

ADDENDUM No. 1

ITB No. 4366

Geddes Avenue Improvements Project

Due: May 22, 2015, 10:00 a.m.

The following changes, additions, and/or deletions shall be made to the Invitation to Bid for Geddes Avenue Improvement Project, ITB No. 4366, on which proposals will be received on/or before May 22, 2015 by 10:00 a.m.

The information contained herein shall take precedence over the original documents and all previous addenda (if any), and is appended thereto. **This Addendum includes 27 page(s) and 17 drawing(s).**

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

I. CORRECTIONS/ADDITIONS/DELETIONS

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

<u>Section/Page(s)</u>	<u>Change</u>
Bid Forms	Replace page BF-1 with the attached ADD-1-6. This revises items #135 & #135A and adds item #203A.
Bid Forms	Replace page BF-8 with the attached ADD-1-7. This revises items #881A and #881B.
Bid Forms	Replace page BF-9 with the attached ADD-1-8. This adds item #929.
Det. Specs/DS-24	Replace page DS-24 with the attached ADD-1-9. Tree Removals.
Det. Specs/DS-25	Replace page DS-25 with the attached ADD-1-10. Tree Removals.
Det. Specs/DS-36 thru DS-41	Replace pages DS-36 through DS-41 with the attached ADD-1-11 through ADD-1-16. Machine Grading, Modified

Det. Specs/DS-131 thru DS-137

Replace pages DS-131 through DS-137 with the attached ADD-1-17 through ADD-1-23. Landscaping Warranty.

Det. Specs

Add the attached Detailed Specification for Item #203A – Traffic Regulator Control (ADD-1-24) to the Contract Book.

Det. Specs

Add the attached Detailed Specification for Item #929– Gas Main, Rem (ADD-1-25) to the Contract Book.

Contract Book

Add attached EPA form 6100-2 (ADD-1-26 to ADD-1-27) for bidders use as needed.

Plans/6

Replace Sheet 6 with the attached ADD-1-Sheet 1. Infiltration bed detail revised.

Plans/13-14

Replace Sheets 13-14 with the attached ADD-1-Sheet 2 and 3. Note added to typical section where infiltration beds are proposed.

Plans/23

Replace Sheet 23 with the attached ADD-1-Sheet 4. Plans revised per MDOT comments.

Plans/25-27

Replace Sheets 25-27 with the attached ADD-1-Sheet 5 through 7. Tree removal tables were updated.

Plans/56-58

Replace Sheets 56-58 with the attached ADD-1-Sheet 8 through 10. Sewer trench detail information updated.

Plans/64, 66-70

Replace Sheets 64 and 66-70 with the attached ADD-1-Sheet 11 through 16. The depths on the Storm Sewer Structure Tables were updated, structures without sumps were noted, R-14A was updated to be an inlet instead of CB and R-33A Rim was updated.

Plans/187

Replace Sheet 187 with the attached ADD-1-Sheet 17. The quantity table has been updated.

Respondents are directed to take note in its review of the documents of the following questions and City responses as they affect work or details in other areas not specifically referenced here.

II. QUESTIONS AND ANSWERS

The following Questions have been received by the City. Responses are being provided in accordance with the terms of the ITB.

Question #1: I noticed your Geddes Ave. Project on MITN today and was wondering if C.I.P.P. could be utilized on any portion of the water main work?

Answer: We are not rehabilitating/replacing pipe, so we would not use CIPP

Question #2: Does this project require any ROW Acquisition?

Answer: No, it doesn't

Question #3: What is the Engineer's estimate for the Geddes Avenue Improvements Project bidding on May 22nd?

Answer: \$6,392,109

Question #4: The current project schedule states an August 2015 start date, we discussed the need in the pre-construction meeting to remove the trees this year, but as far as the construction itself, could we wait until spring of 2016 to begin work on the project?

Answer: Contractors shall bid the project based on the Contract Documents for the construction schedule and progress clause. The Contractor may propose an alternate schedule in Section 3 – Time Alternate of the bid forms (BF-12). Also, after Contract Award the Contractor must submit a detailed construction schedule. Deviations from the Contract Documents will be reviewed by the City at that time.

Question #5: Item #276, 282, 320-324 list Class IV RCP for storm sewer on this project. In 2010, Ann Arbor revised their standards to include high-density polyethylene pipe matching MDOT standards. Can HDP watertight pipe be added as an alternate for these items per the City of Ann Arbor specifications? Should HDP not meet some design considerations for this project, would you consider our High-Performance Polypropylene pipe?

Answer: The Contractor shall bid project based on the Contract Documents, including specified pipe materials. The Contractor may propose an alternate material in Section 2 – Material and Equipment Alternate of the bid forms (BF-11).

Question #6: The 2' single inlets (per drawing SD-S-10) would have 2' of sump but schedule footages have not included any sump?

Answer: All inlets should include 2' sumps except #40, 12, 13, 14A, 16, 22, 19 and 33A. See Addendum #1 revised plan sheets.

Question #7: CB's- there isn't a drawing for these but normally CB's will have 2' of sump. Where your depths were 2' deeper (from invert to rim) I figured you wanted a 2' sump. The schedule depths have not included any sumps for: 2'- #14A & 16 -- 4'- #40A, 1, 27, 28, 29, 31, 34, & 36.

Answer: #14A and 16 should be a 2' inlet (see above, no sump). #1, 27, 28, 29, 31, and 34 should include 2' sumps. #36 has no sump. See Addendum #1 revised plan sheets.

Question #8: MH Type 1 (per drawing SD-S-1) does not show any sumps but you have added depth (invert to rim) on: 4'- #11 -- 5'- #41, 42, & 11A -- 6'- #11B. Are these supposed to have sumps?

Answer: Yes – 11A has a 3' sump, the others listed have 2' sumps. See Addendum #1 revised plan sheets.

Question #9: Some of the depths do not calculate to what schedules show: #'s 27, 28, 29, 31, 32B, 33, 34, 36, & 38.

Answer: These have been corrected with the Addendum #1 revised plan sheets.

Question #10: The 8" SDR26 for Appleway calls for TR. Det I w/ CLB bedding. Is this not the same as TR. Det II Mod.? If not, there is no pay item the 8" TR. Det. I?

Answer: The sewer notation on the plan sheets has been revised with Addendum 1. The estimate/item is correct.

