



## AMENDMENT OF SOLICITATION / MODIFICATION OF CONTRACT

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466
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**IFB NO. CQ18094 – Installation and Maintenance of Water Treatment Systems**  
**Responses to Potential Bidders**

1. Question: Just a reminder to remove Item 5 from page 91- The Contractor shall store and transport all bulk chemicals in tanks with double walls or secondary containment. Chemical storage shall be limited only to quantities anticipated for use during a normal monthly cycle.

**Delete Item 5 from page 91 of Scope of Work.**

**Add the following language to Item 4 on Page 91 – All chemical holding tanks supplied by the contractor shall have means of secondary containment.**

2. Question: Do you want monthly invoices or just from May to October?

**Response: The Contractor shall provide monthly invoices from May to October (Active period). The Inactive period (November – April) shall be the period in which the installed equipment shall be idle and the contractor shall not be providing monitoring and treatment services.**

3. Question: I couldn't find when is going to be the day for the bid opening – could you provide?

**Response: The original bid opening date for IFB No. CQ18094/DG was February 28, 2018 at 2:00 PM Standard Eastern Time which was noted in the "Introduction" letter (after the Table of Contents) as well as on the "Solicitation, Offer and Award – (page 3) of the solicitation documents.**

**Amendment A01 revised the bid opening date to March 7, 2018 at 2:00 PM Standard Eastern Time.**

**Amendment A02 revised the bid opening date to March 14, 2018 at 2:00 PM Standard Eastern Time.**

4. Question 1: Navy Yard and U Street have two (2) cooling systems, separate, could you update that on the bid package... I know at least there is another site with two (2) cooling systems.

Question 2: During the pre-bid conference, there was some discussion concerning the number of systems that require treatment and the necessary chemical feed equipment. The scope lists a total of thirty (30) sites, however, Metro Center has two separate cooling tower systems bringing the total to thirty-one (31) systems. It was discussed that two sites, namely Clarendon and Navy Yard, may also have two separate tower water systems. Please quantify the number of sites to be treated?

Question 3: Please confirm the number of individual condenser systems in order for contractor to know exact number of?

**Response: Price Schedule revised to reflect in addition to Metro Center Station having two (2) sites, Navy Yard, Clarendon, U Street/Cardoza and Tenley Town have two (2) sites for a total of thirty-five (35) systems.**

5. Question 1: The Contractor is to install new chemical feed equipment to the locations as specified by WMATA. Upon installation of the new equipment, is the current installed chemical feed equipment to be removed by the awarded contractor and if so, disposed of by the contractor, or left aside for WMATA's disposal? The removal of old equipment would require additional time and costs to accomplish.

Question 2: Who is responsible to remove empty containers from chiller room?

Question 3: What does the contractor do with old equipment when new equipment is installed?

**Response to Questions 1, 2 & 3: WMATA will be responsible for removal of old chemical feed equipment, old empty containers from chiller rooms and any old equipment when new equipment is installed.**

6. Question 1: Per specification, new water metering equipment is to be installed on the 'cooling tower makeup and bleed lines'. Do all site locations have a standard size pipe for the installation of the new water meter? Typically, 3/4" size water meters are common or standard.

Question 2: Water meters: Who installs on make-up line? What size meter? What if makeup line is in copper – is contractor still expected to install? Are these meters expected to be hooked up to water treatment controller? If contractor is not responsible for make-up water meters – then is contractor still responsible for blow down meter?

**Response to Questions 1 & 2: Due to time constraints and an aggressive installation schedule, water meters will be added by WMATA at a later date. Delete Item #10 on page 90 of SOW. The contractor shall not be responsible for blow down meters.**

7. Question: The bid document states that "WMATA shall provide electrical service (120V) to within six (6) feet of proposed water treatment controller location". Can the electrical service (120V) be brought within three (3) feet of proposed water treatment controlled location?

**Response: Electrical service (120V) can be brought within three (3) feet of proposed water treatment controlled locations on a case by case basis.**

8. Question: Microbiological control is listed in the scope, whereas the system shall utilize monitoring and control technology to detect the growth of bacteria in open loop systems and automatically adjust biocide feed rate. This should be accomplished by direct real-time measurements of the systems bioactivity. Can an exception be granted to this requirement?

**Response: Direct real-time measurements of the systems bioactivity and/or adjustments can be made on site at time of site visit.**

9. Question: City make-up water will be necessary for each treatment site for saturation with the required dry-product. Will the city water make-up be brought within the three (3) feet of proposed water treatment controller location?

**Response: WMATA will bring water source to within three (3) feet of the installation location.**

10. Question: The contractor is to respond to alarms from May through October for the entire period of performance of this contract (including option periods), 24 hours per day/7 days per week. Please clarify 'respond' as it relates to the expected notifications and subsequent adjustments required. We expect to make immediate notification of the alarm or issue to WMATA personnel and make the necessary adjustments, if not posing a safety hazard, within a 24 hour period. Those issues that pose a safety issue or hazard would be responded to immediately. Please advise if this would be acceptable?

**Response:** The contractor is expected to “respond” to alarms via email notification to listed WMATA personnel if not posing a safety issue or hazard. The contractor is to make chemistry adjustments based on real-time monitoring through a chemical trace analysis methodology and immediately adjust the dosing of chemical(s) in response to the analysis. A six (6) hour window of response is required for a safety issue or hazard. A twenty-four (24) window of response is acceptable in the event of a non-safety issue.

