Section 00 9113 Addendum No. 01

SECONDARY WATER SUPPLY CITY OF FLINT, MICHIGAN

To all prospective bidders and others concerned, YOU ARE HEREBY ADVISED THAT the Contract Documents for the above referenced Project are revised in the following particulars:

Pre-Bid Meeting

A mandatory pre-bid meeting was held on Thursday, February 20, 2020, at 10:00 AM. The sign-in sheets and meeting minutes are attached.

<u>Section</u>	Description of Change		
01 7700	The following shall be added to Article 1.02.C of Section 01 7700, Closeout Procedures:		
	A. The following items are to have GPS locations (on State Plane Coordinates) provided as part of the Record Documents:		
	a. Fittings;b. Bends;		
	c. Valves; and d. Hydrants		
	 B. Depths shall also be provided for buried utilities every 500 feet, or at grade changes greater than ±2 feet. 		
33 1100	Delete the following phrase from Article 2.21.B of Section 33 1100, Water Distribution Piping:		
	"Griffin Pipe Products Company, 'Snap-Lok' or 'Bolt-Lok'"		
33 1100	Delete Article 2.09.A of Section 33 1100, Water Distribution, in its entirety and replace it with the following:		
	A. Tapping Sleeve shall be of split mechanical joint design with separate end and side gaskets. The fitting shall be constructed of high strength steel, ASTM A285 Grade C, ASTM A-36 or equal. The mechanical joint end dimensions shall conform to AWWA Standard C-110/C-111. Split coupling designs are not acceptable. Tapping Sleeves shall be JCM 414 Mechanical Joint Tapping Sleeve or approved equal. Tapping sleeve shall be ANSI/NSF Standard 61, Annex G and ANSI/AWWA 372 Certified.		
40 7123.13	Section 40 7123.13, Venturi Flow Meters, shall be deleted from the Contract Documents in its entirety and replaced with the Section 40 7123.13 accompanying this Addendum.		

ADDENDUM 01 00 9113-1 COF106801F

Section Description of Change

40 9000

Article 2.04.A of Section 40 9000, Process Instrumentation, Control and Monitroing Equipment, shall be deleted in its entirety and replaced with the following:

- A. Available Control System Suppliers:
 - 1. To ensure unit responsibility, equpment specified and shown on the Drawings shall be designed as a system, fabricated or purchased, shipped to job site and started up by a qualified and approved Control System Supplier listed hereing:
 - a. For work related to the GCDC-WWS vault, work shall be completed by Dmytryka Jacobs Engineers, Inc., 1101
 Research Drive, Toledo, Ohio 43614. Contact: Alex
 Gyurgyak, P.E. and 419-380-4900 or
 agyurgyak@djeinc.com
 - b. For work related to the City of Flint Water Treatment Plant, work shall be completed by:
 - (1) MAK Controls
 - (2) Outbound Technologies
 - (3) Aggressive Systems
 - (4) Commerce Controls
 - (5) ENGINEER-approved equal

Exhibit 2

A portion of Exhibit 2 was not legible with the Issued for Bid Contract Documents. As a result, please delete Exhibit 2 in its entirety from the Contract Documents and replace it with Exhibit 2 accompanying this Addendum.

Exhibit 10

The "Subsurface Utility Investigation" described in Article 1.02.b and Article 1.16.B of Section 01 1100, Summary of Work, is depicted in Exhibit 10, which accompanies this Addendum.

Exhibit 11

Records for the PCCP related to the City of Flint's Water Treatment Plant were obtained from Thomas Group (via Price Brothers.) The information contained in this exhibit may or may not contain information related to the existing 36-inch, 48-inch and 60-inch PCCP onsite. It is up to potential Bidders to determine if this information is beneficial.

Sheet Description of Change

27

The proposed tapping sleeve depicted on Sheet 27 of the Contract Drawings shall have an epoxy coated finish with stainless steel fasteners and draw hardware.

65

Delete the original Sheet 65 that was with the Issued for Bid Contract Documents and replace it with Sheet 65 accompanying this Addendum.

65

The GCDC-WWS "North Water Loop" depicted on Sheet 65 of the Contract Drawings is a 36-inch transmission main constructed of ductile iron pipe.

<u>Sheet</u>	<u>Description of Change</u>
P-1	Delete the original Sheet P-1 included with the Issued for Bid Contract Documents and replace it with Sheet P-1 accompanying this Addendum.
P-8	The existing 36-inch piping depicted entering/exiting the Pressure Reducing Meter Pit on Sheet P-8 of the Contract Drawings is 36-inch Class 53 ductile iron pipe inside the vault and 36-inch SP-12 Class 159 outside of the vault, according to drawings obtained from the City of Flint.

This Addendum is hereby incorporated into the original Contract Documents for the above-referenced bidding and is considered as binding as though originally appearing therein. RECEIPT OF THIS ADDENDUM MUST BE NOTED in the place provided on the Proposal page 00 4243-1, dated **February 26, 2020**.



Pre-Bid Meeting Minutes

City of Flint Secondary Water Supply Thursday, February 20, 2020 at 10:00 AM

Items to Discuss:

- 1. Welcome
 - a. Please register on the sign-in sheets available; this meeting is mandatory in order to submit a responsive bid. Copies of the sign-in sheet are attached.
 - b. Minutes from this meeting will be distributed as part of Addendum No. 1

2. Introduction

a. Owner: City of Flint

Robert Bincsik, Director of Public Works

Genesee County Drain Commissioner

Matthew Raysin, Assistant Director of Engineering

b. Engineer: Wade Trim

Jason Kenyon, PE, Project Manager Tiffany Harrison, PE, Project Engineer

3. Project Summary

- a. Work shall include the construction of the Secondary Water Supply which will be approximately 30,000 lineal feet of 36-inch transmission main originating from the City of Flint's Water Treatment Facility (WTP) and connecting to the Genesee County Drain Commissioner's (GCDC's) North Water Loop near the intersection of Frances Road and Dort Highway, including all specified appurtenances. At either end of the transmission main Work will include the construction of a master meter vault, including meters, valves, instrumentation and SCADA for monitoring by the City, Genesee County Drain Commissioner, and the Great Lakes Water Authority.
- b. In addition to the Secondary Water Supply, other modifications will also be completed in a number of areas at the City's WTP, including work at Control Station #2 which will include removing and replacing sections of 36-inch and 60-inch PCC pipe, as well as meters and control valves; SCADA modifications to Control Station #3; the removal and replacement of a 24-inch double-acting altitude valve at the Tank House, including electrical and SCADA modifications; and meter replacement at the Pressure Reducing Pit, including electrical and SCADA modifications.
- c. Time is of the essence with this project and it is the City's intention that once the Work has been started, it shall proceed expeditiously.

4. Contracting Requirements

- a. Bidder's Qualifications (Section 00 2113, Article 1.05): Indicates information regarding bidder's qualifications to perform the work must be submitted within 48 hours after Owner request.
- b. Examination of Site (Section 00 2113, Article 1.06):
 - i. Arrangements to visit the Water Treatment Plant can be made by calling Yolanda Gray 810.787.6537 x 3549.

- ii. Examination of the Consumers properties will not be possible at this time. However, contractors and subcontractors are encouraged to review the area(s) at road crossings and via Google Earth.
- c. Bid Security (Section 00 2113, Article 1.08): 5% of the Bidder's maximum price in the form of a Bid Bond or Cashier's Check made payable to "Treasurer, City of Flint"
- d. Substitutions (Section 00 2113, Article 1.10): Application for acceptance of submittals must be made 5 business days prior to Bid Opening; no substitutions will be allowed after the Bid Opening.
- e. Submittal of Bid (Section 00 2113, Article 1.11):
 - Quantities as shown in the Proposal are approximate only and will be used as a basis of comparison of Bids, and award of Contracts. Payment will be made on basis of actual quantities of Work performed in accordance with the Contract Documents.
 - ii. Unit Prices bid, shall include such amounts as the Bidder deems proper for overhead, profit, taxes, General Conditions and such other incidentals as noted in the Contact Documents.
 - iii. Bid shall contain an acknowledgment of receipt of all Addenda
 - iv. Legal Status of Bidder Form contained in the Contract Documents must be submitted with each Proposal and must clearly state the legal position of a Bidder (see Section 00 4345)
- f. Award of Contract (Section 00 2113, Article 1.13): It is the intention of the City to Award the Contract no later than March 23, 2020 and the contract to be fully executed no later than April 15, 2020.
- g. American Iron & Steel Requirements (Section 00 2213, Article 1.01): This project is funded with monies made available by the State Revolving Fund and/or Drinking Water Revolving Fund and as such law contains provisions commonly known as "American Iron and Steel (AID" that requires iron and steel products to be produced in the US, including iron and steel provided by the Contractor.
- h. Disadvantages Business Enterprise (Section 00 4539.13): Contractors bidding on this project must follow, document, and maintain documentation of their Good Faith Efforts to ensure DBEs have the opportunity to participate in the project.
- Certification Regarding Debarment, Suspension and Other Responsibility Matters (Section 00 4546.13) must be submitted with each Proposal and must clearly status of the Bidder.
- j. Contract Time (Section 00 5200): Work will be substantially completed within two hundred ten (210) calendar days of the issuance of the Notice to Proceed, and completed and ready for final payment in accordance with the General Conditions within two hundred seventy (270) calendar days of said Notice.
- k. Liquidated Damages (Section 00 5200): Two Thousand Five Hundred Dollars (\$2,500.00) for each day that expires after Substantial Completion until the Work is Substantially Complete; liquidated damages charged shall be deducted from the Contractor's progress payment.
- I. Prevailing Federal Wage Rate (Section 00 6521): This project is funded by federal dollars and is subject to the prevailing federal wage rate determination dated 1/3/2020.

- m. Substantial Completion (Section 00 7300): Substantial completion will include the following design elements are complete, tested and operational:
 - i. Connection and meter vault at North Water Loop;
 - ii. Transmission main;
 - iii. Modifications to Control Station No. 3;
 - iv. Modifications to the Tank House;
 - v. Modifications to the Pressure Reducing Pit; and
 - vi. Removal and replacement of the 60-inch PCCP pipe in Control Station No. 2 with a 36-inch ductile iron pipe (including butterfly valve, venturi meter, etc.).
- n. Insurance Requirements (Section 00 7300): Additional insureds and insurance limits.
- o. Payments to Contractor and Completion (Section 00 6276; Section 00 7200, Article 14): Contractor's Application for Payment.
- p. Contract Closeout (Section 01 7700): Cleaning, project record documents, O&M data, spare parts and special tools, start-up, substantial completion, warranties, final payment and acceptance.
- 5. Important Project Elements
 - a. Construction Sequence (Section 01 1100, Article 1.02)
 - i. Subsurface Utility Investigation (see also Article 1.16)
 - ii. Transmission Main
 - 1. Connection to North Water Loop It will be necessary for CONTRACTOR to install a 36-inch x 36-inch x 24-inch tapping sleeve and 24-inch tapping valve while ensuring the water supply is uninterrupted. Work will be witnessed by GCDC-WWS personnel and in accordance with GCDC-WWS specifications.
 - GCDC-WWS Meter Vault The vault is to be constructed south of the connection in accordance with GCDC-WWS specifications. Communication from this vault will be sent to GCDC-WWS, the Great Lakes Water Authority, and the City of Flint.
 - 3. Transmission Main Will be constructed along the proposed alignment which crosses a single private property and a number of properties owned by Consumers Energy.
 - Several bores are required for local and state road crosses, as well as crossing major utilities (Buckeye) and the CSX railroad.
 - b. There are a number of wetland crossings and it will be necessary to restore these areas per the restoration details provided in the Contract Drawings.
 - 4. Secondary Water Supply Meter Vault The 48-inch PCCP supply line cannot be shut down even temporarily and it will be necessary to install a 48-inch x 48-inch x 36-inch tapping sleeve and 36-inch valve in order to connect the Secondary Water Supply at the City's Water Treatment Plant.

iii. Water Treatment Plant

- 1. Control Station No. 3: SCADA
- 2. Tank House: Altitude Valve removal and replacement
- 3. Pressure Reducing Pit: Valve and meter removal and replacement
- Control Station No. 2: 60-inch and 36-inch PCCP, valves and meters removal and replacement. Temporary relocation of existing Chemical Feed system. Phased construction in cooperation with Work by Others (e.g., Chemical Feed Building).
- b. Work by Others (Section 01 1100, Article 1.03): Chemical Feed Building
- c. Physical Conditions, Investigations and Reports (Section 00 7300): Exhibits include:
 - Exhibit 2, Geotechnical Report by Construction Testing Services dated November 11, 2019
 - ii. Exhibit 3, Wetland Delineation dated October 25, 2019
 - iii. Exhibit 4, Environmental Corridor Study dated October 8, 2019
 - iv. Exhibit 5, Due Care Compliance Analysis dated November 27, 2019
- d. Right-of-Way Jurisdiction (Section 01 1100, Article 1.04): Roads, drains, railroad, soil erosion control.
- e. Allowances (Section 01 2100): Permit fees.
- f. Submittal Procedures (Section 01 3300): Schedules, shop drawings, product data, O&M data, audio-video route survey, photographs.
- g. Quality Control (Section 01 4500): Certification of materials.
- h. Temporary Facilities and Control (Section 01 5000): Site access and parking; public road maintenance, emergency access, public access to roadways, maintaining traffic, temporary utilities (power, sanitary, water, etc.).
- i. Erosion and Sedimentation Control (Section 01 5713):
 - i. Certified Stormwater Operator required of Contractor.
 - ii. Obtain a permit for work in Genesee County.
 - iii. Obtain and pay for soil erosion maintenance bond.
 - iv. SESC information shown on the plans is an absolute minimum and additional information may be required based on Contractor's specific activities

6. Permit Status

- Joint Permit (Part 301, 303 and 31) Application has been submitted;
 awaiting permit
- b. EGLE NPDES Application has been submitted; Contractor to apply for once SESC permit has been issued
- c. EGLE Drinking Water Permit, Act 399 Application has been submitted for the transmission main and work at WTP; application for GCDC-WWS connection and meter vault is pending submittal by GCDC-WW

- e. Soil Erosion and Sedimentation Control (Part 91) Application has been submitted; Contractor to obtain and pay permit fee and bond(s)
- f. MDOT Right-of-Way Permit Permit has been issued; Contractor to obtain and pay bond(s)
- g. Genesee County Road Commission Right-of-Way Permit Application has been submitted; Contractor to obtain and pay permit fee and bond(s)
- h. CSX Railroad Right-of-Way Permit Permit has been issued; Contractor to Contractor to obtain and pay permit fee and bond(s)
- Buckeye Partners Has been notified and is aware of the crossing near Schaaf/Coldwater/Dort Highway; requirements detailed in Exhibit 9

7. Easement Status

- a. Consumers Energy
- b. Private Property at Frances Road

8. Project Timeline

a.	Addendum No. 1 Issued	02/23/2020
b.	Final Date for Questions	03/05/2020
c.	Bid Opening	03/12/2020
d.	Anticipated Contract Award	03/23/2020
e.	Anticipated Notice to Proceed	04/15/2020
f.	*Substantial Completion	11/11/2020
g.	*Final Completion	01/10/2021

^{*}Assumes NTP issued 4/15/2020 and 210 calendar days until SC and 270 calendar days to FC.

9. Addenda

a. Addendum No. 1 will be issued and will include pre-bid meeting minutes, revised specifications, reissued Contract Drawings, and any other contract documents necessary for clarification.

Questions from Audience

Q: The permit fee for the railroad, does that include all fees, bonds and costs associated with a flag man?

A: The fee has been paid to obtain the CSXT permit. However, this fee does not include the actual cost of CSXT protection services and/or support services, including all applicable surcharges. For more information related to this permit, please refer to Exhibit 8 of the Contract Documents.

Q: Can the bid date be moved?

A: No.

Q: What is the Engineers Estimate?

A: \$8,500,000

Q: Will the connection to the North Water Loop need to be a live tap?

A: Yes.

Q: At the Water Treatment Plant, are details of exploratory excavations spelled out?

A: More details are provided in Section 01 1100, but a drawing will also be issued as part of Addendum No. 1.

Q: Will temporarily relocating the existing Chemical Feed system at Control Station No. 2 be incidental to the price for the work at Control Station No. 2?

A: Yes.

Q: Will the as-builts require GPS locations?

A: Yes, and a clarification to Section 01 7700 will be issued with Addendum No. 1 with regard to GPS locations.

Q: Is it anticipated that there will be any special or custom fabricated fittings?

A: Yes, there may be a number of special or custom fabricated fittings, particular for Control Station No. 2 and the Secondary Water Supply vault at the City's Water Treatment Plant.

Q: Is there a lay schedule from Thompson Group for the PCCP pipe at the Water Treatment Plant?

A: Yes, and it will be part of Addendum No. 1.

Q: Will stored materials be eligible for payment?

A: Payment for stored materials is addressed in Article 14.02 of Section 00 7200, General Conditions.

Meeting Adjourned at 10:32 AM



SIGN IN SHEET

CITY OF FLINT DEPARTMENT OF PURCHASES & SUPPLIES

Mandatory Pre bid Meeting SECONDARY WATER SUPPLY

PLEASE PRINT CLEARLY

NAME	COMPANY	PHONE # & FAX #	EMAIL ADDRESS
DAVID Zito	Zilo Construction	810-695-9035	
BRIAGE BUSCH	ETHA SUPPLY	586-301-88849	BB-SCHQETHAS-POLL, 6
RICHARD GRAVEL	DAN'S EXCAVATING	(586) 201 - 4331	1912NOGO DANSEXC.com
JOE PARKS	GOYETTE MECHANICAL	810-610-2104/810-743-8090	JPARKS@GOYETTE MECHANICAL, COM
BHARAT DUSHI	PRE CONSTRUCTION	248-866-1220	
Make Clanke	L.B. Clarke la-		phicharky a concluste Co
Toyce McClane	COF		

BID DATE: February 20, 2020

Rob Binscik was in afterdance



SIGN IN SHEET

CITY OF FLINT DEPARTMENT OF PURCHASES & SUPPLIES

Mandatory Pre bid Meeting SECONDARY WATER SUPPLY

PLEASE PRINT CLEARLY

NAME	COMPANY	PHONE # & FAX #	EMAIL ADDRESS
P-ray SL-r	SORBLISELY GROSS CO.	& &10) 235 - C222 2(EK) 767 - 4821	RSLY 30 SOCS.NET
Shawn Taslim	Outboundtech	248-500-9090	staslimooutboundtech.com
Nick Brandt So	GCDC-WWS	810-394-6780	N. Brandt @ GCDE WUS.CO
MICHALL MANCINI	DUMNTHINES	586 979-0402	USH Enoy @ DUM UTILITIES
Errc Bessolo	Z. Fo Carstruction Ca	(810)695-9025	mallsox @ Z. Ao Construction. com
JENT PATRIC	ROHOE BROTHERS ax	989-753-0294	BRIAN Q ROHOE BROGHESS, COM.
Cam Cong	LD'Agostinissons	586-781-5800 586-781-5829	mikeD@ldagostinicon

BID DATE: February 20, 2020



SIGN IN SHEET

CITY OF FLINT DEPARTMENT OF PURCHASES & SUPPLIES

Mandatory Pre bid Meeting SECONDARY WATER SUPPLY

PLEASE PRINT CLEARLY

NAME	COMPANY	PHONE # & FAX #	EMAIL ADDRESS
MIKECAFACEG	CATACOO INC	810-638-2020	CATALSOINED LENTELOCON
Ryan Stalmack	Ric-Man Coust.	810-459-0508	RStalmack @ Ric-Man. Com
Phil Marin	American Pipe	630-25-8585	pmarin@amorican-usa.co
PATRICK WHITH	Dung An Bros. Inc	517-787-4700	PATRICKO OUNGENDOS. SE
RON WESTON	KANGELINE TAZZINIS	1	PNESTONO LANGELING, CON
Nandis Poshi	Pre rometrichin Modici		alsh & pre construction making.

BID DATE: February 20, 2020

Section 40 7123.13 Venturi Flow Meters

Part 1 General

1.01 Scope of Work

A. This Section includes venturi flow meters as indicated on the Plans or as required for a complete and functioning installation. Each flow meter shall be a short form Venturi design utilizing pure static pressure taps in the inlet and throat sections and shall produce a differential pressure, which shall be measured and transmitted by the specified differential pressure transmitter.

1.02 Related Work Specified Elsewhere

- A. Division 26: Electrical
- B. Section 40 7329: Differential Pressure Transmitters
- C. Section 40 0513: Process Piping and Valves

1.03 Reference Standards

- A. Unless otherwise specified, the Work for this Section shall conform to the applicable portions of the following Standard Specifications:
 - 1. ANSI American National Standards Institute
 - 2. ISA Instrument Society of America
 - 3. NFPA National Fire Protection Association
 - 4. UL Underwriters Laboratories

1.04 Submittals

- A. Submittals shall be made as required in Section 01 3300.
- B. Shop Drawings:
 - 1. Complete and detailed system schematic drawings showing all components and the pneumatic and electrical point to point connections of each system together with a description of the operation of the system and equipment.
 - 2. Instrumentation equipment specifications, outlined dimension drawings, and wiring and piping diagrams for each item of equipment. Duplicate equipment may be covered by 1 set of literature.
 - 3. Submittal shall be organized in a logical manner and have a schematic diagram for each system.
- C. Product Data: Provide data for all flow tubes. Include manufacturer's catalog information showing dimensions and configurations.
- D. Test Reports: The manufacturer of differential producing equipment shall furnish for approval certified data substantiating dimensions, calculations, and performance. The data must substantiate that the accuracy of the venturi meter is based on calibration of the device being submitted and not taken from other sources. Data shall include:
 - 1. Calculation sheets.
 - 2. Coefficient values and tolerances.
 - 3. Effect of upstream pipingconfigurations.

- 4. Non-recoverable headloss
- 5. Flow vs. differential curve.
- 6. Uncalibrated accuracy.
- 7. Dimension prints.

E. Manufacturer's Installation Instructions

- 1. Indicate application conditions and limitations of use stipulated by product testing agency specified under regulatory requirements.
- 2. Include instructions for storage, handling, protection, examination, preparation, operation and installation of product.
- F. Manufacturer's Certificate: Certify that Products meet or exceed specified requirements. Venturi meter shall have a 25-year warranty against defects in workmanship and materials.

1.05 Closeout Submittals

- A. Submittals shall be made as required in Sections 01 3300 and 01 7700.
- B. Manufacturer's field reports.
- C. Project Record Documents: Accurately record actual installed equipment.
- D. Operation Data: Include description of system operation, adjusting and testing required.
- E. Maintenance Data: Identify system maintenance requirements, servicing cycles, lubrication types required and local spare part sources. Include instructions for testing and cleaning cable and accessories.

F. Instruction Manuals

- 1. Complete descriptive literature for each piece of equipment, including a list and description of all parts of each piece of equipment.
- 2. Data sheets containing information relative to metering range, indicator or chart range, electrical requirements, system function, and shop drawing data.
- 3. Process flow diagrams showing location of instrumentation equipment, function of each piece, and description of use of equipment as applied to this Project.

1.06 Delivery, Storage, And Handling

- A. Handling: Meters shall be handled in such a manner as to avoid any damage.
- B. Storage: Store meters in enclosures or under protective coverings.

1.07 Field Measurements

A. Verify that field measurements are as indicated on shop drawings.

1.08 Project Conditions

- A. Verify that field measurements are as shown on Contract Drawings.
- B. Verify pipe size, material and compatibility with the fluid prior to rough-in.
- C. Meter locations shown on Contract Drawings are approximate locations unless dimensioned. Install meters as required to complete piped system.

VENTURI FLOW METERS 40 7123.13-2 COF106801F

1.09 Extra Materials

A. Provide 1 complete set of special tools and equipment per meter that are required for calibration and maintenance including digital calibrators for reading and generating 4-10 mA signals.

Part 2 Products

2.01 Venturi Flow Meters

A. General:

- 1. Flow meter shall be a short form Venturi design utilizing pure static pressure sensing taps in the inlet and throat sections and shall produce a differential pressure, which shall be measured and transmitted by the specified differential pressure transmitter.
- 2. Meter supplier shall submit a complete manufacturing plan to include calculations for proper material thicknesses which will be used for this meter(s). In addition, a full quality assurance procedure will be provided to include welders' qualifications, material and welding testing procedures and proof of welders' current certification for all procedures that will be used in the manufacturing of the meter(s).
- 3. The manufacturer of the Venturi meter shall have a minimum of 20 years' experience in providing differential type flow meters and shall be ISO 9001-2015 Quality Management System in the Design and Manufacturing of Flow Measurement Systems. Manufacturer must hold a current and valid ASME S & U code stamp in order to ensure that all welding is according to ASME code requirements.

B. Performance:

- 1. Venturi flow meter(s) shall have an accuracy of +/-0.5% of actual flow above a pipe Reynolds number of 75,000 with a discharge coefficient of 0.9900.
- 2. Temperature: Suitable for an operating temperature up to 165 degrees Fahrenheit, with operating pressure limited only by line pressure rating.
- 3. Losses: Non-recoverable head loss not to exceed 10 percent of differential at maximum flow rate.

C. Tube Design:

- 1. Venturi meter shall have a cylindrical inlet section of the same inner diameter as the inlet piping and shall contain two high pressure taps and a single vent and drain tap. Cylindrical throat section shall contain two low-pressure taps.
- 2. Length of the cylindrical throat section shall be equal to one-half its diameter.
- 3. Converging section shall be comprised of a single angle of 30 degrees; sections using a radius or multiple inlet angles will not be acceptable.
- 4. Recovery section shall be comprised of a single angle of 10 degrees and shall be truncated at approximately 90 percent of the downstream pipe inner diameter.
- 5. Devices such as flow tubes that do not sense true static inlet and throat pressure will not be accepted.

VENTURI FLOW METERS 40 7123.13-3 COF106801F

Addendum 01 Issued 02/26/2020

- 6. Inspection Port: Venturi meter shall be equipped with an inspection port to be located in the meter recovery section. Cover shall be machined of 304 stainless steel and all fastening hardware shall be 304 stainless steel. Cover shall have either an 0-ring or gasket seal according to the standard practice of the manufacturer.
- 7. Manual Cleanout Rods: One tap set shall be equipped with manual cleanout rods. Rod shaft shall be machined 304/316 stainless steel designed to be permanently installed in the 0.75" taps. Cleanout rod material assembly shall be stainless steel and an isolation ball valve shall be included in the assembly.

D. Construction:

- 1. Meters shall consist of reducing cone inlet sections, straight cylindrical throats, and expanding cone outlets.
- 2. Meter body shall be cast iron per ASTM A-126, Gr. B, and the foundry shall be located in North America.
- 3. Throat section and high-pressure tap bushing shall be 304 stainless steel.
- 4. Interior of the cast iron surfaces shall be coated with NSF-61 2-part epoxy suitable for potable water contact, and the exterior shall be coated with shop primer.
- 5. Mounting flanges shall hold the flow elements between pipe flanges of the line in which installed and be constructed of cast iron and epoxy coated. Flanges shall be ANSI B16.1 125 1b.

E. Testing:

- 1. Each meter shall be flow calibrated by an independent flow lab and provided with certified copies of the test results to substantiate the flow meter's accuracy, discharge coefficient and permanent pressure loss.
- 2. In lieu of lab flow calibration, the manufacturer may provide prior independent lab test data substantiating the flow meter's accuracy, Reynolds number performance, installation effects, discharge coefficient, and head loss. Prior test data shall cover at least 36 lab calibrations in sizes from 2.0 to 48.0 inches. Since the validity of prior test data is based on the quality and tolerance adherence of the fabricator, if laboratory calibration data from prior meter calibrations is presented for consideration, the venturi meters used for those calibrations must have been built by the same fabricator as will be used to fabricate the meter on this contract.
- 3. The supplier of the venturi meter shall provide a certified statement that all test data has been derived on meters made by the manufacturer of this meter.
- 4. In the event that the fabricator did not provide the prior calibrated meters, this meter shall be flow calibrated at Utah Water Research Labs. Calibration shall be a 20-point calibration for the minimum to maximum stated flow rate. Headloss shall also be calibrated.

VENTURI FLOW METERS 40 7123.13-4 COF106801F

Addendum 01 Issued 02/26/2020

G. Meter Schedule:

1. GCDC-WWS Meter Vault:

a.	Type:	HVT-CI
b.	Number of Meters:	1
c.	Inlet Diameter (inches):	24
d.	Throat Diameter (inches):	12.6
e.	Overall Length Allowed (inches):	50.7
f.	Flow Range (gallons per minute):	700 – 9,000

2. Control Station No. 2:

a.	Туре:	HVT-CI
b.	Number of Meters:	2
c.	Inlet Diameter (inches):	36
d.	Throat Diameter (inches):	18
e.	Overall Length Allowed (inches):	96
f.	Average Flow Range (gallons per minute):	6,250 - 17,360

H. Acceptable Manufacturer:

1. Venturi meter shall be manufactured by Primary Flow Signal, Inc., Cranston, RI or ENGINEER-approved equal.

Part 3 Execution

3.01 Contractor's Verification

A. CONTRACTOR shall field measure all dimensions and check possible interferences for the pipe system and accessories.

3.02 Installation

- A. Install meter(s) in accordance with manufacturer's instructions.
- B. Install the transmitter(s) in an orientation where the sensing diaphragms are in a vertical plane.
- C. Allow sufficient clearance overhead for cover removal and around the transmitter(s) to provide an access for necessaryadjustments.
- D. Provide connections for drain and vent ports on the transmitter(s) as per manufacturer's recommendations.
- E. Locate transmitter(s) as close to the process pipe and pressure tap as practicable with the lengths of meter lead piping/tubing kept to a minimum. Do not exceed 10 feet lead length. Locate the transmitter to minimize exposure to shock and vibration, or with proper vibration protection hardware and rugged frame. Select location to avoid any thermal shocks.
- F. Slope horizontal leads a minimum of one inch per foot downward from the pressure taps.
- G. Assemble screwed fittings with teflon tape wrapped on the external threads.
- H. Do not run horizontal meter leads in excess of 10 feet without supports.

VENTURI FLOW METERS 40 7123.13-5 COF106801F

Addendum 01 Issued 02/26/2020

3.03 Field Quality Control

- A. Conduct field inspection, testing and adjusting per Section 01 6000, Product Requirements, and Section 01 7700, Closeout Procedures.
- B. Field Tests: Verify specification performance criteria and perform tests as recommended by manufacturer.

3.04 Adjusting

- A. Requirements for starting and adjusting work per Section 01 7700.
- B. Adjust and calibrate flowmeters.

3.05 Manufacturer's Field Services

- A. Quality Requirements: Provisions for manufacturer's field services per Section 01 4500, Quality Control.
- B. Include services of a factory authorized service technician for up to 2 man-days per meter to supervise adjustments, final connections, and system testing.

3.06 Protection

A. Protect finished installation under provisions of Section 01 6000, Product Requirements.

End of Section

VENTURI FLOW METERS 40 7123.13-6 COF106801F

Exhibit 2 Geotechnical Report



Construction Testing Services 3300 E. Bristol Road Burton, MI 48529 Ph # 810-603-0766

FAX: 810-603-0786

www.constructiontesting.net

November 11, 2019

Wade Trim 555 S. Saginaw, Suite 201 Flint, MI 48502

Attention: Ms. Tiffany Harrison, P.E.

Reference: City of Flint Secondary Water Supply

Job No: S-19-219

Dear Sir:

In accordance with your request, we have performed a geotechnical investigation for the referenced project.

PROJECT DESCRIPTION

The project is a new water pipeline to provide an additional water supply to the city of Flint.

SUBSURFACE CONDITIONS

Initially, fifteen soil test borings were made in the pipeline area. The boring depths were twenty feet (20') and twenty five feet (25'). Two additional soil test borings were added where the water line crosses Dort Highway. These borings were made to a depth of thirty feet (30'). The locations were selected by the client and staked in the field by the Construction Testing Services personnel. The approximate boring locations are shown on the attached sketch.

The results of this exploration together with the Soil Test Boring Logs may be found below. Standard penetration tests were performed at each boring in accordance with ASTM D-1586 "Penetration Tests and Split Barrel Sampling of Soils".

Boring 1 encountered nine inches (9") of compact brown possible road gravel over compact brown sand to three feet (3'), stiff variegated clay to four feet six inches (4'6"), medium compact brown sand to five feet six inches (5'6") compact brown sand to seven feet six inches (7'6") and stiff blue clay to nineteen feet six inches (19'6") followed by very compact grey sand to the end of the boring.

Boring 2 encountered seven inches (7") of medium compact black topsoil over medium compact brown sand to two feet six inches (2'6"), firm variegated clay to three feet six inches (3'6"), very stiff brown clay to eight feet (8'), very stiff brown and blue clay to nine feet three inches (9'3") and stiff blue clay to twelve feet (12') followed by extremely stiff blue clay to the end of the boring.

Boring 3 encountered nine inches (9") of medium compact black topsoil over medium compact brown fill sand to three feet (3"), compact brown fill sand to four feet six inches (4'6"), compact brown sand to six feet nine inches (6'9"), compact grey silt to nine feet six inches (9'6"), stiff blue clay to thirteen feet (13") and firm blue clay to sixteen feet (16") followed by stiff blue clay to the end of the boring.

Boring 4 encountered one foot (1') of medium compact black topsoil over firm brown clay to seven feet nine inches (7'9") followed by compact brown sand to the end of the boring.

Boring 5 encountered nine inches (9") of medium compact black topsoil over medium compact brown sand to three feet (3'), firm to stiff brown clay to seven feet six inches (7'6") and medium compact brown sand to nineteen feet six inches (19'6") followed by compact grey sand to the end of the boring.

Boring 6 encountered five inches (5") of medium compact black topsoil over stiff brown clay to five feet six inches (5'6"), very stiff brown clay to eight feet six inches (8'6") followed by compact brown sand to the end of the boring.

Boring 7 encountered one foot (1') of medium compact brown topsoil over firm variegated clay to six feet (6'), very stiff brown clay to eight feet (8'), very stiff brown and blue clay to ten feet (10'), stiff to very stiff blue clay to sixteen feet six inches (16'6'') followed by extremely stiff blue clay to the end of the boring.

Boring 8 encountered six inches (6") of medium compact black topsoil over stiff variegated clay to six feet (6'), stiff brown clay to nine feet six inches (9'6"), stiff blue clay to thirteen feet (13') and compact brown sand to seventeen feet (17') followed by stiff blue clay to the end of the boring.

Boring 9 encountered six inches (6") of compact black topsoil over compact brown sand to three feet nine inches (3'9") and compact to very compact brown sand to thirteen feet (13') followed by compact brown sand to the end of the boring.

Boring 10 encountered four inches (4") of medium compact black topsoil over medium compact brown sand to eleven feet six inches (11'6") and compact grey sand to fourteen feet six inches (14'6") followed by stiff blue clay to the end of the boring.

Boring 11 encountered five inches (5") of compact dark brown topsoil over medium compact to compact brown sand to six feet nine inches (6'9"), stiff brown clay to seven feet six inches (7'6") and stiff blue clay to seventeen feet (17') followed by very stiff blue clay to the end of the boring.

Boring 12 encountered five inches (5") of compact dark brown topsoil over compact brown possible fill sand to three feet six inches (3'6"), medium compact brown possible fill sand to seven feet seven inches (7'7"), stiff variegated clay to eight feet six inches (8'6") and stiff blue clay to nine feet six inches (9'6") followed by compact grey sand to the end of the boring.

Boring 13 encountered six inches (6") of medium compact dark brown topsoil over medium compact brown sand to three feet six inches (3'6"), very stiff variegated clay to six feet (6'), very stiff brown and blue clay to eight feet three inches (8'3") and stiff blue clay to eleven feet six inches (11'6") followed by very stiff blue clay to the end of the boring.

Boring 14 encountered four inches (4") of medium compact dark brown topsoil over medium compact brown sand to four feet six inches (4'6"), stiff variegated clay to seven feet (7') and very stiff to extremely stiff brown clay to eleven feet six inches (11'6") followed by very stiff blue clay to the end of the boring.

Boring 15 encountered six inches (6") of medium compact dark brown topsoil over medium compact brown sand to two feet six inches (2'6") stiff variegated clay to six feet (6') and very stiff brown clay to twelve feet six inches (12'6") followed by very stiff blue clay to the end of the boring.

Boring 16 encountered four inches (4") of asphalt over medium compact fill sand to one foot (1'), medium compact brown sand to two feet eight inches (2'8"), firm variegated clay to three feet six inches (3'6"), loose brown sand to twelve feet (12'), stiff blue clay to seventeen feet (17') followed by extremely stiff blue clay to the end of the boring.

Boring 17 encountered four inches (4") of medium compact black topsoil over medium compact brown sand to two feet nine inches (2'9"), firm variegated clay to six feet (6'), stiff brown clay to nine feet six inches (9'6"), very stiff blue clay to eleven feet nine inches (11'9") and stiff blue clay to seventeen feet (17') followed by extremely stiff blue clay to the end of the boring.

LABORATORY TESTING

One sample from each soil boring was subjected to additional testing. A mechanical analysis was performed for sand samples and unconfined compression tests were performed for clay samples.

In general the sand samples contained significant amounts of silt and clay sized particles and would be classified as either SM (Silty Sand) or SC (Clayey Sand). The exception was sample 11B which would meet the specification for Class II material.

The unconfined compressive strengths on the clay samples ranged from approximately 2,000 psf to more than 11,000 psf.

The test results are appended.

GROUNDWATER

The drillers measured the depth at which water was encountered in each boring and the depth to water immediately after completion of the boring. The drillers also estimated the volumes of water flowing into the borings. These measurements are listed in the table below.

Boring	Depth to Water Encountered	Depth to Water After Completion	Approximate Water Volume
1	4'6"	18'0"	Light
2	None	None	None
3	6'0"	6'7''	Heavy
4	18'0"	18'0"	Heavy
5	17'9"	18'2"	Heavy
6	17'9"	16'4"	Heavy
7	6'0"	4'2"	Heavy
8	5'0"	7'0''	Heavy
9	13'0"	11'7"	Heavy
10	6'0"	6'6''	Heavy
11	7'0"	11'6"	Light
12	13'0"	12'7"	Heavy
13	None	None	None
14	None	None	None
15	None	None	None
16	3'6"	2'6"	Heavy

17 15'0" 23'6" Heavy

The groundwater level is relatively shallow at some locations and dewatering may be required at these locations. It should be noted that short-term groundwater observations such as these may not provide a reliable indication of the depth of the water table. Water levels in clay soils are influenced by the slow rate of water infiltrating the borehole as well as the potential for water to become trapped in overlying layers of granular material during periods of heavy rainfall. Water levels in granular soils fluctuate with seasonal and climatic changes as well as the amount of rainfall in the area immediately prior to measurement.

FOUNDATIONS

It appears that the pipeline could be supported by the existing naturally deposited soil. The anticipated bearing depths and the maximum net allowable soil bearing pressures are given below.

Boring No.	Anticipated <u>Bearing Depth</u>	Maximum Net Allowable Soil Pressure (psf)
1	3'6" to 7'6" 7'6" to 20'0"	2,000 4,000
2	3'6" to 20'0"	4,000
3	3'6" to 20'0"	3,000
4	3'6" to 8'0" 8'0" to 20'0"	2,000 4,000
5	3'6" to 7'6" 7'6" to 20'0"	2,000 3,000
6	3'6" to 20'0"	4,000
7	3'6" to 20'0"	4,000
8	3'6" to 6'0" 6'0" to 20'0"	2,000 3,000
9	3'6" to 10'0" 10'0" to 20'0"	4,000 2,500
10	3'6" to 20'0"	2,500
11	3'6" to 7'0" 7'0" to 20'0"	2,000 4,000

12	3'6" to 7'6" 7'6" to 20'0"	2,000 2,500
13	3'6" to 20'0"	4,000
14	3'6" to 4'6" 4'6" to 20'0"	2,000 4,000
15	3'6" to 6'0" 6'0" to 20'0"	2,500 4,000
16	12'0" to 17'0" 17'0" to 30'0"	3,500 4,000
17	1'6" to 6'0" 6'0" to 9'6" 9'6" to 30'0"	1,000 3,000 4,000

SUBGRADE PREPARATION

The upper topsoil layer along with any peat, marl, organic soils, soft soils or other unsuitable materials should be removed from the building or paving areas. The resulting grade should then be proof rolled with a loaded tandem truck or front loader to develop any weak areas in the grade. The soil in any weak area should be removed and replaced with drier similar soils and proof rolled to proven compaction.

Any fill placed in the building or paving areas should be an approved material free of frozen soil, organic or other deleterious material. The clay soils on the site could be used for fill material provided that they are free of organic materials. It should be understood that controlling moisture content in clay soil will be very difficult during cold or wet weather. It is recommended that any additional fill soil brought in from off the site consist of a granular material meeting the gradation requirements for MDOT Class II backfill.

Fill soils should be placed in 9" loose lifts and uniformly compacted to at least 95.0% of its maximum dry density as determined by ASTM D-1557 (Modified Proctor).

EXCAVATIONS

All excavations should be sloped, shored or braced in accordance with MI-OSHA requirements. The contractor should provide an adequately constructed and braced shoring system for employees working in an excavation that may expose employees to the danger of moving ground. If material is stored or heavy equipment is operated near an excavation, stronger shoring must be used to resist the extra pressure due to superimposed loads.

FIELD MONITORING

The Soil Boring Log represents the sub-surface conditions at a specific location. The subsurface conditions sometimes vary away from the boring location. It is recommended therefore, that a qualified geotechnical engineer be retained to provide soils engineering services during the construction phase of the proposed project. This is to observe compliance with the design concepts, specification and recommendations. This also allows modifications to be made in the event that subsurface conditions differ from those anticipated prior to the start of construction.

GENERAL COMMENTS

In the process of obtaining and testing samples and preparing this report, procedures are followed that represent reasonable and accepted practice in the field of soils and foundation engineering. Field logs are prepared during the drilling and sampling operations that describe field occurrences, sampling locations and other information.

The samples obtained in the field are subjected to additional testing and reclassification in the laboratory and recommendations are based on the driller's observations, laboratory tests of samples and our reconnaissance of the site. Stratification lines shown on the Boring Logs are approximate indications of change from one-soil strata to another and are not intended to represent an area of exact geological change. Where the soils have the appearances of fill, we have shown them as fill. The possibility exists that there is fill present that was not detected as such.

Water levels shown on the Logs of Soil Test Borings are those observed at the time of the drilling operation and are subjected to seasonal fluctuations. The long term high water table may be higher than that which is shown on the boring logs.

The analysis and recommendations submitted in this report are based upon the data obtained from the Soil Boring locations. This report does not reflect variations, which may occur between borings. The nature and extent of the variations may not become evident until the time of construction.

This report has been prepared in accordance with generally accepted geotechnical engineering practices to aid in the evaluation of this project and to assist the Engineer in the design of this project. In the event of changes in the design criteria, the Geotechnical Engineer should be consulted to determine if significant changes in recommendations are required. This exploration does not include an environmental evaluation of the site.

Very truly yours,

CONSTRUCTION TESTING SERVICES

Jack F. Geerlings, P.E. Senior Project Engineer



PHONE: (810) 603-0766 FAX: (810) 603-0786

JOB NO. S-19-219 LOG OF SOIL BORING NO. PROJECT: City of Flint Secondary Water Supply

LOCATION: Flint, Michigan

Sample & Type	Depth	Legend		Soil Description		SPT Blows per 6"	Moisture %	Natural Wt. P.C.F.	Unc. Comp. Strength	Str. %
	1		9"	Sand - Compact, Moist, Brown w/Gravel, Possible Road	d Gravel					
1A	2			Sand - Compact, Moist, Brown		5				
SS	_		21011	, ,		6				
	3		3'0"			6				
	4	\times		Clay - Stiff, Moist, Silty, Variegated						
1B SS	_		4'6"	Sand - Medium Compact, Wet, Brown w/Pebble		3	44.7	445.4		
33	5		5'6"	(SM - Silty Sand)		4	14.7	115.1		
	6			(om only ound)						
1C	7			Sand - Compact, Wet, Silty, Brown		3				
SS			7'6"			5	 		 	
	8					6				
	9									
1D						4				
SS	10			Olass Oliff Maid Olife On the Physical One of the		6				
	11			Clay - Stiff, Moist, Silty, Sandy, Blue w/Grey Sand Seam	าร	7				
	12									
	13		13'0"							
	13		130							
45	14									
1E SS	15					4				
						7				
	16			Class Ciff Maint Candy Dhya						
	17			Clay - Stiff, Moist, Sandy, Blue						
	18						<u> </u>			
	19						 			
1F			19'6"			8				
SS	20		20'6"	Sand - Very Compact, Wet, Silty, Grey		16 23			-	
	21		200	End of Boring						
TYPE				BORING PLUGGED WITH NATURAL SOIL			ATER O			
	DISTUR JNDIST. I		,	The son descriptions shown on the logs are from visual	G.W. ENCO G.W. ENCO				T. 6 T.	INS.
	SHELBY SPLIT SF			observations. No classification tests were performed.	G.W. ENCO G.W. ON CO					INS.
R.C	ROCK C	ORE	S	Standard Penetration Test - Driving 2" OD Sampler 1' With	G.W. AFTEI	R 1 HO	UR		Т.	INS.
	OTHER -			140# Hammer Falling 30"; Count Made At 6" Intervals.	<u>G.W. VOLU</u>	MES	Light			



PHONE: (810) 603-0766 FAX: (810) 603-0786

JOB NO. S-19-219 LOG OF SOIL BORING NO. 2
PROJECT: City of Flint Secondary Water Supply

LOCATION: Flint, Michigan

Sample	D 41-	Lamand		Soil Description	T	SPT	Moisture	Natural	Unc.	Str.
& Type	Depth	Legend				Blows per 6"	%	Wt. P.C.F.	Comp. Strength	%
	1		7"	Topsoil - Medium Compact, Moist, Sandy, Black w/Roo	ots					
	<u> </u>	1		One d. M. Perro One et M. St. Brown	-					
2A	2			Sand - Medium Compact, Moist, Brown		2				
SS	_		2'6"			3				
	3	\times	3'6"	Clay - Firm, Moist, Silty, Sandy, Variegated	-	4				
	4		30		-					
2B]				5				
SS	5				-	7	17.6	129.4	3938	13.8
	6	-		Clay - Very Stiff, Moist, Silty, Brown (CL - Low Plastici	tv Clav)	9				
	+ -	-		Olay - Very Olin, Moist, Olity, Brown (OE - LOW I lastici	ty Olay)					
2C	7]				4				
SS	•		010"			8				
	8		8'0"		-	10				-
	9		9'3"	Clay - Very Stiff, Moist, Brown & Blue	-					
2D SS			9.3			3				
SS	10	-			-	6				<u> </u>
	11	-		Clay - Stiff, Moist, Silty, Blue w/Brown Sand Seams	-	6				
	+	1								
	12		12'0"							
	13	-			-					<u> </u>
	13	-			-					
	14	1			_					
2E	45	_			_	6				
SS	15	-			-	13 17				
	16				-	- ' '				
]		Clay - Extremely Stiff, Moist, Blue w/occ Pebble & Ston	e					
	17	1								
	18	-			-					
 		j			-					
	19]								
2F SS	20	-			-	9 13				
33	20	1			-	21				
	21			Continued						
	OF SA			BORING PLUGGED WITH NATURAL SOIL			ATER OF			
	- DISTUF UNDIST.		,	The son descriptions shown on the logs are from visual	G.W. ENCOU			F F		INS.
	SHELBY			Observations, no classification tests were benonited.	G.W. ENCOU			F.		INS.
	SPLIT S - ROCK (8	Standard Penetration Test - Driving 2" OD Sampler 1' With	G.W. AFTER	1 HO	UR	F		INS.
	OTHER -	-		140# Hammer Falling 30"; Count Made At 6" Intervals.	G.W. VOLUM	1ES	None			



PHONE: (810) 603-0766 FAX: (810) 603-0786

JOB NO. S-19-219 LOG OF SOIL BORING NO. 2
PROJECT: City of Flint Secondary Water Supply

LOCATION: Flint, Michigan

			DATE:		/A11011.		.xıstırı	
Sample & Type	Depth	Legend	Soil Description	SPT Blows per 6"	Moisture %	Natural Wt. P.C.F.	Unc. Comp. Strength	Str. %
							J	
	21							<u> </u>
	22			-				-
								-
	23		Clay - Extremely Stiff, Moist, Blue w/occ Pebble & Stone					
			•					
00	24							ļ
2G SS	25			8 14				┼─
33			25'6"	19				1
	26		End of Boring					
	27							-
	28							-
	29							
	30							-
	30							-
	31							
	32							
	33							
								t
	34							
	35							-
	35							-
	36							
	37							
	38							
								L
	39							
	40							
	40							
	41							
	OF SA				ATER O			_
	- DISTUR UNDIST.		* The soil descriptions shown on the logs are from visual				T. T	INS.
S.T	SHELBY	TUBE	observations. No classification tests were performed. G.W. EN				T. T.	INS.
	SPLIT SE - ROCK C		Standard Penetration Test - Driving 2" OD Sampler 1' With G.W. AF	ΓER 10 H	IOURS		т.	INS.
	OTHER -		140# Hammer Falling 30"; Count Made At 6" Intervals. G.W. VO	LUMES	None			



PHONE: (810) 603-0766 FAX: (810) 603-0786

JOB NO. S-19-219 LOG OF SOIL BORING NO. 3
PROJECT: City of Flint Secondary Water Supply

LOCATION: Flint, Michigan

Sample & Type	Depth	Legend		Soil Description		SPT Blows per 6"	Moisture %	Natural Wt. P.C.F.	Unc. Comp. Strength	Str. %
			9"	Topsoil - Medium Compact, Moist, Sandy, Black w/Roo	ots					
	1									-
3A	2			Fill Sand Madium Compact Maint Prown		3				1
SS				Fill Sand - Medium Compact, Moist, Brown		3				
	3		3'0"			3				
	+ -			Fill Cond. Comment Maint Drawn w/Tananii						
3B	4		4'6"	Fill Sand - Compact, Moist, Brown w/Topsoil		5				-
SS	5		70			6	12.4	99.6		
				Sand - Compact, Moist, Brown w/Pebble (SM - Silty Sa	and)	7				
	6		6'0"							
3C	7		6'9"	Sand - Compact, Wet, Brown w/Grey Silt Seams		<i>A</i>				-
SS	-					4				
	8			• • • • • • • • • • • • • • • • • • • •		6				
				Silt - Compact, Wet, Clayey, Grey						
2D	9		9'6"			_				
3D SS	10		90			<u>3</u> 5				
						7				
	11									
	40			Clay - Stiff, Moist, Silty, Sandy, Blue						-
	12									-
	13		13'0"							
0.5	14									
3E SS	15			Clay - Firm, Moist, Blue w/Red Sand Layers		<u>2</u> 3				-
33	15					5				
	16		16'0"							
	17									}
	18									
				Clay - Stiff, Moist, Blue w/Pebble						
	19									
3F SS	20					<u>4</u> 5				}
33	20		20'6"			5				
	21			End of Boring						
	E OF SA			BORING PLUGGED WITH NATURAL SOIL	·		ATER OF			
	- DISTUF - UNDIST.		,		G.W. ENCO					INS.
S.T.	- SHELBY	TUBE		observations. No classification tests were performed.	G.W. ENCO G.W. ON CO				T. T. 0	INS.
	SPLIT S ROCK 0:				G.W. AFTER					INS.
0	OTHER -				G.W. VOLUI					



PHONE: (810) 603-0766 FAX: (810) 603-0786

JOB NO. S-19-219 LOG OF SOIL BORING NO. 4
PROJECT: City of Flint Secondary Water Supply

LOCATION: Flint, Michigan

Comente					SPT	Mari 1	Natural	Unc.	0:
Sample & Type	Depth	Legend		Soil Description	Blows per 6"	Moisture %	Wt. P.C.F.	Comp. Strength	Str. %
				Topsoil - Medium Compact, Moist, Sandy, Clayey, Black w/Roots	por o			25/1gu1	
	1	\approx	1'0"	Topson - Medium Compact, Moist, Sandy, Clayey, Black W/Noots					
4.0					_				
SS S	2				2				
33	3	1			4				
		1							
	4			Olave Firm Maint Carada Danna udasa Dabbla					
4B	_			Clay - Firm, Moist, Sandy, Brown w/occ Pebble	2				
SS	5			(CL - Low Plasticity Clay)	3	10.9	130.8	1778	15.5
	6				3				
	+ •	-							
4C	7	1			2				
SS]	7'9"		3				
	8		1 9		4				
	_								
4D	9				5				
SS	10				7				
- 00					7				
	11								
	12								
	13			• • • • • • • • • • • • • • • • • • • •					
	13			Sand - Compact, Moist, Brown					
	14								
4E					8				
SS	15				10				
	40				11				
	16								
	17					1			
	†					<u> </u>			
	18	1	18'0"						
45	19			Cond. Comment Wet Drawn w/ D-bb-	_				
4F SS	20			Sand - Compact, Wet, Brown w/occ Pebble	<u>3</u> 5	1			
33	20		20'6"		5	1			
	21			End of Boring					
	OF SA				JND W	ATER OF	SERV	ATIONS	<u> </u>
	- DISTUF UNDIST.			* The soil descriptions shown on the logs are from visual					INS.
	SHELBY			observations. No classification tests were performed. G.W. ENCO				T.	INS.
	SPLIT SI		,	G.W. ON CO Standard Penetration Test - Driving 2" OD Sampler 1' With			18 F	T. 0 T.	INS.
	- ROCK (OTHER -			140# Hammer Falling 30"; Count Made At 6" Intervals. G.W. VOLU			Г	١.	1113.
	JE.			, , , , , , , , , , , , , , , , , , ,					



PHONE: (810) 603-0766 FAX: (810) 603-0786

JOB NO. S-19-219 LOG OF SOIL BORING NO. 5
PROJECT: City of Flint Secondary Water Supply

LOCATION: Flint, Michigan

Sample & Type	Depth	Legend		Soil Description	SPT Blows per 6"	Moisture %	Natural Wt. P.C.F.	Unc. Comp. Strength	Str. %
	1		9"	Topsoil - Medium Compact, Moist, Sandy, Clayey, Black w/Roots					
5A SS	3		3'0"	Sand - Medium Compact, Moist, Brown	2 2 3				
5B SS	5			Clay - Firm to Stiff, Moist, Sandy, Brown w/occ Pebble & Oxidation (CL - Low Plasticity Clay)	2 3 4	18.5	122.3	2097	15.5
5C SS	7		7'6"		3 5 8				
5D SS	10				3 4 6				
	12			Sand - Medium Compact, Moist, Brown					
5E SS	15				3 4				
	17		17'9"	Ocad Malica Ocasa AWA Base					
5F	19	-	19'6"		4				
SS	20		20'6"	Sand - Compact, Wet, Grey	5 12				
D. U.L S.T S.S.	Page 19 Page 1	RBED LINER TUBE POON CORE		# The soil descriptions shown on the logs are from visual observations. No classification tests were performed. Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30"; Count Made At 6" Intervals. GRO G.W. ENCO G.W. ENCO G.W. ON C G.W. AFTE	OUNTE OUNTE OMPLI R HO	RED AT ETION URS	17 F F 18 F	T. 9 T.	INS. INS. INS. INS.