Question #11: How do we get paid for the infiltration bed? Is it the Drainage Agg Type I? If so, it seems a little low on the quantity. If not, what item pays for it?

Answer: Please see Addendum 1 Plans. Clarifying notes were added to the typical sections and details where infiltration beds are proposed.

Question #12: I haven't seen anything (yet) regarding dewatering for the project... ...are there any special considerations that we should know about / account for if the project requires dewatering? (allowable discharge points, etc.)

Answer: Dewatering required for the proposed construction activities shall be in accordance with the plans and specifications, including noted references to the City's Standard Specifications for Construction and the 2012 Michigan Department of Transportation. Soil boring logs have been provided and the Contractor shall review and note the location-specific data contained, including groundwater levels where encountered and noted.

The Contractor shall adhere to local ordinances and regulations for the dewatering discharges and required soil erosion and sedimentation control measures.

Question #13: On Sheet 147 you have 5 – Solar Powered Rectangular Rapid Flashing Beacons to be installed by others. I did not see a pay item for these in the documents so I was wondering if the contractor is suppose to supply the items and if so how will they be paid for.

Answer: The Contractor does not need to provide the Solar Powered Rectangular Rapid Flashing Beacons, the City will provide and install.

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

BID FORM - SECTION 1
 PROJECT: GEDDES AVENUE IMPROVEMENTS PROJECT
 FILE NO: 2013-037 BID NO: ITB 4366

ITEM #	DESCRIPTION	UNIT	ESTIM. QUANT.	UNIT PRICE	AMOUNT (\$)
130	Protective Fence, Orange, Plastic, 4 Foot Ht.	Ft	9,000	\$	
135	Tree Removal, 6" to 17"	Ea	87	\$	
135A	Tree Removal, 18" and larger	Ea	39	\$	
135B	Excavation for Tree Evaluation	Hr	150	\$	
140	Exploratory Excavation, Trench Detail I (0-10' deep)	Ea	6	\$	
141	Exploratory Excavation, Trench Detail VI (0-10' deep)	Ea	4	\$	
144	Exploratory Excavation Add'l Depth	VF	20	\$	
201	Project Supervision, Max. \$100,000	LS	1	\$	
202	General Conditions, Max. \$100,000	LS	1	\$	
203	Minor Traf Devices, Max. \$100,000	LS	1	\$	
203A	Traffic Regulator Control	Hr	600	\$	
204	Preconstruction Documentation	LS	1	\$	
205	Railroad Flagger Allowance	Dlr	48,000	\$	
206	Machine Grading, Modified	Sta	51	\$	
207	Subgrade Undercutting, Type II	Cyd	2,975	\$	
208	Pavt Mrkg, Sprayable, Thermopl, 6 inch, White	Ft	6,635	\$	
209	Pavt Mrkg, Sprayable, Thermopl, 4 inch, Yellow	Ft	8,766	\$	
210	Pavt Mrkg, Thermopl, 6 inch, Crosswalk	Ft	300	\$	
211	Pavt Mrkg, Thermopl, 12 inch, Crosswalk	Ft	128	\$	
212	Pavt Mrkg, Thermopl, 24 inch Stop Bar	Ft	120	\$	
213	Guardrail, Type B	Ft	438	\$	
214	Guardrail Approach Terminal, Type 1B	Ea	1	\$	
215	Guardrail Approach Terminal, Type 2B	Ea	1	\$	
216	Conduit, Schedule 80 PVC, 2-3 inch, Special	Ft	4,406	\$	
217	Communication Handhole Assembly, Complete	Ea	11	\$	

BF-1

Total This Page \$ _____
 (Also to be entered on page BF-10)

BID FORM - SECTION 1
PROJECT: GEDDES AVENUE IMPROVEMENTS PROJECT
FILE NO: 2013-037 BID NO: ITB 4366

ITEM #	DESCRIPTION	UNIT	ESTIM. QUANT.	UNIT PRICE	AMOUNT (\$)
881	Turf Establishment	Syd	18,178	\$	
881A	Landscaping Maintenance and Warranty, 1st Year, Min \$15,000	LS	1	\$	
881B	Landscaping Maintenance and Warranty, 2nd Year, Min \$10,000	LS	1	\$	
900	Excavation, Fdn	Cyd	5,620	\$	
901	Earth Retention System, Temp, Left in Place	Sft	940	\$	
902	Backfill, Structure, CIP	Cyd	6,840	\$	
903	Aggregate, 21A, Modified	Cyd	400	\$	
904	Underdrain, Fdn, 4 inch	Ft	905	\$	
905	Underdrain Outlet, 4 inch	Ft	360	\$	
906	Underdrain Outlet Ending, 4 inch	Ea	18	\$	
907	Substructure, Conc	Cyd	1,187	\$	
908	Reinforcement, Steel, Epoxy Coated	Lb	169,124	\$	
909	Bridge Railing, 4 Tube	Ft	905	\$	
910	Sprinkler Head, Relocate	Ea	50	\$	
911	Sprinkler Head, Replace	Ea	150	\$	
912	Sprinkler Line	Ft	3,000	\$	
913	Aluminum Rail Fence, Direct Bury	Ft	280	\$	
914	Landscape Stone	Syd	164	\$	
915	Underdrain Outlet, 6 inch	Ft	30	\$	
916	Post Mailbox, Modified	Ea	30	\$	
917	Gleditsia T.I. Imperial, 2.5 inch cal.	Ea	11	\$	
918	Nyssa Sylvatica, 2.5 inch	Ea	9	\$	
919	Ostrya Virginiana, 2 inch	Ea	6	\$	

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Total This Page \$ _____
 (Also to be entered on page BF-10)

BID FORM - SECTION 1
 PROJECT: GEDDES AVENUE IMPROVEMENTS PROJECT
 FILE NO: 2013-037 BID NO: ITB 4366

ITEM #	DESCRIPTION	UNIT	ESTIM. QUANT.	UNIT PRICE	AMOUNT (\$)
920	Parthenocissus Tricuspidata, #1 container	Ea	72	\$ _____	_____
921	Picea Glauca, 10 ft ht.	Ea	25	\$ _____	_____
922	Pinus Rubra, 10 ft ht.	Ea	10	\$ _____	_____
923	Quercus Bicolor, 2.5 inch	Ea	16	\$ _____	_____
924	Quercus Rubra, 2.5 inch	Ea	17	\$ _____	_____
925	Fire Hydrant Assembly, Rem	Ea	1	\$ _____	_____
926	Fire Hydrant Adjustment	Ea	3	\$ _____	_____
927	Fire Hydrant Relocate	Ea	2	\$ _____	_____
928	Temporary Turf Establishment	Syd	5,300	\$ _____	_____
929	Gas Main, Rem	Ft	6,819	\$ _____	_____

