



CITY COUNCIL AGENDA ITEM

Date: December 17, 2012

To: Brian Kischnick, City Manager

From: Tom Darling, Director of Financial Services
 Timothy Richnak, Public Works Director
 Rick Shepler, Water and Sewer Superintendent

Subject: Scheduled Contract Reopener with Detroit Water and Sewerage Department (Year 5)

Background

- The 2008 wholesale water contract between DWSD and the City of Troy is a 30 year contract with reopeners scheduled at the end of the 2nd and 5th year and every 5 years there after through the life of the contract. This is the 5th year reopener.
- The primary purpose for the reopeners is to make adjustment to the peak hour, max day, and annual usage factors as they are affected by economic conditions and technological advancements. These items play an important role into the rates developed annually by DWSD and to minimize volatility and create equity among wholesale customers.
- These reopeners also give opportunity to have minor clarifications of contract language.
- Troy's adoption of an ordinance that limits outdoor automated underground irrigation systems to between 11P.M. to 5 A.M. has successfully shifted our peak hour in each of the first five years of this contract (see attached graph).
- The City of Troy continues to invest in community education and capital improvement programs as part of our commitment to this contract.
- The proposed amendment #2 to the water contract between DWSD and the City of Troy is attached for City Council review and consideration.

Recommendation

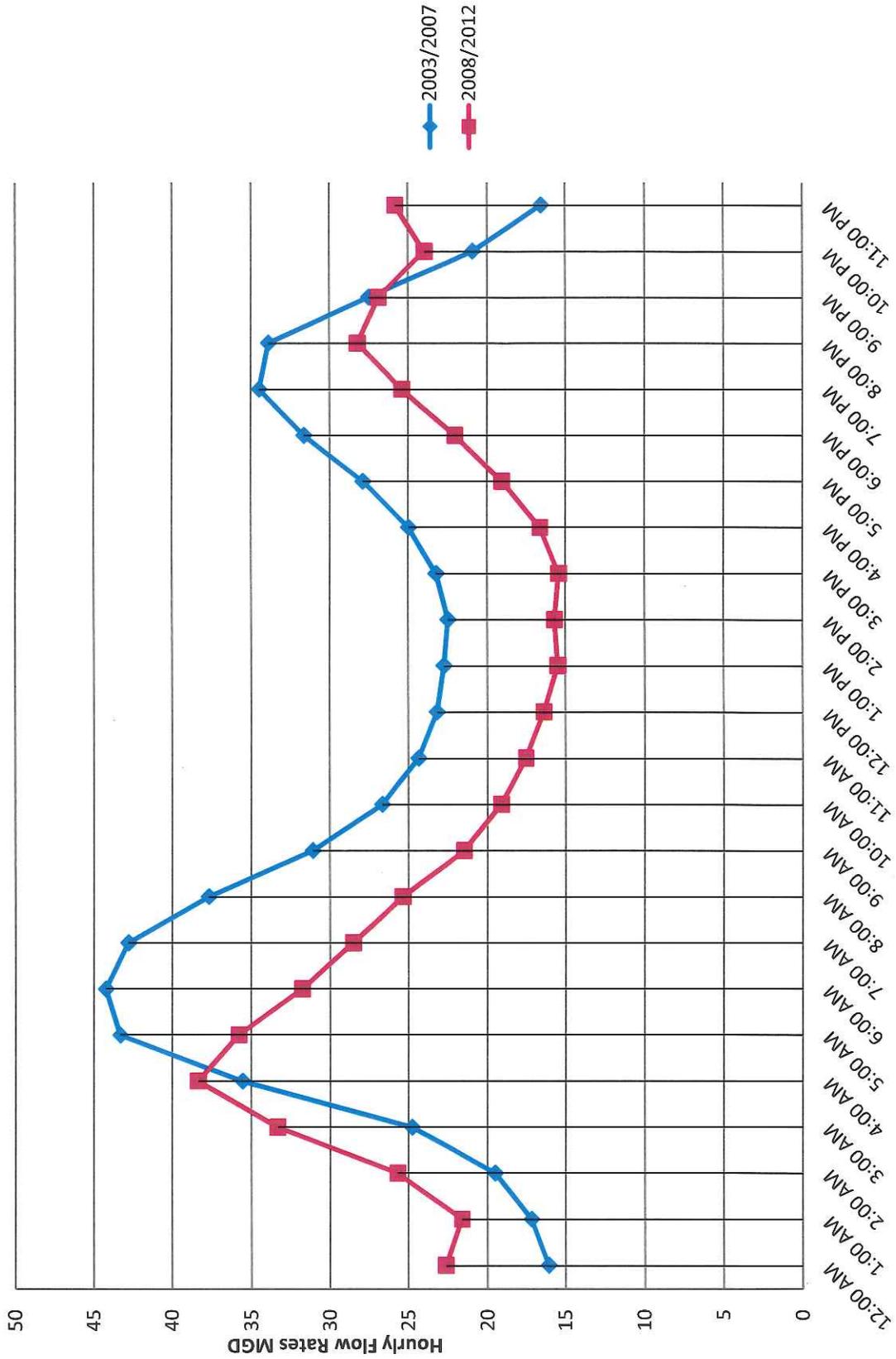
City Management recommends City Council approval of changes in this amendment #2 to the 2008 water contract between DWSD and the City of Troy.

City Attorney's Review as to Form and Legality

Approved as to Form and Legality:

 Lori Grigg Bluhm, City Attorney

Peak Hour Averages Before vs After Sprinkler Ordinance



**AMENDMENT NO. 2 TO WATER SERVICE CONTRACT
BETWEEN
CITY OF DETROIT
AND
CITY OF TROY**

This Amendment Agreement No. 2 (“Amendment”) is made between the City of Detroit, a municipal corporation, by its Water and Sewerage Department and Board of Water Commissioners (the “Board”), and the City of Troy, a municipal corporation (“Customer”). The Board and Customer are collectively referred to as the “Parties”.

Whereas, the City of Detroit owns a public water supply system (“System”) operated by the Board; and

Whereas, on June 24, 2008, the Parties entered into a Water Service Contract (“Contract”) reflecting the terms and conditions governing the delivery and purchase of potable water, as amended on March 23, 2010; and

Whereas, the purpose of the Contract is to provide for the long-term service of potable water to Customer; and

Whereas, Article 15 of the Contract permits the Parties to amend the Contract by mutual agreement; and

Whereas, in October 2011, the Technical Advisory Committee recommended that the Board consider certain modifications to the Contract terms, including the addition of a new defined term in Section 1.01, the revision of Article 5, and modifications to Sections 21.01 and 22.01; and

Whereas, on November 4, 2011, the United States District Court, Eastern District of Michigan, issued an order in Case No. 77-71100 that provides the Board full and final authority to approve contracts with its wholesale customers such that the approval of the Detroit City Council is no longer legally required; and

Whereas, it is the mutual desire of the Parties to enter into this Amendment to amend the Contract as set out in detail in the following sections; and

ACCORDINGLY, THE PARTIES AGREE AS FOLLOWS:

1. Section 1.01 of the Contract is amended to add the following definition:

“Allocation Flow Rate” shall mean the value that is established as a result of a breach of Section 5.03 herein and which value shall replace the contractual Maximum Flow Rate in the rate calculation process in the event that Section 5.04(C) herein is applied by the Board.

2. Section 1.01 of the Contract is amended by deleting the existing definition of “Contract” in its entirety and substituting the following definition in its place:

“Contract” shall mean each of the various provisions and parts of this document, including all attached Exhibits and any amendments thereto, as may be executed and approved by Customer’s governing body and the Board.

3. Section 2.01 of the Contract is amended by deleting in its entirety the existing language and substituting the following language in its place:

Term. The Board shall sell and supply water to Customer from the System in accordance with the terms of this Contract for a period of thirty years from the effective date of this Contract and any ten-year renewal terms (collectively the “Contract Term”), subject to Article 3 herein. The effective date of this Contract shall be the date that this Contract is approved by Customer’s governing body or the Board whichever is later. This Contract replaces and supersedes any prior water service contracts between the Parties.

4. Section 3.04 of the Contract is amended by deleting in its entirety the existing language and substituting the following language in its place:

Formation of Water Authority. Customer may join with another authority, city, township, village or other municipal corporation recognized by the State of Michigan to form a water authority for the sole purpose of collectively contracting for water service from the Board. The exercise of this right shall not be construed as an early termination of this Contract and this Contract shall be voided upon the approval of a new water service contract by Customer’s governing body and the Board.

5. Article 5 of the Contract is amended by deleting in its entirety the existing Article 5 and substituting the following revised Article 5 in its place:

Article 5.

Pressure; Maximum Flow Rate; Minimum Annual Volume

- 5.01 Pressure Range. The Board shall use its best efforts to deliver water at the Water Distribution Points at a pressure range (“Pressure Range”) adequate to meet the reasonable requirements of Customer. For purposes of evaluating this effort, water pressure shall be determined by reviewing the average hourly pressure measured from top-of-the-hour to top-of-the-hour (e.g. 7:00 a.m. to 8:00 a.m.). The Pressure Range to be provided by the Board to Customer’s Water Distribution Points is specified in Exhibit B. The location at which the water pressure will be measured shall be specified in Exhibit A and identified as point “P”. A Pressure Range will not be established for water meters that are not located on a DWSD transmission main, or which are located on a DWSD transmission main and are downstream of and subject to the flow demands of a water meter for another Board customer.

5.02 Remedy for Non-Compliance with Pressure Range. If the water pressure at Customer's Water Distribution Points is above or below the Pressure Range, at Customer's request the Parties shall meet within thirty (30) calendar days to discuss the reasons for the non-compliance and, if agreed necessary, develop and implement a mutually agreeable written corrective action plan within sixty (60) calendar days of the meeting, or as otherwise agreed. The corrective action plan shall include a timetable for resolution of the non-compliance issue(s).

