ADDENDUM No. 2

ITB No. 4569
Wheeler Service Center PUD Non-Motorized Improvements - Phase 2

Bids Due: April 2, 2019 at 2:00 P.M. (Local Time)

The following changes, additions, and/or deletions shall be made to the Invitation to Bid for the Wheeler Service Center PUD Non-Motorized Improvements - Phase 2, ITB No. 4569, on which proposals will be received on/or before April 2, 2019 at 2:00 P.M. (local time).

The information contained herein shall take precedence over the original documents and all previous addenda (if any), and is appended thereto. **This Addendum includes 107 pages.**

Bidder is to acknowledge receipt of this Addendum No. 2, including all attachments (if any) in its Bid by so indicating on page ITB-1 of the Invitation to Bid Form. Bids submitted without acknowledgment of receipt of this addendum may be considered nonconforming.

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

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

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

I. CORRECTIONS/ADDITIONS/DELETIONS

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

Section/Page(s)	Change
Bid Forms/BF-1 thru 3	Base Bid Forms; replace with pages ADD 2-6 thru 8. Revised to remove the pay item, Bollard, Steel Pipe, and add the pay item, Mulch Special. Revised quantities for line items 70, 120, 200, 280, 290, 300, 360, 370, and 500.
Detailed Specifications/DS-14 thru 15	Detailed Specification for Project Schedule; replace with pages ADD 2-9 thru 10. Revised dates for furnishing of the contract and return of executed copy, submittal of a detailed progress schedule, start of work, completion and open to use of the shared use path, tree planting/landscaping work, and the final acceptance of restoration and final project completion.

Detailed Specifications/DS-18 thru 22	Detailed Specification for Machine Grading; replace with pages ADD 2-11 thru 15. Added item number 12 under the “Construction” section to show estimated quantities for excavation and embankment, and revised item number 20 to address the removal of felled trees affecting the project work.
Detailed Specifications	Detailed Specification for Permanent Check Dam; insert page ADD 2-16. Added to clarify the requirements for installing the permanent check dams shown on the plans.
Detailed Specifications/DS-28 thru 30	Detailed Specification for Structural Geogrid; replace with pages ADD 2-17 thru 19. Revised second paragraph of the “Measurement and Payment: section to show the correct pay item.
Detailed Specifications/DS-33 thru 34	Detailed Specification for Infiltration Trench; replace with pages ADD 2-20 thru 21. Revised the material requirements to allow for only 6A course aggregate produced from natural aggregate, and refer to the geotextile as a “separator” not a “liner”. Modified the language related material “Delivery, Storage and Handling”, the “Construciton Methods”, and to the “Measurement and Payment” section to clarify payment of the work and eliminate redundancies.
Detailed Specifications/DS-35	Detailed Specification for HMA Application Estimate; replace with page ADD 2-22. Created separate rows in the materials table for the top and leveling course mixes.
Detailed Specifications/DS-43 thru 44	Detailed Specification for Concrete Sidewalk, Sidewalk Ramp and Driveway Approach; replace with pages ADD 2-23 thru 24. Revised to eliminate passive voice language and add clarity.
Detailed Specifications/DS-47	Detailed Specification for Driveway Gate; replace with page ADD 2-25. Revised to include more detailed and specific requirements.
Detailed Specifications/DS-48 thru 51	Detailed Specification for Maintenance of Traffic; replace with pages ADD 2-26 thru 30. Revised the description of the Construction Influence Area (CIA), and the “Measurement and Payment” section to describe the basis for the temporary sign quantities and their expected use.
Detailed Specifications	Detailed Specification for Plain Riprap; insert page ADD 2-31. Added to address allowable material.

Detailed Specifications	Detailed Specification for Mulch, Special; insert page ADD 2-32. Added to address the requirements for pay item.
APPENDIX	MDOT Special Provision for Eastern Massasauga Rattlesnake (12SP-107I-01); insert pages ADD 2-33 thru 34. Added for awareness purposes.
APPENDIX	MDOT Special Provision for Culvert and Sewer Bedding and Backfill (12SP-401C-01); insert pages ADD 2-35 thru 36. Added to include updated requirements related to this work.
APPENDIX	MDOT Supplemental Specifications for Errata to the 2012 Standard Specifications; replace with pages ADD 2-37 thru 66. Added to include the latest updates.
Wage Decision	General Decision Number: MI190001 01/25/2019 MI1; replace with General Decision Number: MI190001 03/08/2019 MI1 pages ADD 2-67 thru 93.
Plans	Plans; replace originally issued bid plan set noted as “WCWRC Comments” (sheets 1 thru 14) dated 03-09-18 with that issued for “Addendum 2” (sheets 1 thru 14) dated 03-28-19. Revisions are noted below.
Sheet 3 of 14	Revised/added Typical/Cross Sections for the existing/new HMA Shared Use Paths and Infiltration Trench to address inconsistencies with the specifications and clarify required work. Deleted Steel Pipe Bollard standard detail as it is no longer applicable. Revised Shared Use Path – HMA Application Estimate table.
Sheet 4 of 14	Revised Typical Check Dam Profile and Sections to address inconsistencies with the specifications and clarify required work.
Sheet 5 of 14	Revised Temporary Seeding notes, and added estimated quantities for earth excavation and embankment.
Sheet 6 of 14	Revised callouts and quantities to correctly show proposed work for crushing and shaping the existing HMA path, placing a new 4 inch HMA path, and slope restoration. Revised Removal and Construction Keys.

Sheet 7 of 14	Removed protective fencing along the easterly limits of the construction area and revised callouts and quantities related to this work. Identified slope restoration limits for Type I and Type II. Revised notes for riprap and driveway gate. Revised Removal, Construction, and SESC Measures Keys.
Sheet 8 of 14	Removed protective fencing along the northerly limits of the construction area and revised callouts and quantities related to this work. Revised callout and quantity for work related to obliterate old driveway. Revised note for riprap. Revised Removal, Construction, and SESC Measures Keys. Added note related to tree planting/landscaping work.
Sheet 9 of 14	Removed majority of protective fencing along the northerly/easterly limits of the construction area and revised callouts and quantities related to this work. Revised Removal, Construction, and SESC Measures Keys. Added note related to tree planting/landscaping work.
Sheet 10 of 14	Removed protective fencing along the easterly limits of the construction area and revised callouts and quantities related to this work. Revised Removal, Construction, and SESC Measures Keys. Added note related to tree planting/landscaping work.
Sheet 11 of 14	Removed protective fencing along the easterly/southerly limits of the construction area and revised callouts and quantities related to this work. Revised note for riprap. Revised Removal, Construction, and SESC Measures Keys.
Sheet 12 of 14	Removed majority of protective fencing along the southerly/easterly limits of the construction area and revised callouts and quantities related to this work. Added silt fence along westerly limits of the construction area together with a callout and quantity related to this work. Revised Removal, Construction, and SESC Measures Keys. Added note related to tree planting/landscaping work.
Sheet 13 of 14	Removed protective fencing along the westerly limits of the construction area and revised callouts and quantities related to this work. Added concrete sidewalk at southerly most end of path together with a callouts and quantity related to this work. Revised Removal, Construction, and SESC Measures Keys.

II. QUESTIONS AND ANSWERS

The City received the following questions. Responses provided are in accordance with the terms of the ITB. The City directs Offerors to take note in their review of the documents of the following questions and responses as they affect work or details in other areas not specifically referenced here.

Question 1: Who is responsible for the construction staking and material testing?
Answer: The City is responsible for both of those with exception to the Quality Control (QC) testing of the HMA, which is the contractor's responsibility.

Question 2: Is the shaded area around the tree plantings is to be a continuous mulch bed outlined with a spade cut edge?
Answer: Yes, the intent is to have a continuous mulch bed within the area designated for tree plantings and to have this area outlined with a spade cut edge.

Question 3: Please advise as to the depth of mulch for tree plantings and mulch bed?
Answer: The required depth is between 5 and 6 inches.

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

BID FORM

Section 1 - Schedule of Prices

W.R. Wheeler (Swift Run) Service Center PUD Non-motorized Improvements – Phase 2
File No. 2014-031
Bid No. 4569

Line No.	Item No.	Item Description	Unit	Estimated Quantity	Unit Price	Total Price
10	1047051	_Audiovisual Recording	LSUM	1.000	$ _____	$ _____
20	1047051	_Certified Payroll Compliance and Reporting	LSUM	1.000	$ _____	$ _____
30	1047051	_General Conditions, Max $30,000.00	LSUM	1.000	$ _____	$ _____
40	1047051	_Project Supervision, Max $10,00.00	LSUM	1.000	$ _____	$ _____
50	2020008	Stump, Rem, 6 inch to 18 inch	Ea	2.000	$ _____	$ _____
60	2057011	_Grading, Driveway	Syd	793.000	$ _____	$ _____
70	2057011	_Machine Grading, Modified	Sta	25.161	$ _____	$ _____
80	2057021	_Infiltration Trench	Cyd	607.359	$ _____	$ _____
90	2050040	_Subgrade Undercutting, Type I	Cyd	100.000	$ _____	$ _____
100	2050041	_Subgrade Undercutting, Type II	Cyd	150.000	$ _____	$ _____
110	2077002	_Obliterate Old Driveway	Acre	0.100	$ _____	$ _____
130	2087001	_Erosion Control, Check Dam, Stone, Modified	Ft	456.000	$ _____	$ _____
120	2080036	Erosion Control, Silt Fence	Ft	4,485.000	$ _____	$ _____
140	3010002	Subbase, CIP	Cyd	60.000	$ _____	$ _____
150	3027011	_Aggregate Base, 6 inch, Modified	Syd	3,075.000	$ _____	$ _____
160	3027011	_Aggregate Base, 12 inch, Modified	Syd	134.000	$ _____	$ _____
170	3027031	_Aggregate Base, Modified	Ton	10.000	$ _____	$ _____
180	3050010	Material, Surplus and Unsuitable, Rem, LM	Cyd	15.000	$ _____	$ _____

TOTAL THIS PAGE $ _____

BID FORM

Section 1 - Schedule of Prices

Line No.	Item No.	Item Description	Unit	Estimated Quantity	Unit Price	Total Price
190	3050015	Salv Crushed Material, LM	Cyd	10.000	$	$
200	3057011	_Shared use Path, HMA Base Crushing and Shaping	Syd	2,904.000	$	$
210	3060014	Aggregate Surface Cse, 10 inch	Syd	793.000	$	$
220	3080005	Geotextile, Separator	Syd	180.000	$	$
230	3087011	_Structural Geogrid (Base Type)	Syd	160.000	$	$
240	4010047	Culv End Sect, Conc, 12 inch	Ea	4.000	$	$
250	4010165	Culvert, Cl A, Conc, 12 inch	Ft	145.000	$	$
260	4037050	_Dr Structure, Adj, Case 2, Modified	Ea	1.000	$	$
270	8037001	_Detectable Warning Surface, Modified	Ft	10.000	$	$
280	8037010	_Sidewalk, Conc, 6 inch, Modified	Sft	120.000	$	$
290	8060040	Shared use Path, HMA	Ton	1,380.000	$	$
300	8087001	_Fence, Protective, Modified	Ft	1,958.000	$	$
310	8087050	_Driveway Gate, Double Leaf, Steel	Ea	1.000	$	$
320	8120012	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	Ea	8.000	$	$
330	8120013	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	Ea	8.000	$	$
340	8120260	Plastic Drum, High Intensity, Furn	Ea	25.000	$	$
350	8120261	Plastic Drum, High Intensity, Oper	Ea	25.000	$	$
360	8120350	Sign, Type B, Temp, Prismatic, Furn	Sft	520.000	$	$
370	8120351	Sign, Type B, Temp, Prismatic, Oper	Sft	520.000	$	$

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BID FORM

Section 1 - Schedule of Prices

Line No.	Item No.	Item Description	Unit	Estimated Quantity	Unit Price	Total Price
380	8127051	_Minor Traffic Control, Max $1,000.00	LSUM	1.000	$	$
390	8137011	_Riprap, Plain, Modified	Syd	24.000	$	$
400	8150002	Watering and Cultivating, First Season, Min. $1,500.00	LSUM	1.000	$	$
410	8150003	Watering and Cultivating, Second Season, Min. $1,500.00	LSUM	1.000	$	$
420	8150780	Celtis occidentalis, 2 inch	Ea	1.000	$	$
430	8151409	Fagus grandifolia, 2 inch	Ea	1.000	$	$
440	8151676	Gymnocladus dioicus, 2 inch	Ea	1.000	$	$
450	8152032	Juniperus virginiana, 6 foot	Ea	298.000	$	$
460	8152742	Picea abies, 6 foot	Ea	1.000	$	$
470	8152759	Picea glauca, 6 foot	Ea	147.000	$	$
480	8153044	Quercus bicolor, 2 inch	Ea	1.000	$	$
490	8167011	_Mulch, Special	Syd	2,772.000	$	$
500	8167011	_Slope Restoration, Type I	Syd	1,719.000	$	$
510	8167011	_Slope Restoration, Type II	Syd	8,559.000	$	$

TOTAL THIS PAGE $

TOTAL FROM PAGE ADD 2-6 $

TOTAL FROM PAGE ADD 2-7 $

TOTAL BASE BID **$**

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
PROJECT SCHEDULE

Complete the entirety of work under this Contract in accordance with, and subject to, the scheduling requirements as outlined below, and all other requirements of the Contract Documents.

The City expects to furnish the Contractor with two (2) copies of the Contract, for its execution, on or before **April 8, 2019**. The Contractor will properly execute both copies of the Contract and return them, with the required Bonds and Insurance documentation, to the City by **May 13, 2019**. The Contractor will not begin the work before the applicable date(s) as described herein without approval from the Project Engineer, and in no case before the receipt of the fully executed Contract and Notice to Proceed.

By no later than **May 20, 2019**, the Contractor will submit a detailed schedule of work (progress schedule) for the Engineer's review and approval. The schedule will clearly indicate, in detail, the start and the finish date of each work task for the project. The Contractor will update the approved progress schedule each week, and present it to the Engineer at the weekly progress meeting, and must consult with the Engineer for review and approval of any proposed deviations from the most current, approved, schedule.

Work on the project will begin on or after **May 27, 2019**, and only after the Contractor is in receipt of the fully executed Contract, a Notice to Proceed, and an approved Progress Schedule. The City will consider granting appropriate time extensions should delays beyond the Contractor’s control prevent work from starting on this date.

The Contractor will complete and open for use the asphalt shared use path along the entirety of Stone School Road by **July 20, 2019**, as shown on the plans. This includes, but is not limited to removals and earthwork/machine grading; storm drainage/infiltration trench work; placement of base materials; placement of shared use path HMA and concrete sidewalk; driveway work and gate installation; slope restoration; and other related work as required. The Contractor will complete landscape plantings between **March 1** and **June 1, 2020**. Lastly, the Contractor will complete watering and cultivating work and the entirety of the project including final acceptance of slope restoration on or before **September 19, 2021**.

Failure to complete the work as specified, within the times specified, including time extensions granted thereto as determined by the Engineer, will entitle the City to deduct from the payments due the Contractor **$950.00** in “Liquidated Damages”, and not as a penalty, for each and every calendar day the work remains incomplete beyond the date(s) specified.

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

The Engineer may delay or stop the work due to threatening weather conditions. No compensation will be due the Contractor for unused materials or downtime due to rain, or the threat of rain. The Contractor is solely responsible for repairing all damages to the work and to

the site, including any City infrastructure, and any adjacent properties resulting from its decision to work in the rain.

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

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

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

Include any/all to organize, coordinate, and schedule all of the project work in the contract unit price bid for the pay item **General Conditions, Max $___**.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
MACHINE GRADING

a. Description. This work consists of constructing earth grades by excavating, cutting, filling, trimming, and grading, and maintaining the work in a finished condition until such time of acceptance by the Engineer. Complete machine grading in accordance with section 205 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction as shown on the plans, and as specified herein with the exception that subgrade undercutting, which if included in the Contract the Engineer will pay for separately. Machine grading includes all the work described herein, and as directed by Engineer.

b. Materials. Use materials meeting the requirements specified in subsection 205.02 of the MDOT 2012 Standard Specifications for Construction.

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

1. Soils Information - Soil information provided as part of the contract documents is for informational purposes only and will not relieve the Contractor of the responsibility of investigating all local conditions before bidding.

2. General Provisions:

   A. Grade around mailboxes, trees, light poles, power poles, and the like, which are to remain in place. The Contractor is responsible for any damage caused to such structures.

   B. Maintain the work in a finished condition until acceptance by the Engineer.

3. Pavement Sawcutting - The work includes the full-depth sawcutting of pavement at the construction limits, and elsewhere as required.

4. Clearing, and Removal of Trees and Vegetation - Remove and properly dispose of off-site all vegetation; brush; roots; and trees and stumps less than 6 inch in diameter, as shown on the plans, and as directed by the Engineer and as required to complete the project.

5. Removal and Salvaging of Topsoil – Perform the removal, salvaging and stockpiling of topsoil, and all related work in accordance with subsection 205.03.A.1 of the MDOT 2012 Standard Specifications for Construction.

6. Miscellaneous Removals - The removal of HMA, aggregate, and/or concrete materials from around manholes, structures, and utility covers, and the removal of HMA curbing, HMA driveway wedges, HMA surface on existing curb and gutter, and HMA surfaces required for removal in other miscellaneous areas. It also includes the removal of any surface feature located within the grading limits requiring removal and for which there is no specific pay item established in the Contract for its removal.

7. Protection of the Grade – Keep work well drained at all times. Undercut and backfill any

foundation, pathway or roadway embankment or subgrade damaged by rain, as directed by the Engineer.

The Contractor is responsible for maintaining the foundation, pathway or roadway embankment, and subgrade.

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

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

8. Removal of Cable, Conduits and Pipe - Remove, and properly dispose of off-site, all abandoned cables, conduit, and pipe encountered at, or above the bottom of any earthwork excavation or undercut. Where the inverts of existing conduits or pipe are less than 16 inches below the bottom of any earth excavation or undercutting, remove the conduits and/or pipe and fill void with an Engineer approved material. Compact fill material to 95% of its maximum unit weight in lifts not exceeding 12 inches.

9. Foundation Preparation – The pathway or roadway “foundation” definition is the original or established earth subgrade of the pathway or roadway upon which the Contractor will place embankment material. Complete foundation work in accordance with subsection 205.03.A of the MDOT 2012 Standard Specifications for Construction as shown on the plans, and as specified herein.

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

10. Pathway or Roadway Embankment Construction – The pathway or roadway “embankment” definition is the construction of earth on the prepared foundation to form the subgrade. Complete pathway or roadway embankment in accordance with subsection 205.03 H of the MDOT 2012 Standard Specifications for Construction as shown on the plans, and as specified herein. Compact pathway or roadway embankment to a minimum of 95% of its maximum unit weight, as measured by the AASHTO T-180 method.

11. Subgrade Construction - The pathway or roadway “subgrade” definition is the final earth grade that extends from grading limit to grading limit. Construct the subgrade by performing earth excavation and embankment work in accordance with subsection 205.03.G and subsection 205.03 H of the MDOT, respectively, of the 2012 Standard Specifications for Construction, as shown on the plans, and as specified herein.

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

limited to:

A. Removal and disposal off-site of any surplus or unsuitable materials.

B. Furnishing from off-site any additional Engineer approved fill materials necessary.

C. Moving existing and/or furnished materials longitudinally and transversely as necessary.

D. Cutting, placing, compacting, and trimming existing and/or furnished materials to construct the pathway or roadway embankment and subgrade to the specified tolerances.

E. Stockpiling, and moving again, any excavated materials requiring delayed placement due to construction staging.

Grade the earth subgrade to accommodate all pathway or roadway subbases and aggregate bases; all infiltration trench, bioswale and adjacent planting bed materials; curb and gutter, driveways, sidewalks, and other structures; infiltration trench and bioswale planting mixes, and topsoil; and any other features that the subgrade supports.

Prepare the subgrade to ensure uniform support for the pavement structure. Place the finished subgrade to within 1 inch below and ¾ inch above plan grade. Variations within this tolerance will be gradual.

Compact subgrade to a minimum of 95% of its maximum unit weight, as measured by the AASHTO T-180 method, to a depth of 10 inches. If this is not achievable, in the opinion of the Engineer, perform "**Subgrade Undercutting, Type __**" or "**Subgrade Manipulation**" as described herein, on the foundation.

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

12. Estimated earthwork quantities for this project are as follows:

Excavation, Earth (Cut) = 1,660 cubic yards (cyd)

Embankment (Fill) = 3,189 cubic yards (cyd)

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

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

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

Engineer.

Where required, perform subgrade manipulation on the foundation or subgrade soils by thoroughly scarifying, blending, and mixing to a depth of 12 inches. Accomplish this work by means of a large diameter disc, motor grader, or other equipment approved by the Engineer. Upon manipulation of the foundation or subgrade to the satisfaction of the Engineer and allow it dry, and compact the soil to 95% of its maximum dry density as measured by the AASHTO T-180 method. The time required for drying the soil will not be a basis for an extension of time.

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

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

Use steel plates for covering structure openings conforming to the plan detail and of sufficient thickness to carry any/all traffic loads, and prevent the infiltration of debris into the structures. Peg and properly place plates to prevent movement under all traffic.

Lower valve boxes to a point between 8 inches and 12 inches below the proposed subgrade. Do not raise valve boxes prior to placing pathway or roadway embankment.

Backfill the voids in the grade above the steel plates used for structure lowering and valve box lowering, and compact it to 95% of its maximum dry density, with an Engineer approved coarse aggregate.

Coordinate the lowering of any private and/or non-city owned utility structure with the private utility company/owner.

18. Structure Covers - As directed by the Engineer and within two days of their removal, the stockpile on-site, in a location that is mutually agreeable to the Engineer and Contractor, the existing structure covers. City of Ann Arbor forces will pick-up the structure covers at a time that is convenient to them and mutually agreeable to the Contractor. Provide equipment and personnel to load the castings on City vehicle(s) for removal from the site by the City forces.

19. Structure and Sewer Cleanliness – Protect all sewers, and structures, including manholes, gate wells, valve boxes, inlet structures and curbs from damage and contamination by debris and construction materials. Maintain structures clean of construction debris and properly cover them at all times during the construction. The Contractor will immediately clean any structures and/or sewers contaminated with construction debris.

20. Tree Removal and Trimming - The City felled and left in place trees within the influence of the construction. The Contractor is responsible to remove any felled trees from the site that impact its work, and coordinate with the City of Ann Arbor Public Works to schedule trimming of trees by City forces or use an authorized subcontractor.

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

Pay Item	Pay Unit
Machine Grading, Modified	Station

Basis for **Machine Grading, Modified** payment is on plan quantity, in accordance with subsection 109.01.A of the 2012 MDOT Standard Specifications for Construction, and includes costs for all labor, equipment and materials necessary to complete the work as described. The Engineer will adjust the plan quantities if it directs, in writing, changes to the limits or scope of the work.

Due to the project nature there is a likely probability that some or all of the excavated material may not be suitable for use fill material. Consequently, there may be imbalances between the amount of earth excavation available for reuse as embankment, and the amount of embankment needed for the construction activities shown on the plans, or as directed by the Engineer. The unit price bid for this work includes the costs to address this probable imbalance and to furnish, stockpile and re-handle, place, and compact any Engineer approved material necessary to complete the work of constructing the embankment and subgrade to the cross sections shown on the plans.

The described work for **Machine Grading, Modified** includes the removal and offsite disposal of any surplus or unsuitable materials and the furnishing from off-site any additional Engineer approved fill materials necessary to construct the embankment and subgrade to the contours and cross-sections shown on the plans.

The Contractor, at its sole expense, will remedy, as directed by the Engineer, any damage to the foundation, pathway, or roadway embankment or subgrade caused by traffic or its operations.

The Engineer will not pay for separately the removal of conduit or pipe, or any of the work, described in this section.

The Engineer will not pay additional compensation or allow extensions of contract time for additional measures required to protect the grade as specified.

Machine Grading, Modified includes costs for all labor, equipment and materials necessary to complete any subgrade undercutting and/or subgrade manipulation unless the Contract includes separate pay items for this work.

Rock excavation will apply only to removal of rocks and boulders, concrete and masonry less than ½ cubic yard in volume. Measure boulders individually and compute the volume from the average dimension measured in three directions. If included in Contract, the Engineer will pay for the quantity exceeding ½ cubic yard in volume as **Rock Excavation**, otherwise it will pay for as extra work.

The Contractor is responsible for all direct and indirect damages caused by unclean or damaged sewers or structures resulting from its work or operations.

The Engineer will not pay additional compensation or allow extensions of contract time for tree trimming measures and coordination of this work with City forces.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
PERMANENT CHECK DAM

AA:DAD 1 of 1 03/28/19

a. Description. This work includes the installation of a permanent check dam, as specified herein, as shown on the plans, and as directed by the Engineer.

b. Materials. Provide 6A course aggregate in accordance with section 902 of the 2012 Michigan Department of Transportation (MDOT) Standard Specifications for Construction. Use only 6A coarse aggregate produced from natural aggregate.

Provide plain riprap in accordance with section 916 of the 2012 Michigan Department of Transportation (MDOT) Standard Specifications for Construction. Use only riprap produced from natural aggregate.

Provide 16 to 24 inch check dam stone produced from natural stone.

Provide 4 inch (minimum) choke stone that is either cobblestone in accordance with section 916 of the 2012 Michigan Department of Transportation (MDOT) Standard Specifications for Construction, or stone produced from natural stone.

Use geotextile liner in accordance with section 910 of the 2012 MDOT Standard Specifications for Construction.

c. Construction Methods. Construct check dam as shown on plans, in accordance with section 208.03 of the 2012 MDOT Standard Specifications for Construction, and as directed by the Engineer.

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

Pay Item	**Pay Unit**
Erosion Control Check Dam, Stone, Modified	Foot

Measure **Erosion Control Check Dam, Stone, Modified** in length by the unit foot and pay for it at contract unit price, which price includes costs for all labor, equipment and materials necessary to complete the work. This includes necessary excavating and disposing of surplus materials; constructing riprap headers and trenches; and furnishing and placing the geotextile liner, 16 to 24 inch check dam stone, plain riprap, 6A course aggregate, and 4 inch (minimum) choke stone.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
STRUCTURAL GEOGRID

OHM:BA/AA:DAD 1 of 3 3/11/2019

a. Description. This work consists of placing structural geogrid as shown in the plans, and as directed by the Engineer. Perform work in accordance with section 308 of the 2012 Michigan Department of Transportation (MDOT) Standard Specifications for Construction, except as herein provided.

b. Material. Furnish geogrid manufactured with high profile rectangular shaped ribs oriented radially in three or more directions to form uniform triangular shaped apertures having significant dimensional stability through all ribs and junctions of the geogrid structure to maintain reinforcement and aggregate confinement capabilities under repeated dynamic loads throughout the pavement life cycle. Furnish geogrid material resistant to ultraviolet degradation, all forms of biological and chemical degradation, and physical damage normally encountered in earth and road construction activities. Furnish geogrid having three-dimensional ribs with a depth to width ratio of at least 1.0 to optimize aggregate interlock, and the physical and geometric properties specified in Table 1 below for the designated 'Type' of geogrid material shown on the plans.

Table 1. Geogrid Properties

Property	Test Method	TYPE			
		Subbase	**Subgrade**	**Base**	**High Performance (HP) Base**
Aperture (Aggregate) Size		Small (Fine)	Large (V. Coarse)	Standard	Standard
Nominal Pitch(2), mm		33	60	40	40
Junction Efficiency(3), %	ASTM D6637-10 D7737-11	93	93	93	93
Aperture Stability(4), kg-cm/deg @ 5.0 kg-cm	GRI-GG9 (Modified)	-	3.0	3.0	3.6
Radial Stiffness at Low Strain(5), kN/m @ 0.5% Strain	ASTM D6637-10	200	350	225	300
Isotropic Stiffness Ratio(6)		-	0.6		
Overall Flexural Rigidity, mg-cm	ASTM D7748-12	$0.5x10^6$	$2.0x10^6$		
Chemical Resistance(7)	EPA 9090	100%	100%	100%	100%
Resistance to Ultra-Violet Light and Weathering(8)	ASTM D4355-05	70%	70%	70%	70%

1. Unless indicated otherwise, values shown are minimum average roll values (MARVs) determined in accordance with ASTM D4759-02. Brief descriptions of test procedures are given in the following notes.
2. Height of (triangular) aperture, measured node axis to rib.
3. Load transfer capability expressed as a percentage of ultimate tensile strength.
4. In-plane torsional rigidity measured by applying a moment to the central junction of a 225mm x 225mm specimen restrained at its perimeter.
5. Radial stiffness is determined from tensile stiffness measured in any in-plane axis from testing.

