



MANAGEMENT SERVICES DEPARTMENT
 PURCHASING DIVISION
 241 W. South Street
 Kalamazoo, Michigan 49007-4796
 Telephone (269) 337-8020
 FAX (269) 337-8500
cokpurchasing@kalamazoocity.org

ADDENDUM #1
June 23, 2022

TO: ALL Prospective Bidders
PROJECT: N 33rd Street Transmission Main
BID REFERENCE #: 91244-020.0
BID OPENING DATE/TIME: **June 30, 2022 @ 3:30 p.m. Local Time**

The purpose of this addendum is to clarify and/or modify the Drawings and/or Specifications for this project. All work affected is subject to all applicable terms and conditions of the Bidding and Contract Documents.

1. **NOTE:** **NEW BID DUE/OPENING DATE/TIME: Thursday, June 30, 2022 @ 3:30 p.m. Local Time.**
2. **REVISED:** Section II – Bid and Award - Changes in **RED** - Page 2, 3 & 4 Only
PLEASE USE THE ATTACHED REVISED SECTION II - BID AND AWARD – WHEN SUBMITTING BIDS FOR THIS PROJECT – See Attachment A
3. **RESPONSE TO QUESTIONS** provided by Jones & Henry– See Attachment B
4. **REPLACE:** Replace the following specification(s)
 01010 – Definition of Contract Items – See Attachment C
 01043 – Coordination and Control of the Work – See Attachment C
5. **ADDED:** Miss Digg AT&T Map & Charter Map – See Attachment D

Questions related to this addendum may be addressed to Anna Crandall, Senior Civil Engineer at crandalla@kalamazoocity.org.

The Addendum can be viewed and downloaded from the City’s website at <https://www.kalamazoocity.org/bidopportunities>.

In order for a bid to be responsive, this signed and dated addendum must be returned with your bid. If you have already submitted your bid, acknowledge receipt and acceptance of this addendum by signing in the place provided and returning it to the undersigned and it shall be incorporated in your bid. Please identify your return envelope with the bid reference number and project description.

Sincerely,

Michelle Emig
 Purchasing Division Manager
 c: Anna Crandall, Public Services
 Prevailing Wage File

FIRM: _____

SIGNED: _____

NAME: _____

DATE: _____

(Type or Print)



ADDENDUM #1

Attachment A *Revised Section II - Bid and Award*

N 33rd Street Transmission Main

Bid Reference #: 91240-020.0

June 2022

REVISED
SECTION II
BID AND AWARD

The undersigned having become thoroughly familiar with all of the bid/contract documents incorporated herein, the project site and the location conditions affecting the work, hereby proposes to perform everything required to be performed in strict conformity with the requirements of these documents, and to provide and furnish all the equipment, labor and materials necessary to complete in a professional manner the furnishing and installing of all of the following, meeting or exceeding the specifications as set forth herein for the prices as stated below.

N 33RD STREET TRANSMISSION MAIN

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	General Conditions/Mobilization	1	LS		
2	Traffic Control	1	LS		
3	Audio/Video Recording	1	LS		
4	Clearing and Grubbing/General Removal	3.5	AC		
5	Tree, Rem, 6 inch to 18 inch	143	EA		
6	Tree, Rem, 19 inch to 36 inch	77	EA		
7	Tree, Rem, 36 inch and larger	18	EA		
8	Stump Removal	25	EA		
9	Curb Removal	55	LF		
10	MDOT B2 Curb and Gutter	20	LF		
11	MDOT D2 Curb and Gutter	20	LF		
12	MDOT F4 Curb and Gutter	15	LF		
13	Pavt, Rem, Mod	2,857	SY		
14	Driveway, Rem, Bit	1,425	SY		
15	Driveway, Rem, Gravel	1,295	SY		
16	Driveway, Rem, Conc	273	SY		
17	Driveway, Rem, Brick And Replacement	45	SY		
18	Wetland Undercutting	420	CY		
19	Wetlands Aggregate Embankment	210	CY		
20	Subbase, CIP 24" MDOT Class III	6,430	SY		
21	Aggregate Base, 8", MDOT 22A	6,430	SY		
22	HMA MDOT 13A - 2" Base Course	600	TON		
23	HMA MDOT 13A - 2" Leveling Course	778	TON		
24	HMA MDOT 13A - 2" Wearing Course	778	TON		
25	Concrete Driveway Replacement	318	SY		
26	Sawcutting	4,880	LF		
27	Remove 12" Storm Culvert	64	LF		
28	12" HDPE Flared End Section	3	EA		
29	18" RCP Flared End Section	1	EA		
30	12" HDPE Storm Culvert	64	LF		
31	12" CMP Culvert Extension	9	LF		
32	18" RCP Culvert Extension	6	LF		
33	2' Dia. Catch Basin	1	EA		
34	Air Release Manhole	8	EA		
35	24" 22.5° Bend	1	EA		
36	24" 90° Bend	2	EA		
37	12" Butterfly Valve	2	EA		
38	16" Butterfly Valve	2	EA		
39	24" Butterfly Valve	23	EA		

40	12" Connection	1	EA		
41	16" Connection	2	EA		
42	8" Gate Valve	2	EA		
43	8" Plug	2	EA		
44	12" Plug	2	EA		
45	16" Plug	1	EA		
46	24"x12" Reducer	1	EA		
47	24"x16" Reducer	2	EA		
48	24"x8" Tee	2	EA		
49	24"x12" Tee	2	EA		
50	24"x16" Tee	1	EA		
51	24" Tee	1	EA		
52	8" Watermain	103	LF		
53	12" Watermain	134	LF		
54	16" Watermain	77	LF		
55	24" Watermain	16,021	LF		
56	Fire Hydrant Assembly	36	EA		
57	Station 39 - Valve Vault	1	EA		
58	Station 39 - 16" Watermain	20	LF		
59	Station 39 - 16" x 16" Tee	2	EA		
60	Station 39 - 16" 90° Bend	2	EA		
61	Station 39 - 16" Butterfly Valve	3	EA		
62	Station 39 - 16" Check Valve	1	EA		
63	Station 39 - Flow Meter Structure	1	EA		
64	Station 39 - 1" Schedule 80 PVC Conduit	600	LF		
65	Station 39 - Flowmeter SCADA Telemetry Programming	1	LS		
66	Restoration	1	LS		
67	Wetland Restoration	1	LS		
68	Trees	1	ALLOWANCE	\$20,000	\$20,000
69	Materials Testing	0	LS	-	-
70	Construction Staking	1	LS		
71	12"x6" Tap	1	EA		
72	4" Aggregate, 21AA	3,038	SY		
73	6" Aggregate Shoulder, 21AA	1,730	SY		
74	Pavt Mrkg, Polyurea, 4in, Yellow	8,900	LF		
75	Pavt Mrkg, Polyurea, 4in, White	4,450	LF		
76	Pavt Mrkg, Polyurea, Only	1	EA		
77	16" Watermain – Polyethylene Encasement	100	LF		
78	24" Watermain – Polyethylene Encasement	1,000	LF		
TOTAL BID AMOUNT			\$		

Bidder shall provide all of the information as requested herein with their bid. **Failure to do so and/or failure to provide post-bid requested information may be cause for rejecting the bid as non-responsive.**

Work shall start after receipt of Notice to Proceed and shall be completed by **October 15, 2023**.

Bidder/Contractor has examined and carefully studied the bidding documents and attachments, and acknowledges receipt of the following addenda:

Addendum No: _____

Dated: _____

By my signature below, I certify that the firm bidding on this contract, when making hiring decisions, does not use a past criminal conviction as a bar to or preclude a person with a criminal conviction from being considered for employment with the bidding firm unless otherwise precluded by federal or state law. I further certify that I have read and agree to be bound by the provisions of the City's Non-Discrimination Clause found in Appendix A as updated by City Ordinance 1856.

Signed: _____ Name: _____

Title: _____



ADDENDUM #1

Attachment B ***Response to Questions***

N 33rd Street Transmission Main

Bid Reference #: 91244-020.0

June 2022

INVITATION FOR BID REFERENCE #: 91244-020.0

City of Kalamazoo, Michigan
N 33rd Street Transmission Main

ADDENDUM 01

June 22, 2022

Plan holders on the City of Kalamazoo, Michigan – N 33rd Street Transmission Main project are hereby notified of the following amendments to the Contract Documents. This Addendum is hereby made a part of the Contract Documents.

REFERENCE NOTES**RESPONSE TO QUESTIONS (received prior to 6/22/2022)**

- Q1: Please provide additional detail of what is required under the Materials Testing bid item. The specifications state in 2 different areas that SME has been procured by the Owner to perform testing services.**
- A: The City will utilize SME for materials testing required on this project including density testing, concrete testing, and asphalt testing. The Materials Testing bid item has been removed from the Bid Form. The Contractor shall coordinate with the City to provide the required testing.
- Q2: Please clarify how to bid item 68 – Trees. The specifications reference a \$20,000 allowance but, the bid item is 25 each.**
- A: The Bid Form has been updated to show an allowance for \$20,000. The total number of trees to be planted and locations shall be determined during construction.
- Q3: The specifications state that paving should occur every half mile. Is this negotiable at all? How will the sleeves be paid for that are required every half mile?**
- A: Paving every half mile is not a requirement of this project. Specification Section 01043 Part 1.07 has been revised. The Contractor shall be required to maintain the roadway surface such that it remains passible to local traffic at all times. Permanent pavement restoration may occur at such time as the Contractor determines within the terms of the Agreement and the Specifications. See attached updated Specification Section 01043.
- Q4: The specifications call for a 2-year guarantee. Does this mean that a 2-year Maintenance Bond is required?**
- A: Yes.
- Q5: The specifications reference temporary traffic signals and temporary paving. Will these be required or are these boilerplate specifications that were included? If required, can further detail of when and where they are required be provided?**
- A: Temporary traffic signals are not required but may be utilized at the discretion of the Contractor. The conditions of the Road Commission of Kalamazoo County will require the closure to thru traffic of N. 33rd Street for the entire length of the project (from E. Michigan Avenue to E. G Avenue) in both directions. Temporary paving will not be required. See answer to Question #3.



Q6: The specifications call for an insertion magnetic flow meter, however the detail on the plan does not depict an insertion magnetic flow meter. Can further details on the requirements be provided? For example, an insertion magnetic flow meter can be installed by tapping the main which would eliminate any need for removing the existing pipe. However, this would not allow for the installation of the structure shown on the plans. Would a doghouse type structure be allowed? If not, how will necessary sleeves be compensated?

A: A doghouse structure will be acceptable, and the flow meter can be installed by tapping. The manhole shall be incidental to Item 63 – Station 39 Flow Meter. See updated Specification Section 01010 Part 57.

Q7: The plans show telephone pedestals throughout the project but, we are unable to locate the underground lines on the plans. The location of these lines could greatly influence construction/constructability. Please provide this information.

A: See attached MISS DIG AT&T and Charter maps obtained through a MISS DIG design ticket. The Contractor remains responsible for locating existing utilities and providing temporary support of existing utilities as required during construction.

Q8: The specifications call for an auto-flusher. Is there a particular model that is preferred? Does this become the property of the Owner after construction?

A: Auto-flusher model Kupferle Eclipse #9700, Red, with Bluetooth Controller. Yes, the auto-flusher will become property of the Owner.

Q9: The details for the concrete and HMA drive show concrete and HMA over 4" of 21AA. How is the 21AA compensated?

A: An item for 4-inch 21AA has been added to the Bid Form. See updated Specification Section 01010.

Q10: The cross section of the road shows a 21AA shoulder. There are sections of the roadway being removed and replaced. How is the shoulder compensated, as there is no 21AA aggregate item? Additionally, there are large sections of the watermain that will require removal and replacement of the shoulder due to the proximity to the roadway. Will this shoulder be compensated? Furthermore, there is a large section of the roadway from approximately 116+00-134+50 where the outside of the pipe is 3.8'-5' off of the edge of HMA. At a minimum depth of 7' the edge of the roadway will most likely be compromised. Even with a trench box, the edge of the roadway will most likely be lost. Will this be compensated? If it is lost will it require removal to centerline? Please elaborate on the requirements.

A: An item for 6-inch 21AA Shoulder has been added to the Bid Form. See updated Specification Section 01010. Additional roadway quantities (Items 20, 21, 22, 23, & 24) have been added to the bid form for sections of roadway that may require removal during installation of the watermain. Any section of roadway removed beyond the shoulder will require removal of the roadway to the centerline.

Q11: How will pavement markings be compensated?

A: Items for pavement markings have been added to the Bid Form. See updated Specification Section 01010.



Q12: Would boots be allowed on valve vault?

A: Yes.