- A. If it is determined that another customer's exceedance of the rates of flow established by that customer's Maximum Flow Rate caused or contributed to the Board's inability to meet its Pressure Range agreement with Customer, then the corrective action plan shall provide for the resolution of the issue.
- B. If Customer is exceeding the rates of flow established by its Maximum Flow Rate on a day other than the DWSD Maximum Day at the time Customer experiences a variation from the Pressure Range, then the Board shall be relieved from its obligation to provide water to Customer within the Pressure Range for that period of time during which Customer is exceeding the rates of flow established by its Maximum Flow Rate.

5.03 Maximum Flow Rate. Customer's Maximum Flow Rate is specified in Exhibit B. Customer shall not exceed the Maximum Flow Rate specified in Exhibit B, as measured in million gallons on the DWSD Maximum Day and during the DWSD Peak Hour.

- A. The Board shall notify all customers in writing on or before October 1 of each calendar year if Customer or any other wholesale customer is alleged to have exceeded its Maximum Flow Rate in a given calendar year. The notice shall state the day and/or hour that Customer or any other wholesale water customer is alleged to have exceeded its Maximum Flow Rate.
- B. If Customer is alleged to be in breach of its obligations under this Section 5.03, the Board and Customer shall endeavor to meet before November 1 of the then current calendar year, or as soon as practicable, for the purposes of validating the breach, reviewing and analyzing the causes, and to negotiate a possible remedy pursuant to Sections 5.04 and 5.05 herein.
- C. The Technical Advisory Committee's Analytical Work Group, or its successor shall review any alleged breach of this Section 5.03.
 - i. The Analytical Work Group shall meet once, at a minimum, on or before November 1 of each calendar year to review the alleged breaches, if any, and may thereafter schedule subsequent meetings as necessary to conclude its review.

- ii. The Board will seek a recommendation from the Analytical Work Group on (1) an Allocation Flow Rate, if any, and/or (2) concurrence with the remedy tentatively negotiated between Customer and the Board, if any. Customer and the Board shall have the right to present any information related to the alleged breach a Party deems necessary to the deliberations.
- iii. Any recommendation submitted by the Analytical Work Group shall be received by the Board on or before December 1 of each calendar year.

5.04 Remedy for Non-Compliance with Maximum Flow Rate. The Board has no obligation to supply to Customer more than the Maximum Flow Rate. If Customer exceeds its Maximum Flow Rate on the DWSD Maximum Day or during the DWSD Peak Hour, the Board and Customer may, as needed, take one or more of the following actions set forth in this Section 5.04. The applicability of any particular action shall be evaluated by the Board on a case-by-case basis.

- A. The Board may require that Customer take all reasonable steps to reduce its consumption to the Maximum Flow Rate. Such steps may include water conservation measures, outdoor water use restrictions, water loss studies and remediation, and an internal system operation evaluation.
- B. The Parties may meet to negotiate a new Maximum Flow Rate. If so negotiated, Customer shall pay the rate associated with the new Maximum Flow Rate in the subsequent rate year.
- C. For ratemaking and cost allocation purposes only, the Board may recalculate Customer's rate for the current and/or subsequent fiscal years utilizing a revised cost allocation formula as follows:
 - i. The Board shall, as set forth below, establish an Allocation Flow Rate to replace the contractual Maximum Flow Rate in the rate calculation process.
 - ii. The Allocation Flow Rate shall be applied from no earlier than the first exceedance date forward.
 - iii. The Allocation Flow Rate will be at least equal to the flow rate demonstrated by Customer on the DWSD Maximum Day, and may be higher than the actual flow rate demonstrated by Customer.
 - iv. Pursuant to Section 5.03(C), if the Board receives a recommendation on the Allocation Flow Rate to be applied from the Analytical Work Group and the recommendation is higher than twice the amount by which the demonstrated flow rate exceeded the original Maximum Flow Rate, then the Board shall be limited to establishing an Allocation Flow Rate that is at least equal to the

flow rate demonstrated by Customer on the DWSD Maximum Day and no higher than the recommendation provided by the Analytical Work Group.

- v. If no recommendation on the Allocation Flow Rate to be applied is received by the Board, or if the Board receives a recommendation and the recommendation is less than twice the amount by which the demonstrated flow rate exceeded the original Maximum Flow Rate, then the Board shall be limited to establishing an Allocation Flow Rate that is at least equal to the flow rate demonstrated by Customer on the DWSD Maximum Day and no higher than twice the amount by which the demonstrated flow rate exceeded the original Maximum Flow Rate.
- vi. The Allocation Flow Rate will continue to be applied to each subsequent year's rate calculation process until the Maximum Flow Rate is renegotiated.
- vii. If a rate has been approved for the subsequent fiscal year (July 1st to June 30th) but the rate has not yet been applied, the Board may modify Customer's rate for that subsequent fiscal year to account for an exceedance of its Maximum Flow Rate.
- viii. If the Board has built capital facilities based upon Customer's negotiated Maximum Flow Rate and Customer consistently exceeds its Maximum Flow Rate, then the Board may re-calculate the amount of Customer's percentage of the capital cost of such facilities

5.05 Procedure for Non-Compliance with Maximum Flow Rate. In addition to the remedies specified in Section 5.04, if Customer has failed in its obligations under Section 5.03, the Parties shall meet to discuss the reasons for the non-compliance and if agreed necessary, develop a mutually agreeable written corrective action plan by December 31 of the year in which the non-compliance occurred, or as otherwise agreed. Any corrective action plan required under this Section 5.05 shall include a timetable for resolution of the non-compliance issue(s).

- A. If the Parties determine that a corrective action plan is not required and an incident of non-compliance occurs in the subsequent calendar year, the Parties shall meet to develop a mutually agreeable written corrective action plan by December 31 of the year in which the non-compliance occurred, or as otherwise agreed.
- B. In the event the reason for Customer's non-compliance under Section 5.03 is due to a Customer water main break, fire or meter calibration performed by DWSD, these events will be taken into consideration in determining (1) whether a corrective action plan is warranted and (2) the extent to which, if any, the steps specified in Section 5.04 should apply.

- 5.06 Minimum Annual Volume. Customer shall purchase from the Board not less than the Minimum Annual Volume of water specified in Exhibit B. If Customer's Annual Volume is less than the Minimum Annual Volume, Customer shall pay to the Board an amount computed by applying the current rate to the Minimum Annual Volume less any amounts already billed to the Customer by the Board.
- 5.07 Periodic Review. For Customer and System planning purposes and, with regard to the Minimum Annual Volume, enforcement of the provisions of Article 3, a Maximum Flow Rate, Pressure Range, Projected Annual Volume and Minimum Annual Volume shall be established by mutual agreement for the Contract Term. A contractually binding Maximum Flow Rate, Pressure Range, Projected Annual Volume and Minimum Annual Volume shall be established by mutual agreement for first two years of the Contract Term. Not later than the second year of the Contract Term, the Board and Customer shall negotiate a contractually binding Maximum Flow Rate, Pressure Range, Projected Annual Volume and Minimum Annual Volume for the succeeding three years of the Contract Term. Not later than the fifth year of the Contract Term, and every five years thereafter, the Board and Customer shall negotiate a contractually binding Maximum Flow Rate, Pressure Range, Projected Annual Volume and Minimum Annual Volume for the succeeding five years of the Contract Term. If the Parties do not negotiate new or revised Maximum Flow Rates, Pressure Ranges, Projected Annual Volumes and Minimum Annual Volumes according to the aforementioned schedule, then the figures established for planning purposes (as shown in italicized type in Exhibit B) shall become contractually binding for the then-current three or five year term.
- 5.08 Remedy for Excessive Rate(s) of Flow Causing Pressure Problem(s). Customer acknowledges that Customer's rates of flow may cause and/or contribute to the Board's inability to meet its Pressure Range agreements with Customer and/or the Board's other customers (hereinafter, "Pressure Problem"). The Board may review or monitor Customer's daily rates of flow if a Pressure Problem occurs and the Board's Pressure Range agreement with Customer and/or another customer of the Board is alleged to have been breached. The approximate rate of flow by individual meter location used to establish the Pressure Range and Maximum Flow Rate is specified in Exhibit B. If a Pressure Problem occurs, the Parties shall meet to discuss the reasons for the Pressure Problem and develop and implement a mutually agreeable written corrective action plan within sixty calendar days of the Pressure Problem, or as otherwise agreed. The corrective action plan may require one or both of the following steps:
- A. The Board may require that Customer take all reasonable steps to reduce its consumption to the rate of flow established by the Maximum Flow Rate. Such steps may include water conservation measures, outdoor water use restrictions, water loss studies and remediation, and an internal system operation evaluation. In addition, the Board may require that Customer adjust its rate of flow at individual meters, including the establishment of a not-to-exceed flow rate for individual meters.

- B. The Parties may meet to negotiate a new Maximum Flow Rate. If so negotiated, Customer shall pay the rate associated with the new Maximum Flow Rate in the subsequent rate year.

If the Parties determine that a corrective action plan is not required and a subsequent Pressure Problem occurs, the Parties shall meet to develop and implement a mutually agreeable written corrective action plan within sixty calendar days of the subsequent Pressure Problem, or as otherwise agreed. Any corrective action plan required under this Section 5.08 shall include a timetable for resolution of the Pressure Problem. In the event the reason for the Pressure Problem is due to a Customer water main break, fire or meter calibration performed by DWSD, these events will be taken into consideration in determining (1) whether a corrective action plan is warranted and (2) the extent to which, if any, the steps specified above in this Section 5.08 should apply.

5.09 Board Costs for Corrective Action Plan. If at any time the Board is required under the terms of this Article 5 to develop and implement a corrective action plan and the plan involves incurring capital costs, the Board will determine whether the costs will be charged as a System cost or whether the cost will be borne by a specific customer or customers. If the Board determines that all or part of the costs should be borne by a specific customer or customers, the Board will seek a recommendation from the Technical Advisory Committee on the assessment of the costs.

