



## The City of Lee's Summit

### Final Agenda

#### Public Works Committee

Monday, November 4, 2019

5:30 PM

City Council Chambers

City Hall

220 SE Green Street

Lee's Summit, MO 64063

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A. Invocation

B. Pledge of Allegiance

C. Call to Order

D. Roll Call

1. Approval of Agenda

2. Approval of Action Letter

A. [2019-3103](#) Approval of the October 7, 2019 Action Letter.

3. Public Comments

#### 4. Business

A. [TMP-1398](#) An Ordinance awarding Bid No. 42631783-C for Cedar Creek Interceptor Phase 3 to VF Anderson Builders, LLC in the amount of \$1,629,979.00 and authorizing the City Manager to enter into an agreement for the same.

**Presenter:** Jeff Thorn, Water Utilities Assistant Director of Engineering Services

B. [TMP-1399](#) An Ordinance awarding Bid No. 43131883-C, for the Water Tower Re-Coatings: Hook and Ranson, to Worldwide Industries Corp. in the amount of \$1,386,400.00 and authorizing the City Manager to execute an agreement for the same.

**Presenter:** Jeff Thorn, PE Assistant Director Lee's Summit Water Utilities

C. [TMP-1402](#) An Ordinance awarding Bid No. 42831583-C, for the Tudor Road Pump Station Odor Control Improvements, to Mega Industries Corp. in the amount of \$881,390.00 and authorizing the City Manager to execute an agreement for the same.

**Presenter:** Jeff Thorn, PE Assistant Director Lee's Summit Water Utilities

- D. [TMP-1403](#) An Ordinance authorizing the execution of a Mid-America Regional Council-Solid Waste Management District grant agreement by and between the City of Lee's Summit, Missouri, and the Mid-America Regional Council-Solid Waste Management District, granting funds in the amount of \$42,189 for the purchase of recycling roll-off containers for use by the Solid Waste Division.

**Presenter:** Chris Bussen, Solid Waste Superintendent

- E. [TMP-1404](#) An Ordinance approving Change Order #3 to the contract with Second Sight Systems, L.L.C. for the SCADA System improvements project, an increase of \$22,104.47 for a revised contract price of \$442,510.13.

**Presenter:** Michael Anderson, Construction Manager

5. Roundtable  
6. Adjournment

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## Packet Information

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**File #:** 2019-3103, **Version:** 1

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Approval of the October 7, 2019 Action Letter.

Issue/Report:

Approval of the October 7, 2019 Action Letter.

Key Issues:

Proposed Committee Motion:

I move for approval of the Action Letter dated October 7, 2019.

**The City of Lee's Summit**  
**Action Letter - Final**  
**Public Works Committee**

Monday, October 7, 2019

5:30 PM

City Council Chambers

City Hall

220 SE Green Street

Lee's Summit, MO 64063

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- A. Invocation
- B. Pledge of Allegiance
- C. Call to Order

The October 7, 2019 Public Works Committee meeting was called to order by Chairman Faith, at 5:31 p.m. at City Hall, 220 SE Green St., in the City Council Chambers. Notice had been provided by posting the meeting notice with a tentative agenda, at least 24 hours in advance of the meeting, at both entrances to City Hall.

D. Roll Call

**Present:** 4 - Chairperson Craig Faith  
Vice Chair Rob Binney  
Councilmember Fred DeMoro  
Councilmember Phyllis Edson

1. Approval of Agenda

**A motion was made by Councilmember Edson, seconded by Councilmember DeMoro, to approve the agenda as posted. The motion carried by a unanimous 4-0 vote.**

2. Approval of Action Letter

- A. [2019-3060](#) Approval of the August 27, 2019 Action Letter.

