

# Addendum 1

**City of Canton, Ohio**  
Purchasing Department  
218 Cleveland Ave. SW, 4<sup>th</sup> floor  
Canton, Ohio 44702

PID 99879 – Traffic Signal Communications Upgrade Project – GP 1185

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**Item/Project**

Engineering Department

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**Responsible Department**

Wednesday, May 9, 2018 at 2:00 PM local time

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**Bids Due On or Before**

**Bid Proposal Submitted By:**

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**Company Name**

---

**Street Address**

---

**City**

**State**

**Zip**

---

**Contact Person**

**Phone No.**

**Email Address**

**PID 99879 – Traffic Signal Communications Upgrade Project – GP 1185**

**Invitation to Bid 1:**

Revised plans for this project have been posted to the website as of 4/16/18. These plans replace the version that were posted originally. The revised plans are also attached to this Addendum 1.

THE PROJECT SHALL INCLUDE IMPROVEMENTS TO THE EXISTING TRAFFIC SIGNAL COMMUNICATIONS IN ORDER FOR TRAFFIC SIGNALS TO BE INCORPORATED INTO THE CITY'S CENTRAL SIGNAL SYSTEM. IMPROVEMENTS SHALL INCLUDE THE UPGRADE OF TRAFFIC SIGNAL CONTROLLERS TO ETHERNET COMMUNICATIONS AND THE INSTALLATION OF FIBER OPTIC INTERCONNECT CABLE.

PROJECT EARTH DISTURBED AREA: < 1.0 ACRES  
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: < 1.0 ACRES  
NOTICE OF INTENT EARTH DISTURBED AREA: 0 ACRES

## 2016 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO,  
DEPARTMENT OF TRANSPORTATION AND THE CITY OF  
CANTON, INCLUDING CHANGES AND SUPPLEMENTAL  
SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN  
THIS IMPROVEMENT.

## INDEX OF SHEETS:

1	TITLE SHEET
2-3	GENERAL NOTES
4	GENERAL SUMMARY
5-6	SIGNALS SCHEMATIC
7-9	INTERCONNECT SCHEMATICS

LOCATION MAP  
NTS

**PORTION TO BE IMPROVED**

DESIGN DESIGNATION

N/A

**UNDERGROUND UTILITIES**  
TWO WORKING DAYS  
**BEFORE YOU DIG**  
CALL 1-800-362-2764 (TOLL FREE)  
OHIO UTILITIES PROTECTION SERVICE  
NON-MEMBERS  
MUST BE CALLED DIRECTLY

PLAN PREPARED BY:

OFFICE OF THE CITY ENGINEER  
CANTON, OHIO

**CANTON, OHIO**  
**DANIEL J. MOEGLIN, P.E., CITY ENGINEER**  
839 396 STREET N.E. 4795 (330) 442-3301

DANIEL J. HOEGUN, P.E., CITY ENGINEER  
249 32nd STREET N.E. 47255 (202) 462-3361

**ENGINEERS SEAL:**



DATE: 4/10/18

[illegible]

APPROVED: *Dan Velez* CITY ENGINEER, CITY OF CANTON  
DATE 4/10/13

CITY OF CANTON, OHIO  
MAYOR  
THOMAS M. BERNABEI

DIRECTOR OF PUBLIC SERVICE  
JOHN HIGHMAN

DIRECTOR OF PUBLIC SAFETY  
ANDREA PERRY

CITY CIVIL ENGINEER  
DANIEL J. MOEGLIN, P.E.

SIGNAL SYSTEM COMMUNICATIONS  
UPGRADES

99897  
P.D. No.

GENERAL PROJECT NO. 1185

N/A

OFFICE OF THE CITY ENGINEER  
CANTON, OHIO  
DANIEL J. MOEGLIN, P.E., CITY ENGINEER  
2430 30th STREET N.E. 44705 (330)488-1581

## PRECONSTRUCTION INCIDENTALS

### PROJECT SPECIFICATIONS/REQUIREMENTS:

ALL WORK REQUIRED TO COMPLETE THIS IMPROVEMENT SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATIONS/REQUIREMENTS OF THE CITY OF CANTON AND THE 2016 EDITION OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF ALL WORK WITH THE CITY OF CANTON AND THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF ALL WORK WITH THE CITY OF CANTON AND THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF ALL WORK WITH THE CITY OF CANTON AND THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS.

THE CONTRACTOR SHALL COMPLY WITH THE CITY OF CANTON SUPPLEMENTAL SPECIFICATION 01-400 PROJECT DOCUMENTATION AND SUBMITTAL REQUIREMENTS.

### ADMINISTRATIVE REQUIREMENTS:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULLY COMPLYING WITH ALL THE ADMINISTRATIVE DUTIES HEREIN CONTAINED. THE CONTRACTOR SHALL DESIGNATE TO THE CITY AN EMPLOYEE RESPONSIBLE FOR CORRESPONDENCE, NOTIFICATIONS, AND SUBMITTALS PERTINENT TO THE PROJECT.