11. Question: The communication controller is expected to have the ability to communicate wirelessly to the web where system data is housed in a dedicated portal. During the pre-bid meeting, the ability for the controller(s) to communicate at locations underground or far from a signal were discussed. WMATA advised that this would be accounted for by WMATA with the installation of a “repeater” if necessary. Please confirm.

**Response:** At the pre-bid meeting, it was stated that Verizon has wireless cell service throughout the tunnels and have an agreement with other carriers to use this system. The contractor will be responsible for providing wireless connectivity from each water treatment system to the contractor’s off-site online monitoring station. Communication controllers shall have the ability to communicate wirelessly to the web where system data is housed in a dedicated portal. At present, WMATA uses a wireless cell signal from a wireless carrier. At some locations, the contractor may have to extend the range of the wireless cell signal by way of antenna extensions or other means.

12. Question: The bid document states that “upon expiration of the contract, the Contractor shall be instructed by WMATA to remove their equipment at no cost to the Authority”. Should the contract be terminated prior to the end of the three (3) one-year option periods, would WMATA cover any remaining equipment cost to fulfill the lease agreement? Please confirm.

**Response:** WMATA will not cover any costs for the contractor’s equipment should the contract be terminated prior to the end of the three (3) one-year option periods and WMATA will not cover any remaining equipment cost to fulfill the contractor’s lease equipment.

13. Question (1): The bid document states that “access to space shall be provided during the hours of 7:00 am to 2:00 pm, Monday through Friday for installation and ongoing maintenance. Access before or after the specified hours must be requested by the Contractor at a minimum of three (3) business days prior to the required approval of access. Would access be extended beyond 2:00 pm for the fifteen (15) weeks installation period?

Question (2): Is a three (3) day notice still required if delivery personnel accompany service technicians and delivery is conducted at the same time as service?

**Response to Question (1 & 2):** WMATA will extend the access 2:00 pm deadline and waive the three (3) business day prior notice for the fifteen (15) weeks installation period.

**Delivery and/or service technicians can be conducted at the same time, however, all scheduling of deliveries and/or service to WMATA’s sites must be scheduled three (3) business days prior to delivery and/or service.**

14. Question: Can the contractor who is awarded the business, have one or several (for the installation personnel) vehicle decal(s) for ease in accessing and parking at the WMATA sites?

**Response:** WMATA has no parking decals for contractors.

15. Question: Please provide the anticipated start date for the contractor awarded the business?

**Response:** WMATA cannot provide the anticipated start date for the contractor to perform the contract. WMATA will expeditiously conduct the evaluation process to determine the responsive, responsible bidder who has demonstrated that it maintains the requisite integrity, overall technical expertise and experience (including prior performance on other Authority contracts or contracts with other government agencies), and sufficient financial resources to perform the Contract in a timely, satisfactory and appropriate manner.

16. Question: Is contractor expected to supply new chemical pumps or can the current chemical pumps be used if they are reliable?

**Response:** The contractor is expected to supply new chemical pumps. All equipment provided by the contractor shall be new and unused.

17. Question 1: The online bacteria monitor is very unique to one or two companies and units are patented. The cost to provide this system is greater than \$10K per chiller system. That is a cost that would equate to \$350,000 not including install just for the bacteria monitoring. To propose this cost would make our bid non-competitive on price. Can this requirement be stricken from the SOW and replaced with a free chlorine sensor or ORP sensor, which measures quantity of free chlorine in the system. Bacteria can be monitored via bacteria dip-slides or bio-coupons on a per service basis. Keeping the online bacteria monitor would essentially eliminate all but one bidder.

Question 2: The specifications calls for Online Microbiological monitoring and control that detects the growth rate of bacteria in the open loop system and automatically adjusts biocide feed rates. This option is part of 3D Trasar but it is well known that this portion of their system is not very reliable. There is only one other company that makes an online bio-monitor and it is very expensive and is also not very reliable. We recommend that you allow us to provide online ORP control of the biocides. ORP (oxidation reduction potential) indicates the cleanliness of the water by measuring the active level of biocide in the open loop water and will increase the biocide feed when the ORP technology is very reliable, accurate and is commercially available through a number of different manufacturers. While ORP is not a direct measurement of bacteria in a system, it is an indirect measurement that is more reliable, very accurate and provide much better control of biocide than the type of bacteria monitor that is described in the specification.

**Response:** Oxidation Reduction Potential (ORP) is an acceptable substitute for biocide. Biocide adjustments can be made on site at time of site visit.

18. Is dual biocide or a single biocide acceptable?

**Response:** Either is acceptable.

19. What is WMATA currently paying for water treatment services now? Given the technology and equipment request, does WMATA anticipate paying significantly more?

**Response:** Request for historical data may be made via "Request for Records" guidelines. The procedures are outlined on page 23 of the solicitation documents.

20. Question: How is the lowest bid tabulated? With the 5 year totaled? Can a contractor have a higher cost the first year to cover install and equipment costs and then have a significant reduction in costs year 2-5?

**Response: The first year to cover install and equipment costs can be higher but award will be made based solely on the lowest "Total Bid Price" as stated in the Bid/Price Schedule to the responsive and responsible bidder.**

21. **Delete and Replace Bullet 1 - Page 91** – The Contractor shall provide the necessary solid chemicals required by each water treatment systems for the entire cooling season (May-October annually) and any subsequent additional option periods (if exercised). Water treatment services will include providing equipment lease, chemical costs and regular routine service – no less than once per month.
22. **Delete and Replace Bullet 10 – Page 91** – The Contractor shall provide on-site service at a frequency of no less than once per month to maintain the water treatment system at specified locations in accordance with SOW during each annual cooling system.
23. **Delete and Replace 2<sup>nd</sup> Paragraph – Page 94** – The Contractor shall provide a LDB testing report (to be approved by WMATA) with data/analysis regarding the presence of legionella bacteria. Results should be electronically provided to WMATA from an individual testing sample within 10 – 14 business days from receipt.