BF-9

Total This Page \$ _____
 (Also to be entered on page BF-10)

**DETAILED SPECIFICATION
FOR
ITEM #135 – TREE REMOVAL, 6” TO 17”
ITEM #135A – TREE REMOVAL, 18” AND LARGER**

DESCRIPTION

This work consists of mobilizing and removing trees and stumps as detailed in the plans or as directed by the Engineer. The work shall be completed in accordance with the City Standard Specifications for Tree and Stump Removal except as modified herein. Up to five (5) separate mobilizations for tree removal shall be included in the unit price bid for Tree Removal, 6” to 17” and Tree Removal, 8” and Larger. Each mobilization may include any number of tree removals that are either shown on the plans or as-directed by the Engineer.

Multiple mobilizations, up to five (5) each, shall be as-directed by the Engineer and coordinated with the Item for Excavation for Tree Evaluation.

Tree and stump removal shown on the plans along the north side of Geddes from station 41+50 to the POE will occur all in one mobilization and Excavation for Tree Evaluation is not anticipated in this area.

Removal of trees and stumps with a diameter under 6” will not be paid for separately.

MEASUREMENT AND PAYMENT

The completed work, as described, will be measured and paid for at the contract price using the following pay item(s):

<u>PAY ITEM</u>	<u>PAY UNIT</u>
Tree Removal, 6” to 17”	Each
Tree Removal, 18” and Larger.....	Each

Pay item includes all labor, materials, and equipment to complete work as described above.

Pay items include the removal of trees and stumps.

Removal of trees and stumps with a diameter under 6” will not be paid for separately.

**DETAILED SPECIFICATION
FOR
ITEM #135B – EXCAVATION FOR TREE EVALUATION**

DESCRIPTION

This work consists of non-destructive excavation and tree pruning as directed by the City along areas where new sidewalk, retaining walls or other proposed work is near an existing tree that may be saved and protected from construction activities. The work shall be completed in accordance with the City Standard Specifications the Detailed Specification for Machine Grading and Section 205 of the Michigan Department of Transportation 2012 Standard Specifications for Construction except as modified herein. The Contractor shall provide an International Society of Arboriculture (ISA) Certified Arborist and necessary labor, materials and equipment required to perform the specified work.

CONSTRUCTION METHODS

Contractor shall excavate existing ground where directed by the Engineer to expose and evaluate existing tree roots. Excavation methods shall be non-destructive to existing trees including roots, trunk and canopies. The Contractor shall notify the Engineer 72 hours in advance of planned excavation and the City shall stake the required locations. The City's Arborist will evaluate existing trees and proposed construction to determine if removal of the tree or pruning of the tree and/or if other measures will be required to preserve the tree. The City's Arborist will provide the described direction to the Contractor and their ISA Certified Arborist for execution.

Contractor shall perform non-destructive excavation, including the use of an air spade, hand digging, or other methods approved by the City during the prosecution of this work. The excavation shall be sufficient to locate substantial roots, 2" diameter and larger, without causing damage to the 2" diameter and larger roots. Root pruning will be required as part of this work, as directed by the City, prior to employing standard excavation methods in accordance with the Detailed Specification for Machine Grading and the City's Standard Specifications for related work. Roots shall be pruned and cut cleanly and excavation methods shall not rip or tear existing roots unless directed by the City.

Work shall be performed by the Contractor under the supervision of an ISA Certified Arborist that shall be part of the Contractor's Excavation for Tree Evaluation crew. This work, and the direction to the Contractor-provided ISA Certified Arborist, will be as-directed by the City's Arborist.

The evaluation will be completed concurrently with the Contractor's excavation operations and any required backfill shall be completed within 24 hours after excavation and evaluation. The Contractor shall wrap exposed roots in wet burlap to ensure they remain moist, if additional time is required and approved by the City's Arborist.

Trees along the north side of Geddes from approximately 41+50 to the POE will not require this work.

MEASUREMENT AND PAYMENT

The completed work shall be paid for at the contract unit price for the following contract item (pay item):

PAY ITEM

Excavation for Tree Evaluation

PAY UNIT

Hour

Excavation for Tree Evaluation will be paid for by an hourly rate at locations staked by the Engineer. This rate shall include all labor, materials, and equipment necessary to perform the work as specified including root pruning. This hourly rate also includes the cost of a Contractor-provided ISA Certified Arborist supervising the Contractor's crew.

**DETAILED SPECIFICATION
FOR
ITEM #206 – MACHINE GRADING, MODIFIED**

DESCRIPTION

The pay item “Machine Grading, Modified” shall be completed in accordance with Section 205 of the Michigan Department of Transportation 2012 Standard Specifications for Construction (MDOT 2012 SSC) and shall include all work indicated in the MDOT 2012 SSC, shown on the plans, and as specified herein, with the exception that “Subgrade Undercutting, Type __,” and “Infiltration Trench Undercutting” shall be paid for separately when separate pay items for the respective items are included in the proposal. “Machine Grading, Modified” shall include all the work specified herein for which there is no separate pay item. This work shall consist of constructing earth grades by excavating, cutting, filling, trimming, and grading; general restoration, and sign removals in accordance with the Detailed Specifications elsewhere herein; and maintaining the work in a finished condition until such time that it is accepted by the Engineer.