### PRECONSTRUCTION MEETING:

A PRECONSTRUCTION MEETING WITH THE CONTRACTOR, REPRESENTATIVES OF ALL UTILITY COMPANIES, THE CITY OF CANTON ENGINEERING DEPARTMENT AND THE CITY OF CANTON WATER DEPARTMENT IS REQUIRED FOR THIS PROJECT PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY.

THE CITY ENGINEER WILL CONTACT THE CONTRACTOR TO ARRANGE A MEETING DATE. THE CITY ENGINEER WILL CONTACT THE ABOVE AGENCIES TO CONFIRM THE MEETING DATE.

### PROJECT SITES:

THE CONTRACTOR SHALL MAINTAIN A SAFE WORKING ENVIRONMENT AT THE PROJECT SITE AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES, RECORDS, AND/OR FROM THE OWNERS OF THE RESPECTIVE UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES, RECORDS, AND/OR FROM THE OWNERS OF THE RESPECTIVE UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES, RECORDS, AND/OR FROM THE OWNERS OF THE RESPECTIVE UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES, RECORDS, AND/OR FROM THE OWNERS OF THE RESPECTIVE UTILITIES.

### UNDERGROUND UTILITIES:

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE BASED ON RECORDS, AND/OR FROM THE OWNERS OF THE RESPECTIVE UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES, RECORDS, AND/OR FROM THE OWNERS OF THE RESPECTIVE UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES, RECORDS, AND/OR FROM THE OWNERS OF THE RESPECTIVE UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES, RECORDS, AND/OR FROM THE OWNERS OF THE RESPECTIVE UTILITIES.

### PROJECT COMPLETION:

THE WORK EMBRACED IN THIS CONTRACT SHALL BE SUBSTANTIALLY COMPLETE 120 CALENDAR DAYS AFTER THE NOTICE PROCEED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES, RECORDS, AND/OR FROM THE OWNERS OF THE RESPECTIVE UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES, RECORDS, AND/OR FROM THE OWNERS OF THE RESPECTIVE UTILITIES.

## (F) UTILITY NOTIFICATION:

AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING OPERATIONS ON THIS PROJECT, THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER, THE REGISTERED UTILITY PROTECTION AGENCY SERVICE, AND THE REGISTERED UTILITY PROTECTION AGENCY SERVICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF ALL WORK WITH THE CITY OF CANTON AND THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF ALL WORK WITH THE CITY OF CANTON AND THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS.

OHIO UTILITIES PROTECTION SERVICE: 1-800-362-2764 (CONTACT NON-MEMBERS DIRECTLY).

### THE PRIMARY UTILITIES WITHIN THE CITY OF CANTON AREA:

NATURAL GAS DISTRIBUTION:  
DOMINION EAST OHIO GAS  
3200 STATE STREET, N.E.  
CANTON, OHIO 44705  
330-564-2781  
ATTN: BILL SNYDER  
ELECTRIC:  
AMERICAN ELECTRIC POWER  
5520 WHIPPLE AVE. N.W.  
NORTH CANTON, OHIO 44720  
441-216-555-4261  
ATTN: MIKE MEYER  
216-619-2529 (CELL)

### COMMUNICATIONS CABLE:

CHARTER (PMA TIME WARNER)  
5520 WHIPPLE AVE. N.W.  
NORTH CANTON, OHIO 44720  
441-216-555-4261  
ATTN: MIKE MEYER  
216-619-2529 (CELL)

### SANITARY AND STORM SEWER:

CITY ENGINEER'S OFFICE  
CANTON, OHIO 44705  
330-489-3381  
ATTN: DAN MOEGLIN  
JBERG INTERCONNECT  
CITY ENGINEER'S OFFICE  
2436-30TH ST. N.E.  
CANTON, OHIO 44705  
330-489-3381  
ATTN: MCK LOUKAS

THE CITY ENGINEER'S OFFICE IS TO BE CONTACTED DIRECTLY FOR SANITARY AND STORM SEWER AND TRAFFIC INTERCONNECT UTILITIES LOCATION: 330-489-3381.  
[UTILITY CONTACTS LAST UPDATED 1/11/2018]

### CONTINGENCY QUANTITIES:

WHEN SPECIFIED ON PLANS OR SPECIFICATIONS, CONTINGENCY QUANTITIES SHALL BE THE DEVELOPER/CONTRACTOR SHALL NOT ORDER ANY CONTINGENCY MATERIAL OR PERFORM ANY WORK UNTIL DIRECTED BY THE ENGINEER. THE ACTUAL WORK LOCATION AND QUANTITY SHALL BE DETERMINED BY THE DEVELOPER/CONTRACTOR AND THE ENGINEER.

## CONSTRUCTION INCIDENTALS

### PLAN DISCREPANCIES:

ANY DISCREPANCIES FROM THE PLAN INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER SO THAT THE APPROPRIATE CORRECTIONS CAN BE MADE PRIOR TO THE START OF CONSTRUCTION OR THE CONTINUATION OF THE ABOVE.