**A motion was made by Councilmember DeMoro, seconded by Councilmember Edson, to approve the Public Works Committee Action Letter dated August 27, 2019. The motion carried by a unanimous 4-0 vote.**

3. Public Comments

None

4. Business

- A. [BILL NO. 19-224](#) An Ordinance approving Change Order #2 to the contract with Leavenworth Excavating and Equipment Company, Inc. for the Langsford Rd culvert repair project, for an increase of \$20,000.00 for a revised contract price of



\$683,017.05 and an increase of 5 calendar days to reach substantial and final completion. (PWC 10/07/19)

**A motion was made by Councilmember Edson, seconded by Vice Chair Binney, that this Ordinance be recommended for approval to the City Council. The motion carried by a unanimous 4-0 vote.**

- B.** [BILL NO. 19-225](#) An Ordinance authorizing the City Manager to execute an agreement transferring a snow plow and providing for snow removal on certain residential streets within the boundaries of areas controlled by Lakewood Property Owners Association (LPOA) between the City of Lee's Summit, Missouri and Lakewood Property Owners Association. (PWC 10/07/19)

**A motion was made by Councilmember DeMoro, seconded by Vice Chair Binney, that this Ordinance be recommended for approval to the City Council. The motion carried by a unanimous 3-0 vote (Councilmember Edson recused).**

- C.** [BILL NO. 19-226](#) An Ordinance authorizing the execution of a Missouri Highways and Transportation Commission State Block Grant Agreement by and between the City of Lee's Summit, Missouri and the Missouri Highways and Transportation Commission, Granting federal funds in the amount of \$252,207 for eligible preliminary project costs towards the preparation of the Airport Master Plan Update - Phase1 for the Lee's Summit Municipal Airport. (BOAC 9/30/19) (PWC 10/07/19)

**A motion was made by Councilmember Edson, seconded by Vice Chair Binney, that this Ordinance be recommended for approval to the City Council. The motion carried by a unanimous 4-0 vote.**

- D.** [BILL NO. 19-227](#) An Ordinance authorizing the execution of a Missouri Highways and Transportation Commission Airport Aid Agreement to Airport by and between the City of Lee's Summit, Missouri, and the Missouri Highways and Transportation Commission, Granting funds for \$98,064 for the Airport Business Plan at the Lee's Summit Municipal Airport. (BOAC 9/30/19) (PWC 10/07/19)

**A motion was made by Vice Chair Binney, seconded by Councilmember Edson, that this Ordinance be recommended for approval to the City Council. The motion carried by a unanimous 4-0 vote.**

- E.** [BILL NO. 19-228](#) An Ordinance authorizing execution of the Agreement with Crawford, Murphy and Tilly, Inc. for On-Call Engineering Services for the airport (RFQ No. 2015-300) to amend the provisions of the Base Agreement to include the Aviation Project Consultant Supplemental Agreement No. 13 Master Plan Update - Phase 1. (BOAC 9/30/19) (PWC 10/07/19)

**A motion was made by Councilmember DeMoro, seconded by Vice Chair Binney, that this Ordinance be recommended for approval to the City Council. The motion carried by a unanimous 4-0 vote.**

- F.** [BILL NO. 19-229](#) An Ordinance authorizing execution of the Agreement with Crawford, Murphy and Tilly, Inc. for On-Call Engineering Services for the airport (RFQ No. 2015-300) to amend the provisions of the Base Agreement to include the Aviation Project Consultant Supplemental Agreement No. 14 Business Plan

Update. (BOAC 9/30/19) (PWC 10/07/19)

**A motion was made by Vice Chair Binney, seconded by Councilmember Edson, that this Ordinance be recommended for approval to the City Council. The motion carried by a unanimous 4-0 vote.**

**G. [BILL NO. 19-230](#)**

An Ordinance approving award of RFQ 2020-15 to Affinis Corporation and to Wilson & Company, Inc., for on-call yearly professional land surveying services for one-year contracts with four possible one-year renewal options, and authorizing the City Manager to enter into an agreement for the same. (PWC 10/07/19)

**A motion was made by Vice Chair Binney, seconded by Councilmember DeMoro, that this Ordinance be recommended for approval to the City Council. The motion carried by a unanimous 4-0 vote.**

**H. [BILL NO. 19-231](#)**

An Ordinance approving Change Order #2 to the contract with Vance Brothers, Inc. for the Surface Seal 19/20 project, for an increase of \$10,208.00 for a revised contract price of \$1,107,780.35 and an increase of 10 calendar days to reach substantial and final completion. (PWC 10/07/19)

**A motion was made by Councilmember DeMoro, seconded by Councilmember Edson, that this Ordinance be recommended for approval to the City Council. The motion carried by a unanimous 4-0 vote.**

**5. Roundtable**

Councilmember Binney requested an update on the Third Street Project. Mr. George Binger, Deputy Director of Public Works/City Engineer, explained that private utility companies are doing relocation work to be completed ahead of the City project.