Q13: Is there information available on the type of material of the existing 16" near Station 39?

A: Ductile iron pipe.

Q14: Is there information available for the existing materials at all of the connections?

A: Ductile iron pipe.

Q15: Section 3.24 of the City of Kalamazoo Standard Specifications for Water Main and Service Installation indicates the occasions polyethylene encasement will be required on the water main, but with the limited soils information provided, there is no way that we can see whether the soil conditions will require encasement or not, other than in the presence of groundwater. Additionally, Section 4.01 indicates that unless construction is *not* being funded with City of Kalamazoo funds, there should be a pay item for polyethylene encasement. Since polyethylene encasement also affects the required joint restraint distances, would it be appropriate to establish a pay item for polyethylene encasement with an approximate quantity in order to avoid bid price escalation or contractor risk and help maintain equity among bids?

A: An item for polyethylene encasement has been added to the Bid Form. See updated Specification Section 01010.

Q16: Has the City of Kalamazoo performed the necessary calculations to know the appropriate size blow off required to reach the required velocity for the 24" diameter main on this project?

A: Contractor shall use an 8-inch blow off, minimum.

Q17: The quantities for Pay Item Nos. 20, Subbase, CIP 24" MDOT Class III and 21, Aggregate Base, 8" MDOT 22A appear to equal the totals for all pavement and driveway replacement required. Pavement and driveway removals total 5,575 syd and Pay Items 20 and 21 are each 5,576 syd. However, the typical pavement and driveway sections on Plan Sheet G-2 indicate that no subbase is required beneath driveways, and the aggregate base for driveways is indicated as 4" of MDOT 21AA, not 8" of MDOT 22A. Please confirm the proposed contract quantities for these items are correct and how the 4" 21AA Aggregate Base for driveway replacement will be paid.

A: Updated quantities for each above item have been issued. See updated Bid Form and answers to previous Question #9 & #10.

Q18: Section 01021 for Allowances indicates that there is to be a \$20,000 Allowance for Trees, presumably for planting after construction is complete. However, Pay Item 68, Trees, is not set up as an allowance, but rather as a standard bid item for 25 trees. Should that pay item be altered to include a pre-established unit price or changed to a lump sum allowance?

A: See answer to Question #2.

Q19: Pay Item 71, for a 12" x 6" Tap, and Section 01010 indicates that the contractor is to provide and install the "12-inch x 6-inch tapping saddle required for the hydrant assembly located on



E. Michigan Avenue.” Typically, the City of Kalamazoo performs these taps at a pre-established cost to the contractor, so we want to confirm that the contractor will indeed be providing and installing this tapping sleeve and valve on this occasion.

A: This is confirmed. The Contractor will be providing and installing the tapping sleeve.

Q20: Plan Sheet SR-7 indicates that the Brick Driveway located at approximately Sta. 64 is to be removed, salvaged and replaced. Pay Item 17, for the removal of Brick Driveways includes removal and salvage of the bricks for reuse, according to Section 01010 14.03, however, there does not appear to be a pay item for replacement or re-constructing Brick Driveways. Please confirm how this is to be paid.

A: Replacement of the brick driveway has been made incidental to Item 17. The Bid Form has been updated in indicate replacement. See updated Specification Section 01010.

Q21: Section 01410, Laboratory Services, indicates that the Owner will perform the required testing on water mains prior to placing new mains into service. This seems to be contrary to previous standard operating procedures with regard to water main construction in the City of Kalamazoo. Can you clarify what testing the City will be performing?

A: The City will perform the required Bacteriological tests. Sampling is done in coordination with the City and the Contractor. The Contractor shall operate valves/hydrants/blow offs and the City shall take and process the samples.

Q22: Section 01410 also indicates that the Owner has retained SME to perform required density testing, concrete testing and HMA testing, but there is also a pay item included (Pay Item 69) to cover Materials Testing. Please indicate what materials testing will not be paid for by Owner.

A: See answer to Question #1.

Q23: Will we be able to fully close 33rd Street and / or the adjoining cross roads (E K Ave, E Main, E HJ Ave, E H Ave, Weathervane Trail, and Daylily Lane) for water main installation and again for pavement replacement?

A: The Road Commission of Kalamazoo County will require the closure of N. 33rd Street to thru traffic for the entire length of the project in both directions. Local access must be maintained from at least one direction at all times.

Q24: Will we be able to move a shoulder closure where required as the work progresses, or will we need to provide drums the entire three miles of the job?

A: N. 33rd will be closed to thru traffic for the entire length of the project. It is anticipated that the shoulder can be closed to local traffic and moved accordingly as work progresses.

Q25: Will a closure be allowed to remove and replace the pavement section in the northbound lane for the 1800’ on the south end of the job, or will this need to be done under flag control, excavated, backfilled, and graveled at the end of each day?

A: The Road Commission of Kalamazoo County will require the closure of N. 33rd Street to thru traffic for the entire length of the project in both directions. Local access must be maintained from at least one direction at all times.



Q26: With unknown lead times for materials, is an allowance for potential increase material costs being considered for this project?

A: This project is bidding in advance of the anticipated start date so that the Contractor can secure materials at the bid pricing and complete the project when materials arrive on site. No allowance will be included for material price increases.

Q27: Will the contractor be able to get paid for stored materials if some are available sooner than others?

A: Stored materials will be paid upon arrival to an agreed upon location in the amount 50% of the material purchase order. The Contractor will be required to provide documentation with the Application for Payment.

Q28: On sheet G2 there are typical section for the various surface repairs, how are these going to be paid? Item 21 Agg base 8" 22A what is this for? All the typical call for 21AA.

A: The 8-inch aggregate base for the roadway is called out as 22A and shall be paid under Item 21. A 4-inch 21AA item has been added to the Bid Form for the Typical Gravel Driveway along with the other 4-inch 21AA requirements. The Typical HMA Driveway will be paid under Items 23 & 24. The Typical Concrete Driveway will be paid under Item 25.

Q29: Is pavement marking to be part of this project? If so, is it incidental to another pay item?

A: See answer to Question #11.

Q30: What is the Spec for the 16" Check valve on the 33rd Street Project?

A: The 16-inch check valve shall be a Cla-Val Series 585AC air cushioned check valve, conform to ANSI/AWWA C508, shall be NSF 61 certified and installed per manufacturer specifications.

DRAWINGS

Replace the following drawing sheet(s) with the attached:

None.

SPECIFICATIONS

Replace the following specification(s) with the attached:

Bid Form

01010 – Definition of Contract Items

01043 – Coordination and Control of the Work

RECEIPT OF THIS ADDENDUM MUST BE ACKNOWLEDGED ON THE BID FORM



ADDENDUM #1

Attachment C

Revised Section 01010 - Definition of Contract Items

Revised Section 01043 - Coordination and Control of the Work

N 33rd Street Transmission Main

Bid Reference #: 91244-020.0

June 2022

SECTION 01010
DEFINITION OF CONTRACT ITEMS

PART 1 GENERAL

1.01 FOREWORD

- A. This Section describes the various Contract Items listed in the Bid.

1.02 WORK INCLUDED

- A. Under each Item the Contractor shall furnish all labor, materials, tools, equipment, supplies, maintenance of equipment, heating, lighting and power, insurance and bonds, coordination, and all Work and in accordance with the Specifications Divisions 1 through 16 and the City of Kalamazoo *Standard Specifications for Water Main and Service Installation 2021* necessary to complete the Work in accordance with the obvious or expressed intent of the Contract Documents.

1.03 WORKMANSHIP AND MATERIALS

- A. The quality of workmanship and materials entering into any and all of the Items and the Work included shall conform to pertinent sections, paragraphs, sentences, and clauses, both directly and indirectly applicable thereto, contained in the Contract Documents, whether or not direct reference to such occurs under each Item in this Section.

1.04 PAYMENT

- A. The lump sum and unit prices stated in the Bid shall be payment in full for the completion of all Work specified and described or required to be included in the Contract, complete, and ready for use.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

PART 4 SPECIAL PROVISIONS

4.01 CONTRACT ITEMS

- A. The contract items are defined on the following pages.

ITEM 1
GENERAL CONDITIONS/MOBILIZATION

1.01 DESCRIPTION

- A. This Item is intended to pay non-recurring cost to the Contractor not recovered under other pay Items of the Contract.
- B. This Item shall include, but not be limited to, the cost for moving equipment in and out, performance and payment bonds, insurance, permits, utility connection cost, and other expenses associated with preparation for construction in accordance with the requirements of the Contract Documents.

1.02 WORK NOT INCLUDED

- A. Any Work specifically included under other Bid Items.

1.03 DEFINITION OF ITEM

- A. Item 1 - Includes General Conditions/Mobilization.

1.04 MEASUREMENT

- A. The lump sum stated in the Bid shall be full compensation for all Work required under Item 1.
- B. Mobilization for Contractor and any tier of subcontractor(s) shall be considered collectively and shall not exceed 10 percent of the Contract Price.
- C. Mobilization shall be those costs associated with the initiation of the project and site work, including but not limited to, transporting of personnel, equipment, materials, supplies, incidental items; establishment of the field offices, temporary facilities necessary for the project, bonds and insurances, submittal requirements, permits, field supervision, final cleanup and demobilization. Mobilization does not include items such as contract negotiations and bid preparation.

1.05 PAYMENT

- A. General Conditions/Mobilization shall be those costs associated with the initiation of the project and site work, including but not limited to, transporting of personnel, equipment, materials, supplies, incidental items; establishment of the field offices, temporary facilities necessary for the project, bonds and insurances, submittal requirements, permits, field supervision, final cleanup and demobilization.
- B. The Engineer may reduce the amount to be paid under Item 1 if the percentage requested is not represented by the actual amount performed.

**ITEM 2
TRAFFIC CONTROL**

2.01 DESCRIPTION

- A. Under this Item, the Contractor shall provide, mobilize, and temporarily install all traffic signage and equipment necessary to complete the project as described in the specifications and plans.
- B. The Contractor shall provide a traffic control plan and obtain all permits as necessary and required by all local governing agencies with appropriate jurisdiction.

2.02 WORK NOT INCLUDED

- A. Any Work specifically included under other Bid Items.

2.03 DEFINITION OF ITEMS

- A. Item 2 –Includes Traffic Control.

2.04 MEASUREMENT

- A. The lump sum stated in the Bid shall be full compensation for all Work required under Item 2.

2.05 PAYMENT

- A. The lump sum unit price stated in the Bid shall be full compensation for traffic control as required.

**ITEM 3
AUDIO/VIDEO RECORDING**

3.01 DESCRIPTION

- A. Under this item, the Contractor shall produce and deliver to the Owner, color audio-video recordings of existing topography within the zone of influence along all water main and areas of pavement work as specified and directed.

3.02 WORK NOT INCLUDED

- A. Any Work specifically included under other Bid Items.

3.03 DEFINITION OF ITEMS

- A. Item 3 – Audio/Video Recording includes audio-video recording of the Zone of Influence (Construction Limits).

3.04 MEASUREMENT

- A. The lump sum stated in the Bid shall be full compensation for all Work required under Item 3.

3.05 PAYMENT

- A. The lump sum unit price stated in the Bid for Item 3 shall be full compensation for audio-video recording production as specified and required.

**ITEM 4
CLEARING & GRUBBING**

4.01 DESCRIPTION

- A. This Item shall include all clearing and grubbing of lands required to complete the Work as specified, shown in the Contract Documents, and as directed by the Engineer. This Work shall include, but not be limited to, the complete removal of all vegetation including plants, shrubs, sod, agricultural crop residue, trimming and cutting of trees with trunk diameter less than 6-inches, removal of tree cuttings and stumps unless otherwise specified, scalping and the removal and disposal of all debris generated by the clearing and grubbing operation as specified and shown on the Drawings.

4.02 WORK NOT INCLUDED

- A. Any Work specifically included under other Bid Items.

4.03 DEFINITION OF ITEMS

- A. Item 4 - Clearing and Grubbing, includes the complete removal of all vegetation including plants, shrubs, sod, agricultural crop residue, removal of existing stumps, scalping, and the removal of all debris generated by the clearing and grubbing operation.
 1. Tree removal of trees with trunk diameter of 6-inch and less shall be considered part of clearing and grubbing operations.
 2. Stump removal of stumps with trunk diameter of 12-inches and less shall be considered part of clearing and grubbing operations.

4.04 MEASUREMENT

- A. The lump sum stated in the Bid shall be full compensation for all Work required under Item 4 - Clearing and Grubbing.

4.05 PAYMENT

- A. The lump sum unit price stated in the Bid for Item 4 - Clearing and Grubbing shall be made in the amount of a percent of the lump sum Bid price for Item 4 - Clearing and Grubbing consistent with the percentage of Work completed.