5.10 Customer Costs for Corrective Action Plan. If at any time Customer is required under the terms of this Article 5 to develop and implement a corrective action plan, Customer shall be so informed in writing and Customer will pay all costs related to the corrective action plan.

- 6. Section 15.02 of the Contract is amended by deleting in its entirety the existing language and substituting the following language in its place:

No amendment to this Contract shall be effective and binding upon the Parties unless it expressly makes reference to this Contract, is in writing, is signed and acknowledged by duly authorized representatives of both Parties, and is approved by Customer's governing body and the Board.

- 7. Section 21.01 of the Contract is amended by deleting in its entirety the existing language and substituting the following language in its place:

The Board shall have the right to review and approve Customer's construction plans for Meter Facilities at new Water Distribution Points, water mains sized twenty-four inches and larger, pump stations, reservoirs, water towers, and any other construction that will cross, or be within close proximity to, or have influence upon the Board's infrastructure. The Board's approval of construction plans shall be timely and shall not be unreasonably withheld.

8. Section 22.01 of the Contract is amended by deleting in its entirety the existing language and substituting the following language in its place:

Prior to Customer's operation of any new or existing water storage facility, Customer shall seek the Board's written approval of the filling schedule ("Filling Schedule") of the storage facility. The Board may periodically require Customer to change or adjust a previously approved Filling Schedule. The Parties shall collaborate on devising a mutually beneficial Filling Schedule. If the Parties are unable to agree upon a Filling Schedule, the Board's determination of a Filling Schedule shall be final. All Filling Schedules shall be for a period of six consecutive hours. Customer shall at all times abide by the then-current Board approved Filling Schedule. The Board shall act promptly in approving Filling Schedule requests. Nothing in this Article 22 shall prevent Customer from operating its storage facility at any time, provided that any storage operation that falls outside of the approved Filling Schedule shall not be exempt from the terms of Article 5 herein.

9. Exhibit A of the Contract is amended by deleting in its entirety the existing First Amended Exhibit A and substituting the attached Second Amended Exhibit A in its place.
10. Exhibit B of the Contract is amended by deleting in its entirety the existing First Amended Exhibit B and substituting the attached Second Amended Exhibit B in its place.
11. With the exception of the provisions of the Contract specifically contained in this Amendment, all other terms, conditions and covenants contained in the Contract shall remain in full force and effect and as set forth in the Contract.
12. This Amendment to the Contract shall be effective and binding upon the Parties when it is signed and acknowledged by the duly authorized representatives of both Parties, and is approved by Customer's governing body and the Board.

(Signatures appear on next page)

In Witness Whereof, the City and Customer, by and through their duly authorized officers and representatives, have executed this Amendment.

City of Troy:

By: _____
Dane Slater
Its: Mayor

By: _____
Aileen Bittner
Its: City Clerk

City of Detroit:

By: _____
Sue F. McCormick
Its: Director, Water and Sewerage Department

APPROVED BY
TROY CITY COUNCIL ON:

Date

APPROVED BY DETROIT
BOARD OF WATER COMMISSIONERS ON:

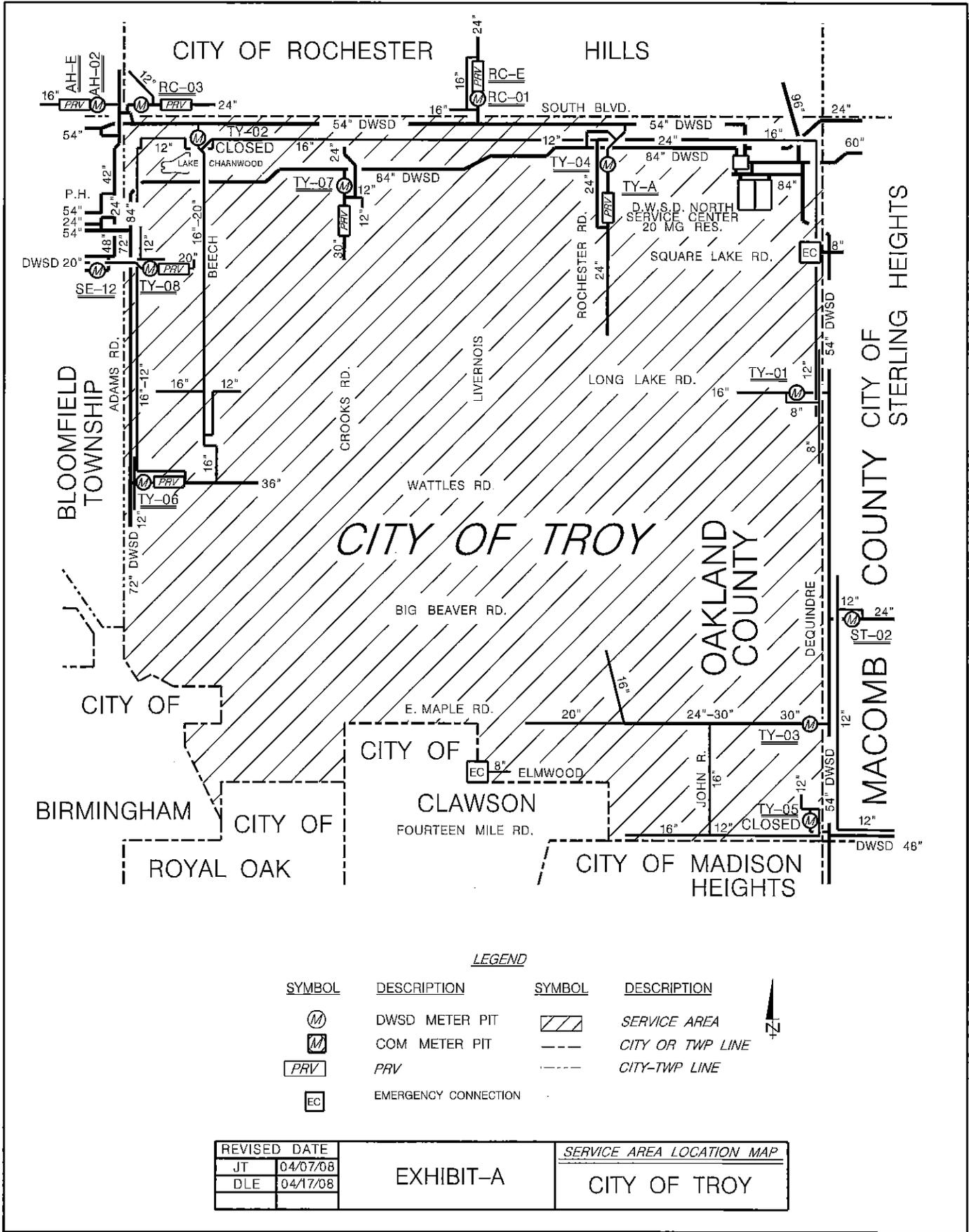
Date

SECOND AMENDED EXHIBIT A

Customer's Water Distribution Points

This Exhibit contains the following information:

1. The corporate limits of Customer;
2. The agreed upon water Service Area of Customer which (a) may or may not be entirely within the corporate limits of Customer and (b) which may or may not include the entire area within the Customer's corporate limits;
3. The specific location of the Water Distribution Points, including any Board approved emergency connections;
4. The designation of appurtenances to be maintained by Customer and those to be maintained by the Board; and
5. A list of any closed meter locations.



REVISED DATE		EXHIBIT-A	SERVICE AREA LOCATION MAP
JT	04/07/08		CITY OF TROY
DLE	04/17/08		

EXHIBIT A

City of Troy Emergency Connections:

Connection to Clawson (SOCWA)

8" GV&W – at the intersection of Main and Elmwood

Connection to Sterling Heights

8" GV&W – across from Beaumont Hospital at 44201 Dequindre Road

City of Troy Water Customers Outside of Corporate Limits:

3300 W. South Blvd., Rochester Hills

3061 Adams Rd., Bloomfield Twp.

6001 Adams Rd., Bloomfield Twp.

City of Troy Master Meters Not In Service:

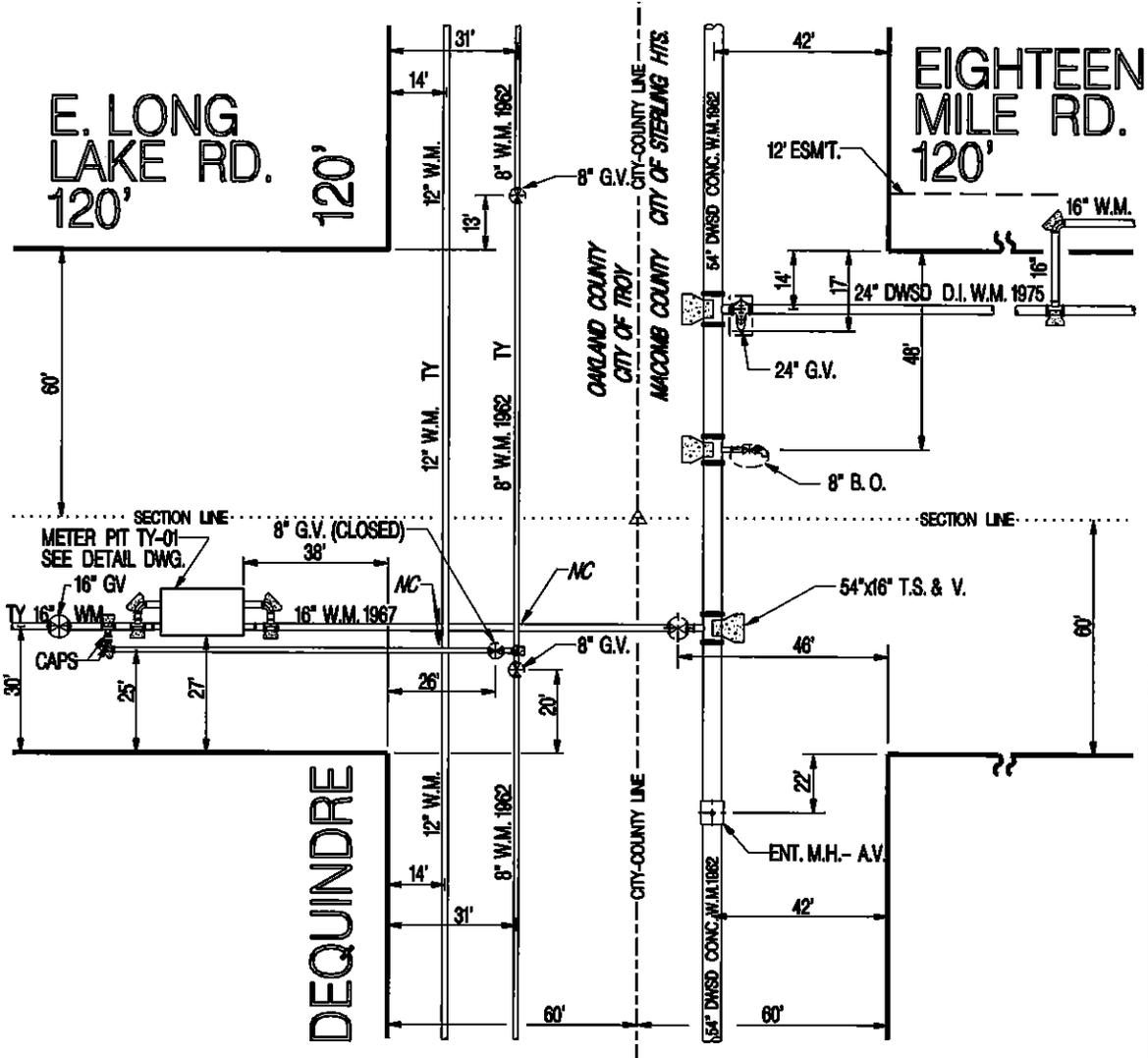
TY-02

TY-05

EXHIBIT A TY-01

DEQUINDRE & LONG LAKE RD.

CITY OF TROY



SITE PLAN
NOT TO SCALE

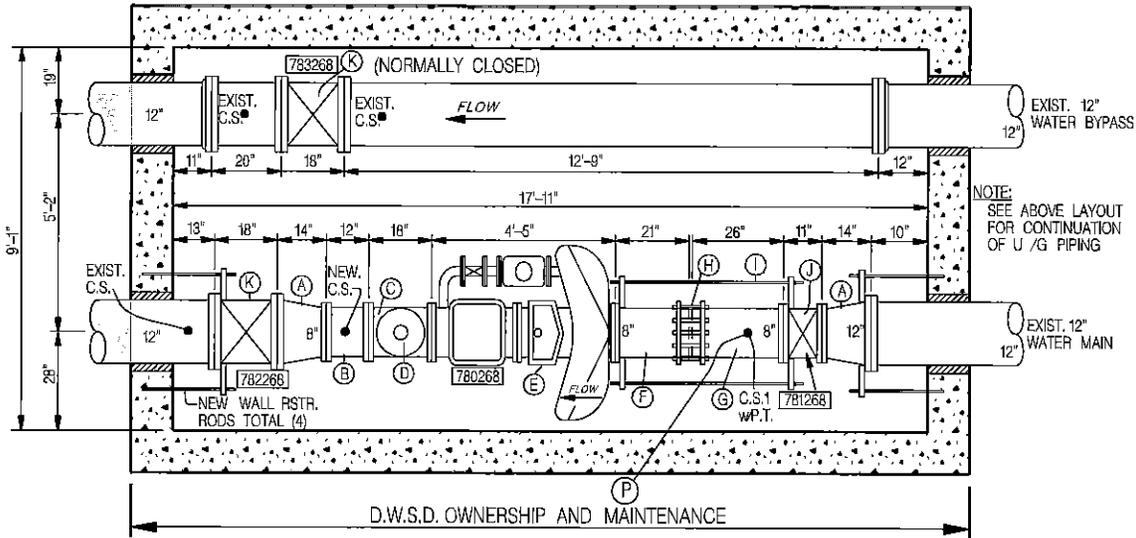
TY - CITY OF TROY
OWNERSHIP & MAINTENANCE

LOCATIONS SUBJECT
TO VERIFICATION IN
THE FIELD.



EXHIBIT A TY-01

DEQUINDRE & LONG LAKE RD.
CITY OF TROY



METER PIT DETAIL
NOT TO SCALE

CITY OF TROY
OWNERSHIP & MAINTENANCE

LEGEND			
TAG	QTY.	DESCRIPTION	SIZE
A	2	12"x8" FLGD. CONCENTRIC REDUCERS, 14" F-F	12"x8"
B	1	8"x1" F-F PIPE w/1" TAP, D.I.	8"
C	1	8"x3" FLGD. TEST TEE, D.I., 9" C-F	8"x3"
D	1	TEST TEE ASSEMBLY w/3" COMPANION FLANGE	-
E	1	8"x2" FLGD. FIRELINE COMPACT METER, W3500, 53" F-F	8"x2"
F	1	8"x1'-9" F-PE PIPE, GADR, D.I.	8"
G	1	8"x2'-2" F-PE PIPE, w/1" TAP, GADR, D.I.	8"
H	1	8" 'DRESSER STYLE' PIPE COUPLING	8"
I	LOT	COUPLING RESTRAINTS: (4) 60" LONG THRD. RODS, (8) EAR PLATES, 75" DIA.	
J	1	8" FLDG. GATE VALVE, RESILIENT SEAT, 11.5" F-F, 'A.F.C.'	8"
K	2	GATE VALVE	12"

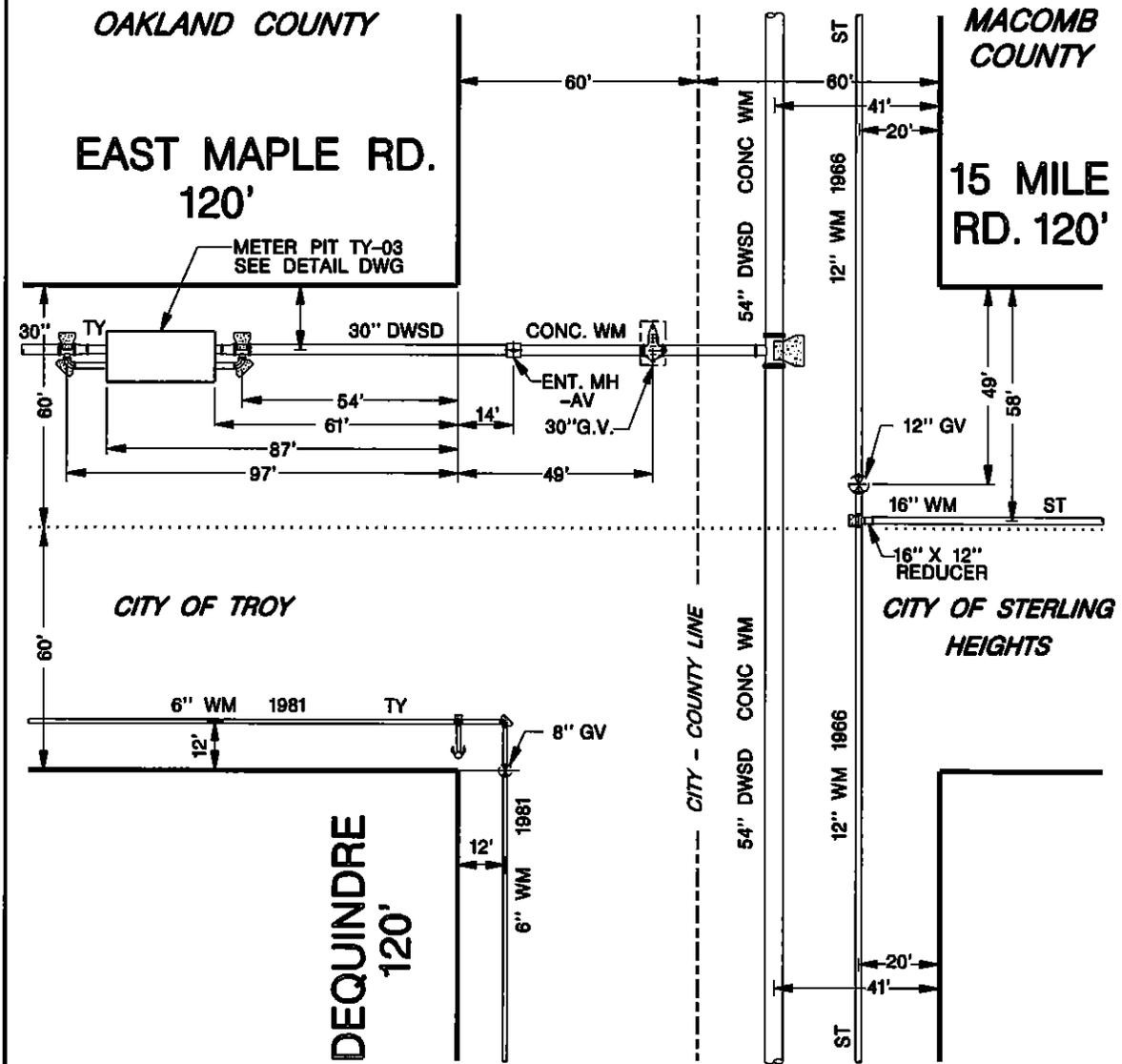
TYPICAL PRESSURE LOSS THRU METER	
METER TYPE	P.S.I. LOSS
VENTURI	1 TO 2
MAG	0
TURBINE	4 - 6

