

ADDENDUM No. 2

ITB No. 4611

BIRD ROAD RETAINING WALL

Bids Due: February 25, 2020 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 seventeen (17) 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 forms listed above upon bid opening will be rejected as non-responsive and will not be considered for award.

I. CORRECTIONS/ADDITIONS/DELETIONS

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

<u>Section/Page(s)</u>	<u>Change</u>
DS-12 - 13	As provided in ITB No. 4611 Bid Document: Detailed Specification, Project Schedule - dates As updated herein: Detailed Specification, Project Schedule – dates
DS-20 - 21	As provided in ITB No. 4611 Bid Document: Detailed Specification, Subgrade Underdrain – 6 inch & 4 inch As updated herein: Detailed Specification, Subgrade Underdrain – 4 inch
DS-24 – 28	As provided in ITB No. 4611 Bid Document: Detailed Specification, Retaining Wall, Sierrascape Plantable Wall System

- NCMA 2nd edition

As updated herein:

Detailed Specification, Retaining Wall, Sierrascape Plantable Wall System

- NCMA 3rd edition

DS-33 – 53

As provided in ITB No. 4611 Bid Document:

MDOT Special Provision, Permanent Ground Anchors

As updated herein:

Not Applicable, **removed** from bid documents

BF-1

As provided in ITB No. 4611 Bid Document:

Bid Form, Section 1 – Schedule of Prices as Page BF-1

As updated herein:

Bid Form, Section 1 – Schedule of Prices as Pages BF-1 – additional pay items

Plan Sheet 4

As provided in ITB No. 4611 Bid Document:

Sheet 4 - Details

As updated herein:

Sheet 4 - Details

Plan Sheet 6

As provided in ITB No. 4611 Bid Document:

Sheet 6 - Removals

As updated herein:

Sheet 6 - Removals

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

1. Is there a Platipus Anchor Schedule showing the minimum lengths and required capacities that you can provide?

Note added to the Typical Wall section. Minimum length of each anchor rod to be 12 feet and is to provide a minimum of 5,000 lbs of pullout loading.

2. There is a spec for “Permanent Ground Anchors” but the bid form does not include these pay items and the plans do not have any details of the ground anchors. Please confirm this specification is not applicable.

This specification is to be removed from the proposal.

3. There is a spec for "High Performance Uniaxial Geogrid..." but this pay item is not in the bid form. The plans show the tensar uniaxial structural geogrid, but no clarification on how it gets paid. Please confirm this spec is applicable and the pay item should be added to the bid form.
A Pay Item was added to the bid form for the uniaxial geogrid.

4. On sheet 4 of the plans, can you provide a legend for the different linestyles?
The Typical Wall Section detail was updated to clean up the linework. In addition, a Legend was added to the detail.

5. I'm still thinking thru the operations on this one, but I think the platipus anchors will have to be loaded and locked off against the 2" pipe in order to provide capacity into the geogrid. If only locked off against the plate and then looping around the pipe, there won't be much if any tension resisting the movement of the pipe.
From Platipus – "A better set up is to use threaded rod (5/8" All Thread) rather than a wire tendon connection. The attached photos show an all thread assembly and the simplicity of it. You'll notice they have a plate against the cut, this isn't even always necessary, if the cut will stand during construction then the plate isn't required. The all thread makes it simple because all you must do is position the load nut to where the pipe is parallel with the wall face. In the second photo there's a coupler behind the pipe, the all thread rod sections are available in varying lengths, typical is 6' (for shipping purposes), 10' and 12', the tap on the clevis accepts 5/8" hot dipped galvanized. The ultimate capacity of the 5/8" all thread assembly will be stronger than the 8mm (7500 lbs.) that is shown in the detail. Looking at the current detail, we would advise that the all thread rod connection is a simpler system and more than likely, less expensive as well. The all thread is UNC thread HDG which can be sourced locally to avoid shipping fees."

6. Above the wall are a couple large trees and a mixture of smaller trees that are within the wall envelope. Will the city provide the clearing/grubbing as this was not part of the bid tab?
Pay Items were added to the bid form, "Selective Thinning, Type 1" and "Tree, Rem, 6 inch to 18 inch". However, all effort must be made to protect the landmark trees behind the wall.

7. There is a 24" tree within the excavation depth at the beginning of the wall which in the field is closer to 36-42". The tree will need to be removed for safe working conditions as the anchors are shown to be driven directly under/through the root ball of the tree between STA 12 & STA 20.
All effort must be made to protect the landmark trees above the wall.

8. Will a vertical cut be allowed for the site? Or would installation require an OSHA 1:1 for safe slope?
The contractor is required to provide an adequately safe environment during construction.

9. Currently, the plan shows a 5.5 - 6.5 ft max measurement from back of curb for disturbance. Effective installation envelope may be closer to 9.5 ft at the top surface. Will an easement be granted for this disturbance?
All disturbance is located within the City of Ann Arbor's Right-of-Way. All effort must be made to protect the landmark trees above the wall.