ITEMS 5, 6, 7, & 8
TREE REMOVAL AND STUMP REMOVAL

5.01 DESCRIPTION

- A. Under this Item, the Contractor shall perform all Work necessary for the removal of trees with trunk diameter 6 inches and greater, removal of tree cuttings and stumps, and the removal and disposal of all debris generated by tree cutting operations as specified and shown on the Drawings.
- B. This Item shall include the removal of stumps with trunk diameter greater than 12 inches as specified and shown on the Drawings.

5.02 WORK NOT INCLUDED

- A. Any work specifically included under other Bid Items.

5.03 DEFINITION OF ITEMS

- A. Item 5 - Tree, Rem, 6-inch to 18-inch, shall be the cutting of trees with trunk diameter 6 inches to 18 inches, removal of tree cuttings and stumps.
- B. Item 6 - Tree, Rem, 19-inch to 36-inch, shall be the cutting of trees with trunk diameter 19 inches to 36 inches, removal of tree cuttings and stumps.
- C. Item 7 - Tree, Rem, 36-inch and larger, shall be the cutting of trees with trunk diameter larger than 36 inches, removal of tree cuttings and stumps.
- D. Item 8 - Stump Removal, shall be the complete removal of existing stumps with diameter 12 inches and larger.

5.04 MEASUREMENT

- A. The quantities to be paid for under Items 5, 6, & 7 - Tree Removal shall be measured by the quantity of trees with trunk of specified diameter measured 4 feet above ground height removed.

- B. The quantity to be paid for under Item 8 - Stump Removal shall be measured by the quantity of stumps with specified diameter removed.

5.05 PAYMENT

- A. The unit price stated in the bid for Item 5 - Tree, Rem, 6-inch to 18-inch shall be full compensation for each tree removed and disposed of as specified and required.
- B. The unit price stated in the bid for Item 6 - Tree, Rem, 19-inch to 36-inch shall be full compensation for each tree removed and disposed of as specified and required.
- C. The unit price stated in the bid for Item 7 - Tree, Rem, 36-inch and larger shall be full compensation for each tree removed and disposed of as specified and required.
- D. The unit price stated in the bid for Item 8 - Stump Removal shall be full compensation for each stump removed and disposed of as specified and required.

**ITEM 9
CURB REMOVAL**

9.01 DESCRIPTION

- A. Under this item, the Contractor shall remove curb and gutter.

9.02 WORK NOT INCLUDED

- A. Curbs and gutters damaged or destroyed beyond the specified limits shall be replaced at the Contractor's expense.
- B. Any Work specifically included under other Bid Items.

9.03 DEFINITION OF ITEMS

- A. Item 9 – Curb Removal, includes curb and gutter removal.

9.04 MEASUREMENT

- A. Quantities to be paid for under this item shall be the actual linear footage quantity removed, measured in place within the limits as scheduled on the Drawings, unless otherwise authorized by the Engineer, in which case measurement will be made to the authorized limits.

9.05 PAYMENT

- A. The unit price stated in the Bid for Item 9 shall be for each linear foot of curb and gutter removed within the prescribed limits as specified, so measured.

**ITEMS 10, 11, & 12
CURB & GUTTER**

10.01 DESCRIPTION

- A. Under this Item, the Contractor shall construct concrete curb and gutter.

10.02 WORK NOT INCLUDED

- A. Curb and gutter damaged or destroyed beyond the specified limits shall be replaced at the Contractor's expense.
- B. Any Work specifically included under other Bid Items.

10.03 DEFINITION OF ITEMS

- A. Item 10 - Includes construction of MDOT B2 Curb and Gutter.
- B. Item 11 - Includes construction of MDOT D2 Curb and Gutter.
- C. Item 12 - Includes construction of MDOT F4 Curb and Gutter.

10.04 MEASUREMENT

- A. Quantities to be paid for under Items 10, 11, & 12 shall be the actual quantity constructed, measured in place by linear length at the back of the curb, within the limits as scheduled and shown on the Drawings, unless otherwise authorized by the Engineer, in which case measurement will be made to the authorized limits.

10.05 PAYMENT

- A. The unit price stated in the bid for Item 10 shall be full compensation for each linear foot of MDOT B2 Curb and Gutter installed in accordance with the Specifications and Drawings.
- B. The unit price stated in the bid for Item 11 shall be full compensation for each linear foot of MDOT D2 Curb and Gutter installed in accordance with the Specifications and Drawings.
- C. The unit price stated in the bid for Item 12 shall be full compensation for each linear foot of MDOT F4 Curb and Gutter installed in accordance with the Specifications and Drawings.

**ITEM 13
PAVEMENT REMOVAL**

13.01 DESCRIPTION

- A. Under this Item, the Contractor shall remove pavement, including the aggregate base as scheduled, shown on the Drawings, and specified herein.

13.02 WORK NOT INCLUDED

- A. Pavement removal required beyond specified construction limits and items included for payment under other items.
- B. Pavement and curb and gutters damaged or destroyed beyond specified pay limits shall be replaced at the Contractor's expense.
- C. Any work specifically included under other Bid Items.

13.03 DEFINITION OF ITEMS

- A. Item 13 - Pavt, Rem, Mod includes complete pavement removal including the aggregate base.

13.04 MEASUREMENT

- A. Quantities to be paid for under this item shall be the actual square yardage quantity removed, measured in place within the limits as scheduled on the Drawings, unless otherwise authorized by the Engineer, in which case measurement will be made to the authorized limits.

13.05 PAYMENT

- A. The unit price stated in the Bid for Item 13 shall be full compensation for each square yard of pavement removed within the prescribed limits as specified, so measured.

**ITEMS 14, 15, 16, & 17
DRIVEWAY REMOVAL**

14.01 DESCRIPTION

- A. Under these Items the Contractor shall remove driveways including bituminous pavement, concrete pavement, and gravel, and the aggregate base as scheduled, shown on the Drawings, and specified herein.
- B. Brick paver driveways shall be removed, salvaged for reuse, and replaced as shown on the Drawings and specified herein.

14.02 WORK NOT INCLUDED

- A. Driveway removal required beyond specified construction limits and items included for payment under other items.
- B. Pavement and curb and gutters damaged or destroyed beyond specified pay limits shall be replaced at the Contractor's expense.
- C. Any work specifically included under other Bid Items.

14.03 DEFINITION OF ITEMS

- A. Item 14 - Driveway, Rem, Bit includes complete pavement removal of bituminous driveways, including the aggregate base.
- B. Item 15 - Driveway, Rem, Gravel includes complete removal of gravel driveways.
- C. Item 16 - Driveway, Rem, Conc includes complete removal of concrete driveways, including the aggregate base.

- A1 —
- D. Item 17 - Driveway, Rem, Brick includes complete removal, salvage of bricks for reuse, removal of the aggregate base, and replacement of the brick driveway.

14.04 MEASUREMENT

- A. Quantities to be paid for under Items 14, 15, and 16 shall be the actual square yardage quantity removed, measured in place within the limits as scheduled on the Drawings, unless otherwise authorized by the Engineer, in which case measurement will be made to the authorized limits.
- B. Quantities to be paid for under Item 17 shall be the actual square yardage quantity removed and replaced, measured in place within the limits as scheduled on the Drawings, unless otherwise authorized by the Engineer, in which case measurement will be made to the authorized limits.

14.05 PAYMENT

- A. The unit price stated in the Bid for Item 14 shall be full compensation for each square yard of bituminous driveway removed within the prescribed limits as specified, so measured.
- B. The unit price stated in the Bid for Item 15 shall be full compensation for each square yard of gravel driveway removed within the prescribed limits as specified, so measured.
- C. The unit price stated in the Bid for Item 16 shall be full compensation for each square yard of concrete driveway removed within the prescribed limits as specified, so measured.
- D. The unit price stated in the Bid for Item 17 shall be full compensation for each square yard of brick driveway removed, salvaged, and replaced within the prescribed limits as specified, so measured.

ITEM 18
WETLAND UNDERCUTTING

18.01 DESCRIPTION

- A. Under this item, the Contractor shall remove excess unsuitable soils in wetland areas beyond ordinary limits for water main trench excavation in order to construct required embankment.

18.02 WORK NOT INCLUDED

- A. Trench excavation to ordinary depths for water main shall be included under other Bid Items.
- B. Excavation beyond the limits shown on the drawings or not otherwise authorized by the engineer shall be considered unauthorized excavation and shall be at the Contractor's expense.
- C. Any Work specifically included under other Bid Items.

18.03 DEFINITION OF ITEMS

- A. Item 18 – Wetland Undercutting includes removal of excess wetland soils in order to install water main embankment.

18.04 MEASUREMENT

- A. The quantity to be paid under Item 18 shall be full compensation for each cubic yard of wetland undercutting performed in accordance with the Specifications and Drawings.

18.05 PAYMENT

- A. The unit price stated in the Bid for Item 18 shall be full compensation for each cubic yard of wetland undercutting, as specified and required.

ITEM 19
WETLAND AGGREGATE EMBANKMENT

19.01 DESCRIPTION

- A. Under this Item, the Contractor shall construct an aggregate riprap embankment on compacted subgrade surface approved by the Engineer. This Item includes providing, hauling, placing, compacting, and shaping the material to construct the embankment, as well as backfilling with in situ soils.

19.02 WORK NOT INCLUDED

- A. Embankment constructed beyond specified construction limits with approval from the Engineer and items included for payment under other Items.

19.03 DEFINITION OF ITEMS

- A. Item 19 - Wetland Aggregate Embankment.

19.04 MEASUREMENT

- A. Quantities to be paid for under this Item shall be the actual quantity constructed, measured in place within the limits as defined below, and/or scheduled on the Drawings, unless otherwise authorized by the Engineer, in which case measurement will be made to the authorized limits. When uniform courses are specified, the volume to be paid for shall not exceed the quantity calculated from plan lines and dimensions.
- B. Pay Limits:
 - 1. Depth - As specified, scheduled, or ordered.
 - 2. Length - The actual length ordered.
 - 3. Width - The actual width ordered.

19.05 PAYMENT

- A. The unit price stated in the Bid for Item 19 shall be full compensation for each cubic yard of wetland aggregate embankment placed within the prescribed limits as specified, so measured.

**ITEM 20
SUBBASE, CIP 24" MDOT CLASS III**

20.01 DESCRIPTION

- A. Under this Item, the Contractor shall construct a granular subbase on a surface approved by the Engineer and according to RCKC standards. This Item includes providing, hauling, placing, compacting, and shaping the material.

20.02 WORK NOT INCLUDED

- A. Subbase required beyond specified construction limits and items included for payment under other Items.

20.03 DEFINITION OF ITEMS

- A. Item 20 - Includes Subbase, CIP 24" MDOT Class III.

20.04 MEASUREMENT

- A. Quantities to be paid for under this Item shall be the actual quantity constructed, measured in place within the limits as defined below, and/or scheduled on the Drawings, unless otherwise authorized by the Engineer, in which case measurement will be made to the authorized limits. When uniform courses are specified, the volume to be paid for shall not exceed the quantity calculated from plan lines and dimensions.
- B. Pay Limits:
 - 1. Depth - As specified, scheduled, or ordered.
 - 2. Length - The actual length ordered.
 - 3. Width - The actual width ordered.

20.05 PAYMENT

- A. The unit price stated in the Bid for Item 20 shall be full compensation for each square yard of Subbase, CIP 24" MDOT Class III placed within the prescribed limits as specified, so measured.

ITEM 21 AGGREGATE BASE, 8", MDOT 22A

21.01 DESCRIPTION

- A. Under this Item, the Contractor shall construct aggregate base for new pavement as scheduled, shown on the Drawings and specified herein.
- B. No additional payment will be made for the following:
 - 1. Aggregate used for adjusting roadway shoulders and driveways to match new roadway surfaces.
 - 2. Machine grading
 - a. Machine grading shall be incidental to this item.

21.02 WORK NOT INCLUDED

- A. Aggregate required beyond specified construction limits and items included for payment under other Items.

21.03 DEFINITION OF ITEMS

- A. Item 21 - Includes Aggregate Base, 8 inch, MDOT 22A.

21.04 MEASUREMENT

- A. Quantities to be paid for under this Item shall be the actual quantity constructed, measured in place within the limits as defined below, and/or scheduled on the Drawings, unless otherwise authorized by the Engineer; in which case, measurement will be made to the authorized limits. When uniform courses are specified, the volume to be paid for shall not exceed the quantity calculated from plan lines and dimensions.
- B. Pay Limits:
 - 1. Depth - As specified, scheduled, or ordered.
 - 2. Length - The actual length ordered.
 - 3. Width - The actual width ordered.