Ⓟ -UPSTREAM PRESSURE TRANSMITTER,
D.W.S.D. OWNERSHIP & MAINTENANCE

ADDRESS _____ 40999 DEQUINDRE
 FEED TO _____ CITY OF TROY
 FEED FROM _____ 54" D.W.S.D. TRANS. MAIN
 TYPE OF METER _____ SENSUS TURBO
 SIZE OF METER _____ 8"x2"
 METER NUMBER _____ 8")1413582 & 2")1565827
 DATE METER SET _____ 5 / 4 / 2001
 METER PIT CONST & SIZE _____ 18'-0" x 9'-1" REINF. CONCRETE
 SECTION MAP _____ 20-Y
 REMARKS _____ NONE
 GATE BOOK _____ N-1073
 DRAWN BY _____ NICHOLS 2 / 14 / 08



EXHIBIT A TY-03 EAST MAPLE ROAD AND DEQUINDRE CITY OF TROY



TY - CITY OF TROY
OWNERSHIP & MAINTENANCE
ST - CITY OF STERLING HEIGHTS
OWNERSHIP & MAINTENANCE

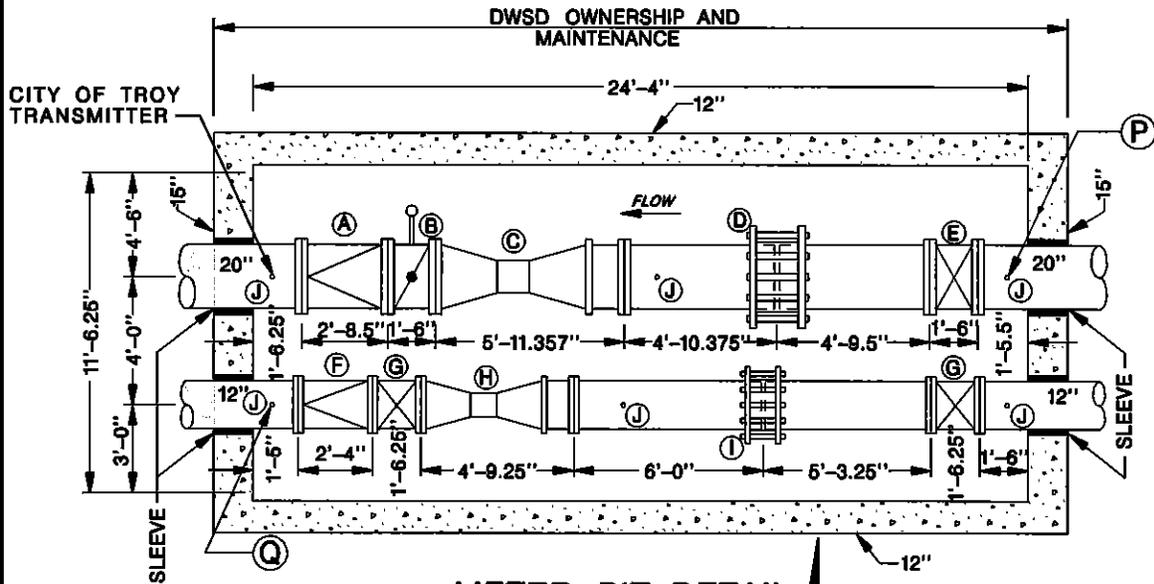
SITE PLAN
NOT TO SCALE



LOCATIONS SUBJECT
TO VERIFICATION IN
THE FIELD.



EXHIBIT A TY-03 EAST MAPLE ROAD AND DEQUINDRE CITY OF TROY



METER PIT DETAIL

CITY OF TROY OWNERSHIP & MAINTENANCE

NOT TO SCALE

TYPICAL PRESSURE LOSS THRU METER	
METER TYPE	P.S.I. LOSS
VENTURI	1 TO 2
MAG	0
TURBINE	4 - 6

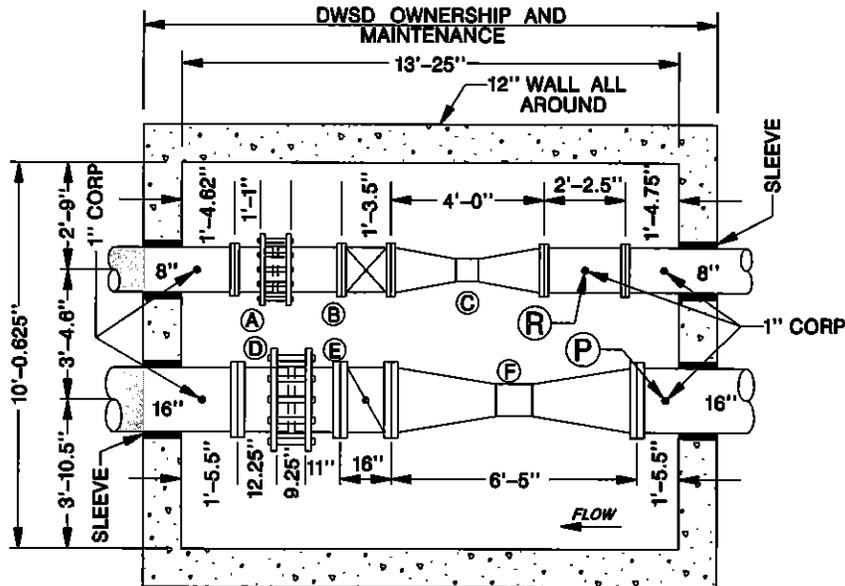
LEGEND			
TAG	QTY.	DESCRIPTION	SIZE
A	1	CHECK VALVE	20"
B	1	BUTTERFLY VALVE /HYDRAULIC OPERATOR	20"
C	1	B.I.F VENTURI TUBE	20" X 14.046"
D	1	DRESSER COUPLING	20"
E	1	GATE VALVE (CCW)	20"
F	1	CHECK VALVE	12"
G	2	GATE VALVE	12"
H	1	B.I.F VENTURI TUBE	12" X 6.773"
I	1	DRESSER COUPLING	12"
J	6	CORP	1"

- (P)** -UPSTREAM PRESSURE TRANSMITTER, D.W.S.D. OWNERSHIP & MAINTENANCE
- (Q)** -DOWNSTREAM PRESSURE TRANSMITTER, D.W.S.D. OWNERSHIP & MAINTENANCE

ADDRESS _____ 2971 E. MAPLE
 FEED TO _____ CITY OF TROY
 FEED FROM _____ 54" DWSO TRANS. MAIN
 TYPE OF METER _____ B.I.F. VENTURI TUBES (2)
 SIZE OF METER _____ 20" X 14.046" 12" X 6.773"
 METER NUMBER _____ 12"-55424-1 20"-55424-2
 DATE METER SET _____ 12/7/1966
 METER PIT CONST & SIZE _____ 24'-4" x 11'-6.25" ID REINF. CONC
 SECTION MAP _____ 20-Y
 GATE BOOK _____ E-1064
 FIELD BOOK _____ 1967-MP-32-35
 DRAWN BY _____ A.D. BOLTON 2/14/08
 REMARKS _____



EXHIBIT A TY-04 ROCHESTER AND SOUTH BLVD. CITY OF TROY



CITY OF TROY OWNERSHIP & MAINTENANCE

METER PIT DETAIL Z
NOT TO SCALE

TYPICAL PRESSURE LOSS THRU METER	
METER TYPE	P.S.I. LOSS
VENTURI	1 TO 2
MAG	0
TURBINE	4 - 6

LEGEND			
TAG	QTY.	DESCRIPTION	SIZE
A	1	DRESSER COUPLING	8"
B	1	GATE VALVE (CCW) 785271	8"
C	1	B.I.F. VENTURI TUBE 783271	8" X 3.494"
D	1	DRESSER COUPLING	16"
E	1	B.FLY VALVE HYD. OPER. 782271	16"
F	1	B.I.F. VENTURI TUBE 780271	16" X 9.142"