10. How is the stone being connected to the basket?
a. What keeps the stone from pushing away from the basket face? -
A note was added to the Typical Wall Section requiring the addition of one (1) inch wide by eighteen (18) inch long brick tabs with every other Facing Unit. These tabs are to be mortared to the stone wall.
11. Will equal Hot Dipped WW Forms be allowed for bidding?
Please bid the project as currently detailed.
12. What is the depth and tensile load requirement on the anchors?
Minimum length of each anchor rod to be 12 feet and is to provide a minimum of 5,000 lbs of pullout loading.
13. Site Soils (retained) are 41degree friction angle, but the geotechnical report provides testing showing the upper 4-5 ft as CL/ML (friction angle = 34 degree) for "Upper profile medium stiff to stiff cohesive soils" in Table 5.5. As the bidding documents do not appear to meet geotechnical requirements, will the city provide updated drawings based on the soil information?
The soil borings were completed behind the Right-of-Way and not in the final location of the anchors. The anchors are intended to be driven into the lower soil profile. The City of Ann Arbor will require final engineering for the retaining wall be provided by the contractor and approved by the engineer.
14. Will the contractor be required to secure special inspection requirements during construction?
The City of Ann Arbor will provide inspection and testing.
15. Will the contractor be required to secure additional engineering as it appears the city already engineered the project?
The drawings and details provided are intended to provide as much guidance and uniformity in bidding the project, as possible. However, the City of Ann Arbor will require final engineering design of the wall to be provided by the contractor and approved by the engineer. Additional time for project completion has been added.
16. Design methodology appears to be dated with the 2nd edition of the NCMA manual. Will the city allow conformance to the 3rd edition of the NCMA to provide current industry requirements?
Reference to 2nd edition was changed in the specification to 3rd edition of NCMA Manual.
17. Will VE options be allowed during the bid?
Please bid the project as currently detailed.
18. Do you have the specs on the native pollinator seed mix?
Provided on Table 1 of the Michigan Department of Transportation Special Provision for Native Pollinator Seeding and establishment.
19. Item 3 on the bid form - Line Item - certified payroll compliance and reporting Lump Sum
Can you please explain this line item? What exactly needs to be reported?
Prevailing Wage is required by City Code, this line item allows for administrative time to provide appropriate documentation of Certified Payroll Compliance; please refer to the Detailed Specification for Certified Payroll Compliance and Reporting.

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

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
PROJECT SCHEDULE

AA:CC

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02/18/2020

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.

By no later than **Pre-Construction Meeting** the Contractor shall submit a detailed schedule of work for the Engineer's review and approval. The proposed schedule must fully comply with the scheduling requirements contained in this Detailed Specification. The Contractor shall update the approved work schedule each week and present it to the Engineer at the weekly progress meeting.

The Contractor will receive two (2) copies of the Contract, for his/her execution, on or before **March 10, 2020**. The Contractor shall properly execute both copies of the Contract and return them, with the required Bonds and Insurance Certificate, to the City **no later than March 24, 2020**.

The Contractor may begin construction on only after receiving the copy of executed contract documents and the Notice to Proceed from the City. Appropriate time extensions shall be granted if the Notice to Proceed is delayed due to the circumstances controlled by the City.

All contract work must be complete and open to traffic by **September 30, 2020** or within **Ninety (90)** calendar days from the date specified in the Notice to Proceed.

Failure to complete all work as specified herein within the times specified herein, including time extensions granted thereto as determined by the Engineer, shall entitle the City to deduct from the payments due the Contractor, **\$500** in "Liquidated Damages", and not as a penalty, for each and every calendar day beyond the allowed number of calendar days to complete the above specified work.

The Contractor may propose to adjust the limits or sequencing of construction in order to complete the work more efficiently. Changes to the recommended construction sequence must be approved in writing by the Engineer prior to construction and must assure all required coordination with other projects and time lines.

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

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

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

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

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.

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

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
SUBGRADE UNDERDRAIN

AA:CC

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02/18/2020

a. Description. The work shall include installing 4-inch geotextile-wrapped perforated or slotted underdrain in accordance with attached detail, as shown on the plans, as described herein, and as directed by the Engineer.

b. Material. The materials shall meet the requirements specified in section 404 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, and as specified herein:

Fine Aggregate, 2NS	902
Underdrain Pipe, Perforated or Slotted	909.07.B

Geotextile (Filter Fabric) - The geotextile fabric for encasing the pipe shall be an approved material such as nylon, polypropylene, fiberglass, or polyester and shall be either woven, heat bonded, knitted or of continuous fibers. The geotextile shall completely cover and be secured to the pipe. In an unstretched condition, knitted polyester fabrics shall weigh at least 3.0 ounces per square yard and all other geotextiles shall weigh at least 3.5 ounces per square yard. The fabric shall be strong and tough and have porosity such that the fabric will retain soil particles larger than 0.106 mm (No. 140 sieve) and shall pass aggregate particles finer than 0.025 mm. Geotextiles shall be stored and handled carefully and in accordance with the manufacturer's recommendations and shall not be exposed to heat or direct sunlight to such extent as to significantly affect its strength or toughness. Torn or punctured geotextiles shall not be used.

c. Construction Methods. Geotextile-wrapped underdrain for subgrade drainage shall be installed as shown on the plans and as specified in section 404 of the 2012 MDOT Standard Specifications for Construction, with the following exceptions and additions:

1. The trench shall be constructed to have a minimum width of 18 inches and the underdrain shall be installed at the line grade and depth as indicated on the plans. The contractor shall maintain line and grade by means of a laser. The Engineer will not set line, grade or provide staking.
2. The trench shall then be backfilled with 2NS Fine Aggregate compacted to 95% of its maximum unit weight. The first lift of backfill material shall be placed at a maximum thickness of 6 inches. The second and subsequent lifts, or portions thereof, shall be placed at a maximum thickness of 12 inches up to an elevation level with the bottom of the existing aggregate base course, or as directed by the Engineer.
3. Upgrade ends of the pipe shall be closed with suitable plugs to prevent entrance of any material. All couplings, tees and other fitting shall be manufactured and installed so as to prevent infiltration of any material. If during the course of construction, existing edge drains are encountered; their ends shall be plugged to the satisfaction of the Engineer such that material can not enter the pipe(s).

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

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

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

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

<u>Pay Item</u>	<u>Pay Unit</u>
Underdrain, Subgrade, 4-inch.....	Foot

Underdrain, Subgrade, 4-inch will be measured in length by feet and will be paid for at the contract unit price, which price shall be payment in full for all labor, equipment and material needed to accomplish this work.

The unit price shall include the cost of the 4-inch perforated or slotted pipe, geotextile wrap, pipe fittings and/or plugs, 2NS granular bedding material, compaction and trench backfill, taps to new and existing drainage structures and storm sewers or inlet leads, all excavation, final trimming required to meet the dimensions of the typical and specific cross-sections, and the disposal of all surplus excavated materials.

CITY OF ANN ARBOR
DETAILED SPECIFICATION
FOR
RETAINING WALL, SIERRASCAPE PLANTABLE WALL SYSTEM

AA:CC

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02/18/2020

a. Description. This work shall consist of installing a complete Sierrascape Plantable Face Wall System, or Engineer approved equal, in accordance with all the manufacturer's specifications and recommendations, and the 2012 Michigan Department of Transportation (MDOT) Standard Specifications for Construction; excavation for leveling pad, providing, placing, and compacting 21AA Aggregate leveling pad; providing, placing, and compacting 6A Aggregate and Class II granular backfill material; furnishing soil reinforcing geogrid, if required by the manufacturer; and constructing the wall true to the lines and grades as shown on the Plans, or as directed by the Engineer.

b. Materials. Use structure backfill meeting the requirements for granular material Class II in accordance with Table 902-3 of the Standard Specifications for Construction.

Furnish woven polyester or polypropylene geotextile reinforcement in accordance with the Manufacturers requirements and in accordance with section 910 of the MDOT 2012 Standard Specifications for Construction. Provide Test Data Certification prior to starting the work, documenting the specified properties as Minimum Average Roll Values.

c. Submittals. The Contractor shall submit for review and approval by the Engineer, a complete set of shop plans in accordance with Section 104.02 of the 2012 MDOT Standard Specifications for Construction and this Detailed Specification. The shop plans shall include all elevations and dimensions necessary for construction; detail the length, locations, type of connections to the wall system for the geogrid reinforcing to be placed, if required; detail quantities of materials to be provided (retaining wall items only) and detail the sequence and method of installation and construction.

The Contractor should expect that the City will require 21 calendar days for each plan review cycle needed to develop approved plans, and that revisions may be required after each review.

No extension of time or additional compensation will be granted to the Contractor due to delays in preparing the final plans and specifications or securing acceptance from the City.

The shop plans shall also provide for detailed calculations of the proposed retaining wall system. The calculations shall include, but not be limited to the following:

1. External stability of the soil reinforced mass as calculated by the Rankine or Coulomb earth pressure theories. Only the weight of the mass vertically over the plane of sliding shall be included in the resisting forces for sliding and overturning.
2. Internal stability of the soil reinforced mass including:
 - i. Tension loads in geosynthetic layers.