PHONE: (810) 603-0766 FAX: (810) 603-0786

JOB NO. S-19-219 LOG OF SOIL BORING NO. 6
PROJECT: City of Flint Secondary Water Supply

LOCATION: Flint, Michigan

Sample & Type	Depth	Legend		Soil Description	SPT Blows per 6"	Moisture %	Natural Wt. P.C.F.	Unc. Comp. Strength	Str. %
	1		5"	Topsoil - Medium Compact, Moist, Sandy, Black w/occ Pebble	por c			ou ongui	
	1								
6A SS	2				3 5				
55	3			Clay - Stiff, Moist, Sandy, Brown w/occ Pebble & Oxidation	5				
				(CL - Low Plasticity Clay)					
6B	4				5				
SS	5		51011		8	16.7	140.1	11264	14.7
	6		5'6"		9				
00	_								
6C SS	7			Clay - Very Stiff, Moist, Brown w/Pebble	13				
	8		01011		16				
	9		8'6"						
6D	40				8				
SS	10				11 16				
	11								
	12								
	13			Sand - Compact, Moist, Silty, Brown					
				Cana - Compact, Moist, City, Brown					
6E	14				7				
SS	15				11				
	16				13				
	17		17'0"				-		1
	18								
	19			Sand - Compact, Wet, Brown			-	-	
6F					4				
SS	20		20'6"		5 8		-	-	-
	21			End of Boring					
	OF SA					ATER O			
U.L	- DISTUR - UNDIST.	LINER	,	* The soil descriptions shown on the logs are from visual G.W. ENC				T. 9 T.	INS.
	- SHELBY - SPLIT SF			G.W. ON C	OMPLE	ETION	16 F	T. 4	INS.
	ROCK C	ORE		Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30"; Count Made At 6" Intervals. G.W. VOLI			F	Т.	INS.



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JOB NO. S-19-219 LOG OF SOIL BORING NO. 7
PROJECT: City of Flint Secondary Water Supply

LOCATION: Flint, Michigan

Sample & Type	Depth	Legend		Soil Description	SP Blov per	vs Moisture	Natural Wt. P.C.F.	Unc. Comp. Strength	Str. %
	1	>>>	1'0"	Topsoil - Medium Compact, Moist, Sandy, Brown w/Roots					
7A SS 7B SS	3 4 5 6		6'0"	Clay - Firm, Moist, Silty, Sandy, Variegated (CL - Low Plasticity Clay)	22 33 55	24.3	129.4	4867	15.5
7C SS	7		8'0"	Clay - Very Stiff, Moist, Silty, Sandy, Brown w/Wet Sand Sea	ms 3				
7D SS	9		10'0"	Clay - Very Stiff, Moist, Silty, Sandy, Brown & Blue	8				
7E SS	11 12 13 14 15		46'6"	Clay - Stiff to Very Stiff, Moist, Silty, Blue	66677				
7F SS	17 18 19 20		16'6"	Clay - Extremely Stiff, Moist, Silty, Blue Continued	11 11 20	6			
TYPE	OF SA	MPLE			GROLIND	WATER O	BSFRV	ATIONS	
D U.L U S.T S S.S	- DISTUR UNDIST. SHELBY SPLIT SI	RBED LINER TUBE POON		The soil descriptions shown on the logs are from visual observations. No classification tests were performed. G.W. I	ENCOUNT ENCOUNT ON COMP	ERED AT ERED AT LETION	6 F F 13 F	T. 0 T. T. 4	INS. INS. INS.
	- ROCK C OTHER -		5		AFTER 10 VOLUMES		4 F	T. 2	INS.



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JOB NO. S-19-219 LOG OF SOIL BORING NO. 7
PROJECT: City of Flint Secondary Water Supply

LOCATION: Flint, Michigan

0- 1					Ī	SPT	l	Natural	Unc.	
Sample & Type	Depth	Legend		Soil Description		Blows	Moisture %	Wt.	Comp.	Str. %
						per 6"		P.C.F.	Strength	
	21				ļ					
					ļ					
	22									
	23			Clay - Extremely Stiff, Moist, Silty, Blue	-					<u> </u>
	24				-					İ
7G	24				-	15				
SS	25				ŀ	16				
			25'6"		Ī	19				
	26		1	End of Boring						
	27									<u> </u>
	28									-
-	∠ δ				}					
	29				}					
					ŀ					
	30									
	31				-					<u> </u>
	32				-					İ
	32				-					
	33				ŀ					
					Ī					
	34									
	35				-					
	36									
	36				-					
	37				}					
					ļ					
	38									
					[
	39									<u> </u>
	40				-					-
	40				}					
	41				}					
TYPE	OF SA	MPLE	1	BORING PLUGGED WITH NATURAL SOIL	<u>GRO</u> U	ND W	ATER OF	SERV	ATIONS	<u> </u>
	- DISTUR		*		G.W. ENCOL					INS.
	UNDIST. SHELBY			ohservations. No classification tests were performed	G.W. ENCOL	JNTEI	RED AT	F	T.	INS.
S.S	SPLIT SE	POON			G.W. ON CO					INS.
	- ROCK C		S		G.W. AFTER			4 F	T. 2	INS.
L	OTHER -			140# Hammer Faming 30 , Count Made At 6 Intervals.	<u>G.W. VOLUN</u>	バニシ	пеачу			



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JOB NO. S-19-219 LOG OF SOIL BORING NO. 8
PROJECT: City of Flint Secondary Water Supply

LOCATION: Flint, Michigan

			<u> </u>	OOK! ACL				XI3tiliç	
Sample & Type	Depth Legend		Soil Description		SPT Blows per 6"	Moisture %	Natural Wt. P.C.F.	Unc. Comp. Strength	Str. %
	1	6" Topsoil - Medium	Compact, Moist, Sandy, Clayey	, Black w/Roots					
8A SS	2 3	Clay - Stiff Moist	Silty, Sandy, Variegated		3 4 5				
	HH ∧	(CL - Low Plastici			3				
8B	4 / \	,	<i>,</i> ,,		3				
SS	5	5'0"			4	25.8	125.2	2040	15.5
	6	Clay - Stiff, Moist,	Silty, Sandy, Variegated w/Brow	n Sand Seams	4				
8C	7				4				
SS		Our Man	0.11		6				
	8	Clay - Stiff, Moist,	Silty, Sandy, Brown		10				
0D	9)'6"			c				
8D SS	10	0			<u>6</u> 7				
	11				7				
	12	Clay - Stiff, Moist,	Silty, Blue						
		2101							<u> </u>
	13	3'0"							
8E	14				3				
SS	15	Sand - Compact, V	Vet. Brown		4				
	16	Cana Compact,	, 2		7				
	17	7'0"							
		<i>1</i> U							
	18								
OF _	19	Clay - Stiff, Moist,	Silty, Sandy, Blue		_				
8F SS	20				5				
	21	0'6"			5				
TVDF (OF SAMPLE	End of Boring	SED WITH NATURAL SOIL	CRO!!	ND W	I ATER OE	SEDV/	TIONS	<u> </u>
	DISTURBED	BURING PLUGG	SED WITH NATURAL SUIL						
	JNDIST. LINER		shown on the logs are from visual	G.W. ENCO G.W. ENCO			5 F		INS.
	SHELBY TUBE	observations. No clas	ssification tests were performed.	G.W. ENCO			7 F		INS.
	SPLIT SPOON ROCK CORE	Standard Penetration Te	est - Driving 2" OD Sampler 1' With	G.W. AFTER			, г Е		INS.
	OTHER -	140# Hammer Falling	30"; Count Made At 6" Intervals.	G.W. VOLU					



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JOB NO. S-19-219 LOG OF SOIL BORING NO. 9
PROJECT: City of Flint Secondary Water Supply

LOCATION: Flint, Michigan

Sample & Type	Depth	Legend		Soil Description		SPT Blows	Moisture %	Natural Wt.	Unc. Comp.	Str.
			6"	Topsoil - Compact, Moist, Sandy, Black w/Roots		per 6"		P.C.F.	Strength	
9A SS	2			Sand - Compact, Moist, Brown w/Pebbles		6 7 7				
9B SS	5		3'9"			10 10 13	5.9			
9C SS	7			Sand - Compact to Very Compact, Moist, Brown w/Pebl	ole &	12 15 17				
9D SS	10			Stone (SM - Silty Sand)	-	13 14 16				
9E	12 13 14		13'0"		-	4				
SS	15 16 17			Sand - Compact, Wet, Brown w/Gravel		5				
9F SS	18 19 20		0010			4 4				
	21		20'6"	End of Boring	-	6				\vdash
D U.L U S.T S S.S S R.C		LINER TUBE POON CORE		* The soil descriptions shown on the logs are from visual observations. No classification tests were performed. Standard Penetration Test - Driving 2" OD Sampler 1' With	GROUN G.W. ENCOU G.W. ENCOU G.W. ON COI G.W. AFTER G.W. VOLUM	JNTEI JNTEI MPLE HO	RED AT ETION URS	13 F F 11 F	T. 0 T.	INS. INS. INS. INS.



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JOB NO. S-19-219 LOG OF SOIL BORING NO. 10
PROJECT: City of Flint Secondary Water Supply

LOCATION: Flint, Michigan

Sample & Type	Depth	Legend		Soil Description		SPT Blows	Moisture %	Natural Wt. P.C.F.	Unc. Comp. Strength	Str.
			4"	Topsoil - Medium Compact, Moist, Sandy, Black w/Roo	ots	per 6"		P.C.F.	Strength	
	1									
10A	2				ļ	2				
SS	3					3				
				Sand - Medium Compact to Compact, Moist, Brown						
10B	4					3				
SS	5					5 5				
	6		6'0"			5				
10C	7				-	3				
SS						3	16.5	106.3		
	8					5				
	9			Sand - Medium Compact to Compact, Wet, Brown (SM - Silty Sand)	ŀ					
10D SS	10			(Cin Cinty Curia)		<u>3</u>				├──
						6				
	11		11'6"							
	12									
	13			Sand - Compact, Wet, Grey						
	14			Sand - Compact, Wet, Grey						
10E			14'6"			2				
SS	15					<u>4</u> 5				<u> </u>
	16					<u> </u>				
	17									
				Clay - Stiff, Moist, Sandy, Blue w/Wet Sand Seams						
\vdash	18			.,,,,,	ŀ					
405	19					F				
10F SS	20				ŀ	<u>5</u>				
	21		20'6"	End of Poving	•	6				
	OF SA			End of Boring BORING PLUGGED WITH NATURAL SOIL	GROU	ND W	ATER OF	SERV	ATIONS	<u> </u> <u>}</u>
	- DISTUR UNDIST. I		,	The son descriptions shown on the logs are from visual	G.W. ENCO					INS.
S.T 8	SHELBY SPLIT SF	TUBE		observations. No classification tests were performed.	G.W. ENCOL G.W. ON CO	MPLE	TION	6 F		INS. INS.
R.C	- ROCK C OTHER -	ORE	8		G.W. AFTER G.W. VOLUM			F	Т.	INS.



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JOB NO. S-19-219 LOG OF SOIL BORING NO. 11
PROJECT: City of Flint Secondary Water Supply

LOCATION: Flint, Michigan

Sample & Type	Depth	Legend		Soil Description		SPT Blows per 6"	Moisture %	Natural Wt. P.C.F.	Unc. Comp. Strength	Str. %
			5"	Topsoil - Compact, Moist, Sandy, Dark Brown w/Roots		per o		1.0.1.	ouchgur	
	1	-								
11A	2	-				4				
SS					•	7				
	3					7				<u> </u>
	4	-		Sand - Medium Compact to Compact, Moist, Brown						
11B				(SP - Poorly Graded Sand)		3				
SS	5					4	3.1	93.5		
	6	-				5				
	<u> </u>	-	6'9"							
11C	7]		Clay - Stiff, Moist, Sandy, Brown		3				
SS	8		7'6"			<u>6</u> 7				
		-	8'6"	Clay - Stiff, Moist, Silty, Sandy, Blue w/Wet Sand Seams	s					
445	9				ļ					
11D SS	10					<u>7</u>				
33	10	1				10				
	11	1								
	12	•								
	- '-									
	13	1		Clay - Stiff, Moist, Blue w/Wet Sand Seams						
	14	-			•					—
11E	'7	1			•	4				
SS	15	1			•	6				
	16	-				9				
	10	1								
	17		17'0"							
	18									
	10	-			ŀ					
	19	1		Clay - Very Stiff, Moist, Silty, Sandy, Blue	<u>.</u>					
11F	20					6				
SS	20	-	20'6"		ŀ	9				
	21			End of Boring	•					
	OF SA - DISTUF	MPLE		BORING PLUGGED WITH NATURAL SOIL			ATER OF			_
U.L I	UNDIST.	LINER		" The soil descriptions shown on the logs are from visual	G.W. ENCOL G.W. ENCOL					INS. INS.
	SHELBY SPLIT SI			observations. No classification tests were performed.	G.W. ON CO			11 F	T. 6	INS.
R.C.	- ROCK (CORE	5		G.W. AFTER			F	T.	INS.
	OTHER -	-]	140# Hammer Falling 30"; Count Made At 6" Intervals.	G.W. VOLUM	VIES	∟ignt			



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JOB NO. S-19-219 LOG OF SOIL BORING NO. 12
PROJECT: City of Flint Secondary Water Supply

LOCATION: Flint, Michigan

Sample & Type	Depth	Legend		Soil Description	E	SPT Blows per 6"	Moisture %	Natural Wt. P.C.F.	Unc. Comp. Strength	Str. %
			5"	Topsoil - Compact, Moist, Sandy, Dark Brown w/Roots		per 6		F.U.F.	Strength	
	1	-								
12A	2			Possible Fill Sand - Compact, Moist, Brown w/Pebble 8	k _	5				
SS	3	-		occ/Stone		7				
		-	3'6"							
12B	4	-				2				<u> </u>
SS	5	1				3	12.2	121.8		
	6			Possible Fill Sand - Medium Compact, Moist, Clayey, B w/occ Pebble & Stone (SC - Clayey Sand)	Brown	4				
		-		Widee I cobie a didne (do - diayey dana)						
SS	7	-	7'7"		-	<u>3</u>				
	8			Clay - Stiff, Moist, Sandy, Variegated w/Black Tint		5				
	9		8'6"							
12D	40		9'6"	Clay - Stiff, Moist, Silty, Blue		8				
SS	10	-				9 11				
	11									
	12	_								
	13	-								
		_								
12E	14	-				4				
SS	15	1		Sand - Compact, Wet, Fine, Grey		4				
	16	-		Cana Compact, Wes, Fine, Croy		7				
		1								
	17	1			-					
	18									
	19	1								
12F SS	20					7				
33		1	20'6"		-	9				
TVDE	21	MBLE		End of Boring						
	OF SA			BORING PLUGGED WITH NATURAL SOIL	<u>GROUN</u> 3.W. ENCOU		ATER OF			<u>S</u> INS.
	UNDIST. SHELBY		,	observations. No classification tests were performed.	S.W. ENCOU	NTE	RED AT	F	т.	INS.
S.S	SPLIT SI	POON	9	i la	S.W. ON CON S.W. AFTER			12 F	T. 7 T.	INS.
	OTHER -				S.W. VOLUM				••	



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JOB NO. S-19-219 LOG OF SOIL BORING NO. 13
PROJECT: City of Flint Secondary Water Supply

LOCATION: Flint, Michigan

Sample & Type	Depth	Legend		Soil Description	E	SPT Blows	Moisture %	Natural Wt.	Unc. Comp.	Str.
1 1			6"	Topsoil - Medium Compact, Moist, Sandy, Dark Brown v		per 6"		P.C.F.	Strength	
13A SS	2		3'6"	Sand - Medium Compact, Moist, Brown w/occ Pebble &		3 4 4				
13B SS	5	X	6'0"	Clay - Very Stiff, Moist, Silty, Sandy, Variegated (CL - Low Plasticity Clay)		4 7 9	18.6	132.2	8029	15.5
13C SS	8		8'3"	Clay - Very Stiff, Moist, Silty, Sandy, Brown & Blue		5 7 10				
13D SS	9 10 11		8'3" 11'6"	Clay - Stiff, Moist, Silty, Sandy, Blue	-	4 6 8				
13E SS	12 13 14 15 16 17 18 19		20'6"	Clay - Very Stiff, Moist, Silty, Sandy, Blue w/occ Pebble		7 9 10 8 11 12				
	21			End of Boring					_	
TYPE (BORING PLUGGED WITH NATURAL SOIL			ATER OF			_
U.L U S.T S		LINER TUBE		observations. No classification tests were performed.	S.W. ENCOUP S.W. ENCOUP S.W. ON COM	NTEI /IPLE	RED AT	F' F'	Г. Г.	INS. INS.
	ROCK C				S.W. AFTER S.W. VOLUM			F ⁻	Г.	INS.



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JOB NO. S-19-219 LOG OF SOIL BORING NO. 14
PROJECT: City of Flint Secondary Water Supply

LOCATION: Flint, Michigan

Sample & Type	Depth	Legend		Soil Description	SPT Blows per 6"	Moisture %	Natural Wt. P.C.F.	Unc. Comp. Strength	Str. %
			4"	Topsoil - Medium Compact, Moist, Sandy, Dark Brown w/Roots				Ŭ	
14A SS	3			Sand - Medium Compact, Moist, Slightly Clayey, Brown w/Pebbl	5				
14B SS 14C SS	5 6 7	X	4'6" 7'0"	Clay - Stiff, Moist, Sandy, Variegated (CL - Low Plasticity Clay	8	12.9	134.5	4988	12.1
14D SS	9 10 11		11'6"	Clay - Very Stiff to Extremely Stiff, Moist, Silty, Sandy, Brown w/occ Pebble & Stone	13 10 15 19				
14E SS	12 13 14 15 16		11'6"	Clay - Very Stiff, Moist, Sandy, Blue w/occ Pebble	8 9 9				
14F SS	18 19 20 21 OF SA		20'6"	End of Boring	7 8 10	(ATED O		A TIONS	
D. U.L S.T S.S R.C.	- DISTUF UNDIST. SHELBY SPLIT SI - ROCK O	RBED LINER TUBE POON CORE		* The soil descriptions shown on the logs are from visual observations. No classification tests were performed. Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30"; Count Made At 6" Intervals.	OUNTE OUNTE COMPL ER HO	RED AT ETION OURS	F F F	T. T.	INS. INS. INS. INS.



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JOB NO. S-19-219 LOG OF SOIL BORING NO. 15
PROJECT: City of Flint Secondary Water Supply

LOCATION: Flint, Michigan

	1				Ī	SPT		Natural	Unc.	
Sample & Type	Depth	Legend		Soil Description		Blows per 6"	Moisture %	Wt. P.C.F.	Comp. Strength	Str. %
			6"	Topsoil - Medium Compact, Moist, Sandy, Dark Brown v	w/Roots	per 0		1.0.1.	Ottorigui	
	1									
454				Sand - Medium Compact, Moist, Brown w/Pebble	-					
15A SS	2	-	2'6"	• , ,	-	<u>3</u>				
33	3	/	20			5				
		 \								
	4] \ /		Clay - Stiff, Moist, Silty, Sandy, Variegated w/occ Pebble	. [
15B		I X I		(CL - Low Plasticity Clay)		3				
SS	5	$I / \setminus I$		(OL LOW Flactionty Glay)	-	4	14.3	131.5	2482	15.5
	6	/ \	6'0"		-	6				
		/	00							
15C	7]				5				
SS]				8				
	8				-	14				
	9	-			-					
15D		1		Clay - Very Stiff, Moist, Sandy, Brown	-	8				
SS	10	1		, ,,,,		13				
]				17				
	11				-					
	12]			t					
	13		12'6"		-					
	13	-			-					
	14									
15E	45				-	10				
SS	15				-	11 12				
	16	1			-	14				
				Clay Vary Stiff Maist Silty Candy Plys w/see Dahhla	<u> </u>					
	17			Clay - Very Stiff, Moist, Silty, Sandy, Blue w/occ Pebble	Ţ					
	40									
-	18				}					
	19	-			}					
15F	1.0	1			ŀ	10				
SS	20					12				
	04		20'6"	Find of Desires	ļ	15				
TYPE	21 OF SA	MPI F		End of Boring BORING PLUGGED WITH NATURAL SOIL	GPOIII	אר חוי	ATER OF	SEDV	TIONS	1
	- DISTUF			ام	<u>GROUI</u> S.W. ENCOL			50ERV <i>F</i>		INS.
	JNDIST.				S.W. ENCOL			F		INS.
	SHELBY SPLIT SI			G	.W. ON CO	MPLE	TION	F	Г.	INS.
R.C	ROCK (CORE			S.W. AFTER			F	Г.	INS.
(OTHER -	-		140# Hammer Falling 30"; Count Made At 6" Intervals.	S.W. VOLUN	IES	мопе			



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JOB NO. S-19-219 LOG OF SOIL BORING NO. 16
PROJECT: City of Flint Secondary Water Supply

LOCATION: Flint, Michigan

					Т	SPT		Natural	Unc.	
Sample & Type	Depth	Legend		Soil Description		Blows	Moisture %	Wt.	Comp.	Str. %
,,,,,			4"	Asphalt	+	per 6"	,,	P.C.F.	Strength	,,,
	1	1	1'0"	Fill Sand - Medium Compact, Moist, Dark Brown w/Bro	_{ken}					
	+ '-		1 ' "	Asphalt						
16A	2	1		Λορπαιτ	 	2				
SS		1		Sand - Medium Compact, Moist, Brown w/Pebble	<u> </u>	3				
	3	_	2'8"		<u> </u>	5				
		\sim	3'6"	Clay - Firm, Moist, Silty, Sandy, Variegated w/Green Til	nt 📙					
	4									
16B						1				
SS	5					1	15.2			
]			L	1				
	6	_			-					
160	-	1				•				
16C SS	7	4				0				
33	8	4		Sand - Loose, Wet, Fine, Brown (SM-Silty Sand)		1	-			
	0	1		Janu - 20056, Wet, I life, DIOWII (JW-Jilly Janu)	-	1				
	9	1			F		-			
16D		1				0				
SS	10	1			F	0				
		1			F	1				
	11				F					
]								
	12		12'0"		L					
	4.0	-			<u> </u>					
	13	4					-	-		
	14	-								
16E	14	1			-	4				
SS	15	1		Clay - Stiff, Moist, Silty, Sandy, Blue w/occ Pebble	F	5				
	- 10	1			F	7				
	16	1				•				
		1			F					
	17		17'0"		T T					
									_	
	18	_								
	1	4		O	<u> </u>					
465	19	4		Clay - Extremely Stiff, Moist, Sandy, Blue w/occ Pebble	·					
16F	20	-				9	-	-		
SS	20	-				16 18				
	21		4	Continued	-	10				
TYPE		MPLE		BORING PLUGGED WITH NATURAL SOIL	GROUN	ND W	I ATER OE	SFRV	ATIONS	
D.	- DISTUF	RBED			G.W. ENCOU					INS.
	UNDIST.			The son descriptions shown on the logs are from visual	G.W. ENCOU				1. 0 T.	INS.
	SHELBY SPLIT S			observations. No classification tests were performed.	G.W. ON CO					INS.
	- ROCK (8	Standard Penetration Test - Driving 2" OD Sampler 1' With	G.W. AFTER	НО	URS		T.	INS.
	OTHER -			140# Hammer Falling 30"; Count Made At 6" Intervals.	G.W. VOLUM	IES	Heavy			



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JOB NO. S-19-219 LOG OF SOIL BORING NO. 16
PROJECT: City of Flint Secondary Water Supply

LOCATION: Flint, Michigan

Sample & Type		Depth	Legend	Soil Description	SPT Blows per 6"	Moisture %	Natural Wt. P.C.F.	Unc. Comp. Strength	Str. %
		21							
		22							
		23							
		24							
16G SS		25			9 19				
		26		Clay - Extremely Stiff, Moist, Sandy, Blue w/occ Pebble	22				
		27							
	\exists	28							
	\exists	29							
16H SS		30			11 18				
		31		30'6" End of Boring	24				
		32							
		33							
		34							
		35							
		36							
		37							
	\exists	38							
	\exists	39							
	\exists	40							
		41							
D U.L	[1U	DISTUR NDIST. I	LINER	* The soil descriptions shown on the logs are from visual observations. No classification tests were performed. GROU G.W. ENCO	UNTE		3 F		INS. INS.
S.8	S S .C F	HELBY PLIT SF ROCK C THER -	POON CORE	Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30"; Count Made At 6" Intervals. G.W. ON CC G.W. AFTER	MPLE R HO	TION URS	2 F		INS. INS.



PHONE: (810) 603-0766 FAX: (810) 603-0786

JOB NO. S-19-219 LOG OF SOIL BORING NO. 17
PROJECT: City of Flint Secondary Water Supply

LOCATION: Flint, Michigan

Sample & Type	Depth	Legend		Soil Description		SPT Blows	Moisture %	Natural Wt.	Unc. Comp.	Str.
			4"	Topsoil - Medium Compact, Moist, Sandy, Black w/Roots	;	per 6"		P.C.F.	Strength	
17A SS	2		2'9"	Sand - Medium Compact, Moist, Brown w/Pebble & occ/S	Stone	3				
33	3	X	4'0"	Clay - Firm, Moist, Silty, Sandy, Variegated w/Green Tint, Possible Swamp Bottom		2				
17B SS	5	X	6'0"	Clay - Firm, Moist, Silty, Sandy, Variegated w/occ Pebble		2 2				
17C SS	7			Clay - Stiff, Moist, Silty, Sandy, Brown (CL - Low Plastici	ity Clay)	2 3 6	14.7	132.8	2982	15.5
17D SS	9 10 11		9'6"	Clay - Very Stiff, Moist, Silty, Sandy, Blue w/Brown Sand S	Seams	3 5 14				
	12		11'9"	Clay - Stiff, Moist, Silty, Sandy, Blue w/occ Pebble						
17E SS	15		15'0"		Crov	3 4 6				
	17		17'0"	Clay - Stiff, Moist, Silty, Sandy, Blue w/occ Pebble & Wet Sand Seams	Grey					
17F SS	18 19 20			Clay - Extremely Stiff, Moist, Silty, Sandy, Blue w/occ Peb	oble	10 18 22				
	21			Continued	-					
D U.L U S.T S S.S	OF SA - DISTUR JNDIST. SHELBY SPLIT SI - ROCK O	LINER TUBE POON		observations. No classification tests were performed. G.' G.'	GROUN W. ENCOU W. ENCOU W. ON COI W. AFTER	JNTEF JNTEF MPLE	RED AT		Г. 0 Г. Г. 6	INS. INS. INS. INS.
	OTHER -				W. VOLUN					



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JOB NO. S-19-219 LOG OF SOIL BORING NO. 17
PROJECT: City of Flint Secondary Water Supply

LOCATION: Flint, Michigan

Sample & Type		Depth	Legend	Soil Description	SPT Blows per 6"	Moisture %	Natural Wt. P.C.F.	Unc. Comp. Strength	Str. %
		21			ps. 5				
		22							
		23							
17G		24			10				
SS		25		Clay - Extremely Stiff, Moist, Silty, Sandy, Blue w/occ Pebble	13 14				
		26		Glay - Extremely Guin, Moist, Girty, Garidy, Blue Wood i ebble					
		27							
	\dashv	28							
		29							
17H					12				
SS		30		30'6"	17 18				
		31		End of Boring					
		32							
		33							
		34							
		35							
		36							
	_	37							
		38							
		39							
		40							
	\exists	41							
			MPLE BED	C.W. FNCO		ATER OF			INS.
U.L	U	NDIST. HELBY	LINER	* The soil descriptions shown on the logs are from visual observations. No classification tests were performed. G.W. ENCO	UNTE	RED AT	F	T.	INS.
S.8	S S .C I	SPLIT SE ROCK C	POON CORE	G.W. ON CO Standard Penetration Test - Driving 2" OD Sampler 1' With G.W. AFTER	R HO	URS			INS. INS.
	С	THER -		140# Hammer Falling 30"; Count Made At 6" Intervals. G.W. VOLU	MES	Heavy			



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MECHANICAL ANALYSIS REPORT

Date:	1/19/2019		Job No.	S-19-	-219	Client:	Wade Trim
Project:	Secondary Water Supply Granular		Location:	Flint	Flint, MI 1B		On-Site
Material:			Sample Location:	11			
	SIEVE SIZE	SPEC	WEIGHT RETAINED	FRACTION RETAINED	% RETAINED	CUM. PASS	
	1 1/2"		0.0	0.0	0.0	100	
	1"		0.0	0.0	0.0	100	
	3/4"		0.0	0.0	0.0	100	
	1/2"		4.1	3.1	3.1	97	
	3/8"		1.2	0.9	4.1	96	
	#4		6.8	5.2	9.3	91	
	#8		6.1	4.7	14.0	86	
	#16		2.4	1.8	15.8	84	
	#30		12.2	9.4	25.2	75	
	#50		15.7	12.1	37.3	63	
	#100		35.3	27.1	64.4	36	
	#200		13.6	10.4	74.8	25	
	LBW		32.8	25.2	100.0	0	
	TOTAL		130.2]			

			WT (gm)	%	SPEC %
DRY WT.	130.2	CRUSHED PARTICLES			
WASH WT.	99.0	CLAY-IRONSTONE			
LOSS	31.2	(1) SOFT PARTICLES INCLUDING			
PAN	1.6	CLAY-IRONSTONE			
TOTAL LBW	32.8	(2) CHERT			
% LBW	25.2	SUM of (1)+(2)	0.0		

Under the Unified Classification System this material would be classified SM or Silty Sand



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MECHANICAL ANALYSIS REPORT

Date:	1/19/2019		Job No.	S-19-219		Client:	Wade Trim	
Project:	Secondary Water Supply Granular		_Location: Sample	Flint, MI 3B		Supplier:	On-Site	
Material:			Location:			Spec.:		
	SIEVE SIZE	SPEC	WEIGHT RETAINED	FRACTION RETAINED	% RETAINED	CUM. PASS		
	1 1/2"		0.0	0.0	0.0	100		
	1"		0.0	0.0	0.0	100		
	3/4"		0.0	0.0	0.0	100		
	1/2"		0.0	0.0	0.0	100		
	3/8"		0.0	0.0	0.0	100		
	#4		0.0	0.0	0.0	100		
	#8		0.0	0.0	0.0	100		
	#16		1.0	0.9	0.9	99		
	#30		4.7	4.2	5.1	95		
	#50		5.9	5.2	10.3	90		
	#100		50.6	44.9	55.2	45		
	#200		33.6	29.8	85.0	15		
	LBW		16.9	15.0	100.0	0		
	TOTAL		112.7		-			

			WT (gm)	%	SPEC %
DRY WT.	112.7	CRUSHED PARTICLES			
WASH WT.	97.0	CLAY-IRONSTONE			
LOSS	15.7	(1) SOFT PARTICLES INCLUDING			
PAN	1.2	CLAY-IRONSTONE			
TOTAL LBW	16.9	(2) CHERT			
% LBW	15.0	SUM of (1)+(2)	0.0		

Under the Unified Classification System this material would be classified SM or Silty Sand



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MECHANICAL ANALYSIS REPORT

Date:	1/19/2019		Job No.	S-19-219		Client:	Wade Trim	
Project:	Secondary Water Supply Granular		_Location:	Flint	Flint, MI		On-Site	
Material:			Sample Location:	9B		Spec.:		
	SIEVE SIZE	SPEC	WEIGHT RETAINED	FRACTION RETAINED	% RETAINED	CUM. PASS		
	1 1/2"		0.0	0.0	0.0	100		
	1"		0.0	0.0	0.0	100		
	3/4"		0.0	0.0	0.0	100		
	1/2"		0.0	0.0	0.0	100		
	3/8"		2.8	2.6	2.6	97		
	#4		21.0	19.2	21.8	78		
	#8		22.1	20.3	42.1	58		
	#16		10.1	9.3	51.3	49		
	#30		18.9	17.3	68.7	31		
	#50		4.2	3.8	72.5	27		
	#100		6.5	6.0	78.5	22		
	#200		5.0	4.6	83.0	17		
	LBW		18.5	17.0	100.0	0		
	TOTAL		109.1					

			WT (gm)	%	SPEC %
DRY WT.	109.1	CRUSHED PARTICLES			
WASH WT.	91.3	CLAY-IRONSTONE			
LOSS	17.8	(1) SOFT PARTICLES INCLUDING			
PAN	0.7	CLAY-IRONSTONE			
TOTAL LBW	18.5	(2) CHERT			
% LBW	17.0	SUM of (1)+(2)	0.0		

Under the Unified Classification System this material would be classified SM or Silty Sand



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MECHANICAL ANALYSIS REPORT

Date:	1/19/	1/19/2019		S-19-	S-19-219		Wade Trim
Project: Material:	Secondary Water Supply Granular		Location: Sample Location:			Supplier: Spec.:	On-Site
	SIEVE	SPEC	WEIGHT	FRACTION	% DETAINED	CUM.	
	SIZE		RETAINED	RETAINED			
	1 1/2"		0.0	0.0	0.0	100	
	1"		0.0	0.0	0.0	100	
	3/4"		0.0	0.0	0.0	100	
	1/2"		0.0	0.0	0.0	100	
	3/8"		0.0	0.0	0.0	100	
	#4		0.0	0.0	0.0	100	
	#8		0.3	0.2	0.2	100	
	#16		0.8	0.7	0.9	99	
	#30		6.4	5.3	6.2	94	
	#50		9.9	8.2	14.5	86	
	#100		48.0	39.9	54.4	46	
	#200		33.2	27.6	82.0	18	
	LBW		21.7	18.0	100.0	0	
	TOTAL		120.3		I		
]			
						WT (gm)	% SPEC %

DRY WT. 120.3 CRUSHED PARTICLES WASH WT. 100.1 **CLAY-IRONSTONE** LOSS (1) SOFT PARTICLES INCLUDING 20.2 PAN 1.5 CLAY-IRONSTONE TOTAL LBW 21.7 (2) CHERT % LBW 18.0 SUM of (1)+(2) 0.0

Under the Unified Classification System this material would be classified SM or Silty Sand



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MECHANICAL ANALYSIS REPORT

Date:	Date: 1/19/2019		Job No.	S-19-	-219	Client:	Wade Trim
Project:	Secondary Water Supply		Location:	Flint	Flint, MI		On-Site
Material:	Granular		Sample Location:	11B		Spec.:	
	SIEVE SIZE	SPEC	WEIGHT RETAINED	FRACTION RETAINED	% RETAINED	CUM. PASS	
	1 1/2"		0.0	0.0	0.0	100	
	1"		0.0	0.0	0.0	100	
	3/4"		0.0	0.0	0.0	100	
	1/2"		0.0	0.0	0.0	100	
	3/8"		0.0	0.0	0.0	100	
	#4		0.0	0.0	0.0	100	
	#8		0.0	0.0	0.0	100	
	#16		0.0	0.0	0.0	100	
	#30		0.0	0.0	0.0	100	
	#50		1.7	1.7	1.7	98	
	#100		86.6	84.4	86.1	14	
	#200		10.5	10.2	96.3	4	
	LBW		3.8	3.7	100.0	0	
	TOTAL		102.6				

			WT (gm)	%	SPEC %
DRY WT.	102.6	CRUSHED PARTICLES			
WASH WT.	99.2	CLAY-IRONSTONE			
LOSS	3.4	(1) SOFT PARTICLES INCLUDING			
PAN	0.4	CLAY-IRONSTONE			
TOTAL LBW	3.8	(2) CHERT			
% LBW	3.7	SUM of (1)+(2)	0.0		

Under the Unified Classification System this material would be classified SP or Poorly Graded Sand



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MECHANICAL ANALYSIS REPORT

Project: Material: Si Si 1	Gran IEVE SIZE 1/2" 1" 3/4"		Location: Sample Location: WEIGHT RETAINED 0.0 0.0	FRACTION RETAINED	B % RETAINED 0.0	Supplier: Spec.: CUM. PASS 100	On-Site
Si Si	IEVE SIZE 1/2" 1"		WEIGHT RETAINED 0.0	FRACTION RETAINED 0.0	% RETAINED 0.0	CUM. PASS	
1	SIZE 1/2" 1"	SPEC	RETAINED 0.0	RETAINED 0.0	RETAINED 0.0	PASS	
1	1/2"		0.0	0.0	0.0		
			0.0	0.0	+		•
	2/4"		0.0	0.0	0.0	100	
	3/4		0.0	0.0	0.0	100	
	1/2"		0.0	0.0	0.0	100	
	3/8"		1.7	1.2	1.2	99	
	#4		4.0	2.9	4.1	96	
	#8		4.1	3.0	7.1	93	
	#16		2.9	2.1	9.2	91	
	#30		10.1	7.3	16.5	83	
	#50		6.2	4.5	21.0	79	
#	#100		22.5	16.3	37.4	63	
#	#200		14.9	10.8	48.2	52	
I	LBW		71.4	51.8	100.0	0	
TO	OTAL		137.8				

			WT (gm)	%	SPEC %
DRY WT.	137.8	CRUSHED PARTICLES			
WASH WT.	68.0	CLAY-IRONSTONE			
LOSS	69.8	(1) SOFT PARTICLES INCLUDING			
PAN	1.6	CLAY-IRONSTONE			
TOTAL LBW	71.4	(2) CHERT			
% LBW	51.8	SUM of (1)+(2)	0.0		

Under the Unified Classification System this material would be classified SC or Silty Clay. The loss by wash on this sample is over 50% so it could also be classified as CL or a Clay with Low Plasticity.



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MECHANICAL ANALYSIS REPORT

Date:	11/8/2	2019	Job No.	S-19-	-219	Client:	Wade Trim
Project:	Secondar Sup	•	Location:	Flint, MI		Supplier:	On-Site
Material:	Gran	ular	Sample Location:	16	В	Spec.:	
	SIEVE SIZE	SPEC	WEIGHT RETAINED	FRACTION RETAINED	% RETAINED	CUM. PASS	
	1 1/2"		0.0	0.0	0.0	100	
	1"		0.0	0.0	0.0	100	
	3/4"		0.0	0.0	0.0	100	
	1/2"		0.0	0.0	0.0	100	
	3/8"		0.0	0.0	0.0	100	
	#4		0.0	0.0	0.0	100	
	#8		0.0	0.0	0.0	100	
	#16		0.0	0.0	0.0	100	
	#30		0.0	0.0	0.0	100	
	#50		1.6	1.5	1.5	98	
	#100		85.6	82.1	83.7	16	
	#200		10.7	10.3	94.0	6	
	LBW		6.3	6.0	100.0	0	
	TOTAL		104.2				-

			WT (gm)	%	SPEC %
DRY WT.	104.2	CRUSHED PARTICLES			
WASH WT.	98.3	CLAY-IRONSTONE			
LOSS	5.9	(1) SOFT PARTICLES INCLUDING			
PAN	0.4	CLAY-IRONSTONE			
TOTAL LBW	6.3	(2) CHERT			
% LBW	6.0	SUM of (1)+(2)	0.0		

Under the Unified Classification System this material would be classified SP or Poorly Graded Sand



Natural Unit Weight (lb./ft.3)

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UNCONFINED COMPRESSION TEST

Date: 9/19/2019 Job No. S-19-219 Project: Flint Secondary Water Supply

Sample: 2B Depth: 5'

Unconfined Compression Strength (lb./ft.²) 3938

Strain at Failure (%) 13.8

129.4

Deflection	Strain	Area	Load	Pressure
in.	%	in ²	lb.	lb/ft ²
0.025	0.9	1.50	3.3	317
0.050	1.7	1.51	6.7	639
0.075	2.6	1.52	9.7	916
0.100	3.4	1.54	12.8	1198
0.125	4.3	1.55	16.0	1485
0.150	5.2	1.57	19.2	1766
0.175	6.0	1.58	23.0	2096
0.200	6.9	1.59	26.3	2375
0.225	7.8	1.61	29.9	2675
0.250	8.6	1.62	33.9	3004
0.275	9.5	1.64	36.5	3204
0.300	10.3	1.66	39.3	3417
0.325	11.2	1.67	42.1	3625
0.350	12.1	1.69	44.2	3769
0.375	12.9	1.71	45.9	3876
0.400	13.8	1.72	47.1	3938
0.425	14.7	1.74		0
0.450	15.5	1.76		0

SAMPLE DIAMETER (in.)	1.375	WET WEIGHT (g)	146.3
SAMPLE LENGTH (in.)	2.900	DRY WEIGHT (g)	124.4
SAMPLE VOLUME (in. 3)	4.306	MOISTURE (%) *	17.6
SAMPLE VOLUME (cm ³)	70.566	WET DENSITY pcf	129.4

^{*} Moisture content was determined on entire sample after compression test



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UNCONFINED COMPRESSION TEST

Flint Secondary Water Date: 9/19/2019 Job No. S-19-219 **Project: Supply** 5' Sample: **4B** Depth: **Unconfined Compression Strength (lb./ft.²)** 1778 Strain at Failure (%) 15.5 Natural Unit Weight (lb./ft.3) 130.8

Deflection	Strain	Area in ²	Load	Pressure lb/ft ²
in.	%		lb.	
0.025	0.9	1.50	2.6	250
0.050	1.7	1.51	4.5	429
0.075	2.6	1.52	5.7	538
0.100	3.4	1.54	7.1	665
0.125	4.3	1.55	8.4	779
0.150	5.2	1.57	9.7	892
0.175	6.0	1.58	11.1	1011
0.200	6.9	1.59	12.3	1111
0.225	7.8	1.61	13.5	1208
0.250	8.6	1.62	14.7	1303
0.275	9.5	1.64	15.8	1387
0.300	10.3	1.66	16.8	1461
0.325	11.2	1.67	17.8	1533
0.350	12.1	1.69	18.7	1595
0.375	12.9	1.71	19.6	1655
0.400	13.8	1.72	20.3	1697
0.425	14.7	1.74	21.0	1738
0.450	15.5	1.76	21.7	1778

SAMPLE DIAMETER (in.)	1.375	WET WEIGHT (g)	147.9
SAMPLE LENGTH (in.)	2.900	DRY WEIGHT (g)	133.4
SAMPLE VOLUME (in. ³)	4.306	MOISTURE (%) *	10.9
SAMPLE VOLUME (cm ³)	70.566	WET DENSITY pcf	130.8

^{*} Moisture content was determined on entire sample after compression test



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UNCONFINED COMPRESSION TEST

Flint Secondary Water Date: 9/19/2019 Job No. S-19-219 **Project: Supply** 5' Sample: 5B Depth: Unconfined Compression Strength (lb./ft.²) 2097 Strain at Failure (%) 15 Natural Unit Weight (lb./ft.3) 122.3

Deflection	Strain	Area	Load	Pressure
in.	%	in ²	lb.	lb/ft ²
0.025	0.9	1.50	1.6	154
0.050	1.7	1.51	2.5	238
0.075	2.6	1.52	3.4	321
0.100	3.4	1.54	4.3	403
0.125	4.3	1.55	5.3	492
0.150	5.2	1.57	6.4	589
0.175	6.0	1.58	7.5	683
0.200	6.9	1.59	8.7	786
0.225	7.8	1.61	10.1	903
0.250	8.6	1.62	11.5	1019
0.275	9.5	1.64	12.9	1132
0.300	10.3	1.66	14.4	1252
0.325	11.2	1.67	16.2	1395
0.350	12.1	1.69	18.0	1535
0.375	12.9	1.71	20.2	1706
0.400	13.8	1.72	21.9	1831
0.425	14.7	1.74	23.9	1978
0.450	15.5	1.76	25.6	2097

SAMPLE DIAMETER (in.)	1.375	WET WEIGHT (g)	138.3
SAMPLE LENGTH (in.)	2.900	DRY WEIGHT (g)	116.7
SAMPLE VOLUME (in. ³)	4.306	MOISTURE (%) *	18.5
SAMPLE VOLUME (cm ³)	70.566	WET DENSITY pcf	122.3

^{*} Moisture content was determined on entire sample after compression test



Natural Unit Weight (lb./ft.3)

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UNCONFINED COMPRESSION TEST

Date: 9/19/2019 Job No. S-19-219 Project: Flint Secondary Water Supply

Sample: 6B Depth: 5'

Unconfined Compression Strength (lb./ft.²) 11264

Strain at Failure (%) 14.7

140.1

Deflection in.	Strain %	Area in ²	Load lb.	Pressure lb/ft ²
0.025	0.9	1.50	15	1442
0.050	1.7	1.51	24.7	2354
0.075	2.6	1.52	34.1	3221
0.100	3.4	1.54	44.5	4167
0.125	4.3	1.55	52.5	4872
0.150	5.2	1.57	61.6	5665
0.175	6.0	1.58	70.5	6424
0.200	6.9	1.59	77.6	7006
0.225	7.8	1.61	85.1	7612
0.250	8.6	1.62	91.7	8126
0.275	9.5	1.64	97.8	8585
0.300	10.3	1.66	104.0	9042
0.325	11.2	1.67	109.1	9394
0.350	12.1	1.69	113.8	9704
0.375	12.9	1.71	118.8	10031
0.400	13.8	1.72	122.2	10216
0.425	14.7	1.74	136.1	11264
0.450	15.5	1.76	129.7	10626

SAMPLE DIAMETER (in.)	1.375	WET WEIGHT (g)	158.4
SAMPLE LENGTH (in.)	2.900	DRY WEIGHT (g)	135.7
SAMPLE VOLUME (in. ³)	4.306	MOISTURE (%) *	16.7
SAMPLE VOLUME (cm ³)	70.566	WET DENSITY pcf	140.1

^{*} Moisture content was determined on entire sample after compression test



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UNCONFINED COMPRESSION TEST

Flint Secondary Water Date: 9/19/2019 Job No. S-19-219 **Project: Supply 7B** 5' Sample: Depth: **Unconfined Compression Strength (lb./ft.²)** 4867 Strain at Failure (%) 15.5 Natural Unit Weight (lb./ft.3) 129.4

Deflection	Strain	Area	Load	Pressure
in.	%	in ²	lb.	lb/ft ²
0.025	0.9	1.50	6.9	663
0.050	1.7	1.51	11.1	1058
0.075	2.6	1.52	15.0	1417
0.100	3.4	1.54	19.2	1798
0.125	4.3	1.55	23.1	2144
0.150	5.2	1.57	27.1	2492
0.175	6.0	1.58	30.8	2807
0.200	6.9	1.59	34.4	3106
0.225	7.8	1.61	37.9	3390
0.250	8.6	1.62	41.1	3642
0.275	9.5	1.64	44.2	3880
0.300	10.3	1.66	47.1	4095
0.325	11.2	1.67	49.7	4280
0.350	12.1	1.69	52.2	4451
0.375	12.9	1.71	54.3	4585
0.400	13.8	1.72	56.1	4690
0.425	14.7	1.74	57.9	4792
0.450	15.5	1.76	59.4	4867

SAMPLE DIAMETER (in.)	1.375	WET WEIGHT (g)	146.3
SAMPLE LENGTH (in.)	2.900	DRY WEIGHT (g)	117.7
SAMPLE VOLUME (in. ³)	4.306	MOISTURE (%) *	24.3
SAMPLE VOLUME (cm ³)	70.566	WET DENSITY pcf	129.4

^{*} Moisture content was determined on entire sample after compression test



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UNCONFINED COMPRESSION TEST

Flint Secondary Water Date: 9/19/2019 Job No. S-19-219 **Project: Supply** 5' Sample: 8B Depth: **Unconfined Compression Strength (lb./ft.²)** 2040 Strain at Failure (%) 15.5 Natural Unit Weight (lb./ft.3) 125.2

Deflection	Strain	Area	Load	Pressure
in.	%	in ²	lb.	lb/ft ²
0.025	0.9	1.50	1.4	135
0.050	1.7	1.51	2.3	219
0.075	2.6	1.52	3.5	331
0.100	3.4	1.54	4.8	449
0.125	4.3	1.55	6.0	557
0.150	5.2	1.57	7.4	681
0.175	6.0	1.58	8.8	802
0.200	6.9	1.59	10.3	930
0.225	7.8	1.61	12.0	1073
0.250	8.6	1.62	13.6	1205
0.275	9.5	1.64	15.3	1343
0.300	10.3	1.66	17.0	1478
0.325	11.2	1.67	18.8	1619
0.350	12.1	1.69	20.4	1740
0.375	12.9	1.71	21.9	1849
0.400	13.8	1.72	23.1	1931
0.425	14.7	1.74	24.0	1986
0.450	15.5	1.76	24.9	2040

SAMPLE DIAMETER (in.)	1.375	WET WEIGHT (g)	141.6
SAMPLE LENGTH (in.)	2.900	DRY WEIGHT (g)	112.6
SAMPLE VOLUME (in. ³)	4.306	MOISTURE (%) *	25.8
SAMPLE VOLUME (cm ³)	70.566	WET DENSITY pcf	125.2

^{*} Moisture content was determined on entire sample after compression test



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UNCONFINED COMPRESSION TEST

Flint Secondary Water Date: 9/19/2019 Job No. S-19-219 **Project: Supply** 5' Sample: 13B Depth: **Unconfined Compression Strength (lb./ft.²)** 8029 Strain at Failure (%) 15.5 Natural Unit Weight (lb./ft.3) 132.3

Deflection	Strain	Area	Load	Pressure
in.	%	in ²	lb.	lb/ft ²
0.025	0.9	1.50	4.6	442
0.050	1.7	1.51	8.3	791
0.075	2.6	1.52	12.0	1134
0.100	3.4	1.54	16.1	1507
0.125	4.3	1.55	20.6	1912
0.150	5.2	1.57	25.7	2363
0.175	6.0	1.58	31.2	2843
0.200	6.9	1.59	36.7	3314
0.225	7.8	1.61	42.7	3820
0.250	8.6	1.62	49.5	4387
0.275	9.5	1.64	56.1	4924
0.300	10.3	1.66	62.4	5425
0.325	11.2	1.67	69.2	5959
0.350	12.1	1.69	76.0	6481
0.375	12.9	1.71	82.2	6941
0.400	13.8	1.72	88.0	7357
0.425	14.7	1.74	93.4	7730
0.450	15.5	1.76	98.0	8029

SAMPLE DIAMETER (in.)	1.375	WET WEIGHT (g)	149.6
SAMPLE LENGTH (in.)	2.900	DRY WEIGHT (g)	126.1
SAMPLE VOLUME (in. ³)	4.306	MOISTURE (%) *	18.6
SAMPLE VOLUME (cm ³)	70.566	WET DENSITY pcf	132.3

^{*} Moisture content was determined on entire sample after compression test



Construction Testing Services 3300 E. Bristol Rd Burton, MI 48529 (810) 603-0766 (bus.) (810) 603-0786 (fax) www.constructiontesting.net

UNCONFINED COMPRESSION TEST

Flint Secondary Water Date: 9/19/2019 Job No. S-19-219 **Project: Supply** 5' Sample: 14B Depth: **Unconfined Compression Strength (lb./ft.²)** 4988 Strain at Failure (%) 12.1 Natural Unit Weight (lb./ft.3) 134.5