CONSTRUCTION METHOD

- a. Soils Information.- Soil information provided as part of the contract documents is for informational purposes only and shall not relieve the Contractor of the responsibility of investigating all local conditions before bidding.
- b. Materials.- All materials and mixtures shall meet the requirements as specified in Section 205 of the MDOT 2012 Standard Specifications for Construction, except as specified herein.
- c. General Provisions. - The Contractor shall:
 1. Maintain access to all drive entrances at all times.
 2. Maintain pick-up access for garbage and recycle vehicles at all times.
 3. Maintain access to all mail boxes for users and the U.S. Postal Service at all times. The Engineer may direct the temporary relocation of mail boxes. The Contractor may propose the temporary relocation of mail boxes, subject to the approval of the Engineer. In either case, the temporary relocation of mail boxes will not be paid for separately. There are 22 mailboxes located within the project grading limits that may need to be temporarily relocated and then re-established in their permanent locations.
 4. Grade around mailboxes, trees, light poles, power poles, and the like, which are to remain in place. The Contractor shall be responsible for any damage caused to such structures.
 5. Coordinate all work with utility companies and others that need to complete work within the project limits.
 6. Maintain the work in a finished condition until it is accepted by the Engineer.
- d. Pavement Sawcutting.- The work shall include the full-depth saw-cutting of pavement at the construction limits, and elsewhere as required, if not paid for as part of another item of work. Pavement sawcutting will not be paid for separately.
- e. Removal of Trees and Vegetation.- The Contractor shall remove and properly dispose of off-site all vegetation; brush; roots; and trees and stumps less than 6 inch in diameter, as shown on the plans, and as directed by the Engineer as required to complete the project.
- f. Removal and Salvaging of Topsoil.- The removal, salvaging and stockpiling of topsoil, and all related work, shall be performed in accordance with Section 205.03.A.1 (Removing and Salvaging Topsoil) of the MDOT 2012 SSC and will not be paid for separately.
- g. Miscellaneous Removals.- The removal of bituminous, aggregate, and/or concrete materials from around manholes, structures, and utility covers, and the removal of bituminous curbing, bituminous driveway wedges, bituminous surface on existing curb and gutter, and bituminous surfaces around other miscellaneous unremoved areas shall be paid for as “Machine Grading, Modified” and will not be paid for separately. “Machine Grading, Modified” includes the removal of any surface feature located within the grading limits which must be removed and for which there is no specific pay item established in the proposal for its removal.

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

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

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

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

- i. Protection of Utilities.- Utility lines may become exposed at, above, or below, the foundation or subgrade elevation during machine grading or subgrade undercutting operations. If this occurs, the Contractor shall excavate around, above and/or below the utility lines, as directed, to complete the machine grading or subgrade undercutting operations. Payment, at contract unit prices, for "Machine Grading, Modified" or "Subgrade Undercutting, Type __," whichever applies, will be considered as payment in full for this work.
- j. Removal of Cable, Conduits and Pipe.- The Contractor shall remove, and properly dispose of off-site, all abandoned cables, conduit, and pipe encountered at, or above the bottom of any earthwork excavation or undercut. This shall not include abandoned gas main pipe, which shall be paid for separately as "Gas Main, Rem". Where the inverts of abandoned, or to be abandoned or removed, conduits or pipe are less than 16 inches below the bottom of any earth excavation or undercut, the conduits and/or pipe shall be removed and the resulting void filled with an Engineer approved material. The fill material shall be compacted to 95% of its maximum unit weight in lifts not exceeding 12 inches. No separate payment will be made for removal of conduit or pipe, or any of the work, described in this section.
- k. Foundation Preparation.- Foundation is defined as the original earth grade upon which roadway embankment is placed. The foundation work shall be completed in accordance with Section 205.03.A (Preparing Roadway Foundation) of the MDOT 2012 SSC as shown on the plans, and as specified herein.
- l. The foundation shall be compacted to 95% of its maximum unit weight, as measured by the AASHTO T-180 method, to a depth of at least 10 inches. If this cannot be achieved, in the opinion of the Engineer, he/she will direct the Contractor to perform "Subgrade Undercutting, Type __" or "Subgrade Manipulation," as described herein, on the foundation.
- m. Roadway Embankment Construction.- Roadway embankment is defined as the construction of earth on the prepared foundation to form the subgrade. Roadway embankment work shall be completed in accordance with Section 205.03 H (Roadway Embankment) of the MDOT 2012 SSC as shown on the plans, and as specified herein. Roadway embankment shall be compacted to a minimum of 95% of its maximum unit weight, as measured by the AASHTO T-180 method.

- n. Subgrade Construction.- Subgrade is defined as the final earth grade which extends from grading limit to grading limit. The subgrade shall be constructed by performing earth excavation and roadway embankment work in accordance with Section 205.03.G (Earth Excavation) and Section 205.03 H (Roadway Embankment) of the MDOT 2012 SSC, as shown on the plans, and as specified herein.

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

1. Removal and disposal off-site of any surplus or unsuitable materials.
2. Furnishing from off-site any additional Engineer approved fill materials necessary.
3. Moving existing and/or furnished materials longitudinally and transversely as necessary.
4. Cutting, placing, compacting, and trimming existing and/or furnished materials to construct the roadway embankment and subgrade to the specified tolerances.
5. Stockpiling, and moving again, any cut materials which cannot be immediately placed upon excavation due to construction staging.

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

The subgrade shall be prepared so as to ensure uniform support for the pavement structure. The finished subgrade shall be placed to within 1 inch below and ¾ inch above plan grade. Variations within this tolerance shall be gradual.

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

The Contractor shall use equipment and methods of construction best suited, in the opinion of the Engineer, to the earthwork operations being performed and 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. No additional compensation or extensions of contract time will be allowed for additional measures that are required for the protection of the grade as specified herein.

- o. Test Rolling.- The Contractor shall test-roll the foundation and/or subgrade with a pneumatic tired roller with a suitable body for ballast loading and a gross load capacity that can be varied from 25 and 40 tons. In lieu of this test roller, with the approval of the Engineer, the Contractor may use a fully loaded single axle or tandem axle dump truck.
- p. Subgrade Undercutting.- "Subgrade Undercutting, Type ___" shall be performed on the foundation or subgrade in accordance with Section 205.03.E (Subgrade Undercutting) of the MDOT 2012 SSC, as shown on the plans, as specified herein, and as directed by the Engineer.
- q. Subgrade Manipulation.- "Subgrade Manipulation" shall be performed on the foundation or subgrade in accordance with Section 205.03.F (Subgrade Manipulation) of the MDOT 2012 SSC, as shown on the plans, as specified herein, and as directed by the Engineer.

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

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

- r. Rock Excavation.- Rock excavation shall be performed in accordance with Section 205.03.B (Rock Excavation) of the MDOT 2012 SSC, as shown on the plans, and as directed by the Engineer.

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

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

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

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

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

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

"Machine Grading, Modified" shall include all the work associated with lowering structures, including backfilling.