- ii. Pullout capacity of resisting geosynthetic layers from the zone outside of the failure wedge.
 - iii. Connection load and capacity of each geosynthetic/unit connection.
 - iv. Shear resistance at each geosynthetic/unit interface.
 - v. Bending calculation of the face units between each layer of geosynthetic reinforcing.
 - vi. Over-turning stability calculations for the units above the top layer of soil reinforcing.
 - vii. Local stability of the face during construction
3. Design methodology shall be in accordance with FHWA publication Demo82 or the NCMA Design manual, 3rd edition with the following additions:
- i. Maximum spacing between vertically adjacent reinforcing layers shall not exceed twice the depth of the concrete unit (as measured from face to tail).¹
 - ii. Maximum allowable load at the connection shall be the peak connection load as determined in accordance with SRWU-1, reduce by a factor of safety of 1.5.
 - iii. AASHTO Demo82 suggests maximum spacing of twice the depth of the unit. For construction, spacing of greater than twice the depth does not provide sufficient stability to allow for compaction behind the units.
 - iv. All primary² reinforcing layers shall be of equal or greater length to the base layer.
 - v. Intermediate³ reinforcing layers are shorter, lower strength layers installed for stability at the face. Intermediate strengths shall not be considered in internal stability analyses.
 - vi. All layers shall be designed for 100 percent coverage.
 - vii. The vertical component of soil friction shall be ignored in calculations of face stability.⁴
 - viii. The maximum design height as a gravity structure shall be limited to 2.5 times the width of the unit, or a calculated factor of safety of 1.5 on overturning, whichever is less.
 - ix. Minimum soil reinforcing lengths shall be 0.6 times the design height of the structure or as required to maintain a factor of safety of 1.5 on sliding at the base or on geosynthetic reinforcing layers, whichever is greater.
 - x. If designing in accordance with Demo82, the dead load calculated for a sloping fill shall be limited to the area of soil within the theoretical Rankine or Coulomb failure plane $(0.7H)^5$.
4. Detailed hand calculations and verification of any computer programs used for design provided by a professional engineer.
5. Samples of all products used in the work of this section.
6. Manufacturer's specifications (latest edition) for proposed materials, method of installation and list of materials proposed for use.

¹AASHTO Demo82 suggests maximum spacing of twice the depth of the unit. For construction, spacing of greater than twice the depth does not provide sufficient stability to allow for compaction behind the units.

²Primary reinforcing layers are full-length reinforcing layers used for internal stability calculations.

³Intermediate (or secondary) reinforcing layers are installed for facial stability during

construction.

⁴To increase calculated design heights for small units, the vertical component of friction has been used for over-turning calculations. Since earth pressure calculations do not account for seasonal variations (frost heave at the face, shrinkage or expansion, hydrostatic effects, etc.), and small units are very sensitive to over-turning stability, this calculation should be conservative.

⁵Demo82 illustrates the area of surcharge as the total length of reinforcing. To be consistent with theory, only the forces with the failure zone should be included.

The calculations and descriptions shall be sealed by a Professional Engineer registered in the State of Michigan.

d. Construction. Any wall system supplied shall be capable of being constructed within the available right(s)-of-way as currently established for the project. Any wall system which cannot be constructed within the existing right(s)-of-way, including all necessary excavation to install the wall system and geogrid, if required, will be considered as a cause for rejection of the proposed wall system.

A MDOT 21AA limestone base, and a sand leveling course if required, shall be placed true to line and grade as shown on the Plans, as directed by the Engineer or as required by the Manufacturer. The limestone base shall be inspected and approved by the Engineer prior to construction of the retaining wall system.

The retaining wall system shall be backfilled in accordance with the Manufacturers requirements. Remaining excavated area shall be backfilled with MDOT Class II Granular material compacted to 95% of its maximum unit weight, or as specified by the Manufacturer. Backfill shall be placed and compacted in 6-inch lifts.

All areas immediately beneath the installation area for the geogrid shall be properly prepared true to the lines and grades as detailed on the plans, specified elsewhere with the specifications, or directed by the Engineer.

In general, the geogrid shall be installed in accordance with the manufacturer's recommendations. The geogrid shall be placed with the layers of the compacted soil as shown on the plans, or as directed by the Engineer.

The geogrid shall be placed in continuous longitudinal strips in the direction of main reinforcement and adjacent strips do not need to be overlapped. However, if the Contractor is unable to complete a required length with a single continuous length of geogrid a joint may be made for the full width of the strip by interlacing over and under the main reinforcing strands using a solid rod or hollow pipe of similar material and strength. No end joints will be allowed in any two adjacent strips or within 10 feet of the face of the embankment or, in the case of a spill through slope, in front of the abutment. If the required length of geogrid reinforcement is greater than the roll length, then end joints will be allowed in adjacent strips, but they cannot be with 65 feet of one another as measured along the length of the strip. Every effort should be made to keep the number of end joints to a minimum and widely spaced throughout the placement area.