Deflection in.	Strain %	Area in ²	Load	Pressure lb/ft ²
0.025	0.9	1.50	9.4	904
0.023	1.7	1.51	14.8	1411
0.030	2.6	1.52	18.4	1738
0.100	3.4	1.54	23.1	2163
0.100	4.3	1.55	27.1	2515
0.123	5.2	1.57	31.5	2897
0.175	6.0	1.58	36.0	3280
0.173	6.9	1.59	40.0	3612
0.200	7.8	1.61	44.4	3972
0.223	8.6	1.62	47.7	4227
				4494
0.275	9.5	1.64	51.2 54.5	4738
0.300	11.2	1.67	57.0	4908
0.350	12.1	1.69	58.5	4988
0.375	12.9	1.71	58.9	4973
0.400	13.8	1.72	30.9	0
0.425	14.7	1.74		0
0.450	15.5	1.76		0

SAMPLE DIAMETER (in.)	1.375	WET WEIGHT (g)	152.1
SAMPLE LENGTH (in.)	2.900	DRY WEIGHT (g)	134.7
SAMPLE VOLUME (in. ³)	4.306	MOISTURE (%) *	12.9
SAMPLE VOLUME (cm ³)	70.566	WET DENSITY pcf	134.5

^{*} Moisture content was determined on entire sample after compression test



Natural Unit Weight (lb./ft.3)

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UNCONFINED COMPRESSION TEST

Date: 9/19/2019 Job No. S-19-219 Project: Flint Secondary Water Supply

Sample: 15B Depth: 5'

Unconfined Compression Strength (lb./ft.²) 2482

Strain at Failure (%) 15.5

131.5

Deflection	Strain	Area in ²	Load	Pressure
in.	%	ın	lb.	lb/ft ²
0.025	0.9	1.50	1.8	173
0.050	1.7	1.51	3.5	334
0.075	2.6	1.52	5.0	472
0.100	3.4	1.54	6.7	627
0.125	4.3	1.55	8.3	770
0.150	5.2	1.57	10.0	920
0.175	6.0	1.58	11.7	1066
0.200	6.9	1.59	13.5	1219
0.225	7.8	1.61	15.3	1369
0.250	8.6	1.62	17.0	1506
0.275	9.5	1.64	18.8	1650
0.300	10.3	1.66	20.6	1791
0.325	11.2	1.67	22.3	1920
0.350	12.1	1.69	24.0	2047
0.375	12.9	1.71	25.8	2178
0.400	13.8	1.72	27.4	2291
0.425	14.7	1.74	28.9	2392
0.450	15.5	1.76	30.3	2482

SAMPLE DIAMETER (in.)	1.375	WET WEIGHT (g)	148.7
SAMPLE LENGTH (in.)	2.900	DRY WEIGHT (g)	130.1
SAMPLE VOLUME (in. ³)	4.306	MOISTURE (%) *	14.3
SAMPLE VOLUME (cm ³)	70.566	WET DENSITY pcf	131.5

^{*} Moisture content was determined on entire sample after compression test



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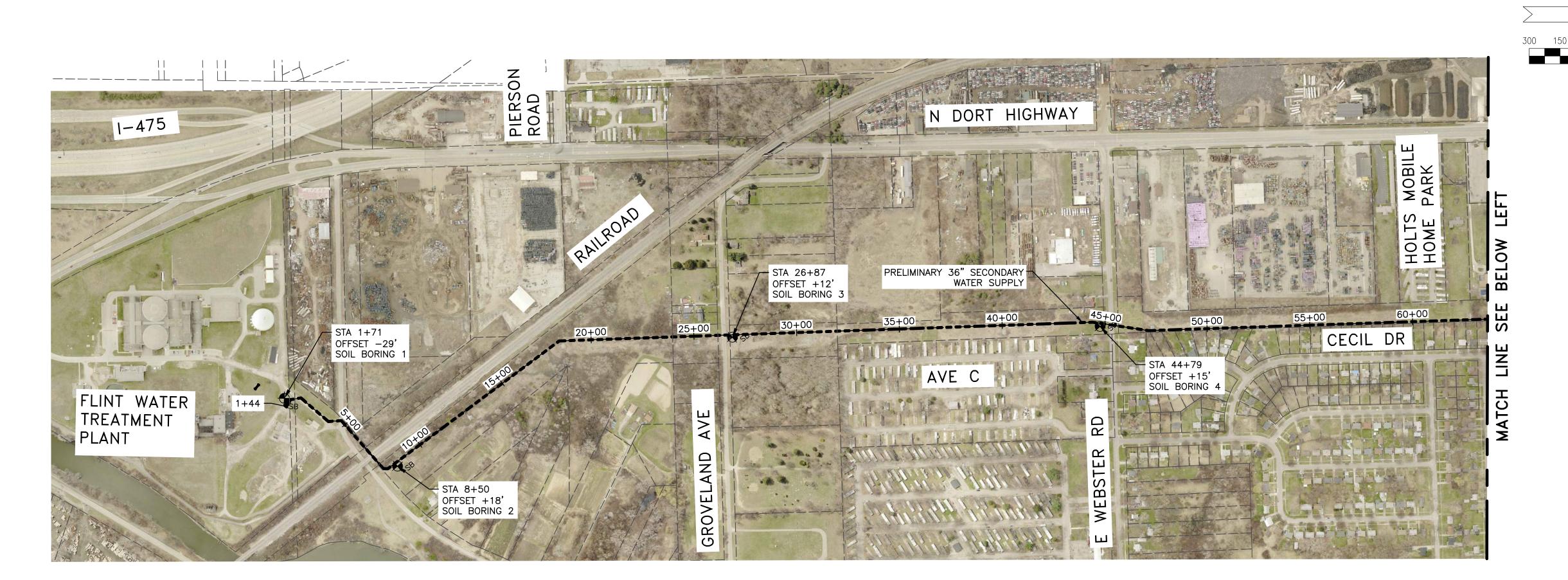
UNCONFINED COMPRESSION TEST

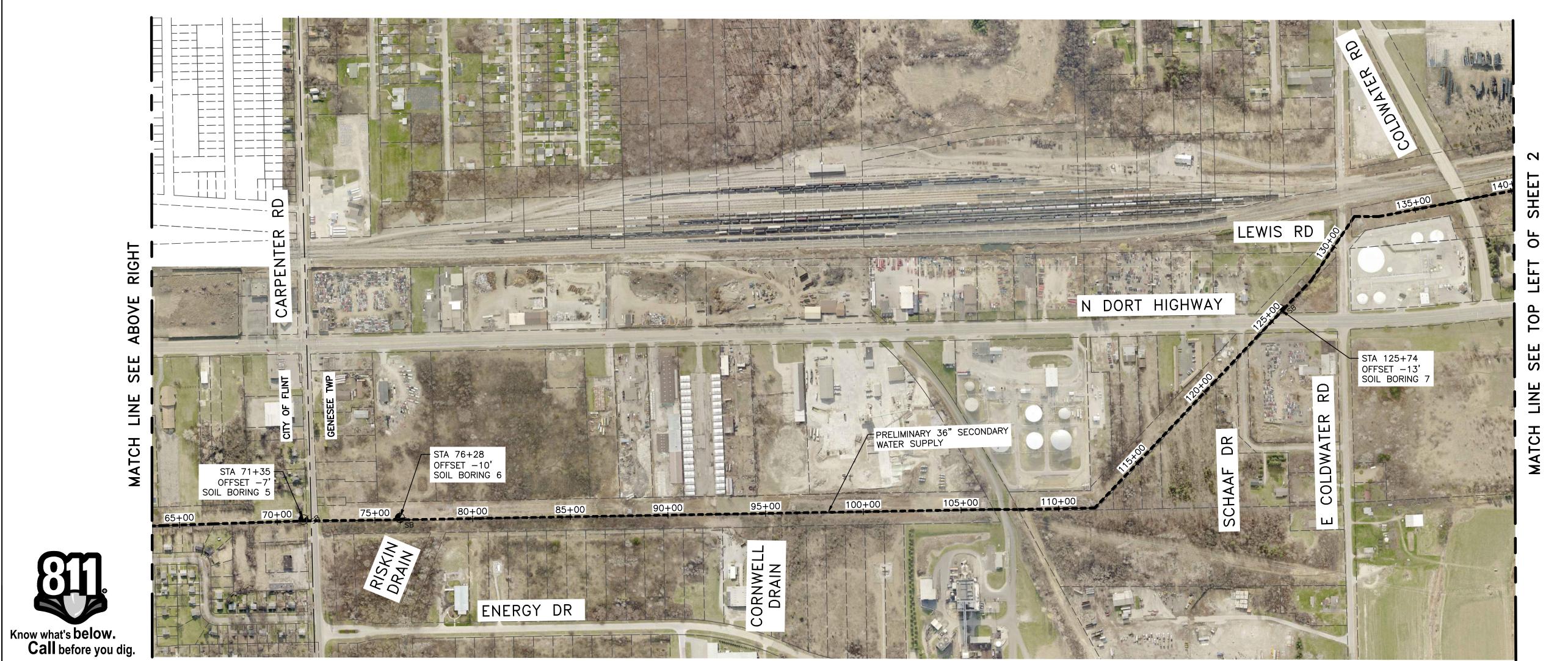
Flint Secondary Water Date: 11/6/2019 Job No. S-19-219 **Project: Supply** 17C 7.5" Sample: Depth: Unconfined Compression Strength (lb./ft.²) 2982 Strain at Failure (%) 15.5 Natural Unit Weight (lb./ft.3) 132.8

Deflection	Strain	Area	Load	Pressure
in.	%	in ²	lb.	lb/ft ²
0.025	0.9	1.50	2.1	202
0.050	1.7	1.51	4.3	410
0.075	2.6	1.52	6.0	567
0.100	3.4	1.54	8.1	758
0.125	4.3	1.55	9.9	919
0.150	5.2	1.57	11.8	1085
0.175	6.0	1.58	14.0	1276
0.200	6.9	1.59	16.2	1463
0.225	7.8	1.61	18.0	1610
0.250	8.6	1.62	20.4	1808
0.275	9.5	1.64	22.5	1975
0.300	10.3	1.66	24.7	2148
0.325	11.2	1.67	26.7	2299
0.350	12.1	1.69	28.8	2456
0.375	12.9	1.71	30.9	2609
0.400	13.8	1.72	32.8	2742
0.425	14.7	1.74	34.7	2872
0.450	15.5	1.76	36.4	2982

SAMPLE DIAMETER (in.)	1.375	WET WEIGHT (g)	150.2
SAMPLE LENGTH (in.)	2.900	DRY WEIGHT (g)	131.0
SAMPLE VOLUME (in. ³)	4.306	MOISTURE (%) *	14.7
SAMPLE VOLUME (cm ³)	70.566	WET DENSITY pcf	132.8

^{*} Moisture content was determined on entire sample after compression test



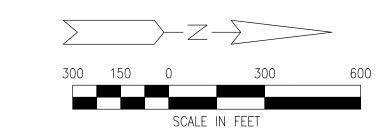


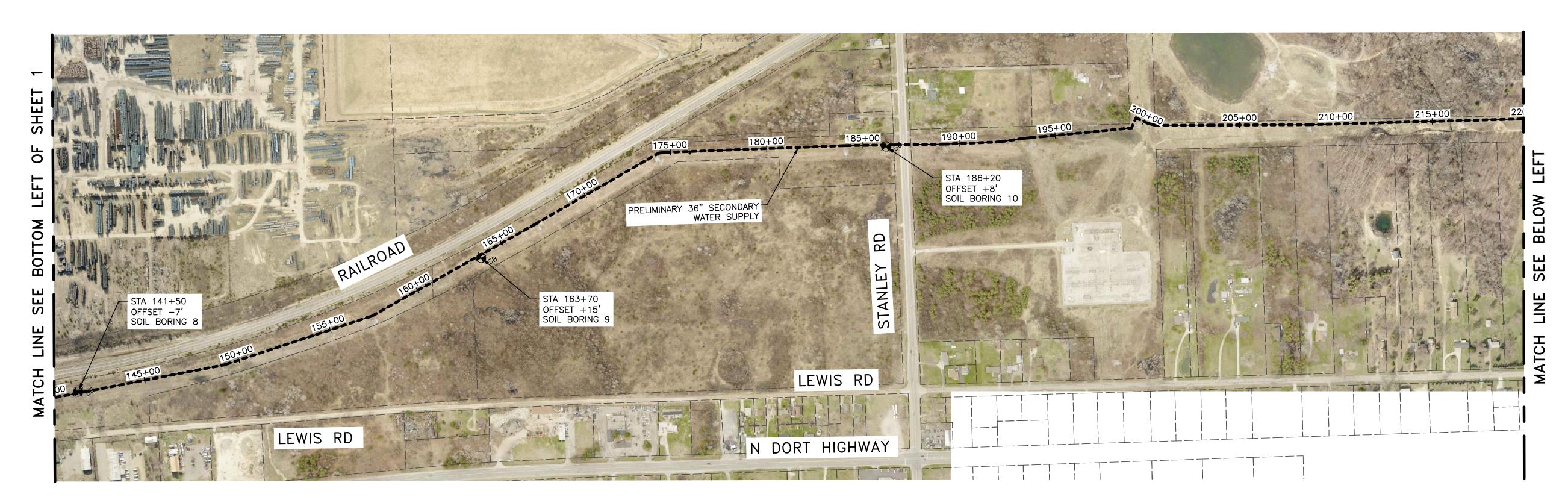


CITY OF FLINT
1 S. SAGINAW STREET
FLINT, MI 48502

1101

JOB NO. COF1068.01F







CITY OF FLINT

1101 S. SAGINAW STREET

FLINT, MI 48502

36" SECONDARY WATER SUPPLY
PRELIMINARY ROUTE SHEET 2

555 S. Saginaw Flint, MI 48502 810.235.2555 www.wadetrim.c

ISSUED FOR: DATE: BY

JOB NO. COF1068.01F

2

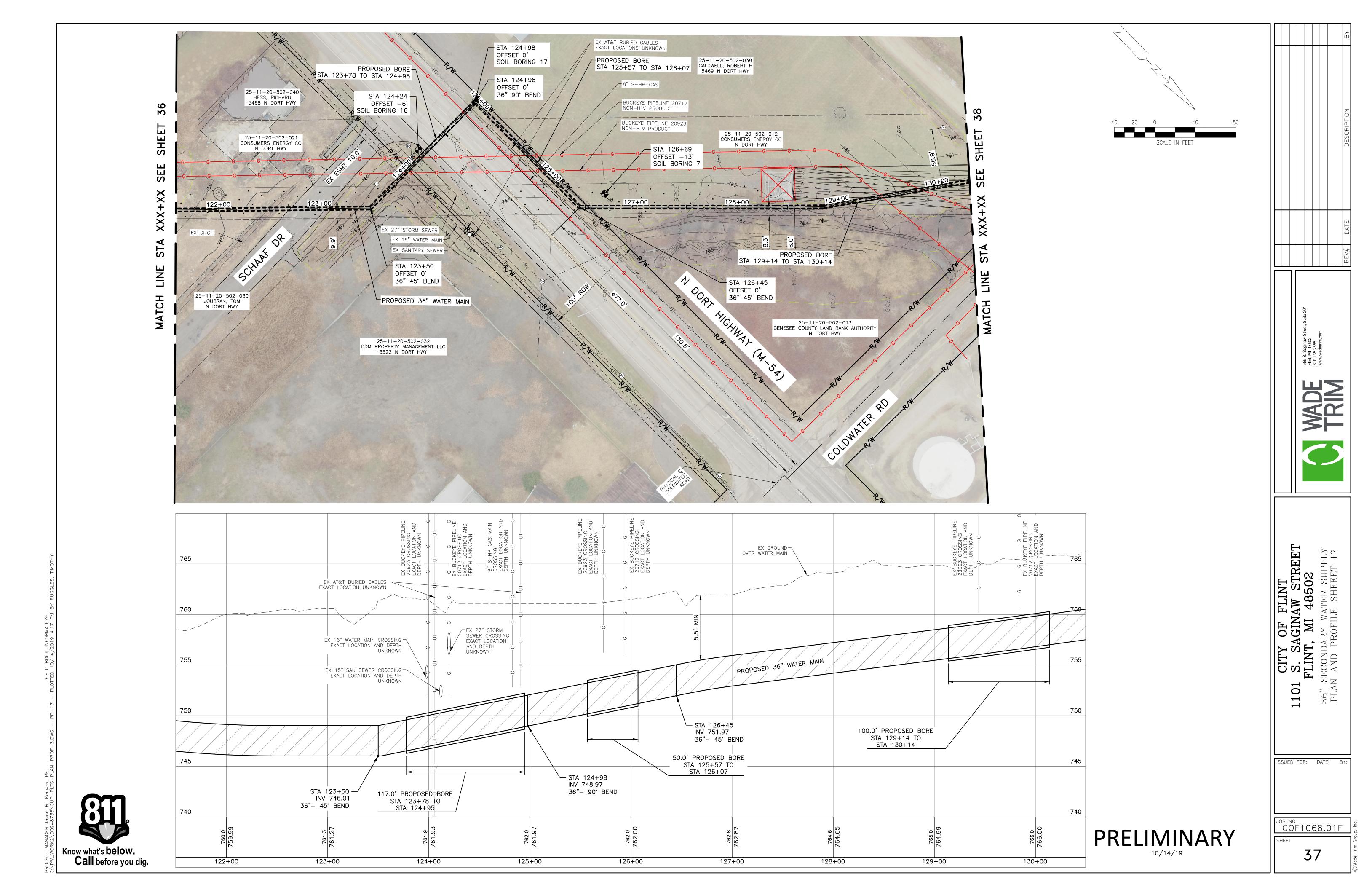
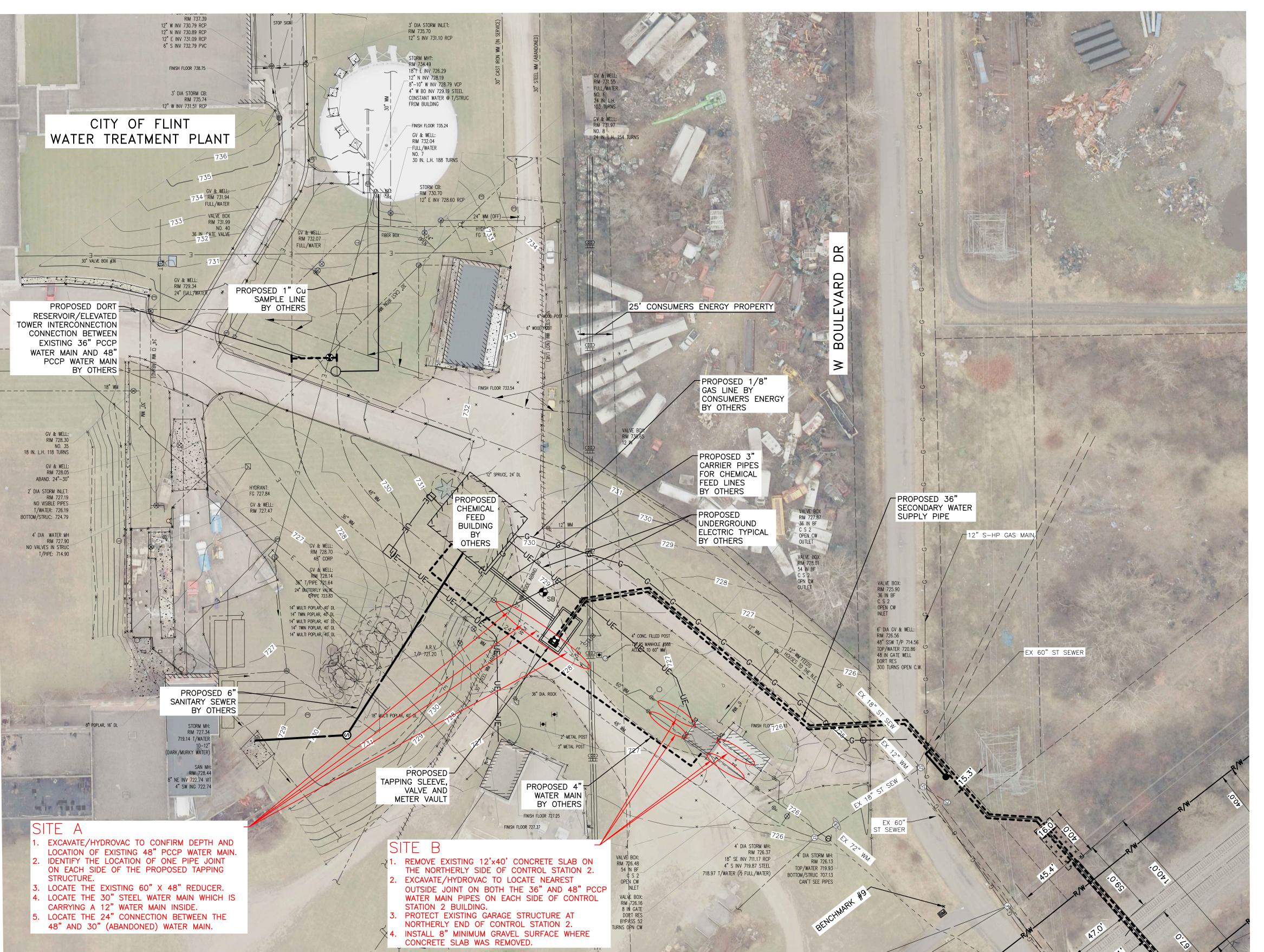
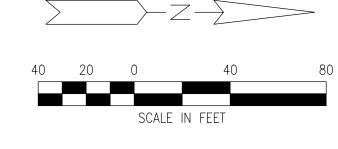


Exhibit 10 Subsurface Utility Investigation





REV# DATE DESCRIPTION

555 S. Saginaw Street, Suite Flint, MI 48502 810.235.2555 www.wadetrim.com



MI 48502
RY WATER SUPPLY
KHIBIT

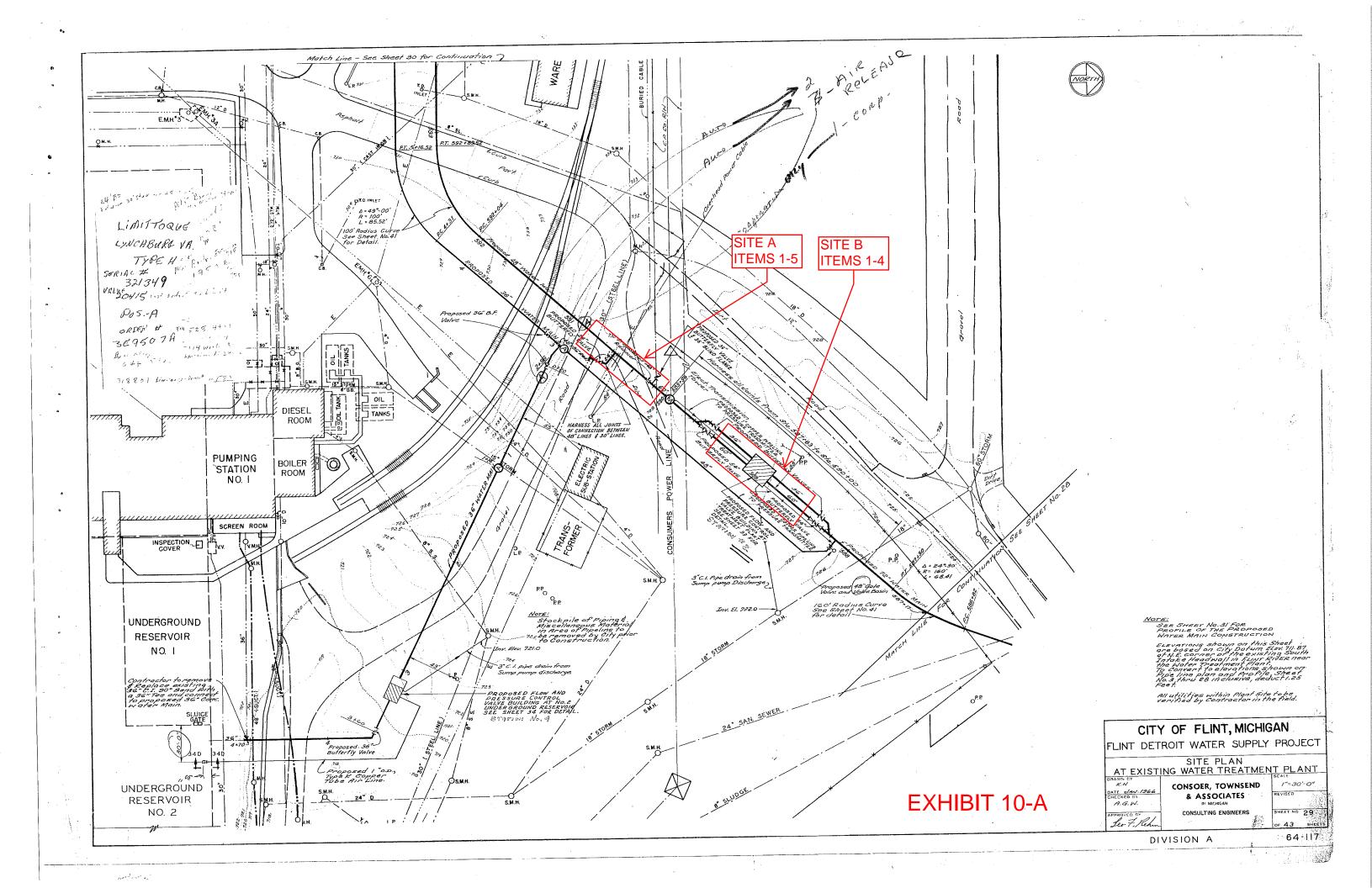
1101 S. SAGINA FLINT, MI 4 36" SECONDARY WAT

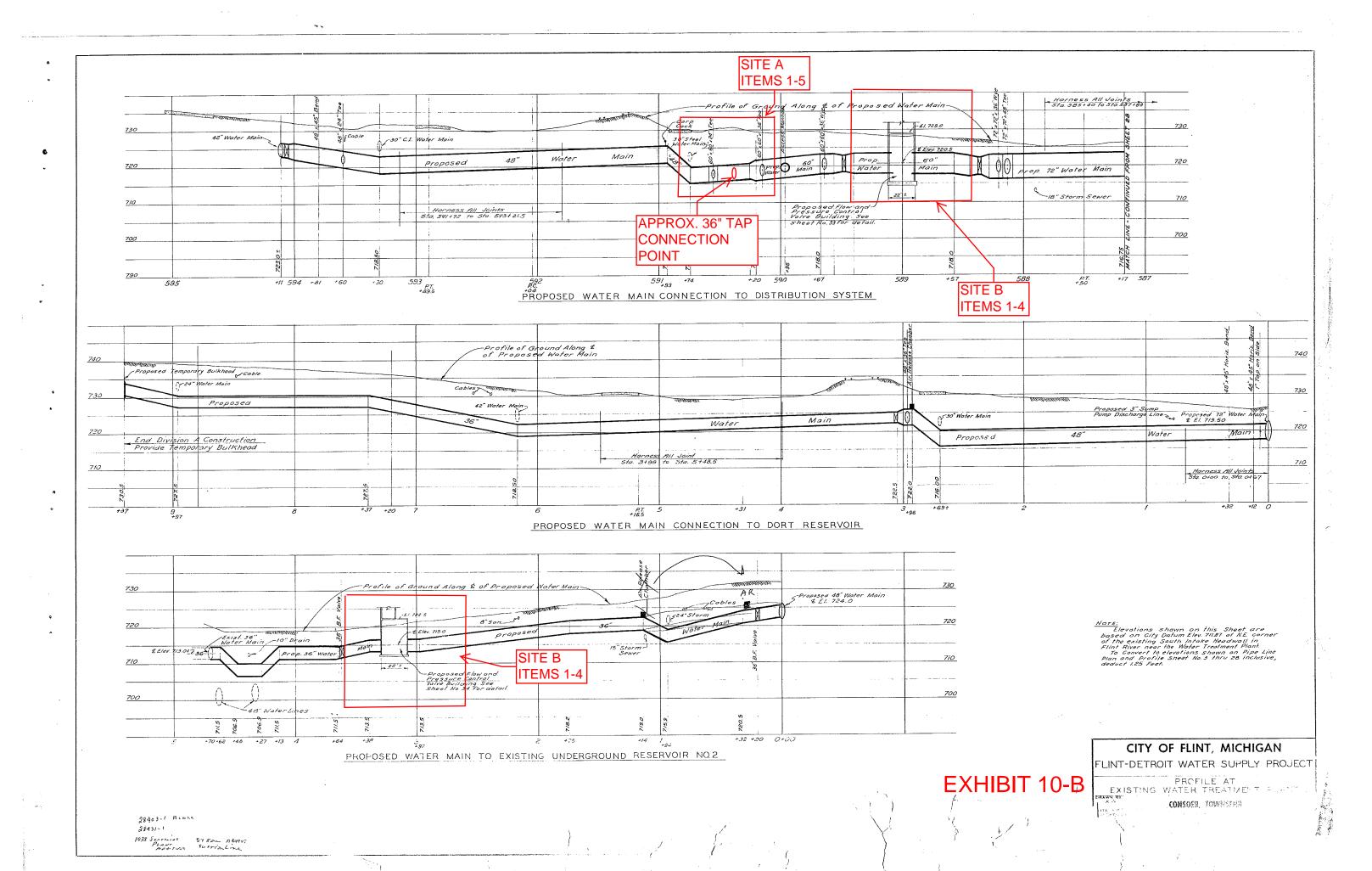
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JOB NO. COF1068.01F

EXHIBIT 10

Know what's below.
Call before you dig.





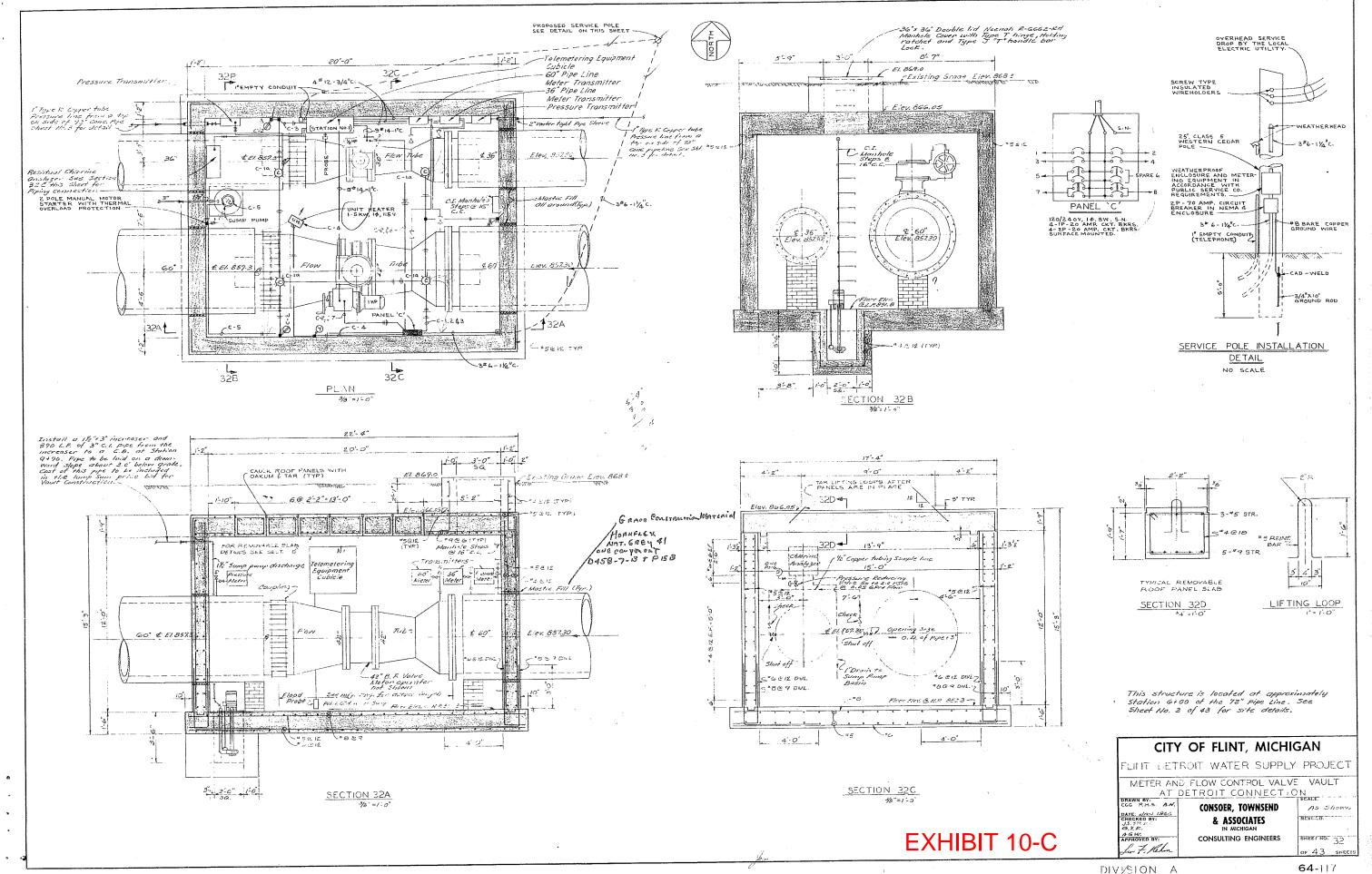


Exhibit 11 Historical PCCP Records for City of Flint Water Treatment Plant

PIPE SIZE AND TYPE (Internal Dia.)	72"		72"		60"		<u> </u>	
INTERNAL PRESSURE		150	psi	i 150 psi		150	pei		
EXTERNAL 3-EDGE LOAD		4470		7160		5889			····
MAXIMUM ALLOWABLE CO	/ER (Ordinary Bedding)	6'		10'		10'			
CORE THICKNESS (Incl.	iding Cylinder)	5-1/2"		5-1/	2"	4-1/	′2 "		
COATING THICKNESS (M	inimum Over Wire)	3/4"		3/4"		3/4"	,		
COATING THICKNESS (N	ominal)	1"		1"		1"			
CYLINDER GAUGE ASTM	245-C rnessed One End Only)	16		16		16			
CYLINDER GAUGE HARNE		16 g		16 g		16 g			
ELBOW CYLINDER THICK	VESS	1/2"	-	1/2"		3/8"			
ELBOW REINFORGEMENT		Mesh		Mesh		Mesh			
REINFORCING BAND THI	CIONESS	1/2"		1/2"		3/8"			
WIRE AREA PER LINEAL	FT.	. 70		. 77		. 64			
WIRE SIZE & INCHES O	F PITCH ASTM A-227-65	#6 Wire . 496		#6 Wire .451		#6 Wire ,542			
GROSS WRAPPING STRES	3	150.000		00 150,000		150,000			
Po = MERC COMPRESSIO	٧	166		181		177			
P1 - WIER BLASTIC LI	IIT PRESSURE	256	and the state of t	279		282			
Fc1 = INITIAL CONCRE	re core stress	1255		1375		1376			
For = RESULTANT CONC	RETE CORE STRESS	1020		1108		1087			
Dy = OUTSIDE DIAMETE	R OF CYLINDER	75-1	/2"	75-1	/2"	63 "			
R1	R ₂	.05	. 05	. 05	. 05	. 05	. 05		
N ₁	Nr	7	6	7	6	7	6	}	1
DYNAMOMETER READING		4350	<u> </u>	4350	#	435	0#		
CYLINDER TEST PRESSU		36		36		43			
RODDED TEST CYLINDER (Min. at Wrapping)	STRENGTH	3000		3000		3000		A Property of the Property of	
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	36" 150 poi 3760 29' 4" 3/4" 16 gg. 1/4" 66 Wire .95 88 Wire .901 259,063 262 274 262 606 38-1/2" .65 .05 7 .6	36" 24" 150 poi 150 poi 5760 2925 29' 30' 4" 3-1/2" 3/4" 3/4" 1" 1" 16 ga 16 ga 1/4" 3/16" Heeh Heeh 1/4" 3/16" Heeh Heeh 24" 3/16" 18 Wire 46 Wire .95 .24 18 Wire 47 48 Wire .901 1.40 259,003 150,000 262 679 606 542 30-1/2" 26-1/2" .05 .05 .05 .05 7 6 7 6	36" 24" 150 poi 150 poi 5760 2925 52' 10' 4" 3-1/2" 9/4" 9/4" 1" 1' 16 16 16 ga 16 ga 1/4" 3/16" Heeh Heeh 1/4" 3/16" 46 Wire 66 Wire 35 24 86 Wire 68 Wire ,902 1.48 250,003 150,000 262 674 606 542 30-1/2" 26-1/2" 65 05 05 05 7 6 7 6

36. M° = 8'000

RECEIVED

MOV 25 1966

PRICE BROTHERS COMPANY

waston, Olde

Flint, Michiga

Besign by JCW Approved

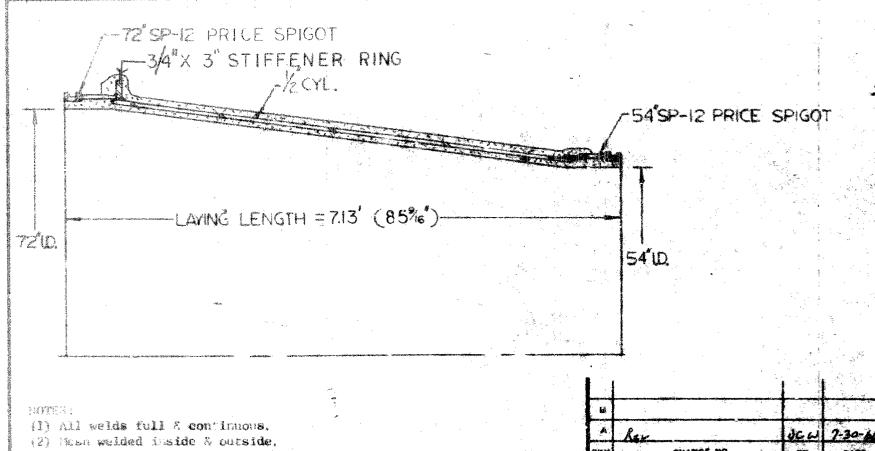
Price Brethers Company

LAYING SCHEDULF

PAGE 16

19 PAGES

DATE August 1, 1966 PROJECT Flint, Michigan, Division A. 72" Flint Detroit Water Samply REVISED NOTE VARY JOINT OPENINGS TO OBTAIN THE REQUIRED GRADES, ELEVATIONS AND HORIZONTAL DEFLECTIONS. PREPARED BY JE PONE C WILSON . IT. AV. UNIT TOTAL LAID SLOPE HOR. LAID CENTER LINE CHANGE IN DESCRIPTION STATION LENGTH LENGTH CORR LENGTH GRADE FLEVATION. ST EVATION 72" SP-12 Class 151 for 6" Cover 749.90 31.4-114. (1) . 003 2-60 1 72" P.S. x 54" P.S. Reducer 7.13 7.13 7. 13 344+11. 15 749 90 On Ŧ 54" P.B. end valve (not by P.D. Co.) 2.50 1.56 1.50 344412:65 749.99 .00 F-51 54" P.S. x 72" P.B. Reducer 6.78 6.78 5.78 344+19, 43 no 749.90 1 Leth. open it, bottom @20.03 29,05 20.05 20.05 344+39, 48 750.03 . 65 + 13 5-62 Leth., open it, bottom @20.03 20.05 20.05 20.05 750, 29 344459.53 9.29 +. 25 w/24" flg. OL. 7" fr. S.E. w/25" blind flg. 5-52A 15 Lengths 20.03 329,48 02 320.46 3117+79 99 754, 40 1.29 +4. 11 Loth, open it, bottom 020.03 20.05 20.05 20.05 348+00.04 754.79 1. 35 + 39 ž . Leth., open it. bottom @20.03 20.05 20.05 .01 20.04 348+20.68 755.31 2.61 + 52 Ŀ Lengths 20.03 80.12 . 03 80.09 349+00.17 2.61 757.40 +2.09 . Lgth., open jt. top @20.03 20.05 20.05 20.05 349+20.22 1.90 +.38 757. 78 1 Lgth., open jt. top @20.03 20.05 20.05 20.05 349+40.27 1.20 + 24 758.02 Lgth., open jt. top @20.03 1 20.05 20.05 20.05 349+60.32 . 70 4.14 758.16 1 Lgth., open jt. top @20.03 20.04 20.04 20.04 349+80.36 . 39 +. 08 758.24 14 Lengths 20.03 280.42 280.42 352+60.78 . 39 +1.08 759: 32



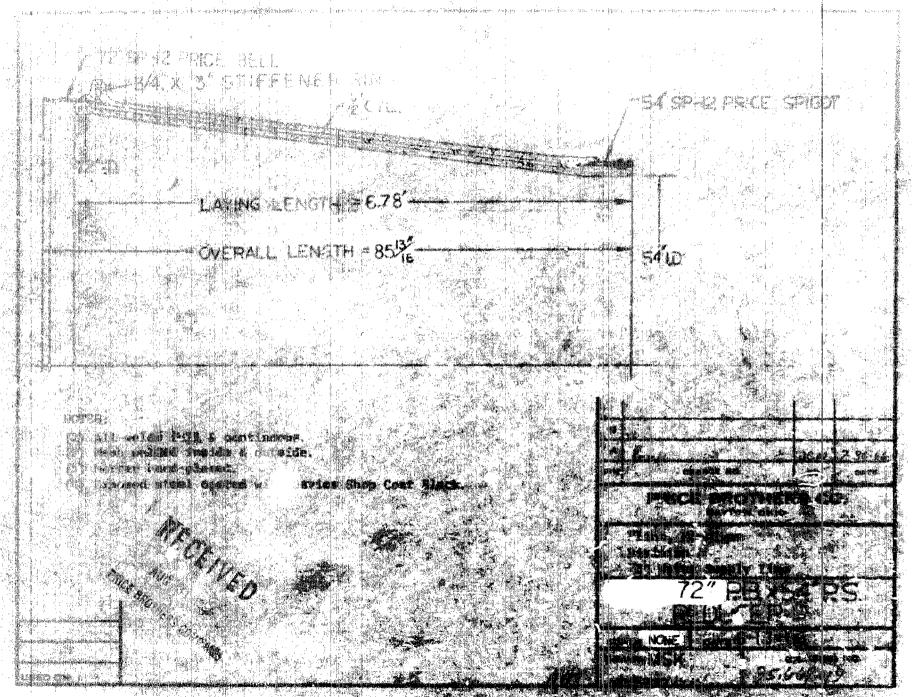
- (3) Mortar hand placed
- (4) Exposed steel coated with Davies Shop Coat Black.

ANGE BROTHERS COMPANY

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Price Synthese Company

LENGTH

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PAGE I OF 1 PAGE

DATE August 26, 1956 REVISEO ... JCW

LAYING SCHEDULE PROJECT Flint, Michigan, Div. A. 72" Water Supply Line VARY JOINT OPENINGS TO OBTAIN THE REQUIRED GRADES, ELEVATIONS AND HORIZONTAL DEFLECTIONS AV. UNIT TOTAL LAID DESCRIPTION

PREPARED BY:_ STATION

GRADE

CENTER LINE ELEVATION

	NO.	DESCRIPTION						
		Proceed to Station 134+83 near in 24" SP-12 CLASS 150						
S-30		P. I						
F-67	ì	P.S. > fig. adapter						
	1	Fig. End Valve (not by P.B. Co.)						
F-68	1	Fig. x P.B. adapter						

Length

Lengths

Length

Ribbed type B.H. plug

P.S. x flg. adapter

Flg. x P.B. adapter

Ribbed type B.H. plug

flg. end valve (not by P.B. Co.)

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F-69

F 70

F-71

F-72

ation 134483 near intersection of Potter and Slate Roads and begin laying North from branch of 72"x24" Double OL SS 150 P. I. -P. B. of OL. 4.00 1.44 dapter

Proceed to South OL. from trunk line and Lay South with the following

SLOPE

COPR.

4.00 1.44

HOR, LAID

LENGTH

0+04.00N 0+05.44N

0+00.00N

0+23.35N

0+00.008

0+64.028

0+65,56

0+66, 23

0+67.44

0+83.47

CHANGE IN

ELEVATION

781.90 781, 90

. 67

LENGTH

. 67 1.21

16.03

64.12

1.44

. 67

1.21

16.03

0+06.11N 0+07.32N

781, 90

781, 90

781.90

781.90

781.90

781.90

781.90

781.90

1, 21

16.03

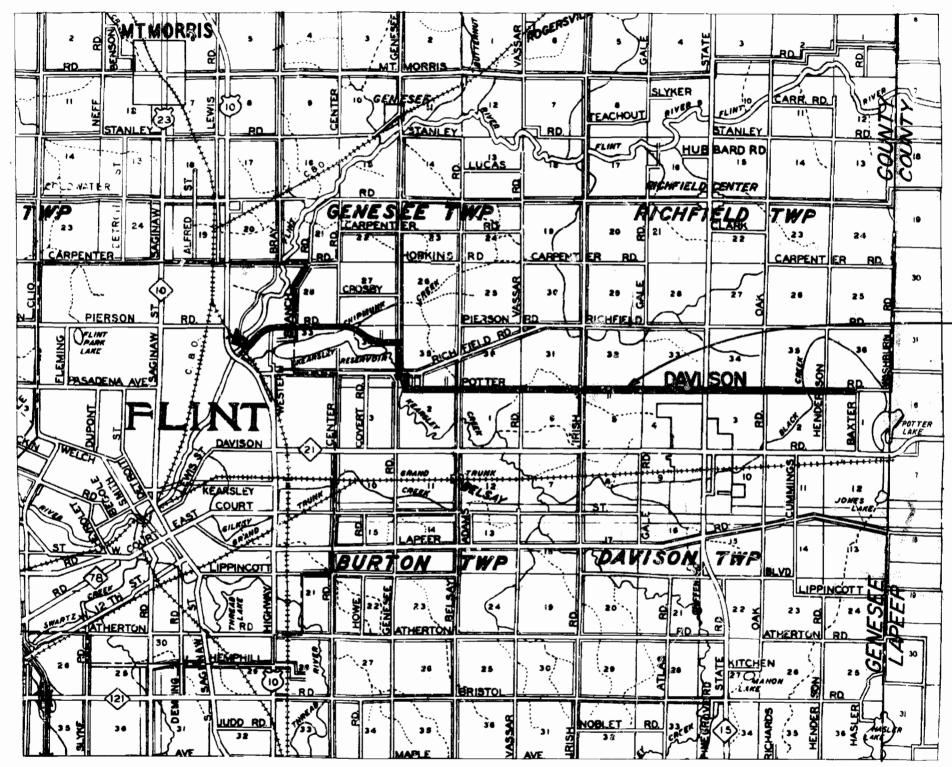
16.03

1.44

. 67

1.21

16.03



Wu, Ricky (Grand Prairie) NA

From: Jurgerson, Billie (Grand Prairie) NA Sent: Wednesday, January 28, 2009 3:28 PM

To: Wu, Ricky (Grand Prairie) NA; Stieler, Geoffrey (Tecumseh); Deremiah, Rick (Dayton) NA;

Arnaout, Sam (Grand Prairie) NA

Cc: Serafin, Rick (Succasunna); White, Danny (Grand Prairie) NA; Thomsen, Nels (Grand Prairie)

NA

Subject: FW: 72 inch water main - drawing release from City of Flint, MI

Importance: High

All,

See below e-mail from City of Flint releasing information to Dean Holmes, Holmes Excavation. Call if you need anything else. Thanks! bj

Geoff,

Dean said this morning he was meeting you on Tuesday and would appreciate your bringing drawings to him then.

Billie Jurgerson

Field Service Administrative Assistant

Hanson Pressure Pipe 1003 N. MacArthur Blvd Grand Prairie, Texas 75050

Tel: 972-266-7555 Fax: 972-266-7540

Billie.Jurgerson@Hanson.com

www.Hanson.com

----Original Message----

From: Cheri Priest [mailto:cpriest@cityofflint.com]

Sent: Wednesday, January 28, 2009 12:33 PM

To: Jurgerson, Billie (Grand Prairie) NA; billie.jurgeson@hanson.com

Cc: Lyle Hippensteel

Subject: 72 inch water main

Per Lyle Hippensteel, it is OK to release to Dean Holmes the specifications on the 72 inch water main.

If you have any questions, please feel free to call at 810-766-7202 or email Lyle at LHippensteel@cityofflint.com.