FAILURE BY THE CONTRACTOR TO VERIFY AND/OR DETERMINE THE EXISTENCE OF UTILITIES PRIOR TO THE START OF CONSTRUCTION OR THE CONTINUATION OF THE ABOVE, THE CONTRACTOR BEING RESPONSIBLE FOR ANY CHANGES NECESSARY TO COMPLETE THE WORK WITHOUT ADDITIONAL COMPENSATION.

### VERIFICATION OF UNDERGROUND UTILITIES:

THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE EXISTENCE AS WELL AS THE ACTUAL LOCATION, ALIGNMENT, AND ELEVATIONS OF ALL EXISTING UTILITIES/FACILITIES WITHIN AND/OR ADJACENT TO THE GENERAL LIMITS OF THESE IMPROVEMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES, RECORDS, AND/OR FROM THE OWNERS OF THE RESPECTIVE UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES, RECORDS, AND/OR FROM THE OWNERS OF THE RESPECTIVE UTILITIES.

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES, RECORDS, AND/OR FROM THE OWNERS OF THE RESPECTIVE UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES, RECORDS, AND/OR FROM THE OWNERS OF THE RESPECTIVE UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES, RECORDS, AND/OR FROM THE OWNERS OF THE RESPECTIVE UTILITIES.

### PROTECTION OF UTILITIES:

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PROTECT EXISTING UTILITIES, RECORDS, AND/OR FROM THE OWNERS OF THE RESPECTIVE UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES, RECORDS, AND/OR FROM THE OWNERS OF THE RESPECTIVE UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES, RECORDS, AND/OR FROM THE OWNERS OF THE RESPECTIVE UTILITIES.

THE CONTRACTOR SHALL BE RESPONSIBLE TO CLOSELY COORDINATE THEIR WORK WITH ALL UTILITY COMPANIES. ANY POTENTIAL DELAYS WILL NOT BE THE RESPONSIBILITY OF THE CITY.

THE CONTRACTOR SHALL ADEQUATELY SUPPORT, SHORE UP, OR OTHERWISE PROTECT UNDERGROUND UTILITIES WHENEVER EXPOSED IN THE TRENCH. SUPPORTS SHALL BE EXTENDED A MINIMUM OF 12 FEET ON EACH SIDE OF THE EXPOSED UTILITY. THE CONTRACTOR SHALL BAND OR TIE UTILITY TO BRIDGING FOR ITS FULL LENGTH, WHERE BRIDGING CANNOT BE SUPPORTED BY A FIRM FOUNDATION, CONTRACTOR SHALL PROVIDE VERTICAL SUPPORT, INCLUDING ANY LATERAL BRACING NECESSARY TO PROVIDE FIRM SUPPORT.

ABOVE GROUND (AERIAL) UTILITIES, INCLUDING, BUT NOT LIMITED TO, POWER LINES, TELEPHONE LINES, AND CABLES, SHALL BE PROTECTED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES, RECORDS, AND/OR FROM THE OWNERS OF THE RESPECTIVE UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES, RECORDS, AND/OR FROM THE OWNERS OF THE RESPECTIVE UTILITIES.

### MAINTENANCE OF UTILITY SERVICES:

THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN UTILITY SERVICES AT ALL TIMES.

WATER SERVICE MAY BE INTERRUPTED FOR LIMITED PERIODS (4 HOURS MAXIMUM). NO SHUT DOWN SHALL OCCUR WITHOUT WRITTEN PERMISSION OF THE CITY OF CANTON WATER DEPARTMENT. SERVICE INTERRUPTED BY THE CONTRACTOR SHALL BE NOTIFIED 48 HOURS IN ADVANCE BY THE CONTRACTOR.

STORM SEWER AND SANITARY SEWER SERVICES SHALL BE MAINTAINED WITHOUT INTERRUPTION, UNLESS APPROVED BY THE CITY ENGINEER. IN THE EVENT THAT CONSTRUCTION DISRUPTS THE FLOW OF A SANITARY SEWER, THE CONTRACTOR SHALL IMMEDIATELY RECTIFY THE DISRUPTION BY EITHER REPAIRING OR REPLACING THE MATERIALS ACCORDING TO THE ENGINEER OR PROCESSING WITH PLUMBS. COST OF MAINTAINING AND REPAIR OF SANITARY SEWERS DISTURBED BY CONSTRUCTION SHALL BE AT THE CONTRACTOR'S EXPENSE.

## CONSTRUCTION NOISE:

CONSTRUCTION NOISE ASSOCIATED WITH ANY IMPROVEMENT PROJECT SHALL BE LIMITED TO LEVELS COMMENSURABLE WITH ADJACENT LAND AND THEIR ASSOCIATED USAGE AS DETERMINED BY THE CITY ENGINEER. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF ALL WORK WITH THE CITY OF CANTON AND THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS.

### CLEANUP AND DISPOSAL:

DURING WORK, KEEP ROADS CLEAN AND WORK AREAS IN AN ORDERLY CONDITION. AT THE END OF THE PROJECT, ALL STREETS AND ROADWAYS EFFECTED BY THIS PROJECT SHALL BE SWEEPED. ALL WASTE MATERIAL GENERATED BY THE PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE OFFSITE AT NO COST TO THE CITY.