21.05 PAYMENT

- A. The unit price stated in the Bid for Item 21 shall be full compensation for each square yard of aggregate base placed within the prescribed limits as specified, so measured.

**ITEMS 22, 23, & 24
HMA MDOT 13A**

22.01 DESCRIPTION

- A. Under Items 22, 23, & 24 the Contractor shall construct pavement courses as scheduled, shown on the Drawings and specified herein.
- B. Under Item 24, the Contractor shall adjust existing structure castings as required to set flush with new grades and casting adjustments shall be incidental to this Item.

22.02 WORK NOT INCLUDED

- A. Pavement replacement required beyond specified construction limits and items included for payment under other Items.
- B. Pavement damaged or destroyed beyond specified pay limits shall be replaced at the Contractor's expense.
- C. No additional payment will be made for the following:
 - 1. Asphalt surface course used for adjusting driveways to match new roadway surfaces.

22.03 DEFINITION OF ITEMS

- A. Item 22 - Includes HMA MDOT 13A - 2" Base Course.
- B. Item 23 - Includes HMA MDOT 13A - 2" Leveling Course.

- C. Item 24 - Includes HMA MDOT 13A - 2" Wearing Course.

22.04 MEASUREMENT

- A. Quantities to be paid for under Items 22, 23, & 24 shall be the actual quantity constructed, measured in place within the limits as defined below, and/or scheduled on the Drawings, unless otherwise authorized by the Engineer; in which case, measurement will be made to the authorized limits. When uniform courses are specified, the volume to be paid for shall not exceed the quantity calculated from plan lines and dimensions.
- B. Pay Limits:
 - 1. Depth - As specified, scheduled, or ordered.
 - 2. Length - The actual length ordered.
 - 3. Width - The actual width ordered.

22.05 PAYMENT

- A. The unit prices stated in the Bid for Items 22, 23, & 24 shall be full compensation for each ton of pavement placed within the prescribed limits as specified, so measured.

ITEM 25
CONCRETE DRIVEWAY REPLACEMENT

25.01 DESCRIPTION

- A. Under this Item, the Contractor shall place 6-inch thick concrete pavement and 4-inch aggregate base to replace existing driveways as required, as scheduled, shown on the Drawings and specified herein.

25.02 WORK NOT INCLUDED

- A. Pavement replacement required beyond specified construction limits and items included for payment under other Items.
- B. Pavement damaged or destroyed beyond specified pay limits shall be replaced at the Contractor's expense.

25.03 DEFINITION OF ITEMS

- A. Item 25 - Includes Concrete Driveway Replacement.

25.04 MEASUREMENT

- A. Quantities to be paid for under this Item shall be the actual quantity constructed, measured in place within the limits as scheduled and shown on the Drawings, unless

otherwise authorized by the Engineer; in which case, measurement will be made to the authorized limits.

25.05 PAYMENT

- A. The unit price stated in the Bid for Item 25 shall be full compensation for each square yard of concrete placed within the prescribed limits as specified, so measured.

**ITEM 26
SAWCUTTING**

26.01 DESCRIPTION

- A. Under this Item, the Contractor shall perform all sawcutting of pavement as necessary to facilitate pavement removal and provide a clean edge adjacent to pavement scheduled to remain.

26.02 WORK NOT INCLUDED

- A. Sawcutting performed beyond specified construction limits and items included for payment under other items.
- B. Pavement replacement required beyond specified construction limits.
- C. Pavement and curb and gutters damaged or destroyed beyond specified pay limits shall be replaced at the Contractor's expense.

26.03 DEFINITION OF ITEMS

- A. Item 26 – Includes Sawcutting.

26.04 MEASUREMENT

- A. Quantities to be paid for under this item shall be the actual linear footage quantity of sawcutting, measured in place within the limits as scheduled on the Drawings, unless otherwise authorized by the Engineer; in which case, measurement will be made to the authorized limits.

26.05 PAYMENT

- A. The unit price stated in the Bid for Item 26 shall be for each linear foot of sawcutting within the prescribed limits as specified, so measured.

**ITEMS 27-33
STORM SEWER/CULVERTS**

27.01 DESCRIPTION

- A. Under these Items, the Contractor shall furnish and perform all Work necessary for the removal and installation of storm sewers/culverts as scheduled, shown on the Drawings and specified, in conformance with relevant sections of the Specifications and the MDOT Specifications for Construction 2012.
- B. These Items shall include all Work to remove and install the storm sewer/culverts, including but not limited to the following: excavation, hauling excess spoil material from Site, backfill, compaction, bedding, pipe materials, fittings, connections to existing culverts, installation of catch basins, and related Work such as performing material testing, unless included under other items.
- C. Temporary supporting existing utilities, locating of existing utilities, and exploratory excavation and backfill required by the utility owner for existing utilities encountered during sewer/culvert construction, is included under these Items.
- D. No additional compensation shall be considered for sewers/culverts installed within 2 feet of the elevation shown on the Drawings.

27.02 WORK NOT INCLUDED

- A. Pavement replacement within the Contract limits is included under other Items.
- B. Damage to existing utilities shall be the responsibility of the Contractor.
- C. Replacement of existing manholes or catch basins removed or damaged for Contractor convenience of construction and which were not planned to be removed, shall be done at the Contractor's expense.
- D. The furnishing and placing of special backfill in areas specified under Section 02200 is included under other Items.

27.03 DEFINITION OF ITEMS

- A. Item 27 - Includes Remove 12" Storm Culvert.
- B. Item 28 - Includes 12" HDPE Flared End Section.
- C. Item 29 - Includes 18" RCP Flared End Section.
- D. Item 30 - Includes 12" HDPE Storm Culvert.
- E. Item 31 - Includes 12" CMP Culvert Extension.
- F. Item 32 - Includes 18" RCP Culvert Extension.
- G. Item 33 - Includes 2' Dia. Catch Basin.

27.04 MEASUREMENT

- A. The quantity to be paid under Item 27 shall be the measured quantity of each linear foot of 12-inch storm culvert removed as specified, shown on the drawings, and so measured.
- B. The quantity to be paid under Item 28 shall be the measured quantity for each 12-inch HDPE flared end section installed as specified, shown on the drawings, and so measured.
- C. The quantity to be paid under Item 29 shall be the measured quantity for each 18-inch RCP flared end section installed as specified, shown on the drawings, and so measured.
- D. The quantity to be paid under Item 30 shall be the measured quantity of each linear foot of 12-inch HDPE storm culvert installed as specified, shown on the drawings, and so measured.
- E. The quantity to be paid under Item 31 shall be the measured quantity of each linear foot of 12-inch CMP culvert extension installed as specified, shown on the drawings, and so measured.
- F. The quantity to be paid under Item 32 shall be the measured quantity of each linear foot of 18-inch RCP culvert extension installed as specified, shown on the drawings, and so measured.
- G. The quantity to be paid under Item 33 shall be the measured quantity for each 2-foot diameter catch basin installed as specified, shown on the drawings, and so measured.

27.05 PAYMENT

- A. The unit price stated in the Bid for Item 27 shall be full compensation for each linear foot of 12-inch storm culvert removed as specified and so measured.
- B. The unit price stated in the Bid for Item 28 shall be full compensation for each 12-inch HDPE flared end section installed as specified and so measured.
- C. The unit price stated in the Bid for Item 29 shall be full compensation for each 18-inch RCP flared end section installed as specified and so measured.
- D. The unit price stated in the Bid for Item 30 shall be full compensation for each linear foot of 12-inch HDPE storm culvert installed as specified and so measured.
- E. The unit price stated in the Bid for Item 31 shall be full compensation for each linear foot of 12-inch CMP culvert extension installed as specified and so measured.
- F. The unit price stated in the Bid for Item 32 shall be full compensation for each linear foot of 18-inch RCP culvert extension installed as specified and so measured.
- G. The unit price stated in the Bid for Item 33 shall be full compensation for each 2-foot diameter catch basin installed as specified and so measured.

ITEM 34
AIR RELEASE MANHOLES

34.01 DESCRIPTION

- A. Under these Items, the Contractor shall construct air release manholes in locations and of the type shown and scheduled on the Drawings and in accordance with the Contract Documents.
- B. Work beyond the specified pay limits for the pipe trench, but necessary for the placement of the manholes, shall be included under this Item. Such Work shall include excavation of any material encountered, special backfill material, and pavement replacement.
- C. The temporary support of utilities as required to complete the Work shall be included under these Items.
- D. Restoration of landscape surface improvements including seeding, mulching, and fertilizing all disturbed lawn areas beyond the scope of other items, shall be included under these Items.

34.02 WORK NOT INCLUDED

- A. Replacement of existing manholes or catch basins removed or damaged for Contractor convenience of construction and which were not planned to be removed, shall be done at the Contractor's expense.

34.03 DEFINITION OF ITEMS

- A. Item 34 - Includes Air Release Manhole.

34.04 MEASUREMENT

- A. The quantities to be paid under Item 34 shall be for each air release manhole furnished and installed in accordance with the Specifications and Drawings.

34.05 PAYMENT

- A. The unit price stated in the Bid for Item 34 shall be full compensation for each air release manhole, so measured, as specified and required.

ITEMS 35 - 55
DUCTILE IRON WATER MAIN

35.01 DESCRIPTION

- A. Under these Items, the Contractor shall furnish and perform all Work necessary for the installation of the water mains as scheduled, shown on the Drawings and specified, in conformance with relevant sections of the Specifications.
- B. These Items shall include all Work to install the water mains, including but not limited to the following: excavation, backfill, compaction, bedding, pipe materials, fittings, maintenance of trenches, temporary pavement, connections to existing water mains, and related Work and materials such as blow offs to perform disinfection, flushing, performing pressure and bacteriological tests as shown on the Drawings and specified in conformance with relevant Sections of the Specifications.
- C. These Items also shall include all Work under the Contract unless specifically included for payment under other Items.
- D. Connections of new water lines to new and existing water lines shall be included under these Items, unless specifically included under other items. Temporary supporting of existing utilities, locating of existing utilities, exploratory excavation and backfill required by the utility owner for existing utilities encountered during construction, is included under these Items.
- E. The removal or abandonment of existing water mains, including existing fittings, valves, backfill, bedding, structures and other associated appurtenances, shall be included under these items.
- F. These Items shall include all water main fittings, accessories and appurtenances not included in other pay items. Fittings, including those not shown on the plans required to avoid existing utilities, shall be included under these Items.
- G. All repairs of existing utilities damaged, as a result of construction, are included under these Items.
- H. Restoration of landscape surface improvements including seeding, mulching, and fertilizing all disturbed lawn areas shall be included under these Items, unless specifically included under other items.

35.02 WORK NOT INCLUDED

- A. Pavement replacement within the Contract limits is included under other Items.
- B. Hydrant assemblies including associated 6-inch water main piping and gate valve are included under other items.
- C. Any Work specifically included under other Bid Items.

35.03 DEFINITION OF ITEMS

- A. Item 35 - Includes 24" 22.5° Bend.
- B. Item 36 - Includes 24" 90° Bend.
- C. Item 37 - Includes 12" Butterfly Valve.
- D. Item 38 - Includes 16" Butterfly Valve.
- E. Item 39 - Includes 24" Butterfly Valve.
- F. Item 40 - Includes 12" Connection.
- G. Item 41 - Includes 16" Connection.
- H. Item 42 - Includes 8" Gate Valve.
- I. Item 43 - Includes 8" Plug.
- J. Item 44 - Includes 12" Plug.
- K. Item 45 - Includes 16" Plug.
- L. Item 46 - Includes 24" x 12" Reducer.
- M. Item 47 - Includes 24" x 16" Reducer.
- N. Item 48 - Includes 24" x 8" Tee.
- O. Item 49 - Includes 24" x 12" Tee.
- P. Item 50 - Includes 24" x 16" Tee.
- Q. Item 51 - Includes 24" Tee.
- R. Item 52 - Includes 8" Watermain.
- S. Item 53 - Includes 12" Watermain.
- T. Item 54 - Includes 16" Watermain.
- U. Item 55 - Includes 24" Watermain.

35.04 MEASUREMENT

- A. The quantity to be paid under Item 35 shall be the measured quantity of each 24-inch 22.5° bend installed as specified, shown on the drawings, and so measured.
- B. The quantity to be paid under Item 36 shall be the measured quantity of each 24-inch 90° bend installed as specified, shown on the drawings, and so measured.
- C. The quantity to be paid under Item 37 shall be the measured quantity of each 12-inch butterfly valve and box installed as specified, shown on the drawings, and so measured.
- D. The quantity to be paid under Item 38 shall be the measured quantity of each 16-inch butterfly valve and box installed as specified, shown on the drawings, and so measured.