**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**  
**SUPPLY AND SERVICE CONTRACT** **IFB NO. CQ18094/DG**

**PRICE SCHEDULE - BASE YEAR**

<b>Line Item No:</b>	<b>Location of Chiller Plant</b>	<b>Address</b>	<b>Chiller Tonnage (Each Unit)</b>	<b>Quantity of Chillers at Site</b>	<b>Unit Price (per Active Month)*</b>	<b>Extended Price (Unit Price X 6 Months)**</b>
1	Anacostia	1800 Anacostia Drive, SE, Washington, DC 20020	300	1		
2	Ballston-MU	3930 Fairfax Drive, Arlington, VA 22203	350	2		
3	Benning Road	4500 Benning Rd NE, Washington, DC 20019	350	1		
4	Bethesda	7450 Wisconsin Ave, Bethesda, MD 20814	350	2		
5	Capitol Heights	5500 Davey Street, Capitol Heights, Maryland 20743	350	1		
6	Clarendon (2)	2750 Clarendon Blvd, Arlington, VA 22201	350	2		
7	Columbia Heights	3030 14th St NW, Washington, DC 20009	350	1		
8	Congress Heights	13th Street & Alabama Avenue, SE Washington, DC 20032	300	1		
9	Crystal City	1750 South Clark St., Arlington, VA 22240	350	1		
10	Farragut North	1116 Connecticut Ave NW, Washington, DC 20036	350	2		
11	Farragut West	900 18th Street, NW Washington, DC 20006	350	3		
12	Federal Center SW	400 2nd St SW, Washington, DC 20515	350	2		
13	Forest Glen	9730 Georgia Ave, Silver Spring, MD 20910	300	1		
14	Georgia Avenue-Petworth	3670 New Hampshire Ave NW, Washington, DC 20010	350	1		
15	Glenmont	12501 Georgia Ave, Silver Spring, MD 20906	300	1		
16	L'Enfant Plaza	7th & D SW Washington, DC 20407 (on General Services Administration Building)	600	2		
17	Medical Center	8810 Rockville Pike, Bethesda, MD 20892	350	1		

**PRICE SCHEDULE - BASE YEAR (CONTINUATION SHEET)**

Line Item No.	Location of Chiller Plant	Address	Chiller Tonnage (Each Unit)	Quantity of Chiller at Site	Unit Price (per Active Month)*	Extended Price (Unit Price X 6 Months)**
18	Metro Center (2)	775 12th Street, NW Washington, DC 20005	350	4		
19	Mt Vernon Sq 7th St-Convention Center	700 M St NW, Washington, DC 20001	350	2		
20	Navy Yard (2)	1101 Half Street, SE Washington, DC 20003	200	2		
21	Pentagon City	601 Army-Navy Drive, Arlington, VA 22202	350	2		
22	Potomac Ave	529 13th Street, SE Washington, DC 20003	350	2		
23	Rosslyn	1850 N Moore St, Arlington, VA 22209	350	1		
24	Stadium-Armory	19th & C Streets, SW Washington, DC 20240	350	1		
25	Tenleytown-AU (2)	4202 Ellicott St NW, Washington, MD 20016	350	2		
26	U Street/Cardoza (2)	1220R U Street, NW Washington, DC 20009	300	2		
27	Union Station	645 First St NE, Washington, DC 20002	350	1		
28	Van Ness-UDC	4200F Connecticut Ave NW, Washington, DC 20008	350	1		
29	Wheaton	11171 Georgia Ave, Silver Spring, MD 20902	350	1		
30	Woodley Park	3103 Connecticut Avenue, NW Washington, DC 20008	350	2		
31	All Locations	Legionella Testing of Each Chiller Cooling Tower (48 Chiller Cooling Towers twice during the Active Period)***	N/A	48		

BASE YEAR TOTAL PROPOSED PRICE \$ \_\_\_\_\_

\_\_\_\_\_  
Authorized Signature

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
Date



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**  
**SUPPLY AND SERVICE CONTRACT** **IFB NO. CQ18094/DG**

**PRICE SCHEDULE – OPTION YEAR ONE**

<b>Line Item No:</b>	<b>Location of Chiller Plant</b>	<b>Address</b>	<b>Chiller Tonnage (Each Unit)</b>	<b>Quantity of Chillers at Site</b>	<b>Unit Price (per Active Month)*</b>	<b>Extended Price (Unit Price X 6 Months)**</b>
1	Anacostia	1800 Anacostia Drive, SE, Washington, DC 2002	300	1		
2	Ballston-MU	3930 Fairfax Drive, Arlington, VA 22203	350	2		
3	Benning Road	4500 Benning Rd NE, Washington, DC 20019	350	1		
4	Bethesda	7450 Wisconsin Ave, Bethesda, MD 20814	350	2		
5	Capitol Heights	5500 Davey Street, Capitol Heights, Maryland	350	1		
6	Clarendon (2)	2750 Clarendon Blvd, Arlington, VA 22201	350	2		
7	Columbia Heights	3030 14th St NW, Washington, DC 20009	350	1		
8	Congress Heights	13th Street & Alabama Avenue, SE Washington, DC	300	1		
9	Crystal City	1750 South Clark St., Arlington, VA 22240	350	1		
10	Farragut North	1116 Connecticut Ave NW, Washington, DC 20036	350	2		
11	Farragut West	900 18th Street, NW Washington, DC	350	3		
12	Federal Center SW	400 2nd St SW, Washington, DC 20515	350	2		
13	Forest Glen	9730 Georgia Ave, Silver Spring, MD 20910	300	1		
14	Georgia Avenue-Petworth	3670 New Hampshire Ave NW, Washington, DC 20010	350	1		
15	Glenmont	12501 Georgia Ave, Silver Spring, MD 20906	300	1		
16	L'Enfant Plaza	7th & D SW Washington, DC (on General Services Administration Building)	600	2		
17	Medical Center	8810 Rockville Pike, Bethesda, MD 20892	350	1		