6. The ratio between the minimum and maximum observed values of radial stiffness at 0.5% strain, measured on rib and midway between rib directions.
7. Resistance to loss of load capacity or structural integrity when subjected to immersion testing in chemically aggressive environments.
8. Resistance to loss of load capacity or structural integrity when subjected to 500 hours of ultraviolet light and aggressive weathering.

Submit representative geogrid product sample, product data sheet, and the manufacturer's published installation guidelines. Basis for acceptance will be on a general certification, along with a certificate of analysis that confirms the geogrid material supplied meets the requirements of Table 1. The Engineer may sample and test material shipped to the project to verify certification documents.

The Engineer may consider alternate geogrid materials if they meet or exceed the project design intent. The Engineer must pre-approve alternate materials in writing by the Engineer prior to installation. Submit performance test data for evaluation at least two weeks prior to the anticipated shipment to the project. The Engineer will accept in-air laboratory testing alone for performance testing. Where applicable, calibrate the alternate geogrid material to the selected pavement design methodology furnish verification. The Engineer retains the sole discretion to approve alternate materials based on the submittal. Rejection of alternate material submittals shall not be the basis for any claim for additional compensation nor extension of time.

c. Construction. Protect stored materials from exposure to mud, wet concrete, epoxy or other deleterious materials. Store at temperatures above -20°F (-29°C). Lay flat or stand on end rolled materials. Do not store geogrid materials exposed to direct sunlight for extended periods as recommended by the manufacturer. The Engineer will reject geogrid materials with damage or manufacturing defects.

Prepare all areas immediately beneath the geogrid installation area per the plans and pertinent specifications. Install geogrid according to the manufacturer's recommendations. Place geogrid required only for immediately pending work to prevent undue exposure or damage to the geogrid, not to exceed 3 calendar days. After placing a layer of geogrid, use approved suitable means to anchor the geogrid in position until the subsequent backfill layer can be placed. Overlap adjacent rolls of geogrid as directed to maintain at least 1 ft overlap after backfill placement (larger overlaps may be necessary on softer subgrade soils).

Do not operate equipment directly on the geogrid. Place backfill outward from road embankment centerline, pushing a sufficient aggregate surcharge to assist in tensioning the geogrid without creating excessive wrinkles or damage. Do not operate tracked equipment on less than 6 inches of loose aggregate. Avoid sudden braking and sharp turning movements to prevent damage to the geogrid. Grade and compact cover aggregate according to the plans and relevant contract item specifications.

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

Pay Item	**Pay Unit**
Structural Geogrid (Type)	Square Yard

Measure **Structural Geogrid (Type)** in place area by the unit square yard and pay for it at contract unit price, which price includes costs for all labor, equipment and materials necessary to complete

the work including placement and anchoring, hand work necessary to establish grades, splicing, and repairing protective coatings. The Engineer will make no allowance for overlap, splices, or material cut off or wasted.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
INFILTRATION TRENCH

AA:JN/DAD 1 of 2 03/28/19

a. Description. This work includes the installation of an infiltration trench, as specified herein, as shown on the plans, and as directed by the Engineer.

b. Materials. Stone reservoir material to consist of 6A course aggregate in accordance with section 902 of the 2012 Michigan Department of Transportation (MDOT) Standard Specifications for Construction with a minimum of 90% crushed material, and voids ≥ 30%. If approved aggregate has less than 30% voids, increase thickness to accommodate design volume as directed by the Engineer. Use only 6A coarse aggregate produced from natural aggregate.

Use soil mix (50% compost/50% topsoil) approved by the Engineer.

Use geotextile separator consisting of a non-woven geotextile, similar to ADS Geosynthetics 601T, or approved equivalent, that has following properties:

PROPERTY	TEST METHOD	UNIT	M.A.R.V. (Min Avg Roll Value)
Weight (Typical)	ASTM D 5261	oz/yd2(g/m2)	6.0 (203)
Grab Tensile	ASTM D 4632	lbs (kN)	160 (0.711)
Grab Elongation	ASTM D 4632	%	50
Trapezoid Tear Strength	ASTM D 4533	lbs (kN)	60 (0.267)
CBR Puncture Resistance	ASTM D 6241	lbs (kN)	410 (1.82)
Permittivity*	ASTM D 4491	sec-1	1.5
Water Flow*	ASTM D 4491	gpm/ft2(l/min/m2)	110 (4480)
AOS*	ASTM D 4751	US Sieve (mm)	70 (0.212)
UV Resistance	ASTM D 4355	%/hrs	70/500

* At the time of manufacturing. Handling may change these properties.

Delivery, Storage, and Handling:

1. Handle and store materials in a manner that will prevent deterioration, damage, contamination with foreign matter, and damage by weather or elements, and according to recommendations/instructions of the Manufacturer and/or Supplier.

2. Protection: Use all means necessary to protect the materials before, during, and after installation.

3. Reject damaged, deteriorated or contaminated material and immediately remove from the site. Replace rejected materials with new materials at Contractor's expense.

c. Construction Methods.

1. Excavate to the lines and grades as noted on the plans.

2. Place geotextile separator in accordance with recommendations/instructions of the Manufacturer and/or Supplier.

a. Overlap adjacent strips a minimum of 16 inches unless otherwise directed by the Engineer.
b. Prevent runoff or sediment from entering the storage bed.

3. Place reservoir course aggregate to grades indicated on the plans.
   a. Maximum Lift Thickness = 10 inches.
   b. Minimum Lift Thickness = 6 inches.
   c. Compact each layer to a minimum of 95% of the maximum unit weight.
   d. Fine grade as necessary to conform to elevations and cross section shown on the plans.

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

Pay Item	**Pay Unit**
Infiltration Trench	Cubic Yard

Measure **Infiltration Trench** volume by the unit cubic yard and pay for it at contract unit price, which price includes costs for all labor, equipment and materials necessary to complete the work. This includes earth excavation and disposal of surplus materials; and furnishing and placing the geotextile separator, 6A course aggregate, and approved soil mix materials.

The cost for additional 6A course aggregate provided with less than 30% voids in order to increase thickness and accommodate design volume is solely at the Contractor's expense.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
HOT MIX ASPHALT (HMA) APPLICATION ESTIMATE

AA:DAD 1 of 1 03/27/19

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

b. Materials.

PAY ITEM	HMA MIX	APPLICATION RATE	ESTIMATED THICKNESS	PERFORMANCE GRADE	AWI (min)
Shared use Path, HMA	LVSP (top course)	220 lb/syd	2.0 inches	PG 58-28	220
Shared use Path, HMA	LVSP (leveling course)	220 lb/syd	2.0 inches	PG 58-28	N/A

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

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

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

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

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
CONCRETE SIDEWALK, SIDEWALK RAMP AND DRIVEWAY APPROACH

AA:DAD 1 of 2 03/28/19

a. Description. This work consists of constructing concrete sidewalks, sidewalk ramps, or driveways/approaches of the types as indicated on the plans, shown on special details or standard plans, and as directed by the Engineer. Perform all work in accordance with sections 801 and/or 803 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, as specified herein, and as directed by the Engineer.

b. Materials. Provide materials meeting the requirements as specified subsections 801.02 and/or 803.02 of the MDOT 2012 Standard Specifications for Construction and as required herein. The concrete mixture for driveways/approaches shall be Grade P-NC (658 lbs/yd^3 cement content) as specified in subsection 601.02 of the MDOT 2012 Standard Specifications.

Use Grade P1 or S2 concrete for all remaining items covered by this detailed specification as specified in subsection 601.02 of the 2012 MDOT Standard Specifications for Construction. The Contractor may elect to add GGBFS to P1 mixtures in accordance with the requirements of the contract documents. The Engineer will not pay any additional amount for concrete mixtures containing GGBFS.

Use concrete mixtures containing coarse aggregates produced from natural aggregates meeting the requirements of section 902 of the MDOT 2012 Standard Specifications for Construction.

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

c. Construction Methods. Perform this work in accordance with subsections 801.03 and/or 803.03 of the MDOT 2012 Standard Specifications for Construction and as required herein. The Contractor is responsible to construct all sidewalks, sidewalk ramps, curbs, and all other concrete items within ADAAG and PROWAG compliance. Construct all sidewalk ramps in accordance with the current MDOT Standard Plan Series R-28.

Place concrete on a minimum of 4 inches of Granular Material Class II compacted to 95% of its maximum dry density.

Prior to placing any concrete, prepare the subgrade by trimming to final elevation. If a cold joint is neccessary, clean existing concrete with compressed air to expose the aggregate in the concrete.

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

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

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

Pay Item	Pay Unit
Driveway, Nonreinf Conc, 6 inch, Modified	Square Yard
Driveway, Nonreinf Conc, 8 inch, Modified	Square Yard
Sidewalk, Conc, 4 inch, Modified	Square Foot
Sidewalk, Conc, 6 inch, Modified	Square Foot
Sidewalk, Conc, 8 inch, Modified	Square Foot
Sidewalk Ramp, Conc, 6 inch, Modified	Square Foot
Sidewalk Ramp, Conc, 8 inch, Modified	Square Foot

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

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

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

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

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

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

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

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
DRIVEWAY GATE

AA:DAD 1 of 1 03/28/19

a. Description. This work consists of supplying and constructing a double leaf barrier gate across the field driveway as shown on the plans, specified herein, and directed by the Engineer.

b. Materials. Furnish a 4 foot high by 24 foot wide H-Series Galvanized Tubular Steel Double Gate Kit (Item No. HCG-H-4X24DB-KIT-G) manufactured by Hoover Fence Company as depicted below or an approved equivalent. Gate requirements include the following:

1. 2 – 4 foot high gate leafs rigidly constructed of premium HF40 galvanized tubular (2 inch O.D) steel.
2. Constructed using notched and/or hammered joints and welded after galvanizing.
3. Painted seams using a zinc rich welder's paint after welding.
4. Compatibly with a variety of gate hinges, latches, and gate openers.
5. Provide gate posts, post caps, hinges, and latch as listed below.
   a. 2 – 4 inch diameter by 8 foot long HF40 galvanized tubular steel gate posts.
   b. 2 – 4 inch aluminum post caps for gate posts
   c. 4 – 2 inch aluminum post caps for gate uprights.
   d. 4 – 4 inch by 2 inch malleable butt hinges.
   e. 1 – Industrial fulcrum style double gate latch.

Provide shop drawings of gate, gate posts and other relate parts/hardware for approval by Engineer prior to ordering any materials.

c. Construction. Install gate in accordance with the recommendations/instructions of the Manufacture, as shown on the plans, and as directed by the Engineer.

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

Pay Item	**Pay Unit**
Driveway Gate, Double Leaf, Steel	Each

Measure **Driveway Gate, Double Leaf, Steel** by the unit each and pay for it at the contract unit price, which prices include costs for all labor, equipment, and materials necessary to complete the work.

Hoover Fence Company H-Series Galvanized Tubular Steel Double Gate

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
MAINTENANCE OF TRAFFIC

AA:DAD 1 of 5 03/28/19

a. Description. The work consists of maintaining traffic for duration of the work in accordance with the plans, subsection 104.11 and section 812 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, the Michigan Manual of Uniform Traffic Control Devices (MMUTCD), applicable supplemental specifications, as directed by the Engineer, and as herein specified.

The following, and herein included, Michigan Department of Transportation (MDOT) Maintaining Traffic Typicals and Work Zone Device Details apply to the project: M0020a, M0040a, M0110a, M0140a, M0231a WZD-100-A, and WZD-125-E.

These maintaining traffic provisions are subject to change in the event of special community activities.

Place permanent pavement marking items included in the contract per the MDOT 2012 Standard Specifications for Construction prior to the removal of any devices required to temporarily maintain traffic during construction, and also prior to opening the project to traffic.

b. Materials. Use materials for all devices to temporarily control and maintain traffic meeting the requirements of section 812 of the MDOT 2012 Standard Specifications for Construction, the MMUTCD, and the applicable MDOT typicals and details included herein.

Use sign sizes shown on the plans, unless otherwise directed by the Engineer. Installed all temporary signs on driven posts, which are to remain in the same place for 14 days or more. Install all other temporary signs on portable supports. Install all signs to have a minimum bottom height of 7.0 feet.

Use only plastic drums for channelizing devices when implementing any/all lane closures. 42 inch channelizing devices are permissible at certain locations with approval from the Engineer.

c. Construction. Construction methods shall meet the requirements of section 812 of the MDOT 2012 Standard Specifications for Construction.

The Contractor will furnish and place all necessary temporary traffic control devices to maintain traffic during construction. Keep all work, construction equipment, and material storage behind the curb, or behind barricades or channelizing devices, all in combination with protective fencing, if required to protect open excavations, and do not in any way hamper vehicle movement or impair traffic vision. Provide protection to all uncured concrete sidewalk, driveways, and curb and gutter as needed until all traffic, either foot or otherwise, can cross without damage. Install additional barricades and protective fencing at the end of each day to insure no disturbance to the work area.

Distances between warning, regulatory, and guide signs as shown on the typicals and details are approximate, and may require field adjustment, as directed by the Engineer.

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

Maintain traffic to prevent vehicles from driving into active work areas. Remove and replace patch areas that extend more than halfway across the roadway to provide a minimum of half the pavement width at all times for maintaining traffic.

Remove existing pavement markings and place temporary pavement markings as directed by the Engineer.

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

1. Construction Influence Area (CIA). For the purposes of maintaining traffic, the CIA consists of the width of the right-of-way (ROW) along Stone School Rd between Morgan Rd and E Ellsworth Rd, and the ROW along Morgan Rd from 2,000 feet east and west of Stone School Rd. It also includes the widths of side road rights-of way along Stone School Rd within the project work area. The above rights-of way are the jurisdiction of the Washtenaw County Road Commission (WCRC). Posted detour routes, if required, are not part of the CIA.

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

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

2. Permits. Prior to the start of construction, work with the Project Engineer to obtain a "Right-of-Way" Permit from WCRC. There are no fee associated with this permit.

3. Work Times and Restrictions. Conduct all work on Monday through Saturday between 7:00am and 8:00pm unless, prior to commencement of construction, the City authorizes a plan identifying alternate days and hours of work. Should night work be required for any reason, notify the Project Engineer a minimum of three (3) working days (72 hours) in advance of such work, and the work must have the approval of the City prior to commencement.

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

Perform no road work nor permit any traffic interruptions, including lane closures, on Sundays, and during the Memorial Day, Independence Day (July 4th) and Labor Day holiday periods unless otherwise authorized by the Engineer. All streets and

sidewalks/paths that can be open will be open. The City will not permit any trucking on or off site during these periods.

During non-working periods, any area with incomplete work will have plastic drums at specific locations and protective fencing, as directed by the Engineer, and at no additional cost to the project.

4. Traffic Restrictions. At all times conduct work to insure the least possible obstruction to traffic and inconvenience to the general public, businesses, and residents proximate to the work.

Do not interfere with traffic on major streets between the hours of 7:00 a.m. to 9:00 a.m. and 3:30 p.m. to 6:00 p.m. unless otherwise approved by the Engineer or as specified on the Lane Closure Permit. Make all major changes in traffic control either between 9:00 a.m. and 3:30 p.m. or between 7:00 p.m. and 6:30 a.m. in order to minimize interference with rush hour traffic. All traffic controls must be in place and ready for traffic each day by 6:30 a.m. and 3:30 p.m. The City will permit temporary obstruction of traffic for loading and unloading of trucks only if the Contractor provides traffic regulators (flag persons) in conformance with Part VI of the MMUTCD. During temporary obstructions, a minimum of two traffic regulators are required. Include the cost of traffic regulators (flag control) in the unit price for the contract pay item "**Minor Traffic Control, Modified, Max $___**".

Maintain access to businesses, residences, and side street(s) within the CIA for the duration of the project. The Contractor shall make every effort to coordinate its operations to minimize interruptions affecting this access. Notify the Project Engineer forty-eight (48) hours in advance of performing any work on or near business or residential driveways, and stage work so that it is part-width when it is necessary to work in these areas. The Engineer will not allow the Contractor to prohibit access to businesses and residences during any phase of construction, and may require flag control at its discretion.

Maintain 9 feet wide minimum lane widths and greater widths whenever feasbile. Schedule work so not to require any traffic stoppage under any circumstance unless otherwise approved by the Engineer. Suspend work within the CIA during peak traffic hours, and/or at the direction of the Engineer when construction activity(s) unduly hamper or delay traffic.

5. Emergency Services. Notify local police, fire departments and emergency response units a minimum of three business days (72 hours) prior to the closure of any lanes, or traffic shifts causing restricted movements of traffic or restricted access. Keep “live” fire hydrants in or adjacent to the work and fire fighting forces made aware of their availability at all times during construction.

d. Measurement and Payment. Measure and pay for the completed work, as described, at the contract unit price using the following pay items in accordance with subsection 812.04 of the Standard Specifications for Construction.

Pay Item	**Pay Unit**
Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	Each

Barricade, Type III, High Intensity, Double Sided, Lighted, Oper.....Each
Channelizing Device, 42 inch, Furn .....Each
Channelizing Device, 42 inch, Oper.....Each
Pavt Mrkg, Longit, 6 inch or Less Width, Rem .....Foot
Pavt Mrkg, Type NR, Paint, 4 inch, White, Temp.....Foot
Pavt Mrkg, Type NR, Paint, 4 inch, Yellow, Temp .....Foot
Pavt Mrkg, Type R, 4 inch, White, Temp .....Foot
Pavt Mrkg, Type R, 4 inch, Yellow, Temp .....Foot
Lighted Arrow, Type C, Furn .....Each
Lighted Arrow, Type C, Oper .....Each
Plastic Drum, High Intensity, Lighted, Furn.....Each
Plastic Drum, High Intensity, Lighted, Oper .....Each
Sign, Portable, Changeable Message, Furn .....Each
Sign, Portable, Changeable Message, Oper.....Each
Sign, Type B, Temp, Prismatic, Furn ..... Square Foot
Sign, Type B, Temp, Prismatic, Oper..... Square Foot
Traf Regulator Control.....Lump Sum
Minor Traffic Control, Modified, Max $___ .....Lump Sum

The quantities for maintaining traffic are estimates and based on the signing and related traffic control devices deemed necessary for this project as shown on the plans and applicable MDOT Maintaining Traffic Typicals, and include traffic regulators, lighted arrows and minor traffic devices.

The basis for quantities related to the pay items Sign, Type B, Temp, Prismatic, Furn and Sign, Type B, Temp, Prismatic, Oper are on the expectation or potential the Contractor may utilize one simultaneous setup each for a shoulder closure (MDOT Maintaining Traffic Typical M0110a) and a one lane closure (MDOT Maintaining Traffic Typical M0140a) along both Stone School Rd and Morgan Rd, and also one setup for a lane closure and traffic into the center left lane (MDOT Maintaining Traffic Typical M0231a) on Stone School Rd fronting the Wheeler Service Center with duplicate signs shown in each of the typicals being accounted for only one time. At a minimum, the Contractor will erect “Road Work Ahead” (W20-1) and “Work Zone Begins” signs in advance of the work area and within the CIA. The City will not pay for, any signing required for the above closures (MDOT Maintaining Traffic Typicals M0110a, M0140a, and M0231a) without a written request from the Contractor and approval of Engineer to furnish and operate such signing.

Payment for furnishing and operating Plastic Drums and Temporary Type B Signs Type III Barricades and 42 inch Channelizing Devices shall be for the maximum quantity in use at any one time during the work for the entire project.

Basis for measurement and payment to furnish and operated Lighted Arrows and Portable Changeable Message Signs is on the maximum number of units required for the entire project at any one time.

Any additional signing or maintaining traffic devices required to expedite the construction is at the Contractor’s expense unless approved by the Engineer.

The Engineer will pay for temporary traffic control devices only once irrespective of the number of times moved. Include any/all costs for temporary traffic control devices not addressed by this

detailed specification, or where there is no separate pay item in the contract, in the unit price for **Minor Traffic Control, Max $___**.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
PLAIN RIPRAP

AA:DAD 1 of 1 03/27/19

a. Description. This work includes placing riprap, as specified herein, as shown on the plans, and as directed by the Engineer.

b. Materials. Provide plain riprap in accordance with section 916 of the 2012 Michigan Department of Transportation (MDOT) Standard Specifications for Construction. Use only riprap produced from natural aggregate.

Use geotextile liner in accordance with section 910 of the 2012 MDOT Standard Specifications for Construction.

c. Construction Methods. Construct riprap as shown on plans, in accordance with section 813.03 of the 2012 MDOT Standard Specifications for Construction, and as directed by the Engineer.

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

Pay Item	**Pay Unit**
Riprap, Plain, Modified	Syd

Measure **Riprap, Plain, Modified** in are by the unit square yard and pay for it at contract unit price, which price includes costs for all labor, equipment and materials necessary to complete the work. This includes providing and placing the geotextile liner; excavating and disposing of surplus materials; and constructing riprap headers and trenches.

CITY OF ANN ARBOR

DETAILED SPECIFICATION
FOR
MULCH, SPECIAL

AA:DAD 1 of 1 03/27/19

a. Description. This work includes placing a mulch to infill the area(s) between the proposed tree plantings to create one continuous and defined landscape bed as shown on the plans. Complete this work as specified herein, and as directed by the Engineer.

b. Materials. Provide shredded bark mulch in accordance with section 917 of the 2012 Michigan Department of Transportation (MDOT) Standard Specifications for Construction.

c. Construction Methods. Place mulch to a depth of 5 to 6 inches in accordance with section 815.03 of the 2012 MDOT Standard Specifications for Construction, and as directed by the Engineer.

Outline the entirety of the landscape bed with a spade edge to define the area and keep the mulch contained.

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

Pay Item	**Pay Unit**
Mulch, Special	Square Yard

Measure **Mulch, Special** in area by the unit square yard and pay for it at contract unit price, which price includes costs for all labor, equipment and materials necessary to complete the work. This includes all costs associated with work to outline the landscape bed with a spade edge.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
EASTERN MASSASAUGA RATTLESNAKE

ENV:JDG 1 of 2 APPR:DS:MO:05-02-17
FHWA:APPR:05-04-17

a. Description. Contractors are advised that the project area has a known population of the Eastern Massasauga Rattlesnake or contains suitable habitat. This species is listed as federally threatened under the U. S. Endangered Species Act of 1973 (Act). Taking (killing, harming, or disturbing in any manner) of Eastern Massasauga Rattlesnake without a federal permit from the U.S. Fish and Wildlife Service is prohibited under federal law. The Act provides enforcement authority to the U.S. Fish and Wildlife Service and contains severe penalties for violations. The Contractor is liable to the Department for any penalties imposed for violations to the Act due to the Contractor's failure to comply with this special provision. Fines and penalties range up to $50,000 and 1 year in prison. Violation of any requirement listed below can lead to an immediate work stoppage in Eastern Massasauga Rattlesnake habitat. FHWA is required under federal law to assure MDOT is compliant with these provisions or risk losing federal funding for the project. This special provision addresses education, notification and intentional take requirements of the Contractor and their workers to protect the Eastern Massasauga Rattlesnake as required under the Act.

b. Materials. None specified.

c. Construction. Adhere to the following requirements:

1. Prior to construction, all Contractor staff working onsite must read the attached fact sheet (2 of 2). The purpose of the fact sheet is to provide the Contractor easy identification tips, notification that a venomous snake may be onsite, and raise awareness regarding its protected legal status.

2. Any possible Eastern Massasauga Rattlesnake sightings must be immediately reported to the Engineer.

3. Intentionally 'take' meaning: to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.

d. Measurement and Payment. All costs associated with complying with this special provision will not be paid for separately but will be considered to have been included with other items of work.

Eastern Massasauga Rattlesnake (*Sistrurus catenatus*)

Protected as federally threatened

Photos courtesy of the Michigan Department of Natural Resources and Michigan State University

This species is suspected to occur at or near the work site. Please have staff read the following information.

What Does an Eastern Massasauga Rattlesnake Look Like?

The eastern massasauga rattlesnake is a thick-bodied and short venomous snake. Adults typically measure 18 to 30 inches long. This species is gray to grayish-brown with dark blotches bordered by white down the middle of its back. The head is thick and triangular and has an obvious neck. Like many venomous snakes, the massasauga has vertical slitted pupils like a cat and heat sensing pits below the eyes. A rattle is present on the tail that "buzzes" as a warning signal, although they may strike without rattling. This is the only rattlesnake in Michigan.

Where Does It Live?

These snakes prefer wet areas, such as marshes, wet prairies, wet woods, and along rivers and lakes. They also use adjacent upland during parts of the year, especially in the summer. They hibernate during the winter in crayfish burrows, under logs and tree roots, and in small mammal burrows.

What Should You Do If You See a Massasauga Rattlesnake?

Massasaugas are shy and try to avoid confrontation but that does not mean they won't bite to protect themselves. Never try to handle, chase, provoke, or threaten a snake. When in potential snake habitat, wear thick boots that cover your ankles, long pants, and do not reach into thickets or under logs. If you hear the buzzing of a rattle stay calm and back away from the sound slowly. The snake will leave if you give it space.

If an eastern massasauga rattlesnake is found at a Michigan Department of Transportation (MDOT) project, the construction engineer should be contacted immediately. The construction engineer should then contact the MDOT ecologist at 517-335-2633.

How is the Massasauga Protected Under the Law?

The eastern massasauga rattlesnake is protected under federal law by the Endangered Species Act. This status prohibits harming or harassing the species along with policies to protect the species habitat.

For More Information:

60-Second Snakes: The Eastern Massasauga Rattlesnake
www.youtube.com/watch?v=-PFnXe_e02w

Photos
http://animaldiversity.org/site/accounts/pictures/Sistrurus_catenatus.html

General Information
http://mnfi.anr.msu.edu/emr

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
CULVERT AND SEWER BEDDING AND BACKFILL

BRG:TRK 1 of 2 APPR:JJG:DMG:09-21-15
FHWA:APPR:10-05-15

Delete subsection 401.03.A, on page 185 of the Standard Specifications for Construction, in its entirety and replace with the following:

A. **Excavation and Culvert Bedding.** Excavate in accordance with subsection 206.03.A. Construct pipe culvert bedding using granular material Class IIIA. Bedding must be placed at least 4 inches thick and uncompacted for the entire length of the culvert. Where rock or hardpan is encountered, excavate the trench to at least 6 inches below the proposed bottom of the pipe; place bedding using uncompacted granular material Class IIIA.

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. Use 6A, 17A, or 34R aggregate as backfill material for undercutting due to unstable soil conditions. Use 34R aggregate for bedding material in lieu of granular material Class IIIA. Place the backfill up to approximately 4 inches below the proposed bottom of the pipe. This work will be paid for as trench undercut and backfill according to subsection 402.04.E.

Delete subsection 401.03.D, on page 187 of the Standard Specifications for Construction, in its entirety and replace with the following:

D. **Backfilling.** Backfill culverts, within the limits of the roadbed, with granular material Class II, III, or IIIA. Place backfill in layers no greater than 10 inches thick and compact each layer to at least 95 percent of the maximum unit weight.

Backfill culvert downspouts, culverts, or portions of culvert outside the limits of the roadbed with granular or suitable material as detailed on the plans. Compact thoroughly as directed by the Engineer. Maintain at least 3 feet of cover, unless trimming for final grade.

Backfill smooth lined CPE and CPV with granular material Class IIIA to at least 1 foot above the pipe and as shown on the plans. The Engineer may allow the use of Class II, Class III or suitable material as backfill above this elevation. Place the backfill in layers no greater than 10 inches. Place the backfill equally on opposite sides of the pipe at the same time.

Stake, or use other methods to maintain the line and grade of the culvert during the backfilling operation.

Delete the last sentence of the second paragraph of subsection 402.03.A, on page 195 of the Standard Specifications for Construction, and replace with the following:

Place bedding using uncompacted granular material Class IIIA to the required elevation.

