Owner's Right to Terminate Contract and Complete the Work

In the event of any default by the Contractor, and upon receiving written notice from the Engineer certifying cause for such action the Owner shall have the right to terminate the employment of the Contractor after giving 10 days written notice of such termination to the Contractor. In the event of such termination, the Owner may take possession of the Work and of all materials, tools, and equipment thereon and may finish the Work by whatever method and means he may select. It shall be considered a default by the Contractor whenever he shall:
a. Declare bankruptcy, become insolvent, or assign his assets for the benefit of his creditors.
b. Disregard or violate important provisions of the Contract Documents or Engineer's instructions, or fail to prosecute the Work according to the agreed Schedule of Completion, including extensions thereof.
c. Fail to provide a qualified superintendent, competent workmen, competent Subcontractors, or proper materials, or fail to make prompt payment therefor.

B.06.07 Authority of Owner's Agent

No agent of the Owner shall have power to revoke, alter, enlarge, or relax the stipulations or requirements of the Specifications, except insofar as such authority may be specifically conferred by the Specifications themselves.

B.06.08 Engineer's Responsibility and Authority

The Engineer shall decide any and all questions which may arise as to the quality and acceptability of materials furnished, Work performed, rate of progress of Work, interpretation of Drawings and Specifications, and all questions as to the acceptable fulfillment of the Contract on the part of the Contractor.

The Engineer will not be responsible for the construction means, controls, techniques, sequences, procedures, or construction safety.

B.06.09 Engineer's Decisions

All claims of the Owner or the Contractor shall be presented to the Engineer for decision which shall be made in writing within a reasonable time.

B.06.10 Suspension of Work By the Engineer

The Engineer shall have the authority to suspend the Work, wholly or in part, for such period or periods as he may deem necessary, due to unsuitable weather, or such other conditions as are considered unfavorable for prosecution of the Work, or failure on the part of the Contractor to carry out the provisions of the Contract or to supply materials meeting the requirements of the Specifications. The Contractor shall not suspend operation without the Engineer's written permission.

B.06.11 Rights of Various Interests

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

B.07 CONTRACT EXECUTION

B.07.01 Assignment of Contract
Neither the Contractor nor the Owner shall sublet, sell, transfer, assign, or otherwise dispose of the Contract or any portion thereof, or of his right title or interest therein, or his obligations thereunder, without the written consent of the other party.

B.07.02 Notice of Award

Award of the Contract, if it is awarded, will be to the lowest responsible, responsive Bidder, in the best interest of the Owner, whose Proposal complies with all requirements prescribed. In no case will an award be made until all necessary investigations are made as to the responsibility of the Bidder to whom it is proposed that the Contract be awarded. Owner may reject any and all Proposals, and may request modifications of any Proposal, and may request new Proposals.

The Contract shall be deemed to have been awarded after the Owner has accepted the Proposal and a formal "Notice of Award" has been served upon the intended awardee by the Owner. Notice placed in the United States mail properly addressed to the address given by the Bidder in his Proposal shall constitute valid service.

B.07.03 Notice to Proceed

Following execution of the Agreement by the Owner, a written Notice to Proceed with the Work shall be given to the Contractor. The Contractor shall begin and shall prosecute the Work regularly without interruption thereafter (unless otherwise directed in writing by the Owner), with such forces as to secure the completion of the Work within the Contract Time.

B.07.04 Contractor's Responsibility to Notify Owner and Engineer

After receipt of the Notice to Proceed from the Owner and prior to the start of construction, the Contractor shall notify the Owner and Engineer when the Work is to commence. The Owner will be allowed 72 hours, if needed, to arrange for inspection and testing of the Work.

B.07.05 Contractor's Responsibility to Notify Governing Agencies

The Contractor shall notify all governing agencies and all concerned utility companies 3 work days prior to the start of construction. Additional notification shall be given by the Contractor to all the above mentioned parties 48 hours prior to crossing, connecting to, or working in the vicinity of any right-of-way or utility owned or controlled by any of the concerned parties.

B.07.06 Separate Contracts

The Owner may let other contracts in connection with the Work of the Contractor. The Contractor shall cooperate with other contractors with regard to storage of materials and execution of their Work. It shall be the Contractor's responsibility to inspect all Work by other contractors affecting his Work and to report to the Engineer any irregularities which will not permit him to complete his Work in a satisfactory manner. His failure to notify the Engineer of such irregularities shall indicate the Work of other contractors has been satisfactorily completed to receive his Work. The Contractor will not be responsible for defects of which he could not have known, which develop in the work of others after the Work is completed.

B.07.07 Subcontracts
At the time specified by the Contract Documents or when requested by the Engineer, the Contractor shall submit in writing to the Owner for approval of the Engineer the names of the Subcontractors proposed for the Work. Subcontractors may not be changed except at the request or with the approval of the Engineer. The Contractor shall not sublet an aggregate total of more than 50 percent of the Contract Amount without written permission of the Owner.

The Contract Documents shall not be construed as creating any contractual relation between any Subcontractor and the Owner. The Contractor shall bind every Subcontractor by the terms of the Contract Documents. For convenience of reference and to facilitate the letting of contracts and subcontracts, the Specifications are separated into titled divisions and sections. Such separation shall not, however, operate to make the Owner or the Engineer an arbiter to establish limits of work of subcontracts between Contractor and Subcontractors.

B.07.08 Oral Agreement

No oral order, objection, claim, or notice by any party to the others shall affect or modify any of the terms or obligations contained in any of the Contract Documents, and none of the provisions of the Contract Documents shall be held to be waived or modified by reason of any act whatsoever, other than by a definitely agreed waiver or modification thereof in writing, and no evidence shall be introduced in any proceeding of any other waiver or modification.

B.07.09 Changes in the Work

The Owner may, as the need arises, order changes in the Work through additions, deletions, or modifications without invalidating the Contract. The Owner reserves the right to delete or add work costing up to 30 percent of the original total Contract Price without penalty or changes in the Unit Prices shown in the Proposal. Payment and time of completion affected by such changes shall be adjusted at the time of ordering such changes.

B.07.10 Contracts over $75,000 in Subsurface Physical Conditions

The following terms and provisions shall apply if the contract price exceeds $75,000:

If the Contractor discovers one or both of the following conditions of the surface or subsurface at the improvement site, before disturbing the physical condition, the Contractor shall promptly notify the Owner of the physical condition in writing:

a. The subsurface or a latent physical condition at the site differing materially from those indicated in the improvement contract.

b. An unknown physical condition at the site is of an unusual nature differing materially from those ordinarily encountered and generally recognized as inhering in the work of the character provided for in the improvement contract.

Notice shall be provided to Owner. If the Owner receives a notice as provided herein, the Owner shall promptly investigate the physical condition. If the Owner determines that the physical conditions do materially differ and will cause an increase or decrease in the cost or additional time needed to perform the contract, the Owner's determination shall be made in writing and an equitable adjustment shall be made and the Contract modified in writing accordingly. The Contractor cannot make an additional claim for cost or time because of a physical condition.
unless the Contractor has complied with the notice requirements of this section. The Owner may extend the time required for notice under this section.

The Contractor cannot make a claim for an adjustment under the Contract after the Contractor has received the final payment under the Contract.

B.07.11 Extra Work

New and unforeseen items of Work found to be necessary, and which cannot be covered by any item or combination of items for which there is a Contract Price, shall be classed as Extra Work. The Contractor shall do such Extra Work and furnish such materials as may be required for the proper completion or construction of the whole Work contemplated, upon written notice from the Owner as approved by the Engineer. In the absence of such written notice, no claim for Extra Work shall be considered. Extra Work shall be performed in accordance with these Specifications; or special provisions shall be done in accordance with the best practice as approved by the Engineer. Extra Work required in an emergency to protect life and property shall be performed by the Contractor as required.

B.07.12 Time For Completion and Liquidated Damages

Contractor and Owner agree that the date of beginning and the time for completion as specified in the Proposal are ESSENTIAL CONDITIONS of this Contract; and it is further mutually understood and agreed that the Work embraced in this Contract shall be commenced on a date to be specified in the "Notice to Proceed." The Contractor agrees that said Work shall be prosecuted regularly, diligently, and uninterruptedly at such rate of progress as will insure full completion, in an acceptable manner thereof, within the time specified. The Contractor affirms that the time for completion of the Work described herein is a reasonable time for completion of the Work and that it has sufficient plant, equipment, and manpower to accomplish the Work within the specified time for completion. It is further agreed that TIME IS OF THE ESSENCE of each and every portion of this Contract and of the Specification wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where under the Contract an additional time is allowed for the completion of any Work, the new time limit fixed by such extension shall become the essence of this Contract.

If the Contractor shall neglect, fail, or refuse to complete the Work within the completion date specified or within any proper extension thereof granted by the Owner, then the Contractor does hereby agree to pay the Owner for such breach of Contract the amount specified in the Proposal for liquidated damages.

B.07.13 Extension of the Contract Time

A delay beyond the Contractor's control occasioned by an Act of God, or act or omission on the part of the Owner, or by strikes, lockouts, fire, etc., may entitle the Contractor to an extension of time by which to complete the Work, as determined by the Engineer; provided, however, that the Contractor shall within five days after the beginning of such delay, give written notice to the Owner of the cause of such delay.

B.08 USE OF LANDS AND PROPERTY
B.08.01  Permits and Licenses

The Contractor shall procure and pay for all permits, licenses, and fees necessary for the execution of the Work unless otherwise specifically provided in the Supplemental Specifications.

B.08.02  Lands By Owner

The Owner shall provide Contractor with entry upon the lands upon which the Work under the Contract is to be performed and/or which is to be used for rights-of-way or access all as shown on the Drawings. Any delay in furnishing these lands by the Owner shall be deemed proper cause for adjustment in the Contract Amount and in the time of completion.

B.08.03  Lands By Contractor

Any additional land and access thereto not shown on the Drawings that may be required for temporary construction procedures or facilities or for storage of materials shall be provided by the Contractor with no liability to the Owner. The Contractor shall confine his apparatus and storage of materials and operation of his workmen to those areas described in the Drawings and Specifications and such additional areas which he may provide as approved by the Engineer.

B.08.04  Private Property

The Contractor shall not enter upon private property for any purpose without obtaining written permission. Copies of such written permission shall be furnished to the Owner or the Engineer upon request. The Contractor shall be responsible for the preservation of all public property, trees, monuments, fences, etc. along and adjacent to the street and/or right-of-way, and shall use every precaution necessary to prevent damage or injury thereto. The Contractor shall use suitable precautions to prevent damage to pipes, conduits, and other underground structures, and shall protect carefully from disturbance or damage all monuments and property marks until an authorized agent has witnessed or otherwise referenced their location and shall not remove them until directed.

B.08.05  Patents and Royalties

If any design, device, material, or process covered by letters, patent, or copyright is used by the Contractor, the Contractor shall provide for such use by legal agreement with the owner of the patent or copyright, or by a licensee of such owner, and shall indemnify and save harmless the Owner of the Project from any and all loss or expense on account thereof, including its use by the Owner of the Project.

B.08.06  Laws to be Observed

The Contractor shall give all notices and comply with all federal, state, and local laws, ordinances, and regulations in any manner affecting the conduct of the Work, and all such orders and decrees as exist or may be enacted by bodies or tribunals having any jurisdiction or authority over the Work, and shall indemnify and save harmless the Owner against any claim or liability arising from, or based on, the violation of any such law, ordinance, regulation, order, or decree, whether by Contractor, its employees, or Subcontractors.
B.09 SURVEYS AND PROJECT CONTROL POINTS

B.09.01 Construction Surveys and Survey Control Points

Unless otherwise specified, the Owner shall furnish all surveys, lines, and grades reasonably necessary for the control of the Work, but this shall not relieve the Contractor of responsibility for making careful and accurate measurements and for constructing all Work accurately to the lines and grades as shown on the Drawings. The Contractor shall have the responsibility to carefully preserve and protect U.S. government corners, property corners, bench marks, monuments, and reference points (hereinafter referred to as "Survey Control Points") and construction stakes. In case of loss or disturbance of said points during the construction period, the Contractor shall pay the cost of replacement and shall be responsible for any mistakes that may be caused by such loss or disturbance.

B.09.02 Protection of Survey Control Points

Prior to beginning of construction, a guard post assembly consisting of 3 posts protruding about 3 feet above the ground shall be constructed around each survey control point. The installation of the guard post assemblies will not be the Contractor's responsibility unless they are listed as a Bid item in the Proposal. However, the guard post assemblies shall be maintained by the Contractor until all of his construction and clean-up Work is completed, except for paving contractors who shall maintain them until the Engineer sets witness stakes and removes the survey control point. The cost of maintaining and replacing disturbed guard post assemblies shall be paid by the Contractor.

B.10 WORKMANSHIP AND MATERIALS

B.10.01 Quality of Equipment and Materials

In order to establish standards of quality, the Engineer has, in the Specifications, referred to certain products by name and catalog number. This procedure is not to be construed as eliminating from competition other products of equal or better quality by other manufacturers where fully suitable in design. However, if the Contractor does desire to make substitutions, it shall observe the following:

a. The Contractor shall furnish the complete list of proposed desired substitutions prior to signing of the Contract, together with such engineering, catalog, and performance history data as the Engineer may require.

b. The Contractor shall abide by the Engineer's judgment when proposed substitute materials or items of equipment are judged to be unacceptable and shall furnish the specified material or item of equipment in such case. All proposals for substitutions shall be submitted in writing by the General Contractor and not by Subcontractors or Suppliers. The Engineer will approve or disapprove proposed substitutions in writing within a reasonable time. No substitute materials shall be used unless approved in writing.

B.10.02 Character of Workmen

The Contractor shall at all times be responsible for the conduct and discipline of its employees and/or any Subcontractor or persons employed by Subcontractors. All workers must have
sufficient knowledge, skill, and experience to perform properly the Work assigned to them. Any worker employed by the Contractor or Subcontractor who, in the opinion of the Engineer, does not perform his or her Work in a skillful manner, or appears to be incompetent or to act in a disorderly or intemperate manner shall, at the written request of the Engineer, be immediately removed from the job site and shall not be employed again in any portion of the Work without the approval of the Engineer.

B.10.03 Materials Furnished By the Contractor

All materials used in the Work shall meet the requirements of the Specifications and shall be new materials and no material shall be used until it has been approved by the Engineer. All materials not otherwise specifically indicated shall be furnished by the Contractor.

The Contractor shall be free to secure the approved material and equipment from sources of its own selection. However, if the Engineer finds that the Work will be delayed or adversely affected in any way because a selected source of supply cannot furnish a uniform product in sufficient quantity or the product is not suitable for the Work, the Engineer shall have the right to require that the original source of supply be changed by the Contractor. The Contractor shall have no claim for damage for additional compensation because of this requirement.

All water used in connection with the Work shall be municipal water. The Contractor shall secure the required permission from the applicable municipality and shall bear all the expense of such permission and for the water used. If connections are made by hydrant, the Contractor shall also obtain permission for such connections from the local fire department. Fire department standard hydrant wrench shall be used for opening and closing the hydrant.

B.10.04 Materials Furnished By the Owner (Not Applicable to Earthwork)

When the Contract Documents indicate that materials are to be furnished by the Owner, the furnishing of such material is conclusive evidence of its acceptability for the purpose intended, and the Contractor may continue to use it until otherwise directed. If the Contractor discovers any defect in material furnished by the Owner, the Contractor shall notify the Engineer. Unless otherwise noted or specifically stated, materials furnished by the Owner which are not of local occurrence are considered to be FBO the nearest railroad station. The Contractor shall be prepared to unload, transport, and properly protect all such material from damage or loss. The Contractor shall be responsible for material loss or damage after receipt of material at the point of delivery.

B.11 PUBLIC SAFETY

B.11.01 Compliance With Applicable Safety Standards and Regulations

The Contractor will be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. The Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to: all employees on the Work and to other persons who may be affected thereby; all the Work and all materials or equipment to be incorporated therein, whether in storage or off the site; and other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, and those structures and utilities not designated for removal, relocation, or replacement in the course of construction.
The Contractor shall comply with all applicable laws, ordinances, rules, regulations, and orders of any public body having jurisdiction. The Contractor shall erect and maintain, as required by the conditions and progress of the Work, all necessary safeguards for safety and protection. He shall notify Owners of adjacent utilities when prosecution of the Work may affect said utilities.

The Contractor shall remedy all damage, injury, or loss to any property caused, directly or indirectly, in whole or in part, by the Contractor's operations, or by any Subcontractor or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them be liable.

B.11.02 Warning Signs and Barricades

The Contractor shall provide adequate signs, fences, barricades, signal lights, and watchmen and shall take all necessary precautions for the protection of the Work and the safety of the public. All barricades and obstructions shall be protected at night by signal lights which shall be kept lighted from sunset to sunrise. Suitable warning signs shall be so placed and illuminated at night to show in advance where construction, barricades, or detours exist. Such warning and protection devices shall comply with the requirements of the governing agency.

B.11.03 Public Safety and Convenience

The Contractor shall at all times so conduct his Work as to insure the least possible obstruction to traffic and inconvenience to the general public and the residents in the vicinity of the Work, and to ensure the protection of persons and property in a manner satisfactory to the Engineer and proper governmental authority. All local, state, and national laws, ordinances, rules, and regulations pertaining to the kind, use, and loading of all apparatus, equipment, and material shall be complied with as well as all other reasonable precautions required by the Engineer to insure safe working conditions. Mailboxes, fire hydrants, water supply valves, and gas valves on or adjacent to the Work shall be accessible at all times. Temporary provisions shall be made by the Contractor to insure the use of mailboxes, sidewalks and the proper functioning of all sewers, sewer inlets, gutters, and drainage ditches.

The Contractor has the sole responsibility for the proper construction of the Project and is solely responsible for: the safety in, on, or about the job site; control of the safety or adequacy of any equipment, building component, scaffolding, sheeting, bracing, forms, or other Work aids; and superintending the Work. Construction review, or inspection by the Owner or the Engineer, shall not relieve the Contractor of the above responsibilities.

B.11.04 Work During an Emergency

The Contractor shall perform any Work and shall furnish and install any materials and equipment necessary during an emergency endangering life or property. In all cases the Contractor shall notify the Engineer of the emergency as soon as practicable, but the Contractor shall not wait for instructions before proceeding to properly protect both life and property.

B.12 MEASUREMENT AND PAYMENT

B.12.01 Breakdown of Contract Amount

In cases where a Lump Sum Contract Amount forms the basis for payment under the Contract, the Contractor shall, within 10 days of receipt of the Notice to Proceed, submit a complete breakdown
of the Contract Amount. The breakdown shall show the value assigned to each part of the Work, including an allowance for profit and overhead. Upon approval of the breakdown by the Engineer, it shall be used as a basis for all requests for payment.

The approved breakdown will not be considered as fixing a basis for additions to or deductions from the Contract Amount.

In cases where Unit Prices form the basis for payment under the Contract, the summation of amounts determined by multiplying the total number of each of the completed units of Work by the Unit Price stated in the Proposal for that item shall be used as the basis for payment requests. The number of units contained in the Proposal is approximate only, and final payment will be made for the actual number of units that are incorporated into or made necessary by the Work covered in the Contract.

B.12.02 Requests for Payment

Periodically (at the specified times, but not more than once a month), the Contractor shall submit to the Owner and to the Oakland Township Parks and Recreation Commission, through the Engineer, a Request for Payment for Work performed. A copy of the Contractor's Declaration (in the form attached at the rear of this division) shall be completed, signed, and attached to each Request for Payment. Waivers of lien shall be required from subcontractors and suppliers when they have notified the Owner or the Engineer in writing of a claim on the Project. Also to be included are any other periodic reports required (such as monthly payrolls, etc.). Contractor shall provide documents that justify and support all requests for payment. Contractor shall provide documents establishing that all suppliers and Subcontractors have been paid for work performed.

In cases where a Lump Sum forms the basis for payment under the Contract, the Request for Payment shall indicate the Work completed to date on the items listed in the approved "Breakdown of the Contract Amount". If the Request for Payment includes materials and equipment stored on the site, it shall be accompanied by invoices from the manufacturer or Supplier or such other information satisfactory to the Owner.

In cases where Unit Prices form the basis for payment under the Contract, the Request for Payment shall state the units of Work completed to date. If the Request for Payment includes materials and equipment stored on the site, it shall be accompanied by invoices from the manufacturer or Supplier or such other information satisfactory to the Owner. In cases where Lump Sum items are included in a Unit Price Contract, the Contractor shall be paid for the percentage of Work completed, as determined by the Engineer.

B.12.03 Engineer's Certificate for Payment

Each Request for Payment shall be submitted to the Engineer. Within 15 days after receipt of the Contractor's Request for Payment, the Engineer shall verify the Request for Payment and prepare and submit to the Owner and to the Oakland Township Parks and Recreation Commission an Engineer's Certificate for Payment based upon an approved Request for Payment or upon the Engineer's estimate of the Work completed from the start of the Work up to the date of the Request for Payment.

B.12.04 Progress Payments to the Contractor
Not later than the 45th day after receipt of the Engineer's Certificate for Payment, the Owner shall make a Progress Payment to the Contractor on the basis of such Certificate; but to insure proper performance of the Contract, the Owner may retain 10 percent of the amount of the Engineer's Certificate for Payment until completion and acceptance of all Work covered by the Contract. However, the maximum amount so retained shall not exceed 5% of the bid contract amount. Owner may pay any Subcontractor directly if Owner reasonably deems direct payment necessary to protect Owner's interest.

B.12.05  Owner's Right to Withhold Progress Payments

The Owner may withhold any Progress Payment, in whole or in part, on an Engineer's Certificate for Payment to the extent necessary to protect itself from loss on account of any of the following causes discovered subsequent to the submittal of the Engineer's Certificate:

a. Defective Work.
b. Evidence indicating probable filing of claims by other parties against the Contractor.
c. Failure of the Contractor to make payment to Subcontractors and/or material Suppliers.
d. Damage to another Contractor's work.
e. Failure to submit periodic reports required by the Contract Documents.

B.12.06  Payment for Rejected Work and Materials

The removal of rejected Work and materials and the re-execution of such Work in an acceptable state shall be done at the expense of the Contractor; and it shall pay the cost of replacing other contractors' work which is destroyed or damaged by the removal and subsequent replacement of the rejected Work or materials.

The cost of removing rejected Work or materials by the Owner shall be paid by the Contractor within 30 days after written notice to pay is given by the Owner. If the Contractor does not pay the expenses of such removal, the Owner may sell the materials at auction or at private sale and shall pay to the Contractor the net proceeds therefrom after deducting all the cost and expenses incurred by the Owner for such removal. Should the sale price of such material be insufficient to pay the cost of removal, the difference shall be deducted from payments due the Contractor for Work done under this Contract.

B.12.07  Payment for Uncorrected Work

If the Engineer directs the Contractor not to correct Work that has been damaged or that has not been performed in accordance with the Contract Documents, an equitable deduction from the Contract Price shall be made to compensate the Owner for the uncorrected Work.

B.12.08  Payment for Work by the Owner

The cost of the Work performed by the Owner in removing construction equipment, tools, and supplies and for correcting deficiencies shall be paid by the Contractor.

B.12.09  Payment for Work Suspended by the Owner

If the Work or any part thereof shall be suspended by the Owner and abandoned by the Contractor, the Contractor will then be entitled to payment for all Work done on the portions so
abandoned plus 15 percent of the value of the abandoned Work to compensate for overhead, plant expense, and profit on such abandoned work.

B.12.10 Payment for Work Done by the Owner Following Its Termination of the Contract

Upon termination of the Contract by the Owner, no further payments shall be due the Contractor until the Work is completed. If the unpaid balance of the Contract Amount shall exceed the cost of completing the Work (including all overhead cost), the excess shall be paid to the Contractor. If the cost of completing the Work shall exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The costs incurred by the Owner, as herein provided, and the damage incurred through the Contractor's default, shall be certified by the Owner and approved by the Engineer.

B.12.11 Payment for Work Terminated by the Contractor

Upon suspension of the Work or termination of the Contract by the Contractor in accordance with Section B.06.03, the Contractor shall recover payment from the Owner for the Work performed, including loss on plant and materials and including normal profit.

B.12.12 Payment for Replacing Survey Control Points and Construction Stakes

Notwithstanding any liability which may be imposed by law on the Contractor for loss or disturbance of survey points, the Contractor shall pay the cost of replacing survey points lost or disturbed as a result of Work under the Contract. In addition to the replacement cost, the Contractor shall be liable for any other expenses, damages, or mistakes caused by such loss or disturbance. The cost of replacing U.S. government corners, property corners, bench marks, monuments, and reference points (known collectively as survey control points) shall be the actual cost as certified by the Engineer.

The cost of replacing or relocating construction stakes shall not be based solely on the number of such stakes replaced but shall be based upon the number of occurrences in which the Engineer is required to replace or relocate lost or disturbed stakes. For each such occurrence, the cost shall be the actual cost to the Owner. The Engineer shall certify to the Owner in the final Engineer's Certificate for Payment the actual cost for replacing all survey control points and/or construction stakes.

The total actual cost as certified by the Engineer shall be deducted from the earned amount due the Contractor for Work under the Contract.