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

- t. Structure Covers.- As directed by the Engineer and within two days of their removal, the Contractor shall stockpile on-site, in a location that is mutually agreeable to the Engineer and Contractor, the existing structure covers. The City of Ann Arbor's forces will pick-up the structure covers at a time that is convenient to them and mutually agreeable to the Contractor. The Contractor shall provide the equipment and manpower to load the castings on the City's vehicle(s) so that they can be removed from the site by the City.
- u. Structure and Sewer Cleanliness.- All sewers, and structures, including manholes, gate wells, valve boxes, inlet structures and curbs shall be protected from damage and contamination by debris and construction materials. Structures shall be maintained clean of construction debris and properly covered at all times during the construction. The Contractor shall immediately clean any structures and/or sewers that become contaminated with construction debris. The Contractor shall be responsible for all direct and indirect damages which are caused by sewers or structures which have been made unclean or have been damaged by the Contractor.
- v. Contractor's Calculations.- Existing and proposed cross sections are provided in the plans. The Contractor shall perform his/her own computations and is responsible to inspect the site to determine his/her own estimate of the quantities of work involved. Deviations between the existing contours and the existing and proposed cross-sections shown on the plans shall not be cause for additional compensation.

- w. Estimated Earthwork & Pavement Removal Quantities.- The table shown below contains the Engineer’s estimate of the earth excavation (cut) and the embankment (fill) to prepare the foundation as defined herein for the project. These quantities do not take into consideration the suitability of the soils for their intended use, their possible availability due to construction staging or storage limitations, bulking of the material upon excavation, changes in volumes due to moisture content or soil types, or other similar related issues. The Contractor shall remain responsible for determining the actual amount(s) of work to be performed to complete the project as shown on the plans and as specified herein.

Machine Grading Modified Item of Work	Est. volume of earth excavation (cut), cubic yards	Est. volume of embankment (fill), cubic yards
Geddes Avenue	14,857	1,843

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

MEASUREMENT AND PAYMENT

Measurement for payment for the item “Machine Grading” shall be the computed in square yard quantity of excavated material (pavement, soil, rock, brick, etc.) from the top of existing grade down to the bottom of the excavation. Embankment, fill, subgrade protection/maintenance, drainage maintenance, topsoil, seeding, and restoration quantities will not be paid for separately, and are included in this item of work.

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

PAY ITEM

PAY UNIT

Machine Grading, Modified

Station

Subsection 205.04.G of the MDOT 2012 SSC, which reads “Machine Grading will be measured by length along the surface edge. The Engineer will measure each side of the road, where work is performed, separately.” is hereby deleted. “Machine Grading, Modified” will be measured once, and only once, along the centerline of the roadway or feature being constructed.

“Machine Grading, Modified” will be measured by length in 100 foot long stations, or portions thereof, along the centerline of the roadway and includes all necessary earthwork on both sides of the centerline to the grading limits and right of way.

The various pay items included herein shall include all labor, materials and equipment required to complete the work.

The Contractor shall include all of his/her costs to complete all of the Machine Grading, Modified work in the Machine Grading, Modified pay item and plan quantities included in the proposal. No additional payment will be made for Machine Grading, Modified work which, although, shown on the plans and specified herein as work which needs to be completed, may not be included in a particular Machine Grading, Modified pay item. Plan quantities will be paid for the work, and will only be adjusted due to changes in the limits of the work, as directed by the Engineer, in writing.

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

The Contractor is advised that due to the phasing of the project and the probable unsuitability of some or all of the excavated material for use as approved fill material, there may be imbalances between the amount of earth cut which is suitable for reuse as fill, and the amount of earth needed to construct the lines and grades shown on the plans, or as directed by the Engineer. The Contractor shall make provisions for such imbalances and shall include in the bid price for this work the cost of importing/furnishing, placement, and compaction of the material, as well as the cost of stockpiling and re-handling of imported and/or on-site Engineer approved materials as necessary to complete the work of constructing the embankment and subgrade to the cross sections shown on the plans.

Subgrade Manipulation will be measured in square yards. Only areas designated by the Engineer as requiring subgrade manipulation will be measured for payment.

DETAILED SPECIFICATION

FOR

ITEM #881A – LANDSCAPING MAINTENANCE AND WARRANTY, 1ST YEAR (Min \$15,000)
ITEM #881B - LANDSCAPING MAINTENANCE AND WARRANTY, 2ND YEAR (Min \$10,000)

DESCRIPTION

The landscape maintenance and warranty work shall cover all planting work included in the Detailed Specification for “Planting Items.” Watering, removing weeds, and completing all necessary tasks to maintain a healthy stand of plants, and Balled and Burlapped (B&B) Trees as shown on the plans and/or as specified herein is also included in these items of work. Complete this work according to the Section 815, 816 & 917 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction and as described herein. Extent of work shall include, but not be limited to:

1. Watering
2. Weed Control
3. Mulching
4. Disease and insect control
5. Pruning
6. Fertilizer Application
7. Removal of tree support and tags

MATERIALS

Mulch

Mulch shall be composted, double processed, shredded hardwood bark, free from foreign material and fragments, and shall not contain pieces that are in excess of 2 inches in any dimension. Bark will not be accepted. Colored or dyed mulch will not be accepted.

Pesticides & Herbicides

Materials shall comply with Local, State and Federal regulations.

The Contractor shall post signs with public notice prior to any application of pesticide. The signs shall read: “Notice of Pesticide Application”, and will include the following information: the name of the pesticide; the date of application; and the appropriate warning term for the EPA toxicity category. These terms are, for toxicity category I: DANGER-POISON. For category II: WARNING. For category III & IV: CAUTION. A website containing more information with regard to the chemicals applied will be printed on them.

Herbicide Types:

Herbicide A - Glyphosate, a non-selective herbicide shall be used to eradicate existing vegetation. It shall be used according to the manufacturer’s label.

Herbicide B - Sethoxydim, a selective herbicide shall be used to selectively remove invasive grass from prairie planting and wet meadow planting (if not adjacent to water). It shall be used according to the manufacturer’s label.

Herbicide C - Rodeo™, a non-selective herbicide shall be used to eradicate existing vegetation in areas adjacent to open water. It shall be used according to the manufacturer’s label.

Common IPM (Integrative Pest Management) practices shall be followed. Pesticides and herbicides shall be used as a last resort.

Fertilizer

Materials shall conform to the standards of the Association of Agricultural Chemists and shall comply with State and

Federal regulations.