Delete the third paragraph of subsection 402.03.A, on page 195 of the Standard Specifications for Construction, and replace with the following:

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. Use 6A, 17A, or 34R aggregate as backfill material for undercutting due to unstable soil conditions. Use 34R aggregate for bedding material in lieu of granular material Class IIIA. Place the backfill up to approximately 4 inches below the proposed bottom of the pipe. This work will be paid for as trench undercut and backfill according to subsection 402.04.E.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SUPPLEMENTAL SPECIFICATION
FOR
ERRATA TO THE 2012 STANDARD SPECIFICATIONS

Page	Subsection	Errata
N/A	N/A	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”
N/A*	N/A	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”
3	101.02	Modify the abbreviation reading “AIS” to read “AISI”.
4*	101.02	Delete the following abbreviations and the long forms MDELEG MDNRE Add the following abbreviations and the long forms MDNR Michigan Department of Natural Resources MDEGLE Michigan Department of Environmental Great Lakes, and Energy MDLARA Michigan Department of Licensing and Regulatory Affairs NESC National Electrical Safety Code
27	103.02.B.2	Change the last sentence of the first paragraph to read "For decreases below 75 percent, the maximum allowable payment for work performed, including any adjustment, will not exceed an amount equal to 75 percent of the original contract quantity times the contract unit price."
34	104.05	The first sentence of this subsection should read "If the Contractor performs unauthorized work (work performed without the inspections required by the contract, extra work performed without Department approval, work performed contrary to the inspectors direction, or work performed while under suspension by the inspector), the Engineer may reject the unauthorized work."
46	104.12	Add the following to the end of the first paragraph "The use of right-of-way in wetlands and floodplains, or the crossing of water courses by construction equipment is prohibited."
53	105.09	Add the following to the end of the second paragraph "Any specifically produced material not purchased by the Department, will remain the

Page	Subsection	Errata
		Contractors and must be removed from the project prior to final acceptance."
56	107.02.B.2	This sentence should read "U.S.Army Corps of Engineers' Section 404, Dredge and Fill; and Section 10, Navigable Waterway."
56*	107.02.B	Add the subsection reading as follows: “3. U.S. Coast Guard Section 9, Navigable Waterway.” Change "MDNRE" to "MDEGLE" in this subsection.
64	107.12	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.”
65*	107.15.A	Change "MDNRE" to "MDEGLE" in four instances in this subsection.
66	107.15.A.3	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."
67*	107.16	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.
80	108.08.F	Delete the second paragraph in its entirety.
80	108.08.G	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.
83	108.10.C	Change the last sentence of the first paragraph to read: “The liquidated damages may contain one or more components of damages added together.”
83	108.10.C.1	In Table 108-1 delete the last row of the table and replace it with the following: ≥50,000,000 4,500
102	109.05.E.1	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:”

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

Page	Subsection	Errata
201*	402.04.H	Change the last sentence of the first paragraph to read "The Department will not make an adjustment in the pay items of **Minor Traf Devices** or **Traf Regulator Control**."
208	403.04.D.3	Change the sentence to read: “Removing and replacing pavement adjacent to the adjusted cover per Standard Plan R-37 Series.”
218	406.03.A.2	Change the first sentence of the first paragraph to read: “Design precast box culverts less than 10 feet in span length measured along the centerline of the roadway in accordance with current AASHTO LRFD Bridge Design Specifications and ASTM C 1577.” Add the following sentence to the end of the first paragraph: “Design precast box culverts greater than or equal to 10 feet in span length measured along the centerline of the roadway for HL-93 Modified live load.”
219	406.03.B	Change the first sentence of the first paragraph to read: “Submit shop drawings for culverts greater than or equal to 10 feet in span length measured along the centerline of the roadway to the Engineer, for review and approval in accordance with subsection 104.02.”
219	406.03.C.1	Change the second sentence of the first paragraph to read: “Before manufacture, perform load ratings on precast three-sided, arch or box culverts greater than or equal to 10 feet in span length measured along the centerline of the roadway, in accordance with the AASHTO Manual of Bridge Evaluation, Section 6, Part A, the Michigan Bridge Analysis Guide current at the time load rating is performed, and the Michigan Structure Inventory and Appraisal Guide.”
223	406.03.G	Add the following after the first sentence of the second paragraph: “Where possible, maintain the stream flow thru the existing channel, temporary channel, or temporary culvert.”
224	406.03.G	Replace the fifth paragraph of this subsection with the following: “The Contractor may use cast-in-place wing walls, headwalls, and aprons, as alternatives to precast wing walls, headwalls, and aprons. Attach cast-in-place wing walls or headwalls as shown on the shop drawings.”
225	406.03.G.2	Change the third sentence of the first paragraph to read: “Before placing the open-graded aggregate 34R, compact the coarse aggregate 6A using at least three passes of a vibrating plate compactor.”
226	406.03.G.2	Change the first sentence of the second paragraph of this subsection to read:

Page	Subsection	Errata
		"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**."

Page	Subsection	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."
257	503.03.E	Delete this subsection in its entirety.
265	504.03.E.3	Delete this subsection in its entirety.
269	504.04.A	This subsection should read "The unit prices for **Micro-Surface**, regardless of the type required, include cleaning existing pavement; applying a bond coat; temporary pavement markings; stationing; corrective action; and traffic control to complete corrective action."
299	601.04	In table 601-2 delete the row for Grade P-NC concrete in its entirety.
300	601.04	In table 601-2, the first sentence of footnote b. should read: “Use coarse aggregate 6A, 6AA or 6AAA for Grades P1, P2 and M.” In table 601-2, footnote c. should read: “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.”
308	602.03.F	Note c. in Table 602-1 should read "Refer to Section D6 of the Materials Quality Assurance Procedures Manual for inspection procedure."
320	602.04.C.3	The last paragraph in this subsection should read "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."
327	603.02	Change the second material in the list to read: “Concrete, Grade P-NC……..….603” Change the third material in the list to read: “Base Course Aggregate, 4G, 21AA, 22A……..902”
334	603.03.B.10	Change the last sentence of the second paragraph to read "Apply the required curing compound in two coats, at a rate of at least 1 gallon per 25 square yards for each coat."
342	603.04.G.3	Change "D1" to "W" in two instances in this subsection.
351	701.04	Replace Tables 701-1A and 701-1B with the Table 701-1 below.
362*	704.03.C	Change the last sentence in the first paragraph of this subsection to read: “The Engineer will consider approval after receiving applicable MDEGLE permits for the alternate method.”

Page	Subsection	Errata
372	705.03.C.1	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.”
374	705.03.C.2.c	Change the last sentence of the second paragraph to read “Drive test piles to the minimum pile length or practical refusal, whichever is greater”.
379	705.04	Change the fifth item down the list to read: “Pile, Galv (Structure No.)”
380	705.04	Change the last item in the list to read: “Pile Driving Equipment, Furn (Structure No.)”
383	706.02	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."
389	706.03.D.4.b	Change the first sentence of the fourth paragraph to read "Design forms, form supports, and attachments to carry dead loads, and resultant horizontal loads due to forming of cantilever overhangs."
390	706.03.E.4	Change the forth sentence of the first paragraph to read: “Use wire ties to secure all bar intersections for the top mat. Use wire ties to secure all bar intersections for other mats where the product of the length and width of bar intersection spacing exceeds 120 square inches.”
391	706.03.E.8	Change the first sentence of the second paragraph of this subsection to read: "Patch sawed or sheared ends and visible defects in accordance with ASTM A 775."
392	706.03.E.8	Change the last sentence of the third paragraph of this subsection to read: "Coat mechanical splices after splice installation in accordance with ASTM A 775 for patching damaged epoxy coating."
394	706.03.H.1	Delete the last paragraph on page 394 and replace it with the following: “Do not cast sidewalk, curb, or barrier pours until the deck concrete attains at least the minimum specified 7-day flexural or compressive strength, and after completion of the 7-day continuous wet cure. The

Page	Subsection	Errata
		forming of succeeding portions may occur, provided the wet cure is maintained."
406*	706.03.N.1.b	Add the following to the end of the last paragraph of the subsection: "Do not discontinue wet cure nor cast succeeding portions onto the bridge deck prior to completion of the 7-day two-phase continuous wet cure. Ensure excess or ponding cure water is removed prior to casting of succeeding structure portions."
416	707.03.C.1	Change the title of the subsection from "Shop Plans to read "Shop Drawings". Change the second sentence of this subsection to read: "Do not use design drawings in lieu of shop drawings."
426	707.03.C.17	Change the second sentence in the first paragraph of this subsection to read: "Tap oversized galvanized nuts in accordance with ASTM A 563 or AASHTO M 292 and meet Supplementary Requirement S1 of ASTM A 563 or AASHTO M 292."
430	707.03.D.7.b	Delete the first sentence of the last paragraph of this subsection.
430*	707.03.D.7.b	Change the title of the Table 707-4 to read: "Minimum Bolt Tension for ASTM F 3125 Grade A 325"
430	707.03.D.7.b	Change "104,000" to "103,000" in the last row under the column titled Minimum Bolt Tension.
431	707.03.D.7.c	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."
431*	707.03.D.7.c	Change the first sentence of the second paragraph to read: "Do not reuse ASTM F 3125 Grade A 325 bolts and nuts.."
434	707.04.A	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."
438	708.03.A.2	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:

Page	Subsection	Errata
		"Do not start production until the Engineer approves the shop drawings."
441*	708.03.A.11	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".
441	708.03.A.11	Change the fourth sentence of the fourth paragraph to read "Do not exceed a maximum concrete temperature of 150 °F during the curing cycle."
458	711.03.A	Change the first sentence in the first paragraph to read: "Shop drawings for structural steel and pipe railings are not required."
460	711.04.A	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."
461	711.04.F	The title of this subsection should read "**Reflective Marker, Permanent Barrier.**"
467	712.03.C	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."
471	712.03.J	Add the following to the end of the second paragraph of the subsection: "Select adhesive anchor systems from the Qualified Products List."
471	712.03.J.1	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:"
471	712.03.J.2	Change the third sentence of the first paragraph to read:

Page	Subsection	Errata
		"Use a tension testing device for unconfined testing, in accordance with ASTM E 488."
473	712.03.L.2	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."
473	712.03.L.3	Delete the existing first sentence in the first paragraph.
473	712.03.L.3	Change the third sentence of the first paragraph to read "Provide two test splices on the largest bar size."
473*	712.03.L.3	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."
488	713.02	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."
501	715.02	Add the following material reference above the two existing items: "Sealant for Perimeter of Beam Plates.....713"
508	715.03.D.1	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."
515	716.03.A	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."
519	716.04	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."
521	717.04.B	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."

Page	Subsection	Errata
522	718.02	Change the section number "906" in the third material in the list to read "919."
533	718.04	Delete the following pay item from the list: Temp Casing……Foot
533	718.04.B.2	Delete this subsection in its entirety.
533	718.04.B.3	Renumber this subsection as follows: “2. **Permanent Casing.”**
540	802.04	Change "Non reinf" in the last pay item of the list with "Nonreinf".
545*	803.04.E	Change the second sentence of the second paragraph to read: “The unit price for **Railing for Steps** includes the cost of providing, fabricating, installing, and grouting the railing.”
560	807.04	Delete the following pay item from the list: Guardrail Buffered End .....Each
560	807.04.B	Change the fifth paragraph of this subsection to read: “The Engineer will measure **Guardrail Salv** and **Guardrail, Mult, Salv** along the face of the rail (one face for multiple beams), including terminals and end shoes.”
567	808.04.C	Change the first paragraph of this subsection to read: "The Department will not pay separately for protective fence required in accordance with subsection 104.07."
569	809.04.A	Change the first sentence to read: “The unit price for **Field Office, Cl __** includes the cost of setup, providing access, grading, maintaining, plowing snow, and utility hook-up charges.”
570	809.04.B	Delete the existing second and third sentences in the first paragraph and replace them with the following: “The unit price for **Field Office, Utility Fees** includes the cost of monthly usage fees for electricity, gas, telephone service and charges, fuel for the stove, monthly water and sanitary service.”
570	809.04.B	Change the existing fourth sentence in the first paragraph to read: “The Department will reimburse the Contractor for monthly usage fees for electricity, gas, telephone, water and sanitary charges incurred by the Department.”
575	810.03.K	Change the subsection to read "K. **Drilled Piles for Cantilever and Truss Foundations.** Construct drilled piles for cantilever and truss foundations in accordance with section 718."

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578	810.03.N.2	Add the following sentence after the first sentence of the second paragraph on this page: "Mark each nut and bolt to reference the required rotation."
584	810.04	Delete the last pay item in the list: Truss Fdn Anchor Bolts, Replace…….Each
585	810.04.B.1	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."
585	810.04.B.2	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."
596	811.03.G	Delete this subsection in its entirety.
597*	811.03.H	Rename this subsection as follows: "G. **Raised Pavement Marker (RPM) Removal."**
597*	811.04	Change "Crosshatching" in the last pay item of the list on this page to "Cross Hatching".
598*	811.04	Delete the following pay items from the list: Pavt Mrkg, (material), 4 inch, SRSM, (color)……Foot Pavt Mrkg, (material), 4 inch, SRSM, 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"
599	811.04.B	Delete this subsection in its entirety.
599	811.04	Rename the following subsections as follows: "B. **Call Back.** C. **Pavement Marking Removal.** D. **Material Deficiency."**

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602	812.03.D	Change the first sentence to read "Provide and maintain traffic control devices meeting the requirements in the ATSSA Quality Guidelines for Work Zone Traffic Control Devices and Features."
603	812.03.D.1	The last sentence on this page should read "Lay the sign behind the guardrail, with the uprights pointing downstream from the traffic, and place the support stands and ballasts close to the guardrail."
604	812.03.D.2	The first sentence of the fourth paragraph should read "Do not use burlap or similar material to cover Department or Local Government owned signs."
604	812.03.D.5	The fifth sentence of the first paragraph should read "Do not mix drums and cones within a traffic channeling sequence."
605	812.03.D.6.b	Change the first sentence of the first paragraph to read: "The Department will allow the nighttime use of 42-inch channelizing devices, in the tangent area only, on CPM and pavement marking of any duration where the use of plastic drums restricts proposed lane widths to less than 11 feet, including shy distance."
605	812.03.D.7	Add the following sentence after the first sentence of the first paragraph: "Place a shoulder closure taper in advance of the lighted arrows placed on the shoulders."
607	812.03.D.9	Delete the second paragraph of this subsection and replace with the following: "Link sections together to fully engage the connection between sections. Maintain the barrier with end-attachments engaged and within 2 inches of the alignment shown on the plans."
608	812.03.D.10.b	Delete the second sentence of the second paragraph of this subsection beginning with "Install sand module attenuators…"
608	812.03.D.10.b	Add the following sentence after the second paragraph of this subsection: "Install impact attenuation devices as shown on the plans, as directed by the Engineer, or both."
609	812.03.D.10.e	Delete the second paragraph of this subsection.
612	812.03.D.13	Delete the third paragraph of this subsection and replace it with the following: "Perform work on signals in accordance with the contract and to the requirements of NEMA TS-5 standard for those items not identified in the contract."
613*	812.03.D.14.a.iii	Change the sentence in this subsection to read "Place a terminal end shoe, in accordance with Standard Plan R-66-Series, and of appropriate type based on existing guardrail, on both blunt guardrail ends."

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615	812.03.F	The second sentence of the second paragraph of this subsection should read: "The Contractor may use a Type R temporary pavement marking cover, per subsection 812.03.D.12 when authorized by the Engineer."
616	812.03.F.2	The last sentence of the first paragraph should read: "If the removal equipment cannot collect all removal debris, operate a self-propelled sweeper capable of continuously vacuuming up the removal debris immediately behind the removal equipment."
617	812.03.G.3	The first sentence of the second paragraph should read: "Sweep the shoulder and remove debris prior to placing traffic on the shoulder and throughout the time the shoulder is used to maintain traffic."
617	812.03.G.4.a	Delete "48 inch by 48 inch" from the first sentence of this subsection.
618*	812.03.G.7	The first sentence of the first paragraph should read: "Clean barrier reflectors, plastic drums, 42 inch channelizing devices, tubular markers, signs, barricades, and attached lights in operation on the project to ensure they meet required luminosity."
619	812.03.G.8	The second sentence of the third paragraph from the end of the subsection should read: "Illuminate traffic regulator stations at night per subsection 812.03.H."
621	812.03.I.6	Delete "48 inch by 48 inch" from the second sentence of this subsection.
622*	812.03.J	The second paragraph should read "Apply one 2-inch wide horizontal stripe of red and white conspicuity tape along at least 50 percent of each side of, and across the full width of the rear of the vehicle or equipment."
622	812.04	Change the second item down the list to read: “Traf Regulator Control” Change the sixth item down the list to read: “Sign Cover, Type I”
626	812.04.I	Change the reference "812.04.E" in the first sentence to "812.04.D".
628	812.04.M.4	Add the following as the first sentence of this subsection: “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."

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634	813.03.C.3	Change the reference "903.07.A" in the paragraph of this subsection to read "907.07.B".
638	814.03.D	Change the second sentence to read: “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.”
646	815.04	Change the first, third and fourth pay items in the list to read: “Site Preparation, Max (dollar) ..... Lump Sum Watering and Cultivating, First Season, Min (dollar)..... Lump Sum Watering and Cultivating, Second Season, Min (dollar) ..... Lump Sum”
646	815.04.C.1	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.
646	815.04.C.1.b	Delete this subsection in its entirety.
646	815.04.C.1.c	Rename this subsection to read: “b. Removal and disposal of unacceptable plants.”
646	815.04.C.2	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.
647	815.04.C.2	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.”
650	816.03.B	Delete the first paragraph of this subsection and replace with the following: "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."
650	816.03.B.1	Change the sentence to read: "For Class A fertilizer, evenly apply 176 pounds of chemical fertilizer nutrient per acre on a prepared seed bed."
650	816.03.B.2	Change the sentence to read: "For Class B fertilizer, evenly apply 120 pounds of chemical fertilizer nutrient per acre on a prepared seed bed."
650*	816.03.B.3	Change the sentence to read: "For Class C fertilizer, evenly apply 80 pounds of chemical fertilizer nutrient per acre on established turf."

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663*	819.01	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.”
671	819.03.F.1	Change the paragraph to read: “Install light standard foundations as shown on the plans and the standard plans, as applicable.”
673	819.03.G.4.b	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."
673	819.03.G.4.b	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."
678	819.04	Change the ninth pay item in the list to read: “DB Cable, 600V, 1/C# (size)..... Foot”
678*	819.04	Delete the last item in the list on this page reading: “DB Cable, in Conduit, 600 Volt, (number) 1/C# (size)..... Foot”
679	819.04	Change the first pay item in the list to read: “DB Cable, in Conduit, 600V, 1/C# (size)..... Foot”
679	819.04	Change the sixth pay item in the list to read: “Cable, P.J., 600V, 1, (size) ..... Foot”
679	819.04	Change the second pay item from the bottom of the list to read: “Conc Pole, Fit Up, (type) ..... Each”
680	819.04	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,

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		and disposal of waste excavated material. If the contract does not include pay items for restoring the site in kind in accordance with section 816, the Department will consider the cost of restoration included in the pay items listed in this subsection."
680	819.04.A	Add the following paragraph after the first paragraph of the subsection. "The unit prices for **Conduit, Rem** include the cost of removing the type, number, and size of conduit shown on the plans." Change the third paragraph of the subsection to read: "The unit prices for **Conduit, (type), __ inch** and **Conduit, DB, (number), __ inch** include the cost of installing the type, number, and size of conduit shown on the plans, and installing marking tape."
681	819.04.B	Change the last paragraph of the subsection to read: "The unit price for **DB Cable, in Conduit, Rem** includes the cost of removing all cables from the existing conduit measured per lineal foot of conduit."
681	819.04.C	Change the first paragraph of the subsection to read: "The unit prices for **Cable, Rem** and **Cable, (type), Rem** include the cost of dead ending, circuit cutting, installing guying, work required to leave circuits operable, and disposing of the removed cables, wire, hardware, and other appurtenances."
681	819.04.D	Change the first paragraph of the subsection to read: "The unit price for **Cable, Pole, (type), Disman** includes the cost of dismantling and off-site disposal of the following:"
685	820.01.D	Change the sentence to read: "Excavate, backfill, restore the site in kind in accordance with section 816, and dispose of excess or unsuitable material;"
688	820.03.C	Change the seventh paragraph of this subsection to read: "Tighten top anchor bolt nuts, snug, in accordance with the first four paragraphs of subsection 810.03.N.2, except beeswax will not be required."
696	820.04	Add the following pay items to the list: "Pedestal, Pushbutton, Alum……Each Pedestal, Pushbutton, Rem……Each"
697	820.04.A.2	Change the sentence to read: "If the contract does not include pay items for restoring the site in kind in accordance with section 816, the Department will consider the cost of restoration included in the pay items listed in this subsection."
698	820.04.B	Delete the second paragraph of this subsection found on this page.
698	820.04.C	Change "**Fdns**" to read "**Fdn**" in four instances in this subsection.

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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."

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742	902.03.C.2.b.iii	Change the sentence to read as follows: “Maximum Loss by Washing per MTM 108 of 3.0 percent”.
744	902.07	Delete the fourth paragraph of the subsection and replace it with the following: “The Engineer will only allow the use of granular material produced from crushed portland cement concrete for embankment and as trench 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.
746*	902.11	Change the Item of Work by Section Number column in Table 902-1 for the 6AA row to read: "406, 601, 602, 706, 708, 806". Change the Item of Work by Section Number column in Table 902-1 for the 6A row to read: "206, 401, 402, 406, 601, 602, 603, 706, 806". Change the Item of Work by Section Number column in Table 902-1 for the 34R row to read: "401, 404, 406".
751*	902.11	Replace Table 902-6 with the Table 902-6 below.
751	Table 902-7	Under the Material column in the fourth row change the "FA2" to read "2FA".
751	Table 902-7	Under the Material column in the fifth row change the "FA3" to read "3FA".
752	Table 902-8	Under the Material column in the fourth row change the "FA2" to read "2FA".
752	Table 902-8	Under the Material column in the fifth row change the "FA3" to read "3FA".
761	Table 904-2	Delete the footnote f and any other reference to footnote f from the table.
767	905.03	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”.
767*	905.03	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”.
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

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		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."

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784*	908.09.C	Change this subsection to read: “C. **Hardware.** 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.”
784	908.11.A	Change the first sentence of the first paragraph to read: “Steel beam sections, backup elements, terminal end shoes, and special end shoes must meet the requirements of AASHTO M 180, for Class A guardrail.”
785*	908.11.B	Change the second paragraph to read: "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." Change the third paragraph to read: "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." Change the fifth paragraph to read: "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."
787	908.14.B	Add the following sentence to the end of the third paragraph of this subsection: "Exposed threaded ends of anchor bolts must be galvanized a minimum of 20 inches." Change the sixth paragraph in this subsection to read: "Provide washers meeting the requirements of ASTM F 436 for circular washers."
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

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		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

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		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

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		material. The Department will allow no more than 3 percent deviation from the minimum wall thickness specified. Wall thickness range must be within 12 percent in accordance with ASTM D 3035 for smooth-wall coilable schedule 40 and 80 PE conduit.”
858	918.01.E	Delete the first three sentences of the second paragraph shown on page 858.
863	918.06.F.1	Delete the third paragraph in this subsection in its entirety and replace it with the following: "Provide smooth or deformed welded wire fabric in accordance with ASTM A 1064."
864	918.07.C	Change the first sentence of the first paragraph to read: “Provide anchor bolts, nuts, and washers meeting the requirements of subsection 908.14.A and subsection 908.14.B.”
864	918.07.C	Delete the second sentence of the second paragraph.
864	918.07.C	Change the third sentence to read: “Provide anchor bolts threaded 4 inches beyond the anchor bolt projection shown on the plans.”
867	918.08.C	Change the last sentence of the first paragraph on this page to read: “Galvanize bolts, nuts, washers, and lock washers as specified in subsection 908.14.B.”
867	918.08.C	Change the last sentence of the subsection to read: “Provide each frangible base with manufacturer access covers as shown on the plans.”
867*	918.08.D	Delete this subsection in its entirety and replace with the following: "Provide galvanized anchor bolts, studs, nuts, couplings, and washers in accordance with subsection 908.14."
879	918.10.J	Change the third sentence of the second paragraph of this subsection to read: "Provide anchor bolts and associated nuts, washers, and hardware meeting the requirements of subsection 908.14."
887	919.06	Change the second paragraph to read: “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:

Page	Subsection	Errata
		"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, SRSM, (color)……598……811 Pavt Mrkg, (material), 4 inch, SRSM, 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:

Page	Subsection	Errata
		“Pavt Mrkg, Polyurea, (legend)……598…….811 Pavt Mrkg, Polyurea, (symbol)……598…….811 Pedestal, Pushbutton, Alum……....696…….820 Pedestal, Pushbutton, Rem……..…….696…….820”
962	Pay Item Index	Change the following pay items in the list to read: “Pile Driving Equipment, Furn (Structure No.) Pile, Galv (Structure No.)”
963	Pay Item Index	Change the following pay item to read: “Rem Curing Compound, for Longit Mrkg, __ inch .....598 811”
964	Pay Item Index	Change the following pay item to read: “Sewer, Cl __, __ inch, Jacked in Place.....200 402” “Sign Cover, Type I.....622 812”
965*	Pay Item Index	Change the following pay item in the list to read: “Steel Casing Pipe, __ inch, Tr Det __ Site Preparation, Max (dollar) .....646 815”
966	Pay Item Index	Change the following pay item to read: “Structures, Rem (Structure No.).....123 204”
966	Pay Item Index	Delete the following pay item form the list; Temp Casing……...533……718
967*	Pay Item Index	Delete the following pay item from the list; Truss Fdn Anchor Bolts, Replace……...584……810
967	Pay Item Index	Change the following pay item in the list to read: “Traf Regulator Control”
968*	Pay item Index	Change the following pay item in the list to read: “Water Shutoff, Adj, Temp, Case __ Watering and Cultivating, First Season, Min (dollar).....646 815 Watering and Cultivating, Second Season, Min (dollar) .....646 815”
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

Concrete Grade (e,h)	Section Number Reference (i)	Cement Content per cyd (b,c)		Slump (inches)				Minimum Strength of Concrete (f)					
					Type MR, F, or G Admixtures (g)			Flexural (psi)			Compressive (psi)		
		lb	sack	Type A, D or no Admixture	Before Admixture	After Admixture (Type MR)	After Admixture (Type F or G)	7 Day	14 Day	28 Day (Class Design Strength)	7 Day	14 Day	28 Day (Class Design Strength)
D (a)	706, 711, 712	658 (d)	7.0	0 - 3	0 - 3	0 - 6	0 - 7	625	700	725	3,200	4,000	4,500
S1	705	611	6.5	3 - 5	0 - 3	3 - 6	3 - 7	600	650	700	3,000	3,500	4,000
T	705, 706	611	6.5	3 - 7	0 - 4	3 - 7	3 - 8	550	600	650	2,600	3,000	3,500
S2 (a)	401, 705, 706, 712, 713, 801, 802, 803, 810	564	6.0	0 - 3	0 - 3	0 - 6	0 - 7	550	600	650	2,600	3,000	3,500
		526 (d)	5.6										
S3	402, 403, 803, 804, 806	517	5.5	0 - 3	0 - 3	0 - 6	0 - 7	500	550	600	2,200	2,600	3,000
		489 (d)	5.2										

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 retarding 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 retarding admixture. Ensure Grade D concrete in concrete diaphragms contains a water-reducing admixture, or a water-reducing retarding admixture. For night casting, the Contractor may use a water-reducing admixture in lieu of water-reducing retarding 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:

401	Culverts	711	Bridge Railings	803	Concrete Sidewalk, Sidewalk Ramps, and Steps
402	Storm Sewers	712	Bridge Rehabilitation-Concrete	804	Concrete Barriers and Glare Screens
403	Drainage Structures	713	Bridge Rehabilitation-Steel	806	Bicycle Paths
705	Foundation Piling	801	Concrete Driveways	810	Permanent Traffic Signs and Supports
706	Structural Concrete Construction	802	Concrete Curb, Gutter and Dividers		

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

Table 902-6
Superpave Final Aggregate Blend Physical Requirements

Est. Traffic (million ESAL)	Mix Type	Percent Crushed Minimum Criteria		Fine Aggregate Angularity Minimum Criteria		% Sand Equivalent Minimum Criteria		Los Angeles Abrasion % Loss Maximum Criteria		% Soft Particles Maximum Criteria (b)		% Flat and Elongated Particles Maximum Criteria (c)	
		Top & Leveling Courses	Base Course	Top & Leveling Courses	Base Course	Top & Leveling Courses	Base Course	Top & Leveling Courses	Base Course	Top & Leveling Courses	Base Course	Top & Leveling Courses	Base Course
< 0.3	LVSP	55/—	—	—	—	40	40	45	45	10	10	—	—
< 0.3	E03	55/—	—	—	—	40	40	45	45	10	10	—	—
≥0.3 -<1.0	E1	65/—	—	40	—	40	40	40	45	10	10	—	—
≥1.0 - < 3	E3	75/—	50/—	40(a)	40(a)	40	40	35	40	5	5	10	10
≥3 - <10	E10	85/80	60/—	45	40	45	45	35	40	5	5	10	10
≥10 - <30	E30	95/90	80/75	45	40	45	45	35	35	3	4.5	10	10
≥30 - <100	E50	100/100	95/90	45	45	50	50	35	35	3	4.5	10	10

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

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

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

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

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

Table 912-10 Minimum Retention Requirements				
Preservative	**Minimum Retention, (pcf)**			**AWPA Standard**
	Guardrail Posts	**Sign Posts**	**Blocks**	
Pentachlorophenol	0.60	0.50	0.40	A6
CCA, ACZA	0.60	0.50	0.40	A11
ACQ (a)	0.60	Not Allowed	0.40	A11
CA-B (a)	0.31	Not Allowed	0.21	A11
CA-A (a)	0.31	Not Allowed	0.15	A11
Other Waterborne preservatives	AWPA Commodity Specification A, Table 3.0, Use Category 4B	Not Allowed	AWPA Commodity Specification A, Table 3.0, Use Category 4A	A11
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.				

