

ADDENDUM No. 1

ITB No. 4511

Utility Infrastructure Materials

Due: September 12, 2017 at 10:00 A.M. (Local Time)

The following changes, additions, and/or deletions shall be made to the Invitation to Bid for **Utility Infrastructure Materials, ITB No. 4511**, on which proposals will be received on/or before September 12, 2017, by 10:00 A.M. (Local Time).

The information contained herein shall take precedence over the original documents and all previous addenda (if any), and is appended thereto. **This Addendum includes 25 page(s).**

Bidder is to acknowledge receipt of this Addendum No. 1, including all attachments (if any) in its Bid by so indicating on the Invitation to Bid Form. Bids submitted without acknowledgement of receipt of this addendum will be considered nonconforming.

The following forms provided within the ITB Document must be included in submitted bids at bid opening.

- **Vendor Conflict of Interest Disclosure Form**
- **City of Ann Arbor Non-Discrimination Ordinance Declaration of Compliance**

Bids that fail to provide these completed forms listed above upon bid opening will be rejected as non-responsive and will not be considered for award.

I. CORRECTIONS/ADDITIONS/DELETIONS

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

<u>Section/Page(s)</u>	<u>Change</u>
9 to 28	Revised bid form to include Group 12: Traverse City Fire Hydrant Parts
29 to 32	Revised to update fire hydrant specification and include Traverse City Fire Hydrant Diagram

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

BID FORM

Section 1 - Schedule of Prices

Vendor: _____

Project: ITB 4511 - Utility Infrastructure Materials

1. Quantities are only estimates and not guaranteed. Where an estimated quantity of zero (0) is identified, provide a unit price for the material, but do not include in the total bid price.
2. The pricing provided under this ITB shall be firm for one (1) year from the date of City Council approval, which is anticipated in October 2017. If there is a required price increase for any or all groups prior to the one (1) year price expiration, append information detailing the proposed price increases.
3. Bidders may elect to bid on individual bid groups or the entire bid package. For a bid group to be deemed complete, the bidder must provide pricing on all items within the group. The City, at its sole discretion, may elect to award individual bid groups to separate bidders, or award all bid groups to one bidder.
4. Each bid group includes a line item for the purchase of unlisted parts of a similar nature or type. The bidder must provide the percent discount from the Manufacturer's list price for items that are similar to those identified in the bid group, such as an unlisted size or alternate material. As manufacturer list prices change, the net price to the City will automatically change.

Group 1 : Ductile Iron Fittings

(Individual fittings shall be provided with accessory packs including standard MJ glands, cor-blue bolts and plain rubber gaskets.)

Item	Description	Estimated Quantity	Unit Price	Total Price	Brand/Model Quoted
1	BEND, 12" 22 1/2 DEGREE MJ	0	\$ _____	\$ _____ -	_____
2	BEND, 16" 22 1/2 DEGREE MJ	0	\$ _____	\$ _____ -	_____
3	BEND, 20" 22 1/2 DEGREE MJ	0	\$ _____	\$ _____ -	_____

4	BEND, 8" 45 DEGREE MJ	0	\$ _____	\$ _____	-	_____
5	BEND, 12" 45 DEGREE MJ	0	\$ _____	\$ _____	-	_____
6	BEND, 16" 45 DEGREE MJ	0	\$ _____	\$ _____	-	_____
7	TEE, 4", MJ	0	\$ _____	\$ _____	-	_____
8	TEE, 6", MJ	0	\$ _____	\$ _____	-	_____
9	TEE, 8", MJ	4	\$ _____	\$ _____		_____
10	TEE, 12", MJ	0	\$ _____	\$ _____	-	_____
11	TEE, 6" x 4", MJ	0	\$ _____	\$ _____	-	_____
12	TEE, 8" x 6", MJ	4	\$ _____	\$ _____		_____
13	TEE, 12" x 4", MJ	0	\$ _____	\$ _____	-	_____
14	TEE, 12" x 6", MJ	4	\$ _____	\$ _____		_____
15	PLUG, 4" MJ	2	\$ _____	\$ _____		_____
16	PLUG, 6" MJ	2	\$ _____	\$ _____		_____
17	PLUG, 8" MJ	2	\$ _____	\$ _____		_____
18	PLUG, 12" MJ	2	\$ _____	\$ _____		_____
19	PLUG, 16" MJ	2	\$ _____	\$ _____		_____
20	REDUCER, 4" X 3", MJ x MJ	2	\$ _____	\$ _____		_____
21	REDUCER, 6" X 4", MJ x MJ	0	\$ _____	\$ _____	-	_____
22	REDUCER, 8" X 6", MJ x MJ	4	\$ _____	\$ _____		_____