B.12.13 Payment for Extra Work

Written notice of claims for payments for Extra Work shall be given by the Contractor within 10 days after receipt of the request for extra work from the Owner. No claim for Payment for extra work shall be valid unless so made. In all cases, the Contractor's itemized estimate sheets showing all labor and material shall be submitted to the Engineer. The Owner's order for Extra Work shall be in the form of a Change Order to be signed by both Owner and Contractor and shall specify any extension of the Contract time and one of the following methods of payment:

a. Unit Prices or combinations of Unit Prices which formed the basis of the original Contract.
b. A Lump Sum based on the Contractor's estimate, approved by the Engineer and accepted by the Owner.

c. Actual cost of direct Work by the Contractor plus 15 percent for overhead and profit. Actual cost of Subcontract Work shall include 5 percent for the Contractor's overhead and profit. Actual cost of direct Work by the Contractor shall be:

1. Labor Costs shall be the amount shown on the Contractor's payroll plus unemployment taxes and Workmen's Compensation Insurance when such additional taxes or insurance costs can be shown to have been incurred.

2. Material Costs shall be the net price paid for material delivered to the site of the Work.

3. Equipment Rental shall be the actual additional costs incurred for necessary equipment actually used in the Extra Work. No payment will be made for equipment not used in the Extra Work. All costs shall be computed using the basic monthly rental rate as published in the current edition of "Rental Rates for Construction Equipment Bluebook" published by the Equipment Guide-Book Company. For periods of less than a month the daily rate shall be computed as 1/22 of the monthly rate with no allowance for fuel or other operating costs.

B.13 COMPLETION AND ACCEPTANCE OF THE WORK

B.13.01 Guarantees

The Contractor shall warrant all equipment furnished and Work performed by the Contractor for a period of 1 year from the date of final payment for the Contract Work regardless of the terms of any manufacturer or supplier warranties.

B.13.02 Use of Completed Portions of the Work

The Owner shall have the right to take possession of and use any completed or partially completed portions of the Work, notwithstanding that the time for completing the entire Work or such portions may not have expired; but such taking possession and use shall not be deemed an acceptance of any Work not completed in accordance with the Contract Documents. If such prior use increases the cost of, or delays, the completion of uncompleted Work or causes refinishing of completed Work, the Contractor shall be entitled to such extra compensation, or extension of time, or both, as the Engineer may determine.

B.13.03 Release of Liens

The Contractor shall deliver to the Owner a complete release of all liens or claims arising out of this Contract before the retained percentage or the final Request for Payment is paid. If any lien or claim remains unsatisfied after all payments are made, the Contractor shall refund to the Owner such amounts as the Owner may have been compelled to pay in discharging such liens, or claims, including all costs and a reasonable attorney's fee.

B.13.04 Acceptance and Final Payment
When the Contractor shall have completed all the Work in accordance with the terms of the Contract Documents, the Contractor shall submit to the Owner and to Oakland Township Parks and Recreation, through the Engineer, the following items for review:

a. A signed Contractor's Declaration.

b. A signed Contractor's Affidavit on a form furnished by the Owner.

c. Release of Liens and Claims described above.

d. Waiver of Liens and Claims from all Suppliers and Subcontractors indicating that all debts for labor, materials, and equipment incurred in connection with this Contract have been paid in full.

e. Certificate of Completed Operations Insurance for 1 year after final payment.

Letters of Release may be required approving final payment to the Contractor from all agencies concerned with the Work, including the MDOT, county road commissions, municipalities, electric, gas, telephone and other utilities, railroad companies, and the Contractor's surety company. The Contractor shall allow sufficient time after submittal of the above data for verification.

The Engineer shall certify its approval of the Final Contract Amount which shall be the original Contract Amount plus all approved additions less all approved deductions and the Engineer shall forward all submitted data to the Owner.

Thereafter, the Owner and Oakland Township Parks and Recreation will review all data submitted for compliance with the Contract requirements and, when approved, will accept the Work, release the Contractor (except as to the conditions of the Performance Bond, any legal rights of the Owner, required guarantees, and Correction of Faulty Work after Final Payment), and make final payment to the Contractor.

B.13.05 Correction of Faulty Work After Final Acceptance

The approval by the Engineer of the final Request for Payment, and the making of the final payment by the Owner to the Contractor, shall not relieve the Contractor of responsibility for faulty materials or workmanship. The Owner shall promptly give the Contractor notice of any faulty materials or workmanship discovered within 1 year after the date of final payment for the Contract Work; and the Contractor shall promptly replace any such defects. The Engineer shall decide all conflicts of fact regarding such defects.
**CONTRACTOR'S DECLARATION**  
(To be attached to the Contractor's periodic request for payment)

<table>
<thead>
<tr>
<th>Project Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contract No.</th>
<th>Contract Date</th>
<th>Job No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

Certification Period:
From the Date of the Contract to the Date of this Declaration.

I hereby certify that I have not, during the above noted certification period, performed any work, furnished any material, sustained any loss, damage or delay for any reason, including soil conditions encountered or created, or otherwise done anything for which I shall ask, demand, sue for, or claim compensation from the Owner or his agents, in addition to the regular items set forth in the above noted Contract (and executed Change Orders thereto) executed between myself and the Owner, except as I hereby claim for additional compensation and/or extension of time as described in previously submitted claim letters to the Owner dated:

<table>
<thead>
<tr>
<th>Date 1</th>
<th>Date 2</th>
<th>Date 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CONTRACTOR** ________________________________

By ________________________________  
(Authorized Signature)

Title ________________________________

Date ________________________________
CONTRACTOR'S AFFIDAVIT

The undersigned Contractor, ____________________________, hereby represents that on ___________________________ (it) was awarded a Contract by, ____________________________, hereinafter called the Owner, to construct ___________________________ in accordance with the terms and conditions of Contract No. ___________________________; and the undersigned further represents that the subject Work has now been accomplished and the said Contract has now been completed.

The undersigned hereby warrants and certifies that all of (its) indebtedness arising by reason of the said Contract has been fully paid or satisfactorily secured; and that all claims from Subcontractors and others for labor and material used in accomplishing the said Project, as well as all other claims arising from the performance of the said Contract, have been fully paid or satisfactorily settled. The undersigned further agrees that, if any such claim should hereafter arise, (it) shall assume responsibility for the same immediately upon request to do so by the Owner.

The undersigned, for the total Contract consideration of ___________________________, the receipt of which is hereby acknowledged, does further hereby waive, release, and relinquish any and all claims or right of lien which the undersigned now has or may hereafter acquire upon the subject premises for labor and material used in accomplishing said Project, or upon the Owner, the Consulting Engineers, and their respective employees or agents.

This affidavit is freely and voluntarily given with the full knowledge of the facts, on this ______ day of ______, 20__.  

______________________________
CONTRACTOR

______________________________
By

______________________________
Title

Subscribed and sworn to before me, a Notary Public in and for __________________________ County, Michigan on this ______ day of ___________________________, 20__.  

______________________________
Notary Public

My Commission Expires: __________________________
PARTIAL WAIVER OF LIEN

To All Whom It May Concern:

WHEREAS, the undersigned has been employed by (A) _____________________________________________

______________________________________________ to furnish labor and materials for (B) _____________________________________________

______________________________________________ work,

under a contract (C) _____________________________________________

for the improvement of the premises described as (D) _____________________________________________

______________________________________________ in the ___________ (City-Village) of _________________________________, County of _________________________________, State of _________________________________

of which _____________________________________________ is the Owner.

NOW, THEREFORE, this __________ day of _________________________________, 20__, for and in consideration of the sum of (E) _________________________________ Dollars paid simultaneously herewith, the receipt whereof is hereby acknowledged by the undersigned, the undersigned does hereby waive and release to the extent only of the aforesaid amount, any lien rights to, or claim of lien with respect to and on said above-described premises, and the improvements thereon, and on the monies or other considerations due or to become due from the owner, by virtue of said contract, on account of labor, services, materials, fixtures, apparatus or machinery furnished by the undersigned to or for the above-described premises, but only to the extent of the payment aforesaid.

(F) _____________________________________________

(SEAL)

(Name of the sole ownership, corporation or partnership)

(Affix corporate seal here)

__________________________________________ (Signature) (SEAL)

TITLE: _____________________________________________

INSTRUCTIONS FOR PARTIAL WAIVER

(A) Name person or firm with whom you agreed to furnish either labor, or services, or materials, or both.

(B) Fill in nature and extent of work; strike the word labor or the word materials if not in your contract.

(C) If you have more than one contract on the same premises, describe the contract by number if available, date and extent of work.

(D) Furnish an accurate enough description of the improvement, and location of the premises so that it can be distinguished from any other property.

(E) Amount shown should be the amount actually received on that date.

(F) If waiver is for the corporation, corporate name should be used, corporate seal affixed and title of officer signing waiver should be set forth; if waiver is for a partnership, the partnership name should be used, partner should sign and designate himself as partner.
FINAL WAIVER OF LIEN

To All Whom It May Concern:

WHEREAS, the undersigned has been employed by (A) __________________________

to furnish labor and materials for (B) __________________________

work,

under a contract (C) __________________________

for the improvement of the premises described as (D) __________________________

in the __________ (City-Village) of __________, County of __________, State of __________

of which __________ is the Owner.

NOW, THEREFORE, this ______ day of __________________________ 20____, for and in

consideration of the sum of (E) __________________________ Dollars paid simultaneously herewith, the receipt whereof is hereby acknowledged by the undersigned, the undersigned does hereby waive and release any lien rights to, or claim of lien with respect to and on said above-described premises, and the improvements thereon, and on the monies or other considerations due or to become due from the owner, on account of labor, services, material, fixtures, apparatus or machinery heretofore or which may hereafter be furnished by the undersigned to or for the above-described premises by virtue of said contract.

(F) __________________________

(SEAL)

(Name of the sole ownership, corporation or partnership)

(Affix corporate seal here)

(SEAL)

(Signature)

TITLE: __________________________

INSTRUCTIONS FOR FINAL WAIVER

(B) Name person or firm with whom you agreed to furnish either labor, or services, or materials, or both.

(B) Fill in nature and extent of work; strike the word labor or the word materials if not in your contract.

(C) If you have more than one contract on the same premises, describe the contract by number if available, date and extent of work.
(D) Furnish an accurate enough description of the improvement, and location of the premises so that it can be distinguished from any other property.

(E) Amount shown should be the amount actually received on that date.

(F) If waiver is for the corporation, corporate name should be used, corporate seal affixed and title of officer signing waiver should be set forth; if waiver is for a partnership, the partnership name should be used, partner should sign and designate himself as partner.
<table>
<thead>
<tr>
<th>Page</th>
<th>Subsection</th>
<th>Errata</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>In the very beginning of the book on the page where we list the MDOT publications included by reference delete the following manual. “Work Zone Safety and Mobility Manual”</td>
</tr>
<tr>
<td>N/A*</td>
<td>N/A</td>
<td>In the very beginning of the book on the page where we list the MDOT publications included by reference replace the Field Manual of Soil Engineering (out of Print) with the following manual. “Geotechnical Manual”</td>
</tr>
<tr>
<td>3</td>
<td>101.02</td>
<td>Modify the abbreviation reading “AIS” to read “AISI”.</td>
</tr>
<tr>
<td>4*</td>
<td>101.02</td>
<td>Delete the following abbreviations and the long forms MDELEG MDNRE Add the following abbreviations and the long forms MDNR Michigan Department of Natural Resources MDEGLE Michigan Department of Environmental Great Lakes, and Energy MDLARA Michigan Department of Licensing and Regulatory Affairs NESC National Electrical Safety Code</td>
</tr>
<tr>
<td>27</td>
<td>103.02.B.2</td>
<td>Change the last sentence of the first paragraph to read &quot;For decreases below 75 percent, the maximum allowable payment for work performed, including any adjustment, will not exceed an amount equal to 75 percent of the original contract quantity times the contract unit price.”</td>
</tr>
<tr>
<td>34</td>
<td>104.05</td>
<td>The first sentence of this subsection should read &quot;If the Contractor performs unauthorized work (work performed without the inspections required by the contract, extra work performed without Department approval, work performed contrary to the inspectors direction, or work performed while under suspension by the inspector), the Engineer may reject the unauthorized work.”</td>
</tr>
<tr>
<td>46</td>
<td>104.12</td>
<td>Add the following to the end of the first paragraph &quot;The use of right-of-way in wetlands and floodplains, or the crossing of water courses by construction equipment is prohibited.”</td>
</tr>
<tr>
<td>53</td>
<td>105.09</td>
<td>Add the following to the end of the second paragraph &quot;Any specifically produced material not purchased by the Department, will remain the</td>
</tr>
</tbody>
</table>
Contractors and must be removed from the project prior to final acceptance.

This sentence should read "U.S. Army Corps of Engineers' Section 404, Dredge and Fill; and Section 10, Navigable Waterway."

Add the subsection reading as follows:
"3. U.S. Coast Guard Section 9, Navigable Waterway."

Change "MDNRE" to "MDEGLE" in this subsection.

Change the first sentence of the first paragraph to read:
"For protection of underground utilities and in accordance with 2013 PA 174, the Contractor must notify Miss Dig at least 3 work days, excluding Saturdays, Sundays and holidays, before beginning each excavation in areas where public utilities have not been previously located."

Change "MDNRE" to "MDEGLE" in four instances in this subsection.

Add the following to the end of the paragraph "Note that a burn permit from the MDNR is required for any open burning whenever the ground is not snow covered. Any individuals that allow a fire to escape will be in violation of the Natural Resources and Environmental Protection Act and will be required to reimburse the costs of suppressing the wild fire."

The third sentence should read "In State Forests, the Contractor must contact the local Unit Manager, Forest Management Division, MDNR, regarding the work to be performed within or adjacent to the forest land."

Delete the last sentence of the first paragraph of this subsection.

Delete the second paragraph in its entirety.

Add the following new subsection:
"G. The Contractor may propose and the Engineer may approve another equitable method, supported by an acceptable rationale to determine time extensions for any of the excusable delays listed in subsection 108.08."

Change the last sentence of the first paragraph to read:
"The liquidated damages may contain one or more components of damages added together."

In Table 108-1 delete the last row of the table and replace it with the following:

| ≥50,000,000 | 4,500 |

Change the second sentence of the third paragraph to read:
"Provide the content specified in subsection 109.05.D.11 for the applicable items in this statement and as follows:"
<table>
<thead>
<tr>
<th>Page</th>
<th>Subsection</th>
<th>Errata</th>
</tr>
</thead>
<tbody>
<tr>
<td>107</td>
<td>150.04</td>
<td>Change the following pay item reading “Mobilization, Max ___” to read “Mobilization, Max (dollar)” at nine locations throughout the subsection.</td>
</tr>
<tr>
<td>112</td>
<td>201.03.A.3.b</td>
<td>Change &quot;MDNRE&quot; to &quot;MDNR&quot; in three instances in this subsection.</td>
</tr>
<tr>
<td>123</td>
<td>204.04</td>
<td>Change the following pay item reading “Structures, Rem” to read “Structures, Rem (Structure No.)”</td>
</tr>
<tr>
<td>123</td>
<td>204.04</td>
<td>Change the following pay item reading “Concrete Barrier, Rem” to read “Conc Barrier, Rem”</td>
</tr>
<tr>
<td>150*</td>
<td>208.01</td>
<td>Change &quot;MDNRE&quot; to &quot;MDEGLE&quot; in this subsection.</td>
</tr>
<tr>
<td>180</td>
<td>308.03.A</td>
<td>Change the first sentence of the second paragraph to read: “Do not operate equipment required to place backfill directly on geotextile products.”</td>
</tr>
<tr>
<td>185</td>
<td>401.03.A</td>
<td>Change the first sentence of the second paragraph to read: Where unstable soil conditions, or obstructions other than rock, require excavation of the trench below the elevation detailed on the plans; undercut, backfill, and compact the trench as directed by the Engineer.</td>
</tr>
<tr>
<td>188</td>
<td>401.03.H</td>
<td>Change the second sentence of the paragraph to read “Jack steel pipes in place in accordance with subsection 401.03.G”.</td>
</tr>
<tr>
<td>189</td>
<td>401.03.N</td>
<td>Add the following sentence to the end of the first paragraph &quot;Where possible, maintain the stream flow thru a temporary channel or temporary culvert.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The second sentence of the second paragraph should read &quot;Direct water from the dewatering operations through a filter bag before discharging to an existing drainage facility.”</td>
</tr>
<tr>
<td>189</td>
<td>401.04</td>
<td>Change the fourth pay item from the end of the list to read as follows: “Culv, Reinf Conc Ellip, (shape) Cl __, (rise) inch x (span) inch”.</td>
</tr>
<tr>
<td>190</td>
<td>401.04</td>
<td>Change the fourth pay item from the end of the list to read as follows: “Steel Casing Pipe, __ inch, Tr Det __.”</td>
</tr>
<tr>
<td>195</td>
<td>402.03.C</td>
<td>Change the third sentence of the first paragraph to read as follows: “Wrap pipe joints, with a diameter greater than 24 inches, using geotextile blanket.”</td>
</tr>
<tr>
<td>200</td>
<td>402.04</td>
<td>Change the third pay item from the top of the list to read as follows: “Sewer, Cl __, __ inch, Jacked in Place”</td>
</tr>
<tr>
<td>200</td>
<td>402.04.A</td>
<td>Change the last sentence of the subsection to read as follows: “The unit price for Sewer and Sewer, Reinf Conc, Ellip includes the cost of excavation, backfill, geotextile blanket and mandrel testing.”</td>
</tr>
</tbody>
</table>

An asterisk (*) indicates an entry which has been revised from an earlier version of this Supplemental Specification.
An asterisk (*) indicates an entry which has been revised from an earlier version of this Supplemental Specification.
"Fill the space between the box culvert joints during placement of box sections with closed-cell rubber extrusion type gaskets in accordance with ASTM C 990."

226 406.04.A.9 Change the sentence to read: "Providing plan modifications including design, additional plan quantities and pay items to accommodate any changes to the precast units as shown on the plans."

226* 406.04.A Add the following paragraph after the last paragraph of the subsection: "The substructure design is specific to the three-sided or arch culvert detailed on the plans. The Contractor must use approved MDOT service vendors qualified in Hydraulics, Geotechnical Engineering Services, and Short and Medium Span Bridges to perform the required design and plan modifications, as directed by the Engineer, if the Contractor selects a culvert shape different than shown on the plans."

227 406.04.B Add the following new item in the list of items in this subsection:
2. Headwalls, wingwalls, aprons, and curtain walls, precast or cast-in-place;

Renumber the exist items 2 through 4 in this list to read 3 through 5.

Delete existing item numbered 5 and replace with the following:
6. Inserts for bars and connection hardware; and

Renumber the existing item 6 in this list to read 7.

227 406.04.B Delete the first and second paragraphs following the list of items in this subsection and replace with the following: "The Department will pay separately for cast-in-place concrete, other than for culvert segments, wing walls, and headwalls; excavation; protective coating; providing and placing backfill material; by plan quantity in accordance with subsection 109.01.A."

239 501.03.C.6 The first sentence of this subsection should read "Except as specified in subsection 501.03.C.4, removing HMA surface applies to removing HMA overlying a material designated for removal or that is required to remain in place."

247 501.03.O Change footnote e in Table 501-5 to read: "Flushing severe enough to significantly affect surface friction (Friction Number <35)."

249 501.04.H The first sentence of this subsection should read "The Engineer will measure, and the Department will pay for removing HMA surface, no greater than 12 inches thick, overlying a material designated for removal or that is required to remain in place, as HMA Surface, Rem."

An asterisk (*) indicates an entry which has been revised from an earlier version of this Supplemental Specification.
An asterisk (*) indicates an entry which has been revised from an earlier version of this Supplemental Specification.

### Errata

The second paragraph of this subsection should read: "The Engineer will measure, and the Department will pay for removing HMA surface, greater than 12 inches thick, overlying a material designated for removal or that is required to remain in place, as **Pavt, Rem** in accordance with subsection 204.04."

<table>
<thead>
<tr>
<th>Page</th>
<th>Subsection</th>
<th>Errata</th>
</tr>
</thead>
<tbody>
<tr>
<td>257</td>
<td>503.03.E</td>
<td>Delete this subsection in its entirety.</td>
</tr>
<tr>
<td>265</td>
<td>504.03.E.3</td>
<td>Delete this subsection in its entirety.</td>
</tr>
<tr>
<td>269</td>
<td>504.04.A</td>
<td>This subsection should read: &quot;The unit prices for <strong>Micro-Surface</strong>, regardless of the type required, include cleaning existing pavement; applying a bond coat; temporary pavement markings; stationing; corrective action; and traffic control to complete corrective action.&quot;</td>
</tr>
<tr>
<td>299</td>
<td>601.04</td>
<td>In table 601-2 delete the row for Grade P-NC concrete in its entirety.</td>
</tr>
<tr>
<td>300</td>
<td>601.04</td>
<td>In table 601-2, the first sentence of footnote b. should read: &quot;Use coarse aggregate 6A, 6AA or 6AAA for Grades P1, P2 and M.&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In table 601-2, footnote c. should read: &quot;The mix design basis for bulk volume (dry, loose) of course aggregate per unit volume of concrete is 72% for Grade P1; 74% for Grade P2.&quot;</td>
</tr>
<tr>
<td>308</td>
<td>602.03.F</td>
<td>Note c. in Table 602-1 should read: &quot;Refer to Section D6 of the Materials Quality Assurance Procedures Manual for inspection procedure.&quot;</td>
</tr>
<tr>
<td>320</td>
<td>602.04.C.3</td>
<td>The last paragraph in this subsection should read: &quot;If the Engineer approves a substitution of a higher concrete grade for a lesser grade (e.g., P1 for P2), the Department will pay for the higher grade of concrete using the original bid and pay items of the lesser grade.&quot;</td>
</tr>
<tr>
<td>327</td>
<td>603.02</td>
<td>Change the second material in the list to read: &quot;Concrete, Grade P-NC…………………………………………..….603&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Change the third material in the list to read: &quot;Base Course Aggregate, 4G, 21AA, 22A…………………………….902&quot;</td>
</tr>
<tr>
<td>334</td>
<td>603.03.B.10</td>
<td>Change the last sentence of the second paragraph to read: &quot;Apply the required curing compound in two coats, at a rate of at least 1 gallon per 25 square yards for each coat.&quot;</td>
</tr>
<tr>
<td>342</td>
<td>603.04.G.3</td>
<td>Change &quot;D1&quot; to &quot;W&quot; in two instances in this subsection.</td>
</tr>
<tr>
<td>351</td>
<td>701.04</td>
<td>Replace Tables 701-1A and 701-1B with the Table 701-1 below.</td>
</tr>
<tr>
<td>362*</td>
<td>704.03.C</td>
<td>Change the last sentence in the first paragraph of this subsection to read: &quot;The Engineer will consider approval after receiving applicable MDEGLE permits for the alternate method.&quot;</td>
</tr>
</tbody>
</table>
An asterisk (*) indicates an entry which has been revised from an earlier version of this Supplemental Specification.

Add the following sentence after the first paragraph of this subsection:
“Do not drive piles within a radius of 25 feet of newly placed concrete until the concrete attains at least 75 percent of its specified minimum strength.”

Change the last sentence of the second paragraph to read “Drive test piles to the minimum pile length or practical refusal, whichever is greater”.

Change the fifth item down the list to read:
“Pile, Galv (Structure No.)”

Change the last item in the list to read:
“Pile Driving Equipment, Furn (Structure No.)”

The fourth paragraph following the list of materials should read
"Provide AASHTO M 270, Grade 36 steel, meeting the requirements of ASTM A 786, galvanized in accordance with section 707, for expansion joint cover plates. Provide plates at least 3/8 inch thick. Use plates with a slip resistance equal to or greater than those meeting the requirements of ASTM A 786 and must be approved by the Engineer. Provide ASTM F 593 (Type 304) stainless steel, 3/4-inch or 1/2-inch diameter, flathead countersunk screws with 3/4-inch or 1/2-inch diameter inserts for use in expansion joint cover plates.”

Change the first sentence of the fourth paragraph to read "Design forms, form supports, and attachments to carry dead loads, and resultant horizontal loads due to forming of cantilever overhangs."

Change the forth sentence of the first paragraph to read:
“Use wire ties to secure all bar intersections for the top mat. Use wire ties to secure all bar intersections for other mats where the product of the length and width of bar intersection spacing exceeds 120 square inches.”

Change the first sentence of the second paragraph of this subsection to read:
"Patch sawed or sheared ends and visible defects in accordance with ASTM A 775.”

Change the last sentence of the third paragraph of this subsection to read:
"Coat mechanical splices after splice installation in accordance with ASTM A 775 for patching damaged epoxy coating.”