- E. The quantity to be paid under Item 39 shall be the measured quantity of each 24-inch butterfly valve and box installed as specified, shown on the drawings, and so measured.
- F. The quantity to be paid under Item 40 shall be the measured quantity of each 12-inch connection to the existing water main completed as specified, shown on the drawings, and so measured.
- G. The quantity to be paid under Item 41 shall be the measured quantity of each 16-inch connection to the existing water main completed as specified, shown on the drawings, and so measured.
- H. The quantity to be paid under Item 42 shall be the measured quantity of each 8-inch gate valve and box installed as specified, shown on the drawings, and so measured.
- I. The quantity to be paid under Item 43 shall be the measured quantity of each 8-inch plug installed as specified, shown on the drawings, and so measured.
- J. The quantity to be paid under Item 44 shall be the measured quantity of each 12-inch plug installed as specified, shown on the drawings, and so measured.
- K. The quantity to be paid under Item 45 shall be the measured quantity of each 16-inch plug installed as specified, shown on the drawings, and so measured.
- L. The quantity to be paid under Item 46 shall be the measured quantity of each 24-inch x 12-inch reducer installed as specified, shown on the drawings, and so measured.
- M. The quantity to be paid under Item 47 shall be the measured quantity of each 24-inch x 16-inch reducer installed as specified, shown on the drawings, and so measured.
- N. The quantity to be paid under Item 48 shall be the measured quantity of each 24-inch x 8-inch tee installed as specified, shown on the drawings, and so measured.
- O. The quantity to be paid under Item 49 shall be the measured quantity of each 24-inch x 12-inch tee installed as specified, shown on the drawings, and so measured.
- P. The quantity to be paid under Item 50 shall be the measured quantity of each 24-inch x 16-inch tee installed as specified, shown on the drawings, and so measured.
- Q. The quantity to be paid under Item 51 shall be the measured quantity of each 24-inch tee installed as specified, shown on the drawings, and so measured.
- R. The quantities to be paid for under Item 52 shall be the horizontal length of 8-inch D.I.P. watermain measured parallel to the axis of the line along the surface of the ground, with no deduction for laying length of fittings and valves. Vertical portions of the water main shall not be measured for payment.
- S. The quantities to be paid for under Item 53 shall be the horizontal length of 12-inch D.I.P. watermain measured parallel to the axis of the line along the surface of the ground, with no deduction for laying length of fittings and valves. Vertical portions of the water main shall not be measured for payment.
- T. The quantities to be paid for under Item 54 shall be the horizontal length of 16-inch D.I.P. watermain measured parallel to the axis of the line along the surface of the

ground, with no deduction for laying length of fittings and valves. Vertical portions of the water main shall not be measured for payment.

- U. The quantities to be paid for under Item 55 shall be the horizontal length of 24-inch D.I.P. watermain measured parallel to the axis of the line along the surface of the ground, with no deduction for laying length of fittings and valves. Vertical portions of the water main shall not be measured for payment.

35.05 PAYMENT

- A. The unit prices stated in the Bid for Items 35 through 51 shall be full compensation for each item, furnished and installed as specified and required.
- B. The unit price stated in the Bid for Items 52 through 55 shall be full compensation for each linear foot, furnished and installed as specified, and so measured.
 - 1. Four dollars per linear foot will be withheld from the unit price of Items 52 through 55 as stated in the Bid, for acceptance testing, in accordance with the Contract Documents. This amount shall not be considered part of retainage and shall not be released until testing has been satisfactorily completed.

ITEM 56 FIRE HYDRANT ASSEMBLIES

56.01 DESCRIPTION

- A. Under this Item, the Contractor shall furnish and perform all Work necessary for the installation of the fire hydrant assemblies shown on the Drawings and specified, in conformance with relevant sections of the Specifications.
- B. This Item shall include all Work to install the fire hydrant assemblies, including but not limited to the following: excavation, pavement removal, saw-cutting, concrete drive, curb and walk removal, hauling excess spoil material from Site, backfill, compaction, bedding, pipe materials, fittings, connections to water lines, construction maintenance and removal of temporary access to the Work area, and related Work such as performing material testing, unless included under other items.
- C. If a new hydrant is not replacing an existing hydrant, a new sign will be furnished and installed according to the Drawings.
- D. If a fire hydrant sign is damaged, stolen, lost, or otherwise rendered unusable, the Contractor will be responsible to furnish and install a replacement sign.
- E. Tee fittings at main line shall be incidental to this Item.

56.02 WORK NOT INCLUDED

- A. Pavement replacement within Contract limits is included for payment under other items.

56.03 DEFINITION OF ITEMS

- A. Item 56 - Includes Fire Hydrant Assembly

56.04 MEASUREMENT

- A. The quantity to be paid under Item 56 shall be the measured quantity of each fire hydrant assembly completed as specified, shown on the drawings, and so measured.

56.05 PAYMENT

- A. The unit price stated in the Bid for Item 56 shall be full compensation for each hydrant assembly so measured, as specified and required.

**ITEMS 57 - 65
STATION 39**

57.01 DESCRIPTION

- A. Under these Items, the Contractor shall furnish and perform all Work necessary for the installation of a valve vault near the City of Kalamazoo's Booster Station 39 as scheduled, shown on the Drawings and specified, in conformance with relevant sections of the Specifications.
- B. These Items shall include all Work to install the valve vault, including but not limited to the following: excavation; hauling excess spoil material from Site; backfill; compaction; bedding; pipe materials; fittings; valves; connections to existing water main; installation of flow meter and structure; electrical conduit; telemetry programming; construction maintenance and removal of temporary access to the Work area; and related Work such as performing material testing; pressure testing and disinfection; unless included under other items.
- A1 —
- C. Temporary supporting existing utilities, locating of existing utilities, exploratory excavation and backfill required by the utility owner for existing utilities encountered during vault construction is included under these Items.
- D. No addition compensation shall be considered for water main or structures installed within 2 feet of the elevation shown on the Drawings.

57.02 WORK NOT INCLUDED

- A. Damage to existing utilities shall be the responsibility of the Contractor.
- B. Any Work specifically included under other Bid Items.

57.03 DEFINITION OF ITEMS

- A. Item 57 - Includes Station 39 Valve Vault

- B. Item 58 - Includes Station 39 16" Water Main
- C. Item 59 - Includes Station 39 16" x 16" Tee
- D. Item 60 - Includes Station 39 16" 90° Bend
- E. Item 61 - Includes Station 39 16" Butterfly Valve
- F. Item 62 - Includes Station 39 16" Check Valve
- G. Item 63 - Includes Station 39 Flow Meter Structure
- H. Item 64 - Includes Station 39 1" Schedule 80 PVC Conduit
- I. Item 65 - Includes Station 39 Flowmeter SCADA Telemetry Programming

57.04 MEASUREMENT

- A. The quantity to be paid under Item 57 shall be the measured quantity of each precast concrete valve vault installed as specified, shown on the drawings, and so measured.
- B. The quantities to be paid for under Item 58 shall be the horizontal length of 16" D.I.P. watermain measured parallel to the axis of the line along the surface of the ground, with no deduction for laying length of fittings and valves. Vertical portions of the water main shall not be measured for payment.
- C. The quantity to be paid under Item 59 shall be the measured quantity for each 16-inch x 16-inch tee installed as specified, shown on the drawings, and so measured.
- D. The quantity to be paid under Item 60 shall be the measured quantity for each 16-inch 90° bend installed as specified, shown on the drawings, and so measured.
- E. The quantity to be paid under Item 61 shall be the measured quantity for each 16-inch butterfly valve installed as specified, shown on the drawings, and so measured.
- F. The quantity to be paid under Item 62 shall be the measured quantity for each 16-inch check valve installed as specified, shown on the drawings, and so measured.
- G. The quantity to be paid under Item 63 shall be the measured quantity for each manhole structure and flow meter installed as specified, shown on the drawings, and so measured.
- H. The quantity to be paid under Item 64 shall be the measured quantity for each linear foot of 1-inch schedule 80 PVC conduit installed as specified, shown on the drawings, and so measured.
- I. The lump sum stated in the Bid shall be full compensation for all Work required under Item 65.

57.05 PAYMENT

- A. The unit price stated in the Bid for Item 57 shall be full compensation for each precast concrete valve vault installed as specified and so measured.

- B. The unit price stated in the Bid for Item 58 shall be full compensation for each linear foot, furnished and installed as specified, and so measured.
 - 1. Four dollars per linear foot will be withheld from the unit price of Item 58 as stated in the Bid, for acceptance testing, in accordance with the Contract Documents. This amount shall not be considered part of retainage and shall not be released until testing has been satisfactorily completed.
- C. The unit price stated in the Bid for Item 59 shall be full compensation for each 16" x 16" tee installed as specified and so measured.
- D. The unit price stated in the Bid for Item 60 shall be full compensation for each 16" 90° bend installed as specified and so measured.
- E. The unit price stated in the Bid for Item 61 shall be full compensation for each 16" butterfly valve installed as specified and so measured.
- F. The unit price stated in the Bid for Item 62 shall be full compensation for each 16" check valve installed as specified and so measured.
- G. The unit price stated in the Bid for Item 63 shall be full compensation for each manhole structure and flow meter installed as specified and so measured.
- H. The unit price stated in the Bid for Item 64 shall be full compensation for each linear foot of 1" schedule 80 pvc conduit installed as specified and so measured.
- I. The unit price stated in the Bid for Item 65 shall be full compensation for flowmeter SCADA telemetry programming as specified and required.

ITEM 66
RESTORATION

66.01 DESCRIPTION

- A. Under this Item, the Contractor shall restore landscape surface improvements including topsoil, seeding, mulching, and fertilizing all disturbed lawn areas within the defined construction limits as shown on the Drawings and specified.

66.02 WORK NOT INCLUDED

- A. All other landscape surface improvements disturbed or damaged by the Contractor without prior approval from the Engineer shall be repaired or replaced at the Contractor's expense.
- B. Wetland restoration is included under other Bid Items.

66.03 DEFINITION OF ITEMS

- A. Item 66 - Includes Restoration.

66.04 MEASUREMENT

- A. The lump sum price stated in the Bid for Item 66 shall be full compensation for all Work required under Item 66 - Restoration.

66.05 PAYMENT

- A. The lump sum unit price stated in the Bid for Item 66 shall be full compensation for restoration as specified and required.

**ITEM 67
WETLAND RESTORATION**

67.01 DESCRIPTION

- A. Under this Item, the Contractor shall restore landscape surface improvements in wetland areas including topsoil, seeding, mulching, and fertilizing all disturbed wetland areas within the defined construction limits as shown on the Drawings and specified.

67.02 WORK NOT INCLUDED

- A. All other wetland areas disturbed or damaged by the Contractor without prior approval from the Engineer shall be repaired or replaced at the Contractor's expense.

67.03 DEFINITION OF ITEMS

- A. Item 67 - Includes Wetland Restoration.

67.04 MEASUREMENT

- A. The lump sum price stated in the Bid for Item 67 shall be full compensation for all Work required under Item 67 - Wetland Restoration.

67.05 PAYMENT

- A. The lump sum unit price stated in the Bid for Item 67 shall be full compensation for wetland restoration as specified and required.

**ITEM 68
TREES**

68.01 DESCRIPTION

- A. Under this Item the Contractor shall provide an allowance for the planting of new trees. The Contractor shall coordinate with the Engineer and property owners to select

locations and species. Trees shall be planted by an approved nursery under the supervision of a certified arborist.

68.02 WORK NOT INCLUDED

- A. All other trees disturbed or damaged by the Contractor without prior approval from the Engineer shall be repaired or replaced at the Contractor's expense.

68.03 DEFINITION OF ITEMS

- A. Item 68 - Includes Trees.

68.04 MEASUREMENT

- A. The allowance price stated in the Bid for Item 68 shall be the not-to-exceed cost for all Work required under Item 68 - Trees.

68.05 PAYMENT

- A. The allowance price stated in the Bid for Item 68 shall be the not-to-exceed cost for trees as specified and required.

~~**ITEM 69**~~
~~**MATERIALS TESTING**~~

~~**69.01 DESCRIPTION**~~

- ~~A. Under this Item, the Contractor shall coordinate with an independent laboratory to provide materials testing as specified and required.~~

~~**69.02 WORK NOT INCLUDED**~~

- ~~A. Any Work specifically included under other Bid Items.~~

~~**69.03 DEFINITION OF ITEMS**~~

- ~~A. Item 69 - Includes Materials Testing.~~

~~**69.04 MEASUREMENT**~~

- ~~A. The lump sum stated in the Bid shall be full compensation for all Work required under Item 69.~~

~~69.05 PAYMENT~~

- A. ~~The unit price stated in the Bid for Item 69 shall be full compensation for materials testing as specified and required.~~

**ITEM 70
CONSTRUCTION STAKING**

70.01 DESCRIPTION

- A. Under this Item, the Contractor shall coordinate with a licensed Surveyor to provide construction staking as specified. The Surveyor shall coordinate the layout and staking for the project with the Engineer.