Thank you

Cheri Priest

WSC Support Technician

City of Flint - Water Service Center

PROJECT Elint Michigan Division A
'2" Water Supply Line

DATE October 14, 1966
REVISED(1)1-23-67 (22-22-67)
PREPARED BY J C WIJSON

11/12	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
th schiller freeholden verschille seden.	ilia sc.	edule supplied only as an installation guide. MISC. MATERIALS SHIPPING LIST	Adjustments	must be	Revisions:	field c	enditions.	
	5	25# Pails Price Lube			(1) 1~23~67 Sheets 1, 2,		A Value of the contract of the	
	1.2	60" Laying Caskets			5, 6, 10, 12 15, 16, 18,	>		
	3	60" Diapers			19, & MASE (2) COMPLET	ع	eref. Sc. be-vector	
	3	60" Wide Dimpers				No. of the last of	Methods used middles on the Programmer and the	- Andrew Marketon and the second state of the second secon
	8	60" Harn. Clamp Ring Assemblies					Martin partition of the design	
	5	54" Laying Gaskets						
	4	54" Wide Diapers					rivets acomposition	
	Control of the Contro	54" Harn. Clamp Ring Assemblies SPEC. DESIGN FOR VALUES 2-	15432	c, 2-	154370		受けた。たる表現の	
	49 🛥	48" Laying Gaskets(5P-12)						
441 day fil suffrage of contract of the contra	20 💌	48" Dispers (SP/2)						
	29	48" Wide Dispers(SP-12)						
	29	48" Harn. Clamp Ring Assemblies			search vinesacce			
	// #	36" SP-5 Laying Gaskets						
	81 🛎	36" SP-12 Laying Gaskets						
	4	36" SP.5 DIAPERS					Market Street Control of the Control	
	44 8	36" Diapers (SP-12) 36"-SP5 WIDE DIAPERS						
	37	36 Wide Diepers (SP-12)	Tren Miller and	,	The state of the s			

中国大学,我们就是一个大学的,我们就是一个大学的,我们就是一个大学的,我们就是一个大学的,我们就是一个大学的,我们就是一个大学的,我们就是一个大学的,我们就是一

95.66p-Unit VI

PAGE 2 OF 2 PAGES
October 14 966

r i "Alkow, Alec <mark>ano palecino de la composito </mark>	PS_86-1942ТУМЕТА непознастичн ого-пеу-(56000	PROJECT Flint, Michigan D 72" Water Suppl		A	DATEREVISED. (PREPARED	1)1-23-	•67 I.C. Wilson	nga _{karang} angan ana dalah dalah garangan karangan sada saga saga n sada
DE NO.	QTY.	DESCRIFTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This sc	edule supplied only as an installation guide. A MMSL CONT'D.	djustments	must be :	ade to edapt to	field c	onditions.	
	46	36" SP-5 Harn. Clamp Ring Assemblies SPECIAL DESIGN FOR WA	LVES: .3	-1544	8c,3-154	49C		
	37	36" SP-12 Harn. Clamp Ring Assemblie	s					
	9 3	24" SP-12 Laying Gaskets						
Manager 1 1 1 + 1 to 1 to 1 to 1 to 1 to 1 to 1	9 6	24" Wide Diapers						St.
	81	24" SP-12 Harn Clamp Ring Assemblies						
	1.	24" Flange Gasket			3511	و/به م	-326A	
	20	1-1/4" x 4-1/2" Cadmium Plated Bolts 36" FLANGE GASKET 1/2" x 5/2" Cad. Plated Bolts 4/1	WHE	? *** N	לבדיט			
	32	1 1/2" x 5/2" Cad. Plated Botts 4h	ex plus	5 SHIP	7F-385			
		36" DRESSER COUPLING STYLE 38-	SHIP	wy F-38	3			
, see	ال سيمشي د							Control of the Contro
	2	External Feeler Gauges file						
	-							
								•

		0.00	CCT.		
TOF	NO	95.	00Y-	mrt	٧X
2 276-1076	4.0	-		-	

PROJECT Flint Michigan Division A
72" Water Supply Line

PAGE 1 OF 19 PAGES
DATE October 14. 1966
REVISED (1)1-23-67
PREPARED BY J. C. Wilson

ODE NO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	Hor Laid Length	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION	_
	This sol	edule supplied only as an installation guide. A Begin Laying at end of Unit IV	djustments	must be	ande to adapt to	field c	onditions.		•
		60" SP-12 Class 166 for 10' Cover Convert to City Datum Elevations			588+44, 06		+1.25	718.49 719.74	•
	1	54" Harn. P.J. End Value (Not by P.P. Co.)	1.40	1.40	588+45, 46	. 98		719.74	
F-318	1	54" Harn. P.S. x 60" Harn. P. B.							
Parameter 1 and 1		Reducer	6.30	6. 30	588+51.76	. 00		719.74	•
	1	Harn. Half Bevel L.S. Bottom Open Jt. Top @ 19.93	19.94	19.93	588+71.69	3, °1	+ ,76	720. 50	
8-319	1	annd Half Bevel, L.S. Top Harn. S.E. Tied B.E. w/MU. Thd. OL. 18.75' fr. 8.E. on L.S. Shopweld B.E. to S.E. of P-320 Open Jt. Bottom	19.94	19.94	588+91, 63	. 00		7 20 . 50	
1-320	1	Tied F.S. x Flg. Adapter Shopweld S.E. to B.E. of S-319	1.75	1.75	588+93, 38	, 00		720, 50	L '
	1	Flow Tube and Valve Assem. (Not by P. B. Co.	13.63	13.63	589+07.01	. 00		720. 50	
F-321	1	P.E. x Harn. P.B. Adapter w/1" Mu. Thd. OL. 4.08' fr. P.E.w/3-2	6. 25	6. 25	589+13. 26	. 00		720.50	
	1	I.P. Thd. OLS 9-2.33' fr. P.E. Harn. Length	20.03	20.03	589+33, 29	, 00		720, 50	
\$ 322	1	Harn. Short	7.03	7.03	589+40.32	, 00		720.50	•
F-323	1	60" Harn. P.S. x 54" Harn. P.B. Reducer	6. 18	6. 18	589+46, 50	. 00		720, 50	
	1	54" Harn. PJ End Valve (not by PB Co.) 1.40	1.40	589+47, 90	.00		720.50	

OP.NO. 95.66P-Unit VI

PROJECT Flint, Michigan Division A
72" Water Supply Line

PAGE 1 OF 19 PAGES
DATE October 14, 1966
REVISED PREPARED BY J.C. Wilson

ODE	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR.LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	Th' so	dedule supplied only as an installation guide. 36" SP-12 Class 159 for 10' Cover	Adjustmenus	pust be	sade to adapt to 589+52.80	dield o	paditions.	720.50
X 23	1	36" Harn. SP-5 P.S. x Harn. SP-12 P.S. Adapter	1.04	1.04	589+51, 76	.00		720 - 50
	1	Harn. Length (Lay Bell over Spigot)	20.03	20.03	589+31.73	.00		720.50
		Procede Upstation and Lay the Following Back to Closure			589+04.91	.00		720, 50 720, 50
£404	1	36" P.E. x Tied P.S. Adapter Shopweld S.E. to B.E. of Tied Length	2.33	2, 33	589+07.24	. 00		720.50
: 4 05	1	Shopweld P.E. to S.E. of F-404 (Lay Bell over Spigot)	20. 03	20.03	569+27.27	.00	·	720.50
3 - 14	1	Harn. F.R. Closure @ 6'0" Cut to Fit in Field	4.46	4, 46	589+31.73	. 00		720.50
in the second se		Procede to 30." Cast Iron Line near 24" O.L. at Sta. 593+60. Make Cut and Insert the Following:						
		24" ' 2-12 Class 160 for 10' Cover			0+00, 00			
X-3.5		30" P.S. x 30" P.S. x 24" Flg. Tee W 5PEC. CLOSUME Accessories Brunen P. 1. Flg.	75 FIT EX 2.66	157, C.1. 2.66	PIPE 0+02.66			
	1	24" Flg. End Valve (Not by I.B. Co.)	2,00	2.00	0+04. 66			
k-408	1,	24" Flg. x harn. P.B. Adapter (How o FOR FIELD HEASURE)	5 3 4	5.34	J+10.00			

13 No. 95.66P-Unit VI

PROJECT Flint, Michigan -- Division A
72" Water Sumply Line

PAGE 3 OF 19 PAGES
DATE October 14, 1966
REVISED (1' 1 23 67
PREPARED BY J. 2. Wilson

CODE NO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR. LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
an effect — to effect the first the second	This sci	edule supplied only as an installation guide. A 6C" SP-12 Class 166 for 10' Cover	djustments	must be	sare to adapt to 589+47,90	field c	onditions.	720.50
F-3 24	1	54" Harn. P.S. x 60" Harn. P.B. Red.	6.30	6, 30	589+54, 20	. 00		720 , 50
F-32 5	1	60" Harn. P.S. x 50" Harn. P.B. x 36" Harn. P.B. 45° Wye P.S P.I. P.I P.B.	8, 56	8, 56 2, 21	589+62.76 589+64.97	. 00 . 00		720. 50 720. 50
reservices a securioris de la constantina del constantina de la constantina del constantina de la constantina de la constantina de la constantina de la constantina de la constantina de la constantina del constantina del constantina del constantina del constantina del constantina del constantina del constantina del constantina del constantina del constantina del constantina del constantin	1	Harn. Half Bevel L.S. Top Open Jt.	19.95	19. 94	589+84, 91	3.34	- , 56	719.84
S-326 S-326A	1	Bottom Mann. Length, Herr. S.E. Only w/24" Neck Fig. OL. 11' fr. S.E. w/24" Blind Fig.	20.03	20, 02	5 90+0 4-93	3,34	67	719 17
s-32 6 8	1	Short	6 , 53	6.53	590+11.46	3, 34	22	718. 95
X-2 5 X -32 F-3 26	ĵ.	60" P. S. x P. B. x 36" P. B. Tee W/36" RIS TYPE B. H. PLUG- 60" P. S. x 48" P. B. Reducer	6 79 6.19	6, 79 6 , 19	590+18, 25 552+24, 44	3.34 3.34	。 23 · 21	7 18 .72 718.51
		48" SP-12 Class 168 for 10' Cover					and the second s	
	1	Length, Open Jt. Top	20.05	20, 05	5 90+44 , 40	2.38	48	718. 03
S- 32 8 ▲	1	Short	7.59	7.59	590+52, 08	2. 38	. 13	717, 85
X-26 X-27 <u>F-330</u>	1 1 1	48" P.S. x P.B. x 24" Harn. P.B. Tee Harn. Short, Harn. B.E. Only, Open Jt. Harn. 17" El. L.S. Bottom	5 55 15. 31	5.55 15.31	590+57 63 590+72.94	2. 38 1. 50	· 13 23	717,72 717,49
		P.S P.I. P.I P.B.	1. 05 . 69	1.05	590+73.39 590+74.65	1.50 28.68	+ .19	71.7. 47 71.7. 66

95.66P-Unit VI

PAGE 3 OF 19 PAGES
DATE October 14, 1966
REVISED

PROJECT Flint Michigan Division A
72" Water Supply Line

PREPARED BY J. C. Wilson

CODE 10.	QTY.	DESCRIPTION	LENGTH	HOR. LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
18- 20 / 20 mg/mg/mg/mg/mg/mg/mg/mg/mg/mg/mg/mg/mg/m	This sc	dedule supplied only as an installation guide. A	djustments	must be	ade to adapt to	field c	onditions.	
		48" SP-12 Class 168 for 10' Cover	; 4		590+74, 65			717.66
531	ì	Harn. Short Length	18.03	17.33	590+91.98	28. 68	+4. 97	722.63
. 532	1	Harn. 16°30' El L.S. Top P.S. to P.I	. 99	. 95	590+92.93	28. 68	+ .27	722.90
	The second secon	w/1" I.P. tl.1. OL @ B.E. P.I. + P.B	I	. 62	590+93.55	. 98	01	722.89
	1	Harn. Length Clamp S.E. Only	20. 03	20.03	591+13,58	. 98	~ . 19	722.70
to a contract of the contract	2	Lengths	40.06	40,06	591+53.64	. 98	~ , 3 9	722.31
	1	Harn. Length Clamp B.E. Only	20.03	20.03	591+73.67	. 98	~ .19	722.12
	1	Harn. Length	20.03	20,03	591+93.70	. 98	~ .19	722.93
g-333	1	Shopweld B.E. to P.E. F-334	11.23	11, 23	592+04.93	. 98	~ .11	721.82
F-334	1	7° El., L.S. Left Tied P.E. Harn						
- V		B.E. Shopweld P. to B.E. of S-333						
		P.F. to P.I.	. 66	, 66	592+05.59 592+05.93	98	01	721.81
		P I. to P.B.	, 34	, 54	392403.93	. 30		
å- 335	1	Shopweld B.E. to P.E. of F-336	11,23	11. 23	592+17.16	. 98	11	721.70
~ 336	1	7° L.S. Left Tied P.E. Hern. BE.						
		Shopweld P.E. to B.E. of S-335 P.E. to P.I.	. 66	. 66	592+17.82	. 98	~ 01	721.69
Johnson (1965) vi en en angles en transference estados (inferiores)		P. I. to P. B.	. 34	, 34	592÷18 16	98		Market Market en Article de en rédéleure de Market, est peuve en de fené

108 NO. 95.66P-Unit VI

PAGE 4 OF 19 PAGES
DATE October 14, 1966
REVISED PREPARED BY J. C. Wilson

PROJECT Flint, Michigan -Division A
72" Water Supply Line

co de No.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This sci	edule supplied only as an installation guide. A	djustments	must be :	ade to adapt to 592+18.16	field c	onditions.	721.69
S- 337	1	Shopweld B.E. to P.E. of F-338	11.23	11.23	592+29 , 3 9	. 98	~ . 11	721.58
F-338	1	Harn. B.E. Shopweld P.E. to B.E. of S-337 P.E. to P.I.	, 66	. 66	592+3 0, 0 5	. 98	~ .01	721.57
	l	P. I. to P. B.	. 34	. 34	592+30.39	. 98		721, 57
S- 33 9	1	Shopweld B.E. to P.E. of F-340	11.23	11.23	592+41.62	. 98	11	721.46
F- 343	1	B.E. Shopweld P.E. to B.E. of S-339						
		P.E. to P.I.	. 66	. 66	592+42.28	. 98	01	721.45
		P.I. to P.B.	. 34	. 34	592+42.62	. 9 8		721. 45
S-341	1	Shopweld 3.E. to P.E. of F-342	11.23	11.23	592+53 .85	. 98	11	721. 34
F-342	1	B.E. Shopweld P.E. to B.E. of S-341						
	Ĭ	P.E. to P.I.	. 66	. 66	592+54.51	. 9 8	01	721.33
		P.I. to P.B.	. 34	. 34	592+54.35	. 98		721. 33
S343	1	Showeld B.E. to P.E. of F-344	11.23	11.23	592+5 6.08	. 98	11	721. 22
F-344	1	B.E. Shopweld P.E. to B.E. of S-343						
		P.E. to P.I. P.I. to P.B.	. 66 . 34	. 66 . 34	592+66.74 592+67.08	. 98 . 98	01	721.21 721.21

JOB	NO.	95.	66	-Ur	it	.VI	
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PROJECT Plint. Michigan -- Division A PROJECT Project Plint. Michigan -- Division A PROJECT PR

CODE NO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This sc	edule supplied only as an installation guide. A 48" SP-12 Class 168 for 10' Cover	djustments	must be	sade to adapt to 592+67.08	field c	onditious.	721.21
S- 345	1	Shopweld B.E. to P.E. of F-346	11.23	11.23	592+78. 31	. 98	- ,11	721.10
F-346	1	B.E. Shopweld P.E. to B.E. of 8-345						
		P.E. to P.I. P.I. to P.B.	, 66 , 34	. 66 . 34	592+78.97 592+79.31	, 98 , 98	01	721. 09 721. 09
	3	Harn. Lengths	60.09	60.09	593+39.40	. 98	~ .58	720.51
	1	Harn. Half Bevel L.S. Bottom Open Jt. Top @ 19.91	19.93	19,89	593+59.29	6. 25	+ 1.24	721 . 75
X-28	1	Harn. 48" P.S. x P.B. x 24" Harn. P.S. Twe	5. 55	5, 54	593+64. 83	6. 25	+ ,35	722.10
3-34 5A	1	Harn. Short	14. 44	14.41	5 93 +79, 20	6, 25	+ .90	723.00
F-348	1	Harr. 45° El. L.S. Left P.S. to P.I. P.I. to P.B.	2.11 1.75	2.11 1.75	593+81.35 593+83.10	6. 25 6. 25	+ ,12 + .11	723. 12 723. 23
X-29	1	Harn. Short	14.58	14.55	593+97.65	6. 25	+ ,91	724, 14
r-350	1	48" Hern. P.S. x 30" Flg. Reducer	7.03	7.03	594+04, 68	6. 25	+ " तेर्क	724, 58
	1	30" Fig. End Tapping Valve (Not by P.B. Co.)	6. 33	6. 32	594+11.00	6. 25	+ "40	/24, 98

JOB NO. 95. 66P-Unit VI

PROJECT Flint, Michigan -- Division A
72" Water Supply Line

PAGE 6 OF 19 PAGES
DATE October 14, 1966
REVISED (1)1-23-67
PREPARED BY J. C. Wilson

CODE NO.	QIY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This sc	edule surplied only as an installation guide. A Proceed to 72" x 48" Tee at Station 588+21.93 and begin laying East.	djustments	must be :	ade to adapt to	field c	onditions.	
		48" SP12 Class 168 for 10' Cover Branch P. IHern, P. B.	4. 39	4. 39	0+00.00 0+04.39	. 57	02	719.50 719.48
F ≈3 51	1	48" Harn. P.S. x Flg. Adapter w/l" OL.	1.62	1, 62	0+06.01	. 57	01	719.47
O MARKET THE RESIDENCE OF THE PARKET OF THE	1	48" Flg. Gate Valve (Not by P.B. Co.)	3.52	3.52	0+09.53	. 57	~ . O2	719.45
5-352 252 A	1	48" Fig. x Harn. P.B. Adapter	1.26	1.26	0+10.79	. 57	÷ .01	719.44
352A	1	Harm. 45° El. L.S. Left P.S P.I. P.I P.B.	2.11 1.75	2.11 1.75	0+12.90 0+14.65	. 57 . 57	01 01	719.43 719.42
	1	Harn. Length	20.03	20.03	0+34, 68	.57	11	719.31
¥-353	1	Harn. 45° El. L.S. Left						
		P.S P.I. P.I P.B.	2.11	2.11 1.75	0+36.79 0+38.54	.57 .57	# .01 # .01	719. 50 719. 29
	1	Harn. Length	20.03	20.03	9+58 .57	.57	- ,11	719. 18
	3	Hern. Lengths	49.06	40.06	0+98,6.	. 57	22	718.96
	1	Harn. Length Class S.E. Only	20.03	20.03	1+18.66	. 57	* , 11	718.85
	7	Lengths	140.21	146.21	2+58 87	. 57	- ,80	718,05
s-3 5 4	1	Short Length	9.34	9. 34	2+68.21	. 57	- , 05	718.00

Swo_ Sa. obp-unit vi

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DATE October 14. 1966
REVISED

PROJECT Flint, Michigan Division A 72" Water Supply Line

PREPARED BY J. C. Wilson

()))E 30,	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR. LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LI
	This scl	edule supplied only as an installation guide. A 48" SP-12 Class 168 for 10' Cover	djustments	must be	ade to adapt to 2+68,21	field c	onditions.	718. 00
355	1	15° El. L.S. Bottom P.SP.I. P.IP.B.	, 94 , 6 2	, 94 , 60	2+69. 15 2+69. 75	. 57 26. 0 9	+ .16	718.00 718.16
	1	Length	20. 0 3	19. 3 8	2+89. 13	26.09	+5, 05	723. 21
356	1	15°30' E1. L.S. Top P.SP.I. w/2" I.P. Thd. O. L. on L.S.	3 : 12	3. 02	2+92 , 15	26.09	+ .79	724. 00
ng , aget t v za nagada yang arang and an an agagan		P. IP. B.	. 64	. 6 4	2+92.79	26,09	+ .01	723.99
F-357	sp-12	48" Sp-12 P.S. x 36" SP-5 P.B. x 36" P.B. REDUCING TEE P.SP.I. P.IP.B	3.42 7.00	3.42 7. 00	2+96, 21 3+03, 21	1.23 1.23	~ . 04 ~ . 09	723. 95 723. 86
	1	36" SP-12 Class 159 for 10' Cover (SP-5) 36" P.J. End Valve (Not by P.B. Co.)	1.05	1.05	3+04. 26	1.23	01	723,85
-158	1	36" SP-5 P.S. x SP-12 P.B. Adapter	. 83	, 83	3+05 . 09	1.23	a , 01	723.84
	4	Lengths	80. 12	80. 12	3+85 . 21	1.23	98	722.86
	1	Harn. Length Clamp B. F. Only	20.03	20.03	4+05.24	1.23	25	722.61
	1	Harn Longth	20.03	20.03	4+25.27	1. 23	25	722. 36
5 + 359	1	Shopweld B.E. to P.E. of 7-360	11.39	31,39	4+36.66	1.23	14	722,22
				E.				

* No. 33.66P-emit VI

PROJECT Flint, Michigan Division A
72" Water Supply Line

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DATE October 14, 1966

REVISED PREPARED BY J. C. Wilson

COCE NO	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This sci	edule supplied only as an installation guide. A 36" SP-12 Class 159 for 10' Cover	djustments	must be	eade to edapt to 4+36.66	field c	onditions.	722. 22
£. 3.0	1	Shopweld P.E. to B.E. of S-359						
		P. E P. I.	, 53	。 53	4+37.10	1.23	01	722.21
	: : -	P. I P. B.	, 29	. 29	4+37.48	1.23		722.21
\$-36.1	1	Shopweld B.E. to P.E. of F-362	11. 3 9	11. 39	4+48.87	1. 23	- ,14	722.07
F-312	1	Left Shopweld B.E. to P.E. of S-361						
		P.E P. I.	.53	, 53	\$+49.40	1.23	~ .01	722.06
		P. I P.B.	. 29	, 29	4+49 , 69	1,23		722.06
S- 3 68	1	Shopweld B.E. to P.E. of F-364	11. 39	11.39	4+61.08	1.23	14	721. 92
g-3 jt,	1 .	Shopweld B.E. to P.E. of S-363 L.S.	eft					
		P.E P. I.	. 53	.53	4+61.63	1, 23	~ 01	721.91
		P. I P. B.	. 29	. 29	4+61, 90	1,23		721. 91
3~3 35	1	Shopweld B.E. to P.E. of F-366	11 39	11, 39	4+73,29	1, 23	~ , 14	721.77
F-336	1	The 7°0' El., Tied P.E. Harn. B.E. L.S. Left Shopweld P.E. to B.E. of						
		S-365 P.E P. I.	,53	₀ 53	4+73 ,82	1.23	- ,01	721.76
		P. I P. B.	, 29	₀ 29	4+74, 11	1, 23		721.76
S-357	1	Shopweld B.E. to P.E. of F-368	11. 39	11.39	4+85.50	1.23	~ .14	721.62

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PROJECT Flint, Michigan Division A
72 Water Supply Line

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REVISED
PREPARED BY J. C. Wilson

CR DS SO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This sci	edule supplied only as an installation guide. A 36" SP-12 Class 159 for 10' Cover	djustments	must be	ade to adapt to 4+85.50	field c	onditions.	721. 62
∉ ~ ≐ 5 .∳	Ĺ	Left Shopweld P.E. to B.E. of S-367					-	
		P.E. ~ P.I. P.I. ~ P.B.	, 53 , 29	, 53 , 29	4+86.03 4+86.32	1,23	₩ , 0 _	721.61 721.61
S-: 69	1	Shopweld B.E. to P.E. of F-370	1i.39	11. 3 9	4+97.71	1.23	- ,14	721.47
F-179	1	Left Shopweld P.E. to B.L. of S-369						
		P.E P.I. P.I P.B.	.53 .29	"53 "29	4+98, 24 4+98, 53	1, 23 1, 23	01	721.46 721.46
S71	1	Shopweld B.E. to P.E. of F-372	Lì. 39	11 39	5+09. 92	1 23	~ , 1 4	721.32
ř- 72	1	Tied P.E. Harn B.E. L.S. Left Shopweld P.E. to B.E.						
		of S-371 P.E P.I. P.I P.B.	. 53 . 29	. 53 . 29	5+10。45 5+10。74	1. 23 1. 23	~ . 01	721.31 721.31
	1	Harn. Length	20.03	20. 03	5+30. 77	1, 23	~ . 25	721.06
	1	Harn. Length, Clamp S.E. Only	20.03	20.03	5+50.80	1. 23	- , 25	720.81
	3	Lengths	60.09	60.09	6+10.89	1,23	∞ _e 74	720.07
<u> 3 / 13 </u>	1	Short Length	6.03	6.0 3	6+16, 92	1, 23	07	720.00
			A Section 1. Section 1		and the state of t			

OF NO. 95 66P-Unit VI

PROJECT Flint Michigan Division A
72" Water Supply Line

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REVISED (1)1-23-67
PREPARED BY J. C. Wilson

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CODE	ÚLA.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This so	edule supplied only as ar installation guide. A 36" SP-12 Class 159 for 10' Cover	djustments	must be	ande to edapt to 6+16.92	field c	onditions.	720.00
	. Co	Pull Bevel L.S. Bottom Open Jt. Bottom P.I Stw. 6+17.31 @ 19.91	19. 92	19, 87	6+36,79	7.00	+ 1,39	721, 39
	, M ,	Kength Open Jt. Bottom @ 20 03	20. 04	19.98	6+56 ,77	7.61	+ 1,52	722. 91
	ų,	Lengths	80, 12	79.89	7+36 _e 66	7.61	+ 6.09	729.00
I e or he traditional recharges to be applicabled by the	L.	Full Bevel L.S. Top, Open Jt. Top P. I. Ste. 7+37.04	19.91	19.91	7+56,57	. 0 0	officered of the selection of the select	729.00
	(c) (c) (c) (c) (c) (c) (c) (c) (c) (c)	Lengths	1 0 0. 15	100. 15	8+56, 72	. 00		729.00
		Harn Length Clamp B.E. Only	20,03	20. 03	8+76,75	. 90		729.00
		Harn. Length	20, 03	20.03	8+96.78	a 0 0		729.00
, 30	žį	Harn Short Full Bevel L.S. Bottom; Open Jt. Bottom P I. Sta. 8+97.16	988	9. 85	9+06, 63	7.54	+ .74	729, 7
4 T 1	Ä	Hern. Dished B.H. Plug						
	Age Ambre Caller (Ambre Ambre							
n. a - droppi-in-sughishar-updynfelfel			and for colour desirable responsible to the first to which for participations	m co rressorationers ref er p ello perchallent captallent			and the state of t	
	Control of the state of the sta							

PART 95.66P-Imit VI

PROJECT Flint, Michigan Division A
72" Water Supply Line

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REVISED
PREPARED BY J. C. Wilson

A !

NO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR.LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
And Proposition on Transplanta in Section 2015	This scl	edule supplied only as an installation guide. Procede to 48" x 36" Tee from the Dort ReservoirConnection and Regin Laying East.	djustments	must be i	ade to adapt to	field c	onditions.	
	•	36" SP-12 Class 159 for 10' Cover			0+00.00			724.00
		Branch P. I. ~ P. B.	3.30	3. 29	0+03.29	6. 18	- , 20	723.80
€-375	1	Short Length	5.90	5.89	0+09.18	6. 18	- , 36	723.44
F-376	1	17° El. L.S. Right P.SP.I. P.IP.B.	. 81 . 57	. 8 <u>1</u> . 57	0+09.99 0+10.56	6. 18 6. 18	05 03	723.39 723.36
F. 277	1	P.S. 36" SP-12 x 36" SP-5 P.B. Adapter	. 55	. 55	0+11.11	6. 18	03	723. 33
	1	36" P.J. End Valve (Not by P.B. Co.)	1.05	1.05	0+12, 16	6. 18	~ . 0 6	723. 27
F-378	1	35" SP-5 P.S. x SP-12 P.B. Adapter	.55	. 55	0+12.71	6. 18	03	723. 24
ALBANIC . TO PARALLE	1	Length	20.03	19. 99	0+32.70	6. 18	-1.24	722.00
	1	Length, Open Jt. Top @ 20.03	20.04	19 . 9 9	0+52.6 9	7. 18	-1.44	720.56
	1	Length, Open Jt. Top	20.03	19.97	0+72.66	7.53	1.50	719.06
	1	Length	20.03	19.97	0+92.63	7.53	-1.50	717.56
us needs - Naghanda and Albania and Albania							and the second s	

JOHN SS. 66P-Unit VI

PROJ CT Flint Michigan Division 4
72" Water Supply Line

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CO DE GC.	QTY.	DESCRIPTION	TOT. LAID LENGTII	HOR. LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
C. J. Marie and the Control of the C	This sel	edule supplied only as an installation guide. A 36" SP-12 Class 15º for 10' Cover	djustments	must be :	ade to adapt to 0+92.63	field c	onditions.	717.56
F 379	1	12°30' El L.S. Bottom Special PS-PI PI-PB	2.06 .₩	2.06 , 44	0+94, 69 0+95, 13	7,53 14,89	∞ .16 + .07	717.40 7 17.47
	1	Length	20.03	19.81	1+14, 94	14. 89	+2. 95	720.42
7-380	1	9°30'EL. L.S. Top P.SP. I w/2" I.P. Thd. O.L. @ B.E.L.S.P. IP. B	E .	, 57 , 34	1+15.51 1+15.85	14.89 1.33	÷ .08	720. 50 720. 50
gar - Sarpere view or an application designation of the same of th	3	Lengths	60 . 09	60 _° v9	1+75. 94	1, 33	<u>~ .</u> 80	719.70
	1	Half Bevel L.S. Top P.I. Sta. 1+76.33 Open Jt. Bottom	19. 98	19, 97	1+95. 91	3, 92	- , 78	718.92
	5	Lengths	100.15	100, 07	2+95, 98	3.92	-3 , 92	715.00
S 381	1	Harn. Short Half Bevel L.S. Bottom Clamp B.E. Only Open Jt. Bottom P.I. Sta. 2+96.36	8.60	8.60	3+0458	. 00		715.00
r 382	1	36" Harn. P.S. x Tlg. Adapter Wallpiece w/l" I.P. Thd. O.L. l' from Face of Flg.	5.00	5.00	3+09.58	. 00		715.00
	1	36" Flew Tube (Not by P.B. Co.)	6, 29	6. 29	3+15.87	, 00		715.00
F~383	1	36" Flg. x P.E. Adapter	1.00	1.00	3+16.87	.00		715.00
Australian Anna Patringan, Anna Anna Anna Anna Anna Anna Anna A								

95.66P-Unit V)

PROJECT Flint, Michigan Division A
72" Water Supply Line

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PREPARED BY J. C. Wilson

, O.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR. LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This scl	edule supplied only as an installation guide. A 36' SP-12 Class 159 for 10' Cover	djustments	must be	3+16.87	field c	onditions.	715.00
88B		36" P.E. x 16" Flg. Reducer	4.08	4 . 08	3+20 · 9 5	. 00		715,00
)	Fig. End Valve (Not by P.B. Co.)	3,38	3.38	3+24, 33	, 0 0		715.00
F - 485	1	16" Flg. x 36" Flg. Reducer	3.00	3,00	3+2" 3	. 00		715.00
386	ì	36" Fig. x Harn, P.B. Adapter Wall.						
	PCOC - crass an Nat ・ 使用 ・ 使用 ・ 使用 ・ 使用 ・ 使用 ・ 使用 ・ 使用 ・ 使	piece w/Three 2" I.P. Thd O.L. S ll" fr. Flg.	5. 0 0	5.00	3+32 , 3 3	., 90		715. 00
	I	Harn Full Bevel L.S. Top, Open Jt. Botzom P.I. Sta. 3+32.72	19, 92	19.88	3+52, 23.	6, 30	⊶1 . 25	713.75
\$ 387		Harn. Short Length	7.25	7. 28	3+59. 46	6.30	46	713. 29
g 488	ACTIVA ACTIVA	36" Harn. SP-12 P.S. > 36" Harn. SP-5 P.B. Adapter	_e 55	. 55	3+60.01	6. 30	03	713. 26
n y year o' Payar a light year let na a light year let na a light year let na a light year let na a light year	L	36" Harn P. J. End Valve	1. 05	1.05	3+61,06	6.30	· . 07	713. 19
r-389		36" Harn. SP-5 P.S. x 36" Harn. SP-12 P.B. Adapter	. 55	. 55	3+61.61	6. a 0	~ , 03	713. 16
F-290	1	Hern. 65° El. L.S. Left P.S P.I. Rotate for Horiz. & Vert. P.I P.B. Defl.	2,47 2,21	2.47 2.21	3+64. 0 8 3+66. 29	6.30 .00	∞ .16	713.00 713.00
STATES AND S. OF THE PROPERTY OF THE STATES AND STATES	2	Harn. Lengths	40 . 0 6	40 . 06	4+ 06. 35	. 00		713.00
5-391	1	Harn. Short	5.70	5.70	4+12.05	. 00		713.00

Jus 40 95 56P-Unit VI

PROJECT Flint, Michigan Division A
72" Water Supply Line

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REVISED
PREPARED BY J. C. Wileon

onde 40.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This sc	lecule supplied only as an installation guide. 36" SP-12 Class 159 for 10' Cover	Adjustments	must be	ande to edapt 1 4+12 05	fleld c	enditions.	€13,00
∑~392	1	Marn. 18° El. L.S. Top P.S. P. I. P. I. P. B.	95 59	. 95 . 5 6	4+13-00 4+13-56	70 32.78	. 18	713. 00 712. 82
\$ - 393	1	Harn. Short	13. 25	12.59	4+26 15	32. 78	-4,13	708.69
f-394	1	Harn. 18° El. L.S. Bottom P.S. P.I. P.IP.B.	. 95 59	, 90 , 59	4+27.05 6+27.66	32 78 00	- , 29	708.40 708.40
	1	Harn. Length	20.03	20.03	4+47 . 5 7	00	and the second section of the second section of the second section of the second section of the second section	≥08. 40
£ 395	1	Harn. 18° El. L.S. P.SP. I. P. IP. B.	. 95 . 59	. 95 . 56	4+48.62 4+49.18	32.78	⊹ . 18	708. u n 708. 58
>-396	1	Harn. Shert	13.25	12 59	4+61.77	32.78	+4. 13	712.71
7-397	1	Harn. 18° El. L.S. Top P.SP. I. P IP S.	. 95 95	. 90 95	4+62.67 4+63.62	32.78 00	+ 29	7 13.00 713. 00
AND AND THE PROPERTY OF THE PR		Procede to Existing 36" CI Line Remove 90° El and Insert the Following, w/(2) C.1. SLEEVES (M	T SY P.B.	?a)	- Agillo dimentina na matanina kalanda na pipilana - Agillo dimentina na matanina kalanda			delicazione in consistente e consistente delicazione del consistente del consi
E 398	1	36" SP-12 Class 159 for 10' Cover 36" X 36" Nam. P.S. x 36"			₩70 00	30		713. 00
	_	C.I.S. P. I -P. S.	3 33	3 33	±+66.67	. 00		713 00
yeller - Lock salyholder ann hanyaliya (1688) an				A THE STREET THE REPORT THE PROPERTY OF THE STREET THE	The state of the state of	And the standard parts of the standard standard and the standard s	American The phase of the Street Stre	१९११ हार्डिन अनेक महर्षात् । १ - व्याप्त कर्षा _म र्ग्यास्त्रीहार्त्य अन्त्रेत् अवस्था स्थिति स्थापन

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72" Water Supply Line

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NO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR. LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LIN
	This sc	dedule supplied only as an installation guide. A 35" SP-12 Class 159 for 10° Cover	djustments	must be	ade to adapt to 4+66, 57	field c	onditions.	713,00
X~10	1	36" Marm. FR. Closure @ 6'0" Cut to Fit in Field	3.05	3.05	4+53. 62	.00		713,00
		Proceed to 72" x 72" x 36" 45° Wye at Sta. 588+28.28 and begin to lay S.W.				A display of the latest and the late		
					and the desired spiritures and the spiriture and the spiritures are the spiritures and the spiritures are the spiritures and the spiritures are th			r-Marindon-handelligisted-stablender Stablenderstandsbeginder sich zwie aus von
		36" SP-12 Class 159 for 10' Cover.			588+28, 28		+1.25	718.49 719.74
		Convert to City Datum Elevation. Branch P. I P. B.	8.10	8. 10	588+36,38	. 00	+1. 4 5	719.74
F -399	1	36" Harn. 45° El. L.S. Right						
		SP-12 P.S. to P.I.	2.51	2.51	588+38 ₋ 89	.00		719.74
	ĺ	SP-5 P. 1. to P. B.	1.41	1.41	588+40.30	ୃ ୦୦		719.74
	Sta.	Bquation: Sta. 388+40.30 Ahead = Sta.58	8 +37.19		588+37.19	. 00		719.74
	1	36"/P. J. End Valve (Not by P. B. Co.)	1.05	1.05	588+38, 24	. 90		719.74
X II	1	36" Hern. SP-5 P.S. x Harn. SP-12 P.B. Adepter	. 58	, 68	5 88+38 . 92	.00		719, 74
	1	Harn, Half Bevels L.S. Bottom Open Jt. Bottom	19.97	19. 96	588+58。88	3,81	+ , 76	720,50
	1	Harm. Half Bevel L.S. Top Open Jt. Top	19.97	1 9 . 97	5 88+ 78, 3 5	. 00		7 20. 50

TOE HE 95.66P-Unit VI

PROJECT Flint Michigan Division A RI
72" Water Supply Line P

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CODE NC.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LEG ELEVATION
4.35	This sc	edule supplied only as an installation guide. A	djustments	must be	nade to adapt to	field c	onditions.	
	_	36" SP-12 Class 159 for 10' Cover			588+78.85			720.50
5 -400	1	Shopweld B.E. to S.E. of F-401.	14, 94	14, 34	588+93 . 19	. 0 0		720.50
F 40),	1.	Tied P.S. x Flg. Adapter Shepweld S.E. to B.E. of S-400	1.47	1.47	588+ 94 . 66	. 00		720.50
	1	Flow Tube and Valva Assembly	5.92	5.92	589+00.58	. 08		720.50
	1	(Not by P.B. Co.) 30" Flg. x 36" P.E. Reducer (NOT BY P.B. Co) Procede Upstation to the 60" x 60" x 36" Wye and Lay Back to Valve Building to Close.	4. 3 3	4. 33	589+04. 91	. 00		729. 59
town or a supplementary of the		Brench P. IHarn. P. B.	7.09	7.09	589+62. 76 589+55. 67	. 09		720.50 720.58
E04 -3	1	Harn. 36 **45 ** E1 SP-12 P.S. x SP-5P.B. SP-12 P.SP.I. SP-5 P.IP.B.	3.52 1.41	3.52 1.41	589+52. 15 58 9+ 50. 7¢	. 00 . 00		720.50 720.50
	Stat	on Equation: Sta. 589+50.74 Back=Sta.	589+53.	5 Aheed	589+53.85	.00		720.56
	1	36" Harn. P.J. End Valve (Not by P.B. Co.)	1.05	1.05	589+52.80	. 06		720.50

35 v6F-unit VI

PROJECT Flint, Michigan Division A
72" Water Supply Line

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ODE NO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION	
	This sc	edule supplied only as an installation guide. A 24" SP-12 Class 160 for 10' Cover	djuš tments	must be	nade to adapt to 0+10.00	field c	onditions.		
z 407	l l	Farn. 45° El. Special P.SP.I. Houp FOR FIELD Special P.IP.S. Manduit	3,00 1,49	3.00 1.49	0+13,00 0+14,49				
		Procede to 24" Branch and Lay Back to Close			0+25.00				
* ** , & ** ***************************		Branch P. I P.S.	3.62	3.62	0+21.38				
- 446	1	Haro Short (Lay Bell over Spigot)	3.03	3.63	0+10.35				
2.16	1	24" Harn. F.R. Closure @ 6'0" Cut to Fit in Field	3.86	1,86	0+14,49				
	e production	Procede to 24" C. L. near 8ta 590+55.00			0+00.00				
: 17	1	24" Neck Flg. O. L., HOLD For FIELD	2.00	2.00	0+02.00				
		w/Saddle Plate for 30" atc ? Pipe							
	4	24" Flg. End Valve (Not by P.B. Co.)	2.70	2.00	0+04.03				
5~ 40 9	3 .	Procede to trench of O. s. and Lay	5 0 ©	5.00	0+09.00				
		Back to Closure							
∙ শু≄ব জন				ngalanterresis o paras ciris quita desagai desagai desagai desagai de la companya				rana arabahan dan keri per pina dan dan dan dan dan dan dan dan dan d	
	1				average and				

108 No. 95	. 66P-Unit	PRICE BROTHERS COMP	ANY LAYI	(G SCHEDU	LB		PAGE 19	OF 19 PAGES
F attachment to the second		PROJECT Flint Michigan 72" Water Sup		on A	REVISED_1	Octobe 1)1-23-	r 14, 1966	
CODE NO.	QTY.	DESCRIPTION	TOY: LAID LENGTH	HOR. LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
and the second second	This sol	edule supplied only as installation guide. 24" SP-12 Class 160 for 10' Cover	Adjustments	must be	0+26.00	field c	onditions.	
		Branch P. I. Harn. P. B.	3.31	3.31	0+22. 69			
s 410	1	Harn. Short Length	6.64	6.64	0+16.05			
F-411	1.	Harn. 65° El. L.S. Left How For Figo P.S P.I. MERSURE P.I P.S.	2.05 2.05	2.05 2.05	0+14.00 0+11.95			
x 9	1	Hern. F.R. Closure 6 6'0" Cut to Fit in Field	2.95	2.95	0+09.00			
		END OF PROJECT						
THE ACCUST CONTRACT OF THE SECOND SECON								

95 cap - unit v

	PRICE BROTHERS COMPANY LAYING SCHEDULE	PAGE_1_or4
	Widney Michigan Distains A	DATE
roject_	Flint, Michigan Division A 72" Flint Detroit Water Supply	REVISED PV Jerome C. Wilson Jr

3.05 2.05	QTY.	PESCRIPTION	TOT, LAID LENGTH	HOR. LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This scl	edule supplied only as an installation guide. A Misc. Materials Shipping List	djustments	must be	ade to adapt to	field c	onditions.	
	1	25# Pails Price Lube						
	4	54" Wide dispers						
	12	36" SP-12 laying gaskers					-	
	5	36" SP-5 laying gaskets						
	13	36" wide diapers						
	the second secon	54" harn clamp ring assemblies						
	9	35" SP- 12 harn clampring, assemblies						
· ·	w 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	36" SP-5 harn. clamp ring assembli	8					
the state of the s	6	5/16" 120° segments filler rods for shopwelded joints.						
				Greenfie	Genstruction (a b.		
	۲.			AP	PROVE			
				By	(Me)			
				Date	(0/)	_		
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95 66P - Unit V 103 NO ...

PROJECT Flint, Michigan, Division A - 72" Flint Detroit Water Supply

PAGE 1 OF 5 PAGES DATE 9-28-66 REVISED_ Jerome C. Wilson Jr.

PREPARED BY.

CODE NO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR.LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
and the second s	This sci	edule supplied only as an installation guide. A	djustments	must be	ade to adapt to	field c	enditions.	
		Begin laying at intersection of Davison & Baxter Roads by making connection with City of Detroit Pipeline and laying west P.S. to P.B.						
	<i>-</i>	72" SP-12. Class 162 for (10) Cover			3+01.00			853. 60
	1	Length	20.03	2 0 . 03	3+21.03	. 00		853.60
	1	Half bevel, L.S. bettom P.I. sta 3+21.52, open jt. bottom @19.91	19.94	19.92	3+40.95	s. 75	+. 95	854. 55
	1	1gth. open jt. bottom @20.03 72" SF-12 Class 162 for 10' Cover	20.05	20.02	3+69.97	. 40	+1.08	855.63
	1	lgth. open jt bottom @20.03	20.05	20.01	3+80.98	5. 10	+1.22	856.85
	1	Lgth., open jt. bottom @20.03	20.05	20.00	4+00.98	5.80	+1.36	858.21
	1	Lgth., open jt. bottom @20.03	20.05	20.00	4+20.98	7,45	+1.49	859.70
S-1	1	Full bevel L.S. top P I. sta 4+21.47 w/8" tan flg. OL. 10' fr. SE top RT. side open jt. top @19.78	1	19. 79	4440.77	. 00		859.70
	1	Harn half bevel L.S. top P.I. sta 4+41.26 open jt. top @19.91 clamp B E. Only	19. 92	19.90	4+ 60.67	4. 02	80	858. 9 0
	2	Harn Lgths	40.0 6	40.03	5+00.70	4. 02	-1.60	857.30
F-2	1	Harn. Short half bevel L.S. bottom w/36" 45° wye 5' fr S.E., w/1" OL. @ S.E., open jt. bottom @ 13.03' 1" O.L. en Side of 72" Pipe	13.04	13.04	5+13.74	. 00		857. 30

9-28-66 PAGES

PROJECT Flint, Michigan, Divison A-72
Flint Detroit Water Supply

REVISED____

DATE.

PREPARED BY Jerome C. WilsonJr.

CODE NO.	QTY.	DESCRIPTION	Tot, 1 Aid Length	HOR LAID LENGTH	STATION	% Grade	ELEVATAL: CHANGE	CENTER LINE ELEVATION
	This sol	edule supplied only as an installation guide. A 72" SP-12 Class 162 for 10' Cover	djustments	must be	ade to adapt to \$ 13.74	field c	onditions.	857. 30
P-3	1	72" harn P.S. x 54" Harn P.B. reduce	6.18	6. 18	5+19. 92	.00		857.30
	1	54" Harn P. J. end valve (not by P. B. CO.)	1.40	1.40	5+21. 32	.00		857.30
2-4	1	54" Harn P.S. x60" harn. P.B. reducer	6.30	6. 30	5+27. 62	. 00		857. 30
		60" SP-12 Class 166 for 10' Cover						
	8	Harn lengths	40.06	40.06	5+67.68	. 00		857.30
8-5	1	Harn short length	7.43	7.43	5+75.11	. 00		85730
P-6	1	Harn P.S. x flg. adapter	5.50	5.50	5+80. 61	. 00		857.30
	•	Flow Tube and Valve Assem. (not by F.B. Co.)	13.63	13.63	5+9%, 24	. 00		857.30
F-7	1	P.E. x harn. P.B. adapter with (1) 1/2" nipple 1-6" from P.E. for Chlorine Resid	6. 2 5	6. 25	6+00.49	. 90		857. 30
	1	Harn length	8	20.03	6+20.52	. 00		857.30
S-8	1	Harn. Short	11.03	11.03	6+31.55	. 00		857.30
P-9	1	60" harn P.S. x 54" Harn P.B. reduce	r 6.18	6.18	6+37.73	. 00		857.30
	1	54" he rn. P.J. end valve (not by P.B. co.)	1,40	1.40	6+39.13	. 00		857.30
		72" SP-12 Class 162 for 10' Cover						
F10	1	54" harn. P. S. x72" harn. PB reducer	6.78	6.78	6+45.91	.00		857 34
F-11	1	72" harn P.S. xharn. PB x35" harn	11.85	11.85	6+ 57 , 7 6	. 00		857. JU
		P.B. 45° wye. w/1" OL. @ B.E. Harn lgth. open it. top @20.03	20.05	20.05	6+77.81	. 50	- 20	837 79

PRICE BROTHERS C	OMPANY L	AYING	SCHEDULI
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 \$ · *	PAGE 3 OF 3 PAGE
· · · · · · · · · · · · · · · · · · ·	DATE 9-28-66
PROJECT Flint, Michigan, Divison A - 72" Flint Detroit Water Supply	REVISED
Flint Detroit Water Supply	PREPARED BY Jeruse L. Wilson Jr.

ais sci	Harn. length, clamp S.E. only open jt. top \$20.03 Length w/24" flg. OL. 3' fr. S.E. w/24" blind flg. Begin laying at west end of valve values connection with the 36" branc Laying Last 36" SP-12 Class 159	20.05 20.03	20.05 20.03	•	field c .50 1.00	onditi ons. , 20 20	857.20 857.00 856.80
	It. top @20.03 Length w/24" flg. OL. 3' fr. S.E. w/24" blind flg. Begin laying at west end of valve values connection with the 36" branc Laying East	20.03	20.03	7+17.89 mection by seline (F-11)			856.80
	w/24" flg. OL. 3' fr. S.E. w/24" blind flg. Begin laying at west end of valve values making connection with the 36" branc Laying East	alt at D	etroit co	mection by celine (F-11)	1.00	20	
	Begin laying at west end of valve var making connection with the 36" branc Laying East		2	eline (F-11)			
	* · · · · · · · · · · · · · · · · · · ·			6+55.51			
I			1				857.30
	Branch PI - Harn PB	8. 10	9. 10	6+47.41	. 00		857.30
	36" Harn 45° EL L.S. left SP-12 PS-PI SP-5 PI-PB	2.51 1.41	2.51 1.41	6+44. 90 6+43. 49	. 00 . 00		857, 30 857, 30
	Sta. Equation sta 6+43.49 ahead = St	ı. 6+46.	60 back	6+46, 60	. 00		837.30
	36" Harn PJ end valve (not by PB Co.	1.05	1.05	6+45, 55	. 60		837. 30
	38" Harn SP-5 PSxHarn. SP-12 PB Adap	. 68	. 68	6+44, 87	.00		837, 30
	Harn. lengths	40.0 6	40.06	5+04.81	.00		837.30
-	Tied short lgth. hern. SE Tied BE	9.88	9.88	5+94.93	. 00		837.30
	shopweld BE to SE of F-320 7						
		Sta. Equation sta 6+43.49 ahead = Sta 36" Harn PJ end valve (not by PB Co. 36" Harn SP-5 PSxHarn. SP-12 PB Adap Harn. lengths	Sta. Equation sta 6+43.49 ahead = Sta. 6+46. 36" Harn PJ end valve (not by PB Co. 1.05 38" Harn SP-5 PSxHarn. SP-12 PB Adap : .68 Harn. lengths 40.06 Tied short lgth. harn. SE Tied BE 9.88	Sta. Equation sta 6:43.49 ahead = Sta. 6:46.60 back 36" Harn PJ end valve (not by PB Co. 1.05 38" Harn SP-5 PSxHarn. SP-12 PB Adapt .68 .68 Harn. lengths	Sta. Equation sta 6+43.49 ahead = Sta. 6+46.60 back 6+46.60 36" Harn PJ end valve (not by PB Co. 1.05 1.05 6+45.55 38" Harn SP-5 PSxHarn. SP-12 PB Adapt .68 .68 6+44.87 Harn. lengths 40.06 40.06 6+04.81 Tied short lgth. harn. SE Tied BE	Sta. Equation sta 6+43.49 ahead = Sta. 6+46.60 back 6+46.60 .00 36" Harn PJ end valve (not by PB Co. 1.05 l.05 6+45.55 .00 38" Harn SP-5 PSxHarn. SP-12 PB Adapt .68 .68 6+44.87 .00 Harn. lengths 40.06 40.06 6+04.81 .00 Tied short lgth. harn. SE Tied BE 9.88 9.88 5+94.93 .00	Sta. Equation sta 6:43.49 ahead = Sta. 6:46.60 back 6:46.60 .00 36" Harn PJ end valve (not by PB Co. 1.05 1.05 6:45.55 .00 38" Harn SP-5 PSxHarn. SP-12 PB Adap .68 .68 6:44.87 .00 Harn. lengths 40.06 40.06 6:04.81 .00 Tied short lgth. harn. SE Tied BE 9.88 9.88 5:94.93 .00

95 66P Imit V

PROJECT Flint, Michigan Division A 72" Flint Detroit Water Supply

REVISED

PREPARED BY Jeromo C. Wilson Jr

5.0E 1).	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This sc	ledule supplied only as an installation guide. A 36" SP-12 Class 159	djustments	must be	sade to edapt to 5+94,93	field c	onditions.	837.30
F-320	1	Tied PSXPE adapter w/couplings shopweld SE to B of S-319 with (1) /z" hipple 1~6" from P.E for Chloring Residue	2.33	2.33	5+92.60	. 00		837.30
X - 7	1	36" PEx30" flg reducer	4. 33	4. 33	±+88 27	. 00		837.30
4	1	Flow tube and valve assbly (not by P	3) 5.92	5. 92	5+82.35	. 00		837.30
F121	1	36" FlgxTied PB adapter shopweld BE to SE of S-322	1. 23	1.23	5+81.12	. 00		837.30
s-9 22	1	Tied 1gth tied PS harn. PB shopweld SE to BE of F-321 9/3	20.03	20.03	5+61.09	. 00		837. 30
	1	Harn length	20.03	20.03	5+41. 05	. 00		837.30
x-8	1	36" SP-12 Harn. PSxSP-5 Harn. PB adapter.	. 68	. 68	5+40. 38	. 00		837.30
and the second s	1	36" harn PJ and valve (not PB co)	1.05	1.05	5+39.33	. 00		837.30
%-9	1	36" harn. SP-5PSx harn. SP-12 PS	1.04	1.04	5+38.29	. 00		837.30
	1	Harn Lgth (lay bell over spigot)	20.03	20.03	5+18.26	. 00		837.30
		4" -3c" 14" (60")						
ekdori 3 - Yesh almala - engalakilik ka farin		Chierina sample taps looking toward East.						-

ç 'ì ●			PRICE BROTHERS COMPANY LAYING SCHEDULE
YOU WA	95.66P	Unit V	

DATE 9-28-66 PAGE 5 OF 5 PAGES

PROJE & Flint, Michigan Division A 72 " REVISED.

	,	Flint Detroit Water	Supply	and the second s	PREPARED	BY J	lenvome C. W	Ilson Jr.
CODE NO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This sci	edule supplied only as an installation guide. A \$\frac{1}{46}" \text{SP-12 Class 159}\$ Procede downstation to 36" wye (F-2) and begin laying west to closure		must be :	ade to adapt to 5+05,70	field c	onditions.	8 37. 3Q
F-2		Branch PI - PB	8. 10	8. 10	5+13.80	. 00		837.30
F-325	1	36" Harn 45° double spigot EL L.S. right special PS-PI	2.51	2.51	5+16.31	.00	I I	837. 30
17-324	1	Station Equation: STa 5+18.07 shood 36" SP-12 Harn F.R. closure 26'0" cut to fit in field END OF UNIT V	1.76 - sta. 3.30	1.76 +14.96 mck 3.30	5+18.08 5+14.96 5+18.26	. 90		837. 30 837. 30

95,66P - Unit V

PROJECT	Flint,	Michigan	Divisio	n A
**********	72" F1	int Detro	it Water	Supply

		TERRETORIS A ALLA COMPANIA COMP			FREFARED	SO E spenderman	والمتحاول والمتحافظ والمتح	
90° 5	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR. LAID LENGTH	STATION		ELEVATION CHANGE	CENTER LINE ELEVATION
Sant American Process	This sc.	edule supplied only as an installation guide. A Misc. Materials Shipping List	djustments	must be	ede to adapt to	field c	onditions.	
	1	25# Pails Price Lube						
	4	54" Wide diapers						
	12	36" SP-12 laying gaskers						
	5	36" SP-5 laying gaskets						
errer (managements) , et i to (managements) (managements)	13	36" wide diapers						The state of the s
	4	54" harn clamp ring assemblies			1			
	9	35" SP- 12 harn derring, assemblie	Ì					
	· u	36" SP-5 harn. clamp ring essembli	.					
	6	5/16" 120° segments filler rpds for shopwelded joints.						
				Greanfie	ll Censtruction (
				AD		p. D		
				By /	ROVE			
				Date	10/			
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TO-R-COCK TO OF 200 DATE. Plint Michigan Division A REVISED. PROJECT.

			TOT LAD	HOR LAID LENGTH	STATION	GRADE	CHANGE CHANGE	C:
8/	Abis set	edde supplied only as an impallation suite.	Adjustments	wusi ba i	ode to supply to 566+5.4 6.1	field c	muitions.	
	$ \sim \times $	Lgth, open jt top \$60.03	20.0	20.04	568+71.65	/,53	\sim	·
	1	Longition \/	1 0 6.15	151.18	69+71/80		/53\	
7-259	V	A.30. Er is Mout	1.64	/ 1/64	> 8 (/3.4%)	\rightarrow		X 7 /
	△ ×		EU/XS	80.32	570+5366	.52	1-1/2	X
		lyth, dyen jt bution \$20.03		20.64	J.U.73.&\$			
			360.54	350.5#	571):31:.14			
		Ban Lich, elem BE only	20.03	20.03	574+54.17	.20		
		Mara Leagla	20.03	20.99	57::-7120			
S-260		Piolinari IIII Si 71el di Sion - el di 10 Yi of 3-261	20.74		5711:31:.25		-, 02	
198-2		ricd in el tord it horn ne shepseld PS to DE of S-260 FS-PI	1.39		575+86.32	.ac		
			1.90		5.71+87.37	The state of the s		2.5
S - 262		Tied short Mar 1 SE tire BE Shopmald BE to PE of S-263		10.70	570+98.11	20	62	7.0
		FINUATION SEE SUBER 2.1 THAY 2						

95.66P Unit IV

PRICE BROTHERS COMPANY LAYING SCHEDULE

10-4-66 PAGE 21 OF 36

DATE.