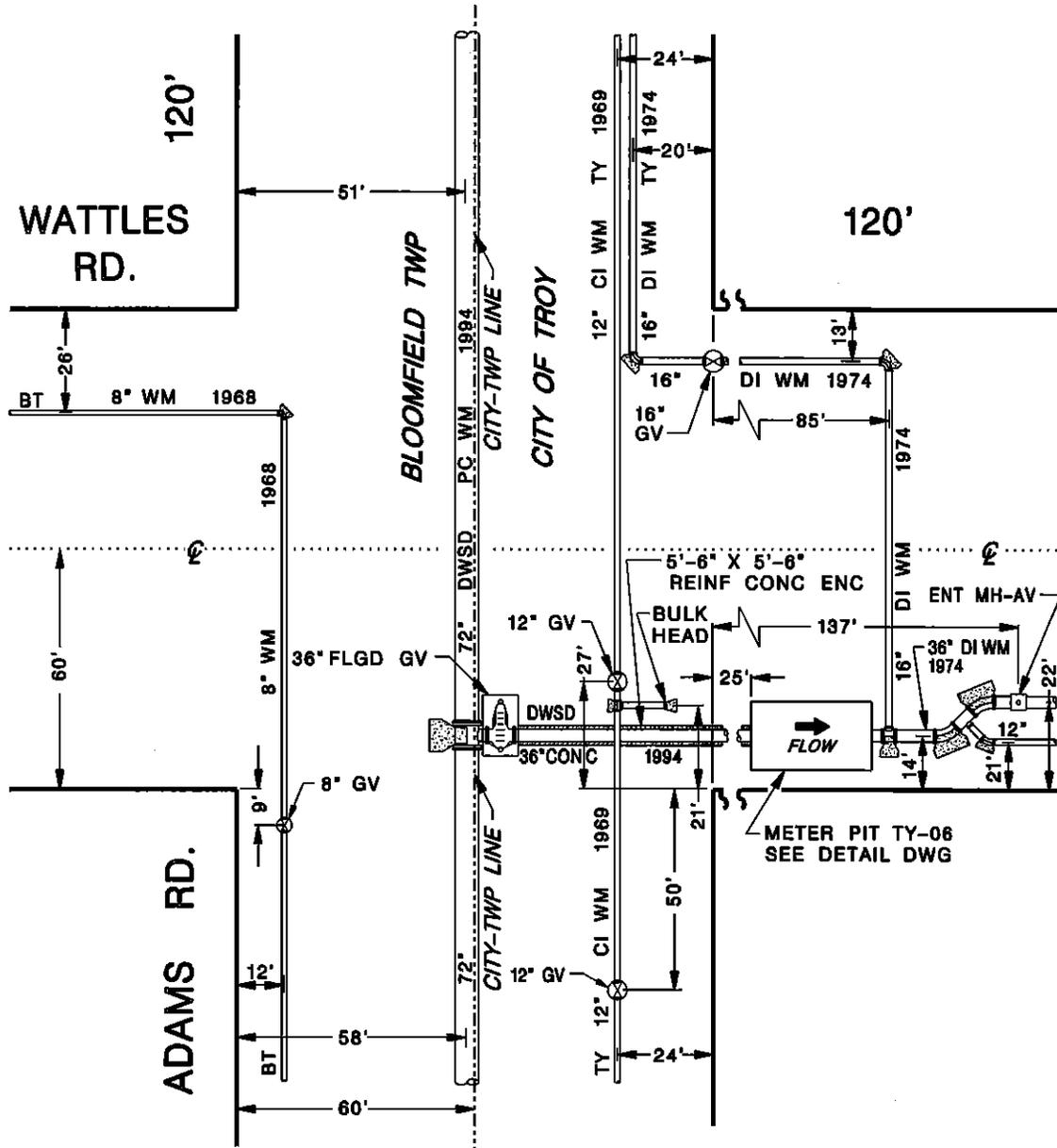
- P - UPSTREAM PRESSURE TRANSMITTER, D.W.S.D. OWNERSHIP & MAINTENANCE
- R - OTHER PRESSURE TRANSMITTER - D.W.S.D. OWNERSHIP & MAINTENANCE

ADDRESS _____ 6971 ROCHESTER
 FEED TO _____ CITY OF TROY
 FEED FROM _____ 54" DWSD TRANS MAIN
 TYPE OF METER _____ 2 - B.I.F. VENTURI TUBES
 SIZE OF METER _____ 16" X 9.142" 8" X 3.494"
 METER NUMBER _____ 16") 83870-1 8") 83869-1
 DATE METER SET _____ 02/02/1971
 METER PIT CONST & SIZE _____ 13'-0.25" X 10'-0.625" ID REINF CONC
 SECTION MAP _____ 18-4
 GATE BOOK _____ N-1087
 FIELD BOOK _____
 DRAWN BY _____ A.D. BOLTON 02/19/2008
 REMARKS _____



EXHIBIT A TY-06

ADAMS AND WATTLES CITY OF TROY



TY - CITY OF TROY
OWNERSHIP & MAINTENANCE
BT - BLOOMFIELD TOWNSHIP
OWNERSHIP & MAINTENANCE

SITE PLAN
N.T.S.



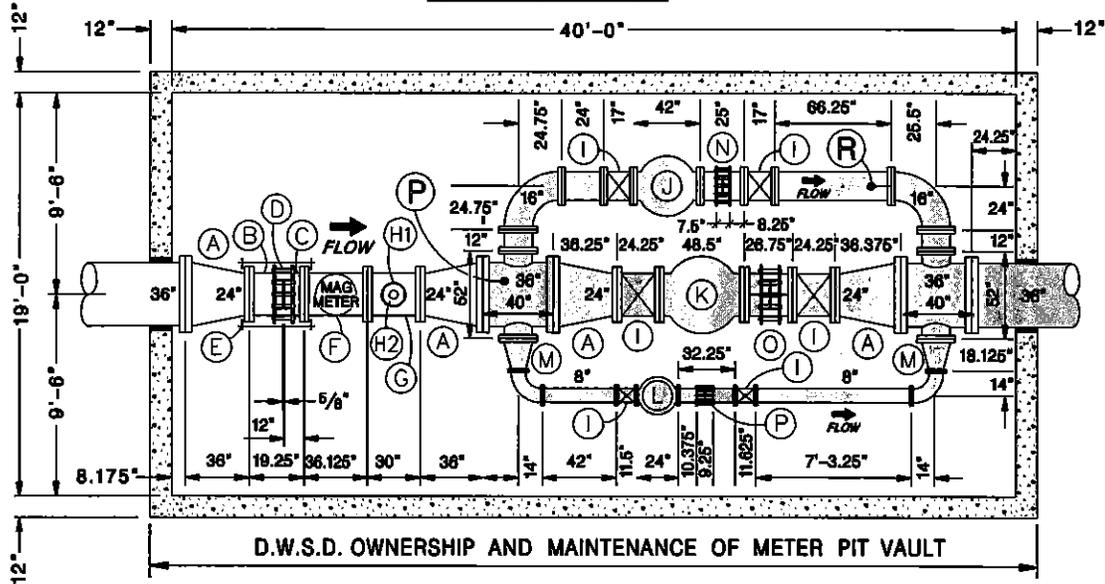
LOCATIONS SUBJECT
TO VERIFICATION IN
THE FIELD.



EXHIBIT A TY-06

ADAMS AND WATTLES

CITY OF TROY



 CITY OF TROY OWNERSHIP & MAINTENANCE

TYPICAL PRESSURE LOSS THRU METER	
METER TYPE	P.S.I. LOSS
VENTURI	1 TO 2
MAG	0
TURBINE	4 - 8

METER PIT DETAIL

N.T.S.



P UPSTREAM PRESSURE TRANSMITTER, DWSD OWNERSHIP & MAINTENANCE

R OTHER PRESSURE TRANSMITTER, DWSD OWNERSHIP & MAINTENANCE

LEGEND		
TAG QTY.	DESCRIPTION	SIZE
A 4	36" x 24" FLGD. CONCENTRIC REDUCERS, D.I. 16" F-F	36" x 24"
B 1	24" x 1'-7 1/4" F-PE PIPE, GADR. D.I.	24"
C 1	24" x 1'-0" F-PE PIPE, GADR. D.I.	24"
D 1	24" 'DRESSER STYLE' PIPE COUPLING	24"
E LOT	COUPLING RESTR.: (8) 43" LONG THRD. RODS. (12) EAR PLATES	1" Ø
F 1	24" FLGD. MAGNETIC FLOWMETER, 36.125" F-F	24"
G 1	24" x 6" FLGD. TEST TEE, D.I. 16" C-F	24" x 6"
H1 1	6" x 4" FLGD. CONC. REDUCER, D.I., 9" F-F	6" x 4"

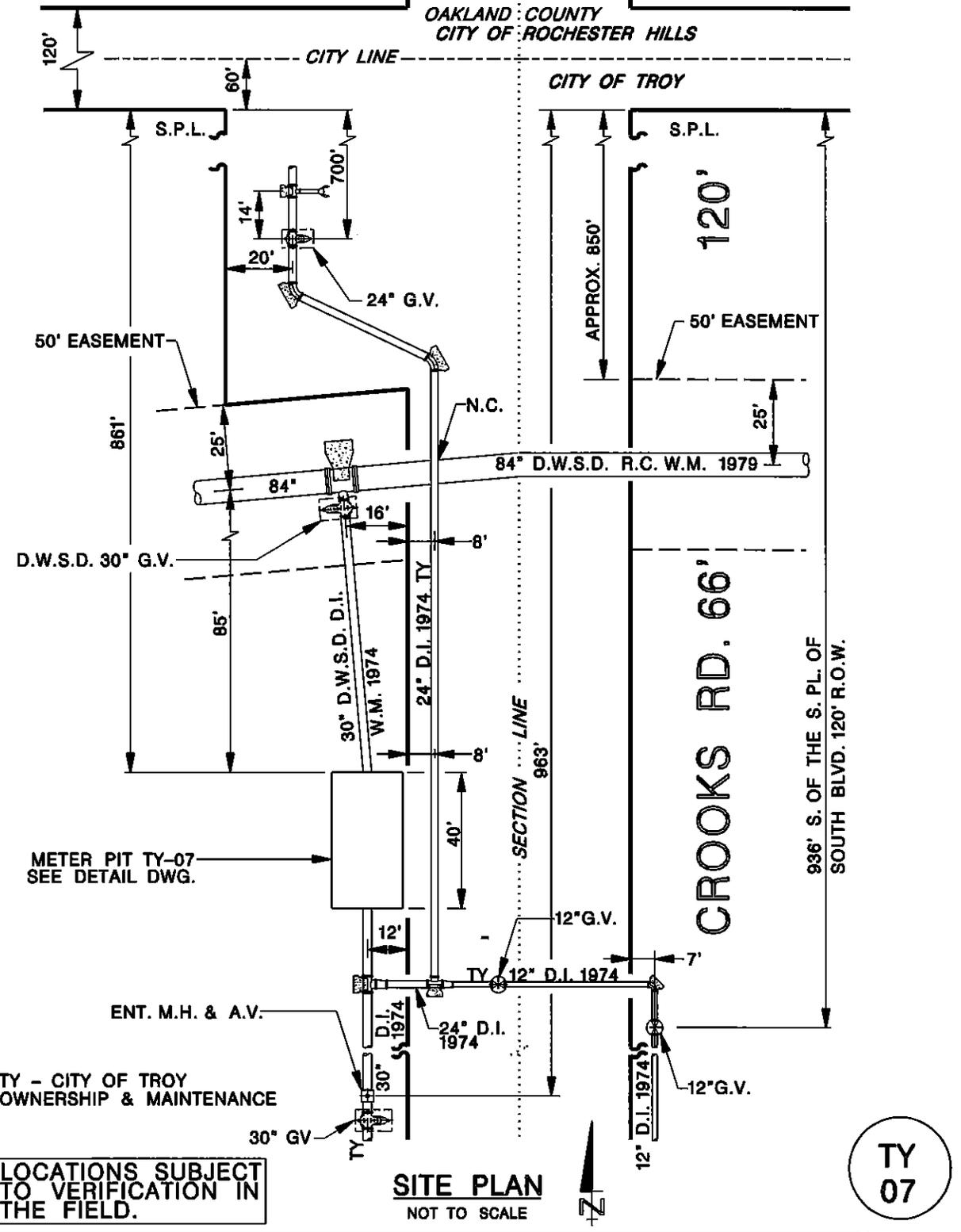
TAG QTY.	DESCRIPTION	SIZE
H2 1	TEST TEE ASSEMBLY w/ 3" x 9" O.D. COMPANION FLANGE	-
I 6	GATE VALVE	6", 16", 24"
J 1	16" ROSS P.R.V.	16"
K 1	24" ROSS P.R.V.	24"
L 1	8" ROSS P.R.V.	8"
M 1	8" x 16" REDUCER	8" x 16"
N 1	16" 'DRESSER STYLE' PIPE COUPLING	16"
O 1	24" 'DRESSER STYLE' PIPE COUPLING	24"
P 1	8" 'DRESSER STYLE' PIPE COUPLING	8"