MSU Soil Testing Lab Recommendationsfor Phosphorus Applications to Turfgrass
3/8/2012

		Sand based rootzone establishment	Golf greens and tees est. or mature; Kentucky bluegrass or perennial ryegrass athletic fields est. or mature; sand based rootzone mature	Lawns, golf course fairways; establishment or mature	Establishment without soil test
Bray P1, Mehlich 3 Soil Test Value (ppm): pH<7.4	Olsen Soil Test Value (ppm) pH>7.4	Recommendation (lbs. P_2O_5/1000 ft.2)	Recommendation (lbs. P_2O_5/1000 ft.2)	Recommendation (lbs. P_2O_5/1000 ft.2)	Recommendation (lbs. P_2O_5/1000 ft.2)
					2.5 lbs. year (Maximum single application of 1.5 lbs.) 109 lbs/acre year (maximum single application of 65 lbs/acre)
0	0	4.4	3.4	2.5	
2	1.3	4.1	3.1	2.2	
4	2.7	3.9	2.7	1.9	
6	4	3.6	2.4	1.6	
8	5.3	3.4	2.0	1.3	
10	6.7	3.1	1.7	1.0	
12	8	2.8	1.4	0.7	
14	9.3	2.6	1.0	0.4	
16	10.7	2.3	0.7	0.1	
18	12	2.1	0.3	0.0	
20	13.3	1.8	0.0		
22	14.7	1.5			
24	16	1.3			
26	17.3	1.0			
28	18.7	0.8			
30	20	0.5			
32	21.3	0.2			
34	22.7	0.0			

Web resources: www.turf.msu.edu or www.bephosphorussmart.msu.edu

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

General Decision Number: **MI190001 03/08/2019 MI1**

Superseded General Decision Number: MI20180001

State: Michigan

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

Counties: Michigan Statewide.

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.60 for calendar year 2019 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.60 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2019. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate,if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/04/2019
1	01/25/2019
2	03/08/2019

CARP0004-004 06/01/2018

REMAINDER OF STATE

	Rates	Fringes
CARPENTER (Piledriver).....$	27.12	20.19

CARP0004-005 06/01/2018

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

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

ELEC0017-005 06/04/2018

STATEWIDE

	Rates	Fringes
Line Construction		
Groundman/Driver	$ 28.33	6.45+29%
Journeyman Signal Tech, Communications Tech, Tower Tech & Fiber Optic Splicers	$ 39.31	6.45+29%
Journeyman Specialist	$ 45.21	6.45+29%
Operator A	$ 33.22	6.45+29%
Operator B	$ 31.02	6.45+29%

Classifications

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

ENGI0324-003 06/01/2018

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

	Rates	Fringes
OPERATOR: Power Equipment (Steel Erection)		
GROUP 1	$ 45.37	23.85
GROUP 2	$ 46.37	23.85
GROUP 3	$ 43.87	23.85
GROUP 4	$ 44.87	23.85
GROUP 5	$ 42.37	23.85
GROUP 6	$ 43.37	23.85
GROUP 7	$ 42.10	23.85
GROUP 8	$ 43.10	23.85
GROUP 9	$ 41.65	23.85
GROUP 10	$ 42.65	23.85
GROUP 11	$ 40.92	23.85
GROUP 12	$ 41.92	23.85
GROUP 13	$ 40.56	23.85
GROUP 14	$ 41.56	23.85
GROUP 15	$ 39.92	23.85
GROUP 16	$ 37.82	23.85
GROUP 17	$ 23.64	11.00
GROUP 18	$ 27.08	11.00

FOOTNOTE:

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

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

GROUP 16: Forklift and 1 drum hoist

GROUP 17: Compressor or welder operator

GROUP 18: Oiler

ENGI0324-004 06/01/2018

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

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

	Rates	Fringes
OPERATOR: Power Equipment (Steel Erection)		
AREA 1		

GROUP 1	$ 45.37	23.85
GROUP 2	$ 42.10	23.85
GROUP 3	$ 40.56	23.85
GROUP 4	$ 37.82	23.85
GROUP 5	$ 23.64	11.00
GROUP 6	$ 27.08	11.00
AREA 2		
GROUP 1	$ 45.37	23.85
GROUP 2	$ 42.10	23.85
GROUP 3	$ 40.56	23.85
GROUP 4	$ 37.82	23.85
GROUP 5	$ 23.64	11.00
GROUP 6	$ 27.08	11.00

FOOTNOTES:

Crane operator with main boom and jib 300' or longer: $1.50 additional to the group 1 rate. Crane operator with main boom and jib 400' or longer: $3.00 additional to the group 1 rate.
PAID HOLIDAYS: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS:

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

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

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

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

GROUP 5: Air Compressor, Welder, Generators, Conveyors

GROUP 6: Oiler and fire tender

ENGI0324-005 09/01/2018

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

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

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

AREA 1:		
GROUP 1	$ 32.53	23.85
GROUP 2	$ 27.80	23.85
GROUP 3	$ 27.07	23.85
GROUP 4	$ 26.50	23.85
AREA 2:		
GROUP 1	$ 30.82	23.85
GROUP 2	$ 25.93	23.85
GROUP 3	$ 25.43	23.85
GROUP 4	$ 25.15	23.85

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

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

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

GROUP 3: Air compressors (600 cfm or larger); Air compressors (2 or more-less than 600 cfm); Boom truck (non-swinging, non- powered type boom); Concrete breaker (self-propelled or truck mounted - includes compressor); Concrete paver (1 drum-l/2 yd. or larger); Elevator (other than passenger); Maintenance person; Pump (2 or more-4-in. up to 6-in. discharge-gas or diesel powered - excluding submersible pumps); Pumpcrete machine (and similar equipment); Wagon drill (multiple); Welding machine or generator (2 or more-300 amp. or larger - gas or diesel powered)

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

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ENGI0324-006 06/01/2018

AREA 1: GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES
AREA 2: ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW,

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

	Rates	Fringes
Power equipment operators: (AIRPORT, BRIDGE & HIGHWAY CONSTRUCTION)		
AREA 1		
GROUP 1	$ 33.36	23.90
GROUP 2	$ 26.63	23.90
GROUP 3	$ 27.93	23.90
GROUP 4	$ 25.90	23.90
GROUP 5	$ 20.70	11.00
AREA 2		
GROUP 1	$ 33.36	23.90
GROUP 2	$ 26.63	23.90
GROUP 3	$ 27.93	23.90
GROUP 4	$ 25.90	23.90
GROUP 5	$ 20.70	11.00

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Asphalt plant operator; Crane operator (does not include work on bridge construction projects when the crane operator is erecting structural components); Dragline operator; Shovel operator; Locomotive operator; Paver operator (5 bags or more); Elevating grader operator; Pile driving operator; Roller operator (asphalt); Blade grader operator; Trenching machine operator (ladder or wheel type); Auto-grader; Slip form paver; Self-propelled or tractor-drawn scraper; Conveyor loader operator (Euclid type); Endloader operator (1 yd. capacity and over); Bulldozer; Hoisting engineer; Tractor operator; Finishing machine operator (asphalt); Mechanic; Pump operator (6-in. discharge or over, gas, diesel powered or generator of 300 amp. or larger); Shouldering or gravel distributing machine operator (self- propelled); Backhoe (with over 3/8 yd. bucket); Side boom tractor (type D-4 or equivalent or larger); Tube finisher (slip form paving); Gradall (and similar type machine); Asphalt paver (self- propelled); Asphalt planer (self-propelled); Batch plant (concrete-central mix); Slurry machine (asphalt); Concrete pump (3 in. and over); Roto-mill; Swinging boom truck (over 12 ton capacity); Hydro demolisher (water blaster); Farm-type tractor with attached pan

GROUP 2: Screening plant operator; Washing plant operator; Crusher operator; Backhoe (with 3/8 yd. bucket or less); Side boom tractor (smaller than D-4 type or equivalent); Sweeper (Wayne type and similar equipment); Vacuum truck operator; Batch plant (concrete dry batch)

GROUP 3: Grease Truck

GROUP 4: Air compressor operator (600 cu. ft. per min or more); Air compressor operator (two or more, less than 600 cfm); Wagon drill operator; Concrete breaker; Tractor operator (farm type with attachment)

GROUP 5: Boiler fire tender; Oiler; Fire tender; Trencher

(service); Flexplane operator; Cleftplane operator; Grader operator (self-propelled fine-grade or form (concrete)); Finishing machine operator (concrete); Boom or winch hoist truck operator; Endloader operator (under 1 yd. capacity); Roller operator (other than asphalt); Curing equipment operator (self-propelled); Concrete saw operator (40 h.p. or over); Power bin operator; Plant drier operator (asphalt); Vibratory compaction equipment operator (6 ft. wide or over); Guard post driver operator (power driven); All mulching equipment; Stump remover; Concrete pump (under 3-in.); Mesh installer (self- propelled); Tractor operator (farm type); End dump; Skid steer

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ENGI0324-007 05/01/2018

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

	Rates	Fringes
OPERATOR: Power Equipment (Steel Erection)		
Compressor, welder and forklift	$ 29.58	23.60
Crane operator, main boom & jib 120' or longer	$ 35.57	23.60
Crane operator, main boom & jib 140' or longer	$ 35.85	23.60
Crane operator, main boom & jib 220' or longer	$ 36.39	23.60
Mechanic with truck and tools	$ 34.76	23.60
Oiler and fireman	$ 28.16	23.60
Regular operator	$ 33.12	23.60

ENGI0324-008 10/01/2015

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

	Rates	Fringes
OPERATOR: Power Equipment (Sewer Relining)		
GROUP 1	$ 30.70	12.93
GROUP 2	$ 29.17	12.93

SEWER RELINING CLASSIFICATIONS

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

in connection with the CCTV system

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

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ENGI0325-012 05/01/2018

	Rates	Fringes
Power equipment operators - gas distribution and duct installation work:		
GROUP 1	$ 30.68	23.85
GROUP 2	$ 30.56	23.85
GROUP 3	$ 28.85	23.85

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

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

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

GROUP 3: Oiler, hydraulic pipe pushing machine, grease person and hydrostatic testing operator.

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* IRON0008-007 06/01/2018

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

	Rates	Fringes
Ironworker - pre-engineered metal building erector	$ 23.70	6.95
IRONWORKER		
General contracts $10,000,000 or greater	$ 30.92	26.97
General contracts less than $10,000,000	$ 30.92	26.97

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

IRON0025-002 06/01/2018

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

	Rates	Fringes
Ironworker - pre-engineered metal building erector		
Alcona, Alpena, Arenac, Cheboygan, Clare, Clinton, Crawford, Gladwin, Gratiot, Huron, Ingham, Iosco, Isabella, Jackson, Lapeer, Livingston (west of Burkhardt Road), Montmorency, Ogemaw, Oscoda, Otsego, Presque Isle, Roscommon, Sanilac, Shiawassee, Tuscola & Washtenaw (west of U.S. 23)	$ 24.26	22.11
Bay, Genesee, Lapeer, Livingston (east of Burkhardt Road), Macomb, Midland, Oakland, Saginaw, St. Clair, The University of Michigan, Washtenaw (east of U.S. 23) & Wayne	$ 25.48	23.11
IRONWORKER		
Ornamental and Structural	$ 35.52	28.65
Reinforcing	$ 29.48	27.74

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* IRON0055-005 07/01/2018

LENAWEE AND MONROE COUNTIES:

	Rates	Fringes
IRONWORKER		
Pre-engineered metal buildings	$ 23.59	19.35
All other work	$ 30.13	23.25

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* IRON0292-003 06/01/2018

BERRIEN AND CASS COUNTIES:

	Rates	Fringes
IRONWORKER (Including pre-engineered metal building erector)	$ 29.75	22.01

IRON0340-001 06/19/2017

ALLEGAN, ANTRIM, BARRY, BENZIE, BRANCH, CALHOUN, CHARLEVOIX, EATON, EMMET, GRAND TRAVERSE, HILLSDALE, IONIA, KALAMAZOO, KALKASKA, KENT, LAKE, LEELANAU, MANISTEE, MASON, MECOSTA, MISSAUKEE, MONTCALM, MUSKEGON, NEWAYGO, OCEANA, OSCEOLA,

OTTAWA, ST. JOSEPH, VAN BUREN AND WEXFORD COUNTIES:

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

LABO0005-006 10/01/2017

	Rates	Fringes
Laborers - hazardous waste abatement: (ALCONA, ALPENA, ANTRIM, BENZIE, CHARLEVOIX, CHEBOYGAN, CRAWFORD, EMMET, GRAND TRAVERSE, IOSCO, KALKASKA, LEELANAU, MISSAUKEE, MONTMORENCY, OSCODA, OTSEGO, PRESQUE ISLE AND WEXFORD COUNTIES - Zone 10)		
Levels A, B or C	$ 17.45	12.75
class b	$ 18.00	12.85
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D	$ 16.45	12.75
class a	$ 17.00	12.85
Zone 10		
Laborers - hazardous waste abatement: (ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES - Zone 11)		
Levels A, B or C	$ 21.63	12.88
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D	$ 20.63	12.88
Laborers - hazardous waste abatement: (ALLEGAN, BARRY, BERRIEN, BRANCH, CALHOUN, CASS, IONIA COUNTY (except the city of Portland); KALAMAZOO, KENT, LAKE, MANISTEE, MASON, MECOSTA, MONTCALM, MUSKEGON, NEWAYGO, OCEANA, OSCEOLA, OTTAWA, ST. JOSEPH AND VAN BUREN COUNTIES - Zone 9)		
Levels A, B or C	$ 20.95	12.85
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D	$ 19.95	12.85

Laborers - hazardous waste abatement: (ARENAC, BAY, CLARE, GLADWIN, GRATIOT, HURON, ISABELLA, MIDLAND, OGEMAW, ROSCOMMON, SAGINAW AND TUSCOLA COUNTIES - Zone 8)

Levels A, B or C	$ 20.65	12.85
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D	$ 19.65	12.85

Laborers - hazardous waste abatement: (CLINTON, EATON AND INGHAM COUNTIES; IONIA COUNTY (City of Portland); LIVINGSTON COUNTY (west of Oak Grove Rd., including the City of Howell) - Zone 6)

Levels A, B or C	$ 24.65	12.85
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D	$ 23.65	12.85

Laborers - hazardous waste abatement: (GENESEE, LAPEER AND SHIAWASSEE COUNTIES - Zone 7)

Levels A, B or C	$ 23.61	13.41
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D	$ 22.61	13.41

Laborers - hazardous waste abatement: (HILLSDALE, JACKSON AND LENAWEE COUNTIES - Zone 4)

Levels A, B or C	$ 24.19	12.85
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D	$ 23.19	12.85

Laborers - hazardous waste abatement: (LIVINGSTON COUNTY (east of Oak Grove Rd. and south of M-59, excluding the city of Howell); AND WASHTENAW COUNTY - Zone 3)

Levels A, B or C	$ 29.70	14.20
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D	$ 28.70	14.20

Laborers - hazardous waste abatement: (MACOMB AND WAYNE COUNTIES - Zone 1)

Levels A, B or C	$ 28.35	16.75

Work performed in conjunction with site preparation not requiring the use of personal protective equipment;
Also, Level D.....$ 27.35 16.75

Laborers - hazardous waste abatement: (MONROE COUNTY - Zone 4)
Levels A, B or C.....$ 30.85 14.45
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;
Also, Level D.....$ 29.84 14.45

Laborers - hazardous waste abatement: (OAKLAND COUNTY and the Northeast portion of LIVINGSTON COUNTY bordered by Oak Grove Road on the West and M-59 on the South - Zone 2)
Level A, B, C.....$ 28.85 16.75
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;
Also, Level D.....$ 27.85 16.75

Laborers - hazardous waste abatement: (SANILAC AND ST. CLAIR COUNTIES - Zone 5)
Levels A, B or C.....$ 25.19 15.86
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;
Also, Level D.....$ 24.19 15.86

LABO0259-001 09/01/2018

AREA 1: MACOMB, OAKLAND AND WAYNE COUNTIES
AREA 2: ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GENESEE, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LIVINGSTON, LUCE, MACKINAC, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONROE, MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SAGINAW, ST. CLARE, ST. JOSEPH, SANILAC, SCHOOLCRAFT, SHIAWASSEE, TUSCOLA, VAN BUREN, WASHTENAW AND WEXFORD COUNTIES

	Rates	Fringes
Laborers - tunnel, shaft and caisson:		
AREA 1		
GROUP 1	$ 22.57	16.80
GROUP 2	$ 22.68	16.80

GROUP 3.....$ 22.74 16.80
GROUP 4.....$ 22.92 16.80
GROUP 5.....$ 23.17 16.80
GROUP 6.....$ 23.50 16.80
GROUP 7.....$ 16.78 16.80
AREA 2
GROUP 1.....$ 24.10 12.85
GROUP 2.....$ 24.19 12.85
GROUP 3.....$ 24.29 12.85
GROUP 4.....$ 24.45 12.85
GROUP 5.....$ 24.71 12.85
GROUP 6.....$ 25.02 12.85
GROUP 7.....$ 17.29 12.85

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

TUNNEL LABORER CLASSIFICATIONS

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

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

GROUP 3: Air tool operator (jackhammer, bush hammer and grinder), first bottom, second bottom, cage tender, car pusher, carrier, concrete, concrete form, concrete repair, cement invert laborer, cement finisher, concrete shoveler, conveyor, floor, gasoline and electric tool operator, gunite, grout operator, welder, heading dinky person, inside lock tender, pea gravel operator, pump, outside lock tender, scaffold, top signal person, switch person, track, tugger, utility person, vibrator, winch operator, pipe jacking, wagon drill and air track operator and concrete saw operator (under 40 h.p.)

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

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

GROUP 6: Dynamite and powder

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

LABO0334-001 09/01/2018

	Rates	Fringes
Laborers - open cut:		
ZONE 1 - MACOMB, OAKLAND AND WAYNE COUNTIES:		
GROUP 1	$ 22.42	16.80
GROUP 2	$ 22.53	16.80
GROUP 3	$ 22.58	16.80

GROUP 4	$ 22.66	16.80
GROUP 5	$ 22.72	16.80
GROUP 6	$ 20.17	16.80
GROUP 7	$ 16.79	16.80
ZONE 2 - LIVINGSTON COUNTY (east of M-151 (Oak Grove Rd.)); MONROE AND WASHTENAW COUNTIES:		
GROUP 1	$ 23.75	12.85
GROUP 2	$ 23.86	12.85
GROUP 3	$ 23.98	12.85
GROUP 4	$ 24.05	12.85
GROUP 5	$ 24.20	12.85
GROUP 6	$ 21.50	12.85
GROUP 7	$ 18.14	12.85
ZONE 3 - CLINTON, EATON, GENESEE, HILLSDALE AND INGHAM COUNTIES; IONIA COUNTY (City of Portland); JACKSON, LAPEER AND LENAWEE COUNTIES; LIVINGSTON COUNTY (west of M-151 Oak Grove Rd.); SANILAC, ST. CLAIR AND SHIAWASSEE COUNTIES:		
GROUP 1	$ 21.94	12.85
GROUP 2	$ 22.08	12.85
GROUP 3	$ 22.20	12.85
GROUP 4	$ 22.25	12.85
GROUP 5	$ 22.39	12.85
GROUP 6	$ 19.69	12.85
GROUP 7	$ 16.84	12.85
ZONE 4 - ALCONA, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CLARE, CRAWFORD, EMMET, GLADWIN, GRAND TRAVERSE, GRATIOT AND HURON COUNTIES; IONIA COUNTY (EXCEPT THE CITY OF PORTLAND); IOSCO, ISABELLA, KALAMAZOO, KALKASKA, KENT, LAKE,LEELANAU, MANISTEE, MASON, MECOSTA, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SAGINAW, ST. JOSEPH, TUSCOLA, VAN BUREN AND WEXFORD COUNTIES:		
GROUP 1	$ 20.97	12.85
GROUP 2	$ 21.10	12.85
GROUP 3	$ 21.21	12.85
GROUP 4	$ 21.28	12.85
GROUP 5	$ 21.40	12.85
GROUP 6	$ 18.62	12.85
GROUP 7	$ 16.96	12.85
ZONE 5 - ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC,		

HOUGHTON, IRON,
KEWEENAW, LUCE, MACKINAC,
MARQUETTE, MENOMINEE,
ONTONAGON AND SCHOOLCRAFT
COUNTIES:

GROUP 1	$ 21.19	12.85
GROUP 2	$ 21.33	12.85
GROUP 3	$ 21.46	12.85
GROUP 4	$ 21.51	12.85
GROUP 5	$ 21.56	12.85
GROUP 6	$ 18.94	12.85
GROUP 7	$ 17.05	12.85

SCOPE OF WORK:

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

OPEN CUT LABORER CLASSIFICATIONS

GROUP 1: Construction laborer

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

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

GROUP 4: Trench or excavating grade person

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

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

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

LABO0465-001 06/01/2018

LABORER: Highway, Bridge and Airport Construction

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

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

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

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

	Rates	Fringes
LABORER (AREA 1)		
GROUP 1	$ 26.12	12.85
GROUP 2	$ 26.25	12.85
GROUP 3	$ 26.43	12.85
GROUP 4	$ 26.51	12.85
GROUP 5	$ 26.72	12.85
GROUP 6	$ 27.02	12.85
LABORER (AREA 2)		
GROUP 1	$ 24.02	12.85
GROUP 2	$ 24.22	12.85
GROUP 3	$ 24.46	12.85
GROUP 4	$ 24.81	12.85
GROUP 5	$ 24.68	12.85
GROUP 6	$ 25.02	12.85
LABORER (AREA 3)		
GROUP 1	$ 23.27	12.85
GROUP 2	$ 23.48	12.85
GROUP 3	$ 23.77	12.85
GROUP 4	$ 24.21	12.85
GROUP 5	$ 23.83	12.85
GROUP 6	$ 24.26	12.85
LABORER (AREA 4)		
GROUP 1	$ 23.32	12.85
GROUP 2	$ 23.53	12.85
GROUP 3	$ 23.82	12.85
GROUP 4	$ 24.26	12.85
GROUP 5	$ 23.88	12.85
GROUP 6	$ 24.31	12.85

LABORER CLASSIFICATIONS

GROUP 1: Asphalt shoveler or loader; asphalt plant misc.; burlap person; yard person; dumper (wagon, truck, etc.);

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

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

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

GROUP 4: Asphalt raker

GROUP 5: Pipe layers, oxy-gun

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

LABO1076-005 04/01/2018

MICHIGAN STATEWIDE

	Rates	Fringes
LABORER (DISTRIBUTION WORK)		
Zone 1	$ 20.27	12.85
Zone 2	$ 18.59	12.85
Zone 3	$ 16.76	12.85
Zone 4	$ 16.12	12.85
Zone 5	$ 16.12	12.85

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

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

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

PAIN0022-002 07/01/2008

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

	Rates	Fringes
PAINTER	$ 25.06	14.75

FOOTNOTES: For all spray work and journeyman rigging for spray work, also blowing off, $0.80 per hour additional (applies only to workers doing rigging for spray work on off the floor work. Does not include setting up or moving rigging on floor surfaces, nor does it apply to workers engaged in covering up or tending spray equipment. For all sandblasting and spray work performed on highway bridges, overpasses, tanks or steel, $0.80 per hour additional. For all brushing, cleaning and other preparatory work (other than spraying or steeplejack work) at scaffold heights of fifty (50) feet from the ground or higher, $0.50 per hour additional. For all preparatorial work and painting performed on open steel under forty (40) feet when no scaffolding is involved, $0.50 per hour additional. For all swing stage work-window jacks and window belts-exterior and interior, $0.50 per hour additional. For all spray work and sandblaster work to a scaffold height of forty (40) feet above the floor level, $0.80 per hour additional. For all preparatorial work and painting on all highway bridges or overpasses up to forty (40) feet in height, $0.50 per hour additional. For all steeplejack work performed where the elevation is forty (40) feet or more, $1.25 per hour additional.

PAIN0312-001 06/01/2018

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

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

PAIN0845-003 05/10/2018

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

	Rates	Fringes
PAINTER	$ 25.49	13.74

PAIN0845-015 05/10/2018

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

	Rates	Fringes
PAINTER	$ 25.49	13.74

PAIN0845-018 05/10/2018

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

	Rates	Fringes
PAINTER	$ 25.49	13.74

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

PAIN1011-003 06/03/2018

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

	Rates	Fringes
PAINTER	$ 25.31	12.78

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

PAIN1474-002 06/01/2010

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

	Rates	Fringes
PAINTER	$ 23.79	12.02

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

PAIN1803-003 06/01/2018

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

	Rates	Fringes
PAINTER		
Work performed on water, bridges over water or moving traffic, radio and powerline towers, elevated tanks, steeples, smoke stacks over 40 ft. of falling heights, recovery of lead-based paints and any work associated with industrial plants, except maintenance of industrial plants	$ 24.92	14.68
All other work, including maintenance of industrial plant	$ 24.92	14.68

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

PLAS0514-001 06/01/2018

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

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

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER		
ZONE 1	$ 31.47	13.81
ZONE 2	$ 29.97	13.81

PLUM0190-003 05/01/2015

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

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

TEAM0007-004 06/01/2018

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

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

	Rates	Fringes
TRUCK DRIVER		
AREA 1		
Euclids, double bottoms and lowboys	$ 26.55	.50 + a+b
Trucks under 8 cu. yds	$ 26.30	.50 + a+b
Trucks, 8 cu. yds. and over	$ 26.40	.50 + a+b
AREA 2		
Euclids, double bottomms and lowboys	$ 24.895	.50 + a+b
Euclids, double bottoms and lowboys	$ 26.65	.50 + a+b
Trucks under 8 cu. yds	$ 26.40	.50 + a+b
Trucks, 8 cu. yds. and over	$ 26.50	.50 + a+b

Footnote:
a. $446.70 per week
b. $67.00 daily

TEAM0247-004 04/01/2013

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

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

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

FOOTNOTE:

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

SIGN INSTALLER CLASSIFICATIONS:

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

GROUP 2: performs all miscellaneous labor, uses all hand and power tools, and operates all other equipment, mobile or

otherwise, required for the installation of highway and street signs

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TEAM0247-010 04/01/2018

AREA 1: LAPEER AND SHIAWASSEE COUNTIES

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

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

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

SCOPE OF WORK: Excavation, site preparation, land balancing, grading, sewers, utilities and improvements; also including but not limited to, tunnels, underground piping, retention, oxidation, flocculation facilities, conduits, general excavation and steel sheeting for underground construction. Underground construction work shall not include any structural modifications, alterations, additions and repairs to buildings or highway work, including roads, streets, bridge construction and parking lots or steel erection.

TRUCK DRIVER CLASSIFICATIONS

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

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

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

SUMI2002-001 05/01/2002

	Rates	Fringes
Flag Person	$ 10.10	0.00
LINE PROTECTOR (ZONE 1: GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE)	$ 18.98	12.85
LINE PROTECTOR (ZONE 2: STATEWIDE (EXCLUDING GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE)	$ 17.14	12.85

Pavement Marking Machine
(ZONE 1: GENESEE, MACOMB,
MONROE, OAKLAND, WASHTENAW
AND WAYNE COUNTIES)
Group 1.....$ 25.74 12.85

Pavement Marking Machine
(ZONE 1: GENESEE, MACOMB,
MONROE, OAKLAND, WASHTENAW
AND WAYNE)
Group 2.....$ 23.17 12.85

Pavement Marking Machine
(ZONE 2: STATEWIDE (EXCLUDING
GENESEE, MACOMB, MONROE,
OAKLAND, WASHTENAW AND WAYNE
COUNTIES)
Group 1.....$ 23.67 12.85

Pavement Marking Machine
(ZONE 2: STATEWIDE (EXCLUDING
GENESEE, MACOMB, MONROE,
OAKLAND, WASHTENAW AND WAYNE)
Group 2.....$ 21.30 12.85

WORK CLASSIFICATIONS:

PAVEMENT MARKER GROUP 1: Drives or operates a truck mounted striper, grinder, blaster, groover, or thermoplastic melter for the placement or removal of temporary or permanent pavement markings or markers.