Fertilizer for B&B trees shall be an organic, slow release with a ratio of 3-1-2 or 3-1-1 or approved substitution.

Maintenance fertilizer for lawn shall contain no phosphorus, shall be derived from an organic product and slow release with a ratio of 27-0-12 or approved substitution.

There shall be no fertilizer applied to Bioswales, Ditch/Creekside, or Native Seed planting areas.

Delivery, Storage and Handling

Packaged materials shall be delivered in original containers showing weight, analysis and name of manufacturer. Protect materials from deterioration during delivery and storage.

Submittals

The Contractor shall submit to the Engineer copies of all field reports prepared by the maintenance supervisor identifying the date of each visit and work items completed during each visit. The receipt of the written field report by the Engineer must occur within one week of the actual site visit. Payment for the work of this Detailed Specification shall not be made without the timely receipt of the field reports by the Engineer. The Contractor shall not be allowed to neglect the maintenance, or perform it in a manner that is non-compliant in the opinion of the Engineer, with this Detailed Specification of any planted material in lieu of not being paid for the work.

MAINTENANCE

The Contractor, prior requesting a letter of Provisional Acceptance from the Engineer, shall submit two copies of a maintenance schedule detailing the work items identified under this Detailed Specification. This schedule shall include a 104 week table covering the two-year warranty period, identifying all weekly site visits and the tasks to be performed during each visit. The schedule shall show that no maintenance will occur between the periods of October 15th and April 1st, unless otherwise required by related Detailed Specifications.

Provisional Acceptance: After planting zone/type is finished, the Engineer and Contractor shall perform a site evaluation to determine if planting is complete. After any additional changes have been performed by the Contractor, the Engineer will issue a written Provisional Acceptance letter, after which the Maintenance and Warranty Periods will commence for 2 full years.

Maintenance of plantings shall begin immediately after Provisional Acceptance is granted and shall continue as required until final acceptance at the end of the warranty period. Maintenance required prior to Provisional Acceptance shall be included in the contract unit price for each plant. Provisional Acceptance may be granted for different planting zones/types (e.g. B&B trees, Ditch Planting, etc.) within the project based on project schedule constraints.

The Contractor shall submit to the Engineer copies of all field reports prepared by the maintenance supervisor identifying the date of each visit and work items completed during each visit. This will be required prior to each payment.

Maintenance shall include all measures necessary to establish and maintain plants in a vigorous and healthy growing condition.

The Contractor shall inspect the plantings at least once per week during the warranty period and promptly perform needed maintenance. Weekly maintenance shall be conducted for 2 full years after Provisional Acceptance is granted.

Watering

Water shall come from a source approved by the Engineer.

Monitor all plants during site visits for signs of stress due to lack adequate moisture in the root zone.

Water as required to keep all plants in optimum condition (1 inch of total water per week, including rainfall) and maintain

an optimum supply of moisture within the root zone. Recurring overly dry or wet conditions shall be grounds for rejection of plant material. Watering of all deciduous plants and trees shall be performed using the probe method and by the use of water reservoir bags. Each balled and burlapped tree shall receive its own individual water reservoir bag. Water shall not be applied with a force that will displace mulch or cause soil erosion, and shall not be applied so quickly that the mulch and plants cannot absorb it. Apply water in such a manner that it is allowed to penetrate down into root zone of plant.

Herbaceous plugs in the deepest ponding area may require more watering than other planting areas.

If newly planted Bioswales (within first 3 months of planting) have 3 inches of standing water or more for over 12 hours, the Contractor shall pump the affected area(s) out to ensure the survival of the planting. The pumping activities shall occur within 24 hours of the overwhelming rain event.

Any supplemental watering visits necessary will be paid for in accordance with Section 815.04C.3, and must be approved by the Engineer prior to visit.

Weeding/Cultivating

Frequency shall be every visit.

Methods: Weeds shall be removed by hand and include removing the entire root mass of the weed. Before application of any herbicide the Contractor shall receive approval of the Engineer. A selective herbicide shall be applied according to manufacturer's directions.

Herbicides shall only be used when and where necessary as approved by the Engineer. Manufacturer's directions and precautions must be followed rigorously. Excess herbicides shall be properly removed from the site.

The posting of signs as a public notification of herbicide application will be required 24 hours before and maintained for 48 hours following application.

Weed Control: All Planting Areas

Weeding of all planting areas shall occur with each maintenance visit and in no instance shall they be allowed to propagate such that invasive weed species (Sweet Clover, Burdock, Wild Carrot, Purple Knapweed, Canada Thistle, Queen Anne's Lace, Purple Loosestrife, Phragmites, Bindweed, Crab Grass, Lamb's Quarters, non-native honeysuckle, buckthorn, autumn olive, Norway maple, bindweed, barnyard grass, etc.) may set their seed. Additional weeding activities may need to be performed as determined by Engineer.

Post planting management procedures for Bioswale and Adjacent Planting Areas, Ditch/Creekside Re-Vegetation and Native Seed planting areas may consist of, but are not limited to, the following:

1. Pull invasive weed species to remove the entire root mass;
2. Spring or fall dormant seasons application of a non-selective herbicide to control invasive weeds as directed by the Engineer. Follow City of Ann Arbor signage requirements for herbicide application;
3. Summer application of a selective herbicide to control invasive weeds as directed by the Engineer. Follow City of Ann Arbor signage requirements for herbicide application; and
4. Initial mowing of the Native Seed Areas (using flail mower) may occur after one season of growth when the weeds are ten (10) inches high or prior to invasive weeds setting seed. Mowed height shall be 5 inches. Weeds on slopes 1:3 or greater shall be mowed with a hand-held flail mower or common weed whacker.

Herbicide applications for aggressive weeds shall conform to the following guidelines:

1. Invasive forbs such as purple knapweed, purple loosestrife, garlic mustard, Queen Anne's Lace, Canada thistle, bindweed, lambs quarters, phragmites or other invasive forbs shall be spot controlled on an on-going basis beginning in June with Herbicide A through the end of the second growing season and/or before the plants set seed.

2. Invasive grasses such as crabgrass, smooth brome, reed canary, barnyard or other invasive grass shall be spot controlled beginning in May on an on-going basis with Herbicide B through the end of the second growing season and/or before the plants set seed.
3. Invasive woody plants such as non-native honeysuckle, buckthorn, autumn olive, Norway maple, shall be spot controlled beginning in June on an on-going basis with Herbicide A through the end of the second growing season and/or before the plants set seed.
4. Planting Areas adjacent to open water that contain invasive weeds shall be spot controlled beginning in June with Herbicide C until the end of the first full growing season and/or before the plants set seed.