Delete the last paragraph on page 394 and replace it with the following:
“Do not cast sidewalk, curb, or barrier pours until the deck concrete attains at least the minimum specified 7-day flexural or compressive strength, and after completion of the 7-day continuous wet cure. The
<table>
<thead>
<tr>
<th>Page</th>
<th>Subsection</th>
<th>Errata</th>
</tr>
</thead>
<tbody>
<tr>
<td>406*</td>
<td>706.03.N.1.b</td>
<td>Add the following to the end of the last paragraph of the subsection: “Do not discontinue wet cure nor cast succeeding portions onto the bridge deck prior to completion of the 7-day two-phase continuous wet cure. Ensure excess or ponding cure water is removed prior to casting of succeeding structure portions.”</td>
</tr>
<tr>
<td>416</td>
<td>707.03.C.1</td>
<td>Change the title of the subsection from “Shop Plans to read “Shop Drawings”. Change the second sentence of this subsection to read: “Do not use design drawings in lieu of shop drawings.”</td>
</tr>
<tr>
<td>426</td>
<td>707.03.C.17</td>
<td>Change the second sentence in the first paragraph of this subsection to read: &quot;Tap oversized galvanized nuts in accordance with ASTM A 563 or AASHTO M 292 and meet Supplementary Requirement S1 of ASTM A 563 or AASHTO M 292.&quot;</td>
</tr>
<tr>
<td>430</td>
<td>707.03.D.7.b</td>
<td>Delete the first sentence of the last paragraph of this subsection.</td>
</tr>
<tr>
<td>430*</td>
<td>707.03.D.7.b</td>
<td>Change the title of the Table 707-4 to read: &quot;Minimum Bolt Tension for ASTM F 3125 Grade A 325&quot;</td>
</tr>
<tr>
<td>430</td>
<td>707.03.D.7.b</td>
<td>Change &quot;104,000&quot; to &quot;103,000&quot; in the last row under the column titled Minimum Bolt Tension.</td>
</tr>
<tr>
<td>431</td>
<td>707.03.D.7.c</td>
<td>Add the following sentence to the end of the first paragraph of this subsection: “If using impact wrenches, provide wrenches sufficient to tighten each bolt in approximately 10 seconds.”</td>
</tr>
<tr>
<td>431*</td>
<td>707.03.D.7.c</td>
<td>Change the first sentence of the second paragraph to read: &quot;Do not reuse ASTM F 3125 Grade A 325 bolts and nuts..&quot;</td>
</tr>
<tr>
<td>434</td>
<td>707.04.A</td>
<td>Change the first sentence of the first paragraph of this subsection to read: “The Engineer will measure structural steel by the calculated weight of metal in the finished structure, excluding filler metal in welding, as shown on the shop drawings or working drawings.”</td>
</tr>
<tr>
<td>438</td>
<td>708.03.A.2</td>
<td>Change the title of the subsection from “Shop Plans to read “Shop Drawings”. Change the first sentence to read: “Submit shop drawings in accordance with subsection 104.02.” Change the fourth sentence to read:</td>
</tr>
</tbody>
</table>

An asterisk (*) indicates an entry which has been revised from an earlier version of this Supplemental Specification.
<table>
<thead>
<tr>
<th>Page</th>
<th>Subsection</th>
<th>Errata</th>
</tr>
</thead>
<tbody>
<tr>
<td>441*</td>
<td>708.03.A.11</td>
<td>“Do not start production until the Engineer approves the shop drawings.”</td>
</tr>
<tr>
<td>441</td>
<td>708.03.A.11</td>
<td>Change the last sentence of the first paragraph to read “Cure concrete at temperatures from 70 °F to 150 °F until concrete attains the release strength shown on the shop drawings.”</td>
</tr>
<tr>
<td>441</td>
<td>708.03.A.11</td>
<td>Change the fourth sentence of the fourth paragraph to read “Do not exceed a maximum concrete temperature of 150 °F during the curing cycle.”</td>
</tr>
<tr>
<td>458</td>
<td>711.03.A</td>
<td>Change the first sentence in the first paragraph to read: “Shop drawings for structural steel and pipe railings are not required.”</td>
</tr>
<tr>
<td>460</td>
<td>711.04.A</td>
<td>Change the second sentence of the first paragraph to read: “The unit price for Bridge Barrier Railing includes the cost of placing steel reinforcement, providing and placing concrete, constructing joints, and forming, finishing, curing and protecting the concrete.”</td>
</tr>
<tr>
<td>461</td>
<td>711.04.F</td>
<td>The title of this subsection should read “Reflective Marker, Permanent Barrier.”</td>
</tr>
<tr>
<td>467</td>
<td>712.03.C</td>
<td>Add the following to the end of the third paragraph of the subsection: “Notify the Engineer of any saw cuts in the top flange. Saw cuts equal to or less than 1/32 inch deep in steel beams must be repaired by grinding, to a surface roughness no greater than 125 micro-inches per inch rms, and tapering to the original surface using a 1:10 slope. Saw cuts in excess of 1/32 inch deep in steel beams require a welded repair to be submitted to the Engineer for approval. Weld in accordance with subsection 707.03.D.8 and provide adequate notice to allow the Engineer to witness the repair work. Inspect and test all saw cut repairs (including grinding repairs) using ultrasonic testing in accordance with 707.03.D.8.c at no additional cost to the Department.”</td>
</tr>
<tr>
<td>471</td>
<td>712.03.J</td>
<td>Add the following to the end of the second paragraph of the subsection: “Select adhesive anchor systems from the Qualified Products List.”</td>
</tr>
<tr>
<td>471</td>
<td>712.03.J.1</td>
<td>Delete the first paragraph in this subsection and replace it with the following: “Propose complete details of drilling, cleaning, and bonding systems for anchoring reinforcement and submit for the Engineer’s approval before use. The minimum embedment depth must be nine times the anchor diameter for threaded rod or bolt and twelve times the anchor diameter for reinforcing bar. Propose a drilling method that does not cut or damage existing reinforcing steel. Prepare at least three proof tests per anchor diameter and type in the same orientation in which they will be installed on the existing structure, on a separate concrete block, in the presence of the Engineer. The Engineer will proof test the proposed systems. The Engineer will base approval of the anchoring system on the following criteria:”</td>
</tr>
<tr>
<td>471</td>
<td>712.03.J.2</td>
<td>Change the third sentence of the first paragraph to read:</td>
</tr>
</tbody>
</table>
“Use a tension testing device for unconfined testing, in accordance with ASTM E 488.”

Change the first sentence in the second paragraph of this subsection to read:
"If using epoxy coated steel reinforcement, epoxy coat mechanical reinforcement splices in accordance with ASTM A 775."

Delete the existing first sentence in the first paragraph.

Change the third sentence of the first paragraph to read "Provide two test splices on the largest bar size."

Change the sentence beginning “Demonstrate to the…. to read:
“Demonstrate to the Engineer that splices have a tensile strength of 125 percent of the bar yield strength and high strength splices have a tensile strength of 150 percent of the bar yield strength.”

Add the following as subsection 713.02.C:
"C. Structural Steel for Retrofitting and Welded Repairs. Structural steel material used for retrofitting and welded repairs of primary members as defined in subsection 707.01.B must meet longitudinal Charpy V-Notch impact test requirements."

Add the following material reference above the two existing items:
“Sealant for Perimeter of Beam Plates ..................................... 713"

Add the following sentence after the second paragraph of the subsection:
“Apply sealant for perimeter of beam plates in accordance with subsection 713.03.F.”

Delete the second paragraph of this subsection in its entirety.

Change the last sentence of the last paragraph of this subsection to read:
“Provide a primer dry film thickness for the top flange between 4 mils and 10 mils.”

Change the second sentence of the first paragraph of this subsection to read:
"The unit price for Field Repair of Damaged Coating (Structure No.) includes the costs of making field repairs to the shop applied coating system; prime coat surfaces and exposed surfaces of bolts, nuts, and washers; and repairing stenciling."

This subsection should read "The unit price for Drain Casting Assembly includes the cost of providing and installing the downspout and, if necessary, the lower bracket to the drain casting."
An asterisk (*) indicates an entry which has been revised from an earlier version of this Supplemental Specification.
<table>
<thead>
<tr>
<th>Page</th>
<th>Subsection</th>
<th>Errata</th>
</tr>
</thead>
<tbody>
<tr>
<td>578</td>
<td>810.03.N.2</td>
<td>Add the following sentence after the first sentence of the second paragraph on this page: “Mark each nut and bolt to reference the required rotation.”</td>
</tr>
<tr>
<td>584</td>
<td>810.04</td>
<td>Delete the last pay item in the list: Truss Fdn Anchor Bolts, Replace………………………………….Each</td>
</tr>
<tr>
<td>585</td>
<td>810.04.B.1</td>
<td>Change the second paragraph to read: “The unit prices for Fdn, Truss Sign Structure Type __, __ inch Dia, Cased and Fdn, Cantilever Sign Structure Type __, __ inch Dia, Cased include the cost of concrete, slurry, steel reinforcement, permanent casings, anchor bolts, excavation, and disposal of excavated material.”</td>
</tr>
<tr>
<td>585</td>
<td>810.04.B.2</td>
<td>Change the second sentence of the first paragraph to read: “The unit prices for Fdn, Truss Sign Structure Type __, __ inch Dia, Uncased and Fdn, Cantilever Sign Structure Type __, __ inch Dia, Uncased include the cost of concrete, slurry, steel reinforcement, temporary casings, anchor bolts, excavation, and disposal of excavated material.”</td>
</tr>
<tr>
<td>596</td>
<td>811.03.G</td>
<td>Delete this subsection in its entirety.</td>
</tr>
<tr>
<td>597*</td>
<td>811.03.H</td>
<td>Rename this subsection as follows: “G. Raised Pavement Marker (RPM) Removal.”</td>
</tr>
<tr>
<td>597*</td>
<td>811.04</td>
<td>Change &quot;Crosshatching&quot; in the last pay item of the list on this page to &quot;Cross Hatching&quot;.</td>
</tr>
<tr>
<td>598*</td>
<td>811.04</td>
<td>Delete the following pay items from the list: Pavt Mrkg, (material), 4 inch, SRSM, (color)………………………Foot Pavt Mrkg, (material), 4 inch, SRSM, 2nd Application, (color)……Foot Add the following pay items to the list: “Pavt Mrkg, Polyurea, (legend)……………………………………Each Pavt Mrkg, Polyurea, (symbol)……………………………………Each” Change the sixth item down the list to read: “Pavt Mrkg, Polyurea, __ inch, Cross Hatching, (color)” Change the eleventh item down the list to read: “Rem Curing Compound, for Longit Mrkg, __ inch…………………Foot”</td>
</tr>
<tr>
<td>599</td>
<td>811.04.B</td>
<td>Delete this subsection in its entirety.</td>
</tr>
<tr>
<td>599</td>
<td>811.04</td>
<td>Rename the following subsections as follows: “B. Call Back. C. Pavement Marking Removal. D. Material Deficiency.”</td>
</tr>
</tbody>
</table>

An asterisk (*) indicates an entry which has been revised from an earlier version of this Supplemental Specification.
An asterisk (*) indicates an entry which has been revised from an earlier version of this Supplemental Specification.
<table>
<thead>
<tr>
<th>Page</th>
<th>Subsection</th>
<th>Errata</th>
</tr>
</thead>
<tbody>
<tr>
<td>615</td>
<td>812.03.F</td>
<td>The second sentence of the second paragraph of this subsection should read: &quot;The Contractor may use a Type R temporary pavement marking cover, per subsection 812.03.D.12 when authorized by the Engineer.&quot;</td>
</tr>
<tr>
<td>616</td>
<td>812.03.F.2</td>
<td>The last sentence of the first paragraph should read: &quot;If the removal equipment cannot collect all removal debris, operate a self-propelled sweeper capable of continuously vacuuming up the removal debris immediately behind the removal equipment.&quot;</td>
</tr>
<tr>
<td>617</td>
<td>812.03.G.3</td>
<td>The first sentence of the second paragraph should read: &quot;Sweep the shoulder and remove debris prior to placing traffic on the shoulder and throughout the time the shoulder is used to maintain traffic.&quot;</td>
</tr>
<tr>
<td>617</td>
<td>812.03.G.4.a</td>
<td>Delete &quot;48 inch by 48 inch&quot; from the first sentence of this subsection.</td>
</tr>
<tr>
<td>618*</td>
<td>812.03.G.7</td>
<td>The first sentence of the first paragraph should read: &quot;Clean barrier reflectors, plastic drums, 42 inch channelizing devices, tubular markers, signs, barricades, and attached lights in operation on the project to ensure they meet required luminosity.&quot;</td>
</tr>
</tbody>
</table>
| 619  | 812.03.G.8 | The second sentence of the third paragraph from the end of the subsection should read: "Illuminate traffic regulator stations at night per subsection 812.03.H."
| 621  | 812.03.I.6 | Delete "48 inch by 48 inch" from the second sentence of this subsection. |
| 622* | 812.03.J  | The second paragraph should read "Apply one 2-inch wide horizontal stripe of red and white conspicuity tape along at least 50 percent of each side of, and across the full width of the rear of the vehicle or equipment." |
| 622  | 812.04    | Change the second item down the list to read: "Traf Regulator Control" |
|      |            | Change the sixth item down the list to read: "Sign Cover, Type I" |
| 626  | 812.04.I   | Change the reference "812.04.E" in the first sentence to "812.04.D". |
| 628  | 812.04.M.4 | Add the following as the first sentence of this subsection: "The Engineer will not measure a temporary barrier ending move as **Conc Barrier Ending, Temp, Relocated** if it involves work defined in subsection 812.04.M.3." |
| 629  | 812.04.N.1 | Change the reference "811.04.D" in the second paragraph of this subsection to read "811.04.C". |
| 630  | 812.04.S   | Change the first sentence to read: "The Department will not make additional payments for traffic regulating, signing, arrow boards, and lighting systems for traffic regulator stations operated at night due to a temporary PTS system failure." |

An asterisk (*) indicates an entry which has been revised from an earlier version of this Supplemental Specification.
<table>
<thead>
<tr>
<th>Page</th>
<th>Subsection</th>
<th>Errata</th>
</tr>
</thead>
<tbody>
<tr>
<td>634</td>
<td>813.03.C.3</td>
<td>Change the reference &quot;903.07.A&quot; in the paragraph of this subsection to read &quot;907.07.B&quot;.</td>
</tr>
<tr>
<td>638</td>
<td>814.03.D</td>
<td>Change the second sentence to read: &quot;Place the HMA mixture on the prepared base to a thickness of at least 2 inches, and to at least 220 pounds per square yard.&quot;</td>
</tr>
<tr>
<td>646</td>
<td>815.04</td>
<td>Change the first, third and fourth pay items in the list to read: &quot;Site Preparation, Max (dollar) ............................................. Lump Sum Watering and Cultivating, First Season, Min (dollar)............. Lump Sum Watering and Cultivating, Second Season, Min (dollar) ...... Lump Sum&quot;</td>
</tr>
<tr>
<td>646</td>
<td>815.04.C.1</td>
<td>Change the following pay item reading: “Watering and Cultivating, First Season, Min. (dollar)” to read “Watering and Cultivating, First Season, Min (dollar)” at two locations throughout the subsection.</td>
</tr>
<tr>
<td>646</td>
<td>815.04.C.1.b</td>
<td>Delete this subsection in its entirety.</td>
</tr>
<tr>
<td>646</td>
<td>815.04.C.1.c</td>
<td>Rename this subsection to read: &quot;b. Removal and disposal of unacceptable plants.&quot;</td>
</tr>
<tr>
<td>646</td>
<td>815.04.C.2</td>
<td>Change the following pay item reading: “Watering and Cultivating, Second Season, Min. (dollar)” to read “Watering and Cultivating, Second Season, Min (dollar)” at three locations throughout the subsection.</td>
</tr>
<tr>
<td>647</td>
<td>815.04.C.2</td>
<td>Change the last paragraph of this subsection to read: “For each unacceptable plant identified, the Engineer will calculate a 50 percent reduction in the unit price for the relevant (Botanical Name) pay item, and will process a negative assessment for each unacceptable plant for that amount.”</td>
</tr>
<tr>
<td>650</td>
<td>816.03.B</td>
<td>Delete the first paragraph of this subsection and replace with the following: &quot;Conduct soil tests when called for in the contract or when directed by the Engineer. Provide soils tests results to the Engineer when testing is required. Provide and place fertilizer as indicated below and as indicated in the soils tests, if required.&quot;</td>
</tr>
<tr>
<td>650</td>
<td>816.03.B.1</td>
<td>Change the sentence to read: &quot;For Class A fertilizer, evenly apply 176 pounds of chemical fertilizer nutrient per acre on a prepared seed bed.&quot;</td>
</tr>
<tr>
<td>650</td>
<td>816.03.B.2</td>
<td>Change the sentence to read: &quot;For Class B fertilizer, evenly apply 120 pounds of chemical fertilizer nutrient per acre on a prepared seed bed.&quot;</td>
</tr>
<tr>
<td>650*</td>
<td>816.03.B.3</td>
<td>Change the sentence to read: &quot;For Class C fertilizer, evenly apply 80 pounds of chemical fertilizer nutrient per acre on established turf.&quot;</td>
</tr>
</tbody>
</table>

An asterisk (*) indicates an entry which has been revised from an earlier version of this Supplemental Specification.
Delete the first paragraph in the subsection and replace it with the following:

“This work consists of providing operating electrical and lighting units; removing, salvaging, or disposing of existing electrical and lighting components; excavating, backfilling, restoring the site in accordance with section 816; and disposing of waste excavated materials. Complete this work in accordance with this section, section 820, and the contract and to the requirements of the NEC, the National Electrical Safety Code, and the MDLARA for those items not identified in the contract.”

Change the third sentence of the second paragraph in this subsection to read:

“Contact the MDLARA for electrical service inspection and pay the applicable fees.”

Change the paragraph to read:

“Install light standard foundations as shown on the plans and the standard plans, as applicable.”

Change the last sentence of the first paragraph to read:

"Tighten the anchor bolts to a snug tight condition as described in the third paragraph of subsection 810.03.N.2 ensuring the lock washer is completely compressed."

Delete the first two sentences of the second paragraph and replace with the following:

"Tighten bolts connecting the pole to the frangible base to a snug tight condition. Snug tight is the tightness attained by a few impacts of an impact wrench, or the full effort of a person using an ordinary spud wrench. The lock washers must be fully compressed."

Change the ninth pay item in the list to read:

“DB Cable, 600V, 1/C# (size)................................. Foot”

Delete the last item in the list on this page reading:

“DB Cable, in Conduit, 600 Volt, (number) 1/C# (size)........... Foot”

Change the first pay item in the list to read:

“DB Cable, in Conduit, 600V, 1/C# (size)................................. Foot”

Change the sixth pay item in the list to read:

“Cable, P.J., 600V, 1, (size)........................................... Foot”

Change the second pay item from the bottom of the list to read:

“Conc Pole, Fit Up, (type)............................................... Each”

Change the first paragraph to read:

“Unless otherwise required, the unit prices for the pay items listed in this subsection include the cost of excavation, granular material, backfill,
An asterisk (*) indicates an entry which has been revised from an earlier version of this Supplemental Specification.
An asterisk (*) indicates an entry which has been revised from an earlier version of this Supplemental Specification.

<table>
<thead>
<tr>
<th>Page</th>
<th>Subsection</th>
<th>Errata</th>
</tr>
</thead>
</table>
| 701  | 820.04.J.3 | Change the sentence to read: "Installing wires in the saw slots and to the handholes;"
| 701. | 820.04.J  | Add the following as a new subsection:
|      |            | "7. A 3/4 inch minimum flexible conduit (non-metallic and rated for underground use) from the pavement to the handhole."
| 706  | 821.01.B  | Change the website address listed after the second paragraph on this page to read:
|      |            | "http://www.ngs.noaa.gov/heightmod/GuidelinesPublications.shtml"
| 711  | 822.03.B  | Change the second paragraph to read:
|      |            | "If corrugations are required on concrete shoulders and the method of installation is not shown on the plans or directed by the Engineer, construct corrugations by grinding, or cutting."
| 718* | 823.03.U  | Change "MDNRE" to "MDEGLE" in four instances in this subsection.
| 720  | 823.04    | Change the pay item seventh from the bottom of the list to read:
|      |            | "Water Shutoff, Adj, Temp, Case __"
| 730  | 824.03.Q  | Change the third sentence of the fourth paragraph to read:
|      |            | "Ensure placement of monumentation in accordance with section 821."
| 730  | 824.03.Q  | Change the first sentence of the last paragraph to read:
|      |            | "The Department will not pay for work dependent on lost or destroyed stakes until the Contractor replaces the stakes."
| 732  | 824.04    | Change the first sentence of the first paragraph following the list of pay items to read:
|      |            | "If the Engineer determines the Contractor will perform staking as extra work, the Department will pay for staking in accordance with section 103."
| 733  | 824.04    | Change the left column header in Table 824-2 to read:
|      |            | "Percent of Original Contract Amount Earned"
| 739  | 902.02    | Change the last aggregate testing description to read:
|      |            | "Determining Specific Gravity and Absorption of Fine Aggregates..........................................................MTM 321"
| 742  | 902.03.C.1.a | Change the sentence to read:
|      |            | "Coarse aggregate includes all aggregate particles greater than or retained on the 3/4-inch sieve."
| 742  | 902.03.C.2.a | Change the sentence to read:
|      |            | "Intermediate aggregate includes all aggregate particles passing the 3/4-inch sieve through those retained on the No. 4 sieve."
An asterisk (*) indicates an entry which has been revised from an earlier version of this Supplemental Specification.

<table>
<thead>
<tr>
<th>Page</th>
<th>Subsection</th>
<th>Errata</th>
</tr>
</thead>
<tbody>
<tr>
<td>742</td>
<td>902.03.C.2.b.iii</td>
<td>Change the sentence to read as follows: “Maximum Loss by Washing per MTM 108 of 3.0 percent”.</td>
</tr>
<tr>
<td>744</td>
<td>902.07</td>
<td>Delete the fourth paragraph of the subsection and replace it with the following: “The Engineer will only allow the use of granular material produced from crushed portland cement concrete for embankment and as trench backfill for non-metallic culvert and sewer pipes without associated underdrains. However, granular material produced from crushed portland cement concrete is not permitted as swamp backfill, nor within the top 3 feet below subgrade regardless of the application.”</td>
</tr>
<tr>
<td>746*</td>
<td>902.11</td>
<td>Change the Item of Work by Section Number column in Table 902-1 for the 6AA row to read: &quot;406, 601, 602, 706, 708, 806&quot;. Change the Item of Work by Section Number column in Table 902-1 for the 6A row to read: &quot;206, 401, 402, 406, 601, 602, 603, 706, 806&quot;. Change the Item of Work by Section Number column in Table 902-1 for the 34R row to read: &quot;401, 404, 406&quot;.</td>
</tr>
<tr>
<td>751*</td>
<td>902.11</td>
<td>Replace Table 902-6 with the Table 902-6 below.</td>
</tr>
<tr>
<td>751</td>
<td>Table 902-7</td>
<td>Under the Material column in the fourth row change the &quot;FA2&quot; to read &quot;2FA&quot;.</td>
</tr>
<tr>
<td>751</td>
<td>Table 902-7</td>
<td>Under the Material column in the fifth row change the &quot;FA3&quot; to read &quot;3FA&quot;.</td>
</tr>
<tr>
<td>752</td>
<td>Table 902-8</td>
<td>Under the Material column in the fourth row change the &quot;FA2&quot; to read &quot;2FA&quot;.</td>
</tr>
<tr>
<td>752</td>
<td>Table 902-8</td>
<td>Under the Material column in the fifth row change the &quot;FA3&quot; to read &quot;3FA&quot;.</td>
</tr>
<tr>
<td>761</td>
<td>Table 904-2</td>
<td>Delete the footnote f and any other reference to footnote f from the table.</td>
</tr>
<tr>
<td>767</td>
<td>905.03</td>
<td>Change the first sentence of the first paragraph to read: “Deformed bars, must meet the requirements of ASTM A 706, ASTM A 615, or ASTM A 996 (Type R or Type A only) for Grade 60 steel bars, unless otherwise required”.</td>
</tr>
<tr>
<td>767*</td>
<td>905.03</td>
<td>Change the first sentence of the second paragraph to read: “Unless otherwise specified, spiral reinforcement must meet the requirements of plain or deformed Grade 40 steel bars of ASTM A 615, ASTM A 996 (Type A), or the requirements of cold-drawn wire of ASTM A 1064”.</td>
</tr>
</tbody>
</table>
| 767  | 905.03 | Change the first sentence of the third paragraph to read: “Bar reinforcement for prestressed concrete beams must meet the requirements of ASTM A 996 (Type R) for Grade 60 steel bars, except
the Engineer will allow bar reinforcement that meets the requirements of ASTM A 615 or ASTM A 996 (Type A) for Grade 40 steel bars for stirrups in prestressed concrete beams.

768 905.03.C
Change the first sentence in the subsection to read: "Epoxy coated steel reinforcement, if required, must be coated in accordance with ASTM A 775, with the following exceptions and additions."

768 905.03.C.3
Change the first sentence of this subsection to read: "Include written certification that the coated reinforcing bars were cleaned, coated, and tested in accordance with ASTM A 775 with the coating applicator."

768 905.05
Change the first sentence of the first paragraph to read: "Deformed steel bars must meet the requirements of ASTM A 706 or the requirements for Grade 40, Grade 50, or Grade 60 of ASTM A 615 or ASTM A 996 (Type R or Type A only)."