After a layer of geogrid has been placed, suitable means, such as pins or small piles of soil, shall be used to hold the geogrid in position until the subsequent soil layer can be placed. Under no circumstance shall a track-type vehicle be allowed on the geogrid before at least six inches of soil has been placed on the geogrid.

Only that amount of geogrid required for immediately pending work shall be placed to prevent undue damage to the geogrid. After a layer of geogrid has been placed, the next succeeding layer of soil shall be placed and compacted as appropriate. After the specified soil layer has been placed, the next geogrid layer shall be installed. The process shall be repeated for each subsequent layer of geogrid and soil.

The overlapping of the geogrid shall be permitted as required by the plans, the manufacturer's recommendations, and these specifications.

When the roll width is greater than the width of geogrid required, the geogrid may be cut with a razor, knife, abrasion saw, or similar tool.

The retaining wall systems shall be constructed according to manufacturer's recommendations. In case of conflict between this Detailed Specification and the manufacturer's specifications, the Engineer shall determine which specification shall govern.

e. Measurement and Payment. The completed work as described will be paid at the contract unit price for the following contract (pay) items:

<u>Pay Item</u>	<u>Pay Unit</u>
Geotextile Retaining Wall, Sierrascape	Square Foot

The Contractor will be paid per square foot of wall as installed and will be measured along all finished faces. In areas where the wall is double-faced, both faces will be measured and paid separately.

This item of work shall include all labor, materials, and equipment necessary to provide a complete installation of the retaining wall(s) as detailed on the plan sheets and the approved shop drawings. It shall also include, but not be limited to; all required excavation necessary to construct the proposed retaining wall; the furnishing, placement, and compaction of the aggregate and sand base; the furnishing and placement of all needed retaining wall materials; the furnishing, placement, and compaction of all backfill materials as indicated on the plan sheets, details, and the approved shop drawings; the furnishing and installation of soil reinforcement geogrid and wrapped underdrain; constructing the wall true to lines and grades as shown on the plans, or as directed by the Engineer; and, the clean-up and removal of all spoils at the completion of the retaining wall installation.

The quantities presented on the plan sheets and bid forms represent estimated quantities. The actual retaining wall to be constructed may vary in height or length by any amount. If the constructed wall varies from the approved construction plan(s), it shall not be a basis of a claim

and the terms of Section 103.02 of the 2012 MDOT Standard Specifications for Construction shall not apply to this work. Any change to the actual quantity constructed will not be a basis for changes or adjustments to the contract unit price.