LOCATION _____ ADAMS AND WATTLES
 FEED TO _____ CITY OF TROY
 FEED FROM _____ 72" DWSD TRANSMISSION MAIN
 TYPE OF METER _____ ABB MAG
 SIZE OF METER _____ 24"
 METER NUMBER _____ V/34729/17/1
 DATE OF METER SET _____ 5/12/2000
 METER PIT SIZE & CONST. _____ 19'-0" x 40'-0" REINF CONCRETE
 TYPE & SIZE OF P.R.V. _____ ROSS PRV - 24", 16" & 8"
 DATE VALVE SET _____
 SECTION MAP NO. _____ 13-1
 GATE BOOK NO. _____ NONE
 REMARKS _____ NONE
 DRAWN BY: _____ DWS-805 01/01/2003
 DRAWN BY: _____ D.G. LLAMAS 03/08



EXHIBIT A TY-07
CROOKS AND SOUTH BLVD.
CITY OF TROY

SOUTH BLVD. (TWENTY MILE RD.) N.P.L. 120'



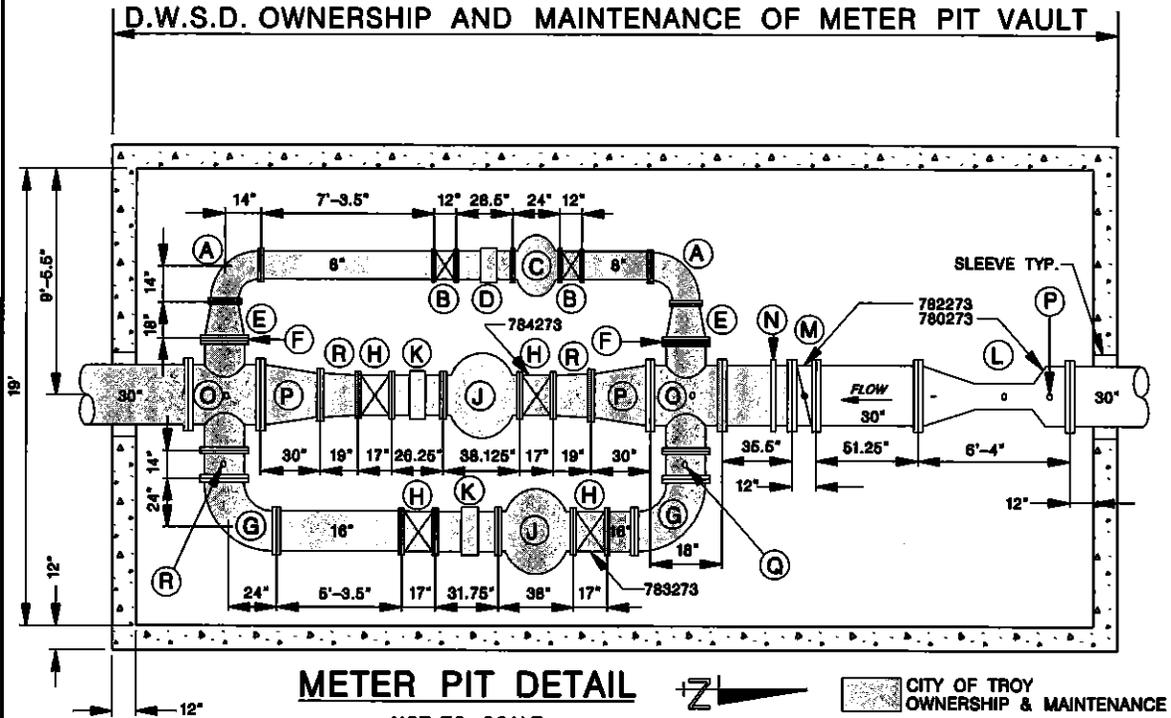
LOCATIONS SUBJECT TO VERIFICATION IN THE FIELD.

SITE PLAN
 NOT TO SCALE

TY
07

EXHIBIT A TY-07

CROOKS AND SOUTH BLVD. CITY OF TROY



LEGEND			
TAG	QTY.	DESCRIPTION	SIZE
A	2	8" 90° BEND	8"
B	2	8" G.V.	8"
C	1	8" ROSS P.R.V.	8"
D	1	8" DRESSER COUPLING	8"
E	2	16"x8" REDUCER	16"x8"
F	2	16" FILLER RINGS @ 7" EACH	16"
G	2	16" 90° BEND	16"
H	2	16" G.V.	16"
J	1	16" ROSS P.R.V.	16"
K	1	16" DRESSER COUPLING	16"

LEGEND			
TAG	QTY.	DESCRIPTION	SIZE
L	1	30" B.I.F. VENTURI METER	30"
M	1	30" BUTTERFLY VALVE	30"
N	1	30" DRESSER COUPLING	30"
O	2	30" X 16" TEE	30"X16"
P	2	30" X 18" REDUCER	30"X16"
R	2	18" X 18" REDUCER	18"X18"

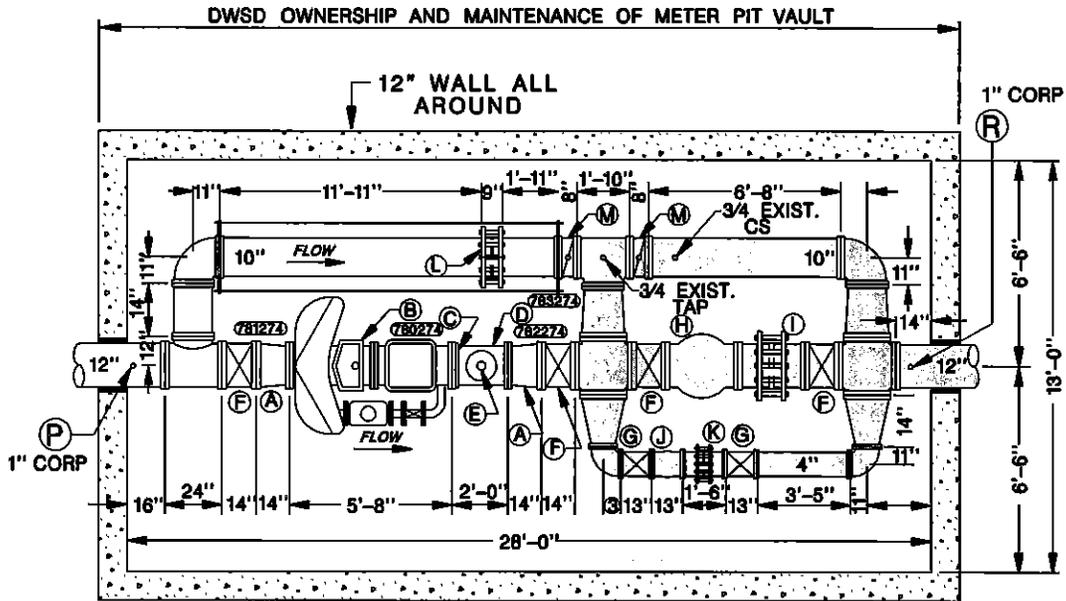
TYPICAL PRESSURE LOSS THRU METER	
METER TYPE	P.S.I. LOSS
VENTURI	1 TO 2
MAG	0
TURBINE	4 - 6
B.I.F. VENTURI WORKICE	10 - 15

- UPSTREAM PRESSURE TRANSMITTER, D.W.S.D. OWNERSHIP & MAINTENANCE
- DOWNSTREAM PRESSURE TRANSMITTER, D.W.S.D. OWNERSHIP & MAINTENANCE
- OTHER PRESSURE TRANSMITTER, D.W.S.D. OWNERSHIP & MAINTENANCE

FEED TO _____ CITY OF TROY
 FEED FROM _____ 84" D.W.S.D. TRANS. MAIN
 TYPE OF METER _____ B.I.F. VENTURI & ORIFICE
 SIZE OF METER _____ V) 30" X 17.4" O) 30" X 5.994"
 TYPE OF P.R.V. _____ 8") ROSS 16") ROSS
 SIZE OF P.R.V. _____ 8" 16" X 2
 METER NUMBER _____ O) 37194-1 V) 37200-1
 DATE METER SET _____ 01/06/1981
 METER PIT CONST & SIZE _____ 40'-0" X 19'-0" I.D., REINF. CONC.
 SECTION MAP _____ 14-4 & 16-4
 REMARKS _____
 GATE BOOK _____ N-1095 & N-1145
 DRAWN BY _____ M. SCOTT 03/28/08