768 905.06
Delete this subsection in its entirety and replace it with the following: "Deformed wire fabric for prestressed concrete and fabric for concrete pavement reinforcement must meet the requirements of ASTM A 1064 and fabricated as required."

772* 906.07
Change the first paragraph to read: "High-strength bolt fasteners for structural joints must meet the requirements of ASTM F 3125 Grade A 325 Type 1 bolts. High-strength nuts for structural joints must meet the requirements of ASTM A 563 Grade DH or AASHTO M 292 Grade 2H. High-strength washers for structural joints must meet the requirements of ASTM F 436 Type 1 for circular, beveled, clipped circular, and clipped beveled washers."

Change the second sentence of the second paragraph of this subsection to read: "Galvanized nuts must be tapped oversize in accordance with ASTM A 563 and meet Supplementary Requirements S1, Lubricant and Rotational Capacity Test for Coated Nuts and S2, Lubricant Dye."

777* 907.03.D.2.a
Change the first sentence of the second paragraph to read: "Angle sections must be nominal 2½ inch by 2½ inch by ¼ inch."

777* 907.03.D.2.b
Change the first sentence of the first paragraph to read: "Angle section braces must be nominal 1¾ inch by 1¾ inch by ¼ inch or nominal 2 inch by 2 inch 3/16 inch."

782 908.04
Change the first sentence of the first paragraph of this subsection to read: "Steel castings for steel construction must meet the requirements of ASTM A 148 for Grade 60/90 carbon steel castings, as shown on the plans, unless the Engineer approves an alternate in writing."

An asterisk (*) indicates an entry which has been revised from an earlier version of this Supplemental Specification.
<table>
<thead>
<tr>
<th>Page</th>
<th>Subsection</th>
<th>Errata</th>
</tr>
</thead>
<tbody>
<tr>
<td>784*</td>
<td>908.09.C</td>
<td>Change this subsection to read:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;C. <strong>Hardware.</strong> Railing anchor studs must meet the requirements of ASTM A 449 Type 1. Heavy hex nuts must meet the requirements of ASTM A 563. Bolts, used as rail fasteners, must meet the requirements of ASTM F 3125 Grade A 325, Type 1. Where called for, round head bolts must meet the requirements of ASTM A 449 Type 1. The material for the railing hand hole screws must meet the requirements of ASTM A 276, Type 304. All nuts must meet the requirements of ASTM A 563 Grade DH or AASHTO M 292 Grade 2H. All flat washers must meet the requirements of ASTM F 436. Lock washers must be steel, regular, helical spring washers meeting the requirements of ANSI B18.21.1 - 1972. Bolts, nuts, washers and other hardware must be hot-dip galvanized in accordance with AASHTO M 232. Galvanized nuts must be tapped oversize in accordance with ASTM A 563, and meet Supplementary Requirements S1, Lubricant and Rotational Capacity Test for Coated Nuts, and S2, Lubricant Dye.&quot;</td>
</tr>
<tr>
<td>784</td>
<td>908.11.A</td>
<td>Change the first sentence of the first paragraph to read:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;Steel beam sections, backup elements, terminal end shoes, and special end shoes must meet the requirements of AASHTO M 180, for Class A guardrail.&quot;</td>
</tr>
<tr>
<td>785*</td>
<td>908.11.B</td>
<td>Change the second paragraph to read:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;Bolts, nuts, and round washers for guardrail, other than at bridge barrier railings, must meet the requirements of ASTM A 307 (Grade A), ASTM A 563 (Grade A with Supplementary Requirements S1 of ASTM A 563), and ASTM F 436, respectively.&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Change the third paragraph to read:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;Washers, other than round washers, for guardrail must meet the requirements for circular washers in ASTM F 436 except that the dimensions must be as shown on the plans.&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Change the fifth paragraph to read:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;Bolts, nuts, and washers for connections at bridge barrier railings must conform to ASTM F 3125 Grade A 325 Type 1 galvanized high-strength structural bolts with suitable nuts and hardened washers.&quot;</td>
</tr>
<tr>
<td>787</td>
<td>908.14.B</td>
<td>Add the following sentence to the end of the third paragraph of this subsection:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;Exposed threaded ends of anchor bolts must be galvanized a minimum of 20 inches.&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Change the sixth paragraph in this subsection to read:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;Provide washers meeting the requirements of ASTM F 436 for circular washers.&quot;</td>
</tr>
</tbody>
</table>
| 787  | 908.14.B   | Change the second sentence of the fourth paragraph to read "After coating, the maximum limit of pitch and major diameter for bolts with a
An asterisk (*) indicates an entry which has been revised from an earlier version of this Supplemental Specification.

diameter no greater than 1 inch may exceed the Class 2A limit by no greater than 0.021 inch, and by no greater than 0.031 inch for bolts greater than 1 inch in diameter”.

787* 908.14.C Change the first paragraph to read "Provide either four or six high strength anchor bolts per the contract plans, meeting the mechanical requirements of ASTM F 1554, for Grade 105, with each standard. Anchor bolts for traffic signal strain poles must meet the requirements of subsection 908.14.B with the following exceptions and additions:"

789 909.03 Change the second sentence of the second paragraph to read: "As an alternative to the AASHTO M 36 requirements for metal pipe, the Contractor may use gasket material meeting the low temperature flexibility and elevated temperature flow test requirements of ASTM C 990, excluding the requirements for softening point, flashpoint and fire point."

793 909.06 Change the first sentence of the second paragraph of this subsection to read: "Provide Corrugated Polyvinyl Chloride Pipe (CPV) and required fittings meeting the requirements of AASHTO M 304."

793* 909.05.D Change the second sentence of the paragraph to read “Provide a continuous welded joint to create a watertight casing that is capable of withstanding handling and installation stresses. Perform field welding by the SMAW process using E7018 electrodes.”

794* 909.08.A Change the first sentence to read: “Provide bridge deck downspouts of PE pipe meeting the requirements of ASTM F 714, PE 4710, DR 26.”

804 Table 909-9 In the note area at the bottom of the table change the designation of the second note from “c.” to “b.”.

811 910.04 Add the following sentence to the end of this subsection: “Fabricate silt fence according to subsection 916.02.”

814 Table 911-1 In the 4th row of the 5 rows in the table change the Property listed as “Total Organic Content (TOC)” to read “Total Organic Carbon (TOC)”.

829* 912.08.K Replace Table 912-10 with the Table 912-10 below.

833* 913.03.B Change the first sentence of the first paragraph to read: "Clay brick, to construct manholes, catch basins, and similar structures, must meet the requirements of ASTM C 32, for Grade MS."

837* 914.04 Add the following as subsection 914.04.C: “C. **Lubricant-Adhesive for Neoprene Joint Seals.** The lubricant-adhesive must be a single-component moisture-curing polyurethane and aromatic hydrocarbon solvent mixture meeting ASTM D 2835, Type
I. Ship in containers plainly marked with the lot or batch number of the material and date of manufacture. Store at temperatures between 58 and 80°F. Do not exceed 12 months shelf-life prior to use."

840 914.08 Change the first sentence of the second paragraph to read: “Straight tie bars for end-of-pour joints must consist of bars of the diameter and length shown on the plans meeting the requirements of ASTM A 615, ASTM A 706, or ASTM A 996 (Type R or Type A only).”

840* 914.09.A Change the first sentence of the first paragraph to read: “Straight tie bars for longitudinal pavement joints must consist of bars of the diameter and length shown on the plans meeting the requirements of ASTM A 615, ASTM A 706, or ASTM A 996 (Type R or Type A only).”

840 914.09.B Change the first sentence of the first paragraph to read: “Bent tie bars for bulkhead joints must consist of bars of the diameter and length shown on the plans.”

841* 914.13 In the first sentence of this subsection change "ASTM D 1248, for Type III, Class B" to read "ASTM D 4976, Group 2, Class 4, Grade 4”.

844 916.01.A Change the first sentence to read: "Cobblestone must consist of rounded or semi-rounded rock fragments with an average dimension from 3 inches to 10 inches.”

845 916.01.D.1 Change the second sentence to read: "Checkdams for ditch grades 2 percent or greater must be constructed using cobblestone or broken concrete ranging from 3 inches to 10 inches in size.”

851* 917.10.B.1 Delete the paragraph and replace it with the following: “1. Class A. Provide and apply Class A chemical nutrient fertilizer either according to MSU Soil Testing Lab Recommendations for Phosphorus Applications to Turfgrass, except the maximum single application rate of nutrient will be 48 pounds per acre, when soil tests are required or as indicated in subsections 917.10.B.1.a and 917.10.B.1.b.”

851 917.10.B.1 Add the MSU Soil Testing Lab Recommendations for Phosphorus Applications to Turfgrass, found below, after the first paragraph of this subsection.

853 917.15.B.1 Change the second sentence of the subsection to read: “The net must meet the requirements of subsection 917.15.D and be capable of reinforcing the blanket to prevent damage during shipping, handling, and installation.”

857 918.01 Add the following two paragraphs following the first paragraph of this subsection: “Wall thickness and outside diameter dimensions must conform to ASTM D 1785 for smooth-wall schedule 40 and 80 PVC conduit
material. The Department will allow no more than 3 percent deviation from the minimum wall thickness specified.

Wall thickness range must be within 12 percent in accordance with ASTM D 3035 for smooth-wall coilable schedule 40 and 80 PE conduit.”

858 918.01.E Delete the first three sentences of the second paragraph shown on page 858.

863 918.06.F.1 Delete the third paragraph in this subsection in its entirety and replace it with the following: 
"Provide smooth or deformed welded wire fabric in accordance with ASTM A 1064."

864 918.07.C Change the first sentence of the first paragraph to read: 

864 918.07.C Delete the second sentence of the second paragraph.

864 918.07.C Change the third sentence to read: 
“Provide anchor bolts threaded 4 inches beyond the anchor bolt projection shown on the plans.”

867 918.08.C Change the last sentence of the first paragraph on this page to read: 
“Galvanize bolts, nuts, washers, and lock washers as specified in subsection 908.14.B.”

867 918.08.C Change the last sentence of the subsection to read: 
“Provide each frangible base with manufacturer access covers as shown on the plans.”

867* 918.08.D Delete this subsection in its entirety and replace with the following: 
"Provide galvanized anchor bolts, studs, nuts, couplings, and washers in accordance with subsection 908.14."

879 918.10.J Change the third sentence of the second paragraph of this subsection to read: 
"Provide anchor bolts and associated nuts, washers, and hardware meeting the requirements of subsection 908.14." 

887 919.06 Change the second paragraph to read: 
“Shims must be fabricated from brass shim stock or brass strip meeting the requirements of ASTM B 36, for copper alloy UNS No. C26000, half-hard rolled temper, or fabricated from galvanized sheeting meeting the requirements of ASTM A 653, for Coating Designation G 90.”

887 919.07.C Change the sentence to read: 

An asterisk (*) indicates an entry which has been revised from an earlier version of this Supplemental Specification.
"Galvanized high-strength steel bolts, nuts, and washers for connecting arm connection flanges must meet the requirements of subsection 906.07."

903 921.03.D Delete the last three sentences of the first paragraph of this subsection.

914 921.05.D Change the first sentence of this subsection to read: "Provide anchor bolts meeting the requirements of subsection 908.14.C, including elongation and reduction of area requirements."

916 921.07 Change the first sentence of the first paragraph to read: "Provide LED case signs internally illuminated by LEDs and changeable message case signs internally illuminated with LED light sources."

936 922.04.B In the first sentence of the first paragraph change the "R-52" to "R-126".

936 922.04.B Add the following to the end of the first paragraph: "Hardware used to connect the end section to the barrier must meet the requirements of NCHRP 350 or MASH (Test Level 3 or higher)."

936 922.04.B In the first sentence of the second paragraph delete "R-52".

936 922.04.B Change the fourth paragraph of this subsection to read as follows: For all endings requiring impact attenuators provide a NCHRP-350 Test Level 3 or MASH Test Level 3 approved impact attenuation system, unless otherwise approved by the Engineer.

952 Pay Item Index Change the following pay items to read:
"Conc Barrier, Rem..............................................................123     204"
"Conc Pole, Fit Up, (type) ....................................................679     819"

953* Pay Item Index Delete the following pay item reading:
"DB Cable, in Conduit, 600 Volt, (number) 1/C# (size)..........678     819"

957 Pay Item Index Delete the following pay item from the list:
Guardrail Buffered End .........................................................560     807

960 Pay Item Index Change the following pay item to read:
"Mobilization, Max (dollar)....................................................107     150"

961 Pay item Index Delete the following pay items from the list:
Pavt Mrkg, (material), 4 inch, SRS, (color)...............598........811
Pavt Mrkg, (material), 4 inch, SRS, 2nd Application, (color)..................................................598........811

961 Pay Item Index Change the following pay items in the list to read:
Pavt Mrkg, Ovly Cold Plastic, 12 inch, Cross Hatching, (color)Pavt Mrkg, Polyurea, __ inch, Cross Hatching, (color)

Add the following pay items to the list:

An asterisk (*) indicates an entry which has been revised from an earlier version of this Supplemental Specification.
<table>
<thead>
<tr>
<th>Page</th>
<th>Subsection</th>
<th>Errata</th>
</tr>
</thead>
</table>
| 962  | Pay Item Index | Change the following pay items in the list to read:  
|      |             | “Pile Driving Equipment, Furn (Structure No.)”  
|      |             | Pile, Galv (Structure No.)” |
| 963  | Pay Item Index | Change the following pay item to read:  
|      |             | “Rem Curing Compound, for Longit Mrkg, ___ inch” |
| 964  | Pay Item Index | Change the following pay item to read:  
|      |             | “Sewer, CI __, ___ inch, Jacked in Place”  
|      |             | “Sign Cover, Type I” |
| 965* | Pay Item Index | Change the following pay item in the list to read:  
|      |             | “Steel Casing Pipe, ___ inch, Tr Det ___”  
|      |             | Site Preparation, Max (dollar)” |
| 966  | Pay Item Index | Change the following pay item to read:  
|      |             | “Structures, Rem (Structure No.)” |
| 966  | Pay Item Index | Delete the following pay item from the list;  
|      |             | Temp Casing” |
| 967* | Pay Item Index | Delete the following pay item from the list;  
|      |             | Truss Fdn Anchor Bolts, Replace” |
| 967  | Pay Item Index | Change the following pay item in the list to read:  
|      |             | “Traf Regulator Control” |
| 968* | Pay item Index | Change the following pay item in the list to read:  
|      |             | “Water Shutoff, Adj, Temp, Case ___”  
|      |             | Watering and Cultivating, First Season, Min (dollar)”  
|      |             | Watering and Cultivating, Second Season, Min (dollar)” |
| 993  | General Index | Change “Shop Plans (see Plans and Working Drawings)” to read “Shop Drawings (see Plans and Working Drawings)”.

An asterisk (*) indicates an entry which has been revised from an earlier version of this Supplemental Specification.
### Table 701-1

**Concrete Structure Mixtures**

<table>
<thead>
<tr>
<th>Concrete Grade (e,h)</th>
<th>Section Number Reference (f)</th>
<th>Cement Content per cyd (b,c)</th>
<th>Slump (inches)</th>
<th>Minimum Strength of Concrete (f)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Before Admixture (Type MR)</td>
<td>After Admixture (Type MR)</td>
</tr>
<tr>
<td>D (a)</td>
<td>706, 711, 712</td>
<td>658 (d)</td>
<td>7.0</td>
<td>0 - 3</td>
</tr>
<tr>
<td>S1</td>
<td>706</td>
<td>611</td>
<td>6.5</td>
<td>0 - 4</td>
</tr>
<tr>
<td>T</td>
<td>705, 706</td>
<td>611</td>
<td>6.5</td>
<td>0 - 3</td>
</tr>
<tr>
<td>S2 (a)</td>
<td>705, 706, 712, 713, 801, 802, 803, 810</td>
<td>564</td>
<td>6.0</td>
<td>0 - 3</td>
</tr>
<tr>
<td>S3</td>
<td>402, 403, 803, 804, 806</td>
<td>517</td>
<td>5.5</td>
<td>0 - 3</td>
</tr>
</tbody>
</table>

**Notes:**

a. Unless otherwise required, use Coarse Aggregate 6AA or 17A for exposed structural concrete in bridges, retaining walls, and pump stations.

b. Do not place concrete mixtures containing supplemental cementitious materials unless the local average minimum temperature for the next 10 consecutive days is forecast to be above 40 °F. Adjustments to the time required for opening to construction or vehicular traffic may be necessary. Cold weather protection may be required, as described in the quality control plan. The restriction does not apply to Grade S1 concrete in foundation piling below ground level or Grade T concrete in tremie construction.

c. Type III cement is not permitted.

d. Use admixture quantities specified by the Qualified Products Lists to reduce mixing water. Admixture use is required for Grade D, Grade S2, and Grade S3, concrete with a reduced cement content. Use a water-reducing admixture at the required dosage for Grade D concrete to provide the setting retardation required. When the maximum air temperature is not forecast to exceed 60 °F for the day, the Contractor may use a water-reducing admixture or a water-reducing setting admixture. Ensure Grade D concrete in concrete diaphragms contains a water-reducing admixture, or a water-reducing setting admixture. For night casting, the Contractor may use a water-reducing admixture in lieu of water-reducing retardation admixture, provided that the concrete can be placed and finished prior to initial set.

e. The mix design basis for bulk volume (dry, loose) of coarse aggregate per unit volume of concrete is 68% for Grade S1, and 70% for Grade D, Grade S2, Grade T, and Grade S3.

f. The Contractor may use flexural strength to determine form removal. Use compressive strength for acceptance in other situations.

g. MR = Mid-range.

h. The Engineer will allow the use of an optimized aggregate gradation as specified in section 604.

i. Section Number Reference:

<table>
<thead>
<tr>
<th>Number</th>
<th>Reference</th>
<th>Description</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>401</td>
<td>711</td>
<td>Bridge Railings</td>
<td>803</td>
</tr>
<tr>
<td>402</td>
<td>712</td>
<td>Bridge Rehabilitation-Concrete</td>
<td>804</td>
</tr>
<tr>
<td>403</td>
<td>713</td>
<td>Bridge Rehabilitation-Steel</td>
<td>806</td>
</tr>
<tr>
<td>705</td>
<td>801</td>
<td>Concrete Driveways</td>
<td>810</td>
</tr>
<tr>
<td>706</td>
<td>802</td>
<td>Concrete Curb, Gutter and Dividers</td>
<td>802</td>
</tr>
</tbody>
</table>

An asterisk (*) indicates an entry which has been revised from an earlier version of this Supplemental Specification.
Table 902-6
Superpave Final Aggregate Blend Physical Requirements

<table>
<thead>
<tr>
<th>Est. Traffic (million ESAL)</th>
<th>Mix Type</th>
<th>Percent Crushed Minimum Criteria</th>
<th>Fine Aggregate Angularity Minimum Criteria</th>
<th>% Sand Equivalent Minimum Criteria</th>
<th>Los Angeles Abrasion % Loss Maximum Criteria</th>
<th>% Soft Particles Maximum Criteria</th>
<th>% Flat and Elongated Particles Maximum Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Top &amp; Leveling Courses</td>
<td>Base Course</td>
<td>Top &amp; Leveling Courses</td>
<td>Base Course</td>
<td>Top &amp; Leveling Courses</td>
<td>Base Course</td>
</tr>
<tr>
<td>&lt; 0.3</td>
<td>LVSP</td>
<td>55/ —</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>&lt; 0.3</td>
<td>E03</td>
<td>55/ —</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>&gt;0.3 - &lt;1.0</td>
<td>E1</td>
<td>65/ —</td>
<td>—</td>
<td>40</td>
<td>—</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>&gt;1.0 - &lt; 3</td>
<td>E3</td>
<td>75/ —</td>
<td>50/ —</td>
<td>40(a)</td>
<td>40(a)</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>≥3 - &lt;10</td>
<td>E10</td>
<td>85/80</td>
<td>60/ —</td>
<td>45</td>
<td>40</td>
<td>45</td>
<td>45</td>
</tr>
<tr>
<td>≥10 - &lt;30</td>
<td>E30</td>
<td>95/90</td>
<td>80/75</td>
<td>45</td>
<td>40</td>
<td>45</td>
<td>45</td>
</tr>
<tr>
<td>≥30 - &lt;100</td>
<td>E50</td>
<td>100/100/10 (a)</td>
<td>95/90</td>
<td>45</td>
<td>45</td>
<td>50</td>
<td>50</td>
</tr>
</tbody>
</table>

(a) For an E3 mixture type that enters the restricted zone as defined in Table 902-5, the minimum is 43. If these criteria are satisfied, acceptance criteria and associated incentive/disincentive or pay adjustment tied to this gradation restricted zone requirement included in contract, do not apply. Otherwise, final gradation blend must be outside of the restricted zone.

(b) Soft particles maximum is the sum of the shale, siltstone, ochre, coal, clay-ironstone and particles that are structurally weak or are non-durable in service.

(c) Maximum by weight with a 1 to 5 aspect ratio.

Note: “85/80” denotes that 85 percent of the coarse aggregate has one fractured face and 80 percent has at least two fractured faces.

An asterisk (*) indicates an entry which has been revised from an earlier version of this Supplemental Specification.
<table>
<thead>
<tr>
<th>Preservative</th>
<th>Minimum Retention, (pcf)</th>
<th>Guardrail Posts</th>
<th>Sign Posts</th>
<th>Blocks</th>
<th>AWPA Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pentachlorophenol</td>
<td>0.60</td>
<td>0.50</td>
<td>0.40</td>
<td></td>
<td>A6</td>
</tr>
<tr>
<td>CCA, ACZA</td>
<td>0.60</td>
<td>0.50</td>
<td>0.40</td>
<td></td>
<td>A11</td>
</tr>
<tr>
<td>ACQ (a)</td>
<td>0.60</td>
<td>Not Allowed</td>
<td></td>
<td>0.40</td>
<td>A11</td>
</tr>
<tr>
<td>CA-B (a)</td>
<td>0.31</td>
<td>Not Allowed</td>
<td></td>
<td>0.21</td>
<td>A11</td>
</tr>
<tr>
<td>CA-A (a)</td>
<td>0.31</td>
<td>Not Allowed</td>
<td></td>
<td>0.15</td>
<td>A11</td>
</tr>
<tr>
<td>Other Waterborne preservatives</td>
<td>AWPA Commodity Specification A, Table 3.0, Use Category 4B</td>
<td>Not Allowed</td>
<td></td>
<td></td>
<td>A11</td>
</tr>
</tbody>
</table>

a. Non-Metallic washers or spacers are required for timber and lumber treated with ACQ or CA placed in direct contact with aluminum. Do not use with sign posts.
An asterisk (*) indicates an entry which has been revised from an earlier version of this Supplemental Specification.

<table>
<thead>
<tr>
<th>Bray P1, Mehlich 3 Soil Test Value (ppm) pH&lt;7.4</th>
<th>Olsen Soil Test Value (ppm) pH&gt;7.4</th>
<th>Recommendation (lbs. P₂O₅/1000 ft.²)</th>
<th>Recommendation (lbs. P₂O₅/1000 ft.²)</th>
<th>Recommendation (lbs. P₂O₅/1000 ft.²)</th>
<th>Recommendation (lbs. P₂O₅/1000 ft.²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>4.4</td>
<td>3.4</td>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1.3</td>
<td>4.1</td>
<td>3.1</td>
<td>2.2</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2.7</td>
<td>3.9</td>
<td>2.7</td>
<td>1.9</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>3.6</td>
<td>2.4</td>
<td>1.6</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>5.3</td>
<td>3.4</td>
<td>2.0</td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>6.7</td>
<td>3.1</td>
<td>1.7</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>8</td>
<td>2.8</td>
<td>1.4</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>9.3</td>
<td>2.6</td>
<td>1.0</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>10.7</td>
<td>2.3</td>
<td>0.7</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>12</td>
<td>2.1</td>
<td>0.3</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>13.3</td>
<td>1.8</td>
<td>0.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>14.7</td>
<td>1.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>16</td>
<td>1.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>17.3</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>18.7</td>
<td>0.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>20</td>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>21.3</td>
<td>0.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>22.7</td>
<td>0.0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Web resources: www.turf.msu.edu or www.beposphorussmart.msu.edu
a. **Description.** All work performed for this project shall be performed per the 2012 Michigan Department of Transportation Standard Specifications for Construction. Where work is being performed within Road Commission for Oakland County (RCOC) right of way, Contractor is to follow RCOC standards and obtain necessary permits and perform all traffic control per RCOC standards. All permit fees are to be paid for by the Contractor and included in other items of work.
In no case shall any work be commenced prior to receipt of formal notice of award by the Commission. Work shall begin within 2 weeks of the formal notice of award.

The Contractor shall prepare and submit a complete, detailed, and signed MDOT Form 1130, Progress Schedule, according to 12SP-101A.

The Progress Schedule shall include, at minimum, the controlling work items for the completion of the project, as well as planned dates or work days that these items will be controlling operations. All contract dates including open to traffic, project completion, interim completion and any other controlling dates in the contract, must be included in the progress schedule.