23	REDUCER, 12" X 6", MJ x MJ	0	\$ _____	\$ _____	-
24	REDUCER, 12" X 10", MJLEB x PE	0	\$ _____	\$ _____	-
25	REDUCER, 16" X 12", MJ x MJ	0	\$ _____	\$ _____	-
26	REDUCER, 20" X 12", PE x MJSEB	0	\$ _____	\$ _____	-
27	CAP, 4" MJ	2	\$ _____	\$ _____	
28	CAP, 6" MJ	2	\$ _____	\$ _____	
29	CAP, 8" MJ	2	\$ _____	\$ _____	
30	CAP, 10" MJ	2	\$ _____	\$ _____	
31	CAP, 12" MJ	2	\$ _____	\$ _____	
32	SLEEVE, SOLID 4"x12" DUAL PURPOSE	3	\$ _____	\$ _____	
33	SLEEVE, SOLID 6"x12" DUAL PURPOSE	15	\$ _____	\$ _____	
34	SLEEVE, SOLID 8"x12" DUAL PURPOSE	8	\$ _____	\$ _____	
35	SLEEVE, SOLID 10"x12" DUAL PURPOSE	2	\$ _____	\$ _____	
36	SLEEVE, SOLID 12"x12" DUAL PURPOSE	0	\$ _____	\$ _____	-
37	SLEEVE, SOLID 4" MJ SHORT	10	\$ _____	\$ _____	
38	SLEEVE, SOLID 4" MJ LONG	10	\$ _____	\$ _____	
39	SLEEVE, SOLID 6" MJ SHORT	17	\$ _____	\$ _____	
40	SLEEVE, SOLID 6" MJ LONG	10	\$ _____	\$ _____	
41	SLEEVE, SOLID 8" MJ SHORT	10	\$ _____	\$ _____	

42	SLEEVE, SOLID 8" DI MJ LONG	20	\$ _____	\$ _____	_____
43	SLEEVE, SOLID 10" MJ SHORT	7	\$ _____	\$ _____	_____
44	SLEEVE, SOLID 10" MJ LONG	2	\$ _____	\$ _____	_____
45	SLEEVE, SOLID 12" MJ SHORT	8	\$ _____	\$ _____	_____
46	SLEEVE, SOLID 12" MJ LONG	4	\$ _____	\$ _____	_____
47	SLEEVE, SOLID 14" MJ SHORT	3	\$ _____	\$ _____	_____
48	SLEEVE, SOLID 14" MJ LONG	3	\$ _____	\$ _____	_____
49	SLEEVE, SOLID 16" MJ SHORT	0	\$ _____	\$ _____	-
50	SLEEVE, SOLID 16" MJ LONG	1	\$ _____	\$ _____	_____
51	SLEEVE, SOLID 20" MJ SHORT	8	\$ _____	\$ _____	_____
52	SLEEVE, SOLID 20" MJ LONG	0	\$ _____	\$ _____	-
53	SLEEVE, SOLID 24" MJ SHORT	3	\$ _____	\$ _____	_____
54	SLEEVE, SOLID 24" MJ LONG	3	\$ _____	\$ _____	_____
55	SLEEVE, SOLID 30" MJ SHORT	2	\$ _____	\$ _____	_____

Group 1 Subtotal \$ _____

**Unlisted Ductile Iron Fittings
Percent Discount from List Price** _____ %

Group 2: Ductile Iron Mechanical Joint Restraint Glands

(Individual Mechanical Joint Restraint Glands to be provided with Cor-blue bolts and plain rubber gasket.)

Item	Description	Estimated Quantity	Unit Price	Total Price	Brand/Model Quoted
56	GLAND, 4" MJ JOINT RESTRAINT	10	\$ _____	\$ _____	_____
57	GLAND, 6" MJ JOINT RESTRAINT	25	\$ _____	\$ _____	_____
58	GLAND, 8" MJ JOINT RESTRAINT	25	\$ _____	\$ _____	_____
59	GLAND, 10" MJ JOINT RESTRAINT	4	\$ _____	\$ _____	_____
60	GLAND, 12" MJ JOINT RESTRAINT	4	\$ _____	\$ _____	_____
61	GLAND, 16" MJ JOINT RESTRAINT	0	\$ _____	\$ -	_____
62	GLAND, 20" MJ JOINT RESTRAINT	0	\$ _____	\$ -	_____
63	GLAND, 10" MJ	0	\$ _____	\$ -	_____
64	GLAND, 16" MJ	0	\$ _____	\$ -	_____

Group 2 Subtotal \$ _____

Unlisted Mechanical Joint Restraint Glands
Percent Discount from List Price _____ %

Group 3: Ductile Iron Pipe

(Ductile Iron Pipe shall be provided in nominal 18-foot laying length sections. Quantity is for individual pipe sections.)

Item	Description	Estimated Quantity	Unit Price	Total Price	Brand/Model Quoted
65	PIPE, DUCTILE IRON 4"	4	\$ _____	\$ _____	_____
66	PIPE, DUCTILE IRON 6"	5	\$ _____	\$ _____	_____
67	PIPE, DUCTILE IRON 8"	2	\$ _____	\$ _____	_____
68	PIPE, DUCTILE IRON 10"	1	\$ _____	\$ _____	_____
69	PIPE, DUCTILE IRON 12"	2	\$ _____	\$ _____	_____
70	PIPE, DUCTILE IRON 16"	0	\$ _____	\$ _____ -	_____
71	PIPE, DUCTILE IRON 20"	1	\$ _____	\$ _____	_____
72	PIPE, DUCTILE IRON 24"	1	\$ _____	\$ _____	_____
73	PIPE, DUCTILE IRON 30"	1	\$ _____	\$ _____	_____