70.02 WORK NOT INCLUDED

- A. Any Work specifically included under other Bid Items.

70.03 DEFINITION OF ITEMS

- A. Item 70 - Includes Construction Staking.

70.04 MEASUREMENT

- A. The lump sum stated in the Bid shall be full compensation for all Work required under Item 70.

70.05 PAYMENT

- A. The lump sum unit price stated in the Bid for Item 70 shall be full compensation for construction staking as specified and required.

**ITEM 71
TAPPING SADDLE**

71.01 DESCRIPTION

- A. Under this Item, the Contractor shall provide all Work necessary for the installation of 12-inch x 6-inch tapping saddle required for the hydrant assembly located on E. Michigan Avenue. The Contractor shall perform the live tap with a representative of the Owner present.

71.02 WORK NOT INCLUDED

- A. The hydrant assembly shall be included under other Bid Items.

- B. Any Work specifically included under other Bid Items.

71.03 DEFINITION OF ITEMS

- A. Item 71 - Includes Tapping Saddle.

71.04 MEASUREMENT

- A. The quantity to be paid under Item 71 shall be the measured quantity of each tapping saddle installed as specified, shown on the drawings, and so measured.

71.05 PAYMENT

- A. The unit price stated in the Bid for Item 71 shall be full compensation for each tapping saddle installed as specified and so measured.

**ITEMS 72 & 73
21AA AGGREGATE**

72.01 DESCRIPTION

- A. Under this Item, the Contractor shall provide all Work necessary for the installation of 4-inch aggregate base with 21AA and the installation of 6-inch aggregate shoulder with 21AA.

72.02 WORK NOT INCLUDED

- B. Any Work specifically included under other Bid Items.

72.03 DEFINITION OF ITEMS

- A. Item 72 - Includes 4" Aggregate, 21AA.
- B. Item 73 – Includes 6" Aggregate Shoulder, 21AA

72.04 MEASUREMENT

- A. The quantity to be paid under Item 72 shall be the measured quantity of each square yard of 21AA aggregate installed 4 inches thick as specified, shown on the drawings, and so measured.
- B. The quantity to be paid under Item 73 shall be the measured quantity of each square yard of 21AA aggregate shoulder installed 6 inches thick as specified, shown on the drawings, and so measured.

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72.05 PAYMENT

- A. The unit price stated in the Bid for Item 72 shall be full compensation for each square yard installed as specified and so measured.
- B. The unit price stated in the Bid for Item 73 shall be full compensation for each square yard installed as specified and so measured.

**ITEMS 74, 75, & 76
PAVEMENT MARKINGS**

74.01 DESCRIPTION

- A. Under these Item, the Contractor shall provide all Work necessary to provide pavement markings, including replacement of existing markings as shown on the Drawings and specified and in accordance with MDOT Section 811.

74.02 WORK NOT INCLUDED

- A. Any Work specifically included under other Bid Items.

74.03 DEFINITION OF ITEMS

- A. Item 74 - Includes Pavt Mrkg, Polyurea, 4in, Yellow.
- B. Item 75 – Includes Pavt Mrkg, Polyurea, 4in, White.
- C. Item 76 – Includes Pavt Mrkg, Polyurea, Only.

74.04 MEASUREMENT

- A. The quantity to be paid under Item 74 shall be the measured quantity of each linear foot of 4-inch yellow polyurea applied as specified, shown on the drawings, and so measured.
- B. The quantity to be paid under Item 75 shall be the measured quantity of each linear foot of 4-inch white polyurea applied as specified, shown on the drawings, and so measured.
- C. The quantity to be paid under Item 76 shall be the measured quantity of each white polyurea Only marking applied as specified, shown on the drawings, and so measured.

74.05 PAYMENT

- A. The unit price stated in the Bid for Item 74 shall be full compensation for each linear foot installed as specified and so measured.
- B. The unit price stated in the Bid for Item 75 shall be full compensation for each linear foot installed as specified and so measured.

- C. The unit price stated in the Bid for Item 76 shall be full compensation for each marking installed as specified and so measured.

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**ITEMS 77 & 78
POLYETHYLENE ENCASEMENT**

77.01 DESCRIPTION

- A. Under these Items, the Contractor shall provide all Work necessary to install polyethylene encasement around the watermain as required by the City of Kalamazoo Standard Specifications for Water Main and Service Installation.

77.02 WORK NOT INCLUDED

- A. Any Work specifically included under other Bid Items.

77.03 DEFINITION OF ITEMS

- A. Item 77 - Includes 16" Watermain – Polyethylene Encasement.
B. Item 78 – Includes 24" Watermain – Polyethylene Encasement.

77.04 MEASUREMENT

- A. The quantity to be paid under Item 77 shall be the measured quantity of each linear foot of 16" watermain encased in polyethylene as specified, shown on the drawings, and so measured.
B. The quantity to be paid under Item 78 shall be the measured quantity of each linear foot of 24" watermain encased in polyethylene as specified, shown on the drawings, and so measured.

77.05 PAYMENT

- A. The unit price stated in the Bid for Item 77 shall be full compensation for each linear foot installed as specified and so measured.
B. The unit price stated in the Bid for Item 78 shall be full compensation for each linear foot installed as specified and so measured.

END OF SECTION

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**SECTION 01043
COORDINATION AND CONTROL OF THE WORK**

PART 1 GENERAL

1.01 SCOPE

- A. This section includes coordination and control of the Work.

1.02 SUBMITTALS

- A. Submittals shall be in accordance with the requirements of Section 01300 and shall include:
 - 1. Information for the Record:
 - a. Haul routes to and from Site.
 - b. Plan and procedures for any utility shutdowns.

1.03 LINES AND GRADES

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

1.04 EXISTING STRUCTURES SHOWN ON DRAWINGS

- A. Where underground and surface structures are shown on the Drawings, the location, depth, and dimensions of such structures are believed to be reasonably correct but are not guaranteed.
- B. Such structures are shown for the information of the Contractor, but information so given is not to be construed as a representation that such structures will in all cases be found or encountered just where shown, or that they represent all the structures which may be encountered.

1.05 COOPERATION OF CONTRACTOR

- A. The Contractor shall conduct his operations so as to interfere as little as possible with those of the Owner, other contractors, utilities, or any public authority on or near the Work.
- B. The Owner reserves the right to perform other Work by contract or otherwise, and to permit other public bodies, public utility companies, and others to do Work on or near the project during progress of the Work. If a conflict arises, the Owner will determine when and how the Work shall proceed.

- C. Claims for delay or inconvenience due to operations of such other parties on Work specified, shown on the Drawings, as directed or which can be reasonably expected to be encountered by the nature and location of the Work, will not be considered.
- D. Operations entailing the use of construction equipment and lights outside the hours of 8:00 am and 5:00 pm, or outside the hours allowed for construction by local ordinances or regulations, is prohibited unless otherwise authorized by the Owner or Engineer.
- E. Closing off clear access to any public alley, street, road, avenue or boulevard without the prior consent of municipal officials and the Engineer is prohibited.

1.06 MAINTENANCE OF SANITARY SYSTEM DURING CONSTRUCTION

- A. All construction which requires interruption of existing sanitary system flow shall be executed during periods designated by the Owner.
- B. Bypassing of untreated sanitary wastewater to any stream or body of water is prohibited.

1.07 PERMANENT PAVEMENT AND FINAL RESTORATION

- A. When pipeline construction is being done between April 15 and November 1, the final pavement restoration work shall be complete by November 1.
- B. Pavement restoration shall include, but not be limited to, replacement of pavement, driveways, and sidewalks.
- C. The fine grading, topsoil, and seeding operation shall occur in a reasonable time period after flushing/testing.
- D. If at any time the pavement restoration and the fine grading, topsoil, and seeding operation does not meet the above conditions, no further mainline pipe laying will be permitted until the Contractor is in compliance.
- E. In order to comply with the above conditions, the Contractor shall complete the pipeline and all appurtenances including, but not limited to, testing, in order to begin final pavement restoration and the fine grading, topsoil, and seeding operation.
- F. When pipeline construction is being done between November 15 and April 15, the Contractor shall install the main pipeline and all appurtenances and complete the testing. On April 15, final pavement restoration and the fine grading, topsoil, and seeding operation shall begin. ~~Two months later on June 15, the final pavement restoration shall be no more than 1500 lineal feet behind the mainline pipe laying operation and the fine grading, topsoil, and seeding operation shall be no more than 2700 lineal feet behind the pavement restoration. Mainline pipe laying shall be stopped until these conditions have been met.~~

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1.08 TEMPORARY PAVEMENT RESTORATION

- A. The Contractor shall provide and maintain temporary pavement for all roads in which construction occurs. Temporary pavement shall be in accordance with Section 01565.

1.09 TEMPORARY PARKING FACILITIES

- A. Parking spaces for the Contractor's personnel shall be provided and maintained in usable condition by the Contractor at all times. Provisions shall be made so that sediment is not tracked onto paved roadways from the vehicles operated by the Contractor's personnel. The parking areas shall consist of temporary parking areas or new permanent parking areas as shown on the Drawings. Temporary parking areas are to be located in the area designated by the Owner and Engineer. At the completion of the project, temporary parking areas shall be removed and the surface restored as specified, shown on the Drawings, as directed, or to its original condition.
- B. The Contractor's personnel shall not utilize existing permanent parking areas unless specifically noted on the Drawings.

1.10 RESERVED

1.11 DISPOSAL OF DEBRIS

- A. All debris resulting from construction operations, i.e., packaging, waste materials, damaged equipment, etc., shall be trucked from the Site by the Contractor and disposed of at spoil sites.
- B. The Contractor shall police the hauling of debris to ensure that all spillage from haul trucks is promptly and completely removed from public or private rights-of-way.
- C. All debris shall be disposed of in accordance with Federal, State, and Local laws and regulations.

1.12 CONTROL OF NOISE

- A. The Contractor shall eliminate noise to as great an extent as possible at all times. Air compressors shall be equipped with silencers, and the exhaust of all gasoline motors and other power equipment shall be provided with mufflers. In the vicinity of hospitals, libraries, and schools, precautions shall be taken to avoid noise and other nuisance, and the Contractor shall require strict observances of all pertinent ordinances and regulations. Any blasting permitted in such locations shall be done with reduced charges.

1.13 SMOKE PREVENTION

- A. Strict compliance with all ordinances regulating the production and emission of smoke will be required, and the Contractor shall accept full responsibility for all damage that may occur to property as a result of negligence in providing required control.

1.14 DEBRIS AND DUST CONTROL

- A. Contractor shall perform debris and dust control in accordance with Section 01568.

1.15 SANITARY REGULATIONS

- A. The Contractor shall provide all necessary housing accommodations for the workers for changing clothes and for protection during inclement weather. Toilet accommodations shall also be maintained for the use of the employees on the Work. The accommodations shall be in approved locations, properly screened from public observance and shall be maintained in a strictly sanitary manner. The Contractor shall obey and enforce all other sanitary regulations and orders, shall take precautions against infectious diseases and the spread of same, and shall maintain at all times satisfactory sanitary conditions around all shanties, tool and supply houses, and on all other parts of the Work.

1.16 USE OF EXPLOSIVES

- A. The use of explosives is prohibited.

1.17 EMERGENCY MAINTENANCE SUPERVISOR

- A. The Contractor shall submit to the Engineer the names, addresses, and telephone numbers of two employees responsible for performing emergency maintenance and repairs when the Contractor is not working. These employees shall each be designated in writing by the Contractor to act as his representative and shall have full authority to act on his behalf.
- B. Contractor shall post the emergency numbers for the project at the job site in a conspicuous location.
- C. Contractor shall be responsible for contacting the local fire, police, and emergency response personnel and organizations in advance of the Work. The Contractor shall be responsible for the coordination and compliance with emergency response plans, whether developed by the governing agency, laws, or the Contractor for the project.
- D. At least one of the designated employees shall be available for a telephone call any time an emergency arises.