If the bidding Proposal specifies other controlling dates, these shall also be included in the Progress Schedule.

After award and prior to the start of work, the Contractor must attend a preconstruction meeting with the Engineer. The Engineer will determine the day, time and place for the preconstruction meeting. The meeting will be conducted after project award and may be rescheduled if there are delays in the award of the project. The named subcontractor(s) for Designated and/or Specialty Items, as shown in the Proposal, should attend the preconstruction meeting if such items materially affect the work schedule.

a. Milestones
The Contractor shall be expected to mobilize sufficient labor and equipment to complete the project within the specified time frames:

1. **Open to traffic**
The project shall be sufficiently complete and in suitable condition to be designated Opened to Traffic as directed by the Engineer, on or before **September 30, 2019**.

2. **Entire Project and Restoration**
Other than the delayed acceptance requirements for Turf Establishment the entire project, including the placement of permanent soil erosion control item shall be completed on or before **November 1, 2019**.

3. **Live Stake Plantings**
The entire project, including sodding or seeding, its watering, and established growth but excluding watering and cultivating of live stakes, shall be completed on or before **November 1, 2019**.

   The entire project, including watering and cultivating of live stakes, shall be completed on or before **December 1, 2019**.

4. **Trees Removal Limitations**
The tree removal time for the bats ranges from **October 1 until March 31**. The bats are present in Michigan from **April 1 until September 30**. Tree removals have been completed prior to bidding this project.

5. **Entire Project Including Delayed Acceptance Items.**
The entire project including delayed acceptance requirements for Raised Pavement Markings and Turf Establishment shall be completed on or before **December 1, 2019**.

6. **Trail Closure Limitation.**
The trail and bridge shall not be closed to pedestrian use for more than 90 continuous calendar days once construction begins. No more than 2 miles of continuous trail shall be closed to pedestrian use at a single time and work shall be continuous on any closed section until complete. Each section of trail closed shall be opened to traffic within 30 days of closure.

b. **Staging of the Work**
The Contractor shall coordinate the proposed work in three stages, affecting only one segment of the Trail at a time. Work must be completed on a segment before the Contractor will be allowed to begin work on another segment.

- Segment 1, from POB of Trail in the City of Rochester to Dutton Road
- Segment 2, from Dutton Road to Silverbell Road (coordinate with MDOT/RCOC Bridge 33.7 Project)
- Segment 3, from Silverbell Road to Adams Road
- Segment 4, from Adams Road to the POE of Trail in Village of Lake Orion

When working within each segment, the Contractor shall place a Type III barricade, as described by the Michigan Manual of Uniform Traffic Control Devices, at all public access points of the trail segment under construction. A sign with legend “TRAIL CLOSED DURING RESURFACING” shall be mounted on the Type III barricade (include in cost of the Barricade).

All labor, equipment, materials and associated costs necessary to perform the work in stages, including signing, shall not be paid for separately, but will be included in payment of other contract work items.

c. **Liquidated damages for failure to meet milestones**

Liquidated Damages shall be assessed in accordance with Section 108.10 of the 2012 Standard Specifications for Construction. Liquidated damages shall be assessed for each section of trail closed for longer than specified above, and for the final Open to Traffic date and Completion dates as listed above. Liquidated damages will be assessed separately, simultaneously, and concurrently for failure to meet interim, final, and any stage completion dates.

d. **Work day, hour, and other work restrictions imposed by local communities**
The work hours described may be modified or changed by the Engineer due to Holidays, Special Events, or Traffic Volumes.
A. Contractors operations shall be limited by local municipality work time, noise, and dust ordinance as follows unless approved by the local municipality and the Engineer and/or local municipality in writing. If possible, the trail shall be left in a passable state during weekend and/or holiday restrictions:

(1) The City of Rochester limits work hours to 7 a.m. to 6 p.m. Monday through Friday unless a permit to work outside these restrictions is first obtained from the City Manager.

(2) City of Rochester Hills limits work to between the hours of 7 a.m. and 8 p.m. Monday through Saturday (Zoning Ordinance 18-9). Nighttime, Sunday or Holiday hours will only be allowed with written permission granted by the Mayor (Zoning Ordinance 18-10).

(3) Oakland Township ordinance limits work to between the hours of 7:00 a.m. and 9:00 p.m. on weekdays. Weekend, early morning or nighttime work will not be allowed without the prior written consent of the Township.

(4) Orion Township limits work hours to between 7 a.m. and 7 p.m. Monday through Saturday.

(5) Village of Lake Orion ordinance limits work to between the hours of 7:00 a.m. and 7:00 p.m. Monday through Saturday. Construction is not allowed on Sunday.

B. No work or lane closures, unless approved by the Engineer, shall be performed during:

Memorial Day (from 3:00 pm Friday, May 24th – 6:00 am Tuesday, May 28th) or Independence Day (from 3:00 pm Wednesday, July 3rd – 6:00 am Friday, July 5th) or Labor Day (from 3:00 pm Friday August 30th – 6:00 am Tuesday, September 3rd) or Thanksgiving (from 3:00 pm Wednesday November 27 to 6:00 a.m. Monday, December 2).

The following special events will be happening on or along the trail during the Construction of the project. For any event, Contractor is to be available the day before the event to assist making trail passable and protecting hazards due to construction. Not all events are listed as many are held on weekend days already restricted above. Contractor to coordinate with local municipalities.

Contractor to adhere to the following restrictions:

Entire Length of Trail
- CrossRoad Bike for Life – September 21st. Contractor may not work Thursday September 19 (from affected municipalities evening work limits) through Monday morning (to effected municipalities morning work limits).

City of Rochester:
In addition to the work hours listed above, no work will be allowed in or around Municipal Park for the following events:
• Heritage Days Festival – Thursday May 16, 6 p.m. through Monday May 20, 7 a.m.
• Rochester Fringe Fest – Friday June 7. Contractor to cease operations by 3 p.m.
• Labor Day weekend through Art and Apples Festival: Friday, August 30 through Monday, September 9, 7 a.m.

Oakland Township
In addition to the work hours listed above, work will be restricted in Bear Creek Nature Park on the following dates. Contractor is restricted from working in the park and must have all work areas secured a day prior to and during each of these events:
• June 7, June 20, July 12 and September 14.

The Township also has nature programs scheduled on the weekends of June 30, July 27 and August 10. No Saturday work will be allowed on these weekends.

In addition, various classes utilize the lawn area south of the playground near the Snell Road parking area. Contractor shall not utilize the Snell Road parking area for storage of equipment on these afternoons and shall limit operations to other areas of the park. All equipment must cease operations by 6 p.m. on these dates:
• Tuesdays May 7 through June 25, 6 p.m.
• Mondays June 17 through July 22, 6 p.m.
• Tuesdays August 6 through September 24, 6 p.m.

The pavilion area must remain accessible and open to the public during weekends throughout the summer. The Snell Road parking area must remain accessible to the public at all times, with the exception on day/days of resurfacing around the small storage building west of the parking area. Days of closure to be coordinated with Oakland Township Parks and Recreation.

Orion / Village of Lake Orion
• Run with Fire 5k – Saturday, September 28 - Village of Lake Orion Children’s Park to Clakston/Kern intersection – Contractor may not work on this section of trail from Thursday, September 26, 7 p.m. through Monday September 30, 7 a.m.
• Lake Orion Challenge – Saturday, October 5 – Village of Lake Orion to Gallagher Road. Contractor may not work from Thursday, October 3, 7 p.m. through Monday, October 7, 7 a.m.
The Contractor is hereby notified that there may be other construction projects, not associated with this project, scheduled for construction during the same timeframe as this project within the local vicinity.

The following is a listing of known road construction projects within the local vicinity that may have an impact on this project. Please note that this listing may not be complete and the Contractor shall verify any other projects within the local vicinity that may impact this project.

- There are no known roadway projects in the vicinity at this time.

- The Paint Creek Trailway Commission, in cooperation with the Road Commission for Oakland County and MDOT has awarded a project for the reconstruction of bridge 33.7 on the Paint Creek Trail between Dutton Road and Silverbell Road. The resurfacing contractor is directed to delay work between Dutton and Silverbell until the completion of the bridge project. The contractor shall coordinate work along the path with the bridge contractor to ensure the trail work can commence once the bridge is open to traffic. Live stake and grass watering and cultivating efforts will also need to be coordinated with the bridge reconstruction contractor. The resurfacing of trail between Dutton Road and Silverbell Road and the reconstruction of bridge 33.7 shall be accomplished in one continuous closure.

The Contractor shall coordinate his work on this project with work by Contractor's on other projects, as directed by the Engineer. No additional compensation will be allowed for costs incurred by the Contractor due to coordinating with or delays caused by other projects.
a. Description.
This project is located on Paint Creek Trailway from the City of Rochester to the Village of Lake Orion in Oakland County, Michigan.

This project will be constructed under closed trailway and live roadway traffic. The project will have only minor temporary roadway delays for the movement of large trucks from Road Commission for Oakland County (RCOC) roads onto the Paint Creek Trailway. No work or materials are allowed to be staged with RCOC right of way. Areas have been identified in the plans for staging of equipment and materials. Should the contractor need additional staging areas, these shall be coordinated with the Owner and RCOC.

b. General
Traffic shall be maintained by the Contractor throughout the project as shown on the plans, attachments, and in accordance with Subsections 104.07, 104.11 and Section 812 of the Michigan Department of Transportation 2012 Standard Specifications for Construction, including any supplemental Specifications, and any special provisions in this proposal. All traffic devices and their usage shall conform to the Michigan Manual of Uniform Traffic Control Devices (MMUTCD), 2011 edition, as amended.

1. Notice of Traffic Control - The Contractor shall notify the Engineer, Oakland County, and the local police and emergency agencies, transit bus agencies, school bus agencies and cities a minimum of five business days prior to implementation of any detours, ramp closures, lane closures or major traffic shifts.

2. Coordination of Work - The Contractor shall coordinate this work with other Contractors, other Contractors performing work within or adjacent to the Construction Influence Area (CIA), to avoid conflicts in the maintenance of traffic, construction signing, and to provide for the orderly progress of contract work. Refer to the Notice to Bidders Project Coordination included with this proposal for more information regarding area projects, if any.

3. Road Maintenance – RCOC maintenance crews, City of Rochester, Charter Township of Oakland, Village of Lake Orion, or contract maintenance agencies may perform maintenance work within or adjacent to the Construction Influence Area (CIA). These agencies will coordinate their operations with the Engineer to minimize the interference to the Contractor. No additional payment will be made to the Contractor for the joint use of the traffic control items or for delays and/or inefficiencies resulting from maintenance activities.

4. To maintain the mobility of traffic and pedestrians, every attempt should be made to follow the maintaining traffic plans, maintaining traffic typicals, and specifications provided. Any change of, or variation from the maintaining traffic plan shall be approved by the Engineer prior to implementation.
c. **Construction Influence Area.**

In addition to the definition in the *MDOT Standard Specification for Construction* the Construction Influence Area (CIA) shall include the area within the road right-of-way, including intersecting roadways or ramps, to the limits of advanced construction signing, or any other signs that pertain to this location. In addition, the CIA includes the right-of-way of any designated detour route, intersecting road or ramp adjacent to the work zone as far as the construction detour signing extends.

d. **Traffic Restrictions**

This project shall be constructed under traffic and Contractors operations shall be limited by local municipality time and noise ordinances as stated in the Progress Clause.

1. **Access to Private Property**
   A. During Construction, access shall be maintained to all business and residential driveways at all times as defined by the Engineer.

2. **Lane Closures**
   A. Minimum lane widths shall be 11 feet unless otherwise indicated on the plans or approved by the Engineer.
   
   B. Once work is initiated which requires lane closures, the work shall be continuous until completed within the restricted hours. A lack of work activity for more than three (3) calendar days unless otherwise approved by the Engineer will require the removal and replacement of lane restrictions at the Contractor's expense.
   
   C. No lane closures or flagging sequences will be allowed where the Contractor is not working or can accomplish the work without a closure in the opinion of the Engineer. Lane closures and flagging operations will be allowed only in areas and situations deemed necessary by the Engineer. This lane closure prohibition or approval by Engineer includes brief closures for truck loading and unloading, dumping, etc. This project shall be constructed under traffic per the above-mentioned specifications and the maintaining traffic diagrams and notes on the Plans.
   
   D. No lane closures will be allowed at night and the Contractor shall have removed all lane closure devices from the traveled way so as to have all lanes open in each direction on all roads during the nights.
   
   E. **Orion Road, Silverbell Road, and Dutton Road** will remain open to two-way through traffic at all times during construction. Short duration large deliveries will be escorted as provided by the Oakland Township Police Department. The contractor shall coordinate with the Engineer 14 days prior to large deliveries in order to coordinate the escort.
   
   F. The Contractor will be required to provide plastic drums at pavement edge drop-offs to protect the traffic and the work as directed by the Engineer (generally at drop-off greater than 3 inches). Maintaining traffic, part width construction will not be paid for separately, but is included with the cost of traffic control and other items of work shown on the plans.

e. **Construction Sequencing**

1. The construction sequencing shall be as noted in the plans or as approved by the engineer prior to construction.
f. Pedestrian Access

1. No more than one sidewalk or non-motorized path on either side of the road shall be under construction at one time.

2. Pedestrian access to sidewalks shall be maintained as shown in the Pedestrian Access Plan located in the plans, if any. All temporary access routes shall comply with Americans with Disabilities Act (ADA) requirements. The cost of constructing ADA compliant temporary access routes shall be included in the cost of Other pay items


g. Traffic Control Devices

1. General

   A. All traffic control devices moved to facilitate the Contractor’s operation shall be reset by the end of the work day. The Contractor shall routinely maintain all traffic Control devices. Routine Maintenance includes, but not limited to, maintaining proper placement, replacing damaged devices and cleaning. The Contractor shall be responsible for reviewing the adequacy and maintenance of all traffic control devices at least once per day every day for the duration of this project. Weekly Service Reports shall be made available to the Engineer upon request for review and payment.

   B. All items used for maintaining traffic, which includes but are not limited to, temporary signs, plastic drums, and type III barricades, must meet the acceptable criteria as defined in the most current version of the American Traffic Safety Service Association (ATSSA publication), entitled “Quality Guidelines for Temporary Traffic Control Devices and Features” at the time of initial deployment and after each stage.

   C. All traffic control devices, except Portable Changeable Message Signs (PCMS) and lighted arrows, must be approved by FHWA and MDOT as meeting NCHRP 350 crashworthy requirements and meet acceptable criteria as defined in the current American Traffic Safety Service Association (ATSSA) publication entitled, Quality Guidelines for Traffic Control Devices and Features.

   D. The Contractor shall notify the Engineer at least 72 hours in advance of erection or removal of signs.

2. Signs

   A. Mount all temporary signs, regardless of size, that will be in place for more than 14 days on driven posts. Place ground driven sign systems as described in MDOT plan WZD-100 Series. Temporary signs less than or equal to a 20 square foot sign area that will be in place for less than or equal to 14 days may be mounted on driven posts or on portable systems with bases adequately sandbagged against overturning.


h. Contractor Responsibilities – Construction signing

1. All related construction signing, including advanced warning signing shall be provided, erected and maintained by the Contractor. The Contractor will be responsible for
providing and erecting all signs including trail closure devices/signing for maintaining traffic.

2. **Maintenance of Signs:** The Contractor shall maintain all signs and devices as directed by the Engineer (including but not limited to cleaning, re-erecting fallen signs and devices, replacing damaged or dead lamps, moving non-ground-inserted signs and devices, etc.). The Contractor shall reimburse RCOC for the cost of any and all temporary and or permanent traffic signs and or devices the Contractor may damage.

3. **Existing Signs and Devices:** Temporarily reset existing path signs as directed by the Engineer. Upon completion of the work that required the temporary relocation, replace or reset all such signs in their original locations as directed by the Engineer upon construction completion. The Contractor shall reimburse RCOC for the cost of any/all permanent traffic signs and/or RCOC owned devices the Contractor may damage. Payment is included with Minor Traffic Devices.

i. **Contract Adjustment - Signs**
Multiple mobilizations for both existing and temporary construction sign removals will be required and are included in the respective pay items.

Any temporary construction signs, and related appurtenances, pertaining and only relevant to a stage that has been completed, shall be removed by the Contractor on the day of the switch to the subsequent stage. This includes detour and road closure signs that no longer apply due to opening to traffic. Failure to do so will result in the Contractor being assessed a negative adjustment of $500 per calendar day for each day that those signs remain. These removals will not be paid for separately, and are included in the original items of work.

All temporary construction signs and related appurtenances shall be removed from the project no later than the date identified in the Progress Clause for the completion of the placement of final restoration items and/or when remaining items of work are minor and can be completed by the Contractor by daily construction zone signing, as determined by the Engineer. Failure to do so will result in the Contractor being assessed a negative adjustment of $500 per calendar day for each day that those signs remain.

Any permanent signs, and related appurtenances, designated by the Engineer as inappropriate for a stage, will be removed on the day of the switch to that stage. Failure to do so will result in the Contractor being assessed a negative adjustment of $500 per calendar day for each day that those signs remain. This work will be paid for as Miscellaneous, Remove & Salvage.

j. **Measurement and Payment.**
The estimate of quantities for maintaining traffic on this project is based on the suggested sequence of operations. Payment shall be in accordance with Sub-Section 812.04 of the 2012 Standard Specifications for Construction and any supplemental specifications, unless otherwise specified.

1. Payment for quantities used to maintain traffic will be based on the maximum number of units required by the Engineer at any one time for the entire project and have been estimated on the Project Plans.

2. Delays in construction and coordination of the operations due to traffic maintenance conflicts with other construction projects will be considered as a basis for extension of
contract time, but will not be considered a basis for extra compensation for suspensions of work, idled equipment, or labor.

3. Any signs desired by the Contractor that are approved by the Engineer but not required by the Engineer may be placed and removed by the Contractor at the Contractors expense.

4. Other traffic control items shown on plan to be provided by Contractor plus setting up and removing and/or moving these items to the side traveled way as necessary per plan each work day shall be paid for at the contract unit price for that item.

5. Additional special signs may be necessary; therefore, the quantity for Sign, Type B, Temp, Prismatic, Special, Furn (Sft); Sign, Type B, Temp, Prismatic, Special, Oper (Sft); has been increased for use as directed by the Engineer. Any unused quantity will not be paid for.

6. The cost of signs and other devices shown on plans to be provided by Contractor plus setting up and removing these signs as necessary per plan each work day is included in the contract unit prices for Sign, Type B, Temp, Prismatic, Furn (Sft); Sign, Type B, Temp, Prismatic, Oper (Sft); Sign, Type B, Temp, Prismatic, Special, Furn (Sft); Sign, Type B, Temp, Prismatic, Special, Oper (Sft); and Minor Traf Devices (Ls).

7. Additional quantities of Type III Barricades have been included for use at the discretion of the Engineer. Any unused quantity will not be paid for.

8. Any additional plastic drums required by the Engineer will be measured and paid for at the unit prices for Plastic Drum, High Intensity, Furn, and Plastic Drum, High Intensity, Oper.

9. Minor Traf Devices (Ls) is part of this contract and includes any traffic cones, lights, signs, sandbags, orange safety fencing, and/or channelizing devices other than plastic drums required by the Engineer.
PAINT CREEK TRAILWAY COMMISSION

SPECIAL PROVISION
FOR
PARKING BLOCK, REM

a. **Description.** The existing parking blocks shall be removed as shown on the plans and as specified in Section 204 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction except as modified herein.

b. **Materials.** Voids left after removing the blocks shall be filled with 23A aggregate compacted to 95% max density, in 6" maximum lifts up to the existing surface.

c. **Construction.** All existing parking blocks to be removed shall be paid for once as “Parking Block, Rem”, regardless of size or depth of the block. The Contractor shall entirely remove the block and any staking hardware.

Any voids left after removal of the block shall be backfilled with 23A Aggregate Surface Course and compacted.

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

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parking Block, Rem</td>
<td>Each</td>
</tr>
</tbody>
</table>

**Parking Block, Rem** will be paid at the contract unit price per each block removed, which shall be payment in full for all labor, materials, and equipment needed to accomplish this work. This work shall include removal of the block and any accessory hardware and the backfill of the resulting hole with 23A Aggregate to the existing surface.

Replacing the parking block will be paid for separately.
Description

This work consists of excavating the existing grade and preparing the subgrade in areas of new pathway in preparation for constructing the new pathway to the section identified in the Typical Sections in the plans and in accordance with the applicable provisions of Section 302 of the 2012 MDOT Standard Specifications.

Construction Methods

All existing vegetation, topsoil and deleterious material shall be removed from the entire width of the proposed aggregate base to a depth equal to the bottom of the aggregate base. Any unsuitable soil or material shall be removed the subgrade and replaced with acceptable material. The subgrade shall then be shaped and compacted to create a cross slope of between 1% and 2% and compacted to 95% maximum unit weight.

The Contractor will be responsible for providing dust control measures during the grading process. If using calcium chloride, as may be required by the Trail Commission, it shall not be admixed but shall be applied to the scarified surface in accordance with the applicable provisions of Section 812-04, Part 0 of the 2003 MDOT Standard Specification for “Dust Palliative, Applied (CaCl2)”

Basis of Payment

The completed work as measured for Shared use Path, Grading will be paid for at the contract unit price per Foot. Shared Use Path, Grading will include the excavation and removal of unsuitable material from the job site, grading to the correct cross section and applying dust control and compaction prior to applying the aggregate base. The unit price will also include grading and shaping any material to be wasted on site to create natural appearing topography prior to placing topsoil, seed and mulch. The contract pay item shall be payment in full or all materials, labor and equipment required to complete the work as specified.

Dust Control, if required, will not be paid for separately but will be included in the work for Shared Use Path, Grading. Slope Restoration will be paid for separately.
PAINT CREEK TRAILWAY COMMISSION

SPECIAL PROVISION

FOR

SHARED USE PATH, SCARIFY, GRADE AND COMPACT

Description

This work consists of scarifying the existing aggregate surface in preparation for blending with additional aggregate in accordance with the applicable provisions of Section 302 of the 2012 MDOT Standard Specifications.

Construction Methods

The existing aggregate surface shall be scarified to a depth of 2 inches. Any unsuitable soil or material, including material retained on a 3-inch sieve, shall be removed from the scarified surface and replaced with acceptable material. Clumps of bound surface material greater than 3 inches shall be broken down to create a loose, gravely surface. The final scarified surface shall be loose enough to ensure that newly placed aggregate can bind with the existing material to create a single, homogeneous aggregate layer when compacted. The existing aggregate and the new aggregate shall then be combined, graded, shaped, and compacted to 98% maximum density, to construct the aggregate course in conformance with the grades, lines, and typical cross-sections shown on the contract drawings.

The Contractor will be responsible for providing dust control measures during the scarifying process. If using calcium chloride, as may be required by the Trail Commission, it shall not be admixed but shall be applied to the scarified surface in accordance with the applicable provisions of Section 812-04, Part 0 of the 2003 MDOT Standard Specifications for “Dust Palliative, Applied (CaCl2)”

Basis of Payment

The completed work as measured for Shared use Path, Scarify, Grade and Compact will be paid for at the contract unit price per Station. Shared Use Path, Scarify, Grade and Compact will include the scarification of the existing trail surface, shattering surface clumps greater than 3”, new aggregate placed on the scarified surface, grading to the correct cross section and applying dust control and compaction prior to applying the surface course. The contract pay item shall be payment in full or all materials, labor and equipment required to complete the work as specified.

Calcium Chloride, if required, will not be paid for separately but will be included in the work for Shared Use Path, Scarify, Grade and Compact.
Description

This work consists of shaping and compacting the existing grade in areas of resurfacing existing trail not located within the limits of the old railway bed, to the section identified in the Typical Sections in the plans and in accordance with the applicable provisions of Section 302 of the 2012 MDOT Standard Specifications.

Construction Methods

All existing vegetation, topsoil and deleterious material shall be removed from the entire width of the existing trail. Any unsuitable soil or material shall be removed the subgrade and replaced with acceptable material. The surface shall then be shaped and compacted to create a cross slope of between 1% and 2% and compacted to 95% maximum unit weight.

The Contractor will be responsible for providing dust control measures during the grading process. If using calcium chloride, as may be required by the Trail Commission, it shall not be admixed but shall be applied to the scarified surface in accordance with the applicable provisions of Section 812 and 922.12 of the 2013 MDOT Standard Specification for “Dust Palliative, Applied”

Basis of Payment

The completed work as measured for Shared use Path, Surface Preparation will be paid for at the contract unit price per Station. Shared Use Path, Surface Preparation will include the excavation and removal of unsuitable material from the job site, grading to the correct cross section and applying dust control and compaction prior to applying the new aggregate surface course. The contract pay item shall be payment in full or all materials, labor and equipment required to complete the work as specified.

Dust Control, if required, will not be paid for separately but will be included in the work for Shared Use Path, Surface Preparation. Slope Restoration will be paid for separately.
a. **Description.** This work shall consist of furnishing, placing, grading and compacting an aggregate surface course on an existing scarified surface as shown in the contract drawings and as directed by the Engineer. The work shall be in accordance with the provisions of Section 306 of the 2012 MDOT Standard Specifications for Construction or as modified herein.

b. **Materials.** This work shall consist of furnishing limestone aggregate meeting the requirements of MDOT 23A material for existing parking lots in accordance with Section 902 of the 2012 Michigan Department of Transportation Standard Specifications for Construction.