**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**  
**SUPPLY AND SERVICE CONTRACT** **IFB NO. CQ18094/DG**

**PRICE SCHEDULE – OPTION YEAR ONE (CONTINUATION SHEET)**

Line Item No.	Location of Chiller Plant	Address	Chiller Tonnage (Each Unit)	Quantity of Chiller at Site	Unit Price (per Active Month)*	Extended Price (Unit Price X 6 Months)**
18	Metro Center (2)	775 12th Street, NW Washington, DC	350	4		
19	Mt Vernon Sq 7th St-Convention Center	700 M St NW, Washington, DC 20001	350	2		
20	Navy Yard (2)	1101 Half Street, SE Washington, DC	200	2		
21	Pentagon City	601 Army-Navy Drive, Arlington, VA	350	2		
22	Potomac Ave	529 13th Street, SE Washington, DC	350	2		
23	Rosslyn	1850 N Moore St, Arlington, VA 22209	350	1		
24	Stadium-Armory	19th & C Streets, SW Washington, DC	350	1		
25	Tenleytown-AU (2)	4202 Ellicott St NW, Washington, MD 20016	350	2		
26	U Street/Cardoza (2)	1220R U Street, NW Washington, DC	300	2		
27	Union Station	645 First St NE, Washington, DC 20002	350	1		
28	Van Ness-UDC	4200F Connecticut Ave NW, Washington, DC 20008	350	1		
29	Wheaton	11171 Georgia Ave, Silver Spring, MD 20902	350	1		
30	Woodley Park	3103 Connecticut Avenue, NW Washington, DC	350	2		
31	All Locations	Legionella Testing of Each Chiller Cooling Tower (48 Chiller Cooling Towers twice during the Active Period)***	N/A	48		

OPTION YEAR ONE TOTAL PROPOSED PRICE \$ \_\_\_\_\_

\_\_\_\_\_  
Authorized Signature

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
Date

**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**  
**SUPPLY AND SERVICE CONTRACT** **IFB NO. CQ18094/DG**

**PRICE SCHEDULE – OPTION YEAR TWO**

<b>Line Item No:</b>	<b>Location of Chiller Plant</b>	<b>Address</b>	<b>Chiller Tonnage (Each Unit)</b>	<b>Quantity of Chillers at Site</b>	<b>Unit Price (per Active Month)*</b>	<b>Extended Price (Unit Price X 6 Months)**</b>
1	Anacostia	1800 Anacostia Drive, SE, Washington, DC 2002	300	1		
2	Ballston-MU	3930 Fairfax Drive, Arlington, VA 22203	350	2		
3	Benning Road	4500 Benning Rd NE, Washington, DC 20019	350	1		
4	Bethesda	7450 Wisconsin Ave, Bethesda, MD 20814	350	2		
5	Capitol Heights	5500 Davey Street, Capitol Heights, Maryland	350	1		
6	Clarendon (2)	2750 Clarendon Blvd, Arlington, VA 22201	350	2		
7	Columbia Heights	3030 14th St NW, Washington, DC 20009	350	1		
8	Congress Heights	13th Street & Alabama Avenue, SE Washington, DC	300	1		
9	Crystal City	1750 South Clark St., Arlington, VA 22240	350	1		
10	Farragut North	1116 Connecticut Ave NW, Washington, DC 20036	350	2		
11	Farragut West	900 18th Street, NW Washington, DC	350	3		
12	Federal Center SW	400 2nd St SW, Washington, DC 20515	350	2		
13	Forest Glen	9730 Georgia Ave, Silver Spring, MD 20910	300	1		
14	Georgia Avenue-Petworth	3670 New Hampshire Ave NW, Washington, DC 20010	350	1		
15	Glenmont	12501 Georgia Ave, Silver Spring, MD 20906	300	1		
16	L'Enfant Plaza	7th & D SW Washington, DC (on General Services Administration Building)	600	2		
17	Medical Center	8810 Rockville Pike, Bethesda, MD 20892	350	1		

**PRICE SCHEDULE – OPTION YEAR TWO (CONTINUATION SHEET)**

<b>Line Item No.</b>	<b>Location of Chiller Plant</b>	<b>Address</b>	<b>Chiller Tonnage (Each Unit)</b>	<b>Quantity of Chiller at Site</b>	<b>Unit Price (per Active Month)*</b>	<b>Extended Price (Unit Price X 6 Months)**</b>
18	Metro Center (2)	775 12th Street, NW Washington, DC	350	4		
19	Mt Vernon Sq 7th St-Convention Center	700 M St NW, Washington, DC 20001	350	2		
20	Navy Yard (2)	1101 Half Street, SE Washington, DC	200	2		
21	Pentagon City	601 Army-Navy Drive, Arlington, VA	350	2		
22	Potomac Ave	529 13th Street, SE Washington, DC	350	2		
23	Rosslyn	1850 N Moore St, Arlington, VA 22209	350	1		
24	Stadium-Armory	19th & C Streets, SW Washington, DC	350	1		
25	Tenleytown-AU (2)	4202 Ellicott St NW, Washington, MD 20016	350	2		
26	U Street/Cardoza (2)	1220R U Street, NW Washington, DC	300	2		
27	Union Station	645 First St NE, Washington, DC 20002	350	1		
28	Van Ness-UDC	4200F Connecticut Ave NW, Washington, DC 20008	350	1		
29	Wheaton	11171 Georgia Ave, Silver Spring, MD 20902	350	1		
30	Woodley Park	3103 Connecticut Avenue, NW Washington, DC	350	2		
31	All Locations	Legionella Testing of Each Chiller Cooling Tower (48 Chillers Cooling Towers twice during the Active Period)***	N/A	48		