### TESTING OF UTILITIES:

ALL NEWLY CONSTRUCTED WATERLINES AND SANITARY SEWERS (INCLUDING LATERALS) MUST BE INSTALLED AND TESTED IN ACCORDANCE WITH APPLICABLE STANDARDS (AWWA, ETC.). PER THE CITY OF CANTON ENGINEERING DEPARTMENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF ALL WORK WITH THE CITY OF CANTON AND THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS.

### PRESERVATION OF EXISTING STRUCTURES:

THE CONTRACTOR SHALL PERFORM WORK SO AS TO NOT DISTURB, DAMAGE OR DESTROY ANY MAJOR, PAPER BOX, TELEPHONE OR POWER POLES, SIGNS, FENCES, RETAINING WALLS, LANDSCAPING ITEMS, ETC. ANY ITEM DAMAGED SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. EXISTING STRUCTURES DAMAGED OR IN CONTACT WITH THE WORK TO BE PERFORMED SHALL BE REPAIRED OR RESET AT THE CONTRACTOR'S EXPENSE UNLESS OTHERWISE NOTED IN THE PLANS OR SPECIFICATIONS.

### CONSTRUCTION LAYOUT:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION LAYOUT UTILIZING PERTINENT PLAN DATA. THE CITY ENGINEER WILL NOT BE RESPONSIBLE FOR STAKING HORIZONTAL OR VERTICAL ALIGNMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF ALL WORK WITH THE CITY OF CANTON AND THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS.

AT THE CITY ENGINEER'S REQUEST THE CONTRACTOR SHALL MAKE AVAILABLE ALL SURVEY FIELD NOTES FOR REVIEW.

### EXISTING MONUMENTATION:

THE CONTRACTOR SHALL PRESERVE ALL CORNERSTONES, IRON PINS, CROWN BOLTS, AND ANY OTHER MONUMENTS IN THE VICINITY OF THE WORK (HE SHALL HAVE ALL MONUMENTS IN THE VICINITY OF THE WORK REFERENCED). THE CONTRACTOR SHALL REPLACE/RESET ANY DISTURBED OR DAMAGED MONUMENTS AND SHALL FURNISH A CERTIFICATION BY A REGISTERED SURVEYOR THAT THE MONUMENTS HAVE BEEN RESTORED.

### INSPECTION:

ALL WORK REQUIRED FOR THIS IMPROVEMENT SHALL BE SUBJECT TO INSPECTION BY THE CITY OF CANTON ENGINEER OR HIS REPRESENTATIVE. THE CONTRACTOR SHALL GIVE A 48 HOUR NOTICE BEFORE STARTING ANY WORK ON THIS PROJECT AND SHALL KEEP THE CITY INFORMED OF HIS/HER CONSTRUCTION SCHEDULE. NO WORK SHALL BE PERFORMED UNLESS AN AUTHORIZED INSPECTOR IS PRESENT.