Group 3 Subtotal \$ _____

**Unlisted Ductile Iron Pipe
Percent Discount from List Price** _____ %

Group 4: Fire Hydrants

Item	Description	Estimated Quantity	Unit Price	Total Price	Brand/Model Quoted
74	EJ 5BR250 FIRE HYDRANT, 5.5' BURY	10	\$ _____	\$ _____	_____
75	EJ 5BR250 FIRE HYDRANT, 6' BURY	10	\$ _____	\$ _____	_____
76	EJ 6" HYDRANT EXTENSION, SHAFT ONLY	25	\$ _____	\$ _____	_____
77	EJ 12" HYDRANT EXTENSION, SHAFT ONLY	25	\$ _____	\$ _____	_____
78	EJ 6BR 6" HYDRANT EXTENSION KIT	10	\$ _____	\$ _____	_____
79	EJ 6BR 12" HYDRANT EXTENSION KIT	10	\$ _____	\$ _____	_____
80	EJ 5BR250 12" HYDRANT EXTENSION KIT	15	\$ _____	\$ _____	_____
81	EJ 5BR250 6" HYDRANT EXTENSION KIT	15	\$ _____	\$ _____	_____
82	EJ 6BR CONVERSION CHATTER KIT	15	\$ _____	\$ _____	_____
83	EJ 5BR CONVERSION KIT FOR TRAVERSE CITY HYDRANT	10	\$ _____	\$ _____	_____
84	EJ 5BR250 BRK FLG REPAIR KIT, BLACK #00946447	15	\$ _____	\$ _____	_____
85	EJ BR BRK FLG REPAIR KIT, RED #00946345	15	\$ _____	\$ _____	_____
86	EJ 6BR VALVE SEAT	20	\$ _____	\$ _____	_____

87	EJ 6BR VALVE SEAT O RINGS	20	\$ _____	\$ _____	_____
88	EJ 6BR DRIP SHUT OFF	20	\$ _____	\$ _____	_____
89	EJ 6BR VALVE WASHER	20	\$ _____	\$ _____	_____
90	EJ 5BR250 VALVE SEAT	20	\$ _____	\$ _____	_____
91	EJ 5BR VALVE SEAT O RINGS	20	\$ _____	\$ _____	_____
92	EJ 5BR DRIP SHUT OFF	20	\$ _____	\$ _____	_____
93	EJ 5BR VALVE WASHER	20	\$ _____	\$ _____	_____
94	HARRINGTON 4" STORZ NOZZLE CAP F/4-1/2" PORT	10	\$ _____	\$ _____	_____

Group 4 Subtotal \$ _____

**Unlisted Fire Hydrant Parts
Percent Discount from List Price** _____ %

Group 5: Gate Valves

(Individual gate valves shall be provided with accessories packs including standard MJ glands, Cor-blue bolts and plain rubber gaskets.)

Item	Description	Estimated Quantity	Unit Price	Total Price	Brand/Model Quoted
95	GATE VALVE, 4" MJ	4	\$ _____	\$ _____	_____
96	GATE VALVE, 6" MJ	15	\$ _____	\$ _____	_____
97	GATE VALVE, 8" MJ	1	\$ _____	\$ _____	_____
98	GATE VALVE, 8" MJ x TAP	1	\$ _____	\$ _____	_____
99	GATE VALVE, 10" MJ	1	\$ _____	\$ _____	_____
100	GATE VALVE, 12" MJ	5	\$ _____	\$ _____	_____
101	GATE VALVE, 14" MJ	2	\$ _____	\$ _____	_____
102	GATE VALVE, 16" MJ	0	\$ _____	\$ _____ -	_____
103	GATE VALVE, 20" MJ	1	\$ _____	\$ _____	_____
104	STAINLESS TAPPING SLEEVE, 16"X16"X8"	1	\$ _____	\$ _____	_____

Group 5 Subtotal \$ _____

Unlisted Gate Valves
Percent Discount from List Price _____ %

Group 6: Curb and Gate Boxes

Item	Description	Estimated Quantity	Unit Price	Total Price	Brand/Model Quoted
105	CURB BOX, COMPLETE	300	\$ _____	\$ _____	_____
106	CURB BOX, TOP HALF	100	\$ _____	\$ _____	_____
107	CURB BOX, LARGE BASE (BIGFOOT)	50	\$ _____	\$ _____	_____
108	CURB BOX EXTENSION, 9"	100	\$ _____	\$ _____	_____
109	CURB BOX EXTENSION, 16"	100	\$ _____	\$ _____	_____
110	CURB BOX REPAIR LID	200	\$ _____	\$ _____	_____
111	GATE BOX, COMPLETE	50	\$ _____	\$ _____	_____
112	GATE BOX TOP 1/2, WITH LID	100	\$ _____	\$ _____	_____
113	GATE BOX EXTENSION, 14"	50	\$ _____	\$ _____	_____
114	GATE BOX EXTENSION, 18" & 20"	50	\$ _____	\$ _____	_____
115	GATE BOX REGULAR BASE (#6)	50	\$ _____	\$ _____	_____
116	GATE BOX SMALL BASE (#4)	50	\$ _____	\$ _____	_____
117	GATE BOX FIXED RISER	100	\$ _____	\$ _____	_____
118	GATE BOX ADJUSTABLE RISER	50	\$ _____	\$ _____	_____