OPTION YEAR TWO TOTAL PROPOSED PRICE \$ \_\_\_\_\_

\_\_\_\_\_  
Authorized Signature

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
Date

**PRICE SCHEDULE – OPTION YEAR THREE**

Line Item No:	Location of Chiller Plant	Address	Chiller Tonnage (Each Unit)	Quantity of Chillers at Site	Unit Price (per Active Month)*	Extended Price (Unit Price X 6 Months)**
1	Anacostia	1800 Anacostia Drive, SE, Washington, DC 2002	300	1		
2	Ballston-MU	3930 Fairfax Drive, Arlington, VA 22203	350	2		
3	Benning Road	4500 Benning Rd NE, Washington, DC 20019	350	1		
4	Bethesda	7450 Wisconsin Ave, Bethesda, MD 20814	350	2		
5	Capitol Heights	5500 Davey Street, Capitol Heights, Maryland	350	1		
6	Clarendon (2)	2750 Clarendon Blvd, Arlington, VA 22201	350	2		
7	Columbia Heights	3030 14th St NW, Washington, DC 20009	350	1		
8	Congress Heights	13th Street & Alabama Avenue, SE Washington, DC	300	1		
9	Crystal City	1750 South Clark St., Arlington, VA 22240	350	1		
10	Farragut North	1116 Connecticut Ave NW, Washington, DC 20036	350	2		
11	Farragut West	900 18th Street, NW Washington, DC	350	3		
12	Federal Center SW	400 2nd St SW, Washington, DC 20515	350	2		
13	Forest Glen	9730 Georgia Ave, Silver Spring, MD 20910	300	1		
14	Georgia Avenue-Petworth	3670 New Hampshire Ave NW, Washington, DC 20010	350	1		
15	Glenmont	12501 Georgia Ave, Silver Spring, MD 20906	300	1		
16	L'Enfant Plaza	7th & D SW Washington, DC (on General Services Administration Building)	600	2		
17	Medical Center	8810 Rockville Pike, Bethesda, MD 20892	350	1		

**PRICE SCHEDULE – OPTION YEAR THREE (CONTINUATION SHEET)**

Line Item No.	Location of Chiller Plant	Address	Chiller Tonnage (Each Unit)	Quantity of Chiller at Site	Unit Price (per Active Month)*	Extended Price (Unit Price X 6 Months)**
18	Metro Center (2)	775 12th Street, NW Washington, DC	350	4		
19	Mt Vernon Sq 7th St-Convention Center	700 M St NW, Washington, DC 20001	350	2		
20	Navy Yard (2)	1101 Half Street, SE Washington, DC	200	2		
21	Pentagon City	601 Army-Navy Drive, Arlington, VA	350	2		
22	Potomac Ave	529 13th Street, SE Washington, DC	350	2		
23	Rosslyn	1850 N Moore St, Arlington, VA 22209	350	1		
24	Stadium-Armory	19th & C Streets, SW Washington, DC	350	1		
25	Tenleytown-AU (2)	4202 Ellicott St NW, Washington, MD 20016	350	2		
26	U Street/Cardoza (2)	1220R U Street, NW Washington, DC	300	2		
27	Union Station	645 First St NE, Washington, DC 20002	350	1		
28	Van Ness-UDC	4200F Connecticut Ave NW, Washington, DC 20008	350	1		
29	Wheaton	11171 Georgia Ave, Silver Spring, MD 20902	350	1		
30	Woodley Park	3103 Connecticut Avenue, NW Washington, DC	350	2		
31	All Locations	Legionella Testing (48) Chiller Cooling Towers (Twice during the Active Period)***	N/A	48		

OPTION YEAR THREE TOTAL PROPOSED PRICE \$ \_\_\_\_\_

\_\_\_\_\_  
Authorized Signature

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
Date

**TOTAL BID PRICE SCHEDULE**

Period of Performance	Total Bid Price
Base Year	\$
Option Year One (1)	\$
Option Year Two (2)	\$
Option Year Three (3)	\$
Legionella Testing of Each Chiller Cooling Tower (48 Cooling Towers X 2 during the Active Period)***	\$
<b>TOTAL BID PRICE TO INCLUDE Base Year, Option Years 1, 2, 3 and Legionella Testing of forty-eight (48) Chiller Cooling Towers (Twice during the Active Period)</b>	\$

\_\_\_\_\_  
 Authorized Signature

\_\_\_\_\_  
 Company Name

\_\_\_\_\_  
 Date

**NOTE:**

\*Unit Price must be fully loaded, meaning that they must include all direct and indirect costs for performing these services, including but not limited to direct labor costs, install, deinstall, overhead, general and administrative (G&A) costs, material, travel, insurance, expenses associated with compliance with Federal, state or local laws or regulatory requirements, and profit.

\*\*The Extended Price is calculated by multiplying the Unit Price X 6 months (Active Period). This will represent the total yearly cost to include both the active and inactive periods.