All aggregate for Aggregate Surface Cse, Special shall be derived from natural stone formations. Stone is defined as rock that has been crushed; rock is defined as consolidated mineral matter. All components of the aggregate mix are to be derived from crushed rock material that meets specifications below for abrasion resistance, and free from contaminants.

Aggregate for Aggregate Surface Cse, Crushed HMA, Special shall be derived from crushed or milled HMA surface course. Additional fines may be added to meet the minimum requirements of 23A. The fines must be derived from natural crushed stone, however. Plastic fines will not be allowed.

c. **Construction.** The Contractor shall first remove all bollards and parking bumpers that may be in conflict with the work. The Contractor shall then scarify the surface of the existing parking lot to a depth of 6 inches, shape and re-compact the surface. The Contractor shall then spread 4 inches of new 23A Aggregates, shape and compact it to 95% max unit weight using MDOT approved methods.

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

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregate Surface Cse, Special</td>
<td>Ton</td>
</tr>
<tr>
<td>Aggregate Surface Cse, Crushed HMA, Special</td>
<td>Ton</td>
</tr>
</tbody>
</table>

**Aggregate Surface Cse, Special** and **Aggregate Surface Cse, Crushed HMA, Special** will be paid at the contract unit price per Ton. The item includes furnishing all materials, labor and equipment for scarifying, grading, compacting the existing surface and placing, grading and compacting the aggregate surface course to the line and grade shown on the contract drawings and as directed by the Engineer.

**Bollard, Rem; Bollard; Parking Block, Rem; Parking Block** and **Slope Restoration, Modified** will each be measured and paid for separately.
a. Description. This work shall consist of furnishing, placing, grading and compacting an aggregate surface course on a prepared subgrade or existing scarified surface as shown in the contract drawings and as directed by the Engineer. The work shall be in accordance with the provisions of Section 306 of the 2012 MDOT Standard Specifications for Construction or as modified herein.

b. Materials. This work shall consist of furnishing limestone aggregate (for Shared Use Path, Aggregate) or crushed HMA aggregate (for Shared Use Path, Crushed HMA) for the trail in accordance with Section 902 of the 2012 Michigan Department of Transportation Standard Specifications for Construction, except as herein provided.

All aggregate for Shared Use Path, Aggregate shall be derived from natural stone formations. Stone is defined as rock that has been crushed; rock is defined as consolidated mineral matter. All components of the aggregate mix are to be derived from crushed rock material that meets specifications below for abrasion resistance, and free from contaminants.

The fines for Shared Use Path, Aggregate passing the #200 sieve must be rock material. No crushed concrete, clay or silt soil may be added. Limestone material passing the #200 sieve may be used to make up a deficit in the distribution of sandstone aggregate rock, and vice versa. All added material passing the #200 sieve must be derived from rock material that conforms to MDOT Standard Specifications. Lime kiln dust and cement kiln dust may be added to the Shared Use Path, Aggregate to account for up to 50% of the fines passing the #200 sieve.

The amount of particles passing the #200 sieve shall be determined using the washing procedures specified in MTM 108.

The acceptable limit as measured by weight loss is “less than 40% loss”. Los Angeles Abrasion test, MTM102 shall be used to determine this property. Existing data obtained from tests made for and approved by MDOT will be accepted.

Material is to be delivered and placed at optimum moisture content +/- 1% as determined for that particular source. The optimum percentage moisture is to be determined using one point Michigan Cone Test Method described in the MDOT Density Control Handbook.

The material for Shared Use Path, Aggregate shall meet the following gradation criteria:

<table>
<thead>
<tr>
<th>Sieve (U.S. Standard)</th>
<th>Percent passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8 inch</td>
<td>100</td>
</tr>
<tr>
<td>No. 4</td>
<td>70-90</td>
</tr>
<tr>
<td>No. 40</td>
<td>20-50</td>
</tr>
<tr>
<td>No. 200</td>
<td>10-20</td>
</tr>
</tbody>
</table>
All aggregate for Shared Use Path, Crushed HMA must be derived from HMA millings.

The material for Shared Use Path, Crushed HMA shall meet the gradation criteria for MDOT 23A Aggregate with the following exceptions: The material must contain a minimum of 15-25 percent material passing the number 200 sieve. Up to 50% of the fines passing the #200 sieve may be derived from natural crushed rock material or lime kiln dust or cement kiln dust.

The contractor shall prepare a sample mix for review and approval prior to delivery.

c. Construction. The subgrade and/or existing trail surface shall be established so that the compacted depth of the aggregate surface course is of the minimum thickness and cross-section as shown on the contract drawings.

The material is to be spread either with a paver or with another Engineer approved process that limits consolidation of the aggregate material. The Contractor is to take care not to overwork the surface aggregate to ensure that the aggregate remains well mixed. The material shall be at the optimum moisture content for proper compaction. If the aggregate sticks to the drum (a sign that moisture content is too high), compaction shall be suspended to allow the material to dry further.

The surface is to be compacted with a minimum 3 ton vibratory roller. The first rolling pass is to be performed with the roller in static mode to avoid consolidation of the surface aggregate material. After the first pass with the roller, additional pass(es) shall be made with the vibration on.

The aggregate surface course shall be compacted to not less than 95% of the maximum unit weight.

Tarps are to be used to cover 100% of the load’s exposed surface from the time of loading until immediately before dumping. This requirement includes standing time waiting to dump.

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

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shared Use Path, Aggregate</td>
<td>Ton</td>
</tr>
<tr>
<td>Shared Use Path, Crushed HMA</td>
<td>Ton</td>
</tr>
</tbody>
</table>

Shared Use Path, Aggregate and Shared Use Path, Crushed HMA will be paid at the contract unit price per Ton. The item includes furnishing all materials, labor and equipment for placing, grading and compacting the aggregate surface course to the line and grade shown on the contract drawings and as directed by the Engineer.
a. **Description.** The work includes trail edge erosion control structure consisting of a log barrier as identified in the plans and per Division 7 and Section 709 of the 2012 Michigan Department of Transportation Standard Specifications for Construction.

b. **Materials.** Logs shall be White Oak with the bark remaining on the logs, shall be a minimum of 12 ft. long, and shall have a minimum diameter of 18". The logs shall be cut square at each end.

c. **Construction.** Permanent log barrier shall be constructed per the details identified in the plans.

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

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erosion Control. Permanent, Log Barrier</td>
<td>Ft</td>
</tr>
</tbody>
</table>

**Erosion Control, Permanent, Log Barrier** will be paid at the contract unit price per foot, which shall be payment in full for all labor, materials, and equipment needed to accomplish this work. This work shall include all excavation, disposal of excavated materials, furnishing and installing logs and all incidentals as necessary and as required to perform this work as specified herein and as shown on the plans.
SPECIAL PROVISION
FOR
RETAINING WALL

MSG: KCM 1 of 1 03/15/19

a. **Description.** The work includes trail edge short retaining walls as identified in the plans and per Division 7 and Section 709 of the 2012 Michigan Department of Transportation Standard Specifications for Construction.

b. **Materials.** Voids around the retaining wall shall be filled with 21AA aggregate compacted to 95% max density, in 6” maximum lifts up to the bottom of the proposed surface aggregate.

Timber shall meet the requirements of Section 912 and shall be treated to ground contact requirements as stated in section 912.05.

Space around the proposed retaining wall shall be backfilled in 6” lifts and compacted with 21AA limestone aggregate.

c. **Construction.** Retaining wall shall be constructed per the details identified in the plans.

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

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retaining Wall, Rem</td>
<td>Lump Sum</td>
</tr>
<tr>
<td>Retaining Wall</td>
<td>Lump Sum</td>
</tr>
</tbody>
</table>

**Retaining Wall, Rem** will be paid at the contract unit price per each retaining wall removed, which shall be payment in full for all labor, materials, and equipment needed to accomplish this work. Also included is the excavation and disposal of any unsuitable soil to complete the work.

**Retaining Wall** will be paid at the contract unit price per each wall, which shall be payment in full for all labor, materials, and equipment needed to accomplish this work. This work shall include all excavation, accessory hardware, geotextile, aggregate backfill, timber, connection hardware and inlets as specified in the detail on the plans.

Slope Restoration and Surface Aggregate will be paid for separately.
a. **Description.** The work includes trail edge drainage inlets and earth retention as identified in the plans and per Division 4 and Section 709 of the 2012 Michigan Department of Transportation Standard Specifications for Construction.

b. **Materials.** Voids around the drainage inlet and pipe and behind the earth retention shall be filled with 21AA aggregate compacted to 95% max density, in 6” maximum lifts up to the bottom of the proposed surface aggregate.

Timber shall meet the requirements of Section 912 and shall be treated to ground contact requirements as stated in section 912.05.

Space around the proposed drainage inlets shall be backfilled in 6” lifts and compacted with 21AA limestone aggregate.

c. **Construction.** Drainage inlets and earth retention shall be constructed per the details identified in the plans.

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

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trail Edge Drainage Inlet, Rem</td>
<td>Each</td>
</tr>
<tr>
<td>Trail Edge Drainage Inlet, Special</td>
<td>Each</td>
</tr>
</tbody>
</table>

**Trail Edge Drainage Inlet, Remove** will be paid at the contract unit price per each inlet and timber headwall removed, which shall be payment in full for all labor, materials, and equipment needed to accomplish this work. Also included is the excavation and disposal of any unsuitable soil to complete the work.

**Trail Edge Drainage Inlet, Special** will be paid at the contract unit price per each inlet, which shall be payment in full for all labor, materials, and equipment needed to accomplish this work. This work shall include any excavation, accessory hardware, geotextile, aggregate backfill, timber, connection hardware, inlets, fittings, grading, pipe, and all appurtenances as specified on the plans.

Slope Restoration and Surface Aggregate will be paid for separately.
a. **Description.** This work consists of designing, furnishing, fabricating, installing structural timber, lumber, hardware, foundations, reinforcing steel, stone backfill, and other materials and incidentals, shop drawing and design calculation preparation and submittal, and product data sheets as required for the construction of the observation deck as described herein and as shown on in the contract drawing.

b. **Materials.** All materials shall be in accordance with 2012 Standard Specifications for Construction unless modified by this special provision or otherwise directed by the Engineer.

1. Provide shop drawings of the observation deck showing dimensions, member sizes, foundation number, size, and depth, reinforcing steel, connections, and all other pertinent information for review and approval by Engineer. Allow 14 days for review.

2. Provide signed and sealed design calculations for review by the Engineer. Allow 14 days for review.

3. Timber shall meet the requirements of Section 912.

4. Concrete shall be MDOT Substructure Concrete.

5. Miscellaneous metals and hardware shall meet requirements of Section 908.

6. All timber shall be treated per Section 912.

7. Reinforcement shall be epoxy coated and shall meet requirements of Section 905.

8. Foundations shall be reinforced concrete shafts, steel helical anchors, or other deep foundations as approved by the Engineer.

c. **Construction.** Construction methods must be in accordance with subsection 709.03 of the Standard Specifications for Construction.

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

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observation Deck</td>
<td>Lump Sum</td>
</tr>
</tbody>
</table>

**Observation Deck** Includes all labor, equipment and materials required to design and construct the observation deck including timber, lumber, bolts, washers, nuts, connectors, connector plates, and foundations, reinforcing steel, stone backfill, shop drawing and design calculation preparation and submittals, which will not be paid for separately but is included in the contract unit price for **Observation Deck**.
a. **Description.** The work includes split rail fence as identified in the plans and per Division 7 and Section 709 of the 2012 Michigan Department of Transportation Standard Specifications for Construction.

b. **Materials.** Voids around intermediate posts shall be filled with 21AA aggregate compacted to 95% max density, in 6” maximum lifts up to the bottom of the proposed surface aggregate.

   Timber shall meet the requirements of section 912 and shall be treated to ground contact requirements as stated in section 912.05.

   Posts shall be 18” girth (approximately 25 square inches). 2-rail posts shall be approximately 64” in height. 3-rail posts shall be approximately 78” in height. Posts shall be buried 30” into ground.

   3-rail or 2-rail "American Style" split rail system shall be used.

c. **Construction.** Split Rail Fence shall be constructed per the details identified in the plans and as shown herein.

   Corner or end posts require 12” diameter concrete footings extending at least 24” into undisturbed natural ground or properly compacted fill.

   Typical split rail fence installation can be found in Figure 1 and 2 at the end of this specification section.

   Installation of fence shall be as per fence manufacturer's recommendations.

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

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Split Rail Fence, Rem</td>
<td>Ft</td>
</tr>
<tr>
<td>Split Rail Fence</td>
<td>Ft</td>
</tr>
</tbody>
</table>

   **Split Rail Fence, Rem** will be paid at the contract unit price per each foot of fence removed, which shall be payment in full for all labor, materials, and equipment needed to accomplish this work. Also included is the excavation and disposal of any unsuitable soil to complete the work.

   **Split Rail Fence** will be paid at the contract unit price per each fence, which shall be payment in full for all labor, materials, and equipment needed to accomplish this work. This work shall
include all excavation, accessory hardware, aggregate and concrete backfill, timber, connection hardware as specified in the detail on the plans.

Slope Restoration and Surface Aggregate will be paid for separately.

**FIGURE 1 - 3-rail Split Rail Fence Detail.**
(Source: CFC Fences & Decks)

**FIGURE 2 - 2-rail Split Rail Fence Detail.**
(Source: CFC Fences & Decks)
**SPECIAL PROVISION**  
**FOR**  
**STEPS**

MSG: CWE  
1 of 2  
04/22/19

---

**a. Description.** The work includes trail steps as identified in the plans and per Division 7 and Section 709 of the 2012 Michigan Department of Transportation Standard Specifications for Construction.

**b. Materials.** Voids around the steps shall be filled with 21AA aggregate compacted to 95% max density, in 6” maximum lifts up to the bottom of the proposed surface aggregate.

Timber shall meet the requirements of Section 912 and shall be treated to ground contact requirements as stated in section 912.05.

Timber handrail posts shall be 6x6 S4S radius edge cedar.

Timber handrail shall be 2x6 S4S premium radius edge cedar. Timber handrail shall be placed parallel to the stair treads on both sides of the steps and the top of the 2x6 shall be 36” above the stair treads.

Handrail fasteners shall be ¾ inch diameter dome head timber bolts with flatwashers, split ring lock washers and heavy hex head nuts. All hardware shall be hot dip galvanized.

Space around the proposed steps shall be backfilled in 6” lifts and compacted with 21AA limestone aggregate.

**c. Construction.** Steps shall be constructed per the details identified in the plans. Steps shall have uniform rise and run. Work shall include installation of timber handrail and posts on both sides of steps. The top step shall be level with the finished trail surface. The bottom step shall be level with the finished grade.

Handrail posts shall be set in 12” diameter drilled holes and shall extend 4 ft. below finished grade. A minimum of three post shall be installed plumb and at equal spaces on each side of the steps. Space around the handrail posts shall be filled with pea gravel. All surfaces of the handrail and posts shall be sanded smooth and free of sharp edges and fins.

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

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steps, Rem</td>
<td>Lump Sum</td>
</tr>
<tr>
<td>Steps</td>
<td>Lump Sum</td>
</tr>
</tbody>
</table>
**Steps, Rem** will be paid at the contract unit price per removal of each compete series of steps from top to bottom, and handrail and posts removed which shall be payment in full for all labor, materials, and equipment needed to accomplish this work. Also included is the excavation and disposal of any unsuitable soil to complete the work.

**Steps** will be paid at the contract unit price per each competed series of steps from top to bottom, which shall be payment in full for all labor, materials, and equipment needed to accomplish this work. This work shall include all excavation, accessory hardware, geotextile, aggregate backfill, timber, connection hardware as specified herein and as shown on the plans.

Slope Restoration and Surface Aggregate will be paid for separately.
a. Description. This work consists of producing shop drawings, fabricating, furnishing, delivery to the site and installation of all timber members and required hardware for the Timber Approach Rail. Ensure all work is performed in accordance with section 709 of the Michigan Department of Transportation (MDOT) Standard Specifications for Construction, including any supplemental specifications, except as modified herein.

b. Materials. Provide materials in accordance with subsection 709.02 of the Standard Specifications for Construction, and as detailed on the plans and listed below:

1. Lumber. All lumber must be dressed S4S (surfaced four sides) in accordance with ASTM D 245. All lumber sizes are nominal.

Pressure treat all timber material with Ammoniacal Copper Quat (ACQ) or Copper Azole (CA) to the preservative retention listed in AWPA U1 Commodity Specification F, Table 3.3B, use category 4A for ground contact. Treat all glu-lam members prior to gluing.

Comply with ‘Best Management Practices for the Use of Preservative-Treated Wood in Aquatic Environments in Michigan’, except as modified herein. Preservative treatments and treated timber materials must comply with the following AWPA standards:

Commodities
Sawn Products U1 Commodity Specification A

Processing and Treatment Standard
Sawn Products T1 Section A

Preservatives
ACQ or CA U1 Table 1 P Standard Reference

Incorporate techniques into the treating process to minimize the amount of residual treatment on the surface of treated timber members, and to avoid excessively high retentions. To assure that treated timber members are not treated to excessively high retentions, do not exceed 150 percent of the AWPA specified minimums.

Subject preservative treated members to specific fixation processes. Specific fixation processes include air seasoning, kiln drying, steaming, or hot water baths. Dry preservative treated materials to a moisture content of 19 percent or less before shipping.

Inspect the preservative treatment process per AWPA M2. Provide all required inspections and tests at the treatment plant.
In addition to the certifications required by the MDOT 2012 Standard Specifications for Construction, submit the following certifications in accordance with section 3.01 of the Materials Quality Assurance Procedures Manual (MQAPM) and reports demonstrating compliance with preservative treatment specifications:

A. Test Data Certification that treatment and post treatment processes meet the requirements of this special provision.

B. The final inspection report per AWPA M2, Part A, Section 6, including a statement by the inspector that any materials or work not conforming with these specification requirements has been rejected.

C. Test Data Certification that the material moisture contents have been tested and found to comply with specification requirements.

Furnish all treatment certifications for approval of the Engineer prior to shipping. Approval of the certifications does not constitute final acceptance. All exposed edges shall be free from splinters and sharp edges.

2. Hardware. Provide all hardware and accessories required to properly and completely execute the carpentry for this project, including, but not limited to: screws, bolts, nuts, washers, straps, and similar items, whether specifically mentioned herein or not.

A. Fasteners. Regular carriage bolt and socket button head screw hot dipped galvanized ASTM A307 steel bolts, nuts shall conform to ASTM A563 Grade A and shall be hot dip galvanized. Washers shall conform to ASTM F436 Type 1 and shall be hot dip galvanized. Split ring lock washers shall conform to ANSI B18.21.1 1999 and shall be hot dip galvanized. Nails and Wood Screws shall be hot dip galvanized.

B. Screws. Hot dipped galvanized, ASTM A 653, batch or post-dipped process, with a minimum coating thickness of 1.85 ounces of Zinc per square foot of surface area (G185), of type and size indicated on the contract plans.

C. Submittals. Product data conforming to the materials listed above.

c. Construction. Construct Timber Approach Rail in accordance with subsection 709.03 of the Standard Specifications for Construction, the details on the plans, and as directed herein.

Meet the recommendations of the AITC for the diameter and depth of holes in timber members, for drift pins, drive spikes, bolts, and lag bolts.

Prior to treatment, perform all drilling, cutting, and fabricating of timber members, unless otherwise noted on the plans or approved by the Engineer. Field treat any members drilled, cut or fabricated after treatment per subsection 709.03.C.5 of the Standard Specifications for Construction.

Electronically submit shop drawings for approval, prior to fabrication of all timber materials.
d. Measurement and Payment. The completed work, as described, will be measured as a
lump sum and paid for at the contract unit price using the following pay item:

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timber Approach Rail, Rem</td>
<td>Foot</td>
</tr>
<tr>
<td>Timber Approach Rail</td>
<td>Foot</td>
</tr>
</tbody>
</table>

Timber Approach Rail, Remove shall be paid for at the contract unit price for each foot
measured to the end of the railing face and includes all equipment, labor, and materials required
to remove the existing timber approach rails, posts and foundations.

Timber Approach Rail shall be paid for at the contract unit price for each foot measured to the
end of the railing face and includes all equipment, labor, and materials required to complete
foundations, posts, and rails, as well as all excavation, backfill, miscellaneous steel, hardware,
concrete, and accessories. No compensation will be considered for delays due to the submittal
and approval process, or arising from rejection of components.
a. **Description.** The work includes constructing new wooden bollards to replace existing bollards per Section 709 and 807 of the 2012 Michigan Department of Transportation Standard Specifications for Construction.

b. **Materials.** Voids around the bollards shall be filled with 21AA aggregate compacted to 95% max density, in 6” maximum lifts up to the bottom of the proposed surface aggregate.

Timber shall meet the requirements of Section 912 and shall be treated to ground contact requirements as stated in section 912.05. Any field cuts or drilled holes shall be treated per section 709.C.5.

Bollards shall be constructed of nominal 8"x6" Timbers, 7'-6" long, with 36” exposed above grade. The top of the timbers shall be sawn as shown on the plans and field treated with preservative. The top 8" of the bollard shall be coated with safety yellow exterior grade paint.

Install 6"x12" OM3-C Object markers (MDOT Type IIIB per section 919) on the two faces of bollards facing trail traffic using 4 – 3” galvanized steel deck screws through holes drilled in the sign boards.

c. **Construction.** Bollards shall be installed in augered holes per section 807 of the Standard Specifications.

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

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bollard, Rem.</td>
<td>Each</td>
</tr>
<tr>
<td>Bollard</td>
<td>Each</td>
</tr>
</tbody>
</table>

**Bollard, Rem** will be paid at the contract unit price per each bollard removed, which shall be payment in full for all labor, materials, and equipment needed to accomplish this work. Also included is the excavation and disposal of material to complete the work.

**Bollard** will be paid at the contract unit price per each bollard, which shall be payment in full for all labor, materials, and equipment needed to accomplish this work. This work shall include any excavation, accessory hardware, aggregate backfill, timber, treatment, signs and connection hardware.

Surface Aggregate will be paid for separately.
a. **Description.** The work includes constructing new timber bumper blocks to replace existing bumper blocks per the 2012 Michigan Department of Transportation Standard Specifications for Construction.

b. **Materials.** Voids around the bollards shall be filled with 23A aggregate compacted to 95% max density, in 6” maximum lifts up to the bottom of the proposed surface aggregate.

Parking bumpers shall be constructed of rough sawn nominal 6”x8”x8 feet long landscape timbers. Timber shall meet the requirements of section 912 and shall be treated to ground contact requirements as stated in section 912.05. Any field cuts or drilled holes shall be treated per section 709.C.5.

Anchoring rebar shall be grade 60 steel epoxy coated deformed number 4 bars, 24 inches long.

c. **Construction.** Parking bumpers shall be constructed of nominal 8”x6” Timbers, 8 feet long laid flat on grade (8” wide, 6” tall). Contractor shall install compacted 23A aggregate in order to eliminate any voids under the bumper block.

Bumpers shall be anchored to the ground with three (3) driven 24 inch long #4 deformed steel bars, epoxy coated. The bars shall be driven through pre-drilled ½” diameter holes spaced at 1’ from each end and one in the middle of the timber. Drilled holes shall be field treated per section 912.05 and prior to installing the anchors.

Locations for installation of bumper blocks shall be marked in the field by the Engineer.

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

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parking Block, Timber</td>
<td>Each</td>
</tr>
</tbody>
</table>

**Parking Block, Timber** will be paid at the contract unit price per each parking block, which shall be payment in full for all labor, materials, and equipment needed to accomplish this work. This work shall include any excavation, accessory hardware, aggregate backfill, timber, treatment, and anchoring hardware.

Surface Aggregate will be paid for separately.
SPECIAL PROVISION
FOR
REMOVABLE BOLLARD

a. **Description.** The work includes constructing new removable wooden bollard to replace existing removable bollard per section 701, 706, and 807 of the 2012 Michigan Department of Transportation Standard Specifications for Construction.

b. **Materials.** Bollards foundations shall be constructed as shown on the plans. Concrete shall meet the requirements of Section 701 of the MDOT Standard Specifications for Class D concrete. Reinforcing steel shall be epoxy coated and meet the requirements of Section 905 of the MDOT Standard Specifications. Structural steel shall meet the requirements of Section 906, shall be AASHTO M270 Grade 36 material, and shall be hot dip galvanized after fabrication.

Timber shall meet the requirements of section 912 and shall be treated to ground contact requirements as stated in section 912.05.

Bollards shall be constructed of nominal 8”x6” Timbers, 7’-6” long, with 36” exposed above grade. The top of the timbers shall be sawn as shown in the plans and field treated with preservative. The top 8” of the bollard shall be coated with safety yellow exterior grade paint.