1.18 PUBLIC SERVICE STRUCTURES

- A. Public service structures shall be understood to include all poles, tracks, pipes, wires, conduits, house-service connections, vaults, manholes, and other appurtenances used to supply the public with transportation, heating, electric, telephone, gas, water, sewer, or other services, whether owned or controlled by the Owner, by other public bodies, or by privately-owned corporations.
- B. At least a week in advance of breaking ground, the Contractor shall notify the registered underground protection service, all public bodies, and other owners of such facilities of the proposed location of his operations, advising them that their property may be affected and that such measures as they may deem necessary, promptly should be taken to protect, adjust, remove, or build them.
- C. In developed residential and commercial areas, the Contractor shall assume each building and dwelling has water and sewer services and that they shall be protected and repaired as needed as part of the pipeline installation. No additional payment will be made for Work associated with supporting or repairs of such services.
- D. Three conditions which may be encountered will be dealt with as follows:
 - 1. Structures which are adjacent to but not included within the limits of an excavation required for performance of the Work shall be protected, supported, and maintained in service by the Contractor at his expense.
 - 2. Structures within the limits of the Work which can be satisfactorily supported and maintained in service and which do not require removal and rebuilding in the judgment of the Engineer, shall thus be supported by the Contractor at his expense, including cost of repair of damage incident to his operations.
 - a. Supports for water and gas mains, sewers, conduits, and similar structures shall be constructed of timber or other acceptable materials; shall be supported from undisturbed foundations; and, shall be sufficiently substantial to ensure against settlement when pipe trenches or other excavations are backfilled. In all cases where permits or inspection fees are required by utilities in connection with changes to, or temporary support of their conduits, the Contractor shall secure such permits and pay all permit and inspection fees.
 - b. The Contractor shall assume full responsibility for maintaining all public service structures in service, and shall support and protect, or remove and rebuild them at his own expense. Such services shall not be interrupted without permission of the owner of the public service structure.
 - 3. In case relocation of pipelines or other utility structures is required because of direct interference with the installation of the Work, as determined jointly by the Owner, Engineer, and Contractor, the Contractor shall notify the owners of the utility or utility structure involved.

- a. The Contractor will not be reimbursed for the cost of the relocation if the interference is shown on the Drawings, described in the Specifications, apparent on visual inspection, or specifically included in the Work to be performed by the Contractor.
- b. The Contractor will not be paid for time lost because of such direct interference. Where it is the policy of any utility owner to perform such Work with his own forces, the Contractor shall cooperate to the fullest extent with such utility owner.

1.19 UNAUTHORIZED OR PROHIBITED WORK

- A. Work done beyond the lines shown on the Drawings or ordered, Work done without required inspection, except as herein provided, or any extra work done without authority will be considered unauthorized and will not be paid for under the provisions of the Contract. Work considered unauthorized may be ordered removed at the Contractor's expense. Work done without lines and grades being given shall be considered unauthorized and subject to rejection.
- B. Disposing of excess or unsuitable materials, including but not limited to excavated material, demolition debris, clearing and grubbing debris, in wetlands or flood plains is prohibited.
- C. Locating stockpiles in environmentally sensitive areas is prohibited.
- D. Pumping of sediment-laden water from trenches or excavations directly into any surface waters, stream, wetlands, or sewers is prohibited. Pumped water shall be properly filtered and desilted prior to discharge.
- E. Open burning without a permit is prohibited.
- F. Discharging injurious silica dust concentrations into the atmosphere within 200 feet of any residential, commercial, public or private places of human occupancy is prohibited.

1.20 RESERVED

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

PART 4 SPECIAL PROVISIONS

4.01 MAINTAINING FLOW IN EXISTING SEWERS

- A. Flow in existing storm, sanitary and private sewers shall be maintained at all times during construction of this project. The Contractor shall furnish and install all necessary

temporary facilities required to maintain the flow in existing sewers including bulkheads, plugs, stop planks, flumes, coffer dams, pumping equipment, valves, etc.

4.02 REQUIRED SAFETY DOCUMENTATION TO BE SUBMITTED

- A. On all projects that require the Contractor's or subcontractor's personnel to occupy permitted confined spaces and/or hazardous atmospheres on the Site, the Contractor shall submit to the Owner, a written proposed safety program. The safety program shall comply with all Federal, State, and Local requirements. If the Owner has a safety plan that is more stringent than the Federal and State requirements, it will be made available to the Contractor for review. The submittal of the proposed safety program to the Owner shall be made well in advance of the start of construction at the Site. The submittal shall include a written Safety Management Plan including Confined Space Entry procedures. The Contractor shall be responsible to maintain documentation stating that anyone employed by the Contractor, subcontractors, or suppliers of any tier to the Contractor occupying such hazardous locations, has received the appropriate confined space entry training and other applicable training. The Contractor also is responsible to maintain completed confined space entry permits.

4.03 MAINTAINING CRITICAL OPERATIONS

- A. The Contractor shall closely coordinate any needed equipment or roadway shutdowns with the Owner and Engineer.

4.04 SEQUENCING

- A. Contractor shall begin the work with installation of the valve vault at Station 39 (see 4.04 B of this Section). Upon completion of the valve vault, the bypass shall remain open. Watermain work shall begin with the tie over of the existing 16-inch watermain on 33rd Street to the existing 16-inch watermain on K Avenue to Valve #23 on Sheet W-30. When that tie over is placed into service, the existing valve at Sta. 161+92 shall be closed. Watermain construction operations shall then move to the E. G Avenue intersection and proceed south.
 - 1. Upon completion of each 2,000 linear feet of watermain, the contractor shall pressure test and disinfect per standards and place newly constructed watermain into service. Coordinate with the Engineer to determine actual section lengths to coincide with valve locations.
 - 2. The Contractor shall provide a temporary auto-flusher, connected to the hydrant nearest the southern end of the completed 24-inch watermain. The auto-flusher will flush the new watermain for 15 minutes daily. Upon completion of the subsequent 2,000 feet, the Contractor shall relocate the auto-flusher as required.

- B. Beginning work at Station 39 is contingent upon the City receiving their ACT 399 permit from the State of Michigan Department of Environment, Great Lakes, and Energy (EGLE).
 - 1. If the City is unable to secure their Act 399 permit prior to mobilization, the Contractor shall begin with the Work to tie over the existing 16-inch watermain on 33rd Street to the existing 16-inch watermain on K Avenue to Valve #23 on Sheet W-30. When that tie over is placed into service, the existing valve at Sta. 161+92 shall be close. Watermain construction operations shall then move to the E. G Avenue intersection and proceed south. Once construction reaches the intersection at E. K Avenue, the Contractor shall install the 90° bend and a blind flange. The watermain shall not be tied into Butterfly Valve #23 until such time that the Work at Station 39 is permitted. Upon completion of Station 39 work, the Contractor shall return to E. K Avenue, remove the blind flange previously installed, and tie in the new watermain.

END OF SECTION



ADDENDUM #1

Attachment D

Miss Digg AT&T Map & Charter Map N 33rd Street Transmission Main

Bid Reference #: 91244-020.0

June 2022

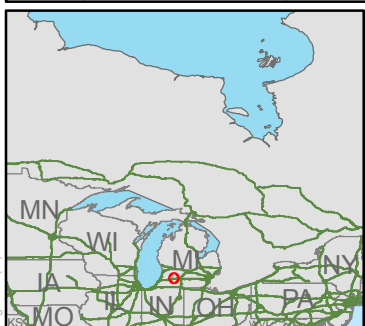
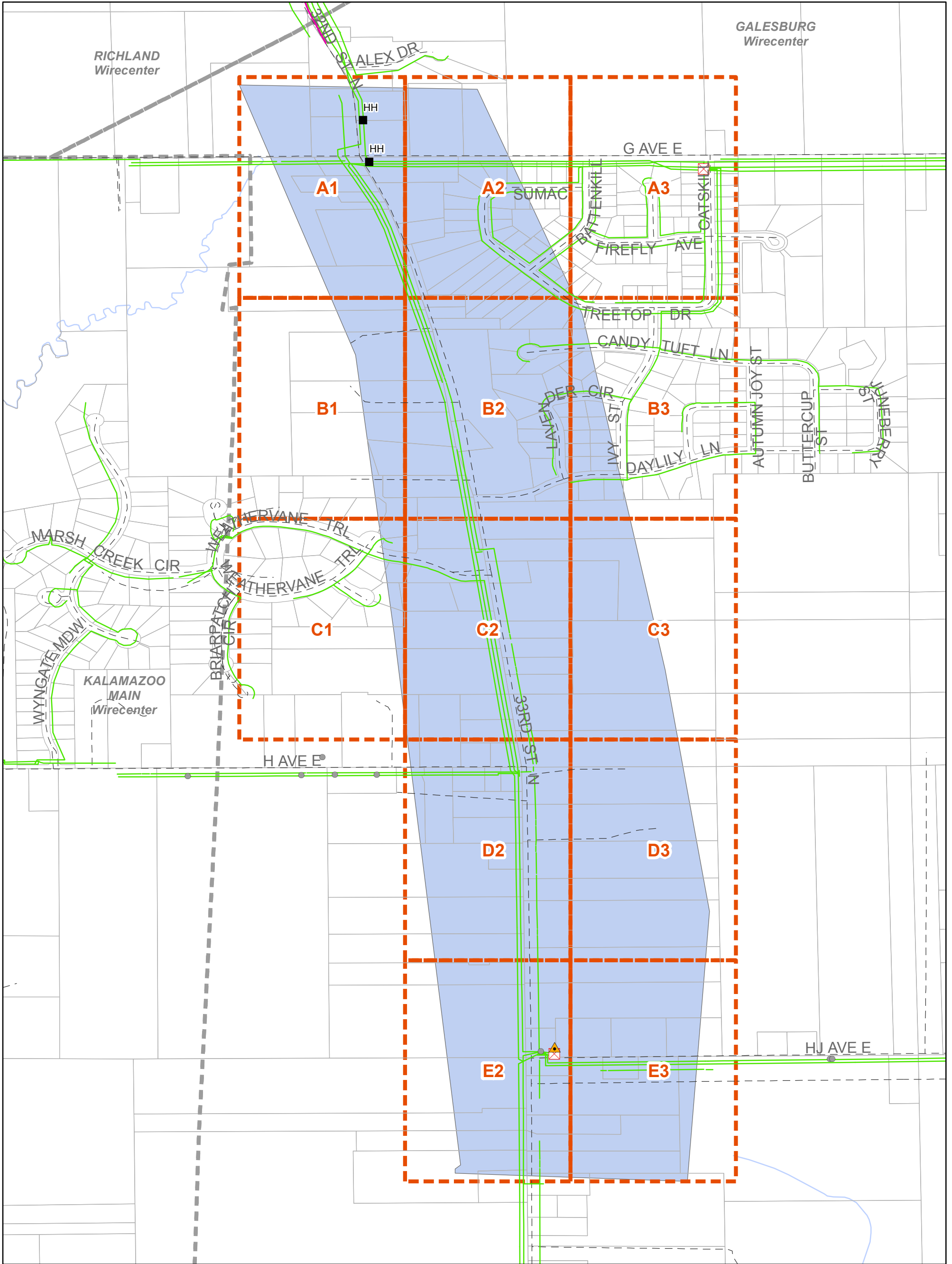


External Map Request for Jones And Henry

Date: 3/9/2020

Index Map

Misssidig Ticket Boo66o49o Project



1:9,901



- Poles
- ▲ Remote Terminals
- ⊠ SAls
- Manholes
- Buried
- Conduit
- - - Street Centerlines
- Mapping Index
- Wirecenter Boundary
- Parcels
- JobAOI