\*\*\*The Extended Price of Legionella Testing is calculated by multiplying Unit Price X 2. This will represent testing of forty-eight (48) chiller cooling towers (twice during the active period).

## **PART III**

### **SCOPE OF WORK**

#### **INTRODUCTION**

The purpose of this solicitation is to contract for water treatment services that will remotely monitored and chemically treat all thirty (30) chiller sites in the Metrorail system.

#### **BACKGROUND**

The Washington Metropolitan Area Transit Authority (WMATA) conditions the air in underground Metrorail stations to provide a level of comfort for riders during the summer. Water-cooled chiller plants serve underground stations with open towers through which the cooling system releases or exchanges heat from stations.

WMATA has successfully tested chiller water treatment at several chillers in the system to improve operations. Chiller water treatment requires controls and chemical injection equipment capable of delivering real-time monitoring and response. Such a system uses remote dosage injection to ascertain and correct chiller system water composition irregularities. Chemical treatment limits corrosion of Metro's chiller piping systems, reduces scaling, controls microbiological bacteria, reduces water consumption, and improves overall chiller performance.

Station chillers are in use from May-October of the calendar year to lower the temperature in Metrorail underground stations. Water is used to transfer heat in the chiller system thus heat-transfer surfaces must be kept free from water contaminants for the safety and efficiency of chiller operation. Chiller water must be continuously monitored and treated to control and prevent operational maintenance concerns such as:

- Scale formation and fouling;
- Corrosion and piping system leaks; and
- Growth of harmful microbes such as Legionella bacteria.

#### **SCOPE OF WORK**

WMATA is seeking a contractor to install and maintain remotely monitored chemical injection and dousing equipment, control and communication devices, and to tie them into chiller plant open cooling loops. This Scope of Work includes regular reporting of operational status and annual service at thirty (30) Metro chiller sites listed on the price schedule.

The contract is for a base period of one (1) year with three (3) one (1) year option periods. Each yearly period shall consist of two (2) periods, active and inactive. The active period (May 1– October 31) shall be the period of performance that the installed equipment shall be functioning and the contractor shall provide monitoring and treatment services.



The inactive period (November 1– April 30) shall be the period in which the installed equipment shall be idle and the contractor shall not be providing monitoring and treatment services. The Contractor shall provide maintenance of its' equipment throughout the entire period of performance at no cost to the Authority.

- WMATA requires a total of thirty-five (35) water treatment systems since two (2) units are located at Metro Center, Clarendon, Navy Yard, Tenleytown/AU and U Street/Cardoza.
- The Contractor shall install and maintain solid chemical water treatment injection systems at all chiller plant locations including pumps and related piping.
- All chemical feed piping installed by the Contractor shall be schedule 80 PVC pipe and fittings. All piping shall be supported at a minimum every six feet (6').
- Used, discontinued and/or demonstration water treatment systems shall not be accepted.
- Monthly charges shall be prorated for any period of time in which the chillers are offline for two (2) weeks or more.
- Equipment shall remain the property and be maintained by the Contractor during the term of this contract to include active, inactive periods or option years at no cost to the Authority. WMATA shall be provided with any upgrades, modifications, or enhancements to the installed water treatment systems or management systems at no cost.
- Upon expiration of the contract, the Contractor shall be instructed by WMATA to remove their equipment at no cost to the Authority.
- WMATA shall provide escorts for any services performed on the Authority's property.
- All equipment failures or installation malfunctions work performed by the Contractor shall be corrected to WMATA's satisfaction within seven (7) business days.
- The Contractor shall provide the design and engineering of water treatment systems, all hardware, and software – including programming and licenses, communication devices, and related cellular service.
- The Contractor shall provide automated controllers – typically (1) per cooling system which shall provide real-time monitoring through a chemical trace analysis methodology and immediately adjust the dosing of chemical(s) in response to the analysis.
- Utilizing stable trace chemical methodology, treatment of the open cooling loop shall read the loop water at a minimum of every 60 seconds and adjust it by dosing applicable agents in real time to meet water quality parameters including scale, corrosion and microbe prevention.
- The system shall include alarms and equipment malfunction notifications sent by remote communication to the Contractor and WMATA by choice of text messages, via internet, or through Building Automation System (BAS)/Supervisory Control and Data Acquisition (SCADA) as selected by WMATA.
- The Contractor's directly trained personnel shall monitor and respond to alarms from May through October for the entire period of performance of this contract (including option periods), 24 hours per day/7 days per week.
- Service shall include immediate corrective remote response. Therefore, the use of third party call centers to support system monitoring are not acceptable.
- The Contractor shall provide the necessary solid chemicals required by each water treatment system for the entire cooling season (May-October annually) and any subsequent additional option periods (if exercised). Water treatment services shall include providing equipment, chemical costs and regular routine service - no less than once per month.