Install 6”x12” OM3-C Object markers (MDOT Type IIIB per section 919) on the two faces of bollards facing trail traffic using 4 – 3” galvanized steel deck screws through holes drilled in the sign boards.

c. **Construction.** Bollards shall be installed in augured holes per section 807 of the Standard Specifications. The augured holes shall have 6 inched of aggregate at the base, reinforcing steel, and galvanized structural steel sleeve as shown on the plans. The space between the structural steel sleeve and the augured hole shall be filled with concrete.

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

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Removable Bollard, Rem</td>
<td>Each</td>
</tr>
<tr>
<td>Removable Bollard</td>
<td>Each</td>
</tr>
</tbody>
</table>

**Removable Bollard, Rem** will be paid at the contract unit price per each removable bollard removed, which shall be payment in full for all labor, materials, and equipment needed to accomplish this work. Also included is the excavation and disposal of material to complete the work.

**Removable Bollard** will be paid at the contract unit price per each bollard, which shall be payment in full for all labor, materials, and equipment needed to accomplish this work. This
work shall include any excavation, accessory hardware, concrete, structural steel, reinforcing steel, timber, treatment, signs and connection hardware.

Surface Aggregate will be paid for separately.
a. **Description.** The work includes trail edge rock drain as identified in the plans and per Division 8 and Section 813 of the 2012 Michigan Department of Transportation Standard Specifications for Construction.

b. **Materials.** Rock drain aggregate shall consist of MDOT 34G aggregate per Section 902 of the MDOT Standard Specifications for Construction.

   Geofabric shall consist of non woven geotextile separator per Section 810 of the MDOT Standard Specifications for Construction.

c. **Construction.** Rock drain shall be constructed at the locations and per the details as shown on the plans.

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

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rock Drain</td>
<td>Square Yard</td>
</tr>
</tbody>
</table>

**Rock Drain** will be paid at the contract unit price per Square Yard, which shall be payment in full for all labor, materials, and equipment needed to accomplish this work. This work shall include any excavation, backfill, compaction, hardware, geotextile, aggregate backfill, and all appurtenances as specified on the plans.

Slope Restoration and Surface Aggregate will be paid for separately.
a. Description. This work consists of furnishing and installing a wetland seed mixture at the locations shown on the plans and in accordance with Section 816 (Turf Establishment) of the 2012 MDOT Standard Specifications for Construction, except as modified herein or otherwise directed by the Engineer. The seeding mix will be utilized to restore roadside embankment slopes adjacent to wetland areas with mature Michigan meadow vegetation (grasses & wildflowers). Seeding shall be performed by a personnel that has experience with native seed installation.

b. Materials. The mixture proportion of the seed mixture shall be accomplished by using certified seed from local origin. Supply seed in durable bags, with a tag marked by the manufacturer and supplier of the blended mix showing the species and variety name, lot number, net weight of contents, purity, and germination.

Seed shall be from a MNPPA member nursery or native plant nursery that meets seed provenance requirements. Seed provenance (original location of wild seed harvest) shall be within 150 miles north or south of Rochester, MI and 250 miles east or west. Seed shall be Pure Live Seed (PLS), and certified weed free.

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Latin Name</th>
<th>Minimum Purity (%)</th>
<th>Germination (%)</th>
<th>Percent of Mix</th>
<th>PLS Ounce/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big Bluestem Grass</td>
<td>Andropogon gerardii</td>
<td>90</td>
<td>85</td>
<td>9.21%</td>
<td>24</td>
</tr>
<tr>
<td>Fox Sedge</td>
<td>Carex vulpinoidea</td>
<td>90</td>
<td>85</td>
<td>6.14%</td>
<td>16</td>
</tr>
<tr>
<td>Canada Wildrye</td>
<td>Elymus canadensis</td>
<td>90</td>
<td>85</td>
<td>12.28%</td>
<td>32</td>
</tr>
<tr>
<td>Riverbank Wildrye</td>
<td>Elymus riparius</td>
<td>90</td>
<td>85</td>
<td>15.36%</td>
<td>40</td>
</tr>
<tr>
<td>Virginia Wildrye</td>
<td>Elymus virginicus</td>
<td>90</td>
<td>85</td>
<td>18.43%</td>
<td>48</td>
</tr>
<tr>
<td>Little Bluestem</td>
<td>Schizachyrium scoparius</td>
<td>90</td>
<td>85</td>
<td>18.43%</td>
<td>48</td>
</tr>
<tr>
<td>Indiangrass</td>
<td>Sorghastrum nutans</td>
<td>90</td>
<td>85</td>
<td>7.68%</td>
<td>20</td>
</tr>
<tr>
<td>Smooth Aster</td>
<td>Aster laevis</td>
<td>90</td>
<td>85</td>
<td>1.15%</td>
<td>3</td>
</tr>
<tr>
<td>Wild Bergamot</td>
<td>Monarda fistulosa</td>
<td>90</td>
<td>85</td>
<td>0.96%</td>
<td>2.5</td>
</tr>
<tr>
<td>Common Evening Primrose</td>
<td>Oenothera biennis</td>
<td>90</td>
<td>85</td>
<td>0.38%</td>
<td>1</td>
</tr>
<tr>
<td>Black-eyed Susan</td>
<td>Rudbeckia hirta</td>
<td>90</td>
<td>85</td>
<td>6.14%</td>
<td>16</td>
</tr>
<tr>
<td>Showy Goldenrod</td>
<td>Solidago speciosa</td>
<td>90</td>
<td>85</td>
<td>0.77%</td>
<td>2</td>
</tr>
<tr>
<td>Butterfly Milkweed</td>
<td>Asclepias tuberosa</td>
<td>90</td>
<td>85</td>
<td>3.07%</td>
<td>8</td>
</tr>
<tr>
<td>Totals:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grasses:</td>
<td></td>
<td>87.52%</td>
<td></td>
<td>228</td>
<td></td>
</tr>
<tr>
<td>Forbs:</td>
<td></td>
<td>12.48%</td>
<td>32.5</td>
<td>32.5</td>
<td></td>
</tr>
<tr>
<td>Total:</td>
<td></td>
<td>100%</td>
<td>260.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
c. **Construction.** The seed should be kept cold and dry until used. Seeding can occur within seasonal limitations, as long as the ground is unfrozen. Seed should ideally be sown in the fall to allow a cold-moist stratification period and allow the free-thaw action of the soil to promote seed-soil contact. Planting shall be performed only by experienced workmen familiar with planting procedures under the supervision of a qualified supervisor.

Seeding shall be performed by a professional that has experience with native seed installation. The professional that has experienced with native seed installation shall submit a resume for review and approval prior to performing the seeding operation. The resume shall include three other successful projects completed by the professional with references.

The Contractor shall remove from the site all existing weeds and non-native vegetation. During placing seed and initial germination, soil surface shall be loose to promote seed soil contact. Removal shall be performed only by experienced workmen familiar with the removal of non-native vegetation procedures under the supervision of a qualified supervisor.

The seed can be drill-seeded, or broadcast and raked. Contractor shall sow all seed at a depth of 1/8 inch to ensure good contact with soil. Hydroseed is not an appropriate method for installing native seed.

All upper bank areas and areas between bank stabilization treatments that have been disturbed during construction activities shall be final graded and shall have raked in seed with a layer of approved mulch. They shall drain properly and shall not drain over the bank indiscriminately. All disturbed residential areas shall be restored with grade A sod.

Washouts that occur within the onsite construction time period shall be repaired within 48 hours after occurrence, subject to approval by the Landscape Architect. All soil or live system losses shall be repaired. In linear systems, open spaces greater than two feet shall be repaired as directed in the field.

d. **Measurement and Payment.** No payment included with this Special Provision. The completed work, as described, will be considered included with **Slope Restoration, Modified** for payment.
a. **Description.** The work of Slope Restoration, Modified shall consist of preparation of areas to be seeded, application of weed control, placing topsoil, seeding, fertilizing, furnishing and placing paperfiber mulch on areas of flat ground and furnishing and placing high velocity mulch blankets along embankments, and watering in areas shown on the typical cross section in accordance with Section 816 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, Standard Plan R-100-Series, and as directed by the Engineer.

b. **Materials.** All materials shall meet the requirements specified in Section 816 and 917 of the MDOT 2012 Standard Specifications for Construction, except as modified by this Special Provision below:

1. **Seed.** The following seed mixtures shall be utilized for this project:
   a. Areas within 2 feet of the trail edge or areas not adjacent to the Paint Creek shall be seeded with MDOT turf seed mixture THV.
   b. For areas outside 2 feet of the trail edge, adjacent to the Paint Creek, see the Special Provision for **SEEDING, PAINT CREEK MIXTURE** for seed mixture and special requirements.

2. **Erosion Control Blanket/Turf Mulch Blanket (both two-sided and single sided).** The Erosion Control Blanket/Turf Mulch Blanket shall have biodegradable jute netting without “UV degrader additive”. A product on the MDOT Qualified Product List that meets this criteria shall be utilized on this project.

3. **Mulch Binders.** Mulch approved for use are Paperfiber Mulch Binders as listed on the MDOT Qualified Product List.

4. **Weed Control.** The contractor shall utilize aquatic-approved formulations of glyphosate such as to following products:
   a. Dow AgroSciences – Rodeo Herbicide,
   b. Nufarm US - AquaNeat, and
   c. Aquacide - ShoreKlear.
   d. or an approved equivalent

**c. Construction Methods.** The Contractor shall restore all areas as described in Subsections 816.03 of the MDOT 2012 Standard Specifications for Construction. Materials shall be placed at rates described therein, or as directed by the Engineer.

In addition to using net anchors, mulch blankets adjacent to the path and road shall be trenched into the ground at top of slopes, as approved by the Engineer.

Topsoil thickness shall be a minimum of 3 inches. In the event that sufficient suitable topsoil as approved by the Engineer is not available from excavated material, the Contractor shall furnish additional material as part of the Slope Restoration, Modified bid item. All other
items will meet or exceed the rate called for in Section 816 of the MDOT 2012 Standard Specifications for Construction.

Weed control shall be performed in accordance with Section 816.03.J of the MDOT 2012 Standard Specifications for Construction.

Hydroseeding shall not be performed when sowing SEEDING, PAINT CREEK MIXTURE.

Planting grass shall not occur after September 30th.

The contractor shall be responsible for removing all silt fence upon completion of the project. Silt fences are well-known to impede movement of amphibians and reptiles.

d. Measurement and Payment. Slope Restoration, Modified will be measured and paid for per Square Yard. Grading, Topsoil Surface, 3", Seeding (mix specified herein), Fertilizer, furnishing and placing paperfiber mulch on areas of flat ground and furnishing and placing high velocity mulch blankets along embankments, and watering shall be used and will be considered as included in the pay item Slope Restoration, Modified. No separate payment will be made for these various items of work.

The completed work for Slope Restoration, Modified will be measured per Square Yard and paid for at the contract unit price for the following contract item (pay item), which shall be payment in full for all labor, equipment, and materials required:

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slope Restoration, Modified</td>
<td>SYD</td>
</tr>
</tbody>
</table>

Applications for payment for the work, Slope Restoration, Modified, will be made by the Engineer as follows: Upon completion of the contract item, payment shall be made for 50% of the contract item quantity. After the seed germinates and the Engineer is satisfied that the amount and area of the grass germination should reasonably provide a well-established turf, the remaining balance of 50% of the contract item quantity will be paid.
GENERAL PROVISIONS
This project shall be constructed in accordance with the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Highway Construction, except as noted herein and in the proposal book. The term “Road Commission” when used in the proposal and the plans shall mean the board of County Road Commissioners of the County of Oakland (RCOC).

Contract log plans for the project have been developed and prepared by the Mannik & Smith Group. Immediate project supervision and inspection will be performed by the Mannik and Smith Group, Inc.

During construction operations, the Contractor shall not perform work by private agreement with property owners adjacent to the project. Work may be allowed when requested by local municipalities, but only with the written consent of the Engineer.

The Contractor shall conduct their operations in such a manner to comply with all federal, state, and local codes for noise levels, vibrations, or any other restrictions while removing pavement or for any other construction operations within this contract to be included in the respective item of work. If the work extends beyond the seasonal shutdown in the absence of any approved extension of time, no compensation will be due to the Contractor for any winter protection measures that may be required by the Engineer.

The Contractor and/or his Subcontractor shall notify “Miss Dig”, the Road Commission and the municipality’s, fire, police, and public works departments 3 working days prior to the beginning of construction. In addition, 48 hours advance notification is required for any road closures or changes in construction staging.

No use of private property by the Contractor or any Subcontractors shall occur before the project Engineer has written agreement between the property owner and the Contractor. This agreement must be provided by the Contractor and must be notarized by a public notary. If such use does occur before the project Engineer has possession of the agreed upon, the project Engineer will issue a notice of non-compliance suspending work immediately until such time as a copy of the written, notarized permission is submitted or the property in question has been vacated by the Contractor, or any Subcontractors, and restored to its original condition, with no extension of time or additional cost for idle equipment, downtime, etc. to the Paint Creek Trailways Commission.

UTILITIES
MISS DIG/UNDERGROUND UTILITY NOTIFICATION
For the protection of underground utilities and in conformance with Public Act 174 of 2013, the Contractor shall contact MISS DIG System, Inc. by phone at 611 or 800-482-7171 or via the web at either elocate.missdig.org for single address or rte.missdig.org, a minimum of 3 days before any work is to be performed.

EXISTING WATER MAINS AND SEWERS
The Contractor shall be responsible for any damage to properly identified existing water mains and/or existing sewers during the construction of this project. The existing utilities listed below represent the best information available.

EXISTING UTILITIES
These plans do not reflect the location of existing utilities. This information does not relieve the contractor of the responsibility to be satisfied as to its accuracy and the location of existing utilities.

City of Rochester Department of Public Works
Station 1543+80 to Station 1680+50
Shannon Flarecki, Director
1000 Rochester Hills Dr.
Rochester, MI 48309
(248) 656 – 4873
Email: sflarecki@rochestermi.org

City of Rochester Hills Parks and Natural Resources
Station 1680+50 to Station 1758+00
Ken Elwert, Director
1000 Rochester Hills Dr.
Rochester, MI 48309
(248) 656 – 4873
Email: elwertk@rochesterrh.org

Oakland Township Parks Commission
Station 1758+00 to Station 2032+00
Mindy Mills-Dale
4900 Collins Road
Rochester, MI 48306
(248) 651 – 7810 ext.402
Email: mmills@oaklandtownship.org

Orion Township Parks and Recreation
Station 2032+00 to Station 2092+00
Aaren Haythathy, Director
2525 Jocelyn Road
Lake Orion, MI 48360
(248) 693 – 8931 ext. 106
Email: richertj@lakeorion.org

BENCHMARKS
The following plans are, a general log of approximate repairs and do not include detailed grades. However, in the area of Bridge 33.7 there is detailed topography for work to replace the existing utility under a separate contract.

Plan elevations shown on these plans refer to NAVD 88 datum.

REFERENCES
This project is an existing urban utility project and is in conformance with Public Act 174 of 2013, the Contractor shall contact MISS DIG System, Inc. by phone at 611 or 800-482-7171 or via the web at either elocate.missdig.org for single address or rte.missdig.org, a minimum of 3 business days prior to excavating, excluding weekends and holidays.

OUT OF SERVICE UTILITIES
If an information indicates an existing underground utility is or will be out of service within the limits of this contract, the Contractor is cautioned to treat such a line as if it were still in service and notify “Miss Dig” when working in the area of the out of service facility.

EXISTING WATER MANS AND SEWERS
The Contractor shall be responsible for any damage to properly identified existing water mains and/or existing sewers during the construction of this project.

The existing utilities listed below represent the best information available. This information does not relieve the contractor of the responsibility to be satisfied as to its accuracy and the location of existing utilities.
TRAFFIC SAFETY
Temporary (Construction) Traffic Control
Trail will be closed to through traffic in accordance with the construction signing diagram and the Special Provision for “Maintaining Traffic” in the proposal.

The Contractor shall conduct his operations in such a manner that local traffic and emergency vehicles shall have access within the project at all times in a manner approved by the Engineer. This shall be included in the cost of the project.

Additional signs and barricades necessary to protect traffic, as directed by the Engineer, shall be paid for by their appropriate pay item. However, additional devices for contractor convenience, as determined by the Engineer, will not be paid for.

Maintaining traffic shall not be paid for separately, but shall be included in the cost of traffic control items during construction of the project. The following traffic control measures have been incorporated in this project as pay items as directed by the Engineer.

10 Ea Barricade, Type III, High Intensity, Double Sided, Lighted Furn
10 Ea Barricade, Type III, High Intensity, Double Sided, Oper
50 Ea Plastic Drum, High Intensity, Furn
50 Ea Plastic Drum, High Intensity, Oper
400 Sft Sign, Type B, Temp, Prismatic, Furn
400 Sft Sign, Type B, Temp, Prismatic, Oper
320 Sft Sign, Type B, Temp, Prismatic, Special, Furn
320 Sft Sign, Type B, Temp, Prismatic, Special, Oper
1 LSUM Minor Traffic Devices

TRAFFIC SAFETY
Erosion Control
Erosion control items shall be in place, as directed by the engineer, prior to starting any earth disturbance.

Details for soil erosion control measures can be found on the Oakland County Water Resources Commissioner website at:

And are made here as part of these construction contract documents.

Grading
All natural soil left in place, in cut sections, shall be compacted to not less than 95 percent of maximum unit weight to a minimum depth of 12 inches.

The limit of earth disturbance shall be the slope stake line or other limits identified in the plans unless otherwise directed by the Engineer.

All slopes shall be Class A slopes.

Areas disturbed by the Contractor or Subcontractor shall be restored as specified in the Special Provisions for Slope Restoration. Modified or directed by the Engineer. No additional payment or compensation will be allowed for areas disturbed outside the Slope Stake Line or the limits of construction identified in the plans.

The following quantity has been included in the project for Slope Restoration:
1100 Syd Slope Restoration, Modified
4000 Syd Slope Protection, Type A

In addition to silt fence identified on the plans, the following quantity of silt fence has been added to the project for use as directed by the Engineer.

In areas where silt fence is deemed necessary, it shall be installed prior to any earth disturbing activities.

2000 Ft Erosion Control, Silt Fence

The Contractor shall be responsible for any damage to the property beyond the slope stake line or other noted limits of construction, including existing fencing, lawns, trees, shrubbery, and sidewalks.

Aggrading and Subgrade Compaction
Water required for compaction shall be included in the cost of earthwork pay items.

EARTHWORK
Earthwork quantities are computed based upon limited survey information. These quantities are for bidding purposes only and will be adjusted by the Engineer based upon actual field measurements.

DRAWING NOTES
Plans Sheets
The existing right-of-way labels are based on the distance of the center of right-of-way.

MISCELLANEOUS PAY ITEMS
The following items of work will not be paid for separately and are included in other items of work and shall be done as required by the Engineer.

- Included in Clearing:
  - Removing trees less than 3 inch diameter
  - Removing shrubs and bushes

- Included in concrete items:

- Included in Shared use Path, Scarify, Grade, Concrete and Shared use Path, Grading:
  - Moving rocks and boulders
  - Fixing minor surface variations of less than 6” (in 10’)
  - Clearing branches necessary for Contractor Operations
  - Topsoil Striping

The following items of work shall be done as they apply throughout the project or as directed by the Engineer. These items are not detailed or included elsewhere on the plans.

- Mobilization, Max. 5% (LSUM)
- 100 Cyd Embankment, CIP
- 100 Cyd Excavation, Earth
- 50 Ton Aggregate Base
- 200 LSF Sidewalk, Concrete, 6 inch
- 10 Ea Bollard
- 10 Ea Bollard, Rem
- 10 Ton Dust Palliative, Applied

Dust Palliative, Applied (Ton) has been included in the project to be used as directed by the Engineer to control dust within the project limits. Water required to dust control to be included in other items.

Site Conditions
Verify conditions and measurements at the site and report any discrepancies to the owner before proceeding with the work. Existing dimensions and elevations shown within these contract documents are approximate and are to be field verified by the Contractor prior to construction.

SHOP DRAWINGS
Contractor is to prepare and submit for the Engineers’ approval shop drawings, including product data information and testing results on all products and materials to be used. Substitutions from the materials and manufactures noted with these contract documents are permitted, provided that the “Or equal” products are approved by the Engineer prior to installation.

CONSTRUCTION STAGING NOTES
Suggested construction sequence
1. Install Temporary TGRD Control.
2. Install any required erosion control measures.
3. Perform clearing and grubbing operations.
4. Excavate and off site disposal of material as identified in the plans.
5. Perform trail way repairs and drainage/utility work.
6. Scary, shape and compact existing surface.
7. Resurfacing/Surface Trail.
8. Install signs, bollards and replace any relocated amenities.
9. Topsoil/seed and muck disturbed areas.
10. Once vegetation is established, remove erosion control measures and repair and areas damaged by erosion control removal.

Acceptable locations for the contractor’s staging area and erosion is shown on sheet 11, 16 & 28. All labor materials and equipment required for using this area, including site restoring to original condition shall not be paid for separately and shall be included in pay item “Slope Restoration, Modified”.

HOORS OF OPERATION
See progress clause in project specifications for allowable hours of operation in each municipality.

STRUCTURAL NOTES (OBSERVATION DECK)
1. The Observation Deck and Side Trail to the Clinton River are both included in Bid Alternate 004. The Owner may select to perform or not perform all work associated with this bid alternate.
2. The work covered by these plans includes clearing, grubbing, stump removal, channel excavation, earth excavation, maintaining traffic, backfilling, seeding and slope protection to the Limits Shown.
3. The Contractor shall locate all active underground utilities prior to starting work and shall conduct his operations in such a manner as to ensure that those utilities are not required relocation will not be disturbed.
4. Remove peat and other unsuitable material below proposed approach fill location and backfill with compacted in place embankment (payment included in Observation Deck (LSUM)).
5. Pedestrian traffic is to be detoured over existing paths and sidewalk.
6. Plan elevations refer to NAVD88 datum.
7. Water level is subject to change. The Contractor is responsible for making a determination of water levels that may exist during construction.
8. Measures shall be taken to prevent debris from falling from the structure. If debris falls into the waterway, it shall be removed within 24 hours. Since disturbance of the waterway bottom may be as harmful as the debris itself, the preventative measures must be effective.
9. Immediately after the construction of the observation deck is completed, slope protection and seeding shall be placed on the adjacent embankment slopes.
10. The haul route shall be according to subsection 105.03 of the Standard Specifications.
11. See Sheet Typical Section on sheet 4.
12. Owner desires pricing on two alternate decking materials as follows:
   a. Alternate Decking, Ipe Hardwood – Bid price will include additional cost to provide and construct the deck with ipe decking (also known as Brazilian Walnut).
   b. Alternate Decking, Composite Lumber – Bid price will include additional cost to provide and construct the deck with composite decking.

See the Special Provisions for specifications for the different decking materials. The Owner will decide whether to construct the decks with the base bid materials or one of the two alternate bid materials.
PAINT CREEK TRAIL/BEAR CREEK NATURE PARK

PLAN

SECTION

EROSION CONTROL, PERMANENT, LOG BARRIER

SECTION

TRAIL EDGE DRAINAGE INLET, SPECIAL

BOLLARD DETAIL

DETAIL A

REMOVABLE BOLLARD DETAIL

SECTION A-A

REINFORCING STEEL NOT SHOWN

* WHERE SURFACE AND STEEL SLEEVE TO BE PREPERED TO ALLOW REMOVAL OF THE TIMBER BOLLARD BY TRAIL MAINTENANCE PERSONNEL.
**PLAN REVISIONS**

**FILE:** P3290002_DT04.dgn

**DETAILS:**

**PAINT CREEK TRAIL/BEAR CREEK NATURE PARK**

**PHONE:** (248) 651-9260

**ROCHESTER, MI 48306**

**OAKLAND COUNTY**

**TRAILWAYS COMMISSION**

**BID PLANS**

**DATE:** 4/24/2019

**AUTH:** 4/24/19

---

**ROCK DRAIN**

2'-0" to 4'-0"

VARIES

EDGE OF TRAIL

**GEOFABRIC**

2'-0"

**TRAIL SURFACE**

**RETAINING WALL**

**STEPS**

4'-0"

PLACE GEOFABRIC ON FAR SIDE OF CRIBBING TIMBERS

PLACE HANDRAIL ON BOTH SIDES OF STEPS SEE SPECIAL PROVISIONS

**GALVANIZE (TYP)**

**HEAVY HEX HEAD NUTS, HOT DIP SPLIT RING LOCK WASHERS, AND TIMBER BOLTS WITH FLAT WASHER, 2-3/4"Ø x 14" LONG DOME HEAD**

**MDOT 21AA**

**MDOT 34G AGGREGATE**

**8X8X6'-0" TREATED SYP, NO. 1 DENSE CRIBBING**

**8X8X8'-0" TREATED SYP  NO. 1 DENSE CRIBBING**

**6X12X12'-0" LONG TREATED SYP NO. 1 DENSE (TYP)**

**2 PER STAIR (TYP)**

WITH PEA GRAVEL, INSTALL IN 12" Ø DRILLED HOLES, BACKFILL

**6X8X5'-0" LONG TREATED SYP, NO. 1 DENSE**
EXISTING SECTION - RESURFACE

PROPOSED RESURFACING SECTION

EXISTING SECTION

PROPOSED 5' GRAVEL SIDE TRAIL SECTION
NOTE: CONTRACTOR TO COORDINATE DRIVE CLOSURE TIMES WITH THE CITY OF ROCHESTER PARKS. CONTRACTOR TO REMOVE TIMBERS TO AN 8 INCH DEPTH AND REMOVE ASPHALT APPROACHES. AND REMOVE EXISTING TRAIL SURFACE, SAWCUT EXISTING COMFORT STATION LEVEL WITH CONCRETE WALK AND GRADE AT EX. PATH MATCH EXISTING TRAIL WIDTH.