Group 6 Subtotal \$ _____

**Unlisted Curb and Gate Boxes
Percent Discount from List Price _____ %**

Group 7: Extended Range Couplings

Item Description	Estimated Quantity	Unit Price	Total Price	Brand/Model Quoted
119 4" EXTENDED RANGE COUPLING	10	\$ _____	\$ _____	_____
120 6" EXTENDED RANGE COUPLING	10	\$ _____	\$ _____	_____
121 8" EXTENDED RANGE COUPLING	10	\$ _____	\$ _____	_____
122 10" EXTENDED RANGE COUPLING	4	\$ _____	\$ _____	_____
123 12" EXTENDED RANGE COUPLING	4	\$ _____	\$ _____	_____

Group 7 Subtotal \$ _____

Unlisted Extended Range Couplings
Percent Discount from List Price _____ %

Group 8: Copper Pipe

Item	Description	Estimated Quantity	Unit Price	Total Price	Brand/Model Quoted
124	1" TYPE K COPPER, 60' ROLL	50	\$ _____	\$ _____	_____
125	1" TYPE K COPPER, 100' ROLL	100	\$ _____	\$ _____	_____
126	1-1/2" TYPE K COPPER, 60' ROLL	10	\$ _____	\$ _____	_____
127	2" TYPE K COPPER, 60' ROLL	10	\$ _____	\$ _____	_____
			Group 8 Subtotal \$	_____	
			Unlisted Copper Pipe		
			Percent Discount from List Price	_____	%

Group 9: Brass Fittings

Item	Description	Estimated Quantity	Unit Price	Total Price	Brand/Model Quoted
128	CORPORATION, 3/4" X 1"	20	\$ _____	\$ _____	_____
129	CORPORATION, 1"	500	\$ _____	\$ _____	_____
130	CORPORATION, 1-1/4"	0	\$ _____	\$ _____ -	_____
131	CORPORATION, 1-1/2"	50	\$ _____	\$ _____	_____
132	CORPORATION, 2"	50	\$ _____	\$ _____	_____
133	SADDLE, 8" X 1 1/2"	20	\$ _____	\$ _____	_____
134	SADDLE, 12" X 1 1/2"	25	\$ _____	\$ _____	_____
135	CURB STOP, 1" C-C	450	\$ _____	\$ _____	_____
136	CURB STOP, 1-1/4" C-C	0	\$ _____	\$ _____ -	_____
137	CURB STOP, 1-1/2" C-C	40	\$ _____	\$ _____	_____
138	CURB STOP, 2" C-C	40	\$ _____	\$ _____	_____
139	STRAIGHT COUPLING, 3/4" X 3/4" FNPT X FFLR	40	\$ _____	\$ _____	_____
140	STRAIGHT COUPLING, 1" X 1" FNPT X FFLR	140	\$ _____	\$ _____	_____
141	STRAIGHT COUPLING, 1-1/4" X 1-1/4" FNPT X FFLR	50	\$ _____	\$ _____	_____
142	STRAIGHT COUPLING, 1-1/2" X 1-1/2" FNPT X FFLR	50	\$ _____	\$ _____	_____
143	STRAIGHT COUPLING, 2" X 2" FNPT X FFLR	30	\$ _____	\$ _____	_____
144	TWO-PART UNION, 3/4"	100	\$ _____	\$ _____	_____

145	TWO-PART UNION, 1"	200	\$ _____	\$ _____	_____
146	TWO-PART UNION, 1-1/4"	90	\$ _____	\$ _____	_____
147	TWO-PART UNION, 1-1/2"	40	\$ _____	\$ _____	_____
148	TWO-PART UNION, 2"	20	\$ _____	\$ _____	_____
149	1-1/2" TEE	20	\$ _____	\$ _____	_____
150	2" TEE	20	\$ _____	\$ _____	_____
151	1-1/2" QUARTER BEND (90)	20	\$ _____	\$ _____	_____
152	2" QUARTER BEND (90)	20	\$ _____	\$ _____	_____
153	1" X 3/4" COPPER FLR X FFLR (PIGGY BACK NUT)	50	\$ _____	\$ _____	_____
154	1-1/4" X 1" COPPER FLR X FFLR (PIGGY BACK NUT)	40	\$ _____	\$ _____	_____
155	1-1/2" X 1-1/4" COPPER FLR X FFLR (PIGGY BACK NUT)	40	\$ _____	\$ _____	_____
156	2" X 1-1/2" COPPER FLR X FFLR (PIGGY BACK NUT)	20	\$ _____	\$ _____	_____