Dena Mezger, Director of Public Works, presented the Committee with information about the Transfer Station. The City has a law firm that is under contract that will be reviewing the RFP documents. They were hired to help ensure that the RFP and the contract will be market neutral so a company does not price out other businesses in terms of hauling costs. Closure of the landfill is about 70% complete, which includes installation of gas wells and the earth work. The earth work is behind because of the rain during the summer. Cost versus budget is going well. It was budgeted in the \$5M range and came in at \$4.7M. The Lee's Summit Parks Department is looking at reuse of the landfill property and are visiting other sites to see what other communities are doing so that the City can do something useful and positive with that property.

RecycleFest is coming up on Nov. 9. The City is trying a new location because of all of the downtown activities and traffic issues. It will be at the maintenance facility on 2101 SE Hamblen Rd. If it rains there is a covered storage area for use.

Concerning the Recycling Center, the City is getting ready to award a contract.

The low bidder is wanting to open the South Center and is willing to staff and keep it open 6 days a week. The possibility of opening up the North Recycling Center as well is still being looked at. Updating a long term solid waste plan now that the picture changes if we have a transfer station.

Councilmember DeMoro inquired about the time frame for repurposing the landfill and if it requires a complete closure. Ms. Mezger said that it needs to be closed and accepted by Missouri Department of Natural Resources, but then the City can go ahead with future planning.

Councilmember Edson expressed concern about the decrease in the number of trash haulers servicing residents in Lee's Summit. She asked if it was because of the closure or because of natural business fluctuations. Bob Hartnett, Deputy Director of Public Works, said that in recent years the number has gone up from 6-10 haulers recently and that it is just the market expanding and contracting.

Ms. Mezger brought up the downtown parking lot at 4th and Main. It was approved for a garage and Public Works is working on creating a temporary surface lot. It is currently being designed, will be put out for bid during winter, and construction should start next spring.

## 6. Adjournment

For your convenience, City Council agendas, as well as videos of City Council and Council Committee meetings, may be viewed on the City's Legislative Information Center website at "[lsmo.legistar.com](http://lsmo.legistar.com)"

## Packet Information

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**File #:** TMP-1398, **Version:** 1

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An Ordinance awarding Bid No. 42631783-C for Cedar Creek Interceptor Phase 3 to VF Anderson Builders, LLC in the amount of \$1,629,979.00 and authorizing the City Manager to enter into an agreement for the same.

Issue/Request:

An Ordinance awarding Bid No. 42631783-C for Cedar Creek Interceptor Phase 3 to VF Anderson Builders, LLC in the amount of \$1,629,979.00 and authorizing the City Manager to enter into an agreement for the same.

Key Issues:

- The existing Cedar Creek sewer interceptor does not have the capacity to convey the predicted wet weather flows nor meet the future needs of development in the watershed.
- Previous segments were rehabilitated in 2010 and 2016. This project will add an additional 2664 feet of new interceptor pipe.
- Sewer Tap and Construction Funds have been budgeted to complete this additional segment.
- The requested amount is for the Base Bid plus Alternate No. 1.

Proposed Committee Motion:

I move to recommend to City Council approval of an Ordinance awarding Bid No. 42631783-C for Cedar Creek Interceptor Phase 3 to VF Anderson Builders, LLC in the amount of \$1,629,979.00 and authorizing the City Manager to enter into an agreement for the same.

Background:

The June 2007 Wastewater Master Plan identified the need for sanitary sewer relief improvements in the Cedar Creek watershed. Previous segments of improvements were completed in 2010 and 2016. This project will continue the improvements upstream, adding another 2664 feet of pipe replacement. The new segment was originally designed as part of Segment 2-2 and cut from that project due to lack of adequate funding at that time. The design has been updated to create the Phase 3 Construction Project.