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

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

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

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

on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

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

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

Union Rate Identifiers

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

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

Survey Rate Identifiers

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

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

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the

classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

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

WAGE DETERMINATION APPEALS PROCESS

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

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

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

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

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

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

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

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

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

Administrative Review Board
U.S. Department of Labor

200 Constitution Avenue, N.W.
Washington, DC 20210

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

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END OF GENERAL DECISION

CITY OF ANN ARBOR
PROJECT MANAGEMENT

NOTES:

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

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

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE PERFORMED IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION (INCLUDING REFERENCED M.D.O.T. PUBLICATIONS) AND THIS PROJECT'S CONTRACT DOCUMENT

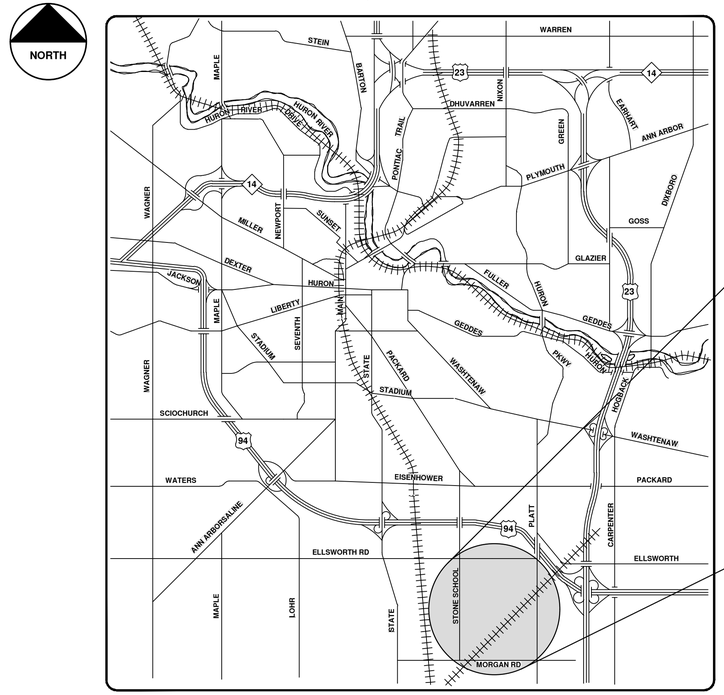
THE PROPOSED IMPROVEMENTS COVERED BY THESE PLANS ARE DESIGNED IN ACCORDANCE WITH THE LOCAL AGENCY PROGRAMS GUIDELINES FOR GEOMETRICS ON LOCAL AGENCY PROJECTS 2017 EDITION, 2012 A.A.S.H.T.O. "GUIDE FOR PLANNING, DESIGN, AND OPERATION OF BICYCLE FACILITIES", AND THE TRAFFIC CONTROL IN ACCORDANCE WITH THE 2011 "MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".

PHASE 2 - HMA SHARED USE PATH

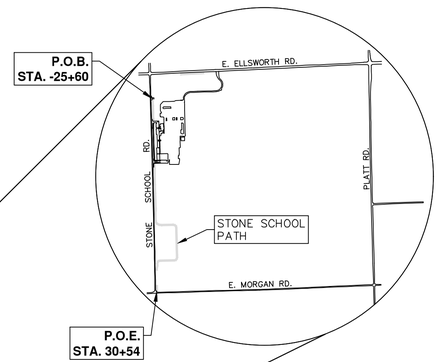
W.R. WHEELER (SWIFT RUN) SERVICE CENTER PUD NON-MOTORIZED IMPROVEMENTS

BID No. 4569, FILE No. 2014031

SHEET LIST TABLE	
SHEET NUMBER	SHEET TITLE
1	COVER SHEET
2	NOTES AND LEGEND
3 - 4	DETAILS
5	SOIL EROSION NOTES AND DETAILS
6 - 13	STONE SCHOOL ROAD SHARED USE PATH
14	PATH DRAINAGE AREA MAP



VICINITY MAP



SITE PLAN FILE NO.: **CSPA 15-09**

PROJECT MANAGEMENT SERVICE UNIT

PREPARED UNDER THE SUPERVISION OF

DAVID ARTHUR DYKMAN, P.E. - MI LICENSE No. 52912
PROJECT MANAGER

03 / 05 / 2019
DATE

STATE OF MICHIGAN — DAVID ARTHUR DYKMAN — ENGINEER — No. 52912 — LICENSED PROFESSIONAL ENGINEER

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	REVIEW SET	1-6-17	CEC	DAD
01	WCWRC COMMENTS	3-9-18	CEC	DAD
02	ADDENDUM 2	3-28-19	DPF/CEC	DAD

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

CITY OF ANN ARBOR
PUBLIC SERVICE
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
(734) 794-6410
www.a2gov.org

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

APPLICATION FOR AMENDMENT TO APPROVED PUD FINAL SITE PLAN FOR THE CITY OF ANN ARBOR SWIFT RUN SERVICE CENTER AREA PLAN (RZ 04-01 & ANN ARBOR MAINTENANCE FACILITY FINAL SITE PLAN CSPA 04-21), RZ 04-01 AND CSPA 04-21 WERE APPROVED BY THE PITTSFIELD TOWNSHIP BOARD IN 2004. UPDATED IN 2008 (RZ08-01)

SCALE

DRAWING No. 2014031-1

SHEET No. 1 OF 14

CONSTRUCTION NOTES:

1. Driveways and entrances to buildings, real property, and the like shall not be blocked except for short durations and only when approved by the Engineer. Vehicular and pedestrian access shall be maintained at all times. It shall be the Contractor's responsibility to coordinate all necessary driveway closures with the property owner(s) and resident(s) in the areas of construction.
2. The location and depth of all existing utilities and service leads are to be field verified by the Contractor prior to construction.
3. Location and depth of utilities as depicted on the plans is approximate and shown according to the best information available. It is the Contractor's responsibility to excavate ahead and adjust depth of conflict utilities accordingly. Any damage to utilities is the Contractor's responsibility to avoid and/or repair as necessary.
4. During non-working hours no trench shall remain open; any open trench shall be properly secured with protective fencing. This work shall be included in the item of work "General Conditions".
5. Postal delivery and refuse pickup service shall be maintained at all times by the Contractor.
6. Where street curbs are undermined due to construction activities, they shall be removed and replaced as directed by the Engineer.
7. The Contractor shall be responsible for the continuous maintenance of the soil erosion control measures within the construction area until the full completion of the project. This work shall be included in the item of work "General Conditions".
8. All curb, sidewalk, driveway approach removals shall be approved by Engineer before the work is done.
9. Sawed sewer pipe connections shall be coupled with a Fernco flexible coupling and a stainless steel shear ring.
10. The location of material stock piles and on-site staging areas to be approved by the Engineer.
11. All City of Ann Arbor structures shall receive new castings as directed by the Engineer, as specified on the standard casting schedule. The existing castings are the property of the City of Ann Arbor. The Contractor shall deliver to City of Ann Arbor Field Operations and Maintenance Facility at the W.R. Wheeler Service Center located at 4251 Stone School Road.
12. Drainage structure sumps, where specified, shall be included in the payment for the various drainage structure sizes and or types.
13. Where sewer pipes of different sizes or materials are joined, Fernco flexible couplings with stainless steel shear rings shall be used. The Contractor's purchase price for these devices, including shipping, shall be paid as an extra. Prior to payment for this item, the Contractor shall submit receipts for the Engineer's review and approval. All other costs associated with the installation of these devices shall be included in the payment for the sewer.
14. Where sewer and water main are to be removed & replaced or added, all pipe shall be installed using Trench Detail detailed in the specifications or shown on Plans. Backfill for sewer and water construction shall be MDOT Granular Material, Class II, Modified.
15. Existing street name, guide, and regulatory signs, and mailboxes which conflict with the proposed construction shall be removed prior to construction, stored in a manner which will prevent damage, and re-set in locations as directed by the Engineer. This work will not be paid for separately, but shall be included in "Machine Grading, Modified"
16. In areas where edge drain cannot be installed in accordance with City of Ann Arbor Detail SD-TD-11, the edge drain shall be installed at the depth as indicated on the plans, or as directed by Engineer. In no case shall the edge drain be installed at a grade less than 0.50% or at a depth of less than 2' below top of proposed pavement.

PERMITS REQUIRED TO BE OBTAINED PRIOR TO THE BEGINNING OF CONSTRUCTION.

PERMIT	ISSUING AUTHORITY
RIGHT-OF-WAY PERMIT*	WASHTENAW COUNTY ROAD COMMISSION
SOIL EROSION AND SEDIMENTATION CONTROL*	PITTSFIELD CHARTER TOWNSHIP

* OBTAINED BY CITY OF ANN ARBOR AT NO COST TO CONTRACTOR

CONTACT INFORMATION

PUBLIC UTILITIES	OWNER	CONTACT
WATER SANITARY STORM FORESTRY SIGNS SIGNALS STREET LIGHTS	CITY OF ANN ARBOR PUBLIC WORKS W.R. WHEELER SERVICE CENTER 4251 STONE SCHOOL ROAD ANN ARBOR, MI 48108	(734) 794-6350 (734) 794-6361
PRIVATE UTILITIES	**OWNER**	**CONTACT**
GAS	DTE ENERGY 3150 E. MICHIGAN AVE, YPSILANTI TOWNSHIP, MI 48198	ROBERT CZAPIEWSKI (734) 544-7818
ELECTRIC	DTE ENERGY WESTERN WAYNE SERVICE CENTER 8001 HAGGERTY ROAD BELLEVILLE, MI 48111	CLAY COMBEE (734) 397-4112
CABLE	COMCAST 27800 FRANKLIN ROAD SOUTHFIELD, MI 48034	RON SUTHERLAND (313) 999-8300
PHONE	AT&T 550 S. MAPLE ROAD ANN ARBOR, MI 48103	(734) 996-2135
FIBER OPTIC	MCI 2800 N. GLENFILLE ROAD RICHARDSON, TX 75082	DEAN BOYERS (972) 729-6016

EXISTING LEGEND

- FIRE HYDRANT
- GATE VALVE IN BOX
- GATE VALVE IN WELL
- STOP BOX
- WATER VAULT
- WELL
- CATCH BASIN (SQ)
- CATCH BASIN (RD)
- STORM MANHOLE
- NON-CURB CATCH BASIN (SQ)
- END SECTION
- SANITARY MANHOLE
- CLEAN-OUT
- POST
- PEDESTRIAN SIGNAL
- SIGN
- HAND HOLE
- ORNAMENTAL LIGHT
- FLOOD LIGHT
- UNKNOWN MANHOLE
- TELEPHONE MANHOLE
- TELEPHONE RISER
- GAS VALVE
- GAS VENT
- GAS BOX
- ELECTRICAL RISER
- TRANSFORMER
- UTILITY POLE
- LAMP POLE
- GUY ANCHOR
- GUY POLE
- MONITORING WELL
- MAILBOX
- SOIL BORING
- TRAVERSE POINT
- BENCH MARK
- IRON PIPE
- MON BOX

- WATER MAIN
- WATER MAIN ABANDONED
- STORM SEWER
- STORM SEWER ABANDONED
- SANITARY SEWER
- SANITARY SEWER ABANDONED
- GAS MAIN
- GAS MAIN (DEAD)
- ELECTRICAL OVER HEAD
- ELECTRICAL UNDER GROUND
- ELECTRICAL DUCT BANK
- TELEPHONE OVER HEAD
- TELEPHONE UNDER GROUND
- TELEPHONE DUCT BANK
- CABLE TV OVER HEAD
- CABLE TV UNDER GROUND
- FIBER OPTIC
- FIBER OPTIC DUCT BANK
- BOUNDARY
- BUILDING
- CENTERLINE OF DITCH
- CENTERLINE/CROWN OF ROAD
- CONTOUR MAJOR
- CONTOUR MINOR
- EDGE OF WATER
- FLOODPLAIN
- FENCE
- GRAVEL
- GUARDRAIL
- STONE WALL
- R.O.W.
- TREELINE
- WETLAND
- EDGE OF BRUSH
- HEDGE
- TREE (DECIDUOUS)
- TREE (CONIFEROUS)
- SHRUB (DECIDUOUS)
- STUMP
- TREE TO REMAIN & PROTECT (DECIDUOUS)
  CRITICAL ROOT ZONE (C.R.Z.) = DIAMETER BREAST HEIGHT (INCHES) X 10
- TREE TO REMAIN & PROTECT (CONIFEROUS)
  CRITICAL ROOT ZONE (C.R.Z.) = DIAMETER BREAST HEIGHT (INCHES) X 10

PROPOSED LEGEND

- HYDRANT (PLAN)
- WATER GATE WELL
- REDUCER
- WATER GATE VALVE
- WATER STOP BOX
- WATER VAULT
- INLET
- DOUBLE INLET
- INLET JUNCTION CHAMBER
- ROUND CATCH BASIN
- STORM MANHOLE
- DRAIN ARROW
- FLARED END SECTION
- SANITARY MANHOLE
- CLEAN-OUT
- BARREL
- SIGN
- PUSH BUTTON
- HAND HOLE

- WATER MAIN
- STORM SEWER
- SANITARY SEWER
- FIBER OPTIC
- ELECTRICAL
- CENTERLINE OF DITCH
- CENTERLINE OF ROAD
- FENCE
- GRAVEL
- SILT FENCE
- PROTECTIVE FENCE
- GUARDRAIL
- LOT/UNIT
- CURB
- TEMPORARY GRADING PERMIT
- CONTOUR MAJOR
- CONTOUR MINOR
- WATER EASMENT
- STORM EASEMENT
- SANITARY EASEMENT
- R.O.W.
- LIMITS OF CONSTRUCTION
- LIMIT OF GRADING
- STONE WALL
- DETECTABLE WARNING
- ASPHALT
- CONCRETE
- SIDEWALK
- TREE (DECIDUOUS)
- TREE (CONIFEROUS)
- TREE TO BE REMOVED (DECIDUOUS)
- TREE TO BE REMOVED (CONIFEROUS)
- STUMP TO BE REMOVED

Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	REVIEW SET	1-6-17	CEC	DAD
01	WCWRC COMMENTS	3-9-18	CEC	DAD
02	ADDENDUM 2	3-28-19	DPF/CEC	DAD

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PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

PHASE 2 - HMA SHARED USE PATH

NOTES AND LEGEND

SCALE: NTS

DRAWING No. 2014031-2

SHEET No. 2 OF 14

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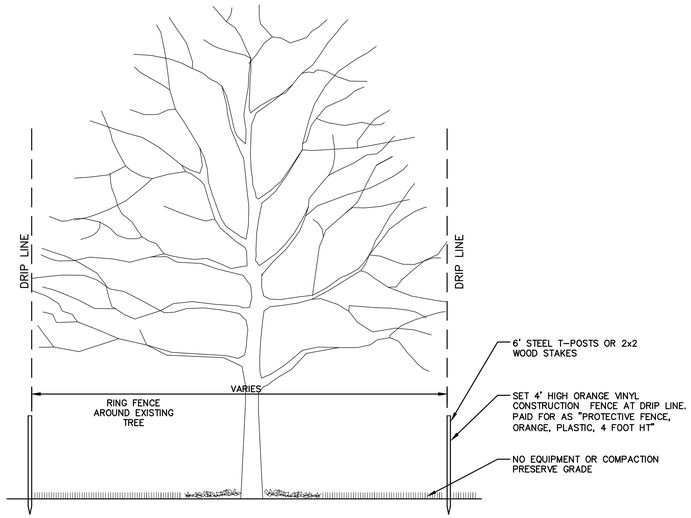
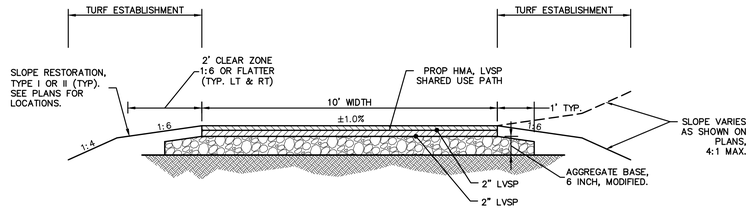
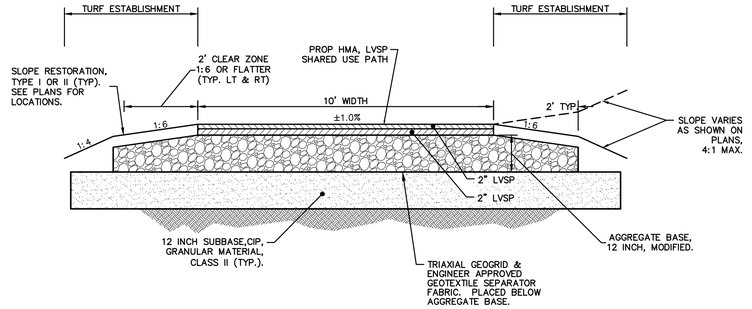


TREE PROTECTION DETAIL



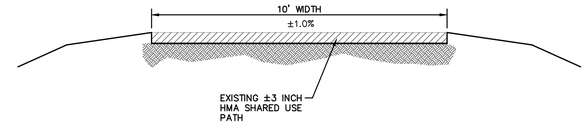
HMA SHARED USE PATH - PROPOSED CROSS SECTION (TYP.)

NTS



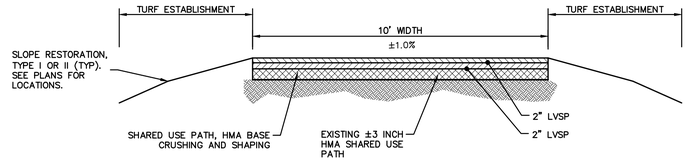
HMA SHARED USE PATH - PROPOSED CROSS SECTION : STA. 6+25 TO 7+25

NTS



EXISTING HMA SHARED USE PATH - PROPOSED CROSS SECTION (TYP.)

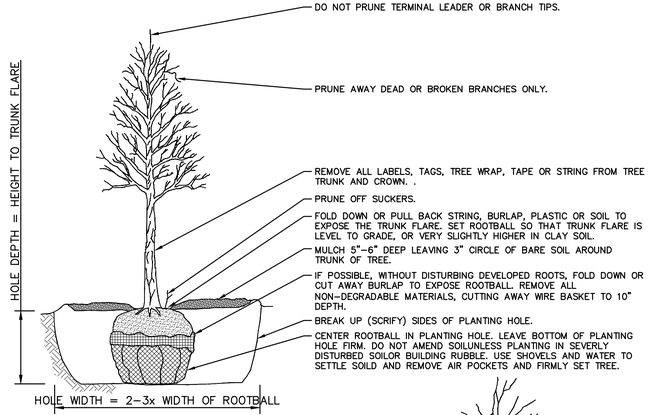
NTS



EXISTING HMA SHARED USE PATH - PROPOSED CROSS SECTION (TYP.)

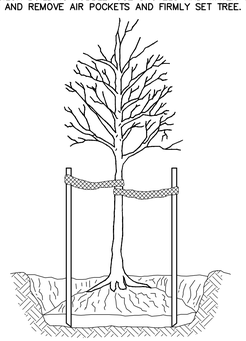
NTS

SHARED USE PATH - HMA APPLICATION ESTIMATE					
HMA MIX	**RATE OF APPLICATION**	**THICKNESS (INCHES)**	**AWI (MIN.)**	**BINDER**	**LOCATION/NOTES**
LVSP	220 LB/SYD	2.0	220	PG 58-28	TOP COURSE
LVSP	220 LB/SYD	2.0	N/A	PG 58-28	LEVELING COURSE
Bond Coat SS-1h	0.05 - 0.10 GAL/SYD	-	-	-	INCLUDE IN COST OF HMA ITEM(S)

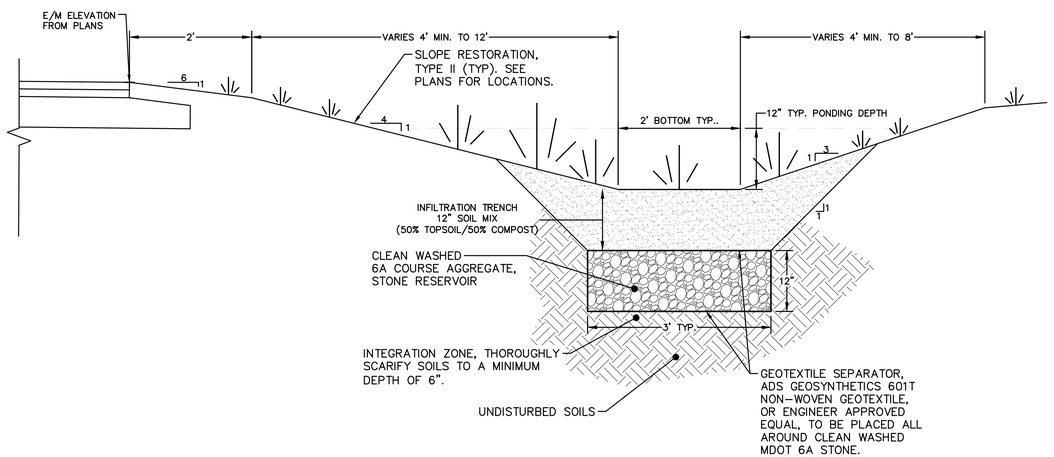


DO NOT STAKE UNLESS IN HEAVY CLAY SOIL, WINDY CONDITIONS, 3" OR GREATER DIAMETER TREE TRUNK OR LARGE CROWN. IF STAKING IS NEEDED DUE TO THESE CONDITIONS:

- STAKE WITH 2 x 2 HARDWOOD STAKES, OR APPROVED EQUAL, DRIVEN 6"-8" OUTSIDE OF ROOTBALL.
- LOOSELY STAKE TREE TRUNK TO ALLOW FOR TRUNK FLEXING.
- STAKE TREES JUST BELOW FIRST BRANCH WITH 2"-3" WIDE BELT-LIKE, NYLON OR PLASTIC STRAPS (2 PER TREE ON OPPOSITE SIDES OF TREE, CONNECT FROM TREE TO STAKE HORIZONTALLY. DO NOT USE ROPE OR WIRE THROUGH A HOSE.)
- REMOVE ALL STAKING MATERIALS AFTER 1 YEAR.



TREE PLANTING SD-L-3



INFILTRATION TRENCH TYPICAL SECTION

NTS

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	REVIEW SET	1-6-17	CEC	DAD
01	WCWRC COMMENTS	3-9-18	CEC	DAD
02	ADDENDUM 2	3-28-19	DPF/CEC	DAD

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(734) 794-6430
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PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

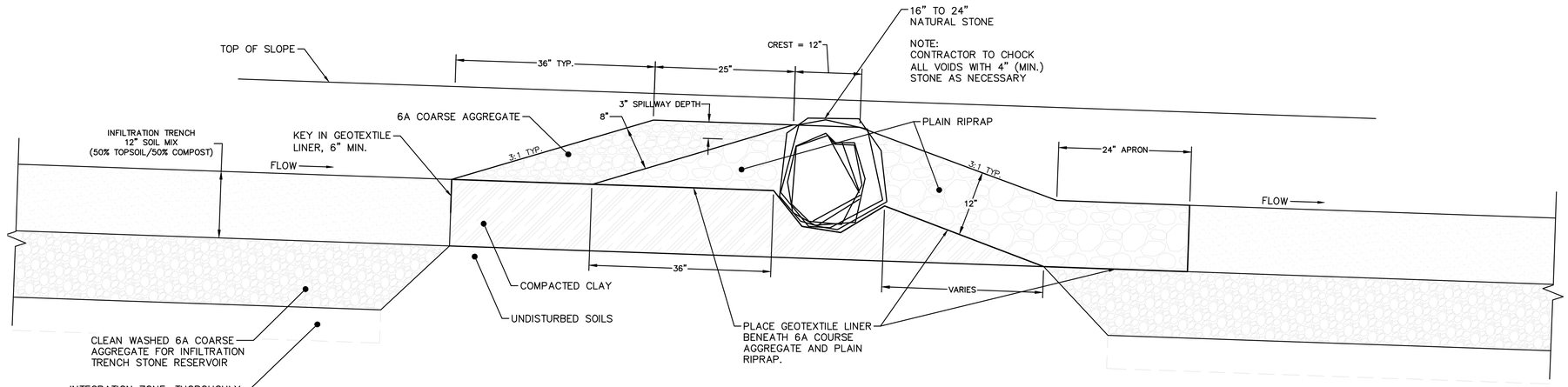
PHASE 2 - HMA SHARED USE PATH

DETAILS

SCALE: N.T.S.

DRAWING No. **2014031-3**

SHEET No. **3 OF 14**

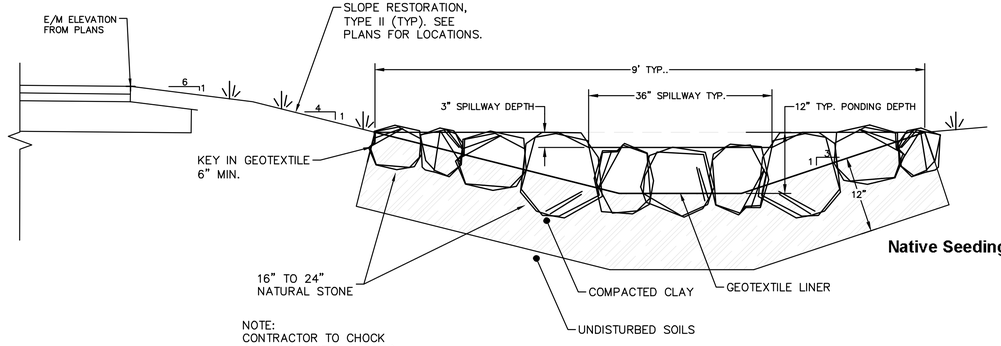


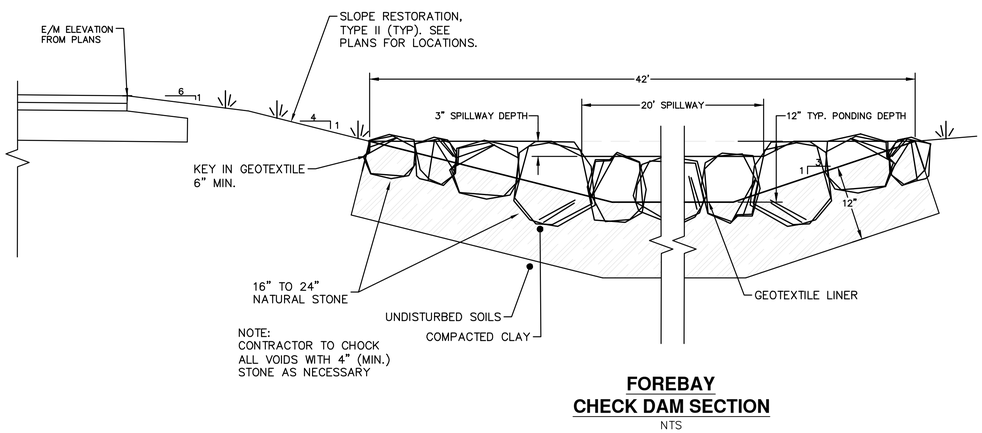
NOTE:

1. THE CONTRACTOR WILL NEED TO PLACE SOME STONE BY HAND TO ACHIEVE DESIRED RESULTS.
2. PERMANENT CHECK DAMS AND DITCH BOTTOM, USE CLEAN, NATURAL STONE AS DIRECTED BY ENGINEER.
3. TEMPORARY CHECK DAMS, USE PLAIN RIPRAP, OR AS DIRECTED BY ENGINEER.
4. REFER TO PLANS FOR LOCATION OF BOTH TEMPORARY AND PERMANENT CHECK DAMS. FINAL LOCATIONS TO BE AS APPROVED, OR AS DIRECTED, BY ENGINEER.