BID FORM

Section 1 – Schedule of Prices

Company: _____

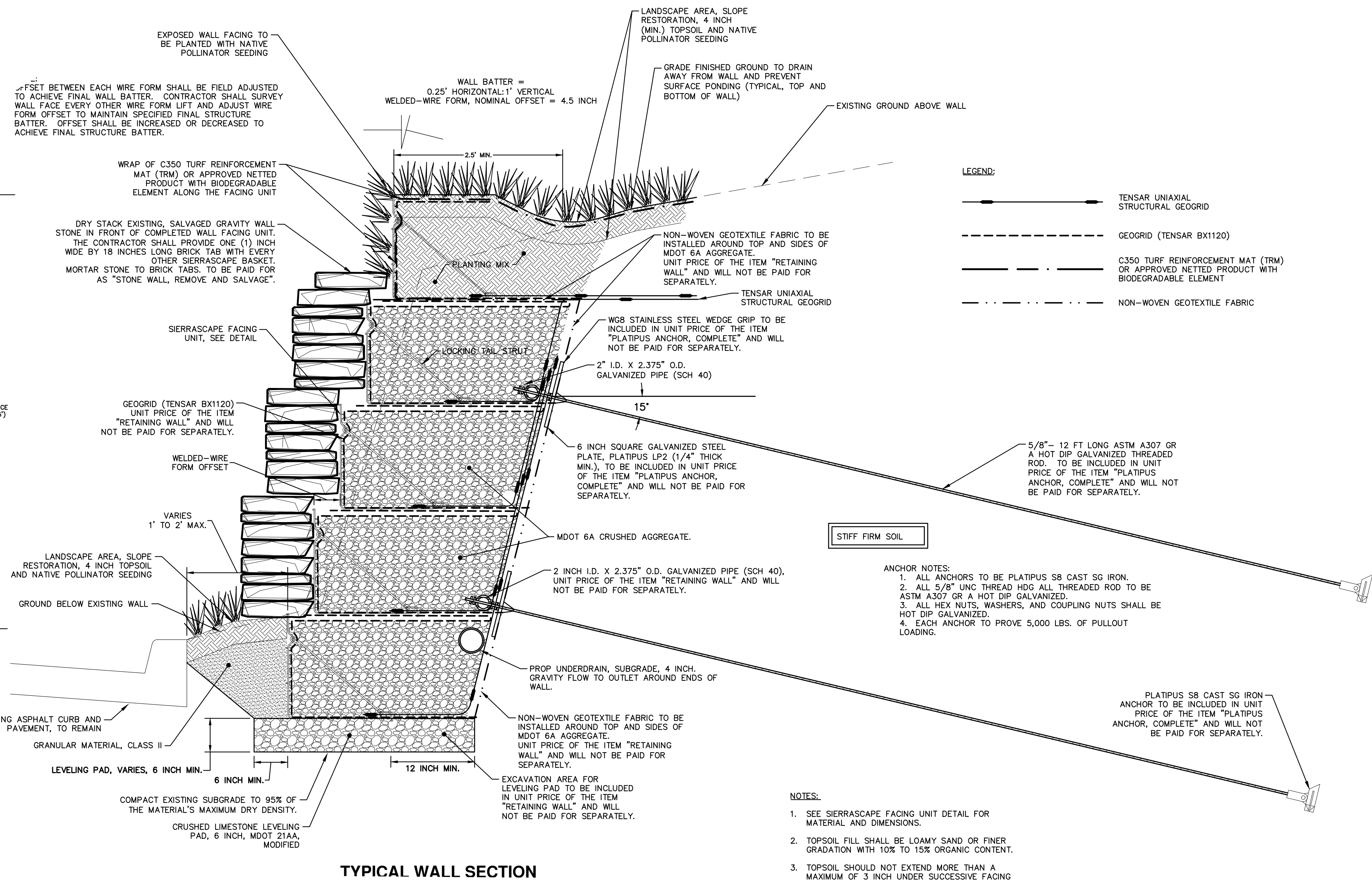
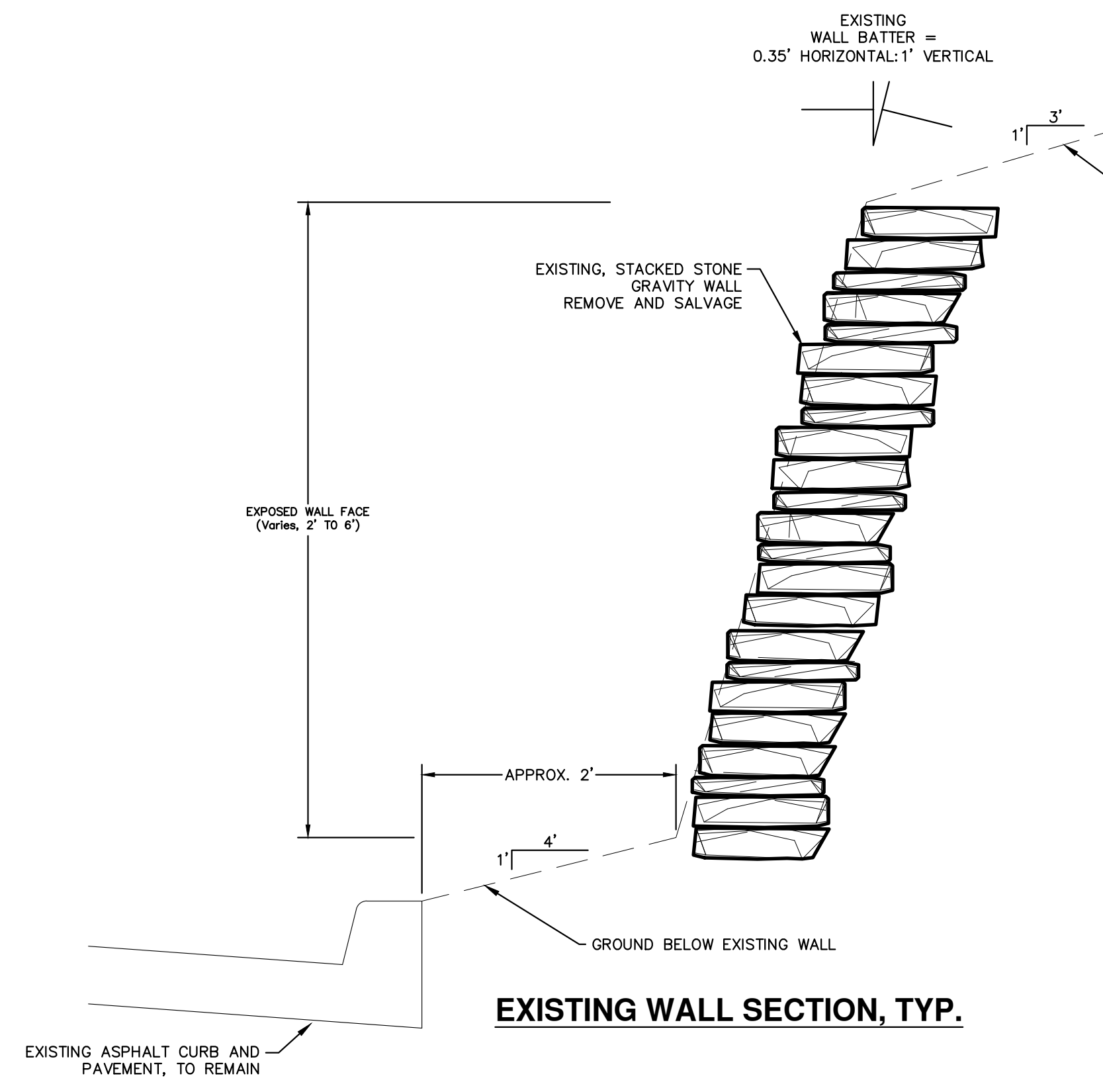
Project: **Bird Road Retaining Wall**