Mulching

Monitoring: All mulch beds shall be reviewed in June and September for each Maintenance and Warranty Period. Any beds that do not meet the following conditions shall be replenished:

1. Depth shall be three (3) inches throughout the mulch saucer for individual trees.
2. Depth shall be two (2) inches throughout the bioswale areas.
3. Do not allow mulch to be deeper than four (4) inches for individual trees.
4. Keep mulch away from root collar of trees.

Disease and Insect Control

Monitoring for diseases and insects shall be the responsibility of the Contractor. The Contractor shall monitor all plants at all times for disease and insect problems.

Treatment shall take place in accordance with common IPM practices.

Pesticides shall only be used when and where necessary as approved by the Engineer. Manufacturer's directions and precautions must be followed rigorously. Excess pesticides shall be properly removed from the site.

The posting of signs as a public notification of pesticide application will be required 24 hours before and maintained for 48 hours following application.

Pruning

Prune all dead wood at first live lateral bud in accordance with standard horticulture practices using sharp instruments cleaned frequently. Pruning shall enhance plant development and ornamental qualities. Do not prune terminal leader or branch tips. A plant's natural form shall not be compromised by any pruning activities.

Additional pruning may be required at the request of the Engineer in order to decrease public liability factors.

Remove all standing dead material from perennials and grasses at earliest Spring maintenance visit.

Remove immediately after pruning all dead, broken and diseased growth and other pruning debris from the site and dispose of in an environmentally sensitive manner.

Plant material that is "topped" by the Contractor shall be replaced at the Contractor's expense.

Maintenance Fertilizer Application

Application shall be according to manufacturer's directions.

Woody Plants

1. Maintenance Fertilizer application for woody plants shall occur in November of the Second Maintenance and Guarantee Period
2. Topdress at a rate of 1 pound of nitrogen per 1,000 square feet.

Lawn

1. Maintenance Fertilizer application for lawn shall occur during the period of May through October as needed to establish and maintain healthy, vigorous, turf during the First and Second Maintenance and Warranty Periods. For Spring seeding, commencement of maintenance fertilizer shall begin during the first growing season. For Fall seeding, commencement of maintenance fertilizer shall begin the subsequent spring.
2. Fertilize by spreading fertilizer at a rate of one (1.0) pounds of nitrogen per 1,000 square feet.

Removal of Tree Support and Tags

Repair all damaged guys and stakes during the First Maintenance Period.

Remove all stakes, guys, labels and support material at the end of the First Maintenance Period and remove from site.
Establishment and Acceptance: Planting Areas (Bioswales and Adjacent Planting Areas, Ditch/Creekside Re-Vegetation and Native Seed Areas)

Establishment of a dense stand of wet meadow perennial grasses and/or flowers as specified is the responsibility of the Contractor. Any part of the area that fails to thrive shall be re-planted until a dense planting in these areas is established.

The Contractor shall remove and replace dead and unacceptable plants as their condition becomes apparent at his/her sole expense.

Watering: The Contractor shall keep plants moist for optimum plant growth (1" of total water per week, including rainfall) through the duration of the Establishment Period.

Watering: The Contractor shall keep seeded areas moist for optimum plant growth (1" of total water per week, including rainfall) until the native seeded areas are four (4) inches high typical.

Protect planted area from traffic and erosion. Safety fences and/or silt fence with appropriate signage may be used at the Contractor's expense until the grasses and flowers are fully established.

Erosion shall be repaired by the Contractor.

Initial mowing of the Native Seed areas (using flail mower) shall occur after one season of growth when the weeds are ten (10) inches high or prior to invasive weeds setting seed. Mowed height shall be 5". Weeds on slopes 1:3 or greater shall be mowed with a hand-held flail mower or common weed whacker.

Provisional Acceptance Native Seeded Areas: Provisional Acceptance shall be granted when 20% of the native species and 80% total cover with no bare areas as large as 4 square feet exist as determined by the Engineer. The Engineer will utilize a meander/search method for reviewing the area(s).

Final Acceptance for Native Seeded Areas: Final Acceptance shall be granted when 40% of the native species and 90% total cover with no bare areas as large as 1 square foot exist as determined by the Engineer. The Engineer will utilize a meander/search method for reviewing the area(s).

Provisional Acceptance Bioswale and Adjacent Planting Areas, Ditch/Creekside Re-Vegetation: Provisional Acceptance shall be granted when 90% total cover with no bare areas as large as 4 square feet exist as determined by the Engineer. The Engineer will utilize a meander/search method for reviewing the area(s). Bare areas as large as 4 square feet shall be "re-plugged" by the Contractor without additional compensation. (Ditch/Creekside Re-Vegetation areas only planted in riprap with no plugs will not allow bare areas as large as 16 square feet to exist as determined by the Engineer).

Final Acceptance for Bioswale and Adjacent Planting Areas, Ditch/Creekside Re-Vegetation: Final Acceptance shall be granted when no bare areas as large as 1.5 square feet exist as determined by the Engineer. Bare areas as large as 1.5 square feet shall be "re-plugged" by the Contractor without additional compensation.

Final Acceptance will be granted when the above requirements have been met, but in no case sooner than 2 full years after the initial installation of plant material.

Should the Contractor fail to meet the requirements for Final Acceptance, maintenance and warranty work shall continue, without additional compensation, until such time as Final Acceptance can be granted.

Warranty

The Contractor shall warrant all plants to be true to botanical name and specified size.

After receiving a Notice of Provisional Acceptance, the Contractor shall maintain all plantings as specified, and warrant against unsatisfactory growth and improper maintenance for a period of two years.

The Contractor shall not be responsible for defects resulting from City of Ann Arbor negligence, damage by others or unusual phenomena, including predation, lightning, storms, freezing rains, winds over 60 miles per hour, or fires or vandalism that are beyond the Contractor's control.

Replacements

During the warranty period, the Contractor shall replace at his/her sole expense plant materials that are dead or that are, in the opinion of the Engineer, in an unhealthy or unsightly condition. Rejected plant materials shall be removed from the site and legally disposed of by the Contractor at his/her sole expense. The Contractor shall be aware that plants may need to be replaced more than once during the warranty period should the plants be deemed to be in an unhealthy or unsightly condition by the Engineer. The Contractor shall provide the necessary resources in the unit price bid for the work to cover the cost of any needed replacements.