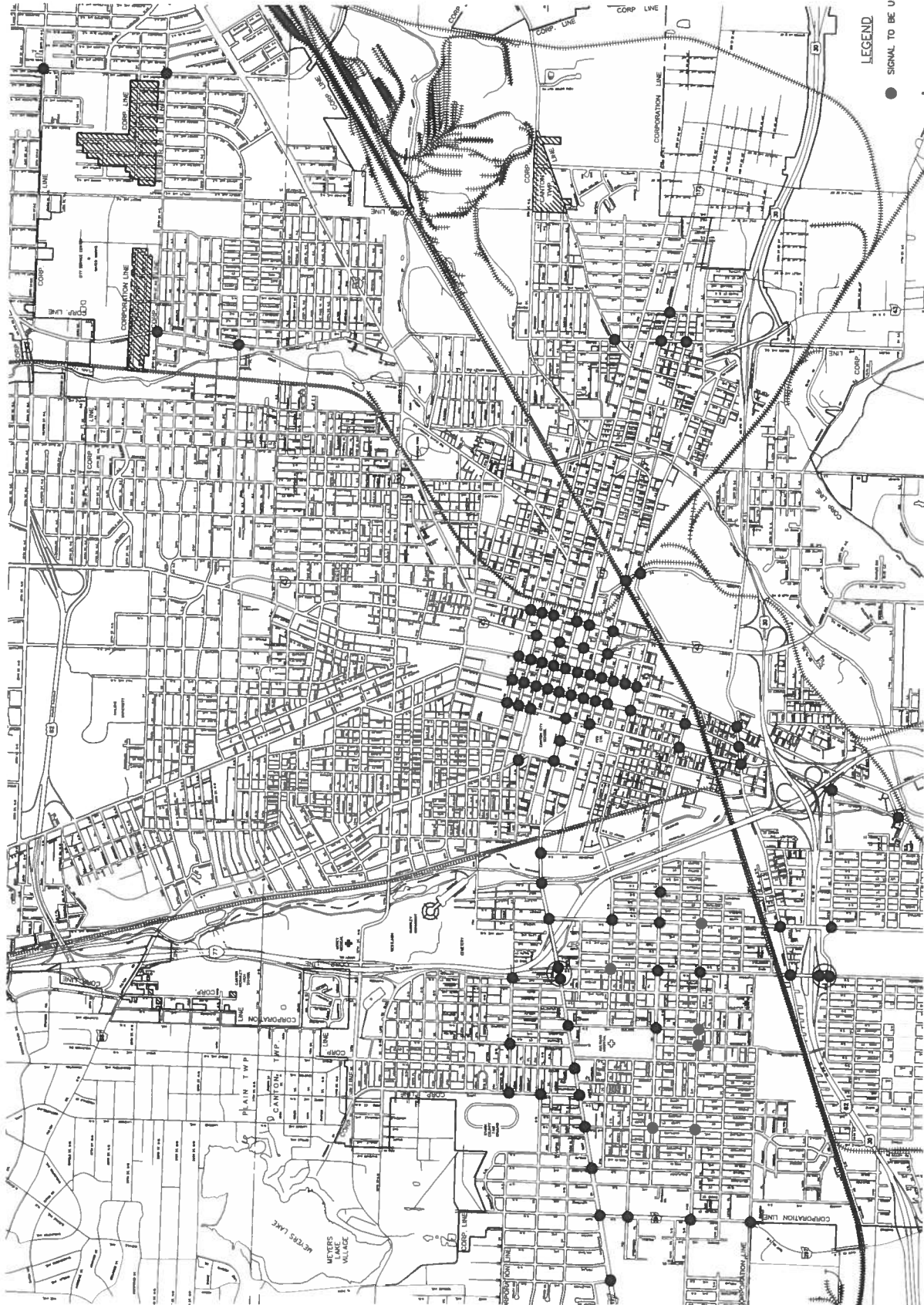




OFFICE OF THE CITY ENGINEER  
CANTON, OHIO  
DANIEL J. MOEGLIN, P.E., CITY ENGINEER  
3428 20th STREET N.E., #4705 (202) 488-1341

SIGNAL SCHEMATIC  
SIGNAL SYST. COMM. UPGRADES

DATE: 12/7/17	DRAWN BY: NAL	REVISIONS	DATE	BY
H. SCALE: 1"=100'	APPROVED BY:	DESCRIPTION		
V. SCALE: N/A	FIELD BOOK:			
SHEET 5 OF 5	FILE NAME: 071185 SIGNAL SCHEMATIC			



LEGEND  
● SIGNAL TO BE UPGRADED

DATE: 1/7/18	DRAWN BY: N.L.	DESCRIPTION	REVISIONS	DATE	BY
H. SCALE: 1"=100'	APPROVED BY:				
V. SCALE: N/A	FIELD BOOK:				
SHEET 8 OF 8	FILE NAME: 071185 SIGNAL SUB-94A				

INTERSECTION	TYPE A	TYPE B	TYPE C	100% CITY
TUSCARAWAS ST. W. & SCHROYER AVE.	1			
TUSCARAWAS ST. W. & ELGIN AVE.	1			
TUSCARAWAS ST. W. & DUEBER AVE.	1			
TUSCARAWAS ST. W. & HARRISON AVE.	1			
TUSCARAWAS ST. W. & BEDFORD AVE.	1			
TUSCARAWAS ST. W. & BROAD AVE.	1			
TUSCARAWAS ST. W. & WERTZ AVE.	1			
TUSCARAWAS ST. W. & MARYLAND AVE.	1			
TUSCARAWAS ST. W. & BELLEFLOUVE AVE.	1			
TUSCARAWAS ST. W. & RAFF RD.	1			
TUSCARAWAS ST. W. & VALLEYVIEW AVE.	1			
7TH ST. & RAFF RD. SW				
11TH ST. & RAFF RD. SW				
13TH ST. & RAFF RD. SW				
3RD ST. & WERTZ AVE. NW				X
4TH ST. & WERTZ AVE. NW				X
4TH ST. & CLARENDON AVE. NW				
4TH ST. & HARRISON AVE. NW	1			
6TH ST. & DUEBER AVE. SW				
6TH ST. & HARRISON AVE. SW				
6TH ST. & PROSPECT AVE. SW				
9TH ST. & DUEBER AVE. SW				
9TH ST. & HARRISON AVE. SW				
9TH ST. & BEDFORD AVE. SW	1			
9TH ST. & MARYLAND AVE. SW				
11TH ST. & DUEBER AVE. SW				
11TH ST. & HARRISON AVE. SW				
11TH ST. & BEDFORD AVE. SW				
11TH ST. & CLARENDON AVE. SW				
11TH ST. & MARYLAND AVE. SW				
TUSCARAWAS ST. E. & BELDEN AVE.	1			
TUSCARAWAS ST. E. & GRAD AVE.	1			
BELDEN AVE. & GEORGETOWN RD. NE	1			
BELDEN AVE. & 3RD ST. SE	1			
3RD ST. & CHERRY AVE. SE	1			
TUSCARAWAS ST. E. & CHERRY AVE.	1			
2ND ST. & CHERRY AVE. NE	1			
4TH ST. & CHERRY AVE. NE	1			
5TH ST. & CHERRY AVE. NE	1			
6TH ST. & CHERRY AVE. NE	1			
5TH ST. & WALNUT AVE. NE	1			
3RD ST. & WALNUT AVE. NE	1			
TUSCARAWAS ST. E. & WALNUT AVE.	1			
3RD ST. & WALNUT AVE. SE	1			
3RD ST. & MADISON CT. SE	1			
4TH ST. & MADISON CT. SE	1			
TOTALS	3	20	23	