CHECK DAM TYPICAL PROFILE

NTS





FOREBAY CHECK DAM SECTION

NTS

CHECK DAM TYPICAL SECTION

NTS

Native Seeding Mixture

Grass Seed

Botanical Name	Common Name	Amt /Rate
Andropogan gerardii	Big Bluestem	8 oz./acre
Elymus canadensis	Canada Wild Rye	48 oz./acre
Hystrix patula	Bottlebrush Grass	16 oz./acre
Panicum virgatum	Switch Grass	32 oz./acre
Schizachyrium scoparium	Little Bluestem	16 oz./acre
		112 total oz./ac. or
		7.00 total lbs./ac.
Lolium multiflorum	Annual Rye	200 lb./acre

Forb Seed

Botanical Name	Common Name	Amt /Rate
Allium cernuum	Nodding Wild Onion	6 oz./acre
Asclepias tuberosa	Butterflyweed	10 oz./acre
Aster novae-angliae	New England Aster	1 oz./acre
Campanula americana	Tall Bellflower	0.25 oz./acre
Clematis virginiana	Virgin's Bower	3 oz./acre
Eupatorium maculatum	Spotted Joe-Pye Weed	0.5 oz./acre
Euphorbia corollata	Flowering Spurge	0.5 oz./acre
Helenium autumnale	Sneezeweed	0.25 oz./acre
Monarda fistulosa	Bee-balm	2 oz./acre
Monarda punctata	Horsemint	1 oz./acre
Penstemon digitalis	Foxglove Beardstongu	0.5 oz./acre
Penstemon hirsutus	Hairy Beardstondue	0.25 oz./acre
Pycnanthemum tenuifolium	Mountain-Mint	0.25 oz./acre
Pycnanthemum virginianum	Common Mountain Mi	0.25 oz./acre
Ratibida pinnata	Yellow Coneflower	2 oz./acre
Rudbeckia hirta	Black-Eyed Susan	2 oz./acre
Rudbeckia laciniata	Cutleaf Coneflower	4 oz./acre
Solidago gigantea	Late Goldenrod	0.25 oz./acre
Solidago patula	Swamp Goldenrod	0.5 oz./acre
Tradescantia ohioensis	Spiderwort	8 oz./acre
Verbena stricta	Hoary Vervain	5 oz./acre
Vernonia missurica	Ironweed	2 oz./acre
Veronicastrum virginicum	Culver's Root	0.25 oz./acre
		49.75 total oz./ac. or
		3.11 total lbs./ac.

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM 2	3-28-19	DPF/CEC	DAD
01	WCWRC COMMENTS	3-9-18	CEC	DAD
00	REVIEW SET	1-6-17	CEC	DAD

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PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

PHASE 2 - HMA SHARED USE PATH

DETAILS

SCALE: N.T.S.

DRAWING No. 2014031-4

SHEET No. 4 OF 14

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

1. THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN THE SOIL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER AT ALL TIMES DURING CONSTRUCTION. ANY MODIFICATIONS OR ADDITIONS TO THE SOIL EROSION CONTROL MEASURES DUE TO CONSTRUCTION OR CHANGED CONDITIONS SHALL BE AS DIRECTED AND APPROVED BY THE ENGINEER.

2. ALL SOIL EROSION AND SEDIMENTATION CONTROL WORK SHALL CONFORM TO THE PERMIT REQUIREMENTS OF THE CITY OF ANN ARBOR, CITY ORDINANCE CHAPTER 63, CITY OF ANN ARBOR STANDARDS DIVISION VII, THE LAWS OF THE STATE OF MICHIGAN, AND THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

3. DAILY, OR AFTER ANY STORM EVENT, INSPECTIONS OF EROSION CONTROL MEASURES SHALL BE MADE BY THE CONTRACTOR. PERIODIC INSPECTIONS MAY BE MADE BY THE ENGINEER TO DETERMINE THE EFFECTIVENESS OF EROSION AND SEDIMENTATION CONTROL MEASURES. ANY NECESSARY CORRECTIONS SHALL BE MADE WITHOUT DELAY, AND WITHOUT ADDITIONAL COST TO THE CITY OF ANN ARBOR.

4. EROSION AND SEDIMENTATION FROM WORK ON THE SITE SHALL BE CONTAINED ON THE SITE AND NOT BE ALLOWED TO COLLECT ON ANY OFF-SITE AREAS, ROADWAYS OR WATERWAYS.

5. ALL MUD/SOIL TRACKED ONTO ROADWAYS FROM THE SITE DUE TO CONSTRUCTION, SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR. IF SO ORDERED, THE CONTRACTOR SHALL PROVIDE AND OPERATE A VACUUM-TYPE STREET SWEEPER, AT NO ADDITIONAL COST TO THE CITY OF ANN ARBOR, WITHIN FOUR (4) HOURS OF BEING SO ORDERED.

6. RESTORATION OF ALL DISTURBED AREAS, INCLUDING PLACEMENT OF TOPSOIL, SEED, FERTILIZER AND MULCH AND/OR SOD SHALL BE PERFORMED WITHIN FIVE (5) DAYS OF THE COMPLETION OF FINAL GRADE.

7. CONSTRUCTION OPERATIONS SHALL BE SCHEDULED AND PERFORMED SO THAT PREVENTATIVE SOIL EROSION CONTROL MEASURES ARE IN PLACE PRIOR TO EXCAVATION IN CRITICAL AREAS AND TEMPORARY STABILIZATION MEASURES ARE IN PLACE IMMEDIATELY FOLLOWING BACKFILLING OPERATIONS.

8. SPECIAL PRECAUTIONS WILL BE TAKEN IN THE USE OF CONSTRUCTION EQUIPMENT TO PREVENT SITUATIONS THAT PROMOTE EROSION.

9. PROPER DUST CONTROL SHALL BE MAINTAINED DURING CONSTRUCTION BY USE OF WATER TRUCKS AND/OR DUST PALLATIVE AS REQUIRED.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND REMOVAL OF SOME MEASURES UPON AUTHORIZED COMPLETION OF THE PROJECT. FINAL COMPLETION OF PROJECT WILL NOT BE AUTHORIZED UNTIL ALL SITE WORK AND UTILITY CONSTRUCTION IS COMPLETE AND ALL SOILS ARE STABILIZED.

11. THE CONTRACTOR SHALL NOT GRADE INTO ADJACENT PROPERTIES. SILT AND PROTECTIVE FENCE SHALL BE INSTALLED AND MAINTAINED TO PREVENT GRADING, EROSION AND SEDIMENTATION INTO THE ADJACENT PROPERTIES.

12. TREE PROTECTION FENCING MUST REMAIN INTACT UNTIL RESTORATION OF THE SITE IS COMPLETE.

SEQUENCE OF EROSION CONTROL MEASURES:

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

SAMPLE SOIL EROSION AND SEDIMENTATION CONTROL INSTALLATION MINIMUM REQUIREMENTS:

1.1. INSTALL SILT FENCE, TREE PROTECTION FENCING, MUD MATS, INLET FILTERS ON EXISTING DRAINAGE FEATURES, AND ALL OTHER TEMPORARY SOIL EROSION CONTROLS, PRIOR TO ANY CLEARING OR EARTH MOVING OPERATION.

1.2. STRIP AND STOCKPILE TOPSOIL. STABILIZE STOCKPILE AS REQUIRED.

1.3. INSTALL WATER MAINS, STORM AND SANITARY SEWERS, AND OTHER ENCLOSED DRAINAGE FEATURES. NEW INLET FILTERS SHALL BE INSTALLED IMMEDIATELY FOLLOWING INSTALLATION OF NEW DRAINAGE INLETS.

1.4. PERFORM MACHINE GRADING OPERATIONS AND CONSTRUCT PAVEMENTS (MAINLINE, SIDEWALKS, DRIVES, ETC.).

1.5. CONTINUALLY MAINTAIN EROSION AND SEDIMENTATION CONTROL MEASURES, AS REQUIRED TO ALLOW DRAINAGE AND SEDIMENT REMOVAL. REMOVE ANY ACCUMULATED SEDIMENT IMMEDIATELY.

1.6. COMPLETE ALL FINE GRADING.

1.7. TEMPORARY SEED AND INSTALL EROSION CONTROL BLANKET IN ALL DISTURBED AREAS.

1.8. REFER TO LANDSCAPE PLANTING PLANS FOR PERMANENT SITE STABILIZATION.

1.9. CLEAN OUT STORM SEWER SYSTEMS.

1.10. REMEDY ANY NOTED DEFECTS TO THE SATISFACTION OF THE CITY OF ANN ARBOR'S SOIL EROSION AND SEDIMENTATION CONTROL OFFICIAL.

1.11. ALL TEMP. SOIL EROSION CONTROL MEASURES MUST BE REMOVED, WITH ENGINEERS APPROVAL, PRIOR TO FINAL INSPECTION

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

TEMPORARY SEEDING:

1. SEED IN ACCORDANCE WITH PROJECT DRAWINGS AND SPECIFICATIONS.

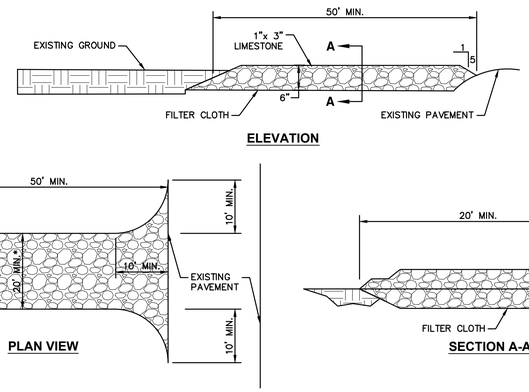
2. ANY DISTURBED AREA NOT PAVED, SEEDED, MULCHED, SODDED OR BUILT UPON BY NOVEMBER 15TH OR JUNE 30TH IS TO BE TEMPORARILY STABILIZED PER SPECIFICATIONS.

ON SITE SOILS PER THE USDA SOIL SURVEY OF WASHTENAW COUNTY, MICHIGAN:
- StB – SEBEWA LOAM – IN DEPRESSION AREAS, BROAD LOW-LYING AREA, AND DRAINAGEWAYS OF OUTWASH PLAINS, VALLEY TRAINS, AND TERRACES. SLOPE IS 0% TO 2%.
- NaB – NAPPANEE SILTY CLAY LOAM – ON FOOT SLOPES AND ALONG DRAINAGEWAYS OF TILL PLAINS, MORAINES, AND LAKE PLAINS. NEARLY LEVEL TO GENTLY SLOPING.

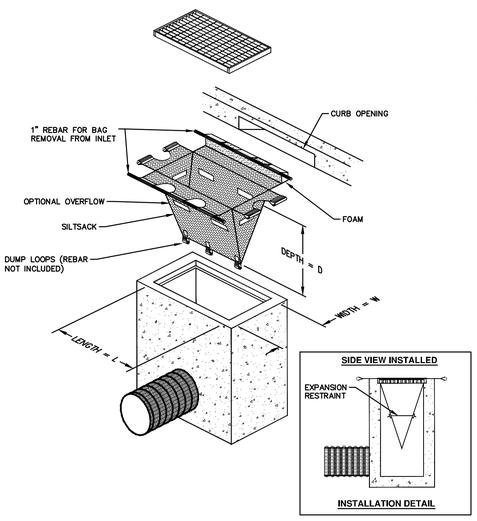
IMPERVIOUS PROJECT AREA
21,320 ft² – PATH = 0.5 AC

TOTAL AREA OF PROPOSED DISTURBANCE =
2.6 AC – STONE SCHOOL ROAD PATH

ESTIMATE OF EXCAVATION AND FILL FROM EXISTING TO FINAL GRADE:
EXCAVATION (CUT) = 1660 CY,
EMBANKMENT(FILL) = 2520 CY



MUD TRACKING ROAD (MUD MAT) DETAIL



SILTSACK DETAIL

NOTE: THE SILTSACK WILL BE MANUFACTURED FROM A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS.

REGULAR FLOW SILTSACK

(FOR AREAS OF LOW TO MODERATE PRECIPITATION AND RUN-OFF)

PROPERTIES	REQUIRED VALUE	TEST METHOD
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80%
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC -1

HI-FLOW SILTSACK

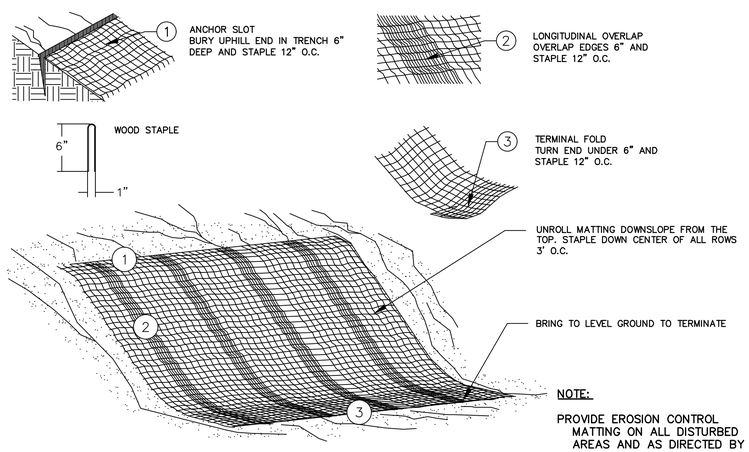
(FOR AREAS OF MODERATE TO HEAVY PRECIPITATION AND RUN-OFF)

PROPERTIES	REQUIRED VALUE	TEST METHOD
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90%
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC-1

OIL-ABSORBANT SILTSACK

(FOR AREAS WHERE THERE IS A CONCERN FOR OIL RUN-OFF OR SPILLS)

IT IS THE INTENT OF THE PLANS AND SPECIFICATIONS THAT THE CONTRACTOR INSTALL THE REBAR AS SHOWN IN THIS DETAIL TO PROVIDE A FULLY FUNCTIONING UNIT. ALL COSTS ASSOCIATED WITH FURNISHING, CLEANING AS MANY TIMES AS REQUIRED, DISPOSAL OF SEDIMENT, AND REMOVING THE INLET FILTER WHEN NO LONGER NEEDED IS INCLUDED IN THE ITEM OF WORK AND WILL NOT BE PAID FOR SEPARATELY.

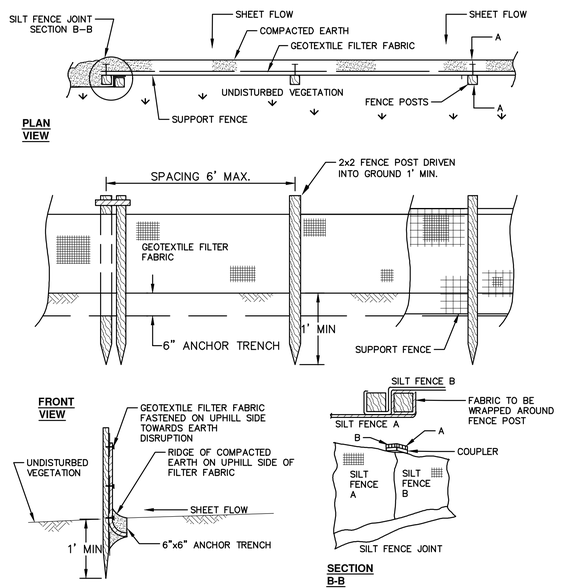


NOTE:

PROVIDE EROSION CONTROL MATTING ON ALL DISTURBED AREAS AND AS DIRECTED BY THE ENGINEER.

MULCH BLANKET DETAIL

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



SILT FENCE SD-EC-3

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM 2	3-28-19	DPF/CEC	DAD
01	WCWRC COMMENTS	3-9-18	CEC	DAD
00	REVIEW SET	1-6-17	CEC	DAD

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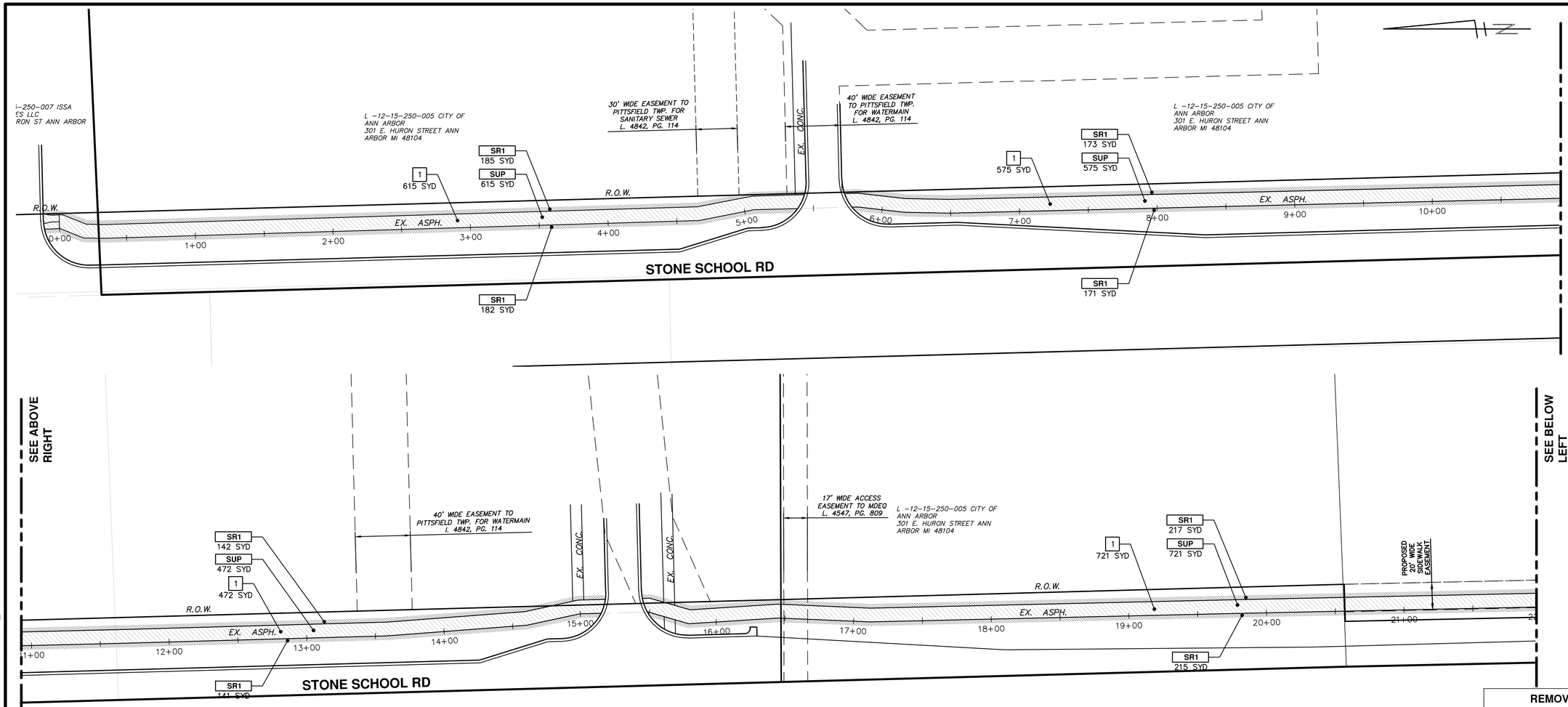
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR
PHASE 2 - HMA SHARED USE PATH
SOIL EROSION NOTES AND DETAILS

SCALE : N.T.S.
DRAWING No. 2014031-5
SHEET No. 5 OF 14



SESC MEASURES KEY	
KEY	DESCRIPTION
SF	INSTALL SILT FENCE
PF	INSTALL PROTECTIVE FENCING

REMOVAL KEY	
KEY	DESCRIPTION
1	SHARED USE PATH, HMA BASE CRUSHING AND SHAPING
2	OBLITERATE OLD DRIVEWAY
3	TREE, REM, 6 INCH TO 18 INCH (BY OTHERS)
4	CLEARING (BY OTHERS)
5	STUMP, REM, 6 INCH TO 18 INCH

CONSTRUCTION KEY	
KEY	DESCRIPTION
SR1	SLOPE RESTORATION, TYPE I
NSA	SLOPE RESTORATION, TYPE II (NATIVE SEEDING AREA)
MCH	MULCH, SPECIAL
SUP	PLACE 4" HMA SHARED USE PATH
DWS	DETECTABLE WARNING SURFACE, MODIFIED
PCD	PERMANENT CHECK DAM
SW6	6" CONCRETE SIDEWALK

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM 2	3-28-19	DPF/CEC	DAD
01	WCWRC COMMENTS	3-9-18	CEC	DAD
00	REVIEW SET	1-6-17	CEC	DAD

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

PHASE 2 - HMA SHARED USE PATH

STONE SCHOOL ROAD SHARED USE PATH

WHEELER PATH REHAB

SCALE PLAN: 1" = 40'

DRAWING No. 2014031-6

SHEET No. 6 OF 14

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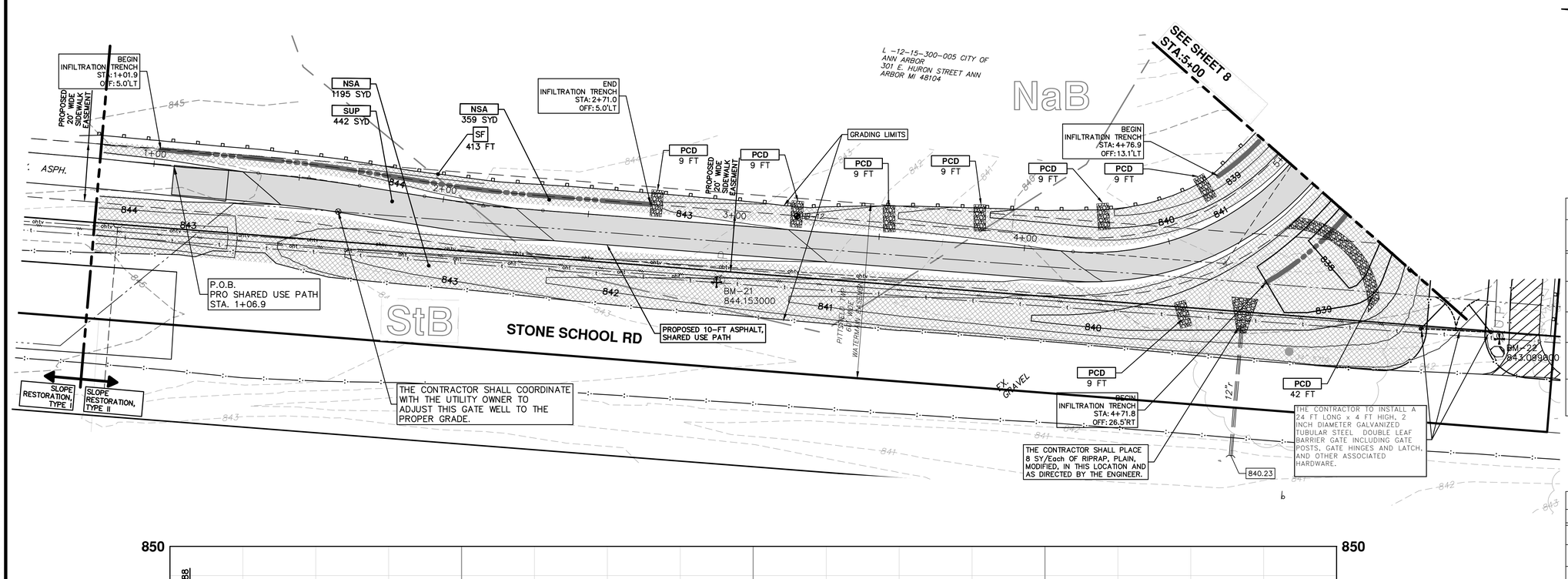

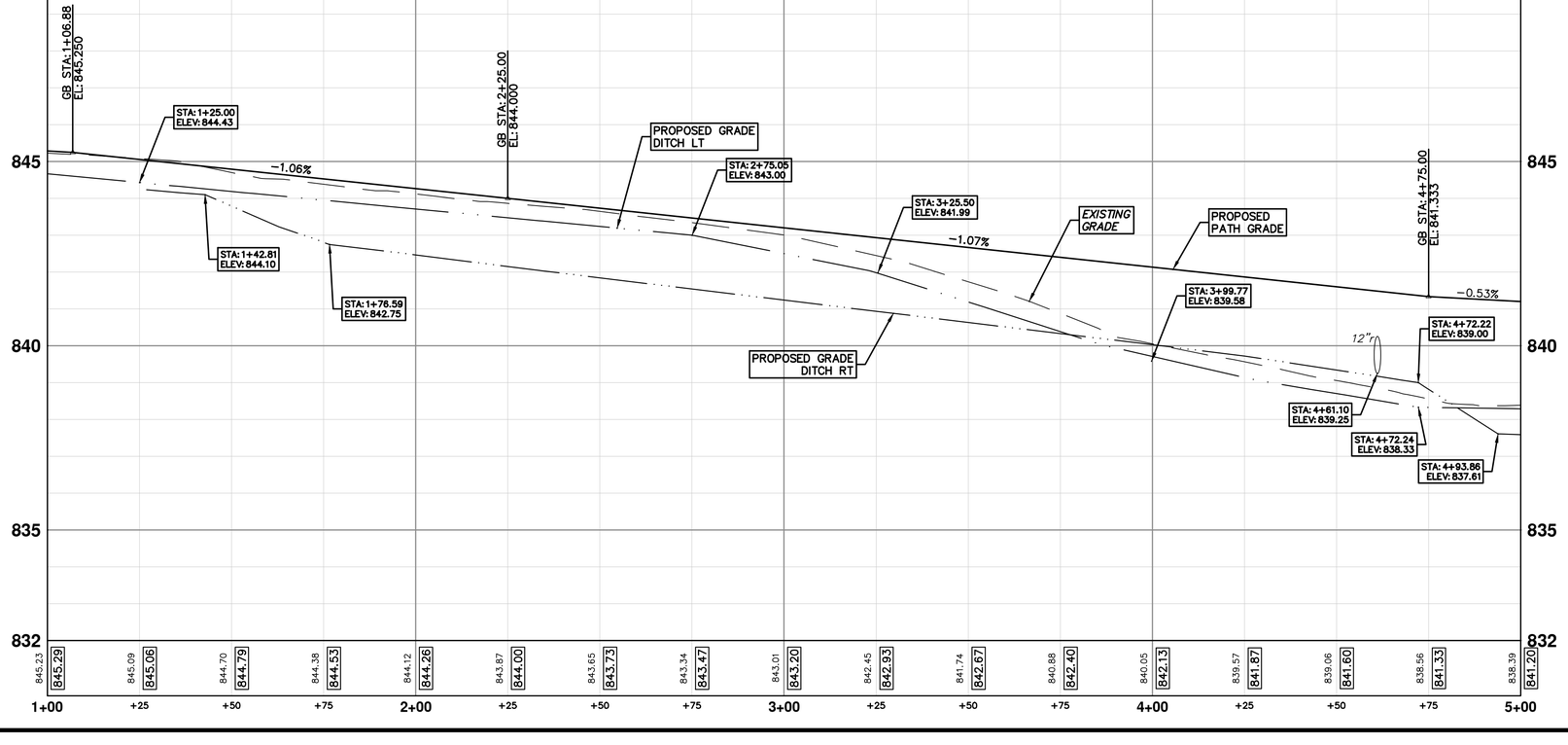

REMOVAL KEY

KEY	DESCRIPTION
1	SHARED USE PATH, HMA BASE CRUSHING AND SHAPING
2	OBLITERATE OLD DRIVEWAY
3	TREE, REM, 6 INCH TO 18 INCH (BY OTHERS)
4	CLEARING (BY OTHERS)
5	STUMP, REM, 6 INCH TO 18 INCH

CONSTRUCTION KEY

KEY	DESCRIPTION
SR1	SLOPE RESTORATION, TYPE I
NSA	SLOPE RESTORATION, TYPE II (NATIVE SEEDING AREA)
MCH	MULCH, SPECIAL
SUP	PLACE 4" HMA SHARED USE PATH
DWS	DETECTABLE WARNING SURFACE, MODIFIED
PCD	PERMANENT CHECK DAM
SW6	6" CONCRETE SIDEWALK

SESC MEASURES KEY

KEY	DESCRIPTION
SF	INSTALL SILT FENCE
PF	INSTALL PROTECTIVE FENCING

Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	REVIEW SET	1-6-17	CEC	DAD
01	WCWRC COMMENTS	3-9-18	CEC	DAD
02	ADDENDUM 2	3-28-19	DPF/CEC	DAD

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PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