Group 9 Subtotal \$ _____

**Unlisted Brass Fittings
Percent Discount from List Price _____ %**

Group 10: Water Meter Accessories

Item	Description	Estimated Quantity	Unit Price	Total Price	Brand/Model Quoted
157	METER HORN, 3/4" X 1" X 1"	150	\$ _____	\$ _____	_____
158	METER HORN, 1" X 1" X 1"	50	\$ _____	\$ _____	_____
159	TANDEM RESETTER, 3/4" X 3/4"	10	\$ _____	\$ _____	_____
160	1-1/2" METER FLANGE, PAIR	50	\$ _____	\$ _____	_____
161	2" METER FLANGE, PAIR	25	\$ _____	\$ _____	_____
162	METER ADAPTER, 5/8" X 3/4", PAIR	100	\$ _____	\$ _____	_____
163	PRESSURE REDUCING VALVE, 3/4"	4	\$ _____	\$ _____	_____
164	PRESSURE REDUCING VALVE, 1"	2	\$ _____	\$ _____	_____
165	PRESSURE REDUCING VALVE, 1-1/4"	1	\$ _____	\$ _____	_____
166	PRESSURE REDUCING VALVE, 1-1/2"	1	\$ _____	\$ _____	_____
167	PRESSURE REDUCING VALVE, 2" REDUCED PRESSURE ZONE	1	\$ _____	\$ _____	_____
168	ASSEMBLY, 1" REDUCED PRESSURE ZONE	5	\$ _____	\$ _____	_____
169	ASSEMBLY, 2"	5	\$ _____	\$ _____	_____

Group 10 Subtotal \$ _____

Unlisted Water Meter Accessories
Percent Discount from List Price _____ %

Group 11: Castings

Item	Description	Estimated Quantity	Unit Price	Total Price	Brand/Model Quoted
170	EJ 1040C COVER, SEWER	20	\$ _____	\$ _____	_____
171	EJ 1040C COVER, STORM	20	\$ _____	\$ _____	_____
172	EJ 1040C COVER, WATER	20	\$ _____	\$ _____	_____
173	EJ 1040AGS COVER, SEWER	50	\$ _____	\$ _____	_____
174	EJ 1040M1 GRATE	5	\$ _____	\$ _____	_____
175	EJ 1040Z FRAME	100	\$ _____	\$ _____	_____
176	EJ 1046Z FRAME	10	\$ _____	\$ _____	_____
177	EJ 1000C COVER, STORM	5	\$ _____	\$ _____	_____
178	EJ 1000C COVER, SEWER	5	\$ _____	\$ _____	_____
179	EJ 1000C COVER, WATER	5	\$ _____	\$ _____	_____
180	EJ 1000Z FRAME	15	\$ _____	\$ _____	_____
181	EJ 7045M1 CURB INLET GRATE	20	\$ _____	\$ _____	_____
182	EJ 7045Z CURB INLET FRAME	20	\$ _____	\$ _____	_____
183	EJ 7050T1 CURB INLET HOOD	20	\$ _____	\$ _____	_____
184	EJ 7060T1 CURB INLET HOOD	5	\$ _____	\$ _____	_____

185	EJ 5000M2 CATCH BASIN GRATE	2	\$ _____	\$ _____	_____
186	EJ 5080Z CATCH BASIN FRAME	2	\$ _____	\$ _____	_____
187	EJ 5000Z CATCH BASIN FRAME	2	\$ _____	\$ _____	_____
188	NEENAH R-3249-F CURB INLET FRAME AND TYPE S COVER	15	\$ _____	\$ _____	_____

Group 11 Subtotal \$ _____

Unlisted Water Meter Accessories
Percent Discount from List Price _____ %

Group 12: Traverse City Fire Hydrant Parts

Item	Description and TC Fire Hydrant Parts Diagram Reference	Estimated Quantity	Unit Price	Total Price	Brand/Model Quoted
189	Copper Gaskets–Used with #5 Only (1 XI)	0	\$ _____	\$ _____ -	_____
190	Bronze Stud 1/2" (2 R)	0	\$ _____	\$ _____ -	_____
191	Bronze Nut 1/2" (3 R)	0	\$ _____	\$ _____ -	_____
192	Cast Iron Top Nut (4 T)	0	\$ _____	\$ _____ -	_____
193	Bronze Stuffing Box Nut with #6 O-Rings (5 F)	0	\$ _____	\$ _____ -	_____
194	Rubber O-Ring Seals–Requires 2 (6 Y)	0	\$ _____	\$ _____ -	_____
195	Top Bronze Piece (7 U)	0	\$ _____	\$ _____ -	_____
196	Bronze Hose Nozzle 2½" (9 G)	0	\$ _____	\$ _____ -	_____
197	Hose Nozzle Cap Gasket (12 X2)	0	\$ _____	\$ _____ -	_____
198	Pumper Nozzle Cap Gasket (2 X2)	0	\$ _____	\$ _____ -	_____
199	Hose Nozzle Cap with Gasket (13 E)	0	\$ _____	\$ _____ -	_____
200	Pumper Nozzle Cap with Gasket (14 E)	0	\$ _____	\$ _____ -	_____
201	Stainless Steel Cotter Pin (16 W)	0	\$ _____	\$ _____ -	_____
202	Full Face Gasket (17 X)	0	\$ _____	\$ _____ -	_____
203	Lipped Gasket (17)	0	\$ _____	\$ _____ -	_____
204	Break Flange O-Ring (XB)	0	\$ _____	\$ _____ -	_____
205	Lock Ring (18)	0	\$ _____	\$ _____ -	_____
206	Upper Rod (Traffic Model Only) (19 DB)	0	\$ _____	\$ _____ -	_____