INTERSECTION	TYPE A	TYPE B	TYPE C	100% CITY
6TH ST. & CLEVELAND AVE. SW	1			
4TH ST. & CLEVELAND AVE. SW	1			
3RD ST. & CLEVELAND AVE. SW	1			
2ND ST. & CLEVELAND AVE. SW	1			
TUSCARAWAS ST. W. & CLEVELAND AVE.	1			
2ND ST. & CLEVELAND AVE. NW	1			
3RD ST. & CLEVELAND AVE. NW	1			
4TH ST. & CLEVELAND AVE. NW	1			
5TH ST. & CLEVELAND AVE. NW	1			
6TH ST. & CLEVELAND AVE. NW	1			
6TH ST. & MCKINLEY AVE. NW	1			
5TH ST. & MCKINLEY AVE. NW	1			
4TH ST. & MCKINLEY AVE. NW	1			
TUSCARAWAS ST. W. & MCKINLEY AVE.	1			
3RD ST. & MCKINLEY AVE. SW	1			
TUSCARAWAS ST. W. & HIGH AVE.	1			
TUSCARAWAS ST. W. & FULTON RD.	1			
4TH ST. & FULTON RD. NW	1			
6TH ST. & MARKET AVE. S	1			
5TH ST. & MARKET AVE. S	1			
4TH ST. & MARKET AVE. S	1			
3RD ST. & MARKET AVE. S	1			
2ND ST. & MARKET AVE. S	1			
TUSCARAWAS ST. & MARKET AVE.	1			
2ND ST. & MARKET AVE. N	1			
3RD ST. & MARKET AVE. N	1			
4TH ST. & MARKET AVE. N	1			
5TH ST. & MARKET AVE. N	1			
6TH ST. & MARKET AVE. N	1			
NAVARRÉ RD. & HARRISON AVE. SW	1			
NAVARRÉ RD. & DUEBER AVE. SW	1			
NAVARRÉ RD. & MCKINLEY AVE. SW	1			
NAVARRÉ RD. & CLEVELAND AVE. SW	1			
NAVARRÉ RD. & MARKET AVE. S	1			
9TH ST. & CLEVELAND AVE. SW	1			
9TH ST. & MCKINLEY AVE. SW	1			
15TH ST./HARRISON AVE./US 30 SW	1			
15TH ST. & DUEBER AVE. SW	1			X
15TH ST. & CLEVELAND AVE. SW	1			
MARKET AVE. & CLEVELAND AVE. S	1			
19TH ST. & HARRISBURG AVE. NE	1			
25TH ST. & HARRISBURG AVE. NE	1			
25TH ST. & HARMONT AVE. NE	1			
30TH ST. & HARMONT AVE. NE	1			
TOTALS	11	33	0	
GRAND TOTALS CARRIED TO GEN. SUM.	14	53	23	

OFFICE OF THE CITY ENGINEER  
CANTON, OHIO  
DANIEL J. MOEGLIN, P.E., CITY ENGINEER  
2400 JOHN STREET N.E., 44705 (330)448-1341