PHASE 2 - HMA SHARED USE PATH

STONE SCHOOL ROAD SHARED USE PATH

STA. 0+00 TO STA. 5+00

SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

DRAWING No. 2014031-7

SHEET No. 7 OF 14

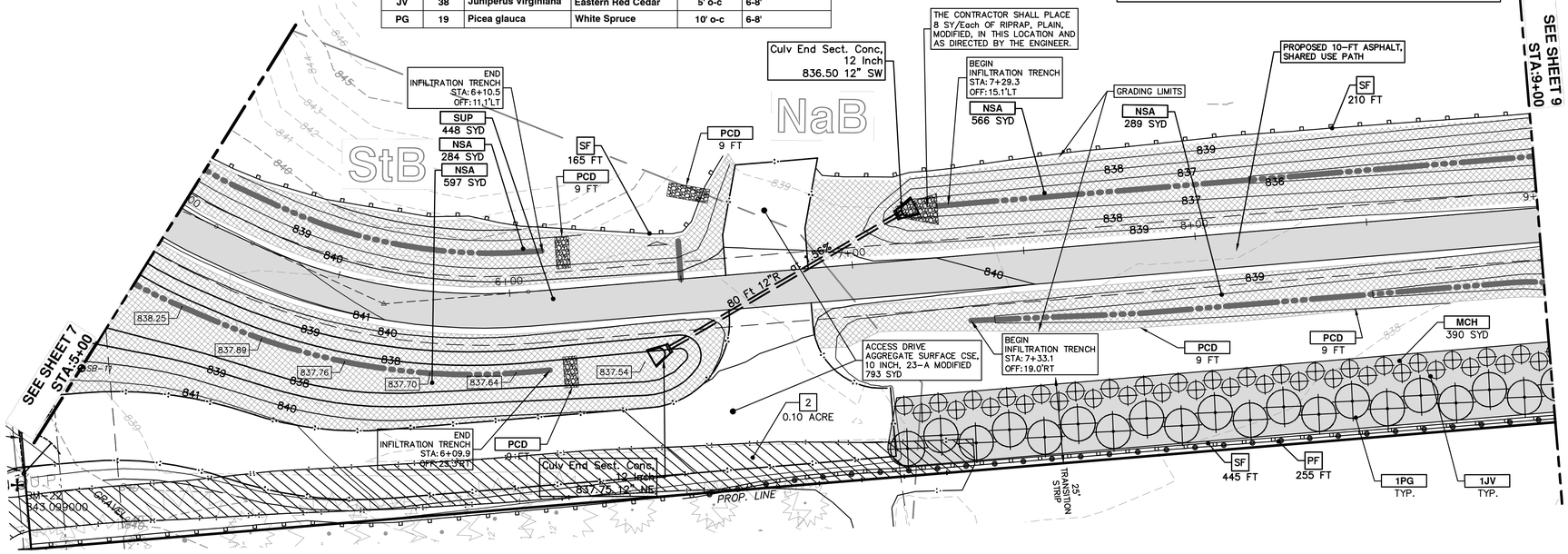
R:\2014031 Wheeler Center PUD\Plan Production\Construction Set\2014031PPSW2.dwg Dwg Created: 27-Mar-19 — _a2 standard bw.stb — Plot Date: 28-Mar-19

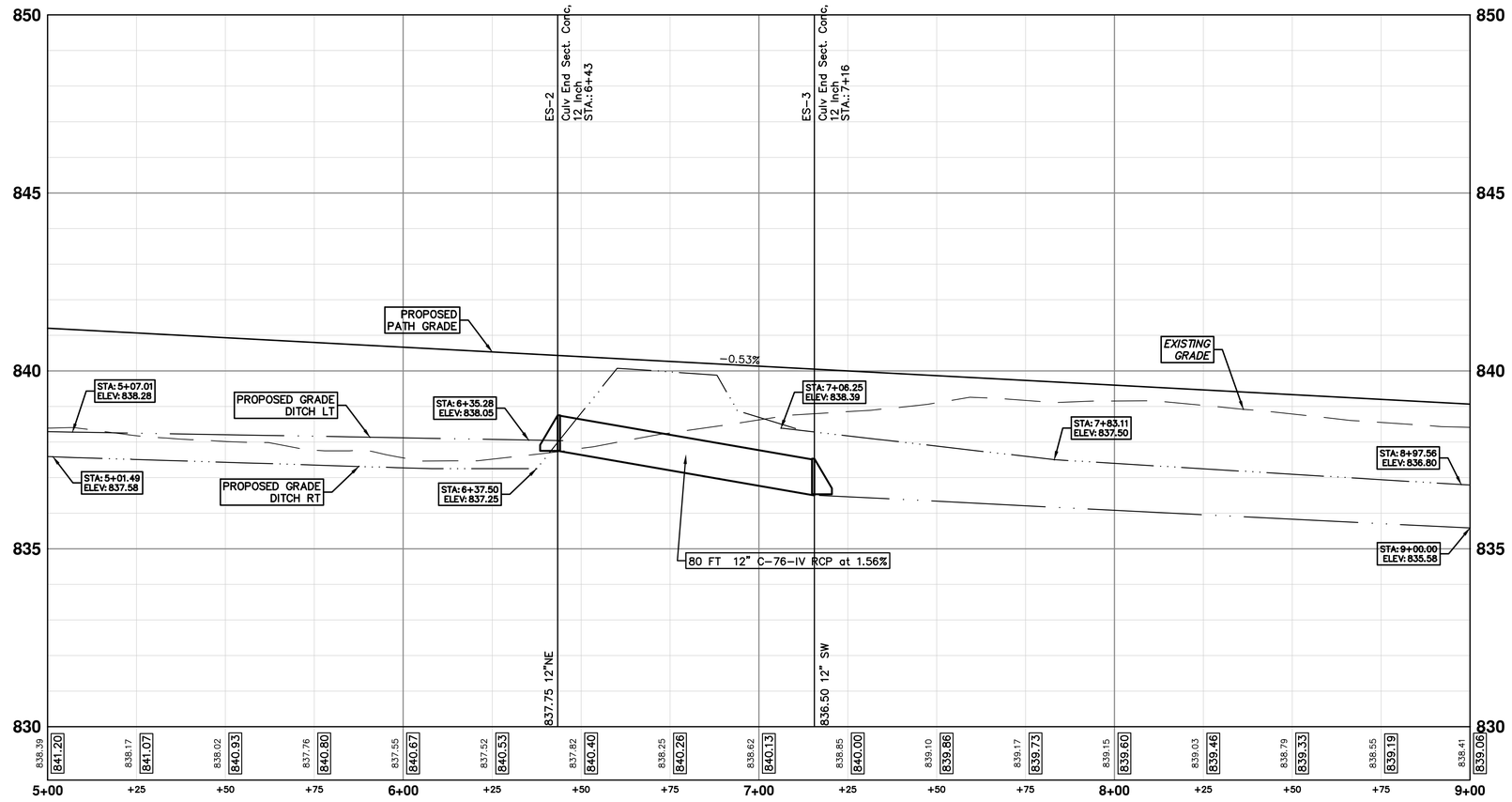
Plant Schedule

B&B Trees

Key	QTY	Botanical Name	Common Name	Spacing	Form
JV	38	Juniperus Virginiana	Eastern Red Cedar	5' o-c	6-8'
PG	19	Picea glauca	White Spruce	10' o-c	6-8'

CONDUCT TREE PLANTING AND RELATED LANDSCAPING OPERATIONS TO BEGIN AT ONE END OF THE LANDSCAPE BED AND WORK TOWARD THE OTHER END, OR AT MIDPOINT OF THE BED AND WORK TOWARD EACH END. TAKE EXTREME CARE AND CAUTION NOT TO DISTURB OR DAMAGE RESTORED AREAS, SLOPES, AND THE INFILTRATION TRENCH ADJACENT TO THE LANDSCAPE BED. PERMIT NO CONSTRUCTION OR OTHER TYPE VEHICLES ON OR ALONG THE NEW SHARED USE HMA PATH OR WITHIN THE LIMITS OF THE INFILTRATION TRENCH. ANY DAMAGE TO PREVIOUSLY CONSTRUCTED WORK INCLUDING THE HMA PATH, SLOPES, RESTORED AREAS, INFILTRATION TRENCHES, ETC., RESULTING FROM TREE PLANTING AND LANDSCAPING ACTIVITIES WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR AT ITS EXPENSE.





REMOVAL KEY

KEY	DESCRIPTION
1	SHARED USE PATH, HMA BASE CRUSHING AND SHAPING
2	OBLITERATE OLD DRIVEWAY
3	TREE, REM, 6 INCH TO 18 INCH (BY OTHERS)
4	CLEARING (BY OTHERS)
5	STUMP, REM, 6 INCH TO 18 INCH

CONSTRUCTION KEY

KEY	DESCRIPTION
SR1	SLOPE RESTORATION, TYPE I
NSA	SLOPE RESTORATION, TYPE II (NATIVE SEEDING AREA)
MCH	MULCH, SPECIAL
SUP	PLACE 4" HMA SHARED USE PATH
DWS	DETECTABLE WARNING SURFACE, MODIFIED
PCD	PERMANENT CHECK DAM
SW6	6" CONCRETE SIDEWALK

SESC MEASURES KEY

KEY	DESCRIPTION
SF	INSTALL SILT FENCE
PF	INSTALL PROTECTIVE FENCING

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM 2	3-28-19	DPF/CEC	DAD
01	WCWRC COMMENTS	3-9-18	CEC	DAD
00	REVIEW SET	1-6-17	CEC	DAD

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PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

PHASE 2 - HMA SHARED USE PATH

STONE SCHOOL ROAD SHARED USE PATH

STA. 5+00 TO STA. 9+00

SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

DRAWING No. 2014031-8

SHEET No. 8 OF 14

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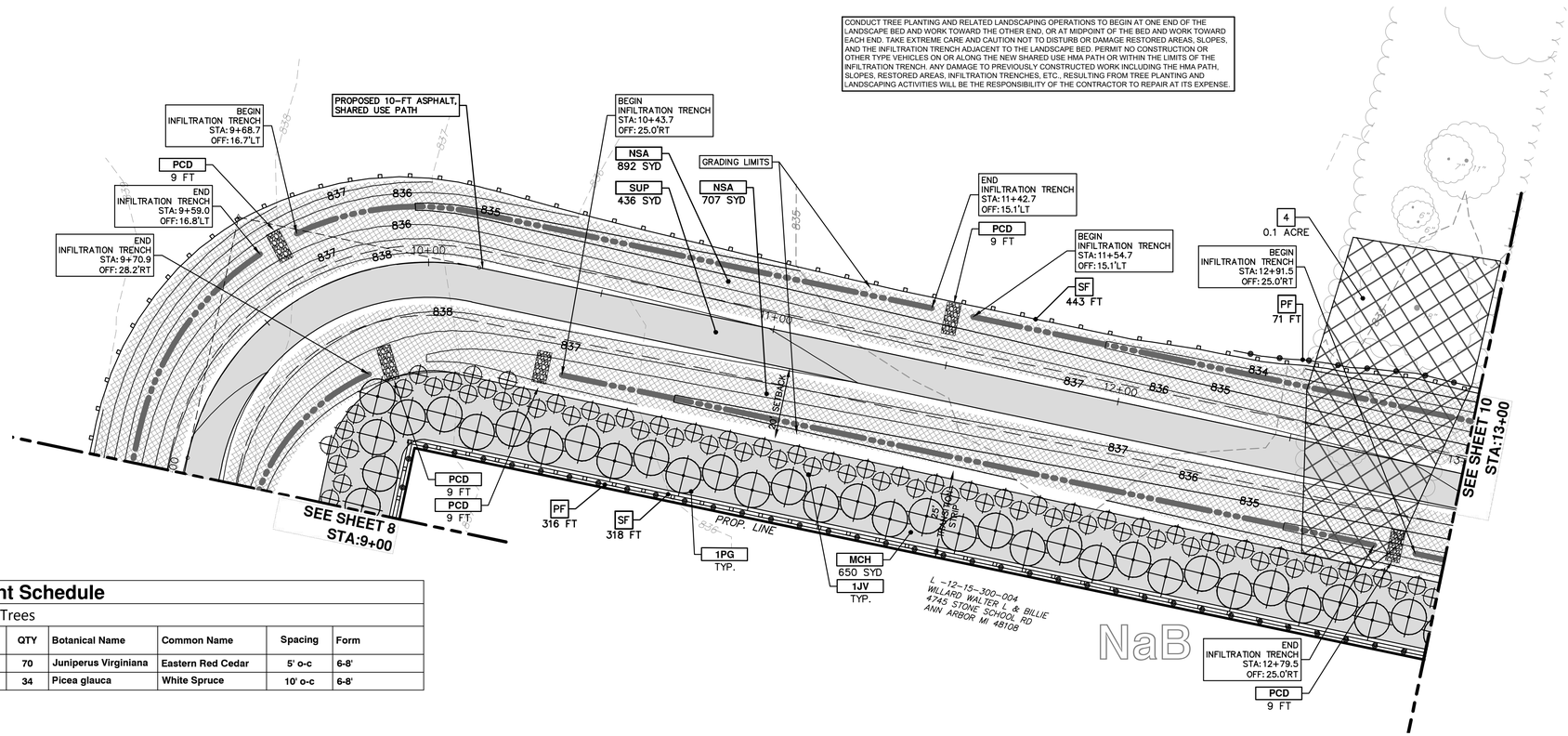
CONDUCT TREE PLANTING AND RELATED LANDSCAPING OPERATIONS TO BEGIN AT ONE END OF THE LANDSCAPE BED AND WORK TOWARD THE OTHER END, OR AT MIDPOINT OF THE BED AND WORK TOWARD EACH END. TAKE EXTREME CARE AND CAUTION NOT TO DISTURB OR DAMAGE RESTORED AREAS, SLOPES, AND THE INFILTRATION TRENCH ADJACENT TO THE LANDSCAPE BED. PERMIT NO CONSTRUCTION OR OTHER TYPE VEHICLES ON OR ALONG THE NEW SHARED USE HMA PATH OR WITHIN THE LIMITS OF THE INFILTRATION TRENCH. ANY DAMAGE TO PREVIOUSLY CONSTRUCTED WORK INCLUDING THE HMA PATH, SLOPES, RESTORED AREAS, INFILTRATION TRENCHES, ETC., RESULTING FROM TREE PLANTING AND LANDSCAPING ACTIVITIES WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR AT ITS EXPENSE.



Plant Schedule

B&B Trees

Key	QTY	Botanical Name	Common Name	Spacing	Form
JV	70	Juniperus Virginiana	Eastern Red Cedar	5' o-c	6-8'
PG	34	Picea glauca	White Spruce	10' o-c	6-8'

REMOVAL KEY

KEY	DESCRIPTION
1	SHARED USE PATH, HMA BASE CRUSHING AND SHAPING
2	OBLITERATE OLD DRIVEWAY
3	TREE, REM, 6 INCH TO 18 INCH (BY OTHERS)
4	CLEARING (BY OTHERS)
5	STUMP, REM, 6 INCH TO 18 INCH

CONSTRUCTION KEY

KEY	DESCRIPTION
SR1	SLOPE RESTORATION, TYPE I
NSA	SLOPE RESTORATION, TYPE II (NATIVE SEEDING AREA)
MCH	MULCH, SPECIAL
SUP	PLACE 4" HMA SHARED USE PATH
DWS	DETECTABLE WARNING SURFACE, MODIFIED
PCD	PERMANENT CHECK DAM
SW6	6" CONCRETE SIDEWALK

SESC MEASURES KEY

KEY	DESCRIPTION
SF	INSTALL SILT FENCE
PF	INSTALL PROTECTIVE FENCING

Know what's below. Call before you dig.

REV.	DATE	DRAWN	CHECKED
00	1-6-17	CEC	DAD
01	3-9-18	CEC	DAD
02	3-28-19	DPF/CEC	DAD

REV.	DESCRIPTION
00	REVIEW SET
01	WCWRC COMMENTS
02	ADDENDUM 2

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PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

PHASE 2 - HMA SHARED USE PATH

STONE SCHOOL ROAD SHARED USE PATH

STA. 9+00 TO STA. 13+00

SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

DRAWING No. 2014031-9

SHEET No. 9 OF 14

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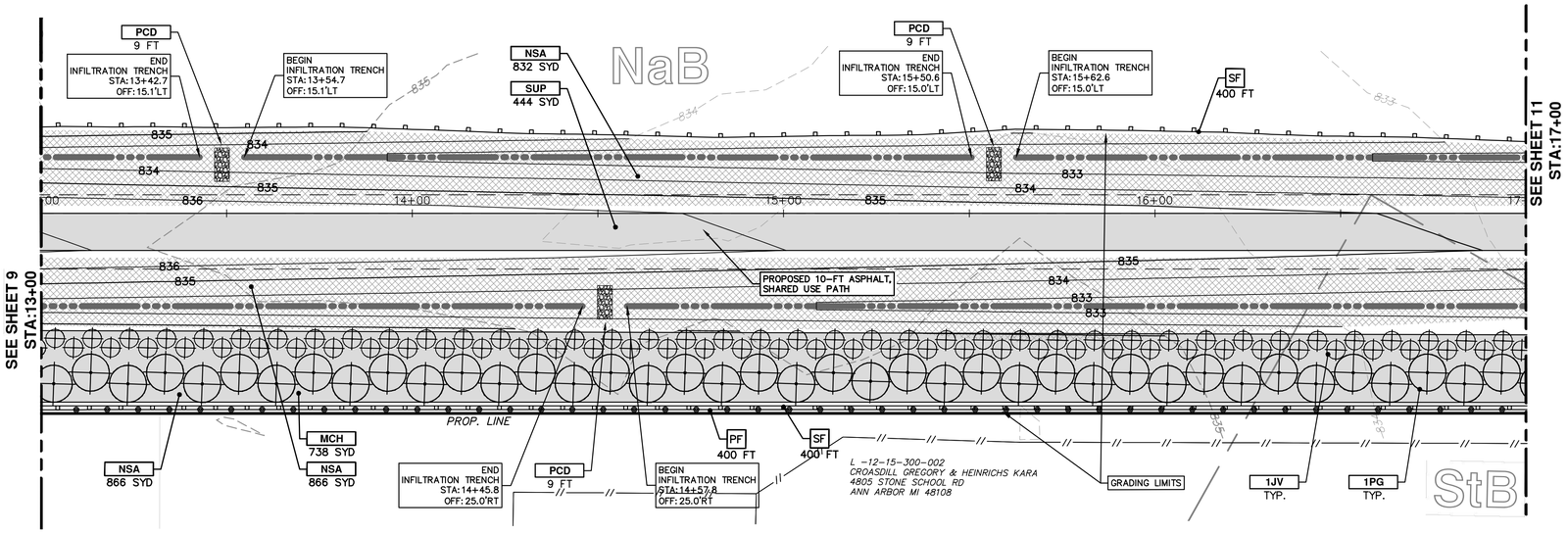
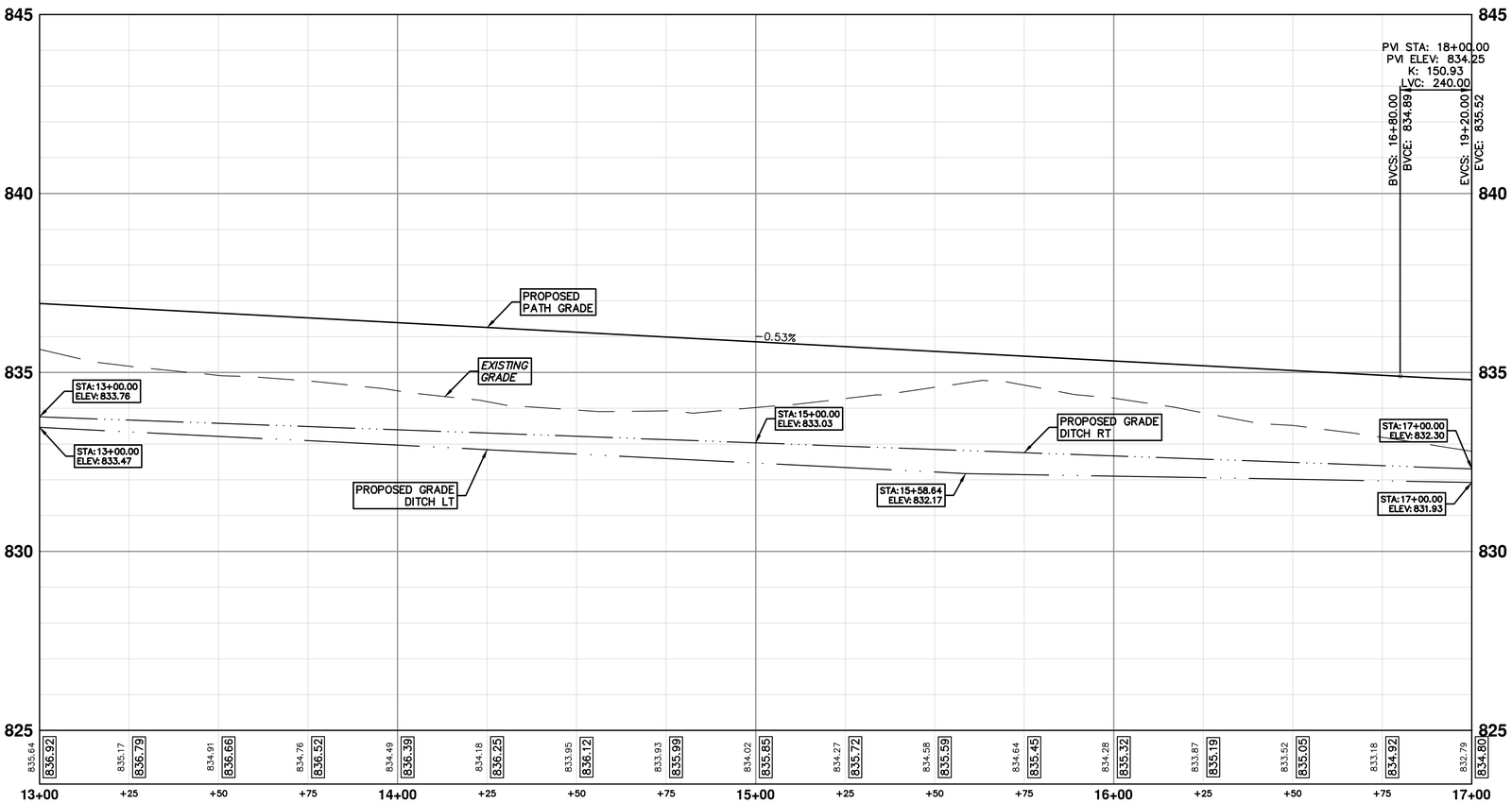


Plant Schedule

B&B Trees

Key	QTY	Botanical Name	Common Name	Spacing	Form
JV	80	Juniperus Virginiana	Eastern Red Cedar	5' o-c	6-8'
PG	40	Picea glauca	White Spruce	10' o-c	6-8'

CONDUCT TREE PLANTING AND RELATED LANDSCAPING OPERATIONS TO BEGIN AT ONE END OF THE LANDSCAPE BED AND WORK TOWARD THE OTHER END, OR AT MIDPOINT OF THE BED AND WORK TOWARD EACH END. TAKE EXTREME CARE AND CAUTION NOT TO DISTURB OR DAMAGE RESTORED AREAS, SLOPES, AND THE INFILTRATION TRENCH ADJACENT TO THE LANDSCAPE BED. PERMIT NO CONSTRUCTION OR OTHER TYPE VEHICLES ON OR ALONG THE NEW SHARED USE HMA PATH OR WITHIN THE LIMITS OF THE INFILTRATION TRENCH. ANY DAMAGE TO PREVIOUSLY CONSTRUCTED WORK INCLUDING THE HMA PATH, SLOPES, RESTORED AREAS, INFILTRATION TRENCHES, ETC., RESULTING FROM TREE PLANTING AND LANDSCAPING ACTIVITIES WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR AT ITS EXPENSE.



REMOVAL KEY

KEY	DESCRIPTION
1	SHARED USE PATH, HMA BASE CRUSHING AND SHAPING
2	OBLITERATE OLD DRIVEWAY
3	TREE, REM, 6 INCH TO 18 INCH (BY OTHERS)
4	CLEARING (BY OTHERS)
5	STUMP, REM, 6 INCH TO 18 INCH

CONSTRUCTION KEY

KEY	DESCRIPTION
SR1	SLOPE RESTORATION, TYPE I
NSA	SLOPE RESTORATION, TYPE II (NATIVE SEEDING AREA)
MCH	MULCH, SPECIAL
SUP	PLACE 4" HMA SHARED USE PATH
DWS	DETECTABLE WARNING SURFACE, MODIFIED
PCD	PERMANENT CHECK DAM
SW6	6" CONCRETE SIDEWALK

SESC MEASURES KEY

KEY	DESCRIPTION
SF	INSTALL SILT FENCE
PF	INSTALL PROTECTIVE FENCING

Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM 2	3-28-19	DPF/CEC	DAD
01	WCWRC COMMENTS	3-9-18	CEC	DAD
00	REVIEW SET	1-6-17	CEC	DAD

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PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

PHASE 2 - HMA SHARED USE PATH

STONE SCHOOL ROAD SHARED USE PATH

STA. 13+00 TO STA. 17+00

SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

DRAWING No. 2014031-10

SHEET No. 10 OF 14

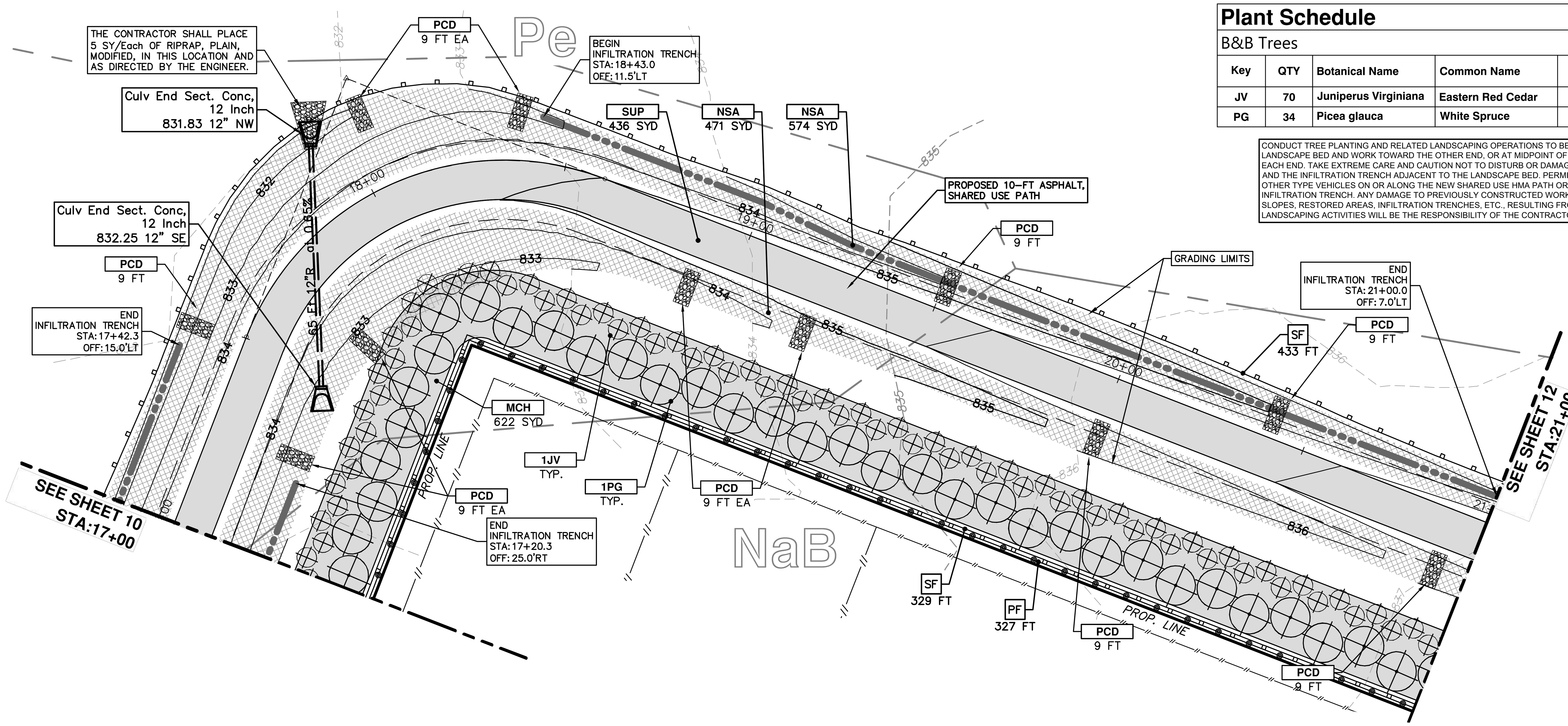
R:\2014031 Wheeler Center PUD\Plan Production\Construction Set\2014031PPSW2.dwg Dwg Created: 27-Mar-19 — _o2 standard bw.stb — Plot Date: 28-Mar-19