207	Barrel (Traffic Model) – 3'0" (20 BB)	0	\$ _____	\$ _____	_____
208	Add for each additional 6" of Barrel	0	\$ _____	\$ _____	_____
209	Hex Nut (21)	0	\$ _____	\$ _____	_____
210	Hex Bolt (22)	0	\$ _____	\$ _____	_____
211	Extension Stem Coupling(B)	0	\$ _____	\$ _____	_____
212	Main Valve Assembly–Includes 30-34, 36-38, 41 (HS)	0	\$ _____	\$ _____	_____
213	Breakable Bolt & Nut–1 Each (23,25 VB)	0	\$ _____	\$ _____	_____
214	Barrel Flange (24)	0	\$ _____	\$ _____	_____
215	Flange Bolt & Nut–1 Each (25,29V)	0	\$ _____	\$ _____	_____
216	Breakable Coupling (26 CB)	25	\$ _____	\$ _____	_____
217	Lower Rod–Per Foot (27 D)	0	\$ _____	\$ _____	_____
218	Barrel (Non-Traffic)–3'0" (28)	0	\$ _____	\$ _____	_____
219	Add for each additional 6" of Barrel	0	\$ _____	\$ _____	_____
220	Bronze Stem (30 S)	0	\$ _____	\$ _____	_____
221	Bronze Drip Valve, Includes Leather & Drip Nails (31 H)	0	\$ _____	\$ _____	_____
222	O-Ring Seals–Requires 2 (32 Z)	0	\$ _____	\$ _____	_____
223	Valve Top Piece (33 K)	25	\$ _____	\$ _____	_____
224	Molded Valve Rubber (34 J)	25	\$ _____	\$ _____	_____
225	Bronze Valve Seat (35 M)	0	\$ _____	\$ _____	_____
226	Valve Bottom Piece (36 L)	25	\$ _____	\$ _____	_____
227	Bronze Valve Nut (37 N)	25	\$ _____	\$ _____	_____

228	Bronze Packing Nut with 2 Set Screws (38 O)	0	\$ _____	\$ _____	-	_____
229	Set Screw (40)	0	\$ _____	\$ _____	-	_____
230	Drip Valve Leather with Nails & Rivet Set (41 I)	0	\$ _____	\$ _____	-	_____
231	Rivet or Drip Nail–Set of 5 (58)	0	\$ _____	\$ _____	-	_____

Group 12 Subtotal \$ _____

TOTAL BID (Sum of Groups 1 through 12) \$ _____
 (If pricing provided for all bid groups only)

Signature of Authorized Representative of Bidder _____ Date _____

DETAILED SPECIFICATIONS

UTILITY INFRASTRUCTURE MATERIALS

PART 1 – GENERAL

(NOT USED)

PART 2 – PRODUCTS

2.1 DUCTILE IRON PIPE AND FITTINGS

- A. Ductile iron pipe shall be push-on joint water main pipe meeting the requirements of ANSI/AWWA C151/A21.51 with double thickness cement mortar lining and asphaltic seal coat meeting ANSI/AWWA C104/A21.4 and coated outside with an asphaltic coating meeting ANSI/AWWA C151/A21.51. Pipe shall meet the thickness requirements of pressure class 350. Push-on joints shall be single gasket joints meeting AWWA specification C111. Pipe shall be manufactured by American, Clow, Griffin, or US Pipe and shipped complete with gasket.
- B. Ductile iron fittings shall meet the requirements of ANSI/AWWA C153/A21.53 for compact fittings or ANSI/AWWA C110/A21.10 for full body fittings. Fittings shall have an internal cement-mortar lining and asphaltic seal coat in accordance with in accordance with ANSI/AWWA C104/A21.4. The outside of all fittings shall have an asphaltic coating.
 - 1. Fittings shall be supplied complete with high strength, low alloy, blue colored, ceramic-filled fluorocarbon resin coated steel bolts and plain rubber mechanical joint gaskets.
- C. Restraint devices for mechanical joint fittings shall consist of multiple gripping wedges incorporated into a follower gland meeting the applicable requirements of ANSI/AWWA C110/A21.10. The devices shall have a working pressure rating of 350 psi for 3" to 16" and 250 psi for 18" through 48" size. Restraint devices shall be Listed by Underwriters Laboratories (3" through 24" inch size) and Approved by Factory Mutual (3" through 12" inch size). Mechanical joint restraint shall be Megalug Series 1100 produced by EBAA Iron Inc. or approved equal.

2.2 FIRE HYDRANTS

- A. Fire hydrants shall be EJ Watermaster 5BR250, bury depth as specified in the bid form, mechanical joint, traffic flange, open left, no barrel drain, a painted red finish, with two 2.5" National Standard hose connections, one 4" integral Storz connection, 1-3/8 inch pentagon operating and cap nuts shall be utilized (1-3/8 inch point-to-flat at top and 1-7/16 inch point-to-flat at base).
- B. All hydrant parts shall be manufactured by EJ.