- The Contractor shall be responsible for ensuring compliance with all federal, state and local environmental laws and regulations which may vary from location to location when providing water treatment services on Metro property.
- The Contractor will comply with the requirements of the WMATA SDS Approval Package to ensure safe use of water treatment chemicals. The Contractor must submit Safety Data Sheets (SDS's) for all chemical products for WMATA's review and approval prior to use.
- The Contractor shall perform all chemical transfers by company employees fully trained and dedicated to chemical delivery excellence. All chemical holding tanks supplied by the Contractor shall have a means of secondary containment. The Contractor shall comply with all applicable WMATA spill and pollution prevention requirements as defined by WMATA federal, state and local authorities depending on where the chillers are located.
- Chemical storage shall be limited only to quantities anticipated for use during a normal monthly cycle. All chemical holding tanks supplied by the contractor shall have means of secondary containment.
- All deliveries of chemicals to WMATA sites shall be scheduled three (3) business days prior to delivery with WMATA's Contracting Officers Technical Representative (COTR). No unscheduled deliveries of chemicals shall be made to sites without WMATA chiller maintenance personnel present to receive them.
- The Contractor shall provide wireless connectivity from each water treatment system to Contractor's off-site online monitoring station and provide weekly performance-based report feedback to WMATA during the cooling season May 1 to October 31 annually.
- Communication controller shall have the ability to communicate wirelessly to the web where system data is housed in a dedicated portal.
- Remote off-site monitoring shall be manned with Contractor's own staff and remain operational 24 hours per day/7 days per week.
- The Contractor shall provide on-site service at a frequency of no less than once per month to maintain the water treatment system at specified locations in accordance with SOW during each annual cooling season.
- The Contractor shall provide the highest level of customer service in the proper administration, monitoring, control and diagnostics of chemicals administered.
- The Contractor shall provide initial training in the base year period of performance of the contract and subsequent annual training in option year periods one (1) through three (3) to include two (2) half day training sessions with an estimated ten (10) to fifteen (15) WMATA personnel in each session.
- The Contractor's in-house training program shall be available for review by WMATA on a routine basis.
- The Contractor shall submit pertinent employee's resumes upon WMATA's demand who will work on installation and monitoring of Metro's water treatment systems and ensure there is adequate emergency coverage.
- The Contractor shall monitor and feed the water treatment systems with chemicals to optimize ongoing maintenance of chiller assets. WMATA requires that all chillers are monitored and fed with chemicals at optimal levels based on actual chiller system performance. The water treatment technology shall have the capability of reacting to performance based water quality parameters as much as possible with existing technology.

- The Contractor shall provide the following: (1) Corrosion Rate Monitoring - Direct real-time corrosion rate monitoring for mild steel and copper in the open condenser water systems; and (2) Microbiological Control - The system shall utilize monitoring and control technology to detect the growth rate of bacteria in open loop systems. With the location of the cooling towers in the heavily populated areas of the city, it is of great concern that bacteria levels are controlled automatically. Changing plant conditions can occur without notice, which can cause microbiological upsets. WMATA shall provide electrical service (120v) to within six (6) feet of proposed water treatment controller location. Electrical service (120v) can be brought to within three (3) feet of proposed water treatment controlled locations on a case by case basis.
- WMATA shall work with the Contractor to identify the most effective locations for "taps" in existing cooling line loops for chemical treatment and will install the "taps" at the agreed upon locations. This evaluation aims to maximize the effectiveness of chemical injections without any preference for a circulation pump series, arrangement or an activation (lead-lag) system.
- Contractor shall use schedule 80 PVC pipe and fittings. The piping shall be supported at a minimum of every six (6) feet for all chemical feed piping.
- The Contractor shall provide on-line training programs for WMATA personnel or provide power point presentation documenting the chosen delivery method of chemicals to the chiller plant.
- The training program shall include two (2) half-day training sessions with an estimated ten (10) to fifteen (15) WMATA personnel in each session for the base period of performance and each option period.

#### **DELIVERABLES**

The following is a list of the deliverables for this requirement. Contractor shall submit all deliverables to the COTR in accordance with the table below and in compliance with this SOW. The COTR shall review the deliverables within five (5) calendar days.

<b>DELIVERABLES</b>	<b>DATES REQUIRED</b>
Project Work Schedule	After Notice of Award
System Drawings and Related Plans	Within 7 days after Notice to Proceed
Project Status Report versus Project Schedule	Weekly
Operation and Maintenance Manual	Prior to substantial completion
Final Operation and Maintenance Manual	At Completion of the system installation
Completion of system install (all sites)	Fifteen (15) week after Notice to Proceed

#### **QUALIFICATIONS**

- The Contractor shall demonstrate experience in the installation and maintenance of similar water treatment systems as described in the Scope of Work on a scope and scale comparable to WMATA's requirements utilizing trace methodology.

- The Contractor shall have training programs in place in the base period of performance and option periods, if exercised for new hire personnel as well as a continuous training program for WMATA employees to ensure applicable WMATA staff are trained appropriately on water treatment system operations and monitoring technology.
- The Contractor shall provide WMATA with a primary Project Manager as well as an alternate Project Manager who possess experience in water treatment maintenance for similar chillers as described in the Scope of Work.

#### **PERFORMANCE AND ACCEPTANCE CRITERIA**

- Upon completion of 80% of each site, the Contractor shall request a pre-substantial completion inspection (SCI) by a WMATA appointed inspector. A punch list will be developed from this inspection to be completed by the Contractor prior to final SCI and close out of system installation at each site.
- The Water Treatment System shall be considered acceptable when WMATA certifies that all Deliverables have been received, approved, and accepted and all water treatment systems are fully operational. WMATA may perform regular inspections of work to confirm status as defined by the Contractor's project schedule.
- WMATA reserves the right to perform impromptu inspections and observations during the course of the work.