SIGNAL LIST AND SUBSUMMARY  
SIGNAL SYST. COMM. UPGRADES

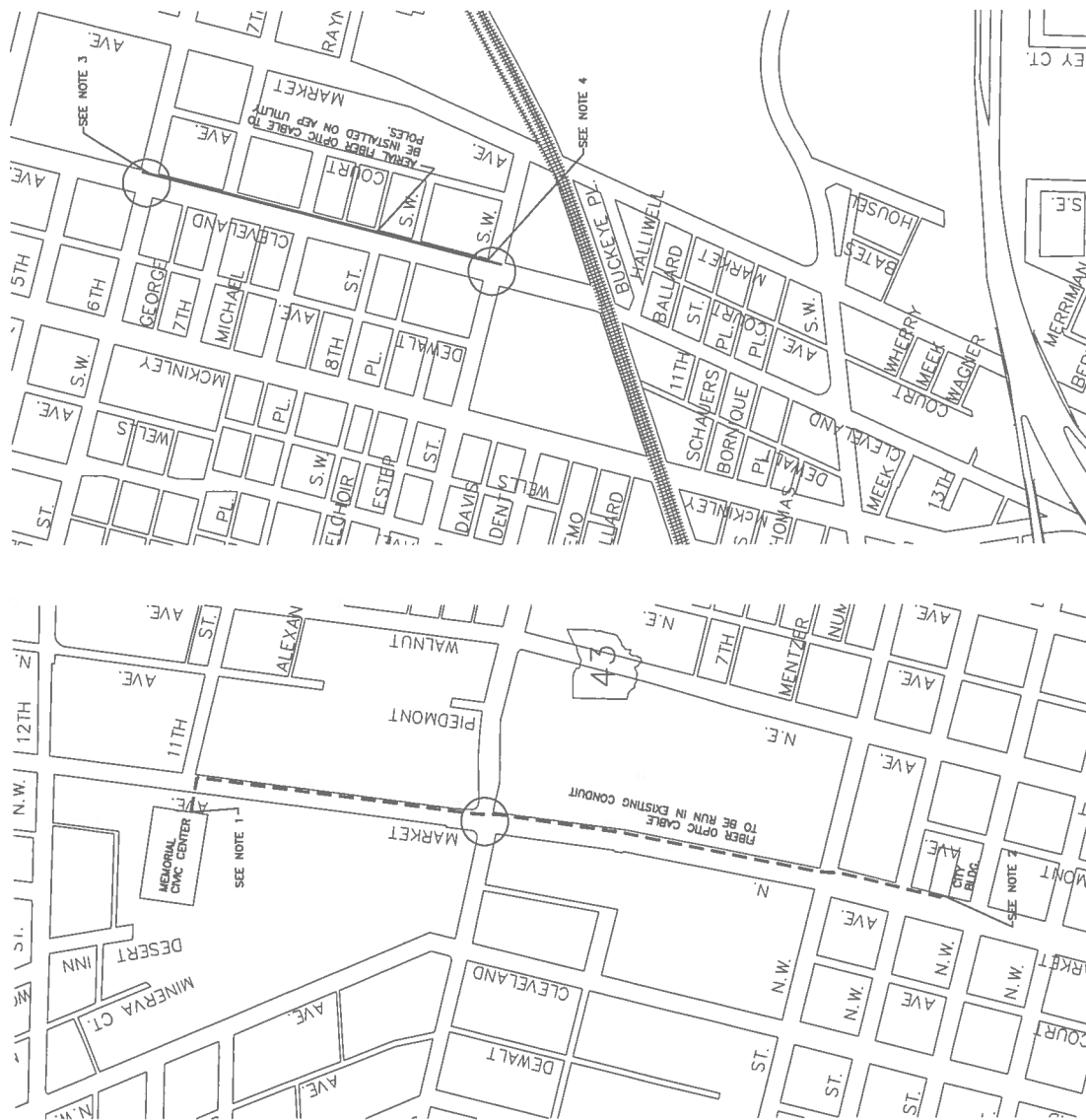


NOTES:

1. FIBER OPTIC CABLE TO BE TERMINATED IN EXISTING FACILITIES WITHIN THE MEMORIAL CIVIC CENTER
2. FIBER OPTIC CABLE TO BE TERMINATED IN EXISTING FACILITIES WITHIN THE CITY BUILDING LOCATED AT 420 MARKET AVE. N.
3. FIBER OPTIC CABLE TO BE RUN FROM EX. SIGNAL POLE ON N. CORNER TO AEP UTILITY POLE #79504-294.
4. FIBER OPTIC CABLE TO BE RUN FROM AEP UTILITY POLE #79504-302 TO EX. SIGNAL POLE ON N.E. CORNER. CABLE HEADWEATHER SHALL BE INSTALLED ON THE EX. SIGNAL POLE.
5. CABLE SHALL BE RUN IN EXISTING SIGNAL CONDUITS TO S.E. CORNER.

### LEGEND

\_\_\_\_\_ PROPOSED AERIAL FIBER OPTIC CABLE  
 - - - - - PROPOSED UNDERGROUND FIBER OPTIC CABLE  
 ○ SIGNAL TO BE INTERCONNECTED VIA FIBER

[illegible]

NOTES:

1. SPLICE TO EXISTING FIBER OPTIC CABLE ON MAHONING RD. AS DIRECTED BY THE ENGINEER.
2. FIBER OPTIC CABLE TO BE RUN DOWN RISER ON AEP UTILITY POLE #79661C121 AND APPROXIMATELY 160' IN EXISTING UNDERGROUND CONDUIT TO PULL BOX ON MAHONING RD.

3. EXISTING INTERCONNECT CABLE RUN (TO BE REPLACED WITH FIBER OPTIC CABLE) ENDS AT SIGNAL POLE ON S.E. CORNER OF 25TH ST. & HARRISBURG RD. THE PROPOSED FIBER OPTIC CABLE RUN TO THE NORTH SHALL BEGIN AT THAT SIGNAL POLE AND CONTINUE NORTH ON AEP UTILITY POLES BEGINNING WITH AEP POLE #77722-31.

4. 3" RISER TO BE INSTALLED ON AEP UTILITY POLE #772C2-148 AND TIED INTO EXISTING SWEEP. FIBER OPTIC CABLE TO BE RUN FROM POLE TO CITY WATER DEPARTMENT BUILDING LOCATED AT 2664 HARRISBURG RD. NE. IN EXISTING CONDUIT. FIBER OPTIC CABLE TO BE TERMINATED IN EXISTING FACILITIES WITHIN THE CITY WATER DEPARTMENT BUILDING.