2.3 GATE VALVES

- A. Resilient seated gate valves shall conform to the requirements of AWWA C509 or C515 and shall have an operator rated for buried service with 2 inch square opening nut, operating right. Gate valves shall be mechanical joint unless otherwise specified in the bid form. Mechanical joints shall meet the requirements of AWWA Specification C111. Gate valves shall be American Flow Control Series 2500, Mueller Series A-2360, EJ FlowMaster, U.S. Pipe A-USP2, Clow Model 2638/2639, or approved equal.

2.4 TAPPING SLEEVES

- A. Tapping sleeves shall be designed for water service with a minimum working pressure of 150 psi. Tapping sleeves shall be all stainless steel and conform to ANSI/AWWA C223. All tapping sleeves and valves must be certified by Underwriters Laboratory (UL) and the National Sanitation Foundation (NSF) for use in a potable water system. Tapping sleeves shall be Ford FTSS, JCM 432, Smith-Blair 663, or approved equal.

2.5 CURB BOXES

- A. Curb boxes shall be cast Iron buffalo screw type with 2.5" diameter shaft, two piece, with extension range 41" to 64". The word "WATER" shall be cast in raised letters on the lid. Curb boxes shall be Bibby Ste. Croix B-2000 Series, Model V009; or Tyler 6500 Series, Model 95E. Ship only completely assembled units, not separate components. top half/lid & bottom half shall be screwed together and shipped as a complete unit.
- B. Curb box top half item shall include the curb box top half only. Curb boxes top halves shall be Bibby Ste. Croix B-2000 Series, Model S172; or Tyler 6500 Series, Model 30T.
- C. Large curb boxes bases shall be enlarged for buffalo screw type curb boxes, sized to accommodate a 2" curbstop. Large base curb boxes shall be Bibby Ste. Croix B-2000 Series, Model V313, or Tyler 6500 Series, Model Enlarged Base.
- D. Curb box extensions for buffalo screw type curb box shall be only Bibby Ste. Croix B-2000 Series, Models V222/V223, or Tyler Union 6500 Series Models 151/152.
- E. Repair lids shall be old style outside repair lids for cast iron buffalo screw type curb box with 2.5" diameter shaft. The word "Water" shall be cast in raised letters on top surface of lid.

2.6 GATE BOXES

- A. Gate valve boxes shall be three piece valve boxes with 5.25" diameter shaft, screw type, #6 base, and extension range from 45" to 66". The word "Water" shall be cast in raised letters on the lid. Quote only Tyler Union 6860 Series, Item D. Gate box complete shall consist of 1-Top section, 1-Bottom section, 1 - #6 Base, 1 - Drop lid.
- B. Gate box extensions shall be Tyler Union 6860 Series, Item #58 (14"), Item #59 (18") and Item #60 (24").
- C. Gate box fixed risers shall be 5-1/4" x 2-14" slip in risers for Tyler Union Series 6860 valve boxes.
- D. Gate box adjustable risers shall be screw type Tyler Union Series 6860, Item #69.

2.7 EXTENDED RANGE COUPLING

- A. Extended range ductile iron couplings shall be designed for 250 psi working pressure with a ductile iron center ring, ductile iron end rings, SBR rubber gaskets and 304 stainless steel nuts and bolts. Shop coat shall be applied to cast parts for corrosion protection. Coupling shall be Romac XR501 extended range coupling or approved equal.

2.8 COPPER PIPE

- A. Copper pipe shall be Type K and manufactured by Cambridge Lee, Cerro, Halstead, Mueller, or Wolverine.

2.9 BRASS FITTINGS

- A. All fittings shall meet the lead-free requirements of the Safe Drinking Water Act.
- B. Straight couplings shall be A.Y. McDonald Model 74755F or equivalent manufactured by Ford or Mueller.

- C. Two part unions shall be copper flare nut by female copper flare thread, A.Y. McDonald Model 74756 or equivalent manufactured by Ford or Mueller.
- D. Tees shall be flare x flare x flare, AY McDonald Model 74760 or equivalent manufactured by Ford or Mueller.
- E. Quarter bends shall be flare x flare, A.Y. McDonald Model 74761 or equivalent manufactured by Ford or Mueller.
- F. Corporations shall be AWWA (CC) x copper flare, A.Y. McDonald Model 74701 or equivalent manufactured by Ford or Mueller.
- G. Saddles shall be brass double strap tapping saddle with 1.5" AWWA taper thread tap for ductile iron water main, Ford 202B, Smith-Blair 323, Mueller BR-2-B, or approved equal.
- H. Curbs stops shall be ball valve, full port, copper flare nut by copper flare nut. Quote only McDonald 76100 or equivalent manufactured by Ford.
- I. Straight copper flare x female copper flare (Piggy Back Nut) couplings shall be A.Y. McDonald Model 74755 or equivalent manufactured by Ford or Mueller.