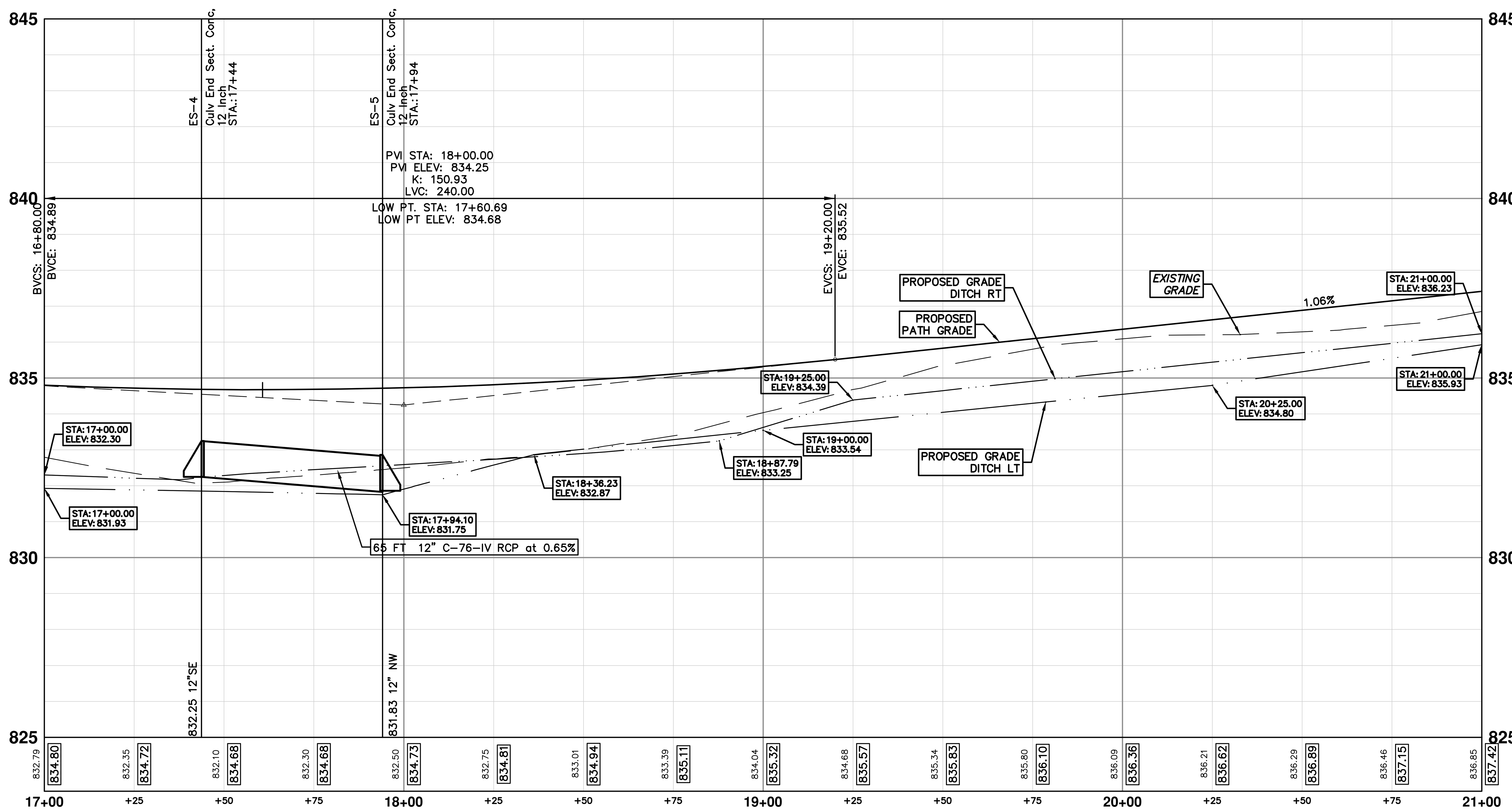
Plant Schedule

B&B Trees

Key	QTY	Botanical Name	Common Name	Spacing	Form
JV	70	Juniperus Virginiana	Eastern Red Cedar	5' o-c	6-8'
PG	34	Picea glauca	White Spruce	10' o-c	6-8'

CONDUCT TREE PLANTING AND RELATED LANDSCAPING OPERATIONS TO BEGIN AT ONE END OF THE LANDSCAPE BED AND WORK TOWARD THE OTHER END, OR AT MIDPOINT OF THE BED AND WORK TOWARD EACH END. TAKE EXTREME CARE AND CAUTION NOT TO DISTURB OR DAMAGE RESTORED AREAS, SLOPES, AND THE INFILTRATION TRENCH ADJACENT TO THE LANDSCAPE BED. PERMIT NO CONSTRUCTION OR OTHER TYPE VEHICLES ON OR ALONG THE NEW SHARED USE HMA PATH OR WITHIN THE LIMITS OF THE INFILTRATION TRENCH. ANY DAMAGE TO PREVIOUSLY CONSTRUCTED WORK INCLUDING THE HMA PATH, SLOPES, RESTORED AREAS, INFILTRATION TRENCHES, ETC., RESULTING FROM TREE PLANTING AND LANDSCAPING ACTIVITIES WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR AT ITS EXPENSE.





REMOVAL KEY

KEY	DESCRIPTION
1	SHARED USE PATH, HMA BASE CRUSHING AND SHAPING
2	OBLITERATE OLD DRIVEWAY
3	TREE, REM, 6 INCH TO 18 INCH (BY OTHERS)
4	CLEARING (BY OTHERS)
5	STUMP, REM, 6 INCH TO 18 INCH

CONSTRUCTION KEY

KEY	DESCRIPTION
SR1	SLOPE RESTORATION, TYPE I
NSA	SLOPE RESTORATION, TYPE II (NATIVE SEEDING AREA)
MCH	MULCH, SPECIAL
SUP	PLACE 4" HMA SHARED USE PATH
DWS	DETECTABLE WARNING SURFACE, MODIFIED
PCD	PERMANENT CHECK DAM
SW6	6" CONCRETE SIDEWALK

SESC MEASURES KEY

KEY	DESCRIPTION
SF	INSTALL SILT FENCE
PF	INSTALL PROTECTIVE FENCING

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

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM 2	3-28-19	DPF/CEC	DAD
01	WCWRC COMMENTS	3-9-18	CEC	DAD
00	REVIEW SET	1-6-17	CEC	DAD

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CITY OF ANN ARBOR MICHIGAN

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

PHASE 2 - HMA SHARED USE PATH

STONE SCHOOL ROAD SHARED USE PATH

STA. 17+00 TO STA. 21+00

SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

DRAWING No. 2014031-11

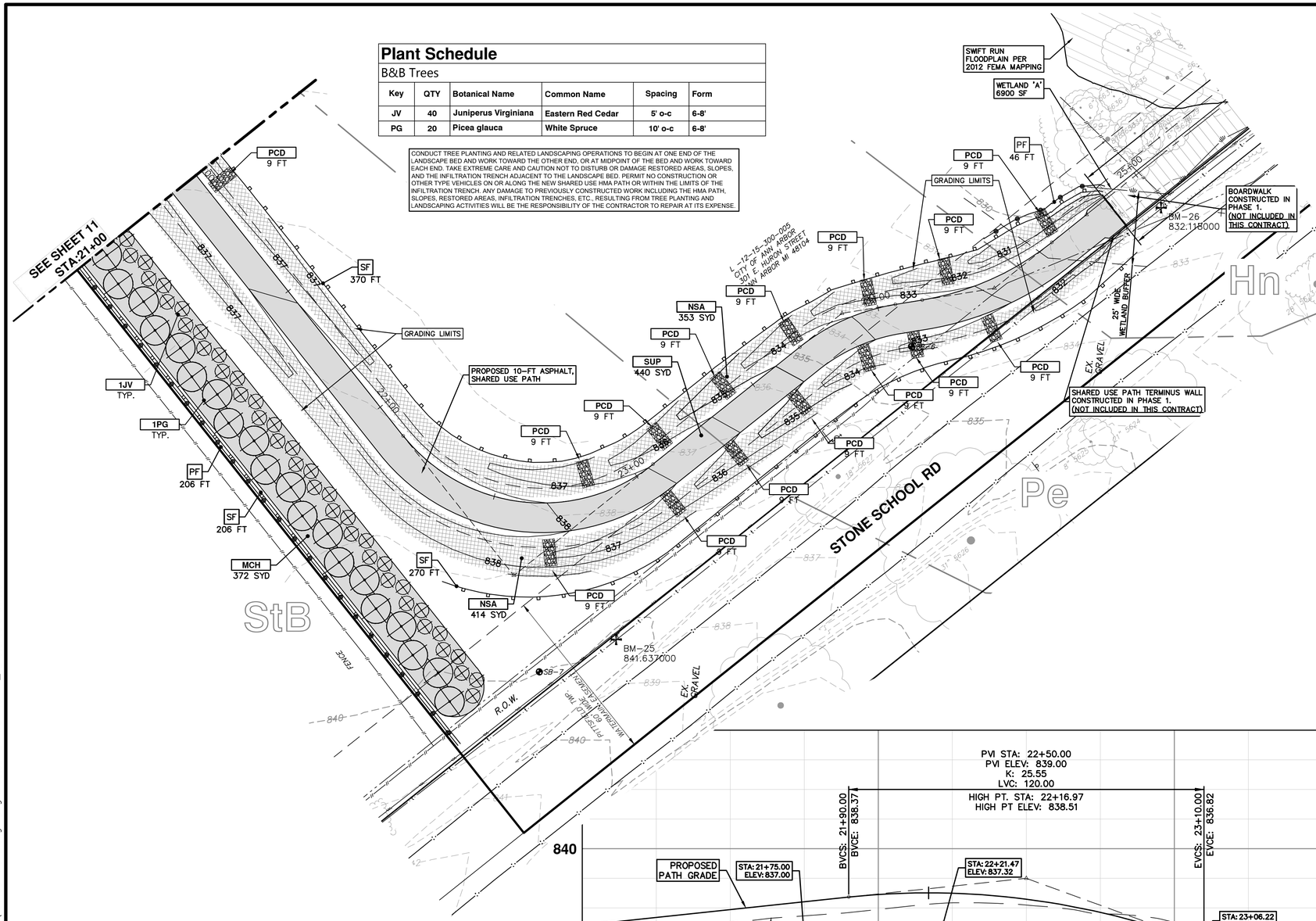
SHEET No. 11 OF 14

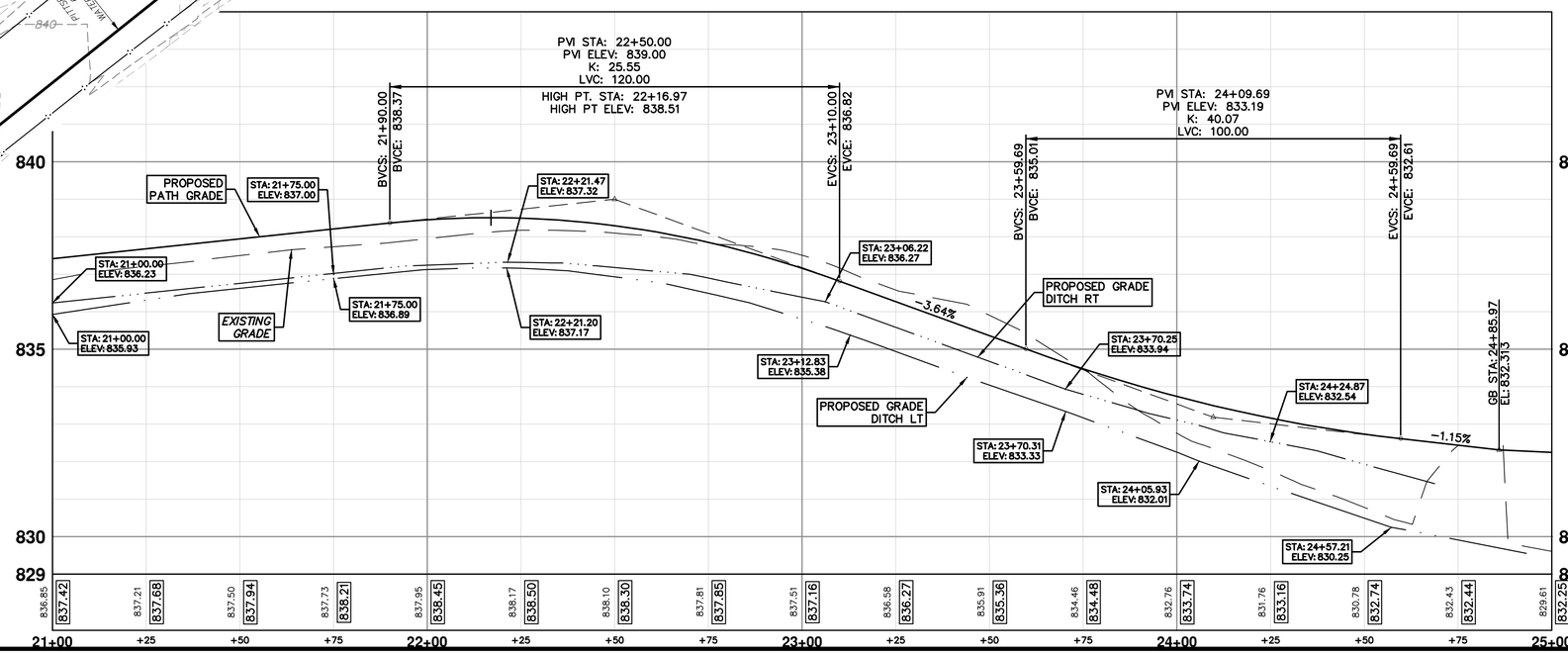
Plant Schedule

B&B Trees

Key	QTY	Botanical Name	Common Name	Spacing	Form
JV	40	Juniperus Virginiana	Eastern Red Cedar	5' o-c	6-8'
PG	20	Picea glauca	White Spruce	10' o-c	6-8'

CONDUCT TREE PLANTING AND RELATED LANDSCAPING OPERATIONS TO BEGIN AT ONE END OF THE LANDSCAPE BED AND WORK TOWARD THE OTHER END, OR AT MIDPOINT OF THE BED AND WORK TOWARD EACH END. TAKE EXTREME CARE AND CAUTION NOT TO DISTURB OR DAMAGE RESTORED AREAS, SLOPES, AND THE INFILTRATION TRENCH ADJACENT TO THE LANDSCAPE BED. PERMIT NO CONSTRUCTION OR OTHER TYPE VEHICLES ON OR ALONG THE NEW SHARED USE HMA PATH OR WITHIN THE LIMITS OF THE INFILTRATION TRENCH. ANY DAMAGE TO PREVIOUSLY CONSTRUCTED WORK INCLUDING THE HMA PATH, SLOPES, RESTORED AREAS, INFILTRATION TRENCHES, ETC., RESULTING FROM TREE PLANTING AND LANDSCAPING ACTIVITIES WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR AT ITS EXPENSE.





CONSTRUCTION KEY

KEY	DESCRIPTION
SR1	SLOPE RESTORATION, TYPE I
NSA	SLOPE RESTORATION, TYPE II (NATIVE SEEDING AREA)
MCH	MULCH, SPECIAL
SUP	PLACE 4" HMA SHARED USE PATH
DWS	DETECTABLE WARNING SURFACE, MODIFIED
PCD	PERMANENT CHECK DAM
SW6	6" CONCRETE SIDEWALK

SESC MEASURES KEY

KEY	DESCRIPTION
SF	INSTALL SILT FENCE
PF	INSTALL PROTECTIVE FENCING

REMOVAL KEY

KEY	DESCRIPTION
1	SHARED USE PATH, HMA BASE CRUSHING AND SHAPING
2	OBLITERATE OLD DRIVEWAY
3	TREE, REM, 6 INCH TO 18 INCH (BY OTHERS)
4	CLEARING (BY OTHERS)
5	STUMP, REM, 6 INCH TO 18 INCH

Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	REVIEW SET	1-6-17	CEC	DAD
01	WCWRC COMMENTS	3-9-18	CEC	DAD
02	ADDENDUM 2	3-28-19	DPF/CEC	DAD

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PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

PHASE 2 - HMA SHARED USE PATH

STONE SCHOOL ROAD SHARED USE PATH

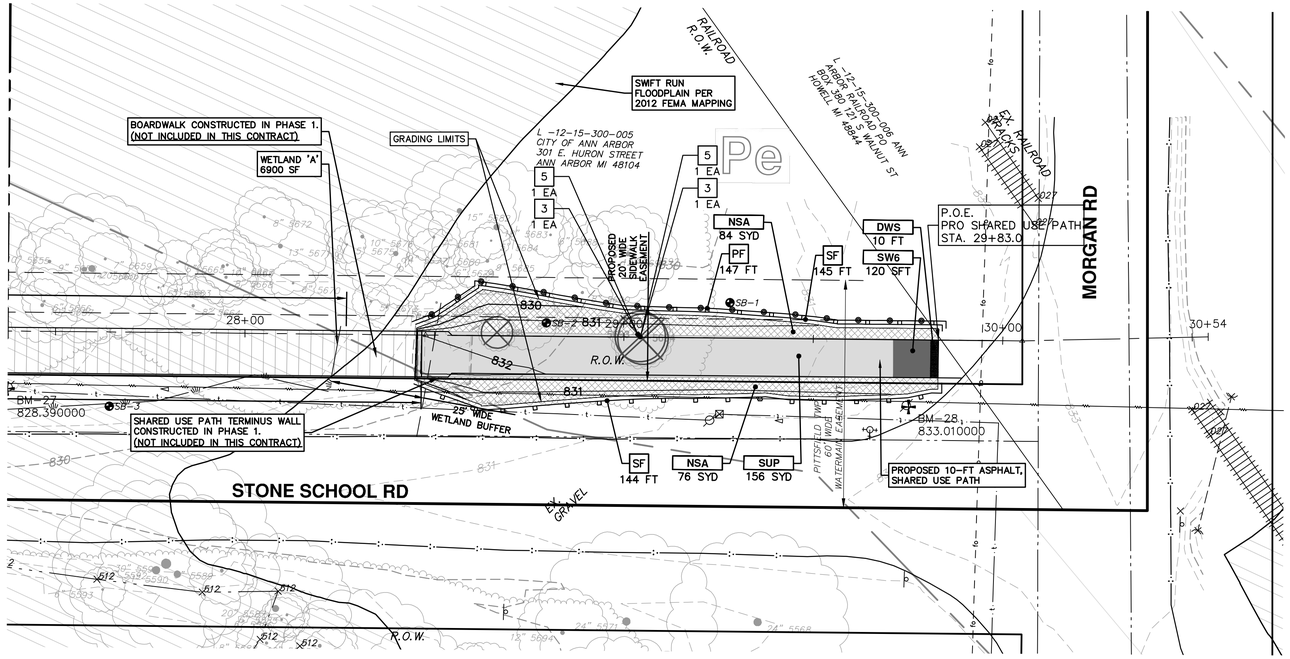
STA. 21+00 TO STA. 25+40

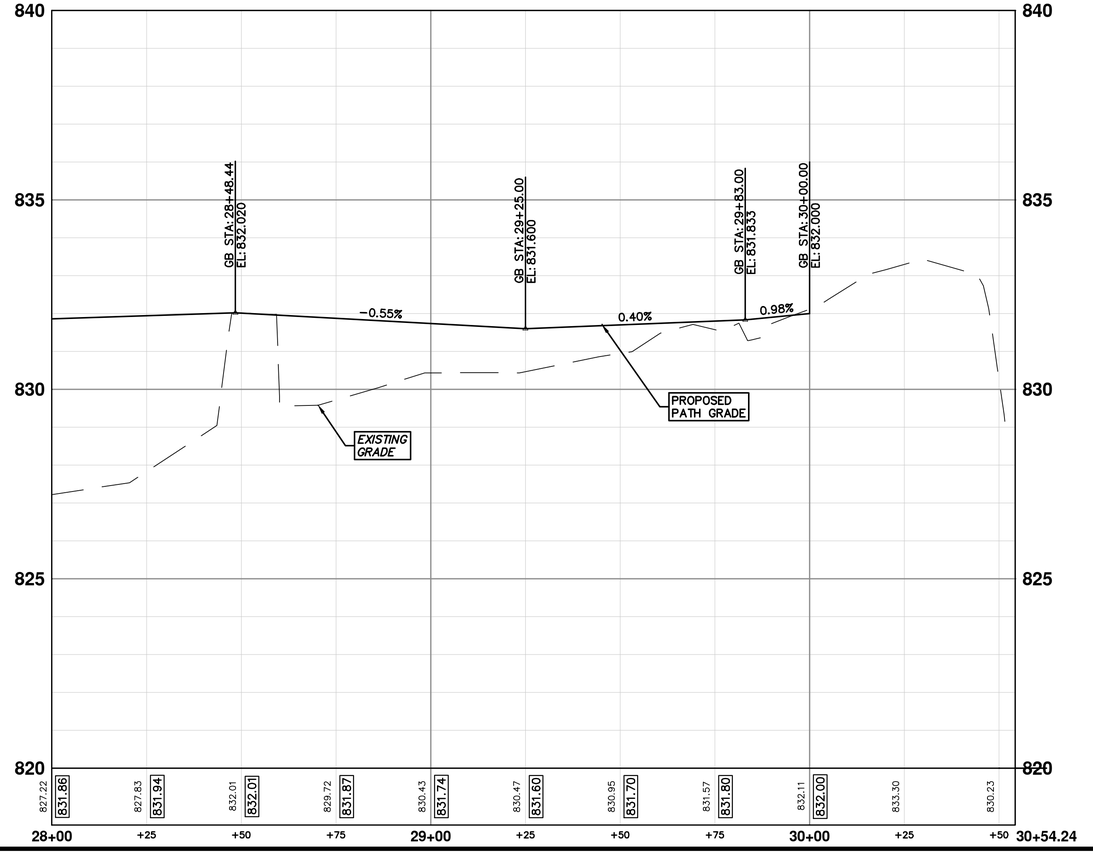
SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

DRAWING No. 20140031-12

SHEET No. 12 OF 14

R:\2014031 Wheeler Center PUD\Plan Production\Construction Set\20140331PPSW2.dwg Dwg Created: 27-Mar-19 — _a2 standard bw.stb — Plot Date: 28-Mar-19





REMOVAL KEY

KEY	DESCRIPTION
1	SHARED USE PATH, HMA BASE CRUSHING AND SHAPING
2	OBLITERATE OLD DRIVEWAY
3	TREE, REM, 6 INCH TO 18 INCH (BY OTHERS)
4	CLEARING (BY OTHERS)
5	STUMP, REM, 6 INCH TO 18 INCH

CONSTRUCTION KEY

KEY	DESCRIPTION
SR1	SLOPE RESTORATION, TYPE I
NSA	SLOPE RESTORATION, TYPE II (NATIVE SEEDING AREA)
MCH	MULCH, SPECIAL
SUP	PLACE 4" HMA SHARED USE PATH
DWS	DETECTABLE WARNING SURFACE, MODIFIED
PCD	PERMANENT CHECK DAM
SW6	6" CONCRETE SIDEWALK

SESC MEASURES KEY

KEY	DESCRIPTION
SF	INSTALL SILT FENCE
PF	INSTALL PROTECTIVE FENCING

Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
02	ADDENDUM 2	3-28-19	DPF/CEC	DAD
01	WCWRC COMMENTS	3-9-18	CEC	DAD
00	REVIEW SET	1-6-17	CEC	DAD

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734.794.6410
www.a2gov.org

PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR

PHASE 2 - HMA SHARED USE PATH

STONE SCHOOL ROAD SHARED USE PATH

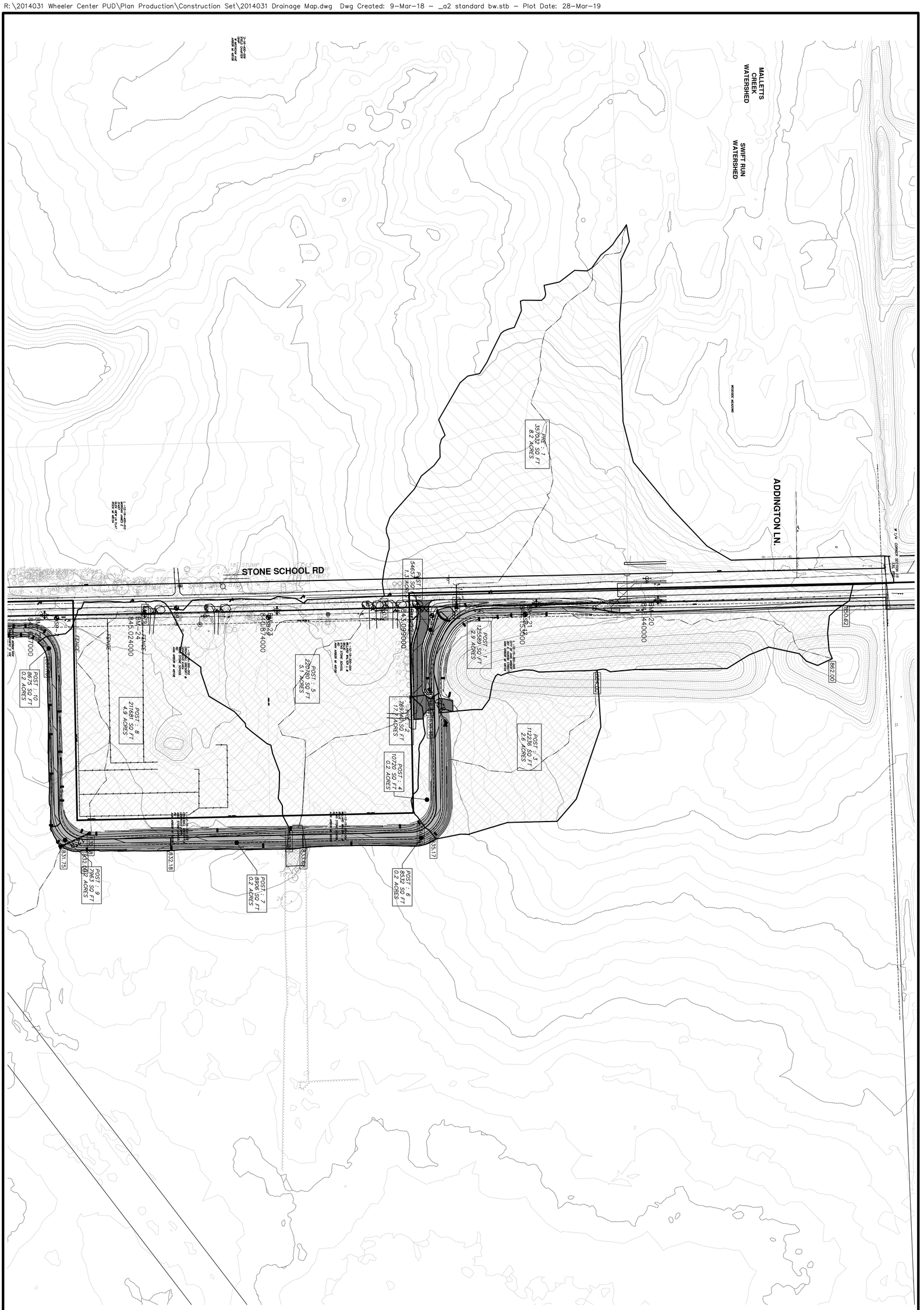
STA. 28+00 TO STA. 30+54

SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

DRAWING No. 2014031-13

SHEET No. 13 OF 14

R:\2014031 Wheeler Center PUD\Plan Production\Construction Set\2014031 Drainage Map.dwg Dwg Created: 9-Mar-18 - _a2 standard bw.stb - Plot Date: 28-Mar-19



SHEET No. 14 OF 14	PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR	CITY OF ANN ARBOR PUBLIC SERVICE 301 EAST HURON STREET P.O. BOX 8647 ANN ARBOR, MI 48107-8647 734-794-6410 www.a2gov.org		
SCALE PLAN: 1" = 100'	PHASE 2 - HMA SHARED USE PATH			
DRAWING No. 2014031-14	PATH DRAINAGE AREA MAP			

REV.	DESCRIPTION	DATE	DRAWN	CHECKED

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