CONTACT PERSON: SHANNON FLARECKI, PUBLIC WORKS DIRECTOR, AT 248-881-3434.
### Sheet Quantities

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>PARKING LOT AREA - Paint Creek Trail</td>
<td>1</td>
<td>EA</td>
</tr>
<tr>
<td>PARKING LOT PEN</td>
<td>1</td>
<td>EA</td>
</tr>
<tr>
<td>Aggregate Base Surf. Scape and Comp.</td>
<td>192</td>
<td>TON</td>
</tr>
<tr>
<td>Aggregate Base Special</td>
<td>23</td>
<td>TON</td>
</tr>
<tr>
<td>Aggregate Surf. Special, Crushed HMA</td>
<td>12</td>
<td>TON</td>
</tr>
<tr>
<td>Aggregate Surf. Special, Special</td>
<td>75</td>
<td>TON</td>
</tr>
<tr>
<td>Aggregate Surf. Crushed HMA, Special</td>
<td>12</td>
<td>TON</td>
</tr>
<tr>
<td>Aggregate Surf. Crushed HMA, Special</td>
<td>12</td>
<td>TON</td>
</tr>
</tbody>
</table>

### Grading Detail

- After scarifying and compacting use 21AA Aggregate to Grade (gradual trail slope up to 2% within 100 feet of road and 5% maximum grade to Existing. See grading detail that sheet Appendix 2020 paved as aggregate base.
- Replace Parking Lot Surface Aggregate with 23A Crushed Aggregate Surface Course.

### Key Map

- Paint Creek Trail
- Silverbell Road Parking Area
- Contractor Staging Area

---

**Note:** The diagrams and tables provided in the image areestic representations of the actual drawings and text. For detailed and accurate information, please refer to the original source materials.
PAINT CREEK TRAIL PLAN

**Plan Revisions**

- 1815
- 1816
- 1817
- 1818
- 1819
- 1820
- 1821
- 1822
- 1823
- 1824
- 1825
- 1826
- 1827
- 1828
- 1829
- 1830
- 1831
- 1832
- 1833
- 1834
- 1835

**Sheets Quantities**

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
<th>Unit</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paint Creek Trail</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resurfacing Detail</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30' Resurfacing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10' Resurfacing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resurface Area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paint Creek Trail</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paint Creek Mill</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paint Creek Trail</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paint Creek Mill</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paint Creek Trail</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paint Creek Mill</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paint Creek Trail</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Key Map**

- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
- Paint Creek Trail
- Paint Creek Mill
SHEET QUANTITIES

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>QUANTITY</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>TIMBER APPROACH RAIL</td>
<td>40</td>
<td>FT</td>
</tr>
<tr>
<td>TIMBER APPROACH RAIL, REM</td>
<td>40</td>
<td>FT</td>
</tr>
<tr>
<td>TIMBER DEV. AREA, PAINT CREEK</td>
<td>160</td>
<td>YD</td>
</tr>
</tbody>
</table>

KEY MAP

TRAIL PLAN

AUTH: 1895 1896 1897 1898 1899 1900 1901 1902 1903 1904 1905 1906 1907 1908 1909 1910 1911 1912 1913 1914 1915

HORZ. (FT) 80 180 400 700 1000 1300

DESCRIPTION | AUTH | DATE | NO. | DRAWING SHEET |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1895 TIMBER APPROACH RAIL</td>
<td>40</td>
<td>FT</td>
<td>REM</td>
<td>DRAWING SHEET</td>
</tr>
<tr>
<td>1896</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1897</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1898</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1899</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1900</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1901</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1902</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1903</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1904</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1905</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1906</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1907</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1908</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1909</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1910</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1911</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1912</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1913</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1914</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

FILE: P3290002_PP14.dgn

DRAWN BY: CBJ

CHECKED BY: CWE

DATE: 4/24/2019

TRAILWAY COMMISSION
OAKLAND COUNTY
4480 ORION ROAD
ROCHESTER, MI 48306

PHONE: (248) 651-9260

MSG

1

4/24/19

P3290002_PP14.dgn

PC

MCDEVITT

PAINT CREEK TRAIL PLAN

CS:

JN:

TSC:

DATE:

DESIGN UNIT:

DRAWING SHEET

0 80 180 400 700 1000 1300

DESCRIPTION | QUANTITY | UNIT |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TIMBER APPROACH RAIL</td>
<td>40</td>
<td>FT</td>
</tr>
<tr>
<td>TIMBER APPROACH RAIL, REM</td>
<td>40</td>
<td>FT</td>
</tr>
<tr>
<td>TIMBER DEV. AREA, PAINT CREEK</td>
<td>160</td>
<td>YD</td>
</tr>
</tbody>
</table>
**Plan Revisions**

- **File:** P3290002_PP22.dgn
- **Drawn By:** CBJ
- **CHK'D By:** CWE

**Description**

1. **Shared Use Path, Aggregate**
   - Description: This includes the addition of aggregate materials along the shared use path.
   - Quantity: 180 TON

2. **Shared Use Path, Scarify, Grade and Compact**
   - Description: The path is scarified and then graded and compacted.
   - Quantity: 3 CYD

3. **Erosion Control, Permanent, Log Barrier**
   - Description: Permanent log barriers are installed along the trail.
   - Quantity: 40 FT

4. **Excavation, Earth**
   - Description: Earth is excavated from the site.
   - Quantity: 10 CYD

5. **Embankment, CIP**
   - Description: Concrete-in-place embankments are installed.
   - Quantity: 3 CYD; 20.0 FT

6. **Split Rail Fence**
   - Description: Split rail fences are installed along the trail.
   - Quantity: 40 FT

7. **Ex. Retaining Walls**
   - Description: Exterior retaining walls are constructed.
   - Quantity: 2 EX.

**Key Map**

- **Legend:** Shows the location of the trail and surrounding areas.
- **Legend lines:** Indicate the extent of the trail and other features.

**Sheet Quantities**

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shared Use Path, Aggregate</td>
<td>180</td>
<td>TON</td>
</tr>
<tr>
<td>Shared Use Path, Scarify, Grade and Compact</td>
<td>3</td>
<td>CYD</td>
</tr>
<tr>
<td>Erosion Control, Permanent, Log Barrier</td>
<td>40</td>
<td>FT</td>
</tr>
<tr>
<td>Erosion Control, Permanent, Log Barrier</td>
<td>40</td>
<td>FT</td>
</tr>
<tr>
<td>Excavation, Earth</td>
<td>10</td>
<td>CYD</td>
</tr>
<tr>
<td>Embankment, CIP</td>
<td>3</td>
<td>CYD</td>
</tr>
<tr>
<td>Embankment, CIP</td>
<td>20.0</td>
<td>FT</td>
</tr>
<tr>
<td>Split Rail Fence</td>
<td>40</td>
<td>FT</td>
</tr>
<tr>
<td>Ex. Retaining Walls</td>
<td>2</td>
<td>EX</td>
</tr>
</tbody>
</table>

**Drawn By:** CBJ
**CHK'D By:** CWE

**Date:** 4/24/2019
NOTES:

1. OBSERVATION DECK RAILING SHALL BE AT LEAST 42" HIGH. RAILING SHALL BE "VIVA RAILINGS" CUBE CABLE RAILING SYSTEM OR AN APPROVED EQUAL AND SHALL MEET ADA REQUIREMENTS FOR SHARED USE PATH.

2. FOUNDATIONS SHALL BE SET A MINIMUM OF 48" BELOW GRADE.

3. FOUNDATION CONSTRUCTION SHALL CONTINUE UNTIL THE GRADE IS SEEN. OLDER LUMBER GRADE MARKS OR CERTIFICATES MAY INCLUDE THE USE OF ACQ TREATED WOOD SUITABLE FOR GROUND CONTACT. ALL LUMBER IN CONTACT WITH THE GROUND SHALL BE APPROVED PRESERVATIVELY TREATED OR BY, AN APPROVED LUMBER GRADING OR INSPECTION BUREAU OR AGENCY. ALL LUMBER AND GLUE LAMINATED TIMBER GRADING SHALL BE NATURALLY DURABLE SPECIES; OR BE PRESERVATIVELY TREATED AND IDENTIFIED BY THE GRADE MARK OF, OR CERTIFICATE OF INSPECTION ISSUED BY, AN APPROVED LUMBER GRADING OR INSPECTION BUREAU OR AGENCY.

4. Pressures and wind. Soil bearing capacity shall be assumed to be a maximum of 1500 PSF.

5. The design of the observation deck shall be in accordance with the American Building Code, Fire Code, and the National Design Specifications for Wood Construction. The American Standard for Wood Design shall not be a basis for design.

6. Foundations shall be designed for lateral loads from earth pressures and wind.

7. Foundations shall be a minimum of 48" high.

8. Observation deck design shall not rely on existing grades or a minimum soil bearing.

9. Foundation shall be a minimum of 48" high and shall be a minimum of 48" high.
**EXISTING TRAIL SECTION**

**PROPOSED RESURFACING SECTION**

**PROPOSED HILL SECTION - RESURFACE**

**NOTE:**
- **1.** For preparation of trail, see sheet 33.
- **2.** For general plan view of Trail, see sheet 34 and 36.
- **3.** For trail details, see sheet 35 and 36.
- **4.** For trail elevation, see sheet 35 and 36.
- **5.** For trail cross-section, see sheet 35 and 36.
- **6.** For trail alignment, see sheet 35 and 36.
- **7.** For trail grading, see sheet 35 and 36.
- **8.** For trail drainage, see sheet 35 and 36.
- **9.** For trail lighting, see sheet 35 and 36.
- **10.** For trail fencing, see sheet 35 and 36.
- **11.** For trail maintenance, see sheet 35 and 36.
- **12.** For trail access, see sheet 35 and 36.
- **13.** For trail safety, see sheet 35 and 36.
- **14.** For trail parking, see sheet 35 and 36.
- **15.** For trail signage, see sheet 35 and 36.
- **16.** For trail seating, see sheet 35 and 36.
- **17.** For trail amenities, see sheet 35 and 36.
- **18.** For trail tourism, see sheet 35 and 36.
- **19.** For trail outreach, see sheet 35 and 36.
- **20.** For trail education, see sheet 35 and 36.
- **21.** For trail recreation, see sheet 35 and 36.
- **22.** For trail conservation, see sheet 35 and 36.
- **23.** For trail research, see sheet 35 and 36.
- **24.** For trail outreach, see sheet 35 and 36.
- **25.** For trail maintenance, see sheet 35 and 36.
- **26.** For trail funding, see sheet 35 and 36.
- **27.** For trail partnerships, see sheet 35 and 36.
- **28.** For trail advocacy, see sheet 35 and 36.
- **29.** For trail collaboration, see sheet 35 and 36.
- **30.** For trail planning, see sheet 35 and 36.
- **31.** For trail policy, see sheet 35 and 36.
- **32.** For trail regulations, see sheet 35 and 36.
- **33.** For trail administration, see sheet 35 and 36.
- **34.** For trail operations, see sheet 35 and 36.
- **35.** For trail financing, see sheet 35 and 36.
- **36.** For trail sustainability, see sheet 35 and 36.
- **37.** For trail outreach, see sheet 35 and 36.
- **38.** For trail education, see sheet 35 and 36.
- **39.** For trail research, see sheet 35 and 36.
- **40.** For trail conservation, see sheet 35 and 36.
- **41.** For trail recreation, see sheet 35 and 36.
- **42.** For trail outreach, see sheet 35 and 36.
- **43.** For trail management, see sheet 35 and 36.
- **44.** For trail monitoring, see sheet 35 and 36.
- **45.** For trail evaluation, see sheet 35 and 36.
- **46.** For trail communication, see sheet 35 and 36.
- **47.** For trail engagement, see sheet 35 and 36.
- **48.** For trail involvement, see sheet 35 and 36.
- **49.** For trail participation, see sheet 35 and 36.
- **50.** For trail engagement, see sheet 35 and 36.
- **51.** For trail involvement, see sheet 35 and 36.
- **52.** For trail participation, see sheet 35 and 36.
- **53.** For trail engagement, see sheet 35 and 36.
- **54.** For trail involvement, see sheet 35 and 36.
- **55.** For trail participation, see sheet 35 and 36.
- **56.** For trail engagement, see sheet 35 and 36.
- **57.** For trail involvement, see sheet 35 and 36.
- **58.** For trail participation, see sheet 35 and 36.
- **59.** For trail engagement, see sheet 35 and 36.
- **60.** For trail involvement, see sheet 35 and 36.
- **61.** For trail participation, see sheet 35 and 36.
- **62.** For trail engagement, see sheet 35 and 36.
- **63.** For trail involvement, see sheet 35 and 36.
- **64.** For trail participation, see sheet 35 and 36.
- **65.** For trail engagement, see sheet 35 and 36.
- **66.** For trail involvement, see sheet 35 and 36.
- **67.** For trail participation, see sheet 35 and 36.
- **68.** For trail engagement, see sheet 35 and 36.
- **69.** For trail involvement, see sheet 35 and 36.
- **70.** For trail participation, see sheet 35 and 36.
- **71.** For trail engagement, see sheet 35 and 36.
- **72.** For trail involvement, see sheet 35 and 36.
- **73.** For trail participation, see sheet 35 and 36.
- **74.** For trail engagement, see sheet 35 and 36.
- **75.** For trail involvement, see sheet 35 and 36.
- **76.** For trail participation, see sheet 35 and 36.
- **77.** For trail engagement, see sheet 35 and 36.
- **78.** For trail involvement, see sheet 35 and 36.
- **79.** For trail participation, see sheet 35 and 36.
- **80.** For trail engagement, see sheet 35 and 36.
- **81.** For trail involvement, see sheet 35 and 36.
- **82.** For trail participation, see sheet 35 and 36.
- **83.** For trail engagement, see sheet 35 and 36.
- **84.** For trail involvement, see sheet 35 and 36.
- **85.** For trail participation, see sheet 35 and 36.
- **86.** For trail engagement, see sheet 35 and 36.
- **87.** For trail involvement, see sheet 35 and 36.
- **88.** For trail participation, see sheet 35 and 36.
- **89.** For trail engagement, see sheet 35 and 36.
- **90.** For trail involvement, see sheet 35 and 36.
- **91.** For trail participation, see sheet 35 and 36.
- **92.** For trail engagement, see sheet 35 and 36.
- **93.** For trail involvement, see sheet 35 and 36.
- **94.** For trail participation, see sheet 35 and 36.
- **95.** For trail engagement, see sheet 35 and 36.
- **96.** For trail involvement, see sheet 35 and 36.
- **97.** For trail participation, see sheet 35 and 36.
- **98.** For trail engagement, see sheet 35 and 36.
- **99.** For trail involvement, see sheet 35 and 36.
- **100.** For trail participation, see sheet 35 and 36.
**TOWNSHIP PARKS MAINTENANCE STAFF HAS INSTALLED SLOTTED AND CONSTRUCTED SHARED USE PATH AND SURFACE PREPARATION ALONG THE TRAIL ENGAGEMENT TO USE VIBRATORY ROLLER TO RECOMPACT NEW TRAIL INTERFACE PRIOR TO ADJOINING SHARED USE PATH. MAINTAIN ON AREAS OF LESS THAN 1 SLOPE OR 3' SLOPE USE PATH BASED ON AREAS WHERE PATH SLOPE IS OVER 3% OR AS DIRECTED BY ENGINEER.**

RESURFACE PLAZA - ADD 3" TOP MATERIAL AT OUTSIDE EDGE. ADHERE MATERIAL AT CENTER TO PROVIDE MIN. 3% SLOPE FROM CENTER TO OUTSIDE EDGE. PROTECT EXISTING Boulders AND BEEMAS FROM RE-SURFACING.

**TOWNSHIP PARKS MAINTENANCE STAFF HAS INSTALLED SLOTTED AND CONSTRUCTED SHARED USE PATH AND SURFACE PREPARATION ALONG THE TRAIL ENGAGEMENT TO USE VIBRATORY ROLLER TO RECOMPACT NEW TRAIL INTERFACE PRIOR TO ADJOINING SHARED USE PATH. MAINTAIN ON AREAS OF LESS THAN 1 SLOPE OR 3' SLOPE USE PATH BASED ON AREAS WHERE PATH SLOPE IS OVER 3% OR AS DIRECTED BY ENGINEER.**

RESURFACE EXISTING TRAIL AREAS AT EXISTING TRAMPLES AT CENTER TO PROVIDE MIN. 3% SLOPE FROM CENTER TO OUTSIDE EDGE. PROTECT EXISTING Boulders AND BEEMAS FROM RE-SURFACING.
<table>
<thead>
<tr>
<th>PAY ITEM</th>
<th>DESCRIPTION</th>
<th>QUANTITY</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>300001</td>
<td>Mobilization, Max</td>
<td>0.85</td>
<td>LSUM</td>
</tr>
<tr>
<td>301001</td>
<td>Clearing</td>
<td>0.1</td>
<td>Acre</td>
</tr>
<tr>
<td>302001</td>
<td>Culv, Rem, Less than 24 inch</td>
<td>2</td>
<td>Ea</td>
</tr>
<tr>
<td>304001</td>
<td>Pavt, Rem</td>
<td>5</td>
<td>Syd</td>
</tr>
<tr>
<td>304701</td>
<td>Parking Block</td>
<td>7</td>
<td>Ea</td>
</tr>
<tr>
<td>304750</td>
<td>Parking Block, Rem</td>
<td>7</td>
<td>Ea</td>
</tr>
<tr>
<td>305006</td>
<td>Ditch Cleanout</td>
<td>4</td>
<td>Sta</td>
</tr>
<tr>
<td>305010</td>
<td>Erosion Control, CIP</td>
<td>130</td>
<td>Cycy</td>
</tr>
<tr>
<td>305015</td>
<td>Excavation, Earth</td>
<td>145</td>
<td>Cycy</td>
</tr>
<tr>
<td>305702</td>
<td>Shared Use Path, Scarify, Grade and Compact</td>
<td>448.4</td>
<td>Sta</td>
</tr>
<tr>
<td>305903</td>
<td>Erosion Control, Silt Fence</td>
<td>2000</td>
<td>Ft</td>
</tr>
<tr>
<td>307010</td>
<td>Erosion Control, Permanent, Log Barrier</td>
<td>40</td>
<td>Ft</td>
</tr>
<tr>
<td>302001</td>
<td>Aggregate Base</td>
<td>88</td>
<td>Ton</td>
</tr>
<tr>
<td>302010</td>
<td>Aggregate Base, 4 inch</td>
<td>162</td>
<td>Syd</td>
</tr>
<tr>
<td>307031</td>
<td>Aggregate Surface Cse, Special</td>
<td>370</td>
<td>Ton</td>
</tr>
<tr>
<td>307032</td>
<td>Culv End Sect, 12 inch</td>
<td>4</td>
<td>Ea</td>
</tr>
<tr>
<td>307039</td>
<td>Culv, C/I, 12 inch</td>
<td>32</td>
<td>Ft</td>
</tr>
<tr>
<td>307050</td>
<td>Trail Edge Drainage Inlet, Rem</td>
<td>1</td>
<td>Ea</td>
</tr>
<tr>
<td>307050</td>
<td>Trail Edge Drainage Inlet, Special</td>
<td>4</td>
<td>Ea</td>
</tr>
<tr>
<td>304001</td>
<td>Underdrain, Pipe, Open-Graded, 4 inch</td>
<td>800</td>
<td>Ft</td>
</tr>
<tr>
<td>304001</td>
<td>Underdrain Outlet, 4 inch</td>
<td>200</td>
<td>Ft</td>
</tr>
<tr>
<td>304011</td>
<td>Underdrain Outlet Ending, 4 inch</td>
<td>4</td>
<td>Ea</td>
</tr>
<tr>
<td>709701</td>
<td>Timber Approach Rail</td>
<td>350</td>
<td>Ft</td>
</tr>
<tr>
<td>709702</td>
<td>Timber Approach Rail, Rem</td>
<td>210</td>
<td>Ft</td>
</tr>
<tr>
<td>709751</td>
<td>Retaining Wall</td>
<td>1</td>
<td>LSUM</td>
</tr>
<tr>
<td>709751</td>
<td>Retaining Wall, Rem</td>
<td>1</td>
<td>LSUM</td>
</tr>
<tr>
<td>709751</td>
<td>Steps</td>
<td>1</td>
<td>LSUM</td>
</tr>
<tr>
<td>709751</td>
<td>Steps, Rem</td>
<td>1</td>
<td>LSUM</td>
</tr>
<tr>
<td>801003</td>
<td>Driveway, Bend Conv, 8 inch</td>
<td>27</td>
<td>Syd</td>
</tr>
<tr>
<td>803002</td>
<td>Railig for Steps</td>
<td>32</td>
<td>Ft</td>
</tr>
<tr>
<td>803006</td>
<td>Sidewalk, Conv, 6 inch</td>
<td>745</td>
<td>Sft</td>
</tr>
<tr>
<td>806010</td>
<td>Shared Use Path, Aggregate</td>
<td>557.5</td>
<td>Ton</td>
</tr>
<tr>
<td>807705</td>
<td>Bollard</td>
<td>45</td>
<td>Ea</td>
</tr>
<tr>
<td>807705</td>
<td>Bollard, Rem</td>
<td>58</td>
<td>Ea</td>
</tr>
<tr>
<td>807705</td>
<td>Removable Bollard, Rem</td>
<td>2</td>
<td>Ea</td>
</tr>
<tr>
<td>807705</td>
<td>Removable Bollard, Rem</td>
<td>3</td>
<td>Ea</td>
</tr>
<tr>
<td>808701</td>
<td>Split Rail Fence</td>
<td>300</td>
<td>Ft</td>
</tr>
<tr>
<td>808701</td>
<td>Rail Fence, Rem</td>
<td>300</td>
<td>Ft</td>
</tr>
<tr>
<td>810000</td>
<td>Post, Wood, 4 inch by 6 inch</td>
<td>8</td>
<td>Ft</td>
</tr>
<tr>
<td>810000</td>
<td>Sign, Type II, Erect, Salv</td>
<td>1</td>
<td>Ea</td>
</tr>
<tr>
<td>810000</td>
<td>Sign, Type II, Rem</td>
<td>1</td>
<td>Ea</td>
</tr>
<tr>
<td>811026</td>
<td>Pavt Mrg, Regular Dry, 4 inch, Yellow</td>
<td>220</td>
<td>Ft</td>
</tr>
<tr>
<td>812001</td>
<td>Barricade, Type III, High Intensity, Double-Sided, Lighted, Furn</td>
<td>10</td>
<td>Ea</td>
</tr>
<tr>
<td>813003</td>
<td>Barricade, Type III, High Intensity, Double-Sided, Lighted, Oper</td>
<td>10</td>
<td>Ea</td>
</tr>
<tr>
<td>813010</td>
<td>Dust Palliative, Applied</td>
<td>10</td>
<td>Ton</td>
</tr>
<tr>
<td>813010</td>
<td>Minor Traf Devices</td>
<td>0.85</td>
<td>LSUM</td>
</tr>
<tr>
<td>813025</td>
<td>Plastic Drum, High Intensity, Furn</td>
<td>50</td>
<td>Ea</td>
</tr>
<tr>
<td>813025</td>
<td>Plastic Drum, High Intensity, Oper</td>
<td>50</td>
<td>Ea</td>
</tr>
<tr>
<td>813035</td>
<td>Sign, Type II, Temp, Prismatic, Furn</td>
<td>400</td>
<td>Sft</td>
</tr>
<tr>
<td>813035</td>
<td>Sign, Type II, Temp, Prismatic, Oper</td>
<td>400</td>
<td>Sft</td>
</tr>
<tr>
<td>813052</td>
<td>Sign, Type II, Temp, Prismatic, Special, Furn</td>
<td>320</td>
<td>Sft</td>
</tr>
<tr>
<td>813053</td>
<td>Sign, Type II, Temp, Prismatic, Special, Oper</td>
<td>320</td>
<td>Sft</td>
</tr>
<tr>
<td>813701</td>
<td>Rock Drain</td>
<td>4</td>
<td>Syd</td>
</tr>
<tr>
<td>816000</td>
<td>Slope Restoration, Type A</td>
<td>4000</td>
<td>Syd</td>
</tr>
<tr>
<td>816701</td>
<td>Slope Restoration, Modified</td>
<td>1300</td>
<td>Syd</td>
</tr>
<tr>
<td>826014</td>
<td>Foulow Fill, Non-Structural</td>
<td>2</td>
<td>Cycl</td>
</tr>
</tbody>
</table>