2.10 WATER METER ACCESSORIES

- A. Meter horns shall be Ford CHSS-244-NL for ¾" x 1" x 1" meter horns, and Ford CHSS-444-NL for 1" x 1" x 1" meter horns, or equivalent models manufactured by A.Y. McDonald or Mueller.
- B. Tandem resetters shall be Ford Resetter-2A-NL, or equivalent models manufactured by A.Y. McDonald or Mueller.
- C. Meter flanges shall be Dake 2030-LF for 1-1/2" flanges and Dake 2035-LF for 2" flanges, or equivalent models manufactured by Ford, A.Y. McDonald, Mueller, or Grand Haven Meter Coupling.
- D. Meter adapters shall be Ford A12M, or equivalent models manufactured by A.Y. McDonald or Mueller.
- E. Pressure reducing valves shall be Watts model LF5B-Z3.
- F. Reduced pressure zone assemblies shall be Zurn/Wilkins Model 375XL, or approved equal.

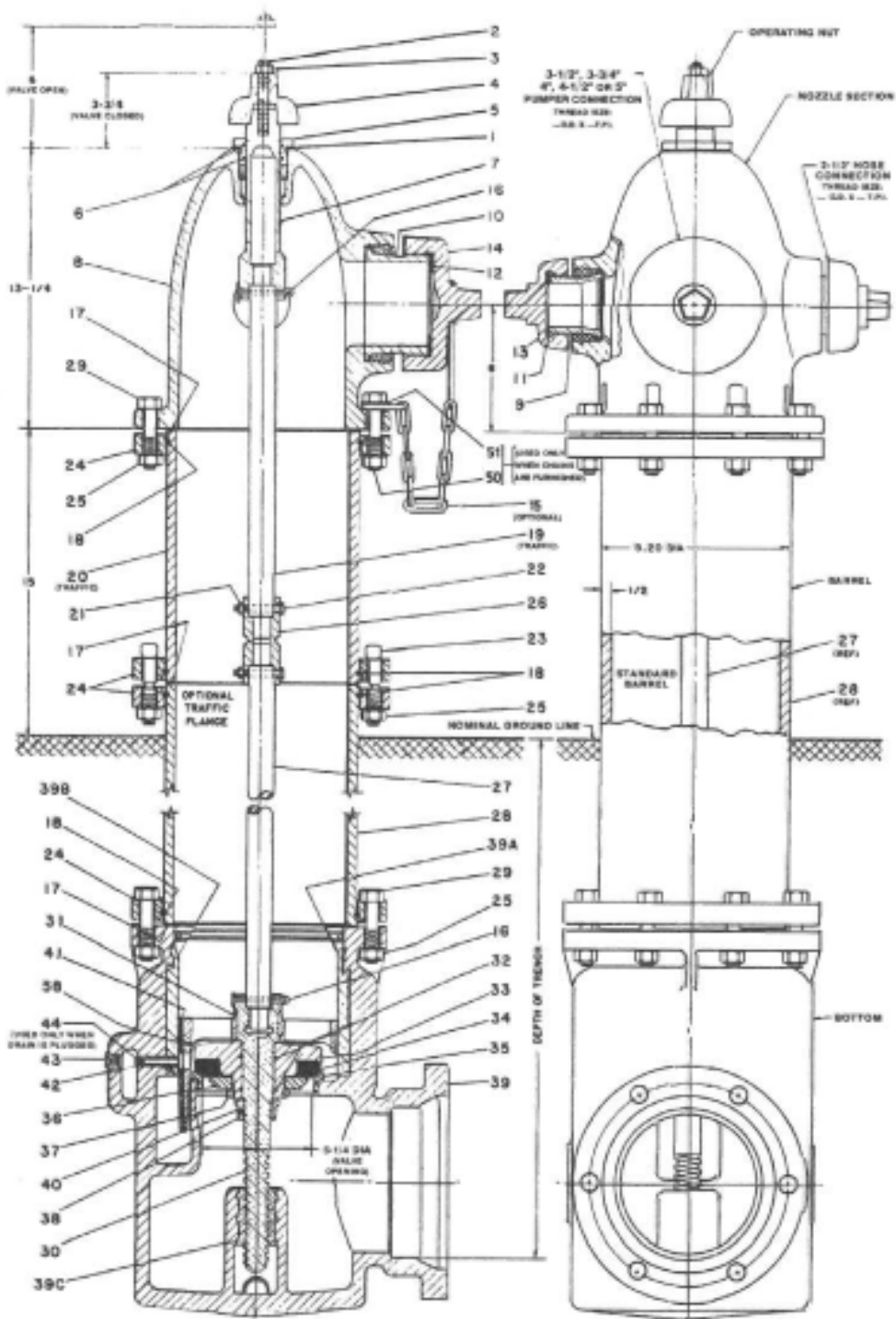
2.11 CASTINGS

- A. Castings shall be as specified on the bid form.
- B. Manhole covers for sanitary sewer shall have the word "SEWER" cast in the surface, castings for water shall have the word "WATER" cast into the surface, and castings for storm sewer shall have the word "STORM" cast into the surface.
- C. All castings shall have a black asphaltic coating.
- D. All catch basin and curb inlet castings shall have a trout symbol with the wording "DUMP NO WASTE, DRAINS TO WATERWAYS" cast into the surface.

2.12 TRAVERSE CITY FIRE HYDRANT PARTS

- A. Reference the diagram below for part locations. Part reference number is included in the description on the bid form if applicable.

Traverse City Hydrant Parts Diagram



PART 3 - EXECUTION

(NOT USED)