Item Description	Units	Estimated Quantity	Unit Price	Total Price
General Conditions, Max \$10,000	LS	1	\$	\$
Project Supervision, Max \$10,000	LS	1	\$	\$
Certified Payroll Compliance and Reporting	LS	1	\$	\$
Selective Thinning, Type 1	Ac	0.25	\$	\$
Tree, Rem, 6 inch to 18 inch	Ea	4	\$	\$
Stone Wall, Rem, Salv, and Reuse	Sft	1300	\$	\$
Subgrade Undercutting, Type II	Cyd	10	\$	\$
Granular Material, Class II	Cyd	20	\$	\$
Crushed Aggregate, MDOT 6A	Cyd	120	\$	\$
High Performance Uniaxial Geogrid	Syd	380	\$	\$
Underdrain, Subgrade, 4 inch	Ft	210	\$	\$
Retaining Wall, Sierrascape, Plantable Face	Sft	1360	\$	\$
Crushed Limestone Leveling Pad, 6 inch, 21-AA, Modified	Syd	90	\$	\$
Platipus Anchors, Complete	Ea	90	\$	\$
HMA Curb, Rem and Replace	Ft	210	\$	\$
Fence, Protective, Modified	Ft	280	\$	\$
Traffic Control, Max \$10,000	LS	1	\$	\$
Slope Restoration, Native Pollinator Seed Mix	Sft	220	\$	\$
Topsoil Surface, 4 inch	Syd	140	\$	\$
Planting Mix, 12-inch deep	Cyd	80	\$	\$

Subtotal
Retaining Wall
Construction
Costs \$ _____

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	ITEM #4611 - ADDENDUM 2	02/18/2020	CEC	CEC

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST WASHINGTON STREET
ANN ARBOR, MI 48107-8647
www.aarbor.org