All plant replacement work shall be in accordance with Section 815 of the 2012 MDOT Standard Specifications for Construction and this project's Detailed Specifications.

Plants shall be replaced no later than the next succeeding planting season. Areas damaged by replacement operations shall be fully restored by the Contractor at his/her sole expense.

Final Acceptance Inspection

The final inspection of all planting work, or phase of planting work, will be made by the Engineer and the Contractor just before the final warranty period expires. All plant replacements shall be completed and the site shall be cleaned-up, prior to the inspection.

The final acceptance inspection of plantings or material planted during recognized planting seasons will be made during September for fall planting and by June for spring planting.

Planted areas which do not meet the contract requirements, shall be replanted to the original project specifications and within acceptable planting dates as directed by the Engineer.

MEASUREMENT AND PAYMENT

The completed work as measured will be paid for at the Contract Unit Price for the following contract items (pay items):

PAY ITEM

Landscape Maintenance and Warranty, 1st Year (Min \$15,000)

Landscape Maintenance and Warranty, 2nd Year (Min \$10,000)

PAY UNIT

Lump Sum

Lump Sum

The lump sum contract price shall include all materials, labor, and equipment required to maintain plant materials in a healthy, thriving, condition; remove weeds throughout the warranty period; and, meet all other performance requirements outlined in this Detailed Specification. Minimum values are required to ensure successful establishment and potential replacement that may be required. Trees and landscape items replaced during the warranty periods will not be paid for separately and are included in the lump sum prices bid for the warranty items.

Payment for maintenance during the warranty period shall be based on the lump sum contract amount divided by the number of maintenance visits identified in the maintenance schedule supplied by the Contractor prior to issuance of provisional acceptance. Payments will only be made for maintenance performed and verified through field reports submitted by the Contractor with each pay request. Also included in these items of work are restoration of any area damaged by the Contractor during their maintenance or during replacement planting operations.

**DETAILED SPECIFICATION
FOR
ITEM #203A – TRAFFIC REGULATOR CONTROL**

DESCRIPTION

This work shall be done in accordance with the City of Ann Arbor and Sections 812 and 922 of the *2012 Michigan Department of Transportation Standard Specifications for Construction*, except as herein provided.

MATERIALS

All work must be in accordance with the sections 922 of the *2012 Michigan Department of Transportation Standard Specifications for Construction*.

CONSTRUCTION

The Contractor is to utilize traffic regulator control as directed by the Engineer. Traffic Regulator Control shall consist of at least two (2) traffic regulators and the required materials and equipment to safely control traffic.

Measurement and Payment

The completed work, as described, will be measured and paid for at the contract price using the following pay item(s):

<u>PAY ITEM</u>	<u>PAY UNIT</u>
Traffic Regulator Control.....	Hour

Pay item includes all labor, materials, and equipment required for a minimum of two (2) traffic regulators to complete work as described above.

**DETAILED SPECIFICATION
FOR
ITEM #928 –GAS MAIN, REM**

DESCRIPTION

This work shall be done in accordance with the City of Ann Arbor and Section 204 of the 2012 Michigan Department of Transportation Standard Specifications for Construction, except as herein provided and the Detailed Specification for Coordination and Cooperative with Others and Work by Others.

This work consists of the Contractor providing all labor, equipment and materials necessary to remove out of service and abandoned vaults, valves, gas lines, and pipe along with the placement of backfill material as directed by the Engineer. Contractor shall contact DTE/MichCon prior to construction and request that abandoned mains be clearly marked and verified as abandoned. The gas main materials have been noted by DTE/MichCon as steel or cast iron and the removal and handling of asbestos materials (wrapped pipe) are not anticipated as part of this work.

MATERIALS

All work must be in accordance with the contract documents. Excavation and backfill shall be in accordance with the Detailed Specification for Machine Grading.

CONSTRUCTION

The Contractor shall coordinate with the utility company owner prior to starting work to verify that all existing facilities to be removed are out of service and abandoned. The size, type, depths, and construction installation methods, if available, are shown on the plans. The information should be verified in the field and with the utility company.

The abandoned gas facilities shall be removed as directed by the Engineer and where exposed during construction of the work detailed in the Contract Documents.

Remove all liquids from the gas lines using methods approved by the Engineer to protect the ground from possible contamination.

Should asbestos pipe materials or wraps be encountered during the removal of the gas main, the Contractor shall notify the Engineer immediately. Dispose of waste materials will be in accordance with applicable, federal, state, and local regulation and permit requirements.

Backfill trenches according to City Standards.

The Engineer shall approve the limits of removal prior to starting the work.

MEASUREMENT AND PAYMENT

The completed work, as described, will be measured and paid for at the contract price using the following pay item(s):

PAY ITEM

PAY UNIT

Gas Main, Rem.....Foot

Pay item includes all labor, materials, and equipment to complete work as described above. It includes the excavation, gas facility and pipe removal, and backfill of the removal work. Structures that are part of the service line will be included for removal, including but not limited to manhole, handholes, and vaults. Hauling and off-site disposal of all required materials shall also be included in the unit price for Gas Main, Rem.

The actual lengths and locations of the removals will be determined and measured by the Engineer in the field.

The Contractor is responsible for all costs to repair damage to existing facilities (to remain in place and in service) caused by the construction of this project.

The excavated materials are the property of the Contractor and shall be disposed of properly offsite.

Disadvantaged Business Enterprise (DBE) Program DBE Subcontractor Participation Form

An EPA Financial Assistance Agreement Recipient must require its prime contractors to provide this form to its DBE subcontractors. This form gives a DBE¹ subcontractor² the opportunity to describe work received and/or report any concerns regarding the EPA-funded project (e.g., in areas such as termination by prime contractor, late payments, etc.). The DBE subcontractor can, as an option, complete and submit this form to the EPA DBE Coordinator at any time during the project period of performance.

Subcontractor Name		Project Name	
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact	
Address			
Telephone No.		Email Address	
Prime Contractor Name		Issuing/Funding Entity:	

Contract Item Number	Description of Work Received from the Prime Contractor Involving Construction, Services, Equipment or Supplies	Amount Received by Prime Contractor

¹ A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

² Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