Impact/Analysis:

Timeline:

Start: December 2019

Finish: July 2020

Other Information/Unique Characteristics:

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Public Works Engineering issued Bid No.42631783-C for the Cedar Creek Interceptor Phase 3 construction on September 12, 2019. The bid was advertised on the City's website and potential bidders were notified through www.QuestCDN.com. A pre-bid meeting was held on September 23, 2019. Eight (8) contractors reviewed plans and four (4) attended the pre-bid meeting. Five (5) bids were received with VF Anderson Builder, LLC having the low bid for both base and alternate bids. City staff and HDR Engineers reviewed the qualifications and experience of VF Anderson Builder, LLC and they were deemed to have a qualified and responsive bid.

Jeff Thorn, Water Utilities Assistant Director of Engineering Services

Recommendation: Staff recommends approval of an Ordinance awarding Bid No. 42631783-C for Cedar Creek Interceptor Phase 3 to VF Anderson Builders, LLC in the amount of \$1,629,979.00 and authorizing the City Manager to enter into an agreement for the same.

Committee Recommendation: [Enter Committee Recommendation text Here]

BILL NO.

ORDINANCE NO.

AN ORDINANCE AWARDED BID NO. 42631783-C FOR CEDAR CREEK INTERCEPTOR PHASE 3 TO VF ANDERSON BUILDERS, LLC IN THE AMOUNT OF \$1,629,979.00 AND AUTHORIZING THE CITY MANAGER TO ENTER INTO AN AGREEMENT FOR THE SAME.

WHEREAS, the existing Cedar Creek Interceptor does not have the capacity to convey the predicted wet weather flows nor meet the needs of development in the watershed; and

WHEREAS, Public Works Engineering issued Bid No. 42631783-C on September 12, 2019; and,

WHEREAS, VF Anderson Builders, LLC was determined to be the lowest qualified and responsible bidder by City staff; and,

WHEREAS, the contract amount includes the Base Bid and Alternate 1 as shown in the contract documents.

NOW THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF LEE'S SUMMIT, MISSOURI, as follows:

SECTION 1. That the City Council of the City of Lee's Summit, Missouri hereby authorizes the award of Bid No. 42631783-C to VF Anderson Builders, LLC, in the amount of \$1,629,979.00.

SECTION 2. That the City Council of the City of Lee's Summit, Missouri hereby authorizes the execution, by the City Manager, of an agreement with VF Anderson Builders, LLC. for the services contained in Bid No. 42631783-C in an amount of \$1,629,979.00. Said contract is on file with the City of Lee's Summit Public Works Department and is incorporated by reference as if fully set forth herein.

SECTION 3. That this Ordinance shall be in full force and effect from and after the date of its passage and adoption, and approval by the Mayor.

PASSED by the City Council of the City of Lee's Summit, Missouri, this \_\_\_\_ day of \_\_\_\_\_, 2019.

\_\_\_\_\_  
Mayor William A. Baird

ATTEST:

\_\_\_\_\_  
City Clerk, Trisha Fowler Arcuri

APPROVED by the Mayor of said city this \_\_\_\_\_ day of \_\_\_\_\_, 2019.

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Mayor William A. Baird

ATTEST:

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City Clerk, Trisha Fowler Arcuri

APPROVED AS TO FORM:

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Chief Council of Infrastructure and Planning  
*Nancy K. Yendes*

**AGREEMENT  
BETWEEN OWNER AND CONTRACTOR FOR  
CONSTRUCTION CONTRACT (STIPULATED PRICE)**

Prepared by

**ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE**

and

Issued and Published Jointly by



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**AGREEMENT  
BETWEEN OWNER AND CONTRACTOR  
FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)**

THIS AGREEMENT is by and between \_\_\_\_\_ City of Lee’s Summit, Missouri \_\_\_\_\_ (“Owner”) and  
\_\_\_\_\_ VF Anderson Builders, LLC \_\_\_\_\_ (“Contractor”).