#### **TECHNICAL SPECIFICATIONS**

The Contractors water treatment services must provide a dosing and control system which incorporates all of the following:

- Automatic biocide dosing (real-time monitoring and response for oxidizing biocides like bromine).
- Automatic bleed-off control system (preferably conductivity controlled).
- Automatic inhibitor dosing to achieve maximum water cycles (preferably water meter controlled based on the volume of make-up water).
- Comprehensive record keeping to document system requirements are achieved.
- Formal, routine legionella risk assessment and control.
- Identification of cooling tower loop tap locations to permit optimum chemical injection into the system so as to provide most efficient use of chemical injection.
- Monitoring to provide recommendations for operational improvements and have the ability to take immediate action on critical alarms and real-time remote chemistry adjustments via chemical pumps when predefined parameters are out of range.
- Quality control measures and monitor to ensure system operations.
- Real-time 24/7 monitoring to ensure constant monitoring of cooling system water treatment.
- Responsible and reliable management of the system.
- Support for commercial chillers ranging from 200-400 tons.
- Maintenance of Contractor's equipment throughout the period of performance.

**LEGIONELLA TESTING**

The Contractor shall provide testing for Legionnaires' disease bacteria (LDB) from samples obtained by WMATA staff at each chiller cooling tower. WMATA staff will sample each location twice during the cooling season.

The Contractor shall provide a LDB testing report (to be approved by WMATA) with data/analysis regarding the presence of legionella bacteria. Results should be electronically provided to WMATA from an individual testing sample within 10 – 14 business days from receipt of such results.

**OPTION**

Should additional legionella tests (greater than bi-annual) be required during the course of the contract to include option periods, WMATA will issue a change order and notify the contractor in writing of the amount of additional testing and the proposed schedule required. Pricing for any additional legionella testing greater than bi-annual testing shall be the same unit price as noted on the price sheet for the base year and each option period.

**PERFORMANCE SCHEDULES**

- All installation work by Contractors shall be completed no later than fifteen (15) weeks from Notice to Proceed. Access to space shall be provided during the hours of 7:00 A.M - 2:00 P.M, Monday through Friday for installation and ongoing maintenance. Access before or after the specified hours must be requested by the Contractor at a minimum of three (3) business days prior to the required approval of access. The Contractor is required to be aware that station facilities are constantly in use and in an occupied and functional state. As such, all work shall be performed as secondary to the ongoing WMATA operations. Contractor shall furnish sufficient technical, supervisory and administrative personnel at all times to ensure production of the work in accordance with the delivery schedule.
- Quality Control - Professional level skills and management practices are required on the performance of this contract.
- Contractor shall appoint a single point-of-contact and liaison between the Contractor and WMATA for all work under the contract. The contact shall coordinate all work under this contract, provide quality controls, review procedures, eliminate conflicts, errors/omissions in submittals and ensure the technical accuracy in all designs, drawings, specifications and installation and operation of equipment.
- Contractor shall comply with all applicable codes and regulations as defined by WMATA and Federal, State and Local authorities depending on where the chillers are located.

**Listing of Chiller Plants**

Line Item No:	Location of Chiller Plant	Address	Chiller Tonnage (each unit)	Quantity of chillers at site
1	Anacostia	1800 Anacostia Drive, SE, Washington, DC 2002	300	1
2	Ballston-MU	3930 Fairfax Drive, Arlington, VA 22203	350	2
3	Benning Road	4500 Benning Rd NE, Washington, DC 20019	350	1
4	Bethesda	7450 Wisconsin Ave, Bethesda, MD 20814	350	2
5	Capitol Heights	5500 Davey Street, Capitol Heights, Maryland	350	1
6	Clarendon (2)	2750 Clarendon Blvd, Arlington, VA 22201	350	2
7	Columbia Heights	3030 14th St NW, Washington, DC 20009	350	1
8	Congress Heights	13th Street & Alabama Avenue, SE Washington, DC	300	1
9	Crystal City	1750 South Clark St., Arlington, VA 22240	350	1
10	Farragut North	1116 Connecticut Ave NW, Washington, DC 20036	350	2
11	Farragut West	900 18th Street, NW Washington, DC	350	3
12	Federal Center SW	400 2nd St SW, Washington, DC 20515	350	2
13	Forest Glen	9730 Georgia Ave, Silver Spring, MD 20910	300	1
14	Georgia Avenue-Petworth	3670 New Hampshire Ave NW, Washington, DC 20010	350	1
15	Glenmont	12501 Georgia Ave, Silver Spring, MD 20906	300	1
16	L'Enfant Plaza	7th & D SW Washington, DC (on General Services Administration Building)	600	2
17	Medical Center	8810 Rockville Pike, Bethesda, MD 20892	350	1
18	Metro Center (2)	775 12th Street, NW Washington, DC	350	4
19	Mt Vernon Sq 7th St-Convention Center	700 M St NW, Washington, DC 20001	350	2

**Listing of Chiller Plants**  
**(Continuation Sheet)**

Line Item No:	Location of Chiller Plant	Address	Chiller Tonnage (each unit)	Quantity of chillers at site
20	Navy Yard (2)	1101 Half Street, SE Washington, DC	200	2
21	Pentagon City	601 Army-Navy Drive, Arlington, VA	350	2
22	Potomac Ave	529 13 <sup>th</sup> Street, SE Washington, DC	350	2
23	Rosslyn	1850 N Moore St, Arlington, VA	350	1
24	Stadium Armory	19 <sup>th</sup> & C Streets, SW Washington, DC	350	1
25	Tenleytown AU (2)	4202 Ellicott St, NE, Washington, DC	350	2
26	U Street/Cardoza (2)	1220R U Street, NW Washington, DC	300	2
27	Union Station	645 First St, NE, Washington, DC 20002	350	1
28	Van Ness UDC	4200F Connecticut Ave, Silver Spring, MD 20902	350	1
29	Wheaton	11171 Georgia Ave Silver Spring, MD 20902	350	1
30	Woodley Park	3103 Connecticut Avenue, NW Washington, DC	350	2