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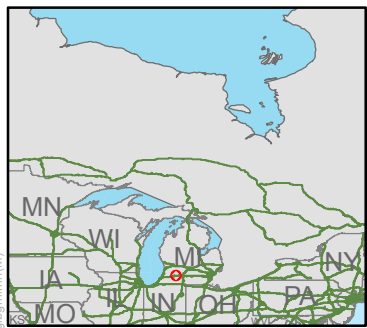
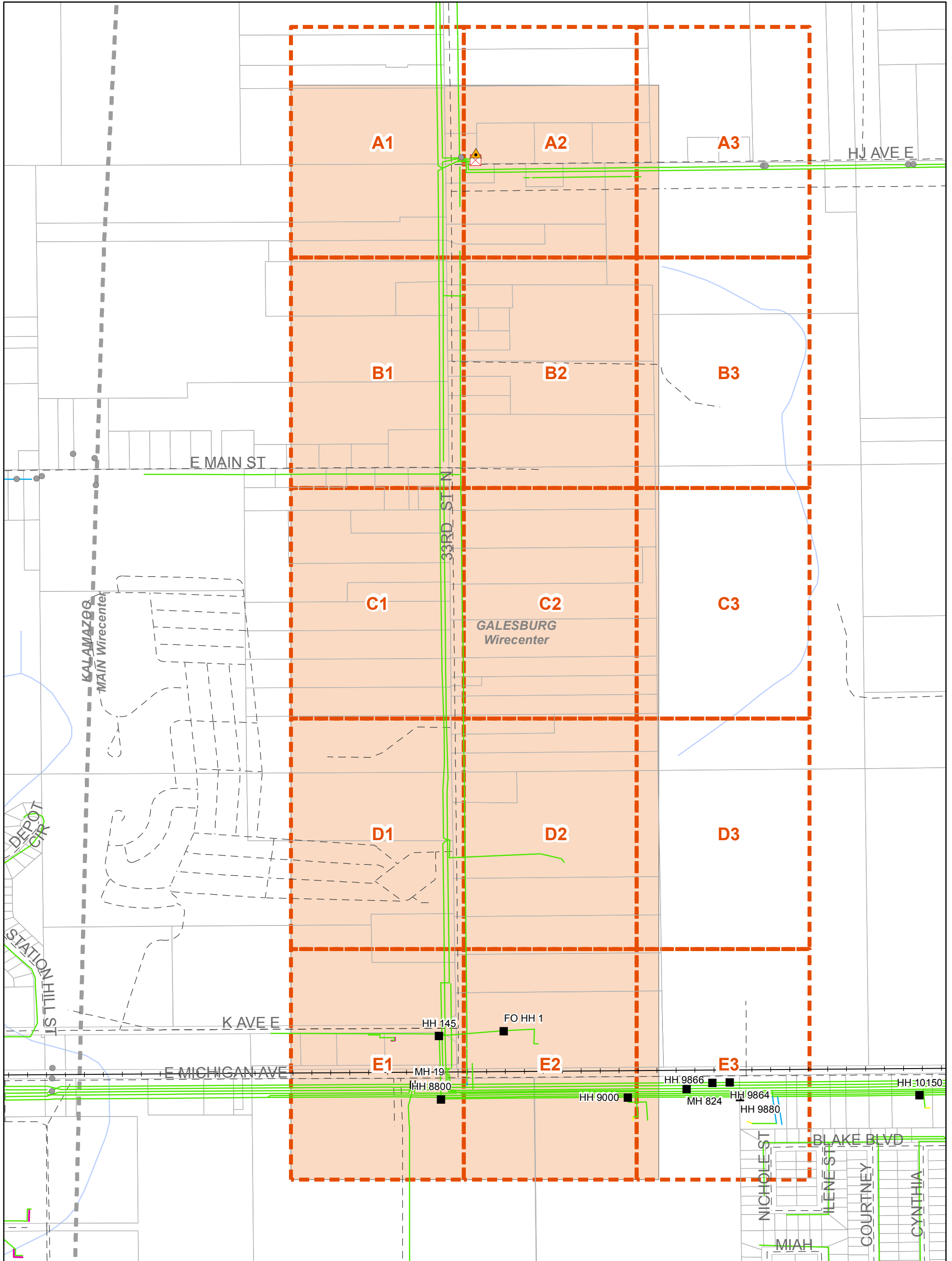


External Map Request for Jones And Henry

Date: 3/9/2020

Index Map

Misssidg Ticket Boo66o487 Project



1:9,470



- Poles
- ▲ Remote Terminals
- ⊠ SAls
- Manholes
- Aerial
- Building
- Buried
- Conduit
- Railroads
- Street Centerlines
- Mapping Index
- Wirecenter Boundary
- Parcels
- JobAOI

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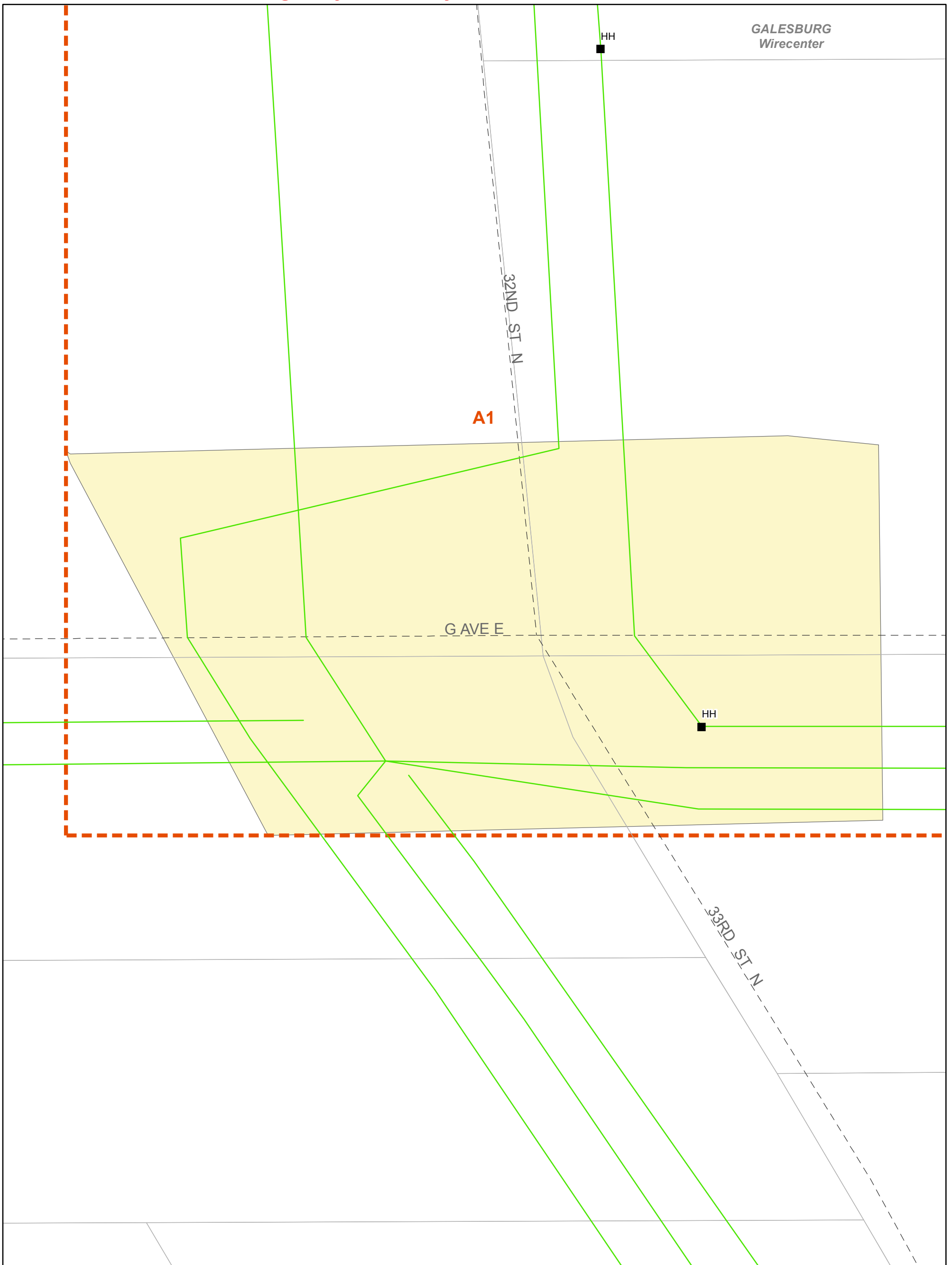


External Map Request for Jennifer

N 33Rd St And Eg Avejb6413 Project

Date: 3/10/2020

Index Map



1:610



- Manholes
- Buried
- - - Street Centerlines
- Mapping Index
- Wirecenter Boundary
- Parcels
- JobAOI

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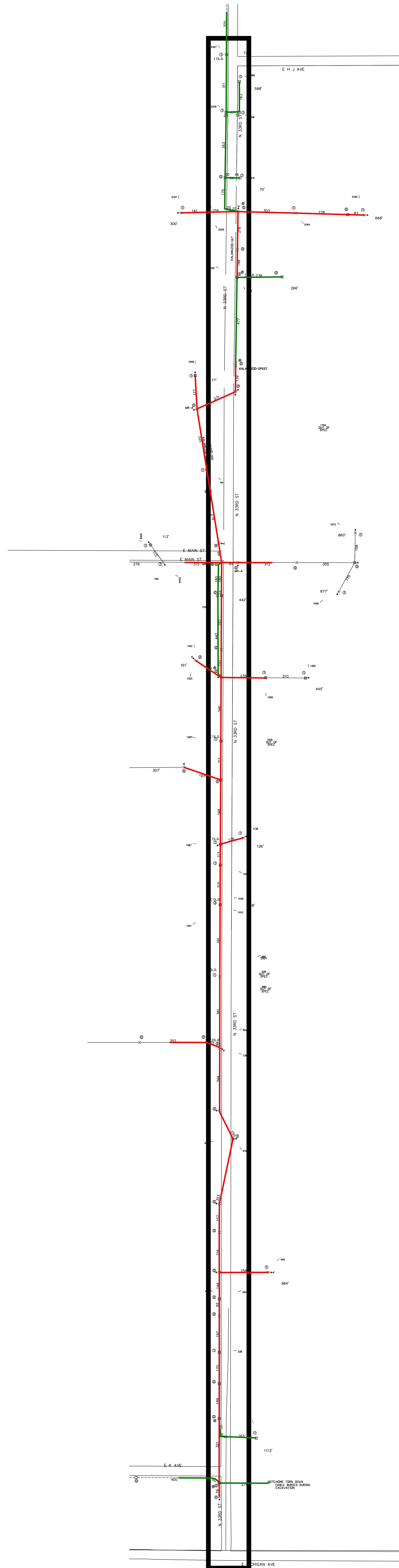
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North 33rd Street
Map
Galesburg, MI 49053

Red-existing Charter aerial facilities
within project limits.

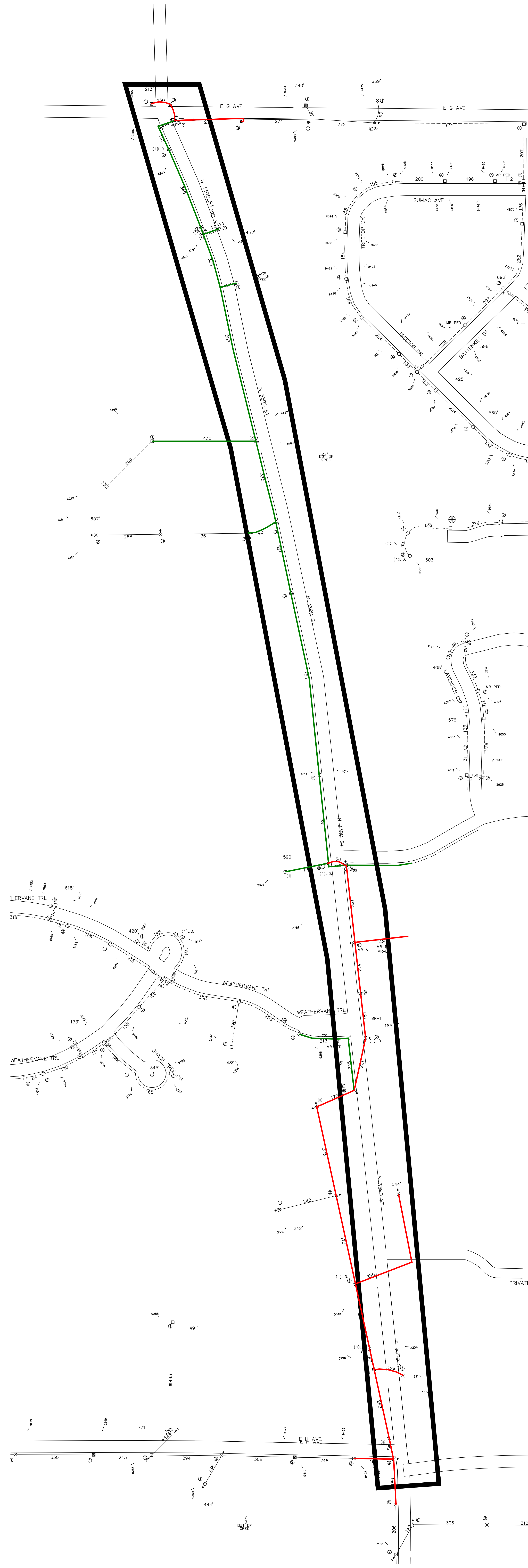
Green-existing Charter underground
facilities within project limits.



North 33rd Street
Map
Richland, MI 49083

Red-existing Charter aerial facilities
within project limits.

Green-existing Charter underground
facilities within project limits.



**North 33rd Street
Map
Comstock Twp, MI 49083**

Red-existing Charter aerial facilities within
project limits.

Green-existing Charter underground facilities
within project limits.