TY
07

EXHIBIT-A TY-08 SQUARE LAKE RD. AND ADAMS CITY OF TROY



CITY OF TROY OWNERSHIP AND MAINTENANCE

- (P) - UPSTREAM PRESSURE TRANSMITTER
D.W.S.D. OWNERSHIP & MAINTENANCE
- (R) - OTHER PRESSURE TRANSMITTER
D.W.S.D. OWNERSHIP & MAINTENANCE

METER PIT DETAIL

NOT TO SCALE

TYPICAL PRESSURE LOSS THRU METER	
METER TYPE	P.S.I. LOSS
VENTURI	1 TO 2
MAG	0
TURBINE	4 - 6

LEGEND			
TAG	QTY.	DESCRIPTION	SIZE
A	2	FLGD CONC REDUC DI-F	12" X 10"
B	1	FIRELINE COMPACT METER W5500	10" X 2"
C	1	MEGALUG FLANGE ADAPTER	10"
D	1	10" X 1'-11.5" F-PE PIPE w3" TOL DI	10"
E	1	TEST TEE ASSEMBLY w3" COMP FLANGE	-
F	4	GATE VALVE	12"
G	1	GATE VALVE	4"

LEGEND			
TAG	QTY.	DESCRIPTION	SIZE
H	1	ROSS PRV	12"
I	1	DRESSER CPLG.	12"
J	1	GOLDEN ANDERSON PRV	4"
K	1	DRESSER CPLG.	4"
L	1	DRESSER CPLG.	10"
M	2	BFLY. V. BIF TYPE H	10"

ADDRESS _____ 2985 E. SQUARE LAKE ROAD
 FEED TO _____ CITY OF TROY
 FEED FROM _____ 42" DWSD TRANS MAIN
 TYPE OF METER _____ FIRELINE COMPACT METER W5500
 SIZE OF METER _____ 10" X 2"
 METER NUMBER _____ 10") 1565968 & 2") 1566097
 DATE METER SET _____ 8/18/1999
 TYPE OF PRV _____ ROSS & GOLDEN ANDERSON
 SIZE OF PRV _____ 12" 4"
 METER PIT CONST & SIZE _____ 28'-0" X 13'-0" ID REINF CONC
 SECTION MAP _____ 13-3
 GATE BOOK _____ N-1127
 FIELD BOOK _____
 DRAWN BY _____ A.D. BOLTON 03/28/2008
 REMARKS _____



SECOND AMENDED EXHIBIT B

Projected Annual Volume and Minimum Annual Volume (Table 1)
Pressure Range and Maximum Flow Rate (Table 2)
Flow Split Assumptions (Table 3)
Addresses for Notice (Table 4)

Table 1 and Table 2 set forth the agreed upon Projected Annual Volumes, Minimum Annual Volumes, Pressure Ranges and Maximum Flow Rates for the term of this Contract provided that figures in bold type face are immediately enforceable pursuant to the terms of Section 5.07 and italicized figures are contained for planning purposes only but will become effective absent the negotiated replacements anticipated in Section 5.07.

The approximate rate of flow by individual meter set forth in Table 3 is the assumption upon which the Pressure Range commitments established in Table 2 have been devised. Should Customer deviate from these assumptions at any meter(s), the Board may be unable to meet the stated Pressure Range commitments in this Contract or in the contract of another customer of the Board and Section 5.08 of this Contract may be invoked.

SECOND AMENDED EXHIBIT B

Table 1
 Projected Annual Volume and Minimum Annual Volume

Fiscal Year Ending June 30	Projected Annual Volume (Mcf)	Minimum Annual Volume (Mcf)
2009	630,000	315,000
2010	630,000	315,000
2011	576,000	288,000
2012	576,000	288,000
2013	576,000	288,000
2014	530,000	265,000
2015	543,000	271,500
2016	556,000	278,000
2017	569,000	284,500
2018	580,000	290,000
2019	<i>580,000</i>	<i>290,000</i>
2020	<i>580,000</i>	<i>290,000</i>
2021	<i>580,000</i>	<i>290,000</i>
2022	<i>580,000</i>	<i>290,000</i>
2023	<i>580,000</i>	<i>290,000</i>
2024	<i>580,000</i>	<i>290,000</i>
2025	<i>580,000</i>	<i>290,000</i>
2026	<i>580,000</i>	<i>290,000</i>
2027	<i>580,000</i>	<i>290,000</i>
2028	<i>580,000</i>	<i>290,000</i>
2029	<i>580,000</i>	<i>290,000</i>
2030	<i>580,000</i>	<i>290,000</i>
2031	<i>580,000</i>	<i>290,000</i>
2032	<i>580,000</i>	<i>290,000</i>
2033	<i>580,000</i>	<i>290,000</i>
2034	<i>580,000</i>	<i>290,000</i>
2035	<i>580,000</i>	<i>290,000</i>
2036	<i>580,000</i>	<i>290,000</i>
2037	<i>580,000</i>	<i>290,000</i>
2038	<i>580,000</i>	<i>290,000</i>

SECOND AMENDED EXHIBIT B

Table 2
Pressure Range and Maximum Flow Rate

Calendar Year	Pressure Range (psi)											
	Meter TY-01		Meter TY-03		Meter TY-04		Meter TY-06		Meter TY-07		Meter TY-08	
	Min	Max										
2008	35	74	51	77	114	149	87	111	72	96	104	134
2009	35	74	51	77	114	149	87	111	72	96	104	134
2010	35	74	51	77	114	149	87	111	72	96	104	134
2011	35	74	51	77	114	149	87	111	72	96	104	134
2012	35	74	51	77	114	149	87	111	72	96	104	134
2013	50	75	51	77	114	149	87	111	72	96	104	134
2014	50	75	51	77	114	149	87	111	72	96	104	134
2015	50	75	51	77	114	149	87	111	72	96	104	134
2016	50	75	51	77	114	149	87	111	72	96	104	134
2017	50	75	51	77	114	149	87	111	72	96	104	134
2018	50	75	51	77	114	149	87	111	72	96	104	134
2019	50	75	51	77	114	149	87	111	72	96	104	134
2020	50	75	51	77	114	149	87	111	72	96	104	134
2021	50	75	51	77	114	149	87	111	72	96	104	134
2022	50	75	51	77	114	149	87	111	72	96	104	134
2023	60	80	65	82	114	149	87	111	80	96	104	134
2024	60	80	65	82	114	149	87	111	80	96	104	134
2025	60	80	65	82	114	149	87	111	80	96	104	134
2026	60	80	65	82	114	149	87	111	80	96	104	134
2027	60	80	65	82	114	149	87	111	80	96	104	134
2028	60	80	65	82	114	149	87	111	80	96	104	134
2029	60	80	65	82	114	149	87	111	80	96	104	134
2030	60	80	65	82	114	149	87	111	80	96	104	134
2031	60	80	65	82	114	149	87	111	80	96	104	134
2032	60	80	65	82	114	149	87	111	80	96	104	134
2033	60	80	65	82	114	149	87	111	80	96	104	134
2034	60	80	65	82	114	149	87	111	80	96	104	134
2035	60	80	65	82	114	149	87	111	80	96	104	134
2036	60	80	65	82	114	149	87	111	80	96	104	134
2037	60	80	65	82	114	149	87	111	80	96	104	134

SECOND AMENDED EXHIBIT B

Table 2 (continued)
 Pressure Range and Maximum Flow Rate

Calendar Year	Maximum Flow Rate (mgd)	
	<u>Max Day</u>	<u>Peak Hour</u>
2008	35.0	55.0
2009	35.0	55.0
2010	28.0	38.0
2011	28.0	38.0
2012	28.0	38.0
2013	28.0	39.0
2014	28.0	39.0
2015	29.0	39.0
2016	29.0	40.0
2017	29.0	40.0
2018	<i>29.0</i>	<i>40.0</i>
2019	<i>29.0</i>	<i>40.0</i>
2020	<i>29.0</i>	<i>40.0</i>
2021	<i>29.0</i>	<i>40.0</i>
2022	<i>29.0</i>	<i>40.0</i>
2023	<i>29.0</i>	<i>40.0</i>
2024	<i>29.0</i>	<i>40.0</i>
2025	<i>29.0</i>	<i>40.0</i>
2026	<i>29.0</i>	<i>40.0</i>
2027	<i>29.0</i>	<i>40.0</i>
2028	<i>29.0</i>	<i>40.0</i>
2029	<i>29.0</i>	<i>40.0</i>
2030	<i>29.0</i>	<i>40.0</i>
2031	<i>29.0</i>	<i>40.0</i>
2032	<i>29.0</i>	<i>40.0</i>
2033	<i>29.0</i>	<i>40.0</i>
2034	<i>29.0</i>	<i>40.0</i>
2035	<i>29.0</i>	<i>40.0</i>
2036	<i>29.0</i>	<i>40.0</i>
2037	<i>29.0</i>	<i>40.0</i>

SECOND AMENDED EXHIBIT B

Table 3
Flow Split Assumptions

Meter	Assumed Flow Split (2013-2017)
TY-01	0 – 3 %
TY-03	0 – 25 %
TY-04	30 – 75 %
TY-06	0 – 25 %
TY-07	20 – 30 %
TY-08	5 – 10 %

Table 4
Addresses for Notice

<p>If to the Board:</p> <p>Director Detroit Water and Sewerage Department 735 Randolph Street Detroit, Michigan 48226 Attention: General Counsel</p>	<p>If to Customer:</p> <p>City Clerk City of Troy 500 West Big Beaver Troy, Michigan 48084</p> <p>cc: Director of Public Works</p>
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