5. FIBER OPTIC CABLE SHALL BE RUN BETWEEN PULLBOX ON THE S.E. CORNER OF HARMONT AVE. AND MAHONING RD. AND AEP UTILITY POLE #773B1-289 VIA EXISTING UNDERGROUND CONDUIT. FIBERS SHALL BE SPLICED TO EXISTING FIBER OPTIC CABLE AS DIRECTED BY THE ENGINEER. FIBER OPTIC CABLE SHALL BE RUN AERIALY TO THE NORTH VIA EXISTING RISER ON THE UTILITY POLE.

6. FIBER OPTIC CABLE TO BE TERMINATED IN EXISTING FACILITIES WITHIN THE CITY SERVICE CENTER BUILDING LOCATED AT 2436 30TH ST. NE.

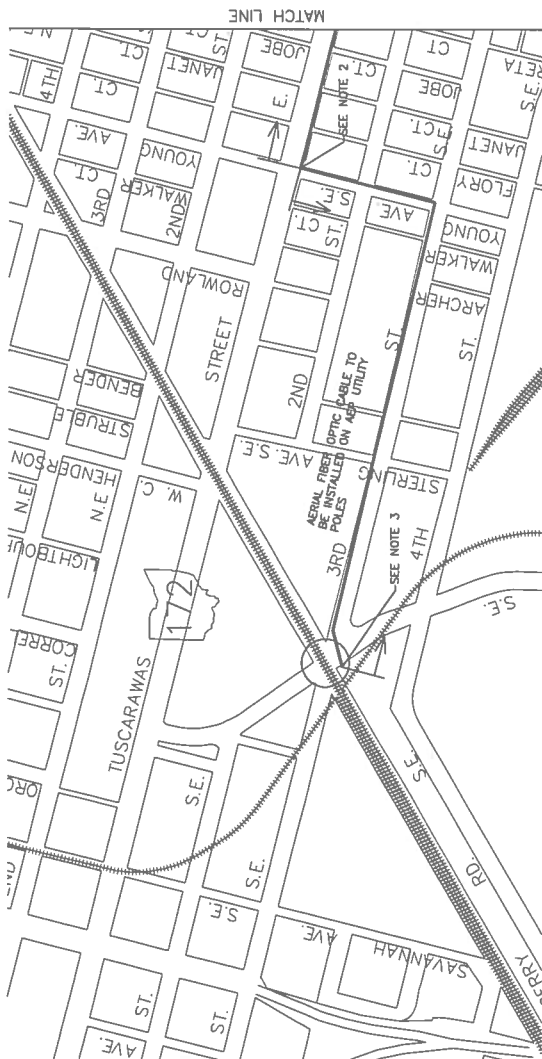
— PROPOSED AERIAL FIBER OPTIC CABLE

----- PROPOSED UNDERGROUND FIBER OPTIC CABLE

U  
SIGNAL TO BE INTERCONNECTED VIA FIBER

DATE: 1/10/18		DRAWN BY: K.L.		APPROVED BY:		FIELD BOOK:		SHEET 8 OF 9		V. SCALE: N/A		H. SCALE: N/A	
REVISIONS		DESCRIPTION		DATE		BY							
804	804	804	804	804	804	804	804	804	804	804	804	804	804
FIBER OPTIC CABLE, 48 FIBER	FAN-OUT KIT, 12 FIBER	DROP CABLE, 12 FIBER	FIBER OPTIC PATCH CORD, 1 FIBER	FUSION SPLICING	SLACK INSTALLATION	SPACE ENCLOSURE	FIBER TERMINATION PANEL, 12 FIBER	FIBER TERMINATION PANEL, 48 FIBER	FIBER OPTIC CONNECTOR				
FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH				
6990	1	1	6	24	4		1						
	1	1	6	18			1						
							2						
4000					2								
3480				24	2								
30TH ST. & HARRISBURG RD.	1	1	6	18			1						
25TH ST. & HARRISBURG RD.	1	1	6	18			1						
30TH ST. & HARRISBURG RD.	1	1	6	18			1						
SERVICE CENTER/ENGINEERING													
TOTALS CARRIED TO GEN. SUM.	4	4	24	120	8	4	4	3	192				



[illegible]

NOTES:  
1. FIBER OPTIC CABLE TO BE RUN TO EXISTING SIGNAL POLE ON SW CORNER OF BELDEN AVE.  
2. AERIAL FIBER OPTIC CABLE TO BE RUN FROM EXISTING SIGNAL POLE ON SE CORNER AT YOUNG AVE. TO AEP UTILITY POLES ON YOUNG AVE.  
3. AERIAL FIBER OPTIC CABLE TO BE RUN FROM AEP UTILITY POLE ON NORTH SIDE OF 3RD ST. TO SIGNAL POLE ON SOUTH SIDE.

**LEGEND**

— PROPOSED AERIAL FIBER OPTIC CABLE

- - - PROPOSED UNDERGROUND FIBER OPTIC CABLE

○ SIGNAL TO BE INTERCONNECTED VIA FIBER

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INTERCONNECT SCHEMATIC  
SIGNAL SYST. COMM. UPGRADES

[illegible]