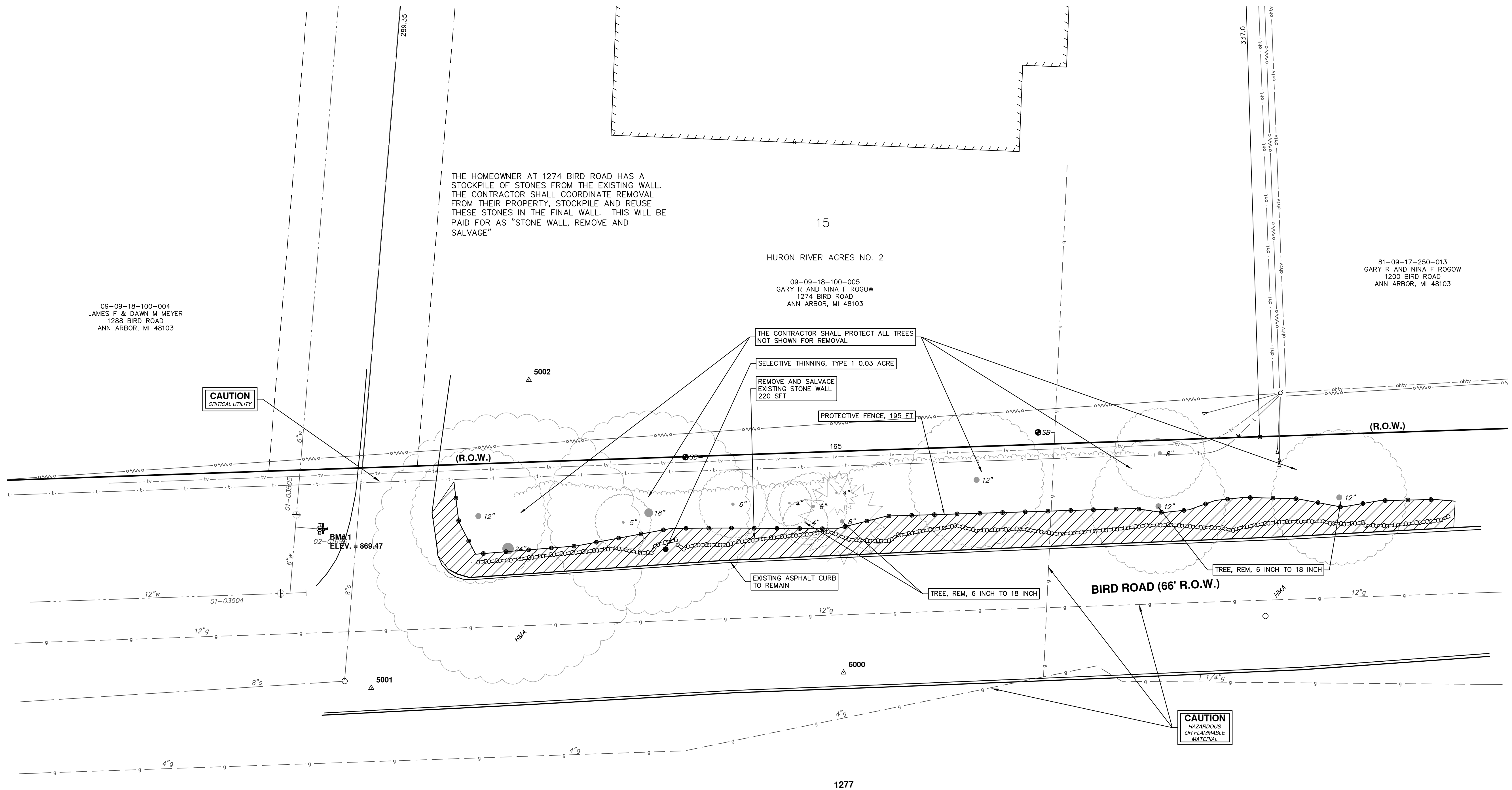


LEGEND:

	TENSAR UNIAXIAL STRUCTURAL GEOGRID
	GEOGRID (TENSAR BX1120)
	C350 TURF REINFORCEMENT MAT (TRM) OR APPROVED NETTED PRODUCT WITH BIODEGRADABLE ELEMENT
	NON-WOVEN GEOTEXTILE FABRIC

- ANCHOR NOTES:
1. ALL ANCHORS TO BE PLATIPUS S8 CAST SG IRON.
 2. ALL 5/8" UNC THREAD HDG ALL THREADED ROD TO BE ASTM A307 GR A HOT DIP GALVANIZED.
 3. ALL HEX NUTS, WASHERS, AND COUPLING NUTS SHALL BE HOT DIP GALVANIZED.
 4. EACH ANCHOR TO PROVE 5,000 LBS. OF PULLOUT LOADING.

- NOTES:
1. SEE SIERRASCAPE FACING UNIT DETAIL FOR MATERIAL AND DIMENSIONS.
 2. TOPSOIL FILL SHALL BE LOAMY SAND OR FINER GRADATION WITH 10% TO 15% ORGANIC CONTENT.
 3. TOPSOIL SHOULD NOT EXTEND MORE THAN A MAXIMUM OF 3 INCH UNDER SUCCESSIVE FACING



09-09-18-100-004
 JAMES F & DAWN M MEYER
 1288 BIRD ROAD
 ANN ARBOR, MI 48103

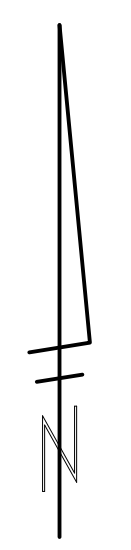
THE HOMEOWNER AT 1274 BIRD ROAD HAS A STOCKPILE OF STONES FROM THE EXISTING WALL. THE CONTRACTOR SHALL COORDINATE REMOVAL FROM THEIR PROPERTY, STOCKPILE AND REUSE THESE STONES IN THE FINAL WALL. THIS WILL BE PAID FOR AS "STONE WALL, REMOVE AND SALVAGE"

15
 HURON RIVER ACRES NO. 2
 09-09-18-100-005
 GARY R AND NINA F ROGOW
 1274 BIRD ROAD
 ANN ARBOR, MI 48103

81-09-17-250-013
 GARY R AND NINA F ROGOW
 1200 BIRD ROAD
 ANN ARBOR, MI 48103

CAUTION
 CRITICAL UTILITY

CAUTION
 HAZARDOUS
 OR FLAMMABLE
 MATERIAL



REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	ITEM #4611 - APPENDIX 2	02/18/2020	CEC	CEC

CITY OF ANN ARBOR
 PUBLIC SERVICES
 301 EAST MAIN STREET
 P.O. BOX 8847
 ANN ARBOR, MI 48107-8847
 www.annarbor.org



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
BIRD ROAD RETAINING WALL
 REMOVALS

SCALE PLAN: 1" = 10'
 DRAWING No.
2018029-6

PRE-BID CONFERENCE SIGN-IN SHEET

PROJECT: BIRD ROAD RETAINING WALL (ITB No. 4611)

DATE: 02/03/2020

PLEASE PRINT

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