Jerome C. Wilson Jr. PREPARED BY_

Flint, Michigan Division A PROJECT. The because nature supply

CODE No.	qr.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LIN
	This sol	eduir supplied only as an installation gui 72" SP-12 Class 151 for 6' Cover	do. Adjusta ents	must be	sede to edept to 574+98:11	field c	onditions.	709 52
F-263	1	Tied 15° EL tied PE Harn BE shopweld PE to BE of S-262 PE-P PI-P		1.39 1.04	574+99.50 575+00.54	. 20 . 20		705, 52 705, 52
8-264	1	Tied shot Harn SE .ed BE shopweld BE to PE of S-265	10.74	10.74	575+11.28	. 20	02	700 50
F-265			-PI 1.39 -PB 1.04	1.39 1.04	575+12.67 575+13.71	. 20 . 20		709, 50 709, 55
8-266	1	Tied short harn SE tied BE shopweld BE to PE of F-207	10.74	10.74	575+24.45	. 20	02	709. 98
F-267	1	Tied 15° el Tied PE Harn BE Shopweld PE to BE of S 266 PE- PI-		1.39 1.04	575+25.84 575+26.88	. 20 . 20		70° 🔛
S-268		Tied short harn SE Tied BE shopweld BE to PE of F-269	10.74	10.74	575+37.62	. 20	02	705
F-269	1	Tied 15° EL tied PE Harn BE Shopeweld PE to BE of S-268 PE- PI-	· •	1. 3 9 1. 04	575+39. 01 575+40. 05	. 20 . 20		709.46 709.46
·								and the second second second second second second second second second second second second second second seco

PAGE 22 OF 30 PAC

DATE.

CODE NO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% Grade	ELEVATION CHANGE	CENT REL
	This sol	edule supplied only as an installation guide. / 72" SP-12 Class 151 for 6' Cover	djustments	must be i	sade to adapt to 575+40.05	field c	onditions.	709.46
8 - 270	1	Harn Short	16.03	16.03	575+56.08	. 20	03	70 9.53
F-271	1	12" Harn PSx72" Harn PBx48" PB Tee	4 30	4. 10	57 5 +60. 18	. 20	01	709. 42
		PS-PI PI-PB	4.10 3.75	3. 75	575+63.93	. 20	01	705, 41
	1	Harn full bevel LS top PIst: 575-644	19.81	19.76	575+83.69	7. 20	-1.45	787, 99
	Andrew Commission Commission	open jt bottom @19.78		dir tikur ja pyrani e ena dia aysundine akana, nga	Marintiinan siinaanaa, raameeraanaa, raameeraa	Mariemann, sur reidiagenesquer "amelies", su	- American de Carrella de Carr	Fininger/aggregate and set of the
	1	Harn lgth, open jt bottom @20.03 Clamp SE only	20.05	20.01	576+03.70	6.50	-1.30	705
	1	LENGTH, open jt bottom @20.03	20.06	20.03	576+23.73	5.73	-1.15	705.34
	1	Length	20.03	20.00	576+43.73	5.73	-1.14	704, 40
	1	Half bevel LS bottom PI sta 576+4423 open jt top @19.91	19.93	19.93	575+63.66	1.25	~. 25	704.35
		Lengths Length, Open Jt. Bottom @20.03	140. 21 20. 05	140. 20 20. 05	578+03.86 578 +23.91	1 25 . 60	-1.75	7::7 ***
8-272	i	Length w/24" neck flg OL 17' fr SE	20.03	20.03	578+43.94	. 60	12 12	702 25 702, 36
8-27 2A		w/24" blind flg						
			-			-	. ,	

JCB NO. 95.66P Unit IV

PROJECT Plint Mehigan Division A
72 Plint-Detroit Water Supply

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DATE 10-4-05

HEAVIERS
PREPARED BY JESSEE C. William Jr.

CODE NO.			TOT, LAID LENGTE	HOR LAID LENGTH	STATION	S GRADE	ELEVATION CHANGE	CENTER L ELEVATI
	This ex	edule supplied only as an installation guide. 72" SP-12 Class 151 for 6! Cover			ade to adapt to 578+43.94	Seld c	andii lyms.	702.16
S-273		Have short lines 32 only	11.63	11.03	578+54.97	. 60	06	762.10
		Harm Length */Life Tab K/B BOOL Ju! fr SB besterm right	20.03	20.03	578+75.00	. 60	~.12	701. 98
7-275		72" Hann PSu54" Harn PB reducer	6. 18	6. 18	578+81.18	60	04	701. 51
	The west practice of the same	54" Rama RJ end valve (not by PB co.)	1.40	1.10	578+82.58	. 60	01	701.
F-276		30" Herri Ph.72" Store FB reducer	6.78	6.78	578+89. 36	. 60	04	701 89
		72" SP-12 Class 162 for 10' Cover						
		Harn full bevel LS top 578-8987 open jt bottem 219.78	19.80	19.80	579+09, 16	8.00	-1.58	700.3
		The full here! IS top	19.79	19.55	579+28.71	15.63	-3.06	697.23
		opes it bottom @19.78						
		Here Len gth	20. 03	19.79	579+48.50	15.63	-3.09	694.
		72" SP-12 Class 151 for 6' Cover Barn. Rosett	20.03	19.79	579+68.29	LS. 63	-3.09	691. 07
8-277	1	No. 9°0° EL PS-P1 PI-PS	1.08 .72	1.07 .72	579+69. 36 579+70. 08	15.63 .00	17	690. 50 690. 50

JOB NO. 95, 66P Unit IV

PROJECT Flint Michigan Division A
72" Flint-Detroit Water Supply

CODE NO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER DE
	This se	edule supplied only as an installation guide. / 72" SP-12 Class 151 for 6' Cover	djustments	nust be	ade to adept to 579+79.08	field c	paditions.	69 n . 90
	2	Harn lengths	40.06	40.06	580+10.14	. 00		6 90. 🕪
8-278	1	llem short	8.03	8.03	580+18.17	. 00		6984.99
P-279		Harn 17'0' el LS bottem PS-PI PI-PB	1.50 1.15	1.50 1.10	580+19.67 580+29.77	•	+. 33	699.90 691. 23
		72" SP-12 Class 162 for 10' Cover				en anti-anglida interna pada di interna si Proj	American American Miles (Marie Marie	1986), A ng Pang (1997)
		Harn Lengths	40.06	38. 33	580+59.10	30.37	+11.64	/ually
S-280	1	Harn short	14. 25	13.64	586+72.74	30.37	+4.14	707.93
P-281		Harn 13°30' el LS top P3-PI PI=PB	1.31	1.25 .95	580+73, 99 580+74, 94		+6 +.06	707.33 727.54
		72" SP-12 Class 151 for ' Cover						The state of the s
	2	Harr. Lengths	40 06	39.99	581+14. 93	6.03	+2.41	709. 81
S-282		Tied lgth., harn. SE tied BE shepweld BE to PE of F-283	20.03	19. 99	581+34. 92	6. 0 3	+1.20	711.06
F-283	1	Tied 15° el IS right Tied PE Harn Bi ahopueld PE to BE of S-282 PE-BI PI-PB	1.39 1.04	1. 39 1. 04	581+36.31 581+37.35		+. 08 +. 06	714. £4 7£3. 20
								ه المداعد والمداعد المداعد المداعد والمداعد والم

Flint, Michigan Division A

72" Flint-Detroit Water Supply

PROJECT_

ton No 95.66P Unit IV

PAGE_25_OF 30

REVISED.

PREPARED BY Jerome C. Wilson .

			LENGTH	HOR LAID LE: UTH	STATION	GRADE	ELEVATION CHANGE	ELEVATO
	This scl	edule supplied only as an installation guide. A 72" SP-12 Class 151 for 6' Cover	djustments	must be	581+37.35	field c	paditions.	717.76
S-284	1	Tied short Harn SE tied BE shopweld BE to PE of F-285	10.74	10.72	581+48.07	6.03	+.65	7.1
F-285	1	Tied 15° el. tied PE Harn BE LS righ	1.1					•
Ì		shopweld PE to BE of J-284 PE-PI P. IP. B	1.39 1.04	1.39	581+49.46 581+50.50	6. 03 6. 0 3		732.22
		E . 2. *** • 12	1.0%	2.07	301130.30			
S-286	1	Tied short half bevel LS top Harn	10.76	10.76	581+61.20	1.43	+. 15	A Commence of the Commence of
		SE tied BE, shopweld BE to PE of						
Ì		F-287 @10.74					v	
E-287	1	Tied 15° el tied PE Harr BE LS right						
		shopweld PE to BE of S-286 PE-PI	1.39	1.39	581+62.65	1.43		7 3 8 1 8 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
		PI-PB	1.04	1.04	581+63.69	1.43	+.01	
		72" SP-12 Class 162 for 10 Cove.						
						<u></u>		
S-288	1	Tied short harn SE tied BE shopweld BE to PF of F-289	10.74	10.74	581+74.43	1.43	+. 15	
F-289	1	Tied 15° el tied PE Harn BE 15 right				İ		
1-209	*	shopweld PE to BE of S-288 PE-PI	1.39	1.39	581+75.82	2.47	+.02	723.34
		PI-PB	1.04	1.04	581+76.86	1.43	+.01	712 35
F-291	1	72" Harn PS x 54" harn PB reducer	6. 18	6. 18	581+83.04	1.43	+.09	712 to
	1	54" Harn PB end valve (not by PB Co)	1.40	1.40	581+84. 44	1.43	+. 02	712 46
			A Control of the Cont					Andrews and the Manager of the Andrews and the

95 66P Unit IV JOB NO.

PRICE BROTHERS COMPANY LAYING SCHEDULE

PAGE 26 OF 30 PAGE

DATE_

PREPARED BY Jerome C. Wilson Jr.

PROJECT Flint, Michigan Division A
72" Flint-Detroit Water Supply

Code No.	ory.	DESCRIPTION	TOT, LAID LENGTH	Hor Lad Length	STATION	% GRADE	ELEVATION CHANGE	CENTER LAN
	This sci	edule supplied only as an installation guide. A 72" SP-12 Class 162 for 10' Cover	djustments	must be	sade to adapt to 581+84,44	Geld c	Sekilitions.	712. 45
F-292	1	54" Harn PSx72" Harn PB reducer	6. 78	6. 78	581+91.22	1.43	+.10	112:53
. '	1	Harn length, clamp SE only	20.03	26.03	582+11.25	1.43	+.29	712 35
S-293 S-293A	1	Length w/24" neck ilg ol 15' fr SE w/24" glind flg	20.03	20.03	582+31.28	1.43	+.29	713.14
	1	Length	20.03	20.03	582+51.31	1.43	+. 29	713.43
		72" SP-12 Class 151 for 6' Cover						
	2	Lengths	40.06	40.06	582+91. 37	1.43	+.57	731.00
	1	Half bevel LS bottom PI sta 582+9186 open jt top @19 91	19.93	19.91	583+11.28	4. 65	+. 93	730 93
	1	Lgth, open jt top @20.03	20.05	20.05	583+31.33	4.0 9	+.82	715.75
	3	Lengths	60.09	60.04	583+91.37	ŋ, 0 ¢	+2.45	777.70
S- 29 4	1	Full bevel IS top PI 583+31.83 w/2" IP thd OL 9' fr SE on IS @19.78 open jt bottom	19.80	19.79	584+11. 16	3. 10	62	737,53
	1	lgth, open jt bottom @20.03	20.05	20.05	584+31.21	2.45	~. 49	717.09
	1	Lgth open jt bottom @20.03	20.05	20.05	584+5).26	1.80	36	715.75
	1	Leth open jt bottom @20.03	20.05	20, 05	584+71.31	1.15	23	715.50

Flint, Michigan Division A

72" Plint-Detroit Water Supply

20 95.66P Unit IV

PROJECT.

DATE 10-4-66

REVISED.

Jerome C. Wilson Jr. PREPARED BY

PAGE 27 OF 30 PAGES

COME TOT, LAID HOR, LAID ELEVATION CENTER LINE QTY. DESCRIPT ON STATION MC. LENGTH LENGTH GRADE CHANGE ELEVATION This schedule supplied only as an installation guide. Adjustments must be hade to adept to field condities. 72" SP-12 Class 151 For 6' Cover 534+71.31 716.50 584+91.37 . 432 -. 09 Lath, open bottom \$20.03 20.06 20.06 716.41 1 585+31.43 432 **40.06** 40.06 ... 17 716. 24 2 Lengths . 432 20.03 585+51.46 - . 09 716.15 Harn lgth, class BE only 20.03 1 4.03 585+55.49 . 432 716.13 4.03 **-. 02** 1 Harn Short 5-295 -. 09 20.03 585+75.52 432 716.04 Tied leth, harn SE tied BE 20.03 3-296 1 showeld BE to PE of F-297 Tied 7°30' el LS right Tied PE Harn - 207 1 BE. chopweld PE to BE of S-296 1.00 585+76.521 432 716.04 1.00 PE-PI . 432 . 64 585+77.16 716.04 PI-PB . 64 715.99 11.46 585+88, 62 . 432 -. 05 Tied short Harn SE tied BE 11.46 1 S-c 38 shopweld FE to BE of F-299 Tied 7°30' el LS right Tied PE Harn 1 F-299 . 432 715.99 1.00 585+89.621 BE showeld PE to BE of S-298 PE-PI 1.00 432 715.99 . 64 . 64 585+90, 26 PI-PR 716.39 1 Tied Short half bevel IS bottom 11.47 11.96 586+61.72 3.48 +. 40 ~ 300 Hern SP tied BE 221 46 Shameld SE to PE of F-301

DATE 10-4-56 PAGE 28 OF 30 PAGE

Jerome C. Wilson ... PREPARED BY.

PRCIECT	Flint	Michigan D	ivision A	
		lint-Detroit		

C008 NO.		DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTRAL
	This sc	edule supplied only as an installation guide.	djustments	must be	seds to adapt to	field c	paditions.	
		72" SP-12 Class 151 for 6' Cover			586+01.72			735.35
P-301		Tied 7'30' el LS right Tied PE Harn BB, shopweld PE to BE of S-300 PE-P PI-P	5	1, 00 . 64	586+02.72 586+0336	3.48 3.48		7.4年 学 7.4年 号
8-302		Tied SHort lgth, harn SE tied BE shopweld BE to PE of F-303	11.46	11,45	586+14.81	3. 48	+.40	7 % \$ 17,0%
P-303	1	Tied 7°30' el LS right Tied PE harn BE, shopweld PE to BE of S-202 PE-PI	1.00	1,00	586+15.81	3.48	! `	Carlot of what of the same is a second of the same i
		PI-PB	and a	. 64	586+16.45	3.48	+.02	
S-30 4	1	Tied short Harn SE tied BE shopweld BE to PE of F-305	11.46	11.45	586+27.90	3.48	+,40	777 8
F-305	1	Tied 7°30' et LS right Tied PR Harn			505.00.00	3.48	. 03	** * * * * * * * * * * * * * * * * * *
		BE, shopweld PE to BE of S-304 PE-PI PI-PB		1.00	586+28, 90 586+29, 54		÷. 03 +. 02	717 3%
8-306	1	Tied short Harm SE fied BE shopmeld BE to Pe of F-207	11.46	11.45	586+40. 99	3,48	+ 40	
P-307	1	Tied 7°30' el LS right Tied PE harn						÷
		BB, shopweld PE to BE of 8-306 PB-PI		1.00	586+40. 99			717. 77
		PI-PE	. 64	. 64	586+42.63	3.48	∜∵02	
	1	Surn Length	20.03	20.02	586+62.65	3.48	+. 70	715, 99
								And the second s

)0010 95.66P Unit TV

PRICE BROTHERS COMPANY LAYING SCHEDULE

10-4-66 PAGE 29 OF 30 UNES

	عكونوات والمتابع والمتروري والمتراء والمراب المرير والمراج المنطقة المراوية والمتعارض والمتعارض والمتعارض والمتعارض	슈마스 (Barrier) - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	LANA Street Contract	
proper Flint	Michigan Division A		REVISED	경험하는 사람들이 가입니다. 그렇게 되는 말이 목어 먹었다.
The second secon			500 V 1000 U	
	lint-Detroit Water Suppl	v .	TENERS ARREST THE	Jerone C. Wilson
		Andreas and the second second	TREE PAREL DI	

()DB (0.	90.	USCRIPTION	TOT, LAID LENGTH	HOR. LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CE
		edule supplied only as an installation gride. A 72° SP-12 Class 151 for 6' Cover	ejustaeats	must be	pade to adapt to 586+62,65	field	onditions.	
3-308		Harn short half bevel LS top spen jt bottom @10.03	10.05	10.05	586+72.70	. 60		
3-309		Tied length harm SE tied BE shopmeld BE to PE of F-310	20.03	20.03	586+92.73	. 00		27444.20
7-310		Tied 7°30' el, LS legt tied PE Harn						
		BE, shopweld PE to BE of S-309 PE-FI	NOVE AND ALL AND THE LAST	1.00	586+93.73	.00		
				. 64	586+94.37	.00		
3-311		Tied lgth, harm SE tied BE Shopweld BE to PE of F312	20.03	20.03	597+14.40	. 00		
: -31 2	1	Tied 7°30' el LS left Tied PE Hern B	1.11					
		shopweld PE to BE of S-311 PE-PI PI-PB		1.00	587+15 40 587+16.04	00 00	() And () An	71.48 73.44
							The state of the s	
3-313		Tied loths. Harn SE tied BE shopestd ME to PE of F-314	20.03	20.03	587+36.07	.00		The state of the s
°-31°		Tied 7°30' el LS left Tied PE harn B						
		shopmeld Pr to BE of S-313 PE-PI	1.00	1.00	\$87+37.07			7.0
		A CONTRACTOR OF THE PROPERTY O	.64	60	507/37/71	.co		
		Harn Lengths	80. 12	80.12	588+17.83	00		
			e promiser en monte men en jour		The granulations from the law to high first and dops and springer property on the first first and	والمعار والمعارض والم	ili	and the space of the space of the space of
		도 있는 경우 전 시간에 되었다. 그 사람들은 전 등에는 사용되었다. 하고 하다. 1982년 1월 1일 - 1일 대한 대한 대한 대한 대한 대한 대한 대한 대한 대한 대한 대한 대한						

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PRICE BROTHERS COMPANY LAYING SCHEDULB

JOB NO. 95.56P-Unit IV	KILE
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PROJECT Flint, Michigan - Division A
72" Flint-Detroit Water Supply

PAGE 1 OF 2 PAGES
DATE DETOBER 4, 1966
REVISED See Below
PREPARED BY Clayde A. Hoods

CODE NO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This sc	dedule supplied only as an installation guide. A MISC. NATERIALS SHIPPING LIST	djustments	must be	Revisions:	field c	onditions.	
	42	25# Pails Price Lube			(1) 12-16-66 Sheets 1, 2,			
	2	38# Pails Schio Lube			3, 6, & 7			
	624	72" Laying Gaskets			(2) 2-21-67			
	537	72" Dispers			Complete Schedule			
	87	72" Wide Dispers			(3) 3-7-67 Sheets 16,			
	9	54" Leying Gaskets			19 & 20			
	5	54" Diapers			(4) 3-13-67			
	5	54" Wide Diapers			194SL			
	85 4	72" Harn. Clamp Ring Assemblies 54" Harn. Clamp Ring Assemblies						
		Spec. Design for Valves, 2-154321, 2-	15437C					
	1	18" M.J. Glands, Gaskets & Accessories						
	80	1-1/4" x 4-1/2" Cadmium Plated Bolts Hex Heed Nuts						
	4	24" Flange Gaskets						
	104	3-1/4" x 30" Subaqueous Draw Bolts						
		w/Nuts & Washers for SP-18 Pipe						
	ī							
	1							

JOB NO. 95.6	PROJECT Flint Michigan - 72" Flint-Detroit		PAGE 2 OF 2 PAGES DATE October 4, 1966 REVISED (2)2-21-67 PREPARED BY Claude A. Hoops					
CODE NO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
and a second sec	This sci	edule supplied only as an installation guide. A MISC. MATERIALS SHIPPING LIST (CONT'D	1 -	must be	ade to adapt to	field c	onditions.	
	208	Lugs for Subaqueous Pipe (6-3/4" High						
	208	5/8" x 1" Cap Screws (Ship w/Subaqueo	s					
	1	48" Harn. Clamp Ring Assembly						
Andrew Service Control of the Service	2	48" Laying Gaskets						
Manufactures or Source Manufactures and Additional Confession of the Confession of t	2	48" Wide Diapers						
gurmywrannonn,								

B NO. 95.66P-Unit IV

PROJECT Flint - Michigan -- Division A
72" Flint - Detroit Water Supply

PAGE 1 OF 31 PAGES
DATE October 4, 1966
REVISED (2)2-21-67

PREPARED BY Claude A. Hoops

CODE TOT. LAID HOR. LAID ELEVATION % CENTER LINE OTY. DESCRIPTION STATION KO. LENGTH LENGTH GRADE CHANGE ELEVATION This schodule supplied only as an installation guide. Adjustments must be pade to edapt to field conditions. Begin laying at end of Unit III. 472+47.15 742.40 72" SP-12 Class 151 for 6' Cover Length, Open Jt. Top @ 20.03 1 20.05 20.05 472+67.20 1.05 - .21 742.19 1 Length, Open Jt. Top @ 20.03 20.05 20.05 1.55 741.88 472+87.25 - .31 1 Length, Open Jt. Top @ 20.03 20.05 20.05 473+07.30 741.49 1.94 - . 39 3 Lengths 60.09 60.08 473+67.38 - 1.16 740.33 1.94 72" SP-18 Class 151 for 6' Cover Length w/Subaqueous B.E. Only S-188 1 20,05 20.05 473+87.43 1.94 **.** .39 739.94 S = 189ĩ Short Length 9.14 9,14 473+96.57 1.94 739.76 - .18 F 190 Ĩ 72" P.S. x 54" P.B. Reducer 8.61 8.61 474+05.18 1.94 739,60 ~ .16 474+06.58 Ŷ 54" P.J. End Valve (Not by P.B. Co.) 1.40 1.94 1.40 739.57 **EQ.** -F 191 54" P.S. x 72" P.B. Reducer 8.71 1 8.71 474+15.29 1.94 739.40 - .17 Full Bevel, L.S. Top-P. I. Sta. 474+15. 19 19.80 1 19.72 474+35.01 9.14 - 1.80 737, 60 Open Jt. Bottom @ 19.78 Half Bevel, L.S. Top S~192 1 19.94 19.75 474+54.76 734.88 13.80 - 2.72 P. I. Stu. 474+35.52 w/24" Flg. OL. 8' from S.E. on Right Side w/24" Blind Flg. S-192A Open Ji. Top @ 10.91

104 N . 95.66P-Unit IV	TRICE DECINERS COMPANY DATES COMMONS	PAGE 2 OF 31 PAGES
of the bound of th	PROJECT Flint, Michigan - Division A 72" Flint-Detroit Water Supply	DATE October 4. 1966 REVISED(2)2-21-67 PREPARED BY Claude A. Hoops

O DE	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR. LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This sc	dedule supplied only as an installation guide. A 72" SP-18 Class 151 for 6' Cover	djustments	must be i	ade to adapt to 474+54.76	field c	onditions.	734.88
S 193	1	Length w/18" Tan. M.J.B. B.O. OL. 9' fr. S.E. Bottom Right	20. 03	19.84	474+ 74. 60	13.80	- 2.74	732. 14
	1	Length	20.03	19.84	474+94, 44	13.80	- 2.74	729.40
	1	Full Bevel, L.S. Bottom	19.81	19.79	475+14, 23	5.02	99	728.41
of other mer		P.I. Station 474+9以.95 Open Jt. Bottom @ 19.78						
	2	Lengths 72" SP-18 Class 152 for 10' Cover	40.06	40.01	475+54, 24	5.02	∞ 2.0l	726.40
	1	Full Bevel, L.S. Top P.I. Station 475+54.74 Open Jt. Bottom @ 19.78	19,80	19.65	475+73.89	12.25	∞ 2.41	723.99
3 194	1	Short Length	11.77	11.68	475+85.57	12.25	- 1.42	722, 57
	1	Haif Bevel, L.S. Bottom P.I. Station 475+86.07 Open Jt. Bottom @ 19.91	10 93	19.87	47 6+ 05, 44	7.90	× 1.57	721.00
		Full Bevel, L.S. Bottom P.I. Station 476+05.92	19.78	19.78	47 6+2 5,22	. 00		721.00
Annum hayun mingalar — mingalarah mingalarah mingalarah mingalarah mingalarah mingalarah mingalarah mingalarah								

JOB NO. 95.56P-Unit IV

PROJECT Flint, Michigan - Division A
72" Flint - Detroit Water Supply

PAGE 3 OF 31 PAGES
DATE October 4, 1966
REVISED (2)2-21-67
PREPARED BY Claude A. Hoops

CODE NO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This sol	edule supplied only as an installation guide. A 72" SP-18 Class 162 for 10' Cover	djustments	must be	ade to adapt to 476+25.22	field c	onditions.	721.00
	1	Full Bevel, L.S. Bottom P.I. Station 476+25.71 Open Jt. Bottom @ 19.78	19.79	19.73	47 6+ 44. 95	7.50	+ 1.50	722.50
	1	Full Bevel, L.S. Bottom P.I. Station 476+45.44 Open Jt. Top @ 19.78	19. 79	19.55	476+64.50	15.75	+ 3.08	725.58
s -195	1	Short Pull Bevel, L.S. Top P.I. Station 476+65.03 Open Jt. Top @ 11.03	11.04	11.01	476+75.51	7.50	+ .82	726.40
	1	72" SP-18 Class 151 for 6' Cover Full Bevel, L.S. Top P.I. Station 476+76.00 Open Jt. Bottom @ 19.78	19.79	19. 79	476+95.30	. 90	. 90	726.40
a	4	Lengths	80.12	80.12	477+75.42	, 00	. 00	726.40
	1	Half Bevel, L.S. Bottom P.I. Station 477+75.92 Open Jt. Bottom @ 19.91	19.93	19. 91	477+95 , 33	4. 60	+ .92	727.32
	1	Length, Open Jt. Bottom @ 20.03	20.05	20.02	478 +15.35	5.20	+ 1.04	728.36
	1	Length	20.03	20.00	47 8+3 5.35	5.20	+ 1.04	729.40
, * ·		Half Bevel. L.S. Top P.I. Station 478+35.85 Open Jt. Bottom @ 19.91	19, 93	19,93	478+55.28	2.00	+ .40	729.80

JOB NO. 95.66P-Unit IV

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DATE October 4, 1966

REVISED (2)2-21-67

72" Flint-Detroit Water Supply PREPARED BY Claude A. Hoops

72" SP-18 Class 151 for 6' Cover 478+55.28 S-196 1 Length, Subsqueous P. S. Only 20.05 20.04 478+75.32	field conditions.	729. 80
	2.47 + .4	3
Open Jt. Bottom		730.29
72" SP-12 Class 151 for 6' Cover		
F-197 1 7°30' Elbow, L.S. Right 1.64 1.64 478+76.96	2.47 + .0	730.33
F-198 1 7°30' Elbow, L.S. Right 1.64 1.64 478+78.60	2.47 + .0	4 730.37
F-199 1 7°30' Elbow, L.S. Right 1.64 1.64 478+80.24	2.47 + .0	730.41
2 Lengths 40.06 40.06 479+20.30	2.47 + .9	731.40
1 Length, Open Jt. Top @ 20.03 20.05 20.05 479+40.35	1.80 + .3	731.76
1 Length, Open Jt. Top @ 20.03 20.05 20.05 479+60.40	1.10 + .2	731.98
1 Length, Open Jt. Top @ 20.03 20.05 20.05 479+80.45	.605 + .1	732.10
19 Lengths 380.57 380.56 483+61.01	. 605 + 2.3	734.40
1 Length, Open Jt. Top @ 20.03 20.05 20.05 483+81.06	. 156 + . 0	734.43
15 Lengthe 300.45 300.45 486+81.51	. 156 + . 4	7 734.90

06 40 _ 95 66P-Unit IV

PROJECT Flint, Michigan - Division A
72" Flint-Detroit Water Supply

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DATE October 4. 1966
REVISED (2)2-21-67
PREPARED BY Claude A. Hoods

COLE NO	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This so	edule supplied only as an installation guide. A 72" SP-12 Class 162 for 10' Cover	djustments	must be	hade to adapt to 486+81.51	field c	onditions.	734. 90
	1	Length, Open Jt. Bottom @ 20.03	20.03	20.03	487+01.54	. 18	+ .04	734. 94
	13	Leagths	260.39	260. 39	489+61.93	. 18	+ .46	735.40
	1	Length, Open Jt. Bottom @ 20.03	5	20.05	489+81.98	. 67	+ .13	795.53
	3	Lengths	60.09	60.09	490+42.07	. 67	+ .40	735, 93
and the second s		72" SP-12 Class 151 for 6' Cover						
	6	Lingths	120. 18	120. 18	491+62.25	, 67	+ .80	736.73
s-200	1	Length w/18" M. J. B. OL. 3' from S.E.	20.03	20.03	491+82.28	. 67	+ .13	736.86
	4	Lengths	80. 12	80.12	492+62.40	. 67	+ .54	737.40
	1	Length, Open Jt. Bottom @ 20.03	20.05	20.05	492+82,45	1.11	+ .22	737. 62
	35	Lengths	701.05	701.02	499+83.47	1.11	+ 7.78	745.40
	1	Length, Open Jt. Top @ 20.03	20.04	20.04	500+03.51	. 78	+ .16	745,56
	15	Lengths	300.45	300.44	503+03.95	. 78	+ 2.34	747. 90
	1	Length, Open Jt. Top 2 20.93	20.05	20.05	503+24, 00	. 04	+ .01	747. 91
	74	Lengths	1482.22	1482.22	518+06.22	, 94	+ .58	748. 49
S-211_		length, w/2" I.P. Thd. OL. 14'fr.S.E.	20.03	20.03	518+26, 25	.04	+ .01	748.50
	1	Length, Open Jt. Top @ 20.03	20.04	20.04	518+46.29	. 06	01	748. 4 9

B NO. 95.66P-Unit IV

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October 4, 1967

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PREPARED BY Claude A. Hoops

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PROJECT Flint, Michigan - Division A	REVI
72" Flint-Detroit Water Samply	DOPD

CODE NO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LIPIE ELEVATION
	This sci	edule supplied only as an installation guide. / 72" SP-12 Class 151 for 6' Cover	djustments	must be	ade to adapt to 518+46.29	field c	onditions.	748.49
	20	Lengths	400.60	400 . 60	522+46.89	. 06	24	748.25
	1	Length, Open Jt. Top @ 20.03	20.05	20.05	522+66. 94	. 80	16	748.09
	1	Length, Open Jt. Top @ 20.03	20.04	20.04	522+86.98	1. 19	24	747. 85
	4	Lengths	80. 12	80, 12	523+67.10	1. 19	95	746. 90
	1	Length, Open Jt. Bottom @ 20.03	20.05	20.05	523+87.15	. 59	12	746.78
	16	Lengths	320. 48	320.48	527+07.63	. 59	- 1.88	744. 90
	1	Length, Open Jt. Top @ 20.03	20.05	20.05	527+27.68	1. 30	26	744. 64
	1	Length, Open Jt. Top @ 20.03	20.05	20.05	527+47.73	2.07	~ .41	744. 23
	2	Lengths	40.06	40.05	527+87.78	2.07	83	743.40
	 _	72" SP-12 Class 162 for 10' Cover						
	7	Lengths	140.20	140. 18	529+27.96	2.07	- 2.90	740.50
	1	Length, Open Jt. Top @ 20.03	20.05	26, 04	52 9+ 48,00	2.80	~ .56	739. 94
	1	Length, Open Jt. Top @ 20.03	20.05	20.04	529+68.04	3.44	69	739.25
	•	Lengths	80. 12	80.07	530+48.11	3. 44	- 2.75	736. 50

JOH NO. 95.66P-Unit IV

Project Flint, Michigan - Division A

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72" Plint-Detroit Water Supply PREPARED By Claude A. Hoops

CODE NO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
**************************************	This sci	odule supplied only as an installation guide. 72" SP-12 Class 162 for 10' Cover	djustments	must be	ade to adept to 530+48.11	field c 3, 44	onditions.	736.50
	1	Half Bevel, L.S. Bottom (# 19.91) Open Jt. Top	19.94	19. 94	530+68.05	. 44	· .09	736.41
	1	Pull Bevel, L.S. Left (@ 19.78) Open Jt. Left Side	19.81	19.81	530+87.86	. 44	09	736. 32
X -32	1	Length	20.03	20.03	531+07.89	. 44	~ .09	736.23
Jaran Perendental Andrews	•	w/12" M. J. B. OL. 18.0' from S. E. Lengths 72" SP-12 Class 151 for 6' Cover	80. 12	80. 12	531+88.01	. 44	- , 3 5	735.88
	1	Length	20.03	20.03	532+08. 04	1.02	09	735.79
P-215	1	72" P.S. x 54" P.B. Reducer	6. 18	6. 18	532+14. 22	ं क्री	03	735.76
· . / The makes the south and the second		Su" P.J. End Valve (Not by P.B. Co.)	1,40	1.40	532+15.62	. 44	01	735.75
P-216	1	54" P. S. x 72" P. B. Reducer	6.78	6.78	532+22.40	. 44	03	735.72
	'n	Length	20.03	20.03	532+42, 43	. 44	09	735.63
S~217	1	Length w/24" Flg. OL. 16.0' from S.E.	20.03	20.03	532+62.46	. 44	∞ .09	735, 54
F-217A	1	w/24" Blind Flg. (F-217A)						
and the second s	5	Longthe	100. 15	100.15	533+62, 61	ं तेप	≖ , ψ t	735.10
	5	Full Bevels, L.S. Left	98, 90	98.90	534+61.51	* Art	« , ф	734.66

jos so 95 66P-Unit IV

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72" Flint-Detroit Water Supply

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CODE NO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER L(E ELEVATION
in any agent	This sc	edule supplied only as an installation guide. A 72" SP-12 Class 151 for 6' Cover	djustments	must be	pade to adapt to 534+61.51	field c	onditions.	34. 65
	1	Length	20. 93	20.03	534+81.54	. 44	09	734.57
	1	Tied Length Shopweld B.E. to P.E. of X-33	20.03	20.03	535+01.57	. 44	09	731) 48
X-33	1	7°-0' Elbow, L.S. Top Tied P.E.						
an and the sense about the sense.	a	Harn. B.E.						Andrew of the state of the stat
		(Shopweld P.E. to B.E. of Tied Length) P.E. to P.I.	1.00	1.00	535+02.57	jeta	00	734 40
		P. I. to P. B.	. 64	. 63	535+03.20	. 44 12. 70	i i	734. 48
		72" SP-12 Class 162 for 10' Cover	, , ,	. 03	333.03.20	12.70		734, 40
X 3 %	1	Length Harn. S.E. Tied B.E. (Shopweld B.E. to P.E. of X-35)	20.03	19. 87	535+23.07	12.70	~ 2.49	731.9)
	Ì							
X - 35		7'-0' Elbow, L.S. Bottom				<u> </u>	<u> </u>	
		Tied P.E. Haro. B.E.						
		(Shopweld P.E. to B.E. of X-34)	. 00		525.22.00			A-0 for
		P.E. to P.I.	1 00	. 92	535+23, 99 535+24 63	12.70	ł .	731.79
		P.I. to P.B.	. 64	. 64	333724.03	1.32	- ,01	731, 78
	1	Harn. Length Clamp S.E. Only	20.03	20, 03	535+44.66	1. 32	~ , 26	731, 52
	3	Lengths	60.09	60.09	536+04.75	1.32	79	730, 73
company for a company of the particle of the company of the particle of the company of the particle of the company of the particle of the part		Full Bevels, L. Right	98.90	98.90	537+03. 65	1,32	- 1, 30	729. 43

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10

HOR. LAID CCDE TOT, LAID ELEVATION CENTER LINE OTY. DESCRIPTION STATION GRADE | CHANGE N). LENGTH LENGTH **ELEVATION** This schedule supplied only as an installation guide. Adjustments must be made to adapt to field conditions. 72" SP-12 Class 162 for 10' Cover 537+03.65 729.43 1.32 - .70 728.64 3 60.09 537+63.74 1.32 Lengths 60.09 . 46 1 20.06 20.05 537+83,79 2.30 728.18 Length, Open Jt. Top (@ 20.03) 72" SP-12 Class 151 for 6' Cover 538+03,82 2.62 . 52 727.66 Length, Open Jt. Top (@ 20.03) 20.04 20.03 1 80.09 2.62 725.56 538+83.91 Lengths 80.12 **2.10** 4 . 33 20.06 539+03,97 1.64 725, 23 1 Length, Open Jt. Bottom (@ 20.03) 20.06 20.05 539+24.02 1.90 725.05 1 Length, Open Jt. Bottom (@ 20.03) 20.05 . 18 36 721.08 721.04 546+45.06 . 90 **6.50** 718.55 Lengths 72" SP-12 Class 191 for 14' Cover 20.06 546+65.12 1.88 ~ , 38 Length, Open Jt. Top (@ 20.03) 20.06 718.17 1 6.79 Half Bevel. L.S. Top 19.94 19.89 545+85.01 - 1,36 716.81 1 Open Jt. Top (@ 19.91) 20.05 20.00 547+05.01 7.26 ~ 1.45 715.36 Length, Open Jt. Top (\$20.03) Â 3 60.09 59.93 547+64, 94 7.26 ~ 4.36 711.00 Lengths rull Bevel, L.S. Bottom (@ 19.78) 19.80 1 19.80 547+84.74 . **OQ** 711.00 . 00 Open Jt. Top .00 .00 20.03 20.03 548+04.77 711.00 Length 1

JOB NO. 95.66P-Unit TV

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72" Flint-Detroit Water Supply

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PREPARED BY Claude A. Hoops

CODE NO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	I:OR.LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This sci	edule supplied only as an installation guide. 72" SP-12 Class 191 for 14' Cover	djustments	must be i	ade to adept to 548+04,77	field c	onditions.	711.00
	1	Half Bevel, L.S. Bottom Open Jt. Top (2 19.91)	19. 92	19. 91	5 48 +24, 6 8	3, 43	+ .68	711. 68
	7	Lengths	140.21	140. 12	5 49+ 64. 30	3, 43	+ 4.8?	716. 50
X-36	1	72" SP-12 Class 151 for 6' Cover Half Bevel. L. 3. Top (@ 19.91)	19. 92	19. 92	5 49+ 84, 72	. 88	17	716. 33
		Open Jt. Top w/2" I.P. OL. @ S.E.						
	6	Lengths	120.18	120. 18	551+04, 90	. 88	- 1.06	715.27
	3	Full Bevels, L.S. Left	59.34	59.34	551+64, 24	. 88	" . 53	714.74
	8	Lengths	160.24	160.24	553+24, 48	. 88	- 1.41	713, 33
	1	Length, Open Jt. Bottom (@ 20.03)	20.05	20.05	553+44.53	. 28	06	713.27
	5	Lengths	100.15	100.15	554+44, 68	. 27	28	712.99
	1	72" SP-12 Class 191 for 14' Cover Harn. Half Bevel, L.S. Top (2 19.91) Open Jt. Top Clamp B.E. Only	19.93	19., 91	554+64, 59	4. 70	~ . 94	712. 05
X-37	1	Harn. Short Length	14.16	14.14	554+78.73	4. 70	66	711. 39
-202	1	Length Hern. S.E Tied B.E. Shopweld B.E. to P.E. of F-203)	20.03	20.00	554 +98, 73	4. 70	94	710.45

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PREPARED BY Claude A. Hoops

CODE NO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
en e garanten de la companya del la companya de la	This so	Fedule supplied only as an installation guide. 72" SP-12 Class 191 for 14' Cover	Adjustments	must be	ande to adapt to 554+98.73	field c	onditions.	710.45
r-203	1	7°-30° Elbow, L.S. Right Tied P.E. Hern. B.E. (Shopweld P.E. to B.E. of S-202)						
		P.E. to P.I. P.I. to P.B.	1.00	1.00 .64	554+99.73 555+00.37	4. 70 4. 70	i i	710. 40 710. 37
S-204	1	Short Length Harn. S.E. Tied B.E. (Shopweld B.E. to P.E. of F-20 ^C)	11.46	11.44	555+11.81	4. 70	~ ,54	709.83
F-2 0 5	1	7°-30' Elbow, L.S. Right Tied P.E. Harn. B.E. (Shopweld P.E. to B.E. of S-2.4) P.E. to P.I.	1,00	1. 00	555+12, 81	4. 70	- . 05	709.78
	Martine Constitution of Constitutions	P. I. to P. B.	.64	, 64	555-13.45	4.70		709.75
ଞ -206	1	Short Letyth Harn. S.E. Tied B.E. (Shopweld B.E. to P.E. of F-207)	11.46	11, 👊	555+2 4 .89	4.70	~ .54	709. 21
F-207	1	7°-30' Elbow, L.S. Right Tied P.E Harn. B.E. (Shopweld P.E. to B.E. of S-206)		And the state of t				
kynnessingsten – annengsterge <mark>ttingsterfenningste flerente</mark> lseningsterentelseningsterentelseningsterentelsenings	dekantiliga (a. saadeet tissin allahtiikin iliquamuhratsoonin noogamata kassa	P.E. to P.I.	1.00	1.00	555+25.89	4.70	05	709.16
					*****	1	0.2	700 13

ICH NO 95.6C Unit IV

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Flint, Michigan - Division A PROJECT___ 72" Fliat-Detroit Water Supply PAGE 12 OF 31 PAGES October 4, 1966

Claude A. Hoops PREPARED BY

CODE NO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR.LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
The second secon	This so	tedule supplied only as an installation guide. 72" SP-12 Class 191 for 14' Cover	Adjustments	must be	sade to adapt to 555+26.53	field c 4.70	paditions.	709. 13
5~ 209	1	Short Length Hurn. S.E. Tied B.E. (Shopweld B.E. to P.E. of 210)	11.46	11.44	555+37.97	4. 70	54	708.59
r-210		7°-30' Elbow, L.S. Right Tied P.E.						
Annual Section of the Control of the		Harn. B.E. (Shopwald P.F. to B.E. of S-209) P.E. to P.I. P.I. to P.B.	1.00 ,64	1.00 ,64	555+38. 97 555+39. 61	4. 70 4. 70	1 1	708,54 708,51
S-211		Short Length Harn. S.E Tied B.E. (Shopweld B.E. to P.E. of F-212)	11.46	11. 44	555+51 _a 05	4, 70	u , S ‡	767. 97
F-212		7'-30' Elbon, L.S. Right						
		Tied P.E. Harn. B.E. (Shopweld P.E. to B.E. of F-211) P.E. to P.I. P.I. to P.B.	1.00 .64	1. 00 . 54	555+52.05 555+52.69	4, 70 4, 70		707. 92 707. 88
X-38		Short Full Berel, L.S. Bottom pen Jt. Top (2 11.46) Harn. P.S. Tied B.E.	11.49	17., 49	555+64, 18	7 17	+ . 25	708.13
consentable*querpr-hample-clisseusseuris		(Shopweld B.E. to P.E. of X-39)	Description Description of the Control of the Contr					

some of 95,66P-Unit IV

Recision PROJECT Flint, Michigan Division A
72" Flint-Detroit Water Supply

PREPARED BY Claude A. Hoops

	OTY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This s	clodule supplied only as an installation guide 72" 8P-12 Class 191 for 14' Cover	. Adjustmenta	sust be	sade to adapt to 555+64,18	field c 2.17	onditions.	708.13
39		7°-30' Elbow, L.S. Right						
	- Art - Walker Michigan	Tied P.E.						
		Harn. B.E.			1	1		
		(Shopweld P.E. to B.E. of X-38)						
		P.E. to P.I.	1.00	1.00	555+65.18	2.17	+ .02	708.15
		P. I. to P. B.	. 64	, 64	555+65,82	2.17	+ .01	708.16
-213	<u> </u>	Short Length	11.46	11,46	555+77, 28	2.17	+ , 25	708, 41
		Harn. S.E.			•			
	1	Tied B.E.						
		(Shopweld B.E. to P.E. of F-214)						
214	, sources and section of the section	7°-30' Elbow, L.S. Right					s 4	
		ried P.E.						
	Mark Army Control of the Control	Harn. B. E.	7					
		(Shopweld P.E. to B.E. of S-213)						
		P. E P. I.	1.00	1.00	555+78.28	2.17	+ .02	708.43
	Ribard spec danage remains	P. I P. B.	. 64	, 64	555+78, 92	2. 17	+ .01	708.44
. 40	Photographic state of the second state of the	Short Length	11,46	11.46	555+90,38	2.17	+ . 25	708.69
		Harn. S.E.						
	,	Tied B.E.						
		(Shopweld B.E. to P.E. of X-41)						
(4).	e-salitation and the salitation	7°-30' Elbow, L.S. Right						
		Tied P.E.						
		Harn. B.E.						
		(Shopweld P.E. to B.E. of X-40)				į		
		P.E. to P.I.	1,00	1.00	555+91.38	2.17	+ .02	708.71
and the state of terms with the sign of the state of the		P. I. to P.B.	, 64	, 64	555+92,02	2.17	+ .01	708.72

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CODE MO.	QTY	DESCRIPTION	TOT. LAID LENGTH	HOR.LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This so	dedule supplied only as an installation 72" SP-12 Class 191 for 14"		must be	555+92.02	field c 2.17	onditions.	708.72
X - 42	1	Short Full Bevel, L.S. Botto Open Jt. Bottom Hern. S.E. Tied B.E. (Shopweld B.E. to P.E. of X-		11. 42	556+03.44	7.76	+ . 89	709. 61
x 43	1	7°-30' Elbow, L.S. Right						
- un ga has negaranthrapide enthall			42) to P. I. 1. 00 to P. B. , 64	1.00 .64	556+04, 44 556+05, 08	7,76 7, 7 6	. 1	709. 69 709. 74
.∠.• 44		Short Length Harn. S.E. Tied B.E. (Shopweld B.E. to P.E. of X-	11. 46 45)	11.42	556+16.50	7. 76	+ .89	710.63
±	1		44) to P. I. 2.00 to P. B64	1. 00 , 64	556+17.50 556+18.14	7.76 7.76		7. 3. 71 710. 76
X- 4 6	1	Short Length Harn. S.E. Tied B.E. (Shopweld B.E. to P.E. of X-	11. 46 47)	11.42	556+29.56	7.76	+ ,89	711.65

ton No. 95, 6hP-Unit IV

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72" Flint-Detroit Water Supply

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PREPARED BY Claude A. Hoope

Code	QTY.	DESCRIPTION	OT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This sc	Todulo supplied only as an installation guide. 72" SP-12 Class 194 for 14" Cover	Adjustments	must be a	ando to adapt to 556+29,56	field c 7.76	paditioss.	711.65
x-47	1	7°-30' Elbow, L.S. Right Tied P.E. Harn. B.E. (Shopweld P.S. to B.E. of X-46)						
		P.E. to P.I. P.I. to P.3.	1.00	1.00 ,64	556+30.56 556+31.20	7.76 7.76		711. 73 711. 78
	2	Harn. Lengths	40.06	39, 93	556+71.13	7.76	1	714.89
	1	Hern. Length Clamp S.E. Only	20.03	1 9 . 99	556+91.12	7.76	+ 1,55	716.44
5 2 42	1	72" SP-12 Class 151 for ô' Cover Full Bevel, L.S. Top (@ 19.78) Open Jt. Bottom w/2"P. OL. 6.0' @ S.E.	19, 80	19.80	557+10. 92	. 41	· . 08	716. 36
¾ 48	1	Short Length	9.66	9, 66	557+20.58	. 41	* , 0 4	716.32

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PREPARED BY Claude A. Hoope

CODE NO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	elevation change	CENTER LINE ELEVATION
The second secon	This sci	edule supplied only as an installation guide. 72" SP-12 Class 151 for (10°) Cover	djustments	must be	sade to adapt to 557+20.58	field c	onditions.	716. 32
	2	Lengths	40.06	40.06	557+60.64	. 41	16	716. 16
F-243	1	7°-30' Elbow, L.S. Left	1.64	1.64	557+62.28	. 41	01	716. 15
	6	Lengths	120. 18	120. 18	558+82.46	. 41	49	715.66
F-544	1	7*-30' Elbow, L.S. Left	1, 64	1, 64	558+84. 10	. 41	01	715.65
F-245	1	7°-30' Elbow, L.S. Left	1. 64	1. 64	558+85.74	. 41	- ,01	715.64
	3	Lengths	60.09	60.09	559+45.83	. 41	24	715.40
	1	Length, Open Jt. Top @ 20.03	20.05	20.05	559+65.88	1.14	~ .23	715.17
	1	Length	20.03	20.03	55 9 +85. 91	1.14	23	714, 94
	1	Marn. Length, Clamp B.E. Only	20.03	20.03	560+05.94	1.14	23	714.71
	1	Harn. Length	20.03	20.03	560+25.97	1.14	~ ,23	714. 48
F-246	1	Harn. 7°-30' Elbow, L.S. Left	1.64	1. 64	560+27, 61	1.14	- .02	714. 46
F-247	1	Harn. 7°-30' Elbow, L.S. 'eft	1.64	1. 64	\$60+29, 25	1.14	02	714.44
F-248	1	Herr 9° Elbow, L.S. Top Special P.S. to P.I.	4. 75	4. 75	560+34,00	7 74	05	714 30
		P. I. to P. B.	. 72	.71	560+34.71	1.14 16.66	05 12	714. 39 714. 27
CPP 23 Text * 250 NO.								

OR NO. 95 66P-Unit IV

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72" Flint-Detroit Water Supply

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CONTRACTOR SECTION	QTY.	DESCRIPTION	TOT. LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
· · · · · · · · · · · · · · · · · · ·	Thin act	edule supplied only as an installation guide. A 72" SP-12 Class 162 for 10' Cover	djustments	must be a	ade to adapt to 560+34.71	field c	onditions.	714. 27
	2	Hern. Lengths	40.06	39 . 52	560+74. 23	16.66	~ 6,58	707. 69
± 249	1	Harn. Short	6.77	6.68	560+80.91	16. 66	- 1.11	706.58
F-250	1	Harn. 9°-30' Elbow, L.S. Bottom P.S. to P.I. P.I. to P.B.	1.10 .74	1.09 .74	560+82.00 560+82.74	16, 66 , 00	18	706. 40 706. 40
na e n _{erophy} a de a de <mark>a de againe,</mark> y a	1	Harn. Length	20.03	20.03	561+02.77	. 00		706. 40
	X	Harn. Full Bevel, L.S. Bottom @ 19.78 Open Jt. Bottom P.I. Station 561+03.2	1	19.73	561+22.50	8.50	+ 1.68	708. 98
°-251	l l	Harn. 7°-30' Elbow, L.S. Left	1. 64	1. 63	561+24, 13	8,50	+ .14	708. 22
	1	Hern. Length, Open Jt. Bottom @ 20.03	20.04	19. 97	561+44. 10	8. 65	+ 1.73	709. 95
F in a stronglighted of the companies of	2	Hern. Lengths	40.06	39. 91	561+84.01	8.65	+ 3,45	713, 40
	1	72" SP-12 Class 151 for 6' Cover Harn Full Bevel, L.S. Top P.I. Station 561+84.46 Open Jt. Top @ 19.78	19.80	19.80	562+03 , 81	. 27	+ . 05	713, 45
	1	Harn. Length, Clamp S.E. Only	20.03	20. 03	562+23.84	. 27	+ .05	713.50
one a should have	9	Lengths	180, 27	180. 27	564+04.11	. 27	+ .50	714. 00
			-track is a second in the second					

OR NO. 95. 66P-Unit IV

Revised

PROJECT Flint Michigan - Division A
72" Flint-Detroit Water Supply

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DATE October 4, 1966

REVISED (2)2-21-67

PREPARED BY Claude A. Hoops

CODE NO.	OLA.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This sci	edule supplied only as an installation guide. A 72" SP-12 Class 151 for 6' Cover	djastments	must be a	ande to adapt to 564+04.11	field c	onditions.	714. 00
S-2 52	1	Length, Open St. Top w/2" I.P. Thd. OL. 3' from S.E. 220.03	20.05	20. 05	564+24.16	. 35	07	713.93
	2	Lengths	40.06	40.06	5 64+ 64, 22	. 35	14	713.79
S-253	1	Short Length	10.03	10, 03	564+74, 25	35	· . 03	713.76
F-254	1	7°-30' Elbow, I.S. Right	1.64	1. 64	564+75.89	. 35	- 01	713.75
	5	Lengths	100, 15	100.15	565+76.04	. 35	× , 35	713.40
	1	Half Bevel, L.S. Top Open Jt. Bottom @ 19.91	19,94	19 93	565+95.97	3.45	» . 6 9	712.71
	1	Length, Open Jt. Bottom @ 20.03	20.05	20.05	56 6+ 16, 02	2.75	· . 55	712, 16
	1	Length, Open Jt. Bottom @ 20.03	20.05	20.05	5 66+ 36.07	2. 05	41	711.75
F- 255	1	7°-30' Elbow, L.S. Right Rotate for Horis. & Vert. Deflection	1. 64	1, 64	566+37.71	1.61	. 03	711.72
	1	Length	20.03	20.03	56 6+ 57.74	1, 61	~ , 32	711.40
	1	Full Bevel, L.S. Top Open Jt. Bottom @ 19.78	19, 81	19. 74	566+77, 48	8.56	1.69	709, 71

OB RC 9r 66P-Unit IV

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PROJECT Flint, Michigan - Division A
72" Flint-Detroit Water Supply

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DATE October 4, 1966
REVISED(2)2-21-67
PREPARED BY Claude A. Hoops

COE N-).	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR.LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
The second secon	This sc	dedule supplied only as an installation guide. A 72" SP-12 Class 162 for 10° Cover	djustments	must be r	ande to adapt to 566+77.48	field c	onditions.	709.71
	1	Length	20.03	19. 9 6	566+97.44	8.56	- 1.71	708.00
	ì	Full Bevel, L.S. Bottom P.I. Station 566+97.94 Open Jt. Bottom @ 17.78	19.80	19.80	567+17.24	. 00		708.00
	1	Full Bevel, L.S. Bottom P.I. Station 567+17.74	19.80	19.75	567+36.99	7.30	+ 1,44	709.44
	1	Open Jt. Top @ 19.78 Length	20.03	19.98	567+56. 97	7. 30	+ 1.46	710. 90
	1	72" SP-12 Class 151 for 6' Cover Full Bevel, L.S. Top P.I. Station 567+57.48 Open Jt. Bottom 2 19.78	19,81	19.81	567+76.78	. 40	+ .08	710. 98
: -256	1	Short Length, Open Jt. Bottom @ 13.03	13.06	13.06	567+89.84	1.21	+ .16	711.14
1-257	•. 	7°-30' Elbow, L.S. Right	1.64	1.64	567+91.48	1.21	+ .02	711. 16
£-ã58	1	Length w/2" I.P. Thd. OL. 18' from S.E.	20.03	20. 03	568 +U.51	1.21	+ .24	711.40
	λ	Length, Open Jt. Top @ 20.03	20.05	20.05	568+31.56	. 51	+ .10	711.50
	1	Length, Open Jt. Top @ 20.03	20.05	20.05	568+51.61	. 20	04	711.46
					<u> </u>			L HOLD 711.41

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PROJECT Flint, Michigan - Division A
72" Flint-Detroit Water Supply

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PREPARED BY Claude A. Hoops

CODE NO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR.LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This sci	edule supplied only as an installation guide. A 72" SP-12 Class 151 for 6' Cover	djustments	must be	ade to adapt to 568+51.61	field c	enditions.	HOLD 711.40
	1	Length, Open Jt. Top @ 20.03	20.04	20.04	568 +71.65	. 53	11	711. 35
	5	Lengths	100.15	100. 15	569+71.80	. 53	53	710. 82
F-259	1	7°-30' Elbow, L.S. Right	1. 64	1.64	569+73.44	. 53		71 0. 8 0
•	4	Lengths	80. 12	80.12	570+53.56	. 53	42	710.4 0
	Ĩ	Length, Open Jt. Bottom @ 20.03	20.04	20.04	570 +73.60	. 20	04	710.36
POR, CONTINU	ATION SE	E SHEET 20 OR UNIT TU - DATED 10/4/4 Lengths	40 0. 6 0	40 0. 60	\$74+74.20	20	80	709. 56
	X	Length, Open Jt. Top (9 20.03)	20.06	20.06	574+94.26	. 96	19	709. 37
	4	Lengths	80.12	80 . 12	574+74 38	. 96	77	708.60
X-49	ì	Short Length	5.66	5.66	575+80. 04	. 96	- 05	708.55
	X	Harn. Length, Clamp S.E. Only	20.03	20.03	576+00.07	. 96	19	708.36
	1	Marn, Length	20.03	20,03	\$76+20.30	. 96	19	708.17
8-230	1	Hern S.E. Tied B.E. (Shopweld B.E. to P.E. of F-231)	20.03	20.03	576+90.13	. 96	19	707. 98
F-231	1	15° Ribon, L.S. Left Tied P.E Baro, B.E.						
	/	(Shopweld P.E. to B.E. of 8-238) P.E. to P.I. P.I. to P.B.	1.39 1.04	1.39 1.04	576+41,52 576+42.56	. 96 . 96	01 01	707.97 707.96

95.66P Unit III Revised

PRICE BROTHERS COMPANY LAYING SCHEDULE

PROJECT Flint, Michigan Division A
72" Flint-Detroit Water Supply

PAGE 1 OF COLOR DATE September 9, 1966
REVISED Add Revision Date
PREPARED BY J. C. Wilson

Amer		TOT. LAID	HOR. LAID		%	ELEVATION	CENTER (
QTY.	DESCRIPTION	LENGTH	LENGTH	STATION		1 ;	ELEVATION
This sol	edule supplied only as an installation guide. A Misc. Materials Shipping List	djustments	must be r	ade to adapt to	field c	onditions.	
33	25# Pails Price Lube			Revisions		SHEET AND STREET SHEET AND SHEET AND SHEET	
510	72" laying gaskets			Schedule		National Act of the Control of the C	
426	72" diapers		No.			Current Children of Children Children	
74	72" wide dispers		The state of the s			Ch. decidentia com	
73	72" Harn, clamp ring ess shlies		98° 859 338 38		Di Car (Stationage) (Station of Stationage) (Stationage)		and the second s
5	54" laying gaskets	:				The second of th	
3	54" diapers			March Control of the		The state of the s	
3	54" Jide dispers		77	The state of the s		7	
2	54" Harn, clamp ring assemblies			t delle members et en	1	the special results in the special results.	
1	18" M.J. glands, gaskets & accessories			The state of the s	Marketin seri-fait "Marketiniskespokess	E COMMINICATION AND AND AND AND AND AND AND AND AND AN	dan yrg o'
1	12" M.J. gland, gasket, & accessories		RECE	VED			
20	1 1/4" x 4 1/2" cadmium plated bolts		NOV 2	1966 e		William to the state of the sta	
1		2	RICE BROTHE	RS COMPANY		t v consistent (Maryon to the consistence of the co	
				# HERO A HEROTO A MA		The state of the s	
		· · · · · · · · · · · · · · · · · · ·	######################################	TOTETONITO IN TO ANTHROSSISSISSISSISSISSISSISSISSISSISSISSISSI	lledigelong gitt stand sigt om state de tod gitterheer etter om	meritymateur rightstott to the training	om se de
				control of the contro		T - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	
	This sol 33 510 426 74 73 5 3 2 1 1 20	This soledule supplied only as an installation guide. A Misc. Materials Shipping List 25# Pails Price Labe 72" laying gaskets 72" dispers 74	This solednie supplied only as an installation guide. Adjustments Misc. Materials Shipping List 33 25# Pails Price Labe 510 72" laying gaskets 426 72" dispers 74 72" wide dispers 75 54" laying gaskets 5 54" laying gaskets 5 54" dispers 6 54" Jide dispers 7 54" Jide dispers 1 18" M.J. glands, gaskets & accessories 1 12" M.J. gland, gasket & accessories 1 1/4" x 4 1/2" cadmium plated bolts w/hex, head nuts	This soledule supplied only as an installation guide. Adjustments must be resided. Misc. Materials Shipping List 33 25# Pails Price Labe 510 72" laying gaskets 426 72" diapers 74 72" wide diapers 5 54" laying gaskets 3 54" diapers 3 54" diapers 2 54" Harn. clamp ring assemblies 1 18" M.J. glands, gaskets & accessories 1 12" M.J. glands, gasket & accessories RECE 20 1 1/4" x 4 1/2" cadmium plated boliss w/hex. head nuts	This soledule supplied only as an installation guide. Adjustments must be made to adapt to Misc. Materials Shipping List 33	This solednle supplied only as an installation guide. Adjustments must be made to adapt to field of Misc. Materials Shipping List 33 25# Pails Price Lube 72" Laying gaskets 72" dispers 74 72" wide dispers 54" laying gaskets 54" dispers 54" dispers 54" dispers 1 18" M.J. glands, gaskets & accessories 1 12" M.J. glands, gaskets & accessories 1 1/4" x 4 1/2" cadmium plated boths w/hex. head nuts PMCS BROTHERS COMPANY	This soledie supplied only as an installation guide. Adjustments Misc. Materials Shipping List 33 25# Pails Price Lube 510 72" laying gaskets 72" dispers 74 72" wide dispers 5 54" laying gaskets 3 54" dispers 2 54" dispers 1 18" M.J. glands, grakets & accessories 1 12" M.J. gland, gasket. & accessories 20 1 1/4" x 4 1/2" cadmium plated bolts w/hex. head nuts PMCS BROTHERS COMPANY.

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PROJECT Flint Michigan Division A
72" Flint-Detro Water Supply

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DATE September 9. 1966

REVISION Date - All Sheets

PREPARED BY J.C. Wilson

CODE No.	QTY.	DESCRIPTION	tot, laid Length	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This sc	ledule supplied only as an installation guide. A	djustments	must be s	ade to adapt to	field c	onditions.	
		Begin laying 180' South of intersecti	on of Eg	leston Av	e, and Potter	Rd. at	end of Ur	1t 11
		72" SP-12 Class 151 for 6' Cover			387+52.73			754.40
	1	Half bevel L.S. top Pi Sta. 387+53,21	19.92	19.90	387+72.63	4.57	91	753.49
	8	open jt bottom @19.91 Lengths	160.24	160.US	589+32.71	4.57	-7.32	746.17
	1	Harn. length clamp bell end only	20.03	20.01	389+52.72	4.57	91	745.26
S-73A	1	Harn. length Harn Short	20.03 16. 03	20.01 16.01	389+72.73 389+88.74	4.57 4.57	91 73	744.35 743.62
S-73	1	Tied lgth., harn. S.E., tied B.E. Shopweld B.E. to P.E. of F-74	20.03	20.01	390+08.75	4.57	91	742.71
F-74	1	15° elbow L.S. left tied P.E.,harn.B.E Shopweld P.E. to B.E. of S-73	•					
		P.E. to P.I. P.I. to P.B. Thrust Block	1.39 1.04	1.39 1.04	390+10.14 390+11.18	4.57 4.57	06 05	742.65 742.60
9-7 5	1	Tied short harn. S.E. tied B.E. Shopweld B.E. to P.E. of F-76	10.74	10.73	3 90+ 21. 91	4. 5.7	49	742. 11
F-76	1	15° elbow L.S. left tied P.E., harn.B.E. Shopweld P.E. to B.E. of S-75 Thrust Black	. 1.39 1.04	1.39 1.04	390+23.30 390+24.34	4.57 4.57	06 05	742 05 742 00
8-77	1	Tied short, full bevel L.S. bottom. open jt. top Harn, S.E., tied B.E. Shopweld B.E. to S.E. of F-78	10.77	10.77	390+39. 0 £	² 2 12 5	+,24	
F-78	1	15° elbow, L.S. left, Led P.E. harn.B. Shopweld P.E. of S.E. of S-77 P.E. to P.I.	E. 1.39	1 - 39	390+36, 50	2, 25	+.03	74

JOB NO. 95.66P - Unit III

PROJECT Flint, Michigan Division A
72" Flint-Detroit Water Supply

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DATE September 9. 1966
REVISED
PREPARED BY J.C. Wilson

NO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR.LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINI ELEVATION
	This sci	edule supplied only a an installation guide. A 72" SP-12 Class 151 for 6' Cover	djustments	must be a	ade to adapt to 390+37.54	field c	onditions.	742.29
s 79	1	Tied short harn. S.E., tied B.E. Shopweld B.E. to P.E. of F-80	10.74	10.74	390+48.28	2.25	+.24	742.53
F=80	1	15° elbow L.S. left, tied P.E., harn.B.E. Shopweld P.E. to B.E. of S-79 P.E. to P.I. P.I. to P.B. Thrust Block	1.39 1.04	1.39 1.04	390+49. 67 390+50. 71	2.25	+.03 +.02	742. \$ 6
S-81	1	Tied short harn. S.E., tied B.E. Shopweld B.E. to F.E. of F-82	10.74	10.74	390+61.45	2.25	+.24	742.58 742.82
£⊶82	1	15° el' w.L.S.left, tied P.E., harn.B.E. Shopue d P.E. to B.E. of S-81 P.E. to P.I. P.I. to P.B.	1.39 1.04	1.39 1.04	390+62. 84 390+63.88	2.25 2.25	+. 03 +.02	742.85 742.87
S83	1	Tied short, harn. S.E., tied B.E. Shopweld B.E. to P.E. of S-84	10.74	10.74	390+74.62	2. 25	+. 24	743+11
F-84	2	15° elbow, L.S. left, tied P.E., harn.B.E. Shopweld P.E. to B.E. of S-83 P.E. to P.I. P.I. to P.B. Harn. lengths	1.39 1.04 40.06	1.39 1.04 40.05	390+76.01 390+77.05 391417.12	2.25 2.29 2.25	+.03 +.02 +.90	743. 14 743. 16 744. 06
	2	Hern. length, class S.E. only	20.03	20.03	391+37.13	2.25	+. 45	7 44, 51

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PROJECT 73 tot Victorian Division A

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DATE September 9. 1966
REVISED

PREPARED BY J.C. Wilson COSE HOR LAID TOT. LAID ELEVATION CENTER LINE QTY. DESCRIPTION STATION NO. LENGTH LENGTH GRADE CHANGE ELEVATION This schedule supplied only as an installation guide. Adjustments must be sade to adapt to field conditions. 391+37.13 72" SP-12 Class 151 for 6' Cover 744.51 B-BAL 1 Short Length 3.98 3.98 391+61.11 2.25 +.09 744, 60 160.24 Longths 160.24 393+01.31 2.25 +3.60 748, 20 72" SP-12 Class 162 for 10' Cover 393+21.36 20.05 1 Lgth., open jt. top @20.03 20.05 1.45 +.29 748.49 Lath. open it. top 820.03 20.05 20.05 393+41.41 .80 +.16 748.65 Lgth., open jt. top @20.03 20.05 393+61.46 1 20.05 .375 +.07 748 72 Lengths 180.27 180.27 395+41.73 9 .375 +.68 749.40 Full bevel, L.S. bottom 19.74 1 19.80 395+61.47 7.70 +1.52 750.92 Open jt. top @19.78 2 Lengths 40.06 39.94 396+01.41 7.70 +3.08 734.00 Full bevel L.S. top 1 19.80 19.80 396+21.21 .50 +.10 754.10 Open jt. bottom @19.78 Leth., open jt. bottom @20.03 20.05 20.05 1.20 1 396+41.26 +.24 754.34 4 80.12 Lengthe 80.11 397+21.37 1.20 +.96 755.30 Lgth., open it. top @20.03 1 20.05 20.05 397+41 42 .50 +.10 755.40

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PROJECT Plat, Elchigan Division A

DATE

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PREPARED BY J. C. Wilson Jr.

	CS 10.	CTL.		SEAL LAND LANGUE	HOEL LAND LEEK (OFFI	STATION	CELLON	ELEVATION CHANGE	CENTER LINE BLEVATION
		This co	odule enpolied only or or installation pulde. / 72" SP-12 Class 162 for 18' Cover	39		ade to edget to 397+41L-42	State C	ondifficate.	755.40
	8-85		Lgth., open jt. top \$20.03 w/8" Ten. flg. OL. top left 7 fr. SE	20.05	20.05	397+61.47	.00		755.40
		1	Egth., open jt. top @20.03	20.05	20.05	397+81.52	. 68	14	755.26
		1	igth, open jt. top @20.03	20.05	20.05	398+01.57	1.35	27	754. 99
-+		. 1.	Lgth., open jt. top @20.03	20.05	20.05	398+21.62	1.99	40	754.59
· . ·	· · · · · · · · · · · · · · · · · · ·	2	Lengths	40.06	40.05	398+61.67	1.99	79	753.80
		1	Harn. Lgth., clamp B.E. only	20.03	20.03	398+81.70	1.99	40	754. 40
		1	Harn. Lgth.,	20.03	20.03	399+01.73	1.99	40	753.00
- - - - - -	8-86	1	Tied half bevel harn. S.E. tied B.E. L.S. top open jt. bottom	19.94	19.91	399+21.64	5.10	-1.02	751.98
			Shoperad B. S. to P. S. of F-87						
	F-87	1	15° elbow, L.S. right, tied P.E. Harn Shopweld P.E. to B.E. of 8-86	B.E.					
		,	P.E. to P.I.	1.39	1.39	399+23.0 3	5.10	07	751.91
			P. I. to P.B. (Thrust Block	1.04	1.04	39 9+ 24.07	5.10	05	751.86
	8-88	1	Tied short, Hern. S.E., tied B.E. Shopeld B.E. to P.E. of F-89 Open jt bottom \$10.74	10.76	10.75	39 9+ 34. 82	4.64	50	751.36

JOB NO. 95.66P - Unit III

72" Flint-Detroit Wa & Supply

CODE No.	QTY.	DESCRIPTION	TOT. LAID LENGTH	HOR LAID	STATION	% GRADE	ELEVATION CHANGE	CENTER LIM ELEVATION
And the second s	This s	cledule supplied only as an installation guide.	djustments	must be	ade to adept to	field o	enditions.	
*.		72" SP-12 Class 162 for 10' Cover		# A	399+34,82			751. 36
F-89	1	15° elbow, L.S. right, tied P.E., harn. B.E. Shopweld P.E. to B.E. of S-88						
		P.E. to P.I.	1.39	1.39	399+36.21	4. 64	06	751.50
		P.I. to P.B. Thrust Black	1.04	1.04	399+37.25	4.64	 05	751. 25
S90	1	Tied short, harn. S.E., tied B.E. Shopweld B.E. to P.E. of F-91	10.74	10.73	399+47.98	4.64	50	750.75
F-91	1	15° elbow, L.S. right, tied P.E., harn. B.E	_					
		Shopweld P.E. to B.E. of S-90					1	
		P.E. to P.I.	1.39	1.39	' 39 9+ 49.37 39 9+5 0.41	4. 64 4. 64	06 05	750.69 750.64
		P.I. to P.B. Thinust Block	1.04	1.04	333730.41	7.07	us	/30.04
S=92	1	Tied short, harn. S.E., tied B.E.	10.74	10 73	399 +61.14	4.64	50	750.14
		Shopweld B.E. to P.E. of F-93			,		i i	·
								The state of the s
F-93	1	15° elbow L.S.right tied P.E. harn.B.E						
		Shopweld P.E. to B.E. of S-92						
		P.E. to P.I.	1,39	1.33	399+62.53	4. 64	06	750.08
		P.I. to P.B. Thrust Block	1.04	1.64	344+63.57	4. 64	05	750,03
3-94	1	Tied short, harn. S.E., tied B.E.	10.74	10.73	399+74.30	4.64	50	749.53
		Shopweld B.E. to P.E. of F-95		٠.		·		Section 1
P-95	1	15° elbow, L.S. right, tied P.E., harn. B.E						delegación delegació n de las hacegins (1 hilly less ^e sun
		Shopweld P.E. to B.E. of S-94						
	· 🚦	P.E. to P.I.	1.39	1,39	399+ 75.69	4.64	06	746 47

)08 NO. 95.66P - Unit III

PROJECT Flint. Michigan Division A
72" Flint-Detroit Water Supply

DATE September 9, 1956

ENVERD
PREPARED BY J. C. Wilson Jr.

CODE NO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This so	tedule supplied only as an installation guide. A 72" SP-12 Class 162 for 10' Cover	djustments	must be	ade to adapt to 399+76.73	field c	onditions.	749, 42
8-96	1	Tied short, harn. S.E., tied B.E. Shopweld B.E. to P.E of F-97 w/12" M.J.B. OL. 2' fr. S.E. on right	10.74	10. 73	399+87.46	4. 64	50	748. 92
F-97	1	15° elbow L.S. right, tied P.E. harn shopweld P.E. to B.E. of S-96		_				
		P.E. to P.I.	1.39	1.39	399+88.85	4, 64	1 1	7 48 . 86
		Thrust Black	1.04	1.04	399+89.89	4. 04	≈.05	748.33
	1	Harn. half bevel LS bottom open jt. top 219.91	19.94	19.94	400+09.83	1.54	31	748 56 750 .50
	1	Harn. 1gth., clamp S.E. only open jt. top @20.03	20.05	20.05	400+ 29 , 88	2.14	43	7 18 . 47 750 . 07
	10	Lengths	200.30	200, 26	402+30, 1%	2.14	4. 27	743, 90
								alliadischer della discollèration and accompanier of the contraction o

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DATE September 9. 1966
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PROJECT Plint Michigan Division A
72" Plint-Detroit Water Supply

PREPARED BY J. C. Wilson

CCDE NO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR. LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This sol	odule supplied only as an installation guide. A 72" SP-12 Class 162 for 10' Cover	djustmeats	must be :	ade to adept to 402+30.14	field c	onditions.	743.80
	1	Half Bewel L.S. Top Open Jt. Top @19.91	19.93	19.89	40 2+50.03	6.72	-1.34	742.46
		72" SP-12 Class 191 for 14' Cover						
	1	Naif Bevel, L.S. Top Length	19.91 20.03	19.80 19.92	40 2+69.83 40 2+89.75	10, 60 10, 60	-2, 11 -2, 11	7 40. 35 7 3 8. 24
	1	Harn. Lgth., Clamp B.E. Only	20.03	19. 92	403+09 . 67	10.60	-2.11	736. 13
	2	Hern. Lengths	40.06	39.84	403+49.51	10.60	-4. 22	731. 91
8-58	1	Tied Short Length, Harn. S.E., Tied B.E. Shopweld B.E. to P.E. of F-99	7.58	7.54	403 +57. 0 5	10.60	80	731. 11
F-99	1	7°30' Elbow L.S. Left, Tied P.E., Harn. B.E. Shopweld P.E. to B.E. of S-98						
		P.E P.I. P.I P.B.	1.00 ,64	1.00 .64	403+58.05 403+58.69	10. 60 10. 60	11 07	731, 00 730, 93
		72" SP-12 Class 162 for 10' Cover						
9-100	1	Tied Short Full Bevel Harn. S.E., Tied B.E. Shopweld B.E. to P.E. of F-101 w/18" Tan. M.J.B. B.O. O.L.6'fr S.E. Bottom Left Side Open Jt. Bottom 2 11.46	11.48	11, 48	403+70.17	2.10	24	7 30 , 59

PRICE BROTHERS COMPANY LAYING SCHEDULE JOB NO. 95.66P-Unit III

PAGE 8 OF 27 PAGES

DATE.

REVISED. J.C. Wilson PORDADED RY

Flint, Michigan Division A PROJECT. 72" Flint-Detroit Water Supply

CODE NO.	QTY.	DESCRIPTION	TOT. LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This sel	edule supplied only as an installation guide. 72" SP-12 Class 162 for 10' Cover	Adjustments	must be	ade to edapt to 403+70.17	field c	onditions.	730. 69
P-101	1	7°30' Elbow, L.S. Left, Tied P.E., Harn. B.E.						
		Shopweld P.E. to B.E. of S-100 P.E. to P.I.	1.00	1.00	403+71.17	2.10	02	7 30 . 67
		P.I. to P.B.	, 64	. 54	403+71.81	2.10	01	730. 66
8-102	1	Tied Short Full Bevel, L.S. Bottom	11.49	11.48	403+83.29	4.93	+ .57	731.23
		Marn. S.E., Tied B.E. @ 11.46 Shopweld B.E. to P.E. of F-103 Open Jt. Top @ 11.46						
F-103	1	7°30' Elbow, L.S. Left, Tied P.E., Harn. B.E. Shopweld P.E. to B.E. of S-102						
		P.E. to P.I. P.I. to P.B.	1.00 .64	1.00 .64	403 +8 4 . 29 403 +8 4 . 93	4, 93 4, 93	+ . 05 + . 04	731 . 28 731 . 32
vi slavana kannsidara			.04		403764.93	4, 93	7,04	/31: 32
		72" SP-12 Class 151 for 6' Cover						
S-104	1	Tied Short, Hern. S.E., Tied B.E. Shopweld B.E. to P.E. of P-105 Open Jt. Top 2 11.46	11.48	11.47	403+ 96.40	4. 25	+ .49	731 81
F-105	1	7°30° Elbow, L.S. Left, Tied P.E., Harn. B.E. Shopweld P.E. to B.E. of S-104						
		P.B. to P.I.	1.00	1.00	403+97.40	4. 25	+ . 04	731.85
		P. I. to P. B.	. 64	, 64	403+98.04	4. 25	+1.03	731.88
3-106	1	Tied Short Lgth. Harn. S.E. Tied B.E.	B	11.49	403+09.53	3.47	. + , 40	73228

JOE NO. 95.66P-Unit III

PROJECT Flint. Michigan Division A
72" Flint-Detroit Water Supply

PAGE 9 OF 27 PAGES
DATE September 5, 1966
REVISED
PREPARED BY J. C. Wilson

CODE NO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR.LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This sc	dedule supplied only as an installation guide. A 72" SP-12 Class 151 for 6' Cover	djustments	must be	under to adapt to 404+09, 53	field c	ondificas.	732.28
F-107	1	7°30' Elbow, L.S. Left, Tied P.E., Harn. B.E.						
		Shopweld P.E. to B.E. of S-106						
		P.E. to P.I.	1.00	1.00	404+10.53	3.47	+ .03	732,31
		P.I. to P.B.	. 64	. 64	404+11.17	3.47	+ .02	732.33
s -108	1	Tied Short Lgtn., Marn. S.E. TiedB.E.	11.46	11.46	404+22.63	3.47	+ .40	732.73
		Shopweld B.E. to P.E. of F-109						
F-109	i	7°30' Elbow, L.S. Left, Tied P.E.						
		Harn. B.E.						
		Shopweld P.E. to B.E. of P-109				}		
		P.E. to P.I.	1.0C	1.00	404+23, 63	3,47	+ ,03	732,76
		P. I. to P.B.	. 64	. 64	404+24, 27	3.47	+ .02	732, 78
S-110	ì	Tied Short Lgth., Harn S.E., Tied B.E. Shopweld B.E. to P.E. of F-111	11.46	11.46	404+3573	3.47	+ ,40	7 33.1 8
f-111	1	7°30' Elbow, L.S. Left, Tied P.E.,				,		
		Harm. S.E.						
		Shopweld P.E. to B.E. of S-111				Į.		
		P.E. to P. I.	1.00	1.00	404+36.73	3.47	+ ,03	733.21
		P.I. to P.B.	, 64	. 64	404+37.37	3.47	+ .02	735.23
S-112	ì	Tied Short Lgth. Harn. S.E., Tied B.E. Shopweld B.E. to P.E. of F-113	11.46	11.46	404+48.83	3.47	+ , 40	733, 63
F-113	ī	7°30' Elbow L.S. Left Tied P.E. Harn	i d					
		B.E. Shopweld P.E. to B.E. of S-112			1.01.110.00	2 4-5		r established en en en en en en en en en en en en en
		P.E. to P. I.	1.00	1.00	404+49.83	3.47	+ .03	733.66
		P. I. to P.B.	, 64	. 64	404+50.47	3.47	+ .02	733.68

JOB NO. 95.66P-Unit III

PROJECT Flint, Michigan Division A
72" Flint-Detroit Water Supply

PAGE 10 OF 27 PAGES
DATE September 9, 1966
REVISED PREPARED BY J.C. Wilson

CODE NO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This sc	edule supplied only as an installation guide. A 72" SP-12 Class 151 for 6' Cover	djustments	must be	ade to adapt to 404+50.47	field c	onditions.	733.68
8-114	1	Tied Short Lgth. Harn. S.E. Tied B.E. Shopweld B.E. to P.E. of F-115 w/36" Neck Flg. O.L. 7' fr.S.E. on L.S.	11. 46	11.46	404+61.9 3	3.47	+ .40	734. 08
F-115	1	7°30' Elbow, L. S. Left, Tied P. E. Harn. D. E.			904 .			
		Shopweld P.E. to B.E. of S-114			404.65.03			
		P.E. to P.I. P.I. to P.B.	1.00	1.00	404+62,93 404+63,57	3.47 3.47	+ .03 + .02	734, 11 7 34, 13
S-116	1	Tied Short, Hern. S.E. Tied B.E. Shopweld B.E. to P.E. of F-117	11.46	11.46	404+75.03	3. 47	+ ,40	734. 53
F-117	1	7°30'Elbow L.S.Left Tied P.E., Harn. B.E. Shopweld P.E. to B.E. of S-116 P.E. to P.I.	1.00	1.00	404 +76, 03	3. 47	+ .03	734. 56
		P. I. to P.B.	, 64	, 64	404+76.67	3,47	+ .02	734.58
S-118	1	Tied Short, Hern. S.E., Tied B.E. Shopweld B.E. to P.E. of F-119	11.46	11,46	404+88.13	3.47	+ .40	734.98
F-119	1	7°30' Elbow, L.S. Left, Tied P.E., Harn. B.E. Shopweld P.E. to B.E. of S-118					•	
		P.E. to P.I. P.I. to P.B.	1,00 ,64	1.00 .64	404+89.13 404+89.77	3.47 3.47	+ .03 + .02	735, 01 735, 03
S-120	3.	Tied Short, Harn., S.E. Tied B.E. Shopweld B.E. to P.E. of F-121	11.46	11,46	409+01.23	3.47	+ . 40	735.43
			<u> </u>					

JOB NO. 95.66P-Unit III

PROJECT Flint, Michigan Division A

PAGE 11 OF 27 PAGES September 9, 1966 DATE. REVISED_

72" Plint-Detroit Water Supply

PREPARED BY J. C. Wilson

NO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LIN
	This so	edule supplied only as an installation gaide. A 72" SP-12 Class 151 for 6' Cover	djustmerts	must be	ade to edent to 405+01.23	field c	onditions.	735.43
F-121	1	7°30'Ribow, L.S. Left, Tied P.E. Harns. E. Shopweld P.E. to B.E. of S-120						
		P.E. to P.I.	1,00	1.00	405+02.23	3.47	+ .03	735.46
		P.I. to P.B.	. 64	. 64	405 02.87	3, 47	+ .02	735.48
	1	Harm. Length, Open Jt. Top @20.03	20.06	20.05	405+22 . 92	2. 62	+ .52	736.00
P-122	1	72" Harn. P. S. × 54"Harn. P. B. Reducer	6. 18	6, 18	405÷29.10	2.62	+ . 16	736. 16
	1	54" Harm. P.J. End Valve (Not by P.B. Co.)	1.40	1.40	405+30.50	2. 62	+ , 04	736. 20
P-123	1	54 Marn. P.S. x 72" Harn. P.B. Reducer	6.78	6. 78	495 4 37. 28	2. 62	+ ,18	736.38
	1	Harn. Leth. Pen Jt. Top @ 20.03	20.05	20.05	405457.35	2.00	+ , 40	736,78
8-124	1	Harm 'gth., Open Jt. Top @ 20.63 w/2~ seck Flg. O.L 17' Fr. S.E. w/24" Blind Flg. Clamp S.E. Only	20.05	20.05	4054 77. 38	1.54	+ , 31	737.09
	3	Lengths	60.09	60.08	406+37,46	1.54	+ , 92	730 01
8-125	1	Longth w/2" I.P. Thd. O.L. 18' Pr. S.E.	20.03	20.03	406+57.49	1,54	+ 31	738. 32
P-126	3	8°13' Elbow, L.S. Top						
		P.S. to P. I	5.29	5.29	1	1.54	+ .08	7 38 40
	.	P. I. to P. B.	. 68	. 68	406+63.46	12.90	09	738.31

108 NO. 95.66P - Unit III

PRICE BROTHERS COMPANY LAYING SCHEDULE

PAGE 12_OF_27_PAGES
DATE September 9, 1966

PEOD T Plint Michigan Division A
72 Plint-Detroit Water Supply

PREPARED BY J.C. Wilson

REVEED.

COB		DESCRIPTION	TOT, LAID LENGTH	Hor.Laid Length	STATION	GRADE	ELEVATION CHANGE	CENTER LINI ELEVATION
		dedule supplied only as an installation guide. 72" SP-12 Class 162 for 10' Cover	Avi staests	meet be	ade to edapt t 406+63,46	dioid c	anditions.	738 31
	2		40.06	39 73	407:55.19	12.90	-5.12	733.19
		72" SP-12 Class 191 for 14' Cover						
		Length	20.03	19.86	407+23.05	12.90	-2.56	7 3 0. 63
F-127	1	7'22' elbow, L.S. bottom						
		PI to PB	1.00 .64	1.00 .64	407+24.05 407+24.69	12.90 .00	13	730.50 730.50
		Length Bearing Block	20.03	20.03	407+44.72	.00		730.50
		72" EP-12 Class 151 for 6' Cover						
		Lengths	80.12	80.12	400+24.84	.00		730.50
		72" SP-12 Class 191 for 14' Cover						
			20.03	20.03	408+44.87	.00		73 0 50
		Pull bevel, L.S. bottom Open jt. top @19.78	19.80	19.75	408+64.62	7.20	1.42	731.92
		Pull bevel, L.S. bottom Open jt. bottom @19.78	19.79	19.57	408+84.19	15.17	+2.97	73/1 22
S-128		Short Length	9.03	8.93	408+93.12	15.17	1.35	736.24

PRICE BROTHERS COMPANY LAYING SCHEDULE 108 MO. 95.66P - Unit III PAGE 13 OF 27 PAGES September 9, 1966 DATE Plint Michigan Division A PROTECT_ REVISED. 72" Flint-Detroit Water Supply J.C. Wilson PREPARED BY. CODE TOT. LAID HOR LAID ELEVATION CENTER LINE OTY. DESCRIPTION STATION NO. LENGTH LENGTH GRADE CHANGE ELEVATION This schedule supplied only as an installation guide. Adjustments must be made to adept to field conditions. 72" SP-12 Class 162 for 10' Cover 408+93.12 736.24 Oben joints as required for horizontal deflection NOTE: F-129 1 8°24' elbow, L.S. top P.S. to P.I. 1.04 1.05 400+94.16 15.17 +.16 736.40 P.I. to P.B. .69 408+94.85 .415 736.40 . 69 (Thrust Block) 7 140.21 Lengths 140.21 410+35.06 415 +.58 736.98 72" SP-12 Class 151 for 6' Cover 5 100.15 100.15 Lengths 411+35.21 415 +.42 737.40 72" SP-12 Class 162 for 10' Cover 1 20.05 Length, open jt. top @20.03 20.05 411+55.26 .00 737.40 25 500.75 500.75 Lengths 416+56.01 .00 737 40 1 upen jt. bottom @20.03 Length 20.04 20.04 416+76.05 . 317 +.06 737.46 1 Length 20.03 20.03 416+96.08 .317 +.06 737.52 72" SP-12 Class 151 for 6' Cover 39 Lengths 781.17 781.17 424+77.25 .317 +2.48 740.00 Length, open it, bottom @20.03 1 20.05 20.05 424+97.30 1.00 +.20 740.20 1 Length. open jt. bottom @20.03 20.05 20.05 425+17.35 1.65 +.33 740.53

DATE Sentimber 9, 1966

PROJECT Flat Michigan Division A.
72" Flant Detroit Weter Supply

PERSONNEL BY J.C. William

C028 80.	QTX.	DESCRIPTION	Tot. Laid Length	HOR. LAID. LENGTE	STATION	CEAUE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This sc	edule supplied only as an installation guide. 72" SP-12 Class 51 for 6' Cover			ade to elegt to 425+17.35	field o	aditlass.	740.53
	1	Length, open jt. bottom 220.03	20.05	20.05	425+37.40	2.15	+.43	740.96
	1	Length, open jt. bottom @20.03	20.04	20.03	425+57 . 43	2.47	+.49	741.45
	5	Lengths	100.15	100.12	42 6+ 57.55	2.47	+2.48	743.93
		72" SP-12 Class 162 for 10' Cover						
	7	Lengths	140.21	140.17	427+ 9 7 .72	2.47	+3.47	747 . 40
	1	Length, open jt. top @20.03	20.05	20.05	428+17.77	1.80	+.36	747.76
		Length, open jt. top @20.03	20.05	20.05	428+37 .82	1.30	+.26	748.02
	1	Length, open jt. top @20.03	20.04	20.04	428+57 .86	1.04	+.21	748.23
	7	Lengths	140.21	140.20	429+98.06	1.04	+1.45	749.68
		72 SP-12 Class 151 for 6' Cover						
	1	Length	20.03	20. 03	430+18.09	1.04	+.21	749.89
	1	Harn. length, clamp B.E. only	20.03	20 03	430+38.12	1.04	+.21	750.10
	1	Harn. length	20.03	20.03	430+58.15	1.04	+.21	750.31
8-130	1	Harn. length, open jt. top @20.03 w/2" I.P. thd. OL. 14' fr. S.E.	20.05	20.05	430+78.20	.45	+.09	750.40

95.662 - Dodt III

PRICE BROTHERS COMPANY LAYING SCHEDULB

PROPECT Plint Michigan Division A 72" Plint Detroit Natur Surely

DATE Sentember 9. 1966

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PROPAGED BY ALC: 941 son

PAGE 15 OF 27 PAGES

TUE LAID HOR LAID ELEVATION CENTER LINE COS OTY. DESCRIPTION STATION LENGTH LENGTH GRADE CHANGE ELEVATION HO. This sciedule supplied only as an installation guide. Adjustments must be made to adapt to field conditions. 430+78.20 750.40 72" SP-12 Class 151 for 6' Cover . 00 7A0. Tied short length, harn.S.E., tied B.E. 11.46 11.46 430+89.66 8-131 1 Shopweld B.E. to P.E. of F-132 Open it. top @ 11.46 7°30' elbow.L.S.right, tied P.E., harn.H.E. F-132 1 Showeld P.E. to B.E. of S-131 430+90.66 750 M 1.00 1.00 . 00 P.E. to P.I. 750 un .64 430+91.30 00 P.I. to P.B. . 64 11.46 431+02.76 11.46 750. **40** Tied short lgth., harn E., tied B.E. 08 8-133 F-134 Shopweld B.E. to P.E. 7°36'elbow L.S.right, tied P.E., harn B.E. F-134 1 Shopweld P.E. to B.E. of S-1.33 1.00 750. 40 431+03.76 00 P.E. to P.I. 1.00 750 40 431+04.40 .64 .64 80 P.I. to P.B. 11.46 431+15.86 11 46 Tied short length, harn. S.E., tied B.E. 00 750. 40 8-135 1 Shopweld B.E. to P.E. of F-136 7.30'elbow.L.S.right.tied P.E., harn.B.E. F-136 1 Shopweld P.E. to B.E. of S-136 1.00 1.00 MS1+10.26 00 750 40 P.E. to P.I. 431+17.50 00 750. 40 .64 54 P.I. to P.B.

JOB NO. 95.66P - Unit III

PRICE BROTHERS COMPANY LAYING SCHEDULE

PAGE_L6_OP_27_PAGES
DATE_September 9, 1966

72" Flint-Detroit Water Supply

PREPARED BY J.C. WILSON

code No.	QIY.	DESCRIPTION	TOT, LAID LENGTH	HOR.LAID LYNGTH	STATION	grade	ELEVATION CHANGE	CENTER LINI ELEVATION
	This sci	edule supplied only as an installation guide.	djustments	nust be	ade to adapt to	field c	onditions.	
		72" SP-12 Class 151 for 6' Cover		### 12	431+17.50			750 10
S-137	1	Tied short, harn. S.E., tied B.E. Shopweld B.E. to P.E. of F-138	11.46	11.46	431+28.96	00		750 40
F-138	1	7°30'elbow,L.S.right,tied P.E.,harn.B.	Β.					
		Shopweld P.E. to B.E. of S-137						
		P.E. to P.I.	1.00	1.00	431+29.96	.06		750 40
		P.I. to P.B.	.64	. 64	431+30.60	00_		750 40
S-139	1	fied short, harn. S.E., tied B.E.	11.46	11.46	431+42.06	.00		750 40
		Shopweld B.E. to P.E. of F-140						
F-140	1	7*30'elbow, L.S. right, tied P.E., harn. B. Shopweld P.E. to B.E. of S-139	E.					
		P.E. to P.I.	1.00	1.00	431+43.06	.00		750 40
		P.I. to P.B.	.64	.64	431+43.70	.00		750 40
8-141	1	Tied short, harn. S.E., tied J.E.	11.46	11.46	431+55.16	.00		750 40
	-	Shopweld B.E. to P.E. of F-142 w/36" flg. OL. 6' fr. S.E.	i .					
							·	
F-142	1	7°30' el. L.S.right, tied P.E.,harn.B. Shopweld P.E. to B.E. of S-141	E.					
		P.E. to F.I.	1.00	1.00	431+56.16	00		750. 40
		P.I. to P.B.	.64	.64	431+56.80	00		750. 40
						The second secon		gungelberger (b. 1947 - 1948) and an an an an an an an an an an an an an

JOB NO. 95.66P - Ibit III

PROJECT Flint Michigan Division A
72" Flint-Detroit Water Supply

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DATE September 9, 1966
REVISED
PREPARED BY J.C. Wilson

CODE NO.	ÇTY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LIN
O Property of the Control of the Con	This sc	edule supplied only as an installation guide. A	djustments	must be	ade to adept to	field c	ondifions.	·
		72" SP-12 Class 151 for 6' Cover			431+56.80		e.	750.40
8-143	1	Tied short, harn. S.E., tied B.E. Shopweld B.E. to P.E. of F-144 W/36" flg. O.L. 6" from S.E.	11.46	11.46	431+68.26	.00		750. 40
F-144	1	7°30'el.,L.S.right,tied P.E.,harm.B.E. Shopweld P.E. to B.E. of S-143		-				
		P.E. to P.I.	1.00	1.00	431+69.26	.00		750.40
		P.I. to P.B.	.64	.64	431+69.90	.00		750.40
S-145	1	Tied short, hern. S.E., tied B.E. Shopweld B.E. to P.E. of F-146	11.46	11.46	431+81.36	.00		750. 40
F-146	1	7°30'el.,L.S.right,tied P.E.,harn.B.E. Shopweld P.E. to B.E. of S-145			·		·	
		P.E. to P.I.	1.00	1.00	431+82.36	.00		750.40
	1	P.I. to P.B.	.64	. 64	431+83.00	.00		750,40
S-147	1	Tied short, harn. S.E., tied B.E. Shopweld B.E. to P.E. of F-148	11.47	11.47	431+94.47	.00		750. 40
F-148	1	7°30'el.,L.S.right,tled P.E.,harn.B.E. Shopweld P.E. to B.E. of S-147						
		P.E. to P.I.	1.00	% . 00	431+95.47	.00		750.10
		P.I. to P.B.	. 64	. 64	43 1+96 . 11	.00		750. 40
No. of the last state of the l								The Control of the Co

JOB NO. 95.66P - Unit III

PAICE BROTHERS COMPANY LAYING SCHEDULE

PROJECT Flint Michigan Division A
72" Flint Detroi Water Supply

PAGE 18 OF 27 PAGES
DATE September 9, 1966
REVISED
PREPARED BY J.C. Wilson

CODE NO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	IIOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This se	dedule supplied only as an installation guide.	djustments	must be	ade to edept to	field c	paditions.	Notes And
		72" SP-12 Class 151 for 6' Cover			431+96.11			750.40
8-149	1	Tied short, harn. S.E., tied B.E. Shopweld B.E. to P.E. of F-150	11.46	11.46	432+07.57	.00		750. 40
7-150	1	7°30'el.,L.S.right,tied P.E.,harn.B.E. Shopweld P.E. to B.E. of S-149						
		P.E. to P.I.	1.00	1.00	432+08.57	.00		750 40
		P.I. to P.B.	.64	.64	432+09.21	.00		750.40
8-151	1	Tied short, harn. S.E., tied B.E. Shopweld B.E. to P.E. of F-152	11.46	11.46	432+20.67	.00		750. 40
F-152	1	7°30'el.,L.S.right,tied P.E.,harn.B.E. Shopweld P.E. to B.E. of S-151						· · · · · · · · · · · · · · · · · · ·
		P.E. to P.I.	1.00	1.00	432+21.67	.00		750 40
		P.I. to P.B.	.64	.64	432+22.31	.00		750. 40
8-153	1	Tied short, harn. S.E., tied B.E. Shopweld B.E. to P.E. of F-154	11.46	11.46	432+33.77	.00		750. 40
F-154	1	7°30'el.,L.S.right,tied P.E.,harn.B.E. Shopweld P.E. to B.E. of S-153						
		P.E. to P.I. P.I. to P.B.	1.00	1.00 . 6 4	432+34.77 432+35.41	.00 .00		750 40
					432 *33.41			750. 40
								and the second s

Marie St. 667 - Butt III PAGE 19 OF 27 PAGES September 9, 1966 DATE Flint, Michigan Bivision A PROTECT. THE PERSON 72" Flint-Detroit Water Supply J.C. Wilson EREPARED BY CIE TOT LAID ROR LAID ELEVATION CENTER LINE OFY. DISCOUNTED STATION LENGTH LENGTH CHARGE CRADE ELEVATION This soludate supplied only on an installation guide. Adjustmental must be sade to adapt to field cheditions. 172" SP-12 Class 151 for 6' Cover 432+35.41 750. 40 1 Ben. leach 20.03 20.03 432+55.44 750.40 .00 STATION BOURTION: Sta. 432+55.44 back = Sta. 432+33.44 432+33.44 750.40 ahead .00 Hern. leth. 1 20.04 20.04 432+53.48 .00 750.40 1 Harn. lgth., clamp S.E. only 20.03 432+73.51 20.03 . 00 750.40 8 Learths 160.24 160.24 434+33.75 .00 750.40 20.05 20.05 .71 1 Loth.. open jt. top @20.03 434453.80 -.14 750 26 120.18 Lengths 120.18 .71 435+73.98 6 -.86 749.40 1 20.04 435+94.02 Leth., open it. top 020.03 20.04 1.09 749.18 -.22 Lengths 10 200.30 200.29 437+94.31 1.09 747 00 -2.181.75 438+14.36 -.35 1 Leth., open jt. top @20.03 20.05 20.05 746.65 1 Lath., open jt. top @20.03 20.05 20.04 438+34.40 2.40 -. 48 746.17 1 Leth.. open jt. top @20.03 20.04 20.03 438+54.43 2.76 -.55 745 62 12 Lengths 240.36 240.27 440+94.70 2.76 -6.62 739 00

GB NO. 95.66P - Ibut III

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DATE September 9. 1966
Revised

PROJECT Plant Mentern Division A
72" Plant-Netwolf Water Supply

PREPARED BY 1.C. Wilson

C B C C C C C C C C C C	OF.		TOT, LAID LENGTH	HOR LAID LENGTH	STATION	S GRADE	ELEVATION CHANGE	CENTER LIN
	This so	ledule supplied only as an installation guide.		must bo	sade to adapt to	field o	onditions.	
		72" SE-12. Class 151 for 6" Cover			440+94.70			739.00
		Lighth., open jt. bottom \$20.03	20.05	20.05	441+14.75	2.10	42	738.58
		Lgth., open jt. bottem @20.03	20.05	20.05	441+34.80	1.40	28	738.30
		Lgth., open jt. bottom 620.03	20.05	20.05	441+54.85	.90	18	738.12
		Leth., open jt. bottom @20.03	20.05	20.05	441+74.90	. 325	06	738.06
			200.30	200.30	443 +75.20	.325	65	737.41
P-155		72" P.S. x 54" P.B. reducer	6.18	6.18	443+81.38	. 325	02	73 7.39
		54" P.J. end valve (not by P.B. Co.)	1.40	1.40	443+82.78	.325		737.39
P-156		54" P.S. x 72" P.B. reducer	6.78	6.78	443+89,56	. 325	02	737 37
		Harn, length, clamp B.E. only	20.03	20.03	444+09,59	. 325	06	737 - 11
		Henry Jength	20.03	20.03	444+29.62	. 325	06	737.25
S-1 57	1	Tied length, harn. S.E., tied B.E.	20.03	20.03	444+49.65	.325	06	737.19
		w/24" neck flg. OL. 17' fr.S.E. left side						
S-157A		w/24" blind flg. Shopweld B.E. to P.E. of S-158						

JOS NO. 95.66P - Dait III

Flint, Michigan Division A PROJECT_ 72" Flint-Detroit Nater Supply

PAGE 21 OF 27 PAGES September 9, 1966 DATE.

REVISED.

PERPARED BY I.C. Nilego

Shopseld B.E. to P.E. of F-160 1 15°0'el.,L.S. left,tied P.E.,harn.B.E. Shopseld P.E. to B.E. of S-159 P.E. to P.I. 1.39 1.39 1.39 1.44+64.21 .325 1.04 1		ELEVATION CHANGE	S GRADE	Station	HOR LAID LENGTH	tor, laid Length	DESCRIPTION	QTY.	NO.
F-158 1 15°0' el., L.F. left, tied P.E., harn. B.E. Shopweld P.E. to B.E. of S-157 P.E. to P.I. P.I. to P.B. Though Bick Shopweld B.E. to P.E. of F-160 1 15°0'el., L.S. left, tied P.E., harn. B.E. Shopweld B.E. to P.E. of S-159 P.E. to P.I. P.I. to P.B. Though Bick 1 1.39 1.39 444+62.82 .3250 1 15°0'el., L.S. left, tied P.E., harn. B.E. Shopweld P.E. to B.E. of S-159 P.E. to P.I. P.I. to P.B. Though Black 1 1.04 1.04 444+64.21 .325 P.E. to P.E. of F-162 F-162 1 15° elbow, L.S. left, tied B.E. 10.74 10.74 444+75.99 .3250 F-163 1 15° elbow, L.S. left, tied P.E., harn. B.E. Shopweld P.E. to B.E. of F-161 P.E. to P.I. P.I. to P.B. Though Black 1 1.39 1.39 444+75.99 .3250 F-162 1 15° elbow, L.S. left, tied P.E., harn. B.E. Shopweld P.E. to B.E. of F-161 P.E. to P.I. P.I. to P.B. Though Black 1 1.04 1.04 444+75.99 .325	•	editions.	Gold c	ede to adept to	west is a	djustasesta	edule supplied only as an installation gaide.	This sol	and the second s
Shopweld P.E. to B.E. of S-157 P.E. to P.I. P.I. to P.B. P.I. to P.B. P.I. to P.B. P.I. to P.B. P.I. to P.B. P.I. to P.B. P.I. to P.B. 1.04 1.04 10.74	737 . 3.9			444+49.65			72" SP-12 Class 151 for 6' Cover		
P.E. to P.I. P.I. to P.B. P.I. to P.B. P.I. to P.B. P.I. to P.B. P.I. to P.B. P.I. to P.B. P.I. to P.B. P.I. to P.B. P.I. to P.B. P.I. to P.B. P.I. to P.E. of F-160 1 15*0'el., L.S. left, tied P.E., harn.B.E. Shopweld P.E. to B.E. of S-159 P.E. to P.I. P.I. to P.B. P.I. to P.B. P.I. to P.B. P.I. to P.B. P.I. to P.E. of F-162 1 15* elbow, L.S. left, tied P.E., harn.B.E. Shopweld B.E. to P.E. of F-162 F-162 1 15* elbow, L.S. left, tied P.E., harn.B.E. Shopweld P.E. to B.E. of F-161 P.E. to P.I. P.I. to P.B. P.I. to P.							· · · · · · · · · · · · · · · · · · ·	1	F-158
P.I. to P.B. Ties short, harm. S.E., tied B.E. 10.74 10.74 444+62.82 .325 0 Ties short, harm. S.E., tied B.E. 10.74 10.74 444+62.82 .325 0 F-160 1 15°0'el., L.S. left, tied P.E., harm.B.E. Shopweld P.E. to B.E. of S-159 1.39 1.39 1.39 444+64.21 .325 .325 P.I. to P.B. 1.04 1.04 444+65.25 .325 S-161 1 Tied short, harm. S.E., tied B.E. 10.74 10.74 444+75.99 .325 0 F-162 1 15° elbow, L.S. left, tied P.E., harm.B.E. Shopweld P.E. to B.E. of F-161 P.E. to P.I. 1.39 1.39 444+77.38 .325 P.I. to P.B. 1.04 1.04 444+78.42 .325 P.I. to P.B. 1.04 1.04 444+78.42 .325 S-163 1 Tied short, harm. S.E., tied B.E. 10.74 10.74 444+89.16 .325 0	222.10		20.	*****	3 30	1 20	•		
S-159 1 Ties short, harn. S.E., tied B.E. 10.74 10.74 444+62.82 .325 08 .325 08 .325 08 .325 08 .325 08 .325 08 .325 08 .325 08 .325 .	737.19 737.19								
S-159 1 Tiel short, harn. S.E., tied B.E. Shopseld B.E. to P.E. of F-160 F-160 1 15°0'el., L.S. left, tied P.E., harn. B.E. Shopseld P.E. to B.E. of S-159 P.E. to P.I. P.I. to P.B. Theust Black S-161 1 Tied short, harn. S.E., tied B.E. Shopseld B.E. to P.E. of F-162 F-162 1 15° elbow, L.S. left, tied P.E., harn. B.E. Shopseld B.E. to P.E. of F-161 P.E. to P.I. P.I. to P.B. 1.39 1.39 1.04 10.74	737.19		.323	444732.00	1.04	1.04	(Thoust Bieck)		
F-160 1 15 °0 'el., L.S. left, tied P.E., harn.B.E. Shopweld P.E. to B.E. of S-159 P.E. to P.I. P.I. to P.B. 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04	737.16	03	.325	444+62.82	10.74	10.74	Ties short, harm. S.E., tied B.E.	1	S-159
Shopweld P.E. to B.E. of S-159 P.E. to P.I. P.I. to P.B. Though Black S-161 Tied short, harn. S.E., tied B.E. Shopweld B.E. to P.E. of F-162 1 15° elbow, L.S. left, tied P.E., harn. B.E. Shopweld P.E. to B.E. of F-161 P.E. to P.I. P.I. to P.B, 1.39 1.39 1.04 10.74 10.74 444+75.99 3250 Tied short, harn. S.E., tied B.E. 10.74 10.74 444+77.38 325 325 3250									
P.E. to P.I. P.I. to P.B. P.I. to P.B. P.I. to P.B. P.I. to P.B. P.I. to P.B. P.I. to P.B. P.I. to P.B. P.I. to P.B. P.I. to P.E. of F-162 1								1	F-160
P.I. to P.B. Tied short, harn. S.E., tied B.E. Shopweld B.E. to P.E. of F-162 1 15° elbow,L.S.left, tied P.E., harn.B.E. Shopweld P.E. to B.E. of F-161 P.E. to P.I. P.I. to P.B. 1.04 1.04 444+75.99 .3250 1.04 1.04 444+75.99 .325 1.04 1.04 444+77.38 .325 1.04 1.04 444+77.38 .325 1.04 1.04 444+77.38 .325 1.04 1.04 444+89.16 .3250	737.16		325	HUHARH 21	1 30	1 30	-		
S-161 1 Pied short, hern. S.E., tied B.E. Shopweld B.E. to P.E. of F-162 F-162 1 15° elbow, L.S. left, tied P.E., harn. B.E. Shopweld P.E. to B.E. of F-161 P.E. to P.I. P.I. to P.B. 1.39 1.39 1.39 444+77.38 325 1.04 1.04 444+78.42 325 325 325 325 326 325 327 327 328 327 328 328 329 329 320 320 320 320 320 320 320 320 320 320	73/ 16								
F-162 1 15° elbow,L.S.left,tied P.E.,harm.B.E. Shopweld P.E. to B.E. of F-161 P.E. to P.I. P.E. to P.I. P.I. to P.B. 1.04 1.04 444+77.38 .325 Thinux & Black S-163 1 Tied short, harm. S.E.,tied B.E. 10.74 10.74 444+89.16 .3250	20		,,,,,				(Thoust Black)		
F-162 1 15° elbow,L.S.left,tied P.E.,harn.B.E. Shopweld P.E. to B.E. of F-161 P.E. to P.I. P.I. to P.B. 1.04 1.04 444+78.42 .325 Thems: Block S-163 1 Tied short, harn. S.E.,tied B.E. 10.74 10.74 444+89.16 .3250	737,13	03	.325	444+75.99	10.74	10.74	· · · · · · · · · · · · · · · · · · ·	1	S-161
Shopweld P.E. to B.E. of F-161 P.E. to P.I. P.I. to P.B. 1.39 1.04 1.04 444+77.38 .325 1.04 7 whist Block S-163 1 Tied short, harn. S.E., tied B.E. 10.74 10.74 444+89.16 .325							Shopweld B.E. to P.E. of F-162		
P.E. to P.I. P.I. to P.B. 1.39 1.39 444+77.38 .325 1.04 1.04 444+78.42 .325 The purity Block S-163 1 Tied short, harn. S.E., tied B.E. 10.74 10.74 444+89.16 .3250							15° elbow, L.S.left, tied P.E., harn.B.E.	1	F-162
P.I. to P.B. Tuhux Block 1.04 1.04 444+78.42 .325 S-163 1 Tied short, harn. S.E., tied B.E. 10.74 10.74 444+89.16 .3250			ĺ				Shopweld P.E. to B.E. of F-161		
S-163 1 Tied short, harn. S.E., tied B.E. 10.74 10.74 444+89.16 .3250	737.13		1						
S-163 1 Tied short, harn. S.E., tied B.E. 10.74 10.74 444+89.16 .3250	737 .13		. 325	444+78.42	1.04	1.04	P.I. to P.B.		
	737 10	03	.325	444+89.16	10.74	10.74	the state of the s	1	S-163
	enterente de la company de la								Hillian secure and advantage of a control of the sec

100 NO. 95.66P - Unit III

PROJECT Flint, Michigan Division A

PAGE 22 OF 27 PAGES September 9, 1966 DATE. REVISED.

72" Flint-Detroit Nater Supply J.C. Wilson PREPARED BY....

100° 140°	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LIN ELEVATION
	This co	edale supplied only as an installation gaids. A	djestments	must be	ade to adept to	field c	paditions.	
		72" SP-12 Class 151 for 6' Cover			444+89.16			7 37 , 10
F-164	1	15° elbow, L.S. left, tied. P.E., harn. B.E.						
		Shopweld P.E. to B.E. of S-163						
	.	P.E. to P.I.	1.39	1.39	444+90.55	. 325		737,10
		P.I. to P.B. Thrust Black	1.04	1.04	444+91.59	. 325		737,10
3-145	1	Tied short, harm. S.E., tied B.E.	10.74	10.74	445+02.33	. 325	- , 03	7.37 . 07
		Shopweld B.E. tr P.E. of F-166						Alle Control of the C
F-166	1	15°0'el.,L.E. left, tied P.E., harn.B.E.						
		Shopweld P.E. to B.E. of S-165						
		P.E. to 1.I.	1.39	1.39	445+03.72	. 325		737 07
		P.I. to P.B. Tinnest Bleck.	1.04	1.04	445+04.76	. 325		737 07
3-167	1	Tied chort, hern. S.E., tied B.E.	10.74	10.74	445+15.50	.325	03	737 94
		Shopweld B.E. to P.E. of F-168						# · · · · · · · · · · · · · · · · · · ·
T-166	1	15° elbow, L.S. left tied P.E., harn. B.E.						The second secon
		Shopweld P.E. to B.E. of S-167					!	
	İ	P.E. to P.I.	1.39	1.39	445+16.89	. 325		737 00
		P.I. to P.B.	1.04	1.04	445+17 , 93	. 3 2 5		737 b4
	1.	Born. Length	20.03	20.03	445+37 , 96	. 325	~ . 05	736 98
	1	Harn igth., clamp S.E. only	20.03	20.03	445+57 , 99	. 325	.96	736 92
1								
					na Patri Na manana katala da kada da katala da kada da kada da kada da kada da kada da kada da kada da kada da			ningilista kalinda ka
1								

PAGE 23 OF 27 PAGES September 9, 1966

DATE September

REVISED___

PREPARED BY J.C. Wilson

PROTECT	Flint	Michigan	Division	n A
		Lint-Detro		

CODE NO.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINE ELEVATION
	This sc	edule supplied only as an installation guide.	djustments	must be	ade to adapt to	field c	onditions.	
·		72" SP-12 Class 151 for 6' Cover		· .	445+57.99			736.92
	1	Half bevel, L.S. bottom Open jt. bottom @19.91	19.94	19.92	445+77.91	4.60	+.92	737.84
	1	Lgth., open jt. bottom @20.03	20.06	20.03	445+97.94	5.40	+1.08	738.92
·	6	Lengths	120.18	120.00	447+17.94	5.40	+6.48	745.,40
	1	Half bevel, L.S. top Open jt. top @19.91	19.94	19.94	1447 +37 . 8 8	.483	+.10	745.50
	2	Lengths	40.06	40.06	447+77.94	.485	+.19	745 , 69
	-	72" SP-12 Class 162 for 10' Cover						
	4	Lengths	80.12	80.12	448+58.06	. 48 5	+.39	746.08
	1	Harn. lgth., clamp B.E. only	20.03	20.03	448+78.09	.485	+.10	746.18
S-169	1	Tied lgth.,harn.S.E., tied B.E. Shopweld B.E. to P.E. of F-170	20.03	20.03	448+98.12	.485	+,10	746.28
F-170	. 1	15°el.,L.S.right tied S.E.,harn.B.E. Shopweld P.E. to B.E. of S-169						7 000 000
		P.I. to P.I. Threst Black	1.39	1.39 1.04	448+99.51 449+00.55	, 485 , 485	1,01	746 29 746,29
	ne granden i independente e di sentence di sentence di sentence di sentence di sentence di sentence di sentence							proceedings and shakes.

JOB NO. 95.66P - Unit III

PROJECT Flint Michigan Division A
72" Flint-Detroit Water Supply

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DATE September 9, 1966
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72" Flint-Detroit Water Supply FREPARED BY J.C. Wilson

No.	QTY.	DESCRIPTION	TOT, LAID LENGTH	HOR LAID LENGTH	STATION	% GRADE	ELEVATION CHANGE	CENTER LINI ELEVATION
	This sc	dedule supplied only as an installation guide. A	djustments	must be	ade to adapt to	field c	onditions.	
		72" SP-12 Class 162 for 10' Cover			449+00.5 <u>5</u>			746.29
S-171	1	Tied short, harn. S.E., tied B.E. Shopweld B.E. to P.E. of F-172	10.74	10.74	449+11.29	-485	÷.05	746.34
F-172	1	15 °el.L.S.right, tied P.E., harn.B.E. Shopweld P.E. to B.E. of S-171						
		P.E. to P.I. P.I. to P.B. Thrust Block	1.39 1.04	1.39 1.04	449+12.68 449+13.72	.485 .485	+.01	746.35 746.35
8-173	1.	Tied short, harn.S.E., tied B.E. w/8" tan. flg. OL. 7' fr.S.E., top left Shopweld B.E. to P.E. of F-174	10.74	10.74	44 9+ 24.46	.485	+.05	746.40
F-174	3	15°el.,L.S.right, tied P.E., harn.B.E. Shopweld P.E. to B.E. of S-173				4		
		P.E. to P.I. P.I. to P.B. Thrust Black	1.39 1.04	1.39 1.04	449+25.85 449+26.89	.485 .485	+.01	746,41 745,41
S-175	1	Tied short, harn.S.E., tied B.E. Shopweld B.E. to P.E. of F-176 Open jt. top @10.74	10.77	10.77	449+37 . 66	.40	, 04	746.37
F-176	1	15°el.,L.S.right,tied P.E.,harn.B.E. Shopweld P.E. to B.E. of S-175						
		P.E. to P.I. P.I. to P.B. Thrust Block;	1.39 1.04	1.39 1.04	449+39.05 449+40.09	.40 .40	01	746.36 745.36

JOS NO. 95.66P - Unit III

PRICE BROTHERS COMPANY LAYING SCHEDULE

PROJECT Flint, Michigan Division A
72" Flint-Detroit Water Supply

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DATE September 9 1966

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PREPARED BY J.C. Wilson

10.74 10.74 1.39 1.04	1.39 1.04 10.74	449+50.83 449+50.83 449+52.22 449+53.26 449+64.00	.40 .40 .40	04 04	746.36 746.32 746.31 746.31
1.39 1.04 10.74	1.39 1.04 10.74	449+50.83 449+52.22 449+53.26 449+64.00	.40 .40	01 04	746.31 746.31 746.31
1.39 1.04 10.74	1.39 1.04 10.74	449+52.22 449+53.26 449+64.00	.40 .40	01 04	746.31 746.31
1.39 1.04 10.74	1.04 10.74 1.39	449+53,26 449+64.00	.40	04	746 31
1.04	1.04 10.74 1.39	449+53,26 449+64.00	.40	04	746 31
10.74	10.74	449+64.00	.40		
1.39	1.39				746.27
1.39	1	449+65.39	μn		
1	1	449+65.39	ևո	8	
1.04	1.04		. 70	01	746.26
. 1		449+66.43	.40		746.26
20.03	20.03	449+86.46	. 40	08	746 . 18
20.03	20.03	450+06.49	.40	~.08	746.10
300.45	300.45	453+66.94	.40	-1.20	744 90
20.04	20.04	453+26.98	.49	10	744.80
E					
	20.04	20.04 20.04	20.04 20.04 453+26.98	20.04 20.04 453+26.98 .49	20.04 20.04 453+26.98 .4910

SON NO. 95.66P - Host III

PRICE BROTHERS COMPANY LAYING SCHEDULE

Plint, Michigan Division A 72" Flint-Detroit Water Supply PROJECT.

PAGE 25 OF 27 PAGES September 9, 1966 DATE_ REVISED.

J.C. Wilson PREPARED BY_

CODE NO.	ory.	DESCRIPTION	of Lad Length	HOR.LAID LENGTH	STATION	; Grade	ELEVATION CHANGE	CENTER LINE ELEVATION
	This so	dedule supplied only as an installation guide.	djustnests	must be	ade to adapt to	field o	onditions.	
		72" 8P-12 Class 151 for 6' Cover			453+26.98			744.80
	,	Lengths	120.18	120.18	454+47.16	.49	60	744.20
F-181	1	7°30' elbow, L.S. lef: Thoust Block	1.64	1.64	454+48.80	.49	01	744 19
F-182	1	7°30' elem L.S. left a	1.64	1.64	454+50.44	.49	01	744.18
	18	Lengths	360.54	360.54	458+10.98	.49	-1.78	742.40
	1	igth., open jt. top @20 03	20.04	20.04	458 +3 1.02	.70	14	742.26
	20	Lgths.	400.60	400.59	462+31.61	.70	-2.80	739.46
5-183	1	Short lgth.	7.03	7.03	462+38.64	.70	05	739.41
F-184	1	7. 30' elbow, L.S. left Thrust Black	1.64	1.64	462+40.28	.70		7 3 9.40
F-185	1	7° 32' elbow,L.S. left, rotate for	1.64	1.64	462÷41.92	. 6 65	+.01	738-41
		horiz. and vert. defl.		eticznaniem manupadiuniamus nuovasuet		· · · · · · · · · · · · · · · · · · ·		
	15	Lengths	30 0.45	30 0.44	465:42.36	.665	+1.99	741 40
	1	Lgth., open jt. top @20.03	20.05	20.05	465+62.41	.178	±.04	741,44
	13	Lengths	260,39	260; 39	468+22.8n	.178	+.46	741 90
								The state of the s

JOB NO.95 66P-UNIL 11

Price Brothers Company LAYING SCHEDULE

PAGE 13

DATE AUGUST 1, 1916

MEV'SED NO SEPONE - WIL

PROJECT Flint, Michigan, Division A, - 72" Flint Detroit Water Supply

80	DE CRIPTION	LENGTH	TOTAL LAID LENGTH	SLOPE CORR.	HOR. LAID LENGTH	STATION	% GRADE	CH NGS
	72" SP-12 Class 151 for 6' Cover				The second secon	286+75, 21	. 45	
6	Lengths	20.03	120.18		320.38	287+95 39	.45	+.54
I.	Lgth., open jt. top 220.03	20.04	20.04		2 0 , 00	288+15, 43	_* 35	+. 03
12	Lengths	20.03	240, 36		240, 35	290+55, 79	3.5	* 36
	Length w/two - 12" M.J.B. OL's. 15' fr. S.E. 180° spart	20.03	20.03		20 . 03	29 0 +75, 82	To the state of th	+ 35
	Lengths	20.03	5 0. 09		6 0 . 09	291+35.31	. . 15	+ :4
	Length, apen jt. bottom @20.03	29.05	20.05		20,05	291+55 96	625	+ 5
15	Lengths	20.03	300.45	.01	3 00 , 44	294+56, 40	625	+1 88
	Ligth, open jt. top 820.03	20.04	20.04		20.04	294+76, 44	481	+ . 30
2\$		20.03	500.75	01	500.74	299+77.18	481	+2 40
	Length, open jt. top @20.03 w/2" I.P. the. OL. 3° fr. S.E.	20. 45	20.05		20.05	259+97 23	, 08	+, 62
1	Lgth., open jt. top @20.03	20 04	20.04		20.04	300+17 . 27	. 30	es ., Q6
33	Longtha	20.03	660 99		660 , 99	306+78, 26	, 30	-1.96
1	Ligth., open jt. top @20.03	20.04	20.04		20.04	306+9830	65	13
26	Langtha	20.03	520.78	. 01	520.77	312+19.07	в 65 : .	-3, 37
		72" SP-12 Class 151 for 6' Cover 6	T2" SP-12 Class 151 for 6' Cover	T2" SF-12 Class 151 for 6' Cover	T2" SP-12 Class 151 for 6' Cover	T2" SP-12 Class 151 for 6' Cover	Tength T	T2" SP-12 Class 151 for 6' Cover 20.03 120.18 120.18 286+75.21 485

C+ NO. 95.66P-Unit II

NOTE VARY JOHN CHOOSES TO CETAIN THE REQUIRED GRADES, ELEVATIONS AND HORIZONTAL DETLECTIONS.

Price Brothers Company LAYING SCHEDULE

PROJECT Plint, Michigan, Division A - 72" Flint Detroit Water Supply

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PAGE 14 OF 19 PAGES

DATE AUSUFE 1, 1966

PREPARED BY JETOME C. Wilson, Ir

AV. UNIT TOTAL LAID SLOPE HOR LAID CENTER LINE CHANGE IN NO DESCRIPTION STATION LENGTH LENGTH CORR. LENGTH GRADE ELEVATION FLEVATION 72" SP-12 Class 151 for 6' Cover 312+19.07 65 54 90 Lgth., open jt. bottum \$20.03 1 20.05 20.05 20.05 312+39, 72 00 54 90 20 05 Leth., open it. better \$20.03 20.05 20.05 312+59 17 455 + 119 754 00 200, 30 20.03 200.30 10 314+59.47 Lengths 455 × 41 \$5,90 20.05 20.05 20.05 314+79.52 Leth., open it. bottom 220.03 1.10 + 22 755 12 20.03 400,60 400.58 318+80.10 20 . 02 Lengtho 1.10 44.42 760 54 72" SP-12 Class 162 for 10' Cover 20.03 160.24 160.23 320+40.33 8 01 1.10 Leveths +1. 75 762.30 20.05 20.05 20.05 1 Loth, open it. top @20.03 320+60.38 50 +: 10 762 441 20.05 20.05 20.05 320+80. 43 1 Leth., open jt. top @20.03 00 762 41 w/8" ton. flg. CL. 13' fr. S.E. top right 20.04 29.04 20. 4 321+09.47 1 Leth. . apan it. top 220.03 236 - 05 762 35 20.03 220, 33 11 220, 33 323+20.80 236 Langtho - 52 761 83 72" SP-12 Class 151 for 6' Cover Longtho 20.03 821.23 821, 23 331+42.03 236 -1.93 359.90 331+02.07 20.04 1 Leth. open it. top 820.03 20.04 20.04 357 - 07 759 84 6 20.03 120, 18 120.18 332+82.25 357 ... 43 759. 40 Lengths 20.04 333+02 29 . 25 ... 05 759.35 20.04 20.04 leth., open jt. bottom 820.03 1

ON NO. 95. 66P-Unit II

Price Breihers Company LAYING SCHEDULE

DATE August 1, 1956

PACE 15 OF 19 PARS

Flint, Michigan, Division A, 72" Flint Detroit Water Supply PROJECT

REVISED NOTE VARY JOINT OPENINGS TO OBTAIN THE REQUIRED GRADES, ELEVATIONS AND HORIZONTAL DEFLECTIONS. PREPARED BY Jerome C. Wilson, Ir. AV. UNIT TOTAL LAID SLOPE HOR LAID CHANGE IN | CENTER LIME NO. DESCRIPTION MOTTATE LENGTH LENGTH CORR. LENGTH GRADE CLEVATION ELEVATIO-72" SP-12 Class 151 for 6' Cover 333+02.29 25 59.35 19 20.03 380.57 Lengths 380 53 336482, 86 25 ... 🕽 💊 758 4 7 5 20.05 1 Leth., open jt. top @20.03 20.05 337+02.91 : **r** 759 24 - , 15 20.04 20.04 Ì Lath., open jt. top @20.03 20.04 337+22.95 14 - 1 34 14 - 14 34 14 - 14 34 1. 10 758 93 8 20.03 160.24 Lengths Oi 160.23 338+83, 18 1.10 2.13 35 84 72" SP-12 Class 152 for 10' Cover 20.03 80.12 IJ Lengths 80 12 339+63.30 : 11 (A) 350, 40 20.05 20.05 Ligth. . open jt. top @20.03 20.05 339+33, 35 1.665 ··· : 33 755.03 20.03 168.24 02 8 160.22 Lengths 341+43.57 1.665 ·2 67 752 40 20.04 1 20.04 Leth. . open jt. top @20.93 20.04 341+63.61 1.76 ... 35 752 05 5 Longths 20,03 100.15 QI 100.14 342+63,75 1 76 76 ***50.29** 20.05 20.05 1 Lath., open jt. bottom @20.03 20.05 342+83.80 . 30 - 20 *50.03 Lgth., open jt. bottom @20.03 20.05 20.05 1 20.05 343+03.85 . 55 1.3 749 90 8-59 1 Leth., open jt. bottom @20.03 20.05 20.05 20.05 343+23.90 00 49.90 w/two 18" M.J.B. OL's. 12' fr. S.E. 180° apert 20.03 80 12 4 Langths 80.12 00 344+04 02 **49.90**

95 66P-Unit II

Price Brethers Company LAYING SCHEDULE PROJECT Flint, Michigan, Division A, 72" Flint Detroit Water Supply

OPENING	S TO OBTAIN THE REQUIRED GRADES, ELEVATIONS AND HORIZO	MIAL DEFLECTIONS							
NO	DESCRIPTION	AV. UNIT LENGTH	TOTAL LAID LENGTH	SLOPE CORR.	HOR LAID LENGTH	TATION	GANE	CHANGE IN BLEVATION	C BUTTE LA
	72" SP-12 Class ISI for 6' Cever					31. U-114. 62			700.00
	72" P.S. × 54" P.S. Reducer	7.13	7.49		7, 43	344-11-15	00		700 00
	54" P.B. end valve (not by P.D. Co.	1.50	1.50		1.50	³ ₽₽+12,6 5	00		• • • • • • • • • • • • • • • • • • • •
	54" P.S a 72" P.B. Reducer	6. 78	6.78		6.78	344+15.43			7 140 100
1	Lgth. open jt bottom @20.03	29.05	20.05		20.05	344+39.48	65		₩ 03
	lgth open jt bottom @20 U3 w/24" flg OL. 7" fr S.E.	20.05	20.05		20.05	344+59, 53	1 29	4.26	150 /1
	w/2%" blind flg.								
15	Lengths	20.03	329.48	02		347+79.99	1 29	+4 71	754 10
	Lgth , open jt bottom @20.03	20.05	20.05		20.05	348+00 04	1 35	30	750
,	Lgth . open jt bottom @20.03	20.05	20.05	01	20.04	348+20.08	2.61	52	766 31
t.	Lengths	20,03	80.12	. 03	80.09	349+00.17	2 61	+2 OF	' S ' Y
,	Lgth, open jt. top \$20.03	20.05	20. 05		20.05	349+20.22	1.90	4.38	751 78
	igth, open jt top 220.03	20.05	20.05		20.05	349+40.27	1.2	* 25	750 52
1	Lgth., open jt. top @20.03	20.05	20.05		20.05	349+60.32			750 16
1	Lgth, open jt top @20.03	20,04	20.04		20.04	349+80. 36	. 39	+. 00	750 20
14	Lengths	20.03	280 42		280.42	352+ 60.78	.39	+1 68	PM 12

LAYING SCHEDULE

'40 1' O 19

DATE AMERICA 1, 1966

MINE

MURALU : It P ME L WIJAUR, JE CHANGE IN CENTER LA 11.2 . 66 8 195 36 神科 梅 70 01 14 . + "O PI 76 + 08 70 1 . O 10 04 153+00 87 07 759 \$20 B 10 01 5.20. 76 158+21 65 3 753 14 1 93 158+41 59 /D 04 NO 04 20 04 . 20 35 64 20 01 90' 35 901.35 367+4304 . 20 1. 70 5. 56 20.04 ·55 **35** 20 DA 7100 367+43 75 . 043 -. 01 120.18 W 09 368+ . 043 755 50 -. 05 20 04 20 04 50 0th 369+03 30 ns . 01 55 49 20 03 320. VS 320 48 372+23 78 03 - 00 'S 4 1113 28.04 28 04 20 04 372+43.82 263 .. 05 755 35 20.03 160 24 160.24 374+04.06 . 263 42 754 93 "I BY L Class 164 for 10' Cover 20.03 200 30 200.30 375+04, 36 53 754 40 263 19.94 01 19.93 376+24 29 753 14 19 94 3 35 Ball barel L 5 top P J Sta 376+04 8 66

308 NO. 95. 66P-unit II

Price Studium Company LAYING SCHEDULE

PAGE 18 OF 19

		PROJECT Flint, Michigan, I	ivision A	72 Filme	Detroit V	Water Supply	A PARA			
HOTE VARY JOIN	NT OPENING	S TO OBTAIN THE REQUIRED GRADES, ELEVATIONS AND HORIZONT	and the second s	(*) 「日本民」の、「Au (*) *** *** *** **			PREPA	AED BY Jeson	C. Vilee	
	NO.	DESCRIPTION	AY. UNIT LENGTH	TOTAL LAID LENGTH	SLOPE CORR.	HOR, AID LENGTH	STATION	SRADE	CHANGE IM	CINTRE Last
		72" SP-12 Class 162 for 10' Cover					376+24, 29	3.3		
	2	Lengths	20.03	40.06	.02	40.04	376+64. 33	13.135	1.34	*
Section 1	1	Half bevel, L. S. hottom, P. I. Sta. 376+64.83 open jt top @19.91	19.93	19.93		19.93	376+84.26	.00		367 W
,		Length	20.03	20.03		20.03	377+04.29			74 40
		Half bavel, L. S. bottom, P. 1. Sta. 377+04. 79 open jt bottom @19.91	19. 93	19, 93	92	19,91	377+24, 20	4.51	+ 90	753. W
v v v v v v v v v v v v v v v v v v v	2	Lengths	20.03	40.06	. O4	40.02	3*7+64. 22	4.5)	+) 80	755 15
		72" SP-12 Class 151 for 6' Cover								
7 y	of publication of the state of	legth.	29.03	28.03	. 02	20.01	J774J4.Z3	9.51	+ 90	756 00
, , , , , , , , , , , , , , , , , , ,	The second of th	Half bevel, L. S. top, P. I. Sta. 377+84.73 open jt. top @19.91	19.93	19.93		19.93	378+94.16	.143		***
	33	Lengths	20. 93	260. 3 9		260.39	380+64.55	43	+.37	756 60
	1	Lgth., open jt. bottom @20.03	20.05	20.05		20.05	380+84.60	. 75	+.35	750 55
	6	Lengths	20.03	120.18		120.18	382+04. 78	.75	+.99	*57 % 5
\$-64	**************************************	Length w/2" I.P. thd. OL. 14' fr. S.E.	20. 03	20.03		20.03	382+24.81	75	* 15	757 60
To The Control of the		Maif bevel, L.S. top.P. I. Sta. 382+25.32 open jt. top @19.91	19.94	19. 94	.02	19.92	382+44. 73	4 00		756 80
			the second secon							

NO. 95.66P-Dait II

Price Brothers Company LAYING SCHIDLILE

PROJECT Flint, Michigan, Division A - 72" Flint Detroit Water Supply

DATE August 1, 1966

PREPARED BY Prome _ Wilson, or

100	DESCRIPTION	AV. UNIT LENGTH	TOTAL LAID LENGTH	SLOPE CORR	LENGTH	SIATION	OKADE	CHANGE IN DEVATION	CENTER L
	Design Laying on Potter Nd. 200' West of Oak Nd. at and of Dait I and Lay West P.S.	. P.B.							
	72" SP-12 Class 151 for 6" Cores					104+98.03			203 (O
	Lgth, open jt. top 820.03	20.04	20 04		20 04	105+18 0	6	03	
199	Lange the second second second second second second second second second second second second second second se	20.03	981, 47		981 47	714+99.54			6 */\$1.1
	Leth., open jt. top 82".03	20.06	20.06		20, 06	115+19.60	93	1 × 15	. 3 440.2
30	Lengths	20.03	280.42		280.42	118+00_02	93	1.02161	79 9 E
	leth., open jt: top @20.03	20.06	20.06		20. 06	118+20.08			78.
.	lgth., open jt. top 920.03	20. 06	20.06	. 03	20.05	118+40.13	2 5	**************************************	: (47
1	Lett., open jt top 828.83	20.05	20.05	.01	20.04	118+60.17	3.23	- 55	
	Longtho	20.03	W0.06	. 02	40.04	119+00.21	3 23	29	96
	Half borel, L. S. bottom, P. I. Sta. 119+08.72 open jt. top 689.91	19.90	19. 🗚		19.94	119+20, 15	13	to the second of	/ 3 \$
	leth., open jt top 820.03	20.04	20.04		20.04	119+40 19	40	08	95.
		20.03	320.48		320.48	122+60,67	40	-1,29	794
	Lath, open jt. bottom (20.03	20.05	20.05		20, 05	122+80.72	. 25	+, 05	90
						The state of the s			

Price Brothers Company LAYING SCHEDULE

DATE A SQUEET IN 1956

ROJECT Flint Michigan Division A Flint Detroit Water Supply WYSED. WARY JOINT OPENINGS TO OBTAIN THE REQUIRED GRADES, ELEVATIONS AND HORIZONTAL DEFLECTIONS PREPARE સ્ટ**્રાઇ**મિક્ ENGIL CORR SNGTH PARADO 5 350004 a particular de la companya del la companya del la companya de la 72" SP-12 Class 151 for 6' Lover 22+80 2 latti open it bottom @29.03 20 05 215 115 20, 39 25+01 Lengtha 20 03 150 24 111 160.23 124461 110 4.3 1.32 Lgth, open jt top \$20 0; 21) 0 20 05 21: 05 121481 115 -**Lengths** 20.03 280. 42 280, 42 127+61.47 196 ASS 20.05 Length 20 US 20 05 12 +81 12 48 72 w/8" tan. fig NO OL 2'fr. Sirop right open it top eku 03 Lith open it top \$20.03 20.05 20 05 26 05 28+07.5 20 igth open it for 920 03 20.04 20.04 20,04 128+21 61 1. 25 Lengths 20.03 100.15 0) 100 14 129+21 75 744 35 Lgth. open jt top 20.03 21. 05 20 05 20.05 129+41.80 · 38 () 3, ₹29-64.84 20 05 Lath open it top @20.03 20.05 UL 20.04 2 60 · 53 SQUE LAN 30 0 Leth open it top \$20.03 20 US 20.0 ÛÌ 129+81.88 3.26 ~ 6° 4 tel. 260 39 1.3 Lengthe 20 03 260 25 132+42.13 . 14 3 26 6.48 85 35 Atl pipe between Station 132+42 13 and Station 134+22.25 is to be paint seal, ecated on outside with two costs WOTE . of Devies Shop Coat Black #119

JOB NO. 95.66P-Ibit II

Piles Breders Company LAYE'S SCHOOLS

				100		** **		
		- 3		-		14		and the second
PAC				r		- A		PAGES
	-	Marie Parkers - Pro-P	AND DESCRIPTION OF THE PERSON NAMED IN		Name and Address of the Owner, where	fallens wellings surveyable.	Market and he appeared	

August 1, 1966 DATE

REVISED

PROJECT Plint, Michigan, Division A - 72" Flint Detroit Mater Supply

PREPARED BY Jerome C. Wilson, Jr. NOTE VARY JOBIT OPENINGS TO OBTAIN THE REQUIRED GRADES, REVATIONS AND HORIZONTAL DEFLECTIONS. CENTER LINE CHANGE IN AV. UNIT TOTAL LAID SLOPE HOR LAID STATION DESCRIPTION NO. **FLEVATION** LENGTH LENGTH CORR LENGTH GRADE FLEVATION 132+42 13 185 16 72" SP-12 Class 151 for 6' Cover 20.03 100.15 . 05 100 10 133+42 23 3 26 3.26 281 90 5 Lengths 19.93 19 93 133+62 16 OU 781 90 19.93 8-28 1 Half beval, L. S. bottom, P. I. Sta. 133+42.73 w/18" tan. M.J.B. B.O. OL. 8' fr. S.E. bottom right, open jt. top @19.91 00 81 93 20.03 20.03 20.03 133+82.19 1 Length 72" SP-12 Class 162 for 10' Cover 40.06 20.03 40.06 134+22.25 00 81 90 2 Lengths be costed. Fnd of section to 20.03 40.06 40.06 134+62:31 00 781 90 2 Lengths 781 90 00 10.03 10.03 134+72.34 10.03 S-29 1 Short Length 20.03 20.03 20.03 134+92, 37 00 81 90 8-30 Length w/two - 24" P.B. Ol.'s. 11" fr. S.E. 180° apert 20.03 20.03 20.03 135+12.40 00 381 90 1 Length Length, open jt. bottom @20.03 20.04 135+32.44 38 + 08 20 04 20.04 81 98 1 20.03 135+52, 47 782.06 20.03 . 38 +.08 20.03 1 Length 7.13 7.13 135+59.60 . 38 +.03 382.09 7.13 72" P.S. x 54" P.S. Reducer F-31 1 782.10 1.50 1.50 1.50 135+61.10 . 38 +.01 1 54" P.B. End valve (not by P.B. Co.)

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Price Brethers Company LAYING SCHEDULE

PROJECT Flint, Michigan, Division A - 72" Flint Detroit Water Supply

August 1 6 6

REVISED.L. PREPARED RV. SEPTIME C. WITHOUT

YARY JOHNT OPENIN	GS TO OBTAIN THE RECUIRED GRADES, ELEVATIONS AND HORIZONT	AL DEFLECTION		en de la companya de la companya de la companya de la companya de la companya de la companya de la companya de	ا موجود و در استان از این این این این این این این این این این	AREPA Delete best delete at the delete to the	RED BY	manda magasa mga kangu pi kanganasan Alban sa sa sa sa sa sa sa sa sa sa sa sa sa	The second secon
	DESCRIPTION	AV UNIT LENGTH	LIDIAL IATE			STATSON	GRAOF	EFVATON	CHAILS HINAID
	72" SP-12 (lass 162 for 10' Cover						6		
	Sur P.S. x 2" P.B. Reducer	6.78						* 63	The state of the s
	length .	20 03	20 11				36	*, 28	The protocology
	Length w/24" neck fig OL 12' fr. S.E w/24" blind fig	20.03	2 0 43	The state of the s		* 15+D7 94	A remarks the semiconnection		Section of the sectio
**************************************	Lengths	20, 03	120_18		120.18	137+28.12	38	+ 46	8%
***************************************	72" SP-12 Class 151 for 6" Cover							10 to 10 to	· · · · · · · · · · · · · · · · · · ·
2	Lengths	20.03	40 .06		40.06	137+66-18	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1		The second secon
300E :	All pipe between Station 137+68.18 and Sta Shop Coat Black #119	tion 140+0	8.54 is to	be paint	seal coated	with two coats	of Davies		· Pr. Granding
12	Lengths	20.03	240 36		240 36	140+08,54	. 38	+ 92	The second secon
		20, 03	40.06		40 , 06	140+48 60	38	+.15	783
	Lgth, open jt bottom @20 03	20.05	20.05		20.05	140+68.65	1.08	+ 22	/ ×84
	Leth, open jt bottom @20.03	20. 05	20.05		20.05	140+88.70	178	+.36	84
	ligth. open jt bottom @20.03	20.04	20.04		20.04	.41+08.74	2.02	+, 40	784
10	Lagthe	20.03	200, 30	.04	200, 26	143+09 00	2.02	+4,05	789
	2" SP-12 Class 162 for 10' Cover								
	Leth open it top @20 03	20 05	20.05	The state of the s	\$ 		132	35 +	189

JOB NO. 95.66P-Unit 11

Price Brethers Company LAYING SCHEDULE

Flint, Michigan, Division A - 72" Flint Detroit Water Supply

August 1, 1966

REVISED_

NO!E VARY X	OINT OPENIN	GS TO OBTAIN THE REQUIRED GRADES, ELEVATIONS AND HORIZONT	IAL DEFLECTION				PREP	ARED BY: Jerose	C Wi∧son	Jr.
	NO.	DEGRIPTION	AV, UNIT LENGTH	TOTAL LAID LENGTH	SLOPE CORR.	HGR. LAID LENGTH	STATION	% GRADE	CHANGE IN ELEVATION	CENTER LINE ELEVATION
		72" SP-12 Class 162 for 10' Cover					145+29.05	F. 35		/8926
		Lgth., open jt. top @20.03	20.05	20,05	The state of the s	20,05	163+49 10	80	+.15	∴89.¥2
		Lgth., open jt. top @20.03	20.05	20.05	Age of the second secon	20.05	143+69, 15	36	+ 07	89.49
	7	Lengths	20,03	140.21		140 2	145+09.36	36	+.51	790,90
S-34	1	Longth W/8 tan. flg. B.O. OL. 2' fm. S.E. top right, open it. top 620.03	20.05	20.05		20,05	à45+29.41	30	96	89.94
		Lgth., open jt. top @20.03	20.05	20.05		20.05	145+49.46	80	~ , 16	789.78
		lgth., open jt. top \$20.03	20.04	20.04		20. 04	145+69,50	Lu	- 22	789.56
		72" SP-12 Class 151 for 6' Cover							To the Control of the	
	7		20.03	149.21	.01	140, 20	147+09.76	1.11	-1.56	/88.00
		Light, open jt. bottom @20.03	20.05	20. 05		20.05	147+29.75	. 50	- 10	7 90
		leth., open jt. bottom 820.03	20.04	20.04		20.04	147+49.79	. 146	03	8 3, 87
	64		20.03	1281. 92		1281.92	160+31.71	. 146	-1, 87	786.00
		Lgth., open jt. top @20.03	20.05	20.05		20.05	160+51.76	, 65	+ 13	785.87
		lgth., open jt. top 620.03	20.04	20.04		20.04	160+71.80	1.02	20	785.67
	23		20.03	460 . 69	. 02	460.67	165+32.47	1.02	-4. 67	781.00
		Balf bewel, L. S. bettem, P. I. Sta. 165+31.97	19.93	19. 93		19.93	165+52.40	2. 25	+. 45	781.45
		■ THE TOTAL STATE OF THE ST	1		1	.1.	. 1	1		,

OF NO. 95 66P-Unit II

Price Brothers Company LAYING SCHEDULE

PAGE 6 OF 19

DATE August 1, 1966

PROJECT Flint, Michigan, Division A - 72" Flint Detroit Water Supply

REVISED_ NOTE: VARY JOINT OPENINGS TO OBTAIN THE REQUIRED GRADES, ELEVATIONS AND HORIZONTAL DEFLECTIONS. PREPARED BY Jerome C. Wilson, Jr. TOTAL LAID SLOPE HOR LAID CHANGE IN CENTER Line DESCRIPTION STATIO' LENGTH LENGTH CORR LENGTH GRADE ELEVATION ELEVATION. and the second second 72" SP-12 Class 151 for 6' Cover 165+52.40 81 4 20.05 20.05 20.05 Lgth, open jt. top @20.03 165+72.45 1. 76 + 35 81 86 5 Lengths 20.03 100.15 . 92 100.13 166+72.58 1 76 +1.76 783 56 20.04 20.04 1 Lath. open it. top @20.03 20.04 166+92.62 1. 40 + 28 83.84) Lgth., open jt. top @20 03 20.05 20.05 20.05 167+12.67 78 + 16 84 DC 20.05 20.05 20 05 Lgth, open jt. top @20.03 167+32.72 08 + 02 84 02 11 20.03 220.33 220.33 Lengths 169+53.05 08 + 18 784 20 72" SP-12 Class 162 for 10' Cover 3 20.03 60.09 60.09 170+13.14 08 Lengths + 05 784 25 72" SP-12 Class 151 for 6" Cover 9 Lengths 20.03 180.27 180 27 171+93, 41 . 08 + 15 *84 40 Lgth., open jt. bottom @20.03 20.04 20.04 20.04 172+13.45 . 00 784.40 25 Leagths 20.03 500.75 500.75 177+14, 20 . 00 84 40 20. 0° 1 Lgth., open jt bottom @20.03 20.05 20.05 177+34.25 . 50 +. 10 784.50 1 Lath. open it bottom @20.03 20.04 20.04 20.04 177+54.29 . 792 + 16 784 66 17 20.03 340.51 340.51 Length 180+94,80 792 +2 69 787:35

95 66P-Unit II

50 NO 95.66P-Unit II

P. No Brothers Company LAYING SCHEDULE

Michigan Division A. 72" Flint Detroit Water Supply

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Sec Vary K	DPAT OPENING	PROJECT FLINT, Michigan, D. S. TO OBTAIN THE REQUIRED GRADES, ELEVATIONS AND HORIZONTA	ad the state of the S	Service of the servic		water supply	CARROLL OF MANAGEMENT OF THE PARTY.	ED BY LECON	L Mileo	22
the second of th	A STATE OF S	CESCRIFICAN	AV UNIT	Y TAL IAID	SLOPE CORR	i dor de i	A COM	GATE	CHANCE.	
	1	2" SP-12 Class 151 for 6" Cover						1 10 10 10 10 10 10 10 		744,90
; {,}}	1	72" P.S. x Su" P.S. Reducer	7, 13	7.13			344-11 15	PG		M9 95
		Sur P. B. and valve (not by P. D. Co.)	1.50	1.56		3.50	744+12 65	30		44 10
1 - A.L.	**************************************	54" P.S. A 72" P.B. Reducer	6.	6.78		6.78	344-19 42	00	**************************************	ind au
		Leth. open jt. betten 820.03	29, 05	20 05		20,05	344+ 39. 48	65	* ************************************	
* * * * * * * * * * * * * * * * * * *	'n	(gth. open 1+ hottom 020 03	20 05	20 05		20.05	344+59, 53	. 29	+ 26	7-0 24
	5	w/24" fig. OL. 7" fr. S.E. w/24" blind fig.	And the second s	0.				- Orange (1985)		
	16	Ler.gths	20.03	320 48	02	320 45	3117+79 99	1 29	+4,11	754 40
		Light open it bottom @20.03	20. 05	20.05		20.05	348+00.04	7 . 35	+ 39	25n 9
	3	Leth open it bottom @20.03	20.05	20.05	91	20.04	348+20 08	2.61	+.52	755, 31
	f	Lengths	20,03	30, 12	. 03	80.09	349+00.17	2 61	+5 09	75 AN
	1	tigth open it top 220.03	20.05	20.05		20.05	349+20,22	1.90	+.38	752.78
	1.	Leth, open jt top \$20.03	20 05	20, 05		20, 05	349+40. 27	1.20	+, 24	758 02
	1	Lgth., open jt. top @20.03	20.05	20,05		20.05	549+60,32	.70	e.14	758 16
	1	Lgth, open jt, top \$20.03	20.04	20.04		20.04	349+80. 36	. 39	+. 08	758 24
	14	Lengths	20.03	280.42		280, 42	352+60.78	.39	+1 08	759,32
	Office de d					Transfer Control Contr				
	hand plantings		±e. Gualige o	P. Carlotte Committee Comm		ALL LANGE OF THE PARTY OF THE P				and the state of t

Price Brothers Company LAYING SCHEDULE FAGE 18 OF 19 PAGES

DATE August 1, 1966

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PROJECT Flint, Michigan, Division A, 72" Flint Detroit Water Supply

DATE ANY THE 1, 1966

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	그런 했다면 한 회사라면서	The second of the second	7.5	* ***	1.975.55.51.51.51.51
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	A LANGE A LANGE OF	The second applican	to ellipsing and the	force college or many	-
	The second second		Service of the service of	CHE & WEST MITTER	The state of the s
٠.	Total Control of the		S. Schoolson and Section 19	And the second	
٠.		man vi redid	in the Art 📳 the	. The E. Garage	
		. 91	and the same of the same of	A A LOTE	TALL TELEPS

		AV CHIT						**************************************	770 300
	Particular Control of the Control of		TOTAL CO	SLOPE	HOC NO			C-IANG IN	CENTER
	P. 81 L. Class the for 6 Cover					3560.78			759 32
	Longth w/2" LP tha OI IS for S.F.	20.03	70 03		20 03	352490 BJ	7.9	98	************
	Let apon it top \$20.83	20 D6	20 06		20 26	353+00 87		o _x	759 ?3
	Lengths	20.03	52 0 *8		527. 78	158+21 65	37		753 44
	teth open Jibottum (20.03	20.04	20.04		29 04	- 358+41 - 59	.2	04	5
45	Lengths	20 03	901.35		901.35	367+4304	.20	L. 10	·54/ 5 6
	Lgth open it botrom \$20.03	20.04	20 Au		20.04	367+43.05	. 943	01	·55 35
6	Lengths	°0.03	120.18		120.18	368+83 2 6	.007	05	75 5, 50
	Leth open it top 2003	20.04	20 04		50 0c	369+03-30		O1	55 4 0
16.40	Lengths	20 03	320.48		320 ms	372+23 78	03	no.	'sc en
	Leth open jt top @20.03	26.0%	20 04		50 Ort	372+43 82	263	.05	755 35
	Lengths	20.03	160. 24		160,24	374+04.06	. 263	- #2	754, 93
	72" SP-12 Class 162 for 10' Cover								
10	Lengths	20.03	200.30		200.30	376+04.36	. 263	- 53	754 40
	Nalf bevel, L. S. top.P. I Sta 376+04.87 open jt bottom 219.91	19.94	19, 94	01	19.93	376+24.29	3 35	~ , 66	753, 74

Price Brothers Company

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OR NO. 95. 66P-Unit II

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		PROJECT_Flint, Michigan, I	Carlot St. St. St. St. Co., Market	1. 1 1 1 1 1 1 1 1 1 1	<u>letroit</u>	Hester Supply		Appendit L.		
WIT VARY JOH		S TO OBTAIN THE REQUIRED GRADES, ELEVATIONS AND HORIZONT	AL DEFLECTION	L TOTAL LAID	S' OPE	POR LAB			CHANGE IN	CENTER LIME
A COLUMN TO THE STATE OF THE ST	NO.	DESCRIPTION	LENGTH	LENGTH	CORR.	LUMONA	STATION	OSÁDE .	BLEVATION	TUVATION
		72" SP-12 Class 162 for 10' Cover					375+24.29	3.35		753 78
	2	Lengths	20, 03	40.9 5	.02	40 04	J 76 +64. 33	3.35	.i. 30	752.80
		Half bevel, L. S. bottom, P. I. Sta. 376+64.83 open jt top @19.91	19.93	19.93		19. 93	376+84, 26	000		752 90
		Length	20.03	20.03		20.03	377+04, 29	.00		752.40
		Half hevel, L. S. bottom, P. I. Sta. 377+04.79 per jt. bottom @19.91	19.93	19.93	. 82	19. 91	377+24, 20	4.51	+ 90	753 3u
-	2	Lengths	20.03	40.0 6	04	w. 02	377+64. 22	4.51	+1 80	755 10
-		72" SP-12 Class 151 for 6' Cover								
-	1	Lgth.	20.03	20. 05	. 02	20.01	3774U4.£3	4.51	+ 90	756 00
	1	Half bevel, L.S. top, P. I. Sta. 377+84.73 open jt. top @19.91	19.93	19.93		19.93	378+04.15	.103		756.63
	33	Lengths	20.03 (250. 39		250. 39	380+64, 55	.0	. . 37	756.40
	1	Lgth., open jt. bottom @20.03	20,05	29.05		20.6	380+04.00			754.55
	6	Lengths	20.03	120.18		120.18	382+04, 78	175	4.99	757.45
\$-64		Length w/2" I.P thd. OL. 14' fr. S.E.	20.03	29.03		20.03	382+2%.83			737.00
	1	Malf bevel, L. S. top.P. I. Sta. 382+25.32 open jt. top @19 91	19.93	19.99		19.92	382409.73	4.00	80	756.80

LATING SCHEDULE

NO. 95.668-Unit II

Priso Brofters Company LAYING SCHEDULE

PROJECT Flint, Michigan, Division A, 72" Plint Detroit Water Supply

JOB NO

NOIL VI

DATE August 1, 1966

VARY JO	INT OPENING	GS TO OBTAIN THE REQUIRED GRADES, ELEVATIONS AND HORIZON	TAL DEPLECTION				PREPA	RED BY Jerom	E.C. Wilson	ı, Jr
	NO	DESCRIPTION	AY, UNIT LENGTH	TOTAL LAID LENGTH	SLOPE CORR.	HOR LAID LENGTH	STATION	7. GRADE	CHANGE IN	CENTER LINE
		72" SP-12 Class 162 for 10' Cover					382+44,73			746 80
		Leth open it top 920 03	20.05	20 DS	. 02	20.03	382+64 76	4.76	95	/45 85
		Lengths	20.03	60, 09	07	60,02	383+24.78	4. 5	2.85	353 30
		Half bevel, L.S. bottom, P. I. Sta. 383+25. 29 open jt. bottom @19.91	19.94	19.94		19.90	383+44. 2	00		\$3 00
4.80		Short length	8.03	8.03		8.03	383+52.75	00		· \$3.00
		Full bevel, L.S. bottom, P. I. Sta. 383+53.25 cpen jt top @19.78	19.80	19.80	05		383+72,50	3.3	+) 46	54 46
		Length	20.03	20.03	.05	19.98	383+92.48			755.93
		72" SP-12 Class 151 for 5' Cover								
S 66		Length w/2" I.P. thd OL @ B E	20, 93	20.03	.05	19.98	384+12.46		41.47	75 40
		Full bevel, L.S. top, P. T. Sta. 384+12.95 open jt. top @19.78	19.79	19.79		19.79	384+32: 25	83	16	757.24
	11	Lengths	20. 03	220. 33	01	220. 32	386+52.57	. 83	-1.84	755 40
		Lgth., open jt. top @20.03	20.04	20.04		20.04	o **72.61	1.00	20	755 20
	4	Lengths	20.03	80.12		80.12	387+52.73	1.00	.80	754,40
		PO OF UNIT 11								
	The state of the s									

i. 66P - Unit A'

LANG SCHOOL ? PROJECT Fling, Michigan Div, A 72" Water Supply Line

September 13, 1966

CATHIC SCHEDULE

An extrapolation of the same

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PROJECT Flint, Michigan, Division A, - 72" Flint Detroit Water Supply THAT OPENINGS TO OBTAIN THE REQUIRED GRADES, ELEVATIONS AND HORIZONTAL DEFLECTIONS. PREPARED BY PAYOR AV. UNIT TOTAL LAID SLOPE HOR. LAID CHANGE IN I CENTER LINE STATION LENGTH LENGTH CORR. LENGTH GRADE L'EVATIO!! Misc. Materials Shipping List Revisions: 25# pails Price Lube 33 (1) 7-21-66 Pages 3, 5, 6, 7, 8, 9, 10, 500 72" laying gaskets 11, 12, and 13. 492 72" diapers 8 72" wide diapers APPROVED 8 60" laying gaskets APPROVED AS NOTED 7 60" wide diapers DISAPPROVED 54" laying gaskets Greenfield Construction Co. 6 APPROVED 6 54" diapers 8 72" harn clamp ring assemblies 7/25/66 CONSOER, TOWNSEND AND ASSOCIATES 60" harn. clamp ring assemblies 7 CONSULTING ENGINEERS 1 72" nite plug or a. b. Wilson DATE TOURS 2 Joint stops 2 External feeler gauges

OF NO. 95.66P-Unit A

Price Brothers Company LAYING SCHEDULE

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DATE August 26 1966 PROJECT_Flint_Michigan_Div. A. 72" Water Supply line PEVISED___ NOTE VARY JOINT OPENINGS TO OBTAIN THE REQUIRED GRADES, ELEVATIONS AND HORIZONTAL DEFLECTIONS. PREPARED BY CHANGE IN CENTER LINE AV. UNIT TOTAL LAID SLOPE HOR. LAID NO. DESCRIPTION LENGTH CORK. LENGTH ELEVATION ELEVATION LENGTH GRADE Proceed to Station 134+83 near intersection of Potter and Slate Roads and begin laying North from branch of 72"x24" Double OL 0+00.00N 24" SP-12 CLASS 150 781.90 4.00 0+04.00N P. I. -P. B. of OL. 4.00 S-30 781.90 1.44 0+05. 44N 1.44 P.S. ; flg. adapter F-67 1 781.90 . 67 0+06, 11N Fig. End Valve (not by P.B. Co.) . 67 781, 90 1.21 0+07.32N Flg. x P.B. adapter 1.21 F-68 781.90 16.03 0+23, 35N 16.03 1 Length Ribbed type B.H. plug F-59 Proceed to South OL. from trunk Line and Lay South with the following 0+00.008 781.90 64.12 0+64. IZS 16.03 64.12 ı Lengths 781,90 0+65.56 1.44 1.44 P.S. x flg. adapter F .70 781,90 0+66, 23 . 67 flg. end valve (net by P.B. Co.) . 67 1 731.90 0+67.44 1.21 1.21 F-71 Flg. x P.B. adapter 781.90 0+83.47 16,03 1 Length 16.03 F-72 Ribbed type B.H. plug

OB NO. 9 5.66P-Unit

Price Browns Company LAYING SCHEDULE

PROJECT Flint, Michigan, Division A - 72" Flint Detroit Water Supply

DATE 100% 22 1966

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	NO.	DESCRIFTION	LENGTH	FENGTH	CORR	LENGTH	STATE A.	ORÂDE	ELEVATION .	EFEAVIOR
		Begin laying at intersection of Davison- & Buxtur Roads by making connection with							The second secon	and registration registration and an administration registration of the second section of the second section of the second section and the second section of the section of the section
		City of Detroit pipeline and laying West P.S. to r.B.							The first transfer to the first transfer to the first transfer to the first transfer to the first transfer to the first transfer to the first transfer to the first transfer to the first transfer to the first transfer to the first transfer to the first transfer to the first transfer to the first transfer to the first transfer transfer to the first transfer trans	
		72" SP-12 Class 162 for 10' Cover	ь				3+03.00		Page 17 America Care Strategy	853.60
	1	Leagth	20.03	20, 93	9	20.03	3+22,03	.00	e. ingleb. It would	8 5 3, 3, 4
1 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1		Half bevel, L. S. bottom, P. I. Sts. 3+21.52 open jt. bottom @19.91	19.94	19.94	. 02	29.92	3+4095	4.75	+, 95	854, 55
		igth , open jt. bottom 820.03	20.05	20.05	. 03	20.02	3+60.97	5.40	+1,08	855, 63
	3	Leth., open jt. bottom @20.03	26.05	20.05	.04	20. 01.	3+80. 28	6. 10	+1.22	856 . 85
		Lgth., open jt. bottom \$20.03	20.05	20.05	. 05	20.00	4+00, 98	6, 80	+% 36	858. 21
	3.4	lgth., open jt. bottom @20.03	20.05	20.05	. 05	20.00	44-20 . 98	7.45	+1,49	859, 70
8-1		Full beval, L. S. top ,P. I. Sta. 4+21.47 u/8" tan. flg. OL. 10' fr. S. E.Lop right mids, open jt. top \$19.78	19.79	19.79		19, 79	4+40.77	. 00		85 9. 70
		Harn. half bevel, L.S. top, P. I. Sta. 4+41. 26 open jt. top 219. 91, class B. B. only	19. 92	19. 92	.03	19, 90	4+60.67	4. 02	. 80	858.30
	3	Harn. Astric.	20.03	W 76	. 03	40. 03	5+00.70	4, 02	1.60	857.30
P-2		Mass. short half bevel,L.S.bottom w/36" 45" upe 5' fr. S.E., w/l "OL. 8 S.E., open jt. bottom 013.03'	13.04	13.04		13.04	5+13.74	. 00		857.30
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OB NO. 95. 66P-Unit 1

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DATE June 22 1950

PROJECT Plint, Michigan, Division A 72" Filmt Detroit Water Supply HOTE VARY JOINT OPENINGS TO OBTAIN THE REQUIRED GRADES, ELEVATIONS AND HORIZONTAL DIFLECTIONS I CHANGE IN I CENTER LINE TOTAL LAID SLOPE - HOR. LAID AV. UNIT NO. DESCRIPTION LENGTH LENGTH CORK. LENGIH ELEVATION I 72" SP-12 Class 62 for 10 tover 4 E **O** 34 7.29 7. 13 7.13 20. 8 72" harn. P.S. x 54" P.S. reducer 87 . 30 1 P-3 1. 50 1.50 8 - 411 1.50 9+22 37 111 54" P.B. end valve (not by P.B. Co.) 1 6.80 5.80 6.80 5+29,77 M 857 30 54" P.S. x 60" harn, P.B. reducer P-4 - **1** . 60" SP-12 Class 166 for 10' Cover 20.03 40.06 40.06 5+69, 25 UU 857. NO fara. Lengthe 2 5+75. 61 6.38 5.38 5. 38 (11) 857 30 Harn, short length S-5 1 5.50 5.50 5.50 5+8 ... LI 00 857 36 Harn. P.S. x ilg. adapter F-6 DIMENSION INCORREGY-(12.08) (12.08) 12.08 Plow Tube and Valve Assam. (not by P.B.Co.) 5+93.19 00 85/.30 6.25 6.25 5+99, 44 00 d57 30 6.25 P.R. x harm. P.B. adapter F-7 1 20.03 29.03 20.03 6+19.47 . 10 857.30 Harn. length 11.03 11.03 11.03 6+30.50 .00 857.30 1 7.13 6+37.53 . 00 857.30 7.13 7.13 60" harm. P.S. x 54" P.S. reducer F-9 1 3.50 1.50 1.50 6+39. 3 00 857.30 54" P.B. end valve (net by P.B. Co.) 1 72" SP-12 Class 162 for 10' Cover 6+45.91 .00 857 30 6. 78 5.78 6.78 1 F-10 11.85 6+57.76 . 00 857:30 11.85 11.85 1 P-11 P. B. 45" we, w/1" OL. @ B. E. . . 0 857.20 20.05 20.05 6477.81 -. 10 20.05 i**l**

LAYING SCHEDULE

OB NO. 95.662-Unit

SCHEDULE

PARSE IN CITE OF THE PARSE OF THE PARSE.

40 V . 11 MM FOTEL VARY JOINT OPENINGS TO OBTAIN THE RECYTIRED GRADES FLEWATIONS AND HORIZONTAL DEPLECTIONS CHANGE IN | CHITCH LINE SLOPE AV. THUT TOTAL LAID R. LAID CONTRACTOR DESCRIPTION DE L'ANDRESSE DE L'AN STATION EMSTH 1.201011 CORR. 3111 And a second control of the second control o the section of the se 8- 24 or a 72" Sred thes 162 has she cover 1577 3 to F-97 56 . W 20 11-26, 65 Garn, Longth, olses S. W. andy open ji 20.15 CANT BE ACCORDING TO PRICE \$1.5. \$P CATALOG WSE 5' 1.6 74% 30 20.13 20,03 20.03 Yev with S-32 10/24" fig. OL. (3) fe. S.E. 1 S- CA William Bridge Cake 72" SP-12 Class 151 for 6° Cover 844 80 1 60 7.00 8+18.04 100 1 100, 15 20.03 4 Lengths 89 998 4. 15 ... 32 8+37.96 19.94 19.94 .02 19, 92 Haif bevel L.S. top P. 1. Sta. 8+18.55 1 open jt. boitom 219.91 850.00 .4.93 4.15 3458.04 20.03 120, 18 *0 120.08 Ć. Lengths 84.0 6 9477 83 4 01 + 60 19, 80 07 19 79 39, 80 Pull beyel, L.S. bottom.P. J. Sta. 9+58, 54 open it, top @19.78 8-1 9 4,3% ight, open it top @20.03 9497 98 2.33 20.05 20 05 0.05 851.38 XU+17. 94 1.565 + 31 20.06 20.06 Lether open 1 top @20.03 20.06 * 854.20 +2.82 180.25 11+98.19 1.565 180.27 **.** 02 20.03 9 Lengths 954 40 +,20 12+18.24 1.00 20.05 20.05 20.05 Ligth, open jt. top @20,03 3 854.50 20.05 12+38, 29 50 +. 10 20.05 Lgth., open jt. top @20.93 20.05 1 854, 50 2458.34 . 00 20.05 20.05 20.05 S-13 1 Length w/2" I.P. tha. OL. 2' fr. S.E. (1) open it. top @20.03

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Price Brothers Company LAYING SCHEDULE

LATE_____une 22. 1965 TONICOT CONTRACTOR OF THE STATE OF THE STATE AND THE STATE OF THE STAT POPPARED BY WELLINE ... ISLAMUIS. WIN VARIE WAS OPENINGS TO OBTAIN THE REQUIRED CRADES, SERVICESS AND HORIZONTAL DISTINCTIONS TOTAL LAID AV. UNIT SLOP : HOR LAID CHANGE IN CENTER LINE NO. LLIGIH LENGTH CLOVIA DE GRACE ELEVATION of Japan Character to the control 24 18 3Q (1) REU SE * Tetti . amen 11 . top 620 03 20.0 M C" 7 41 20 (5 1:11 854 48 Light open it ton 920.03 26 65 20 0. 20.05 12+98 44 . 28 13+18.50 2. 20 843.64 I Lgth, open it top \$20.03 24 06 20.06 20.06 guy (u) 2.29 426.63 426.55 17.39.03 0 24 Lengths 20.03 10 2) RUU IC 17+59.08 7 50 igth., open jt. bettom @20.03 20.05 26, 05 20.05 60.09 50.08 18+19, 16 843.20 20.03 .01 1. 50 Lengths 72" SP-12 Class 162 for 10' Cover 120 1 :0 8'11.40 20 03 120 18 (1) 9+39.33 8n 6 Lengths Igth, open jt. ten 820 03 2 15 20 05 20.0 -20.05 19459.38 43 840.9 į. 20.05 01 20.04 19+79.42 2 80 840, 41) Lgth, open jt. top @20.03 20 05 - . 56 20.05 9+99.46 3 30 839 75 1 Lath., open jt top @20,03 20,05 .01 20.04 - 66 20 05 20.04 20+19.5u 3 75 20.05 01 839 00 igth , open it top @20.03 75 1 160.24 160.13 21+79.63 20.63 .II 3.75 -6.00 333 CC 8 Lengths 72" SP-12 Class 151 for 6' Cover 1 Half bevel, L. S. bottom, P. I. Sta. 21+80, 13 19.93 19.93 19.93 21+99.56 . 50 ~. 10 832.90 open it. top @19.91 ì igth., open jt. top @20.03 20.05 20.05 20.05 22+19.61 1.00 . 20 832.70

Price Broinces Company LAYING SCHEDULE

PROJECT Flint, Michigan, Division A - 72" Flint Detroit Water Supply

DATE 11879 22 1966 REVISED (1) 7-21-66

	NO.	DESCRIPTION	AV. UNIT LENGTH	TOTAL LAID LENGTY	SLOPE CORR	HOR TAID LENGTH	SYATION	GRADE	CHANGE IN	CENIFA LINE
प्रशासिक र जिल्हा स्थापिक स्थापिक स्थापिक स्थापिक स्थापिक स्थापिक स्थापिक स्थापिक स्थापिक स्थापिक स्थापिक स्था		'2" SP 12 Close 151 for 6 Cover					22-19-61			9.02 0
	6	Lengths	20.63	120.18	.01	120 17	Z5+39,78	1.00	GS 1-	83. a.C.C
	į į	Lgth., open jt bottom @20.03	20.05	20.05		20.05	23+59.83	.50	1	831.40
	4	Lengths	20.03	80.12		80° TX	2 ₩39.9 \$.50		831.00
		72" SP-12 Clase 162 for 19" Covers	20.03	60.09		60.09	25+00.04	. 50	30	83C. 0
•		72" SP-12 Class 151 for 6' Cover								
	3	Lengths	20.03	60.09		60.09	25+60.12	. 50	. 70	830. 40
	1	Lgth., open jt. top @20.93	20.05	20.05		20. 05	25+80, 18		.23	830. 17
	1	Lgth., open jt. top @20.03	20.05	20.05		20.05	26+00, 23	1.71	34	829.83
	73	Lengths	20.03	260, 39	.08	260,35	28+69.58			825 40
		Lgth., open jt. top @20.03	29.05	20.05		20.05	28+80. 63	2.81		828.92
3-14	*	lgth., open jt. top @20.03 w/12" M. J. B. OL. 17' fr. S.E.	20.05	20.05		20.04	29+00.67	3.11		824, 30
S-15		lgth., open jt. top 229.03 e/12" M.J.B. OL. 15' Fr. S.E.	20.05	20.05	.03	20.04	29+20.71			823,54
· •	1	Leth., open jt. top @20.03	20.06	20.05	.02				-9	32.5 1
	2	Egche.	20,03	40.06		9.02			-1.8	50.76
	A Company	Lgth., open jt. top @20.03	20.05	20.05	.03	30.02	30-00.79		-1.07	819.69
	- -									

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PAGE_ 7 _C/__13_____PAGES

Price Brokers Company LAYING SCHEDULE

PAGE 6 OF 13 PAGES

NT OPENING	IS TO OBTAIN THE REQUIRED GRADES, ELEVATIONS AND HORIZON	IAL DEFLICTION	D		and the second s	PREPARE	D BA: GET ON	e C. Wilson	Company of the company of the control of the company of the compan
NO.	DESCRIPTION	AV. UNII LENGTH	TOTAL LAID LENGTH	SLOPE CORR.	HOR LAID LENGTH	STATION	% GRADE	CHANGE IN ELEVATION	CENTER LIN ELEVATION
	72" SP-12 Class 151 for 6' Cover					30+00.79			819, 69
1	Lgth., open jt. top @20.03	20.03	20.05	.04	20.01	30+20.80	6.04	-1.21	818.48
1	Lgth., open jt. top @20.03	20.75	20.05	.04	20.01	30+40.81	6.54	-1.31	817.17
1	Lgth., open jr. top @28.03	20.05	20.05	.05	20.00	30+60, 81	6.95	-1. 39	815.78
2	Lengths	20.03	40.06	. 10	39.96	31+00.77	6.95	-2.78	813.00
1	Half bevel, L. S. bottom, P. I. Sta. 31+01. 27 open jt. top @19.91	19.93	19. 93	.01	19.92	31+20. 69	3.75	75	812.25
1	Lgth., open jt. top @28.03	20.05	20.05	.02	20.03	31+40.72	4.46	89	811.36
6	Lengths	20.03	120.18	.12	120.06	32+60.78	4.46	-5.36	806.00
1	igth., open jt. bottom @20.03	20.05	20.05	.01	20.04	32+80.82	3.80	76	805.24
1	Lgth., open jt. bottom @20.03	20.05	20.05	.01	20. 94	33+00.86	3.15	63	804. 61
1	Igth., open jt. bottom @20.03	20.05	20.65	.01	20.04	33+20, 90	2.50	50	804.11
. 1	Lgth., open jt. bottom @20.03	20.05	20.05		20.05	33+40. 95	1.94	39	803.72
6	Lengths	20.03	120.18	. 02	120.16	34+61.11	1.94	-2.32	801.40
. 1	Lgth., men jt. top @20.03	20.05	20.05		20.05	34+81.16	2.44	49	800.91
17	Lengths	20, 03	340.51	.10	340.41	38+21.57	2. 44	-6.30	792.61
NOTE:	All pipe between Station 38+21.57 and Star Shop Coat Black #119.	tion 47+43	89 is to be	paint s	al coated o	outside with tw	o coets o	Davies	

LAYING SCHEDULE

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Price Brothers Company LAYING SCHEDULE

PAGE_ 7 __OF___13____PAGES

DAYE June 22, 1966

	PROJECT Flint, Michigan, Division A - 72" Flint Detroit Water Supply								REVISED_(1) 7-21-66 PREPARED BY: Jerome C. Wilson, Jr.			
OTE VARY K	ONT OPINING	ss to obtain the required grades, elevations and horizontal		and a subtractive the security of them the second appropriate about the second part of	otherwise with the control of the co			construct Construction in the first time that South one for the construction of the co	A STATE OF THE PARTY OF THE PAR	or gar again though and a lower separation of the management consider the department		
	NO.	DESCRIPTION	ay. Unit Length	TOTAL LAID LENGTH	SLOPE CORR.	HOR. LAID LENGTH	STATION	GRADE	CHANGE IN ELEVATION	CENTER LINE ELEVATION		
		72" 8P-12 Class 151 for 6' Cover					38+21.57	2.44		792.61		
	ŧ	Lengths	20.03	80.12	.02	80. 10	39+01.67	2.44	-2.44	790. 17		
		72" SP-12 Class 162 for 10' Cover										
	3	Lengthe	20.03	60.09	.02	60.07	39+61.74	2.44	98	7 89 . 19		
	1	Leth., open jt. bottom @20.83	20.05	20.05		20.05	39+81.79	2.00	40	788.79		
8-16	1	Leth., open jt. bottom \$29.03 Paies CAPALIC W/18" ten. M. J. B. B. O. OL. (19) fr. S. E. bottom right	20, 05	29.65		20.05	40+01.84	1.32	26	788.53		
	1	Leth., eyen jt. bottom @20.63	20, 95	20.05		20.05	40 +21.89	. 66	13	788.40		
	1	Lgth., open jt. 1/2" bottom 820.03	20.65	20.05		20,05	40+41. 94	.00		788.40		
	3	Lengths	20. 03	40.06		40 .06	40 +82. 00	.00		788. 40		
	1	Half bevel, L. S. bottom, P. I. Sta. 40+82. 49 open jt. top @19.91	19, 92	19.92	.01	19, 91	41+01. 91	3.82	+.76	789. 16		
	10	Longths	20.63	200.30	.15	200.15	43+02.0 6	3.82	+7.64	796.80		
	1	Half bevel, L. S. top, P. I. Sta. 43+02.56 open jt. bottom \$19.91	19.93	19.93		19.93	43+22.99	. 00		796.80		
8-17	1	Short length	6.05	6. 05		6.05	43+28.04	.00		796.80		
F-18	1	72" P.S. x 54" P.S. Reducer	7. 13	7.13		7.13	43+35.17	. 00		796.80		
	1	54" P.B. and valve (not by P.B. Co.)	1.50	1.50		1.50	43+35.67	, 00		796.80		

OB NO. 95,66P-Unit I

OB NO. 95.66P-Unit 1

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Fris Brothers Company LAYING SCHEDULE

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June 22, 1966

REVISED___(1)__7-21-66

PROJECT Flint, Michigan, Division A - 72" Flint Detroit Water Supply HOTE VARY JOINT OPENINGS TO OBTAIN THE REQUIRED GRADES, ELEVATIONS AND HORIZONTAL DEFLECTIONS. PROPARED BY: Jerome C. Wilson, Jr.

	NO.	DESCRIPTION	AV. UNIT	TOTAL LAID LENGTH	SLOPE CORR.	HOR. LAID LENGTH	STATION	% GRADE	CHANGE IN ELEVATION	CENTER LINE ELEVATION
		72" SP-12 Class 162 for 10' Cover					43+36.67	. 00		796.80
F-19	1	54" P.S. x 72" P.B. Reducer	6.78	6.78		6.78	43+43.45	.00		796.80
	1	Leth., open jt. bottom @20.03	20.05	20.05		20,05	43+63.50	. 43	÷.08	796.88
8-20 8-20A	1	Igth., w/24" flg. 01. 10' fr. S.E. w/24" blind flg.	20.03	20.03		20, 03	43 +83.53	, 43	+,08	7 9 6. 96
	9	Lengths	20.03	180.27		180.27	45+63, 80	, 43	+.78	797.74
		72" SP-12 Class 151 for 6' Cover								
	3	Langths	20.03	60.09		60, 09	46+ 23.89	, 43	+, 26	798.00
	1	Half bevel, L.S. bottom, P. I. Sta. 46+24, 39 open jt. top @19.91	19.93	19.93	.01	19, 92	46+43.81	₹. 69	+.74	798.74
	5	Lengths	20.03	100.15	. 07	100.08	47+43.89	3. 69	+3.69	802.43
END OF SE	CTION TO	BE COATED.								
	1	Length	20.03	20.03	.01	20, 02	47+63. 91	3.69	+.74	803.17
	1	Length, open jt. top @20.03	20.05	20.05	.01	20.04	47+83.95	3.19	+. 64	803.81
	26	Lengths	20.03	520.78	. 26	520.52	53+04. 47	3.19	+16.60	820.41
	1	Lgth., open jt. top @20.03	20.05	20.05	. 91	20.04	53+24. 51	2.55	+.51	820. 9 2
	1	Lgth., open jt. top \$20.03	20.05	20.05		20.05	53+44, 56	2.10	+.42	821.34
	1	Lgth., open jt. top @20.03	20.05	20.05		20.05	53+64. 60	2.64	+ , 33 .	821.67
	£	Lengths	20.03	80.12	.01	80.11	54+44.72	1.64	+.98	822.65

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PROJECT filent, Michigan, Division A - 72" Filing Detroit Water Supply

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KEVISED (1) 7-21-66

the state of the second POTE VARY JOINT OPENINGS TO OBTAIN THE REQUIRED GRADES STEVATIONS LAND MORPONITAL DELECTIONS CHANGE IN + CENTER LINE AV. UNIT TOTAL LATO! HOL LAD NCITAL COSTO BLETA IC: a.W.Mon LENGTH LENGTH 180 COAR. 6-21-1-1 The state of the state of 72" 37-12 Class 152 Fur 10" Cover 54+44.72 A. 有特 823. 9% 55+04,80 30,69 1 54 水龙 随事 Lengths 20.03 SO 00 824 20 55+24.85 Length, open it top @20.03 20.05 20.05 20.05 1. 20 + 24 3 55+44, 90 + 10 824 30 . 52 20, 05 20.05 Longth, open jt. top @20.03 20.05 824.30 .00 55+E4.95 S-21 20.05 1 40.05 20.05 cenath 14.3" tan. flg. 3.0. OL. 2° fr. S.E. top right, cpen jt. top 220.03 .154 ~. 03 824.27 leth., open jt. top \$20.03 20.05 20.05 55+85,00 1 20.05 11 220, 33 .154 823 33 220, 33 58+05.33 . 24 Lengths 20.03 72" \$P-12 Class 151 for 6' Cover 58+25.36 . 154 ... DR 823. 76 20.03 20.03 1 Langth 20 03 58+45, 25 4 618 Ü 823 * Half bevel I.S. bottom P. I. Sim. 50426-04 19.91 19 4: 62 19 89 ecom it. tup 59+25, 31 4. 43 2 21 334 0 28 93 80.12 36 80.06 Laugtho 59+45, 35 3 35 819. 3 29.05 20.05 **U**1 20.04 . 6 + **1** Leth. . com jt. bottom 620.83 59+65.39 2. 70 318. (9 54 upon jt. bottom 220.03 20.05 20.05 . 01 20.04 59+85.43 2,05 41 818 78 20.05 Ol 20.04 3 m it. bottom 220.03 20 05 29.05 60+05, 68 1.60 ... 32 2 17 66 28.05 20,05 Jt. bottom Mid. 03 016 0 61+65.70 2.66 9 20 03 160.24 . 02 169. 22 1.60

3 NO. 95.56P-UNIT 1

LAYING SCHEDULE

Flint, Michigan - Division 1 - 72" Flint Desput Mater Same

PAR June 22, 1966 Sevices (1) 7-21-66

1 igth., apan jt. bottom @20.03 20.05 20.05 20.05 60+46.21 39 20.03 5 Lengths 20.03 100.15 700.25 65+46.36 39 40.34 72" SP-12 Class 151 For 6' Cower 20.03 100.15 190.25 66+46.51 39 4.39 1 Igth., apan jt. bottom @20.03 20.04 20.04 20.04 66+66.55 70 4.24 9 Lengths 28.03 180.27 180.27 180.27 68+46.82 270 41.26 1 Igth., apan jt. bottom 20.03 20.03 20.03 68+66.85 77 4.15	**		AV. UNIT	TOTAL LAID LENGTH	SLOPE COAL	HOR. LAID		To Caronical Control	CHANGE IN	CENTE
Lengths 20.03 30.12 80.42 62+65.87 5.00	1	72 SP-12 Lives 151 for 6' Cover		The commence of the second of		e de la la granda de la la la la la la la la la la la la la	61+65.70	finingstand in integration, approximate when the said	and the contraction of the contr	Carried to the second of the s
Light, report jt. top 820.03		Light, approje Softian 1820,03	20.05	26.05	True Property of the Property	20,400	61+85.75			0.25
1 Longths 20.05 60.09 60.08 63+45,00 1.00 1.00 2 Longths 20.03 40.06 80.06 63+85,06 3.67 67 1 Ligth., apan jt. hottom \$20.03 20.05 20.05 20.05 64+05.11 29° -26 1 Ligth., apan jt. hottom \$20.03 20.05 20.05 20.05 64+25.16 90 -06 1 Ligth., apan jt. hottom \$20.03 20.05 20.05 20.05 65+46.21 39 20.05 2 Longths 20.03 100.15 20.05 65+46.36 19 20.05 3 Longths 20.03 100.15 100.15 66+45.51 39 20.05 3 Longths 20.03 100.15 100.15 66+46.51 39 20.05 4 Ligth., apan jt. hottom \$20.03 20.04 20.04 20.09 66+65.55 70 20.05 4 Ligth., apan jt. hottom \$20.03 20.04 20.04 20.04 20.05 66+46.82 20 20.05 4 Ligth., apan jt. hottom \$20.03 20.03 20.03 20.03 68+66.85 77 20.15 4 Ligth., apan jt. hottom \$20.03 20.03 20.03 20.03 68+66.85 77 20.15 4 Ligth., apan jt. hottom \$20.03 20.03 20.03 20.03 68+66.85 77 20.15 4 Ligth., apan jt. hottom \$20.03 20.03	*	Lengths	20. C3	30.17		80, 12	62+65,87	3. 96	- 3	831
2 Lampino 20,03 46.06 90,06 83+85.06 2.67 1 Light, open jt. horton 920.03 20,05 20.		Lgth., open jt. top 620.03	20.05	20.05		3 0. 05	62+85, 92	6 %	and the state of t	8.
2 Langths 20.03 40.06 40.06 53486.06 2.67 -67 1 Light, apan jt. bottom 620.03 20.05 20.05 20.05 64406.11 .29 -20 1 Light, apan jt. bottom 620.03 26.05 20.05 20.05 6446.21 .39 -06 2 Langths 20.03 100.15 700.25 65446.36 39 -7.39 1 Light, apan jt. bottom 620.03 20.03 100.15 20.05 6546.51 .39 -7.39 1 Light, apan jt. bottom 620.03 20.03 20.04 20.04 20.09 66466.55 70 4.74 2 Light, apan jt. bottom 620.03 20.03 20.03 20.03 6646.65 7/ -7.15	3		20.03	& C. 09	11	50. 0 8	63+45,00	e de la companya de	£. 90	C.
1 Egth., epan jt. bottom 620.03 20.05 20.05 20.05 64+26.16 30 - 06 1 Egth., epan jt. bottom 620.03 20.05 20.05 20.05 64+46.21 39 20.05 5 Langtha 20.03 100.15 20.025 65+46.36 39 - 34 72" SP-12 Class 151 for 6' Cover 20.03 100.15 100.15 66+46.51 39 - 39 1 Egth., open jt. bottom 620.03 20.04 20.04 20.04 66+66.55 70 - 34 2 Longtha 20.03 180.27 180.27 68+46.82 30 - 20.03 1 Egth., open jt. bottom 20.03 20.03 20.03 68+66.85 71 - 15	2		20.03	4C. 06		40 , 06	63+86.06		444 g 67	8.0
1 Lefth., open jt. bottom #20.63 20.05 20.05 20.05 6446.21 39 20.05 5 Lengths 20.03 100.15 200.25 6546.36 39 20.04 5 Lengths 20.03 100.15 100.15 6646.51 39 20.04 1 Ligth., open jt. bottom #20.03 20.04 20.04 20.04 6646.55 70 20.24 2 Lengths 28.03 180.27 480.27 6846.82 20 20.04 20.03 20.03 6846.85 20 20.15 20.03	***	Lgth., open jt. bottom 620.03	20.05	20. 05	The second secon	20.05	64+05.11	99		81
5 Langths 20.03 100.15 200.25 65+46.36 19 40.34 72" SP-12 Class 151 for 6' Cower 20.03 100.15 190.15 66+46.51 39 7.33 1 Ligth., open jt. bottom \$20.03 20.04 20.04 20.04 66+66.55 70 +.74 9 Langthe 20.03 180.27 180.27 68+46.82 270 91.20 1 Ligth., open jt. bottom 20.03 20.03 20.03 68+66.85 77 91.15	1	Igth., open jt. bottom \$20.85	20.05	20. 95		20.05	64+26, 16	. 30	- 06	8,1
72" SP-12 Class 151 for 6' Cover 5 Lengths 20.03 186.15 190.15 66+46.51 39 +.39 1 Leth., open jt. bottem \$20.03 20.04 20.04 20.04 66+66.55 70 +.34 9 Lengths 20.03 180.27 68+46.82 .70 +1.26 1 Leth., open jt. bottem 20.03 20.03 20.03 20.03 68+66.85 77 +.15		Lgth., open jt. bottom #28.83	20.05	20.05		29.05	64+46. 21	39	\$ PAGE	53.
5 Longths 20.03 186.15 180.15 66+46.51 39 +.39 1 Ligth., open jt. bottom 20.04 20.04 20.04 66+66.55 70 +.34 9 Longths 28.03 180.27 180.27 68+46.82 .70 +1.26 1 Ligth., open jt. bottom 20.03 20.03 60+66.85 .77 +.15	5	Langths	20, 03	100.15		300.25	65+46, 36	30		81
1 Ligth., open jt. bottom \$20.03 20.04 20.04 20.04 66+66.55 70 +.34 9 Langthe 28.03 180.27 180.27 68+46.82 .70 +1.26 1 Light., open jt. bottom 20.03 20.03 68+66.85 .77 +.15	-	72" SP-12 Class 151 for 6' Cover			delen de e de entre d				Building and Articles	·
9 Longtho 28.03 180.27 58+46.82 570 *1.76 28.03 28.03 20.03 68+66.85 77 *.15	5	Longths	20. 03	1 0 6.15		190, 15	66+46,53	. 39	+.33	82
1 lgth., open jt. bottom 20.03 20.03 20.03 68+66.85 77 +.15	1	Lgth., open jt. bottom \$20.03	20.04	20.04		20.04	66+66,55	70	# ¥ # 1	8 1.
	9	Longtho	28. 83	180.27		180.27	68+46.82	6 70	41.20	Ó Ã
10 Lengths 20.03 801.20 .02 801.18 76+68.03 .77 46.25	2	igth., open jt. bottom	20.03	20.03		20.03	68+66, 85	7,7	+.15	81
	•	Longtho	20.03	801.20	. 02	801.18	76+68.03	. 77	+6, 15	82
	Ì						Service and the service and th	¥ 100 mm	a 14年 (東京の) 12日本	anding and

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OB NO. 95.66P-Unit 1

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LAYING SCHEDULE

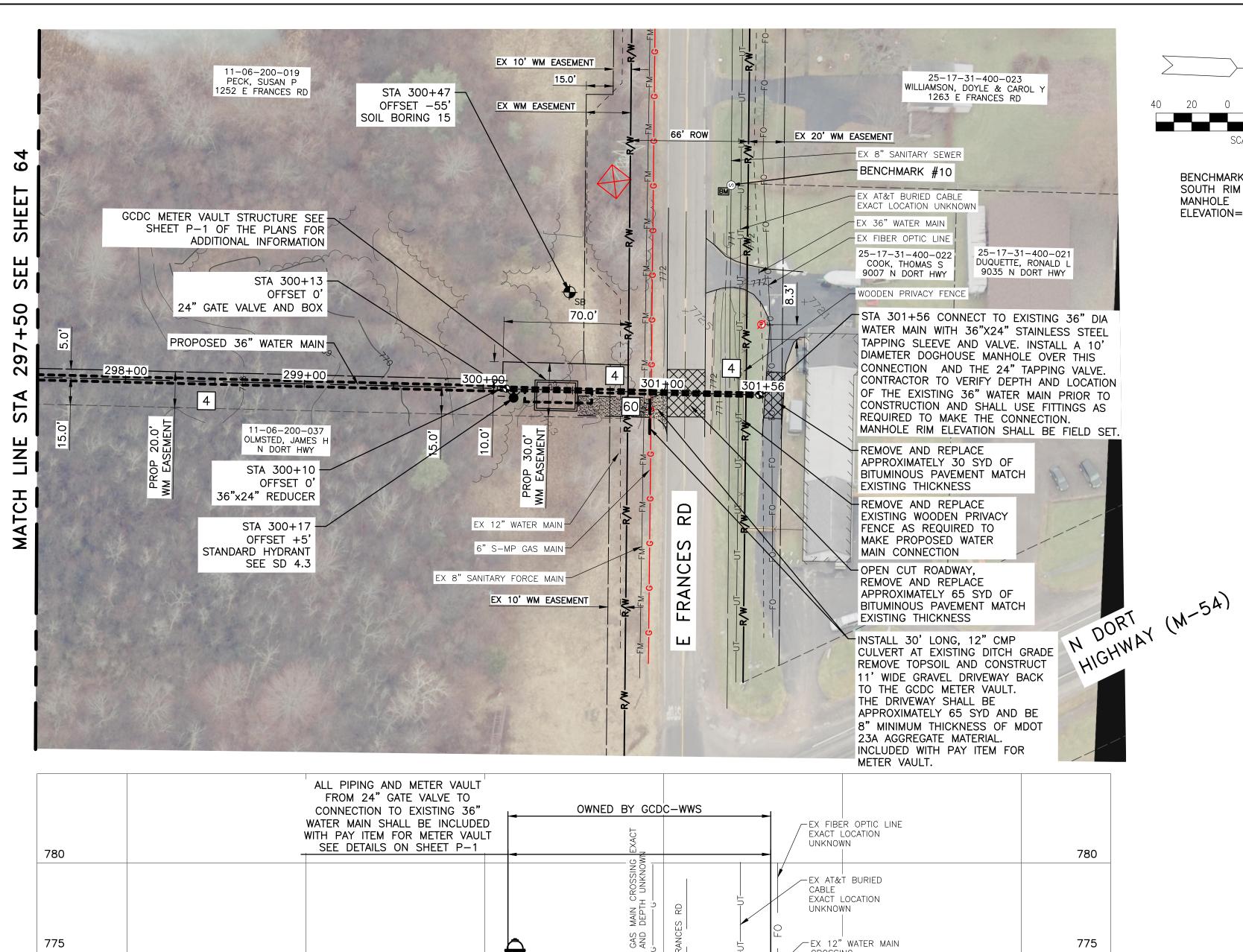
PROJECT Flint, Michigan, Division A - 72" Flint Detroit Water Supply

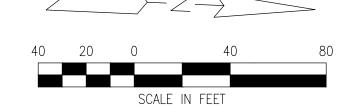
7-21-66

IOTE VARY JOINT OPENINGS TO OSTAIN THE REQUIRED GRADES, ELEVATIONS AND HORIZUNTAL DEFLECTIONS. "XTYASEU BY: CERCINE L. WILLOWS, I'F. TOTAL LAID AV. UNIT SLOPE CHANGE IN | CENTER LINE OTAY, MA DESCRIPTION LENGTH LENGTH CORR. LENGTH 68102 CLEVATION ELEVATION 72" SP-12 Class 151 for 6 Cover 76+68.03 2241 74 20.05 261.05 lgth., open jt. top \$20.03 76+88.08 20,65 4.05 820. % 1 20.0 180, 27 180.27 78+68.35 . 26 4. 47 Le rations 821.23 9 72" SP-12 Class 152 for 10' Cover 240.36 20.03 240. 36 81+08.71 Lengths + 53 321.8 12 20 20.03 20.03 20.03 . 26 Length 81+28.74 + 35 821 9 S-22 w/8"ten. fig. B.O. Ol. 10' fr. S.E. top right Lgth., open jt. top @20.03 20.05 20.05 24,05 . 24 F. 449. 79 -. 04 821.8n 1 Igth., epen jt. top 820.03 20.05 20.05 26.05 81+68_84 - 3 A 821.71 29 73 40.06 Lengths 40.06 82+08_90 25 821.47 20.03 20.03 20.03 Longth 82+28.93 - 13 821.34 S-23 w/18" M.J.B. OL (2) fr. S.E. CANT BE ACCORDING TO PRICE CATALOG 20.03 20.03 20.03 22+12.96 65 - 15 8: 21 2-24 1 Leth. ₩/18" M.J.B. JL (27) fr. S.E. 140.21 20, 03 140.21 13+99.17 ~ 91 82C 31 7 Lengths 72" SP-12 Class 151 for 6' Cover . 65 -. 91 20.03 140.21 140.21 819.39 95+29.38 7 85+49.43 20.05 20.05 20.05 1.34 ·-. 26 819.13

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# # # # # # # # # # # # # # # # # # #		200 00 E0 61 150 E 100 Com-								
-		72" SP-12 Class 162 for 10° Cover					100+17.67	3.80	* * * * * * * * * * * * * * * * * * *	
	228 र स्थ		20.03	20.03	OI	20 (*)	100+37.69	. 3. 8B		
	₫.	Half bevel, L.S. bottom, P.J. Ste. 190+38.18 open jt. top 219.31	19,92	19,92		19.92	100+57.61			- ABB_ING
Sprigerat or week	Si. Pp.	Length	29.03	20.03		20, 03	100+77.64	.00		99. 38
		72" SP-12 Class 151 for 6 Cover								
	**************************************	Half bevel, L.S. bottom, P. I. Sts. 100+78.14 open jt. top @19.91	19, 93	19. 93	.01	7.9 92	100+97.56	3.27	+ 65	∀99. € 5
·	7	Lgth, open jt top \$20.93	20. 0 4	20, 04	. 03	20.03	101+17.59	2. 39	+ 60	200 25
A Language	*	Lengths	20.93	60.09	. 03	6 0, 0 6	101+77.65	2.98	+1.78	802.03
Pro Proc. Sales	£,	igth, open jt, buttom @20.03	20.04	20.04	.01	20.03	101+97.68	3.37	+ 67	802. 70
	(3) 6.	Half beval L.S. top.P. I. Sta. 101+98.18 open jt. bottom 219.91	19. 93	19, 93		19.93	102+17.61	. 10	+ 02	392 72
And the second s	3.3	Lengths	20.03	?60 , 3 9		260.39	104+78.00	. 1.0	+ 26	802, 38
- 26	<u>)</u>	Length w/2" L.P. thd. OL. @ B.E.	20. 03	29,03		20. 13	104+98.63	10	÷ ,02	903, 00
and Marty property		FND OF UNIT 1.		F					The state of the s	
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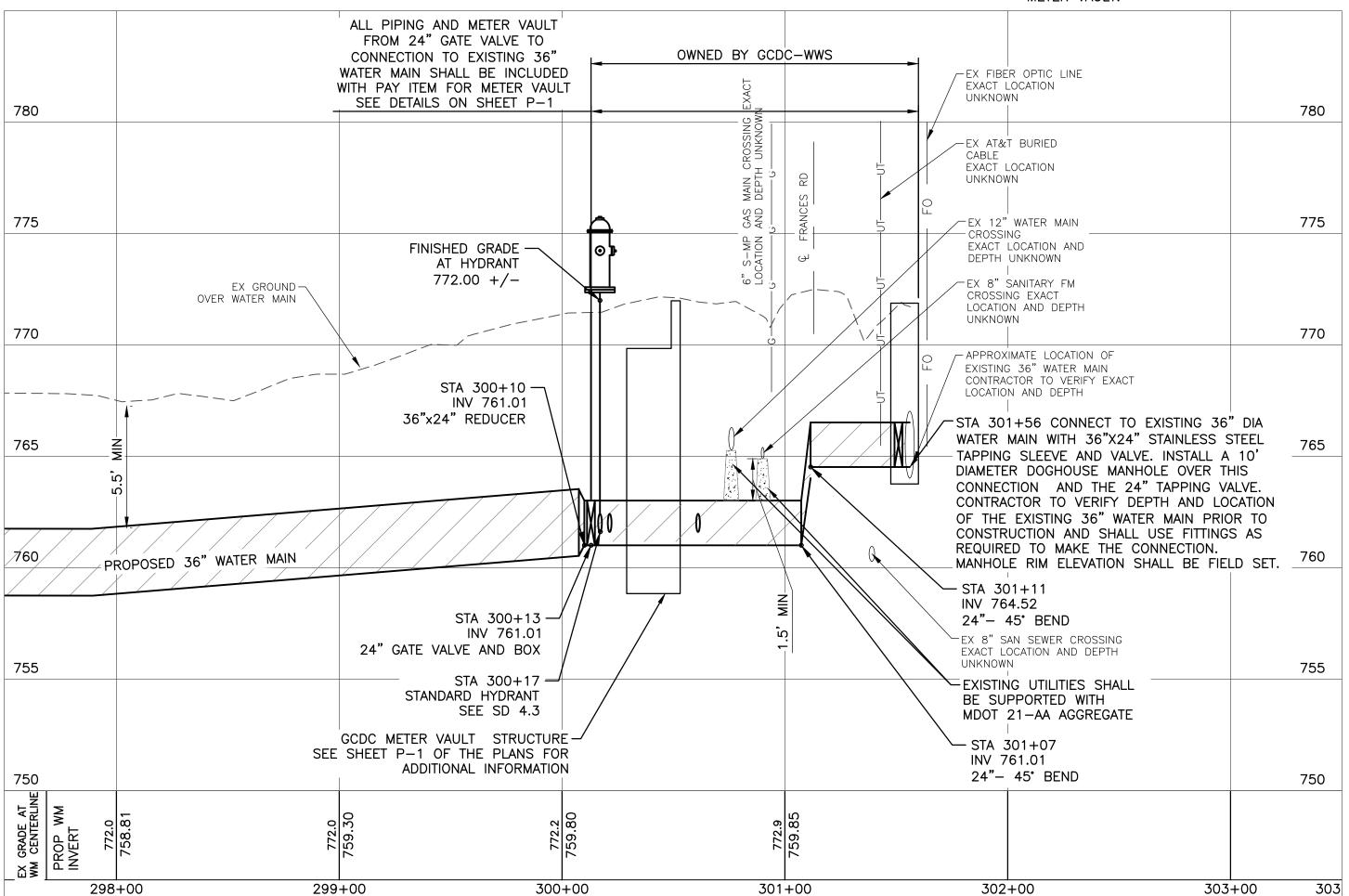


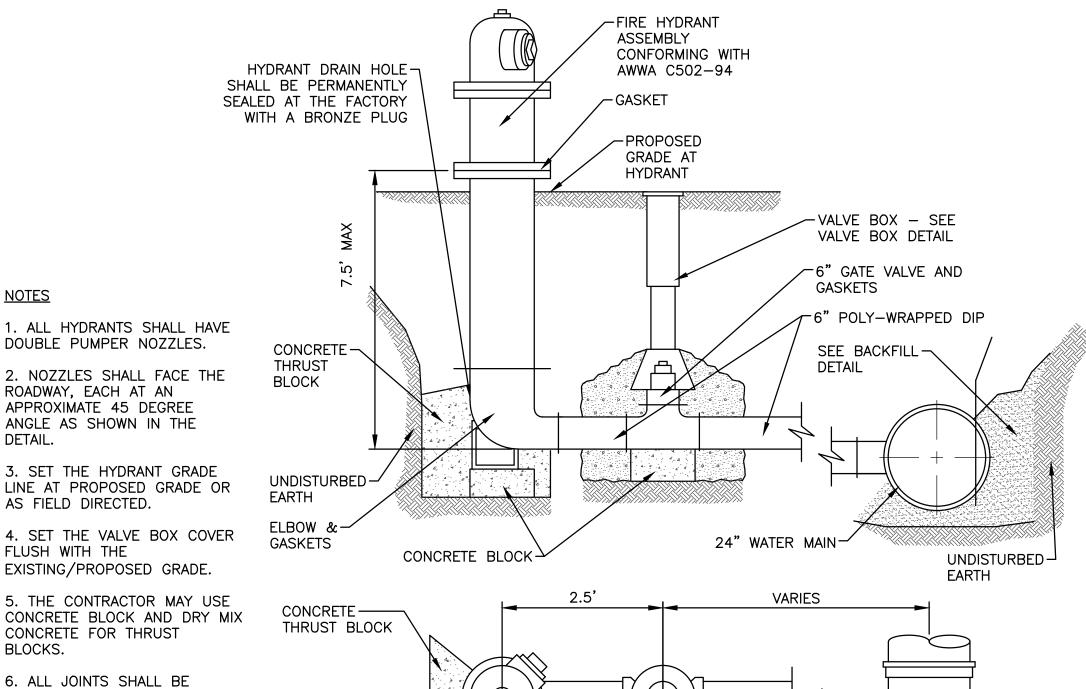


BENCHMARK #10 SOUTH RIM OF SANITARY MANHOLE ELEVATION=772.89

<u>NOTES</u>

- 1. THE CONTRACTOR SHALL USE A TRENCH BOX IN ANY LOCATION WHERE THE PROPOSED WATER MAIN IS TO BE CONSTRUCTED LESS THAN 20' FROM AN EXISTING ELECTRIC POWER POLE OR TOWER.
- 2. PRIOR TO BEGINNING THE WORK. THE CONTRACTOR SHALL BE REQUIRED TO EXPOSE ALL EXISTING UTILITIES THAT CROSS OR ARE WITHIN THE INFLUENCE OF THE PROPOSED CONSTRUCTION, SO THE ENGINEER MAY DETERMINE IF A CONFLICT EXISTS BETWEEN AN EXISTING UTILITY AND THE PROPOSED WORK ALL LABOR REQUIRED TO UNCOVER THE EXISTING UTILITY SHALL BE CONSIDERED INCLUSIVE TO THE UNIT PRICE OF THE WATER MAIN. THE CONTRACTOR SHALL VERIFY THE UTILITY SIZE, MATERIAL, DEPTH AND HORIZONTAL LOCATION OF ALL UTILITIES IN SUFFICIENT TIME SUCH THAT ANY CONFLICTS CAN BE RESOLVED BEFORE WORK IS STARTED.
- 3. ALL EXISTING UTILITIES SHALL BE PROPERLY SUPPORTED AND REMAIN IN SERVICE AT ALL TIMES DURING THE PROJECT, UNLESS OTHERWISE INDICATED.
- 4. UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPLACED IN KIND AT THE CONTRACTOR'S EXPENSE, OR REPLACED AS CALLED FOR ON THE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE SIZE AND MATERIAL REQUIRED PRIOR TO REPLACING.
- 5. ANY EXISTING STORM OR SANITARY SEWER PIPES THAT COME APART OR ARE DAMAGED WILL NEED TO BE REPLACED WITH SDR-26 OR SCHEDULE 40 PVC PIPE. FROM MANHOLE TO MANHOLE. NEW MANHOLES CAN BE ADDED TO MINIMIZE LENGTH OF SEWER REPLACEMENT. ANY STORM AND SANITARY SEWER PIPES THAT ARE DAMAGED SHALL BE REPLACED AT THE CONTRACTORS EXPENSE.
- 6. REGULATED WETLANDS HAVE BEEN DELINEATED, NUMBERED AND SHOWN ON THE PLANS ALONG THE PROPOSED WATER MAIN ROUTE. FOR WETLAND RESTORATION THE CONTRACTOR SHALL REFER TO THE TABLE LOCATED ON PLAN SHEET 19 ALONG WITH DETAILS ON SHEETS 20-23. CONTRACTOR SHALL LIMIT THE EXTENT OF CONSTRUCTION ACTIVITIES WITHIN DELINEATED WETLANDS TO REDUCE IMPACTS OF SUCH ACTIVITIES TO THE WETLANDS, AREAS DISTURBED BY CONTRACTOR OUTSIDE OF THE AREAS DESIGNATED IN THE WETLAND RESTORATION DETAILS WILL BE AT CONTRACTOR'S EXPENSE.
- 7. CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES ALONG THE TRANSMISSION MAIN ROUTE TO REDUCE IMPACTS OF SUCH ACTIVITIES ON THE REMAINDER OF THE PROPERTY, INCLUDING ON PROPERTIES OWNED BY CONSUMERS ENERGY. AREAS DISTURBED OUTSIDE OF THE DESIGNATED EASEMENT WILL BE AT CONTRACTOR'S EXPENSE.
- 8. ALL WATER MAIN FITTINGS AND PIPE JOINTS SHALL BE RESTRAINED PER THE CONTRACT DOCUMENTS.





THE USE OF THRUST BLOCKING FOR THIS PROJECT. 7. HYDRANTS ARE TO BE FACTORY PAINTED "ORANGE."

RESTRAINED BY AN APPROVED

METHOD IN CONJUNCTION WITH

ROADWAY, EACH AT AN

AS FIELD DIRECTED.

FLUSH WITH THE

CONCRETE FOR THRUST

DETAIL.

BLOCKS.

STANDARD FIRE HYDRANT DETAIL

CITY OF FL.
S. SAGINAW
FLINT, MI 48
SECONDARY WATE
N AND PROFILE S 36" SI PLAN 01

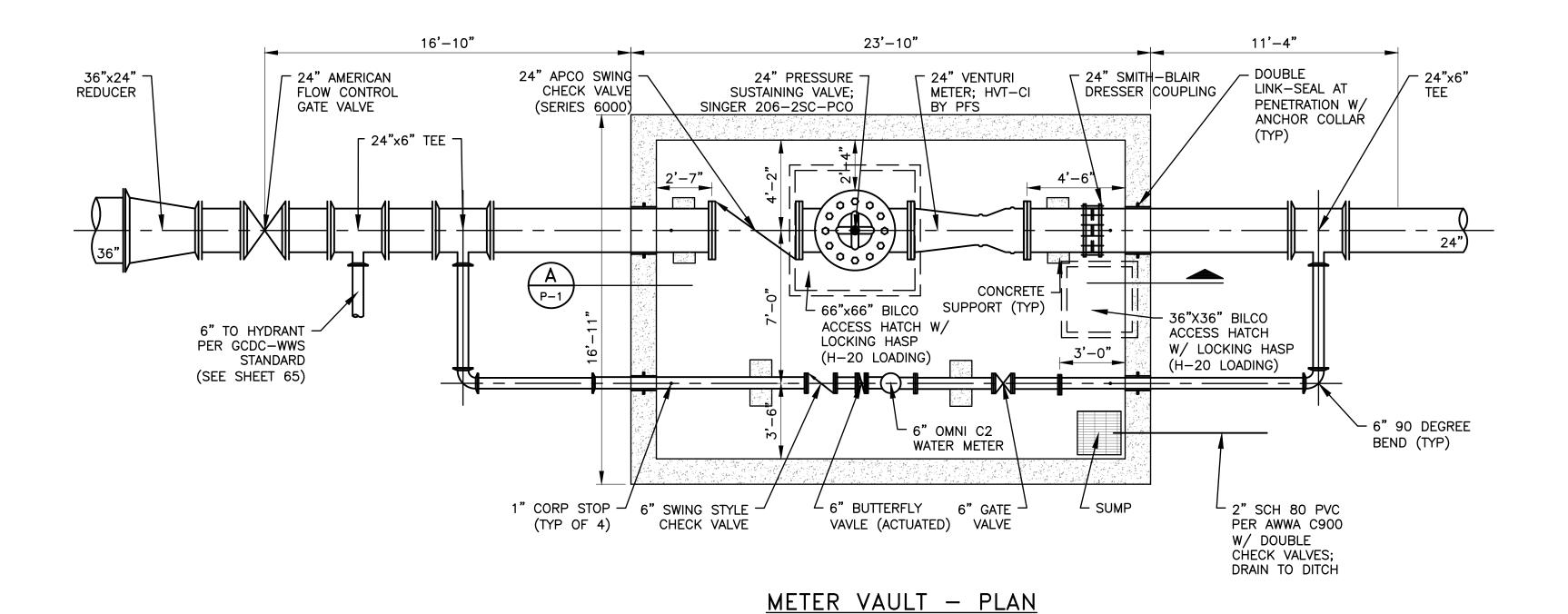
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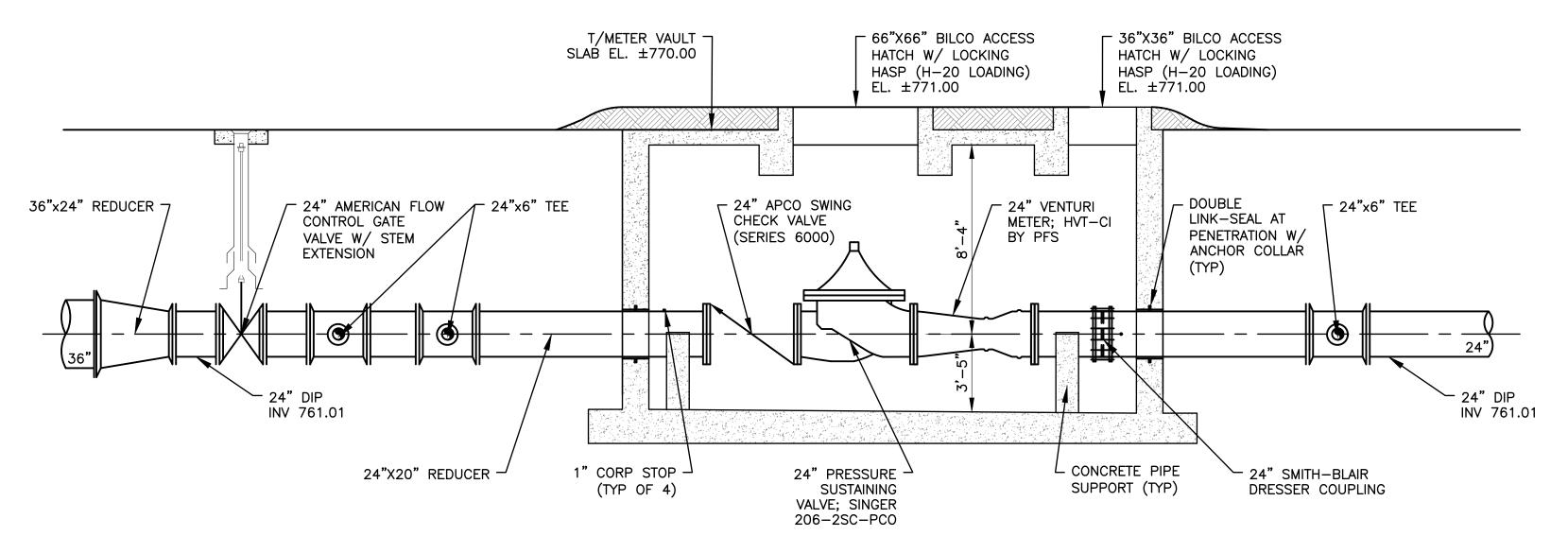
65

Know what's below. Call before you dig. 555 Flint 810.

7 OF FLINT SAGINAW STREET I, MI 48502

SSUED FOR: DATE: BY





SECTION A - METER VAULT

SCALE: 1/4"=1'-0"

SCALE: 1/4"=1'-0"



CITY OF FLINT

O1 S. SAGINAW STREET

FLINT, MI 48502

"SECONDARY WATER SUPPLY
GCDC METER VAULT AT FRANCES F

1101 36" PROPOSED-

DATE: BY: 2/10/20 JRK 2/20/20 JRK

JOB NO. COF1068.01F

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