Owner and Contractor hereby agree as follows:

**ARTICLE 1 – WORK**

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

**BASE BID, MH-28 through MH-37A, Including Line H, I, and K: The construction of approximately 1,193 LF of 30-IN; 168 LF of 30-IN with 42-IN casing; 392 LF of 24-IN; 260 LF of 24-IN with 36-IN casing; 50 LF of 18-IN; 181 LF of 10-IN; 39 LF of 8-IN; and 41 LF of 6-IN sanitary sewer, 11 precast manholes of various sizes and depths, and all associated appurtenances.**

**ADD ALTERNATE NO. 1 BID, MH-27A through MH-40, Including Line J: The construction of approximately 651 LF of 24-IN and 181 LF of 10-IN sanitary sewer, 4 precast manholes of various sizes and depths, and all associated appurtenances.**

**ARTICLE 2 – THE PROJECT**

2.01 The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

**Bid No. 42631783-C Cedar Creek Interceptor Phase 3**

**ARTICLE 3 – ENGINEER**

3.01 The Project has been designed by HDR Engineering, Inc., 10450 Holmes Road, Suite 600, Kansas City, MO 64131 (Engineer), which is to act as Owner’s representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

**ARTICLE 4 – CONTRACT TIMES**

4.01 *Time of the Essence*

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

#### 4.02 *Days to Achieve Substantial Completion and Final Payment*

- A. The Work within the Base Bid will be substantially completed within 180 days after the date when the Contract Times commence to run as provided in Paragraph 2.03 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions within 210 days after the date when the Contract Times commence to run.
- B. If the Owner elects to award Alternate Bid No. 1, the Work within the Base Bid plus the Alternate Bid will be substantially completed within 240 days after the date when the Contract Times commence to run as provided in Paragraph 2.03 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions within 270 days after the date when the Contract Times commence to run.

#### 4.03 *Liquidated Damages*

- A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial loss if the Work is not completed within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay Owner \$1,500 for each day that expires after the time specified in Paragraph 4.02 above for Substantial Completion until the Work is substantially complete. After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by Owner, Contractor shall pay Owner \$1,000 for each day that expires after the time specified in Paragraph 4.02 above for completion and readiness for final payment until the Work is completed and ready for final payment. In addition, Contractor shall be liable to Owner for all other damages, including, but not limited to attorney's fees and expenses, additional engineering fees and expenses, and time, costs, and/or expense of Owner's personnel.

### **ARTICLE 5 – CONTRACT PRICE**

- 5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to Paragraphs 5.01.A below:
  - A. For all Unit Price Work, an amount equal to the sum of the established unit price for each separately identified item of Unit Price Work times the actual quantity of that item:

**Base Bid, MH-28 through MH-37A, Including Line H, I, and K:**

UNIT PRICE WORK					
Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Price
1.	Mobilization (3%)	LS	1	\$32,000.00	\$32,000.00
2.	Sanitary Sewer Pipe, 30 IN	LF	1,193	\$173.00	\$206,389.00
3.	Sanitary Sewer Pipe, 30 IN w/ 42 IN Steel Casing	LF	168	\$1,007.00	\$169,176.00
4.	Sanitary Sewer Pipe, 24 IN	LF	392	\$218.00	\$85,456.00
5.	Sanitary Sewer Pipe, 24 IN w/ 36 IN Steel Casing	LF	260	\$1,171.00	\$304,460.00
6.	Sanitary Sewer Pipe, 18 IN	LF	50	\$105.00	\$5,250.00
7.	Sanitary Sewer Pipe, 8 IN	LF	39	\$60.00	\$2,340.00
8.	Sanitary Sewer Pipe, 6 IN	LF	41	\$50.00	\$2,050.00
9.	Sanitary Sewer Std Manhole, 6 FT Dia (16'-18' Depth)	EA	1	\$9,800.00	\$9,800.00
10.	Sanitary Sewer Std Manhole, 6 FT Dia (20-22' Depth)	EA	1	\$10,900.00	\$10,900.00
11.	Sanitary Sewer Std Manhole, 6 FT Dia (24-26' depth)	EA	3	\$12,400.00	\$37,200.00
12.	Sanitary Sewer Drop Manhole, 6 FT Dia (20-22' Depth)	EA	1	\$17,000.00	\$17,000.00
13.	Sanitary Sewer Drop Manhole, 6 FT Dia (22-24' Depth)	EA	1	\$15,200.00	\$15,200.00
14.	Sanitary Sewer Std Manhole, 5 FT Dia (16-18' Depth)	EA	2	\$7,900.00	\$15,800.00
15.	Sanitary Sewer Std Manhole, 5 FT Dia (18-20' Depth)	EA	1	\$8,600.00	\$8,600.00
16.	Sanitary Sewer Std Manhole, 4 FT Dia (8-10' Depth)	EA	1	\$4,300.00	\$4,300.00
17.	Sanitary Sewer Manhole Vent Assembly	EA	1	\$1,800.00	\$1,800.00
18.	Sanitary Sewer Trench Checks	EA	2	\$2,000.00	\$4,000.00
19.	Flowable Fill (Abandon Sewer Pipe/MH)	CY	103	\$140.00	\$14,420.00
20.	By-Pass Pumping	LS	1	\$107,000.00	\$107,000.00
21.	Demolition & Removal	LS	1	\$59,000.00	\$59,000.00
22.	Clearing & Grubbing	LS	1	\$26,000.00	\$26,000.00
23.	Construction Entrance	EA	3	\$1,500.00	\$4,500.00
24.	Inlet Protection	EA	2	\$81.00	\$162.00
25.	Mulch Berm/Sediment Fence	LF	995	\$3.00	\$2,985.00
26.	Gabions	CY	61	\$315.00	\$19,215.00
27.	Erosion Control Blanket	SY	238	\$3.00	\$714.00
28.	HT-TRM	SY	238	\$17.00	\$4,046.00
29.	Native Seeding	AC	0.05	\$2,700.00	\$135.00

Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Price
30.	Seed	AC	2.70	\$2,200.00	\$5,940.00
31.	Sod	SY	3,600	\$7.00	\$25,200.00
32.	Traffic Control	LS	1	\$3,100.00	\$3,100.00
33.	MoDOT Type I 4" Thick, Aggregate Drive Replacement	SY	84	\$9.00	\$756.00
34.	Concrete Driveway (6" Thick)	SY	492	\$55.00	\$27,060.00
35.	Concrete Sidewalk, (4" Thick)	SF	2,160	\$6.00	\$12,960.00
Total of all Base Bid Prices (Unit Price Work): One Million Two Hundred Forty-Four Thousand Nine Hundred Fourteen dollars and no cents (words)				\$1,244,914.00  (Dollars & No Cents)	

**Alternate Bid No. 1, MH-37A through MH-40, Including Line J:**

UNIT PRICE WORK					
Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Price
36.	Mobilization (3% Max.)	LS	1	\$11,000.00	\$11,000.00
37.	Sanitary Sewer Pipe, 24 IN	LF	651	\$139.00	\$90,489.00
38.	Sanitary Sewer Pipe, 10 IN	LF	181	\$83.00	\$15,023.00
39.	Sanitary Sewer Std Manhole, 5 FT Dia (10-12' Depth) w/ Bolt Down F&C	EA	1	\$6,800.00	\$6,800.00
40.	Sanitary Sewer Std Manhole, 5 FT Dia (16-18' Depth) w/ Bolt Down F&C	EA	1	\$8,400.00	\$8,400.00
41.	Sanitary Sewer Std Manhole, 5' Dia (22-24' Depth) w/ Bolt Down F&C	EA	1	\$10,000.00	\$10,000.00
42.	Sanitary Sewer Std Manhole, 4' Dia (12-14' Depth) w/ Bolt Down F&C	EA	1	\$5,100.00	\$5,100.00
43.	Sanitary Sewer Manhole Vent Assembly	EA	1	\$1,800.00	\$1,800.00
44.	Concrete Encasement, 24 IN Pipe	LF	115	\$212.00	\$24,380.00
45.	Concrete Encasement, 10 IN Pipe	LF	40	\$100.00	\$4,000.00
46.	Sanitary Sewer Trench Checks	EA	3	\$2,000.00	\$6,000.00
47.	Flowable Fill (Abandon Sewer Pipe/MH)	CY	60	\$140.00	\$8,400.00
48.	By-Pass Pumping	LS	1	\$41,000.00	\$41,000.00
49.	Demolition & Removal	LS	1	\$27,000.00	\$27,000.00
50.	Clearing & Grubbing	LS	1	\$11,000.00	\$11,000.00
51.	Construction Entrance	EA	1	\$1,500.00	\$1,500.00
52.	Mulch Berm/Sediment Fence	LF	230	\$3.00	\$690.00
53.	Gabions	CY	290	\$315.00	\$91,350.00
54.	Erosion Control Blanket	SY	784	\$3.00	\$2,352.00

Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Price
55.	HT-TRM	SY	784	\$17.00	\$13,328.00
56.	Native Seeding	AC	0.16	\$2,700.00	\$432.00
57.	Seed	AC	1.00	\$2,200.00	\$2,200.00
58.	Coir Logs	LF	217	\$13.00	\$2,821.00
Total of all Alternate No. 1 Bid Prices (Unit Price Work): Three Hundred Eighty-Five Thousand Sixty-Five dollars and no cents				\$385,065.00	
(Words)				(Dollars & No Cents)	
Total of all Base Bid plus all Alternate No. 1 Bid Prices (Unit Price Work): One Million Six Hundred Twenty-Nine Thousand Nine Hundred Seventy-Nine dollars and no cents				\$1,629,979.00	
(Words)				(Dollars & No Cents)	

The Bid prices for Unit Price Work set forth as of the Effective Date of the Agreement are based on estimated quantities. As provided in Paragraph 11.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer as provided in Paragraph 9.07 of the General Conditions.

## ARTICLE 6 – PAYMENT PROCEDURES

### 6.01 *Submittal and Processing of Payments*

- A. Contractor shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by ~~Engineer~~ Owner as provided in the General Conditions.

### 6.02 *Progress Payments; Retainage*

- A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment monthly ~~on or about the 1st day of each month~~ during performance of the Work as provided in Paragraph 6.02.A.1 below. All such payments will be measured by the schedule of values established as provided in Paragraph 2.07.A of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements.

1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Engineer may determine or Owner may withhold, including but not limited to liquidated damages, in accordance with Paragraph 14.02 of the General Conditions.
  - a. 95 percent of Work completed (with the balance being retainage); ~~and, If the Work has been 50 percent completed as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, then as long as the character~~

~~and progress of the Work remain satisfactory to Owner and Engineer, there will be no additional retainage; and~~

- b. 95 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).
- B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 100 percent of the Work completed, less such amounts as Engineer shall determine in accordance with Paragraph 14.02.B.5 of the General Conditions and less 150 percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the tentative list of items to be completed or corrected attached to the certificate of Substantial Completion.

### 6.03 *Final Payment*

- A. Upon final completion and acceptance of the Work in accordance with Paragraph 14.07 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 14.07.

## **ARTICLE 7 – INTEREST**

- 7.01 All moneys not paid when due as provided in Article 14 of the General Conditions shall bear interest at the rate as specified by Missouri State Statute, RSMo 34-057 of \_\_\_\_\_ percent per annum.

## **ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS**

- 8.01 In order to induce Owner to enter into this Agreement, Contractor makes the following representations:
- A. Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.
  - B. Contractor has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
  - C. Contractor is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.
  - D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (~~except Underground Facilities~~), if any, that have been identified in Paragraph SC-4.02 of the Supplementary Conditions as containing reliable "technical data," and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in Paragraph SC-4.06 of the Supplementary Conditions as containing reliable "technical data."

- E. Contractor has considered the information known to Contractor; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents; and (3) Contractor's safety precautions and programs.
- F. Based on the information and observations referred to in Paragraph 8.01.E above, Contractor does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.
- G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
- H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
- I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

## **ARTICLE 9 – CONTRACT DOCUMENTS**

### **9.01 *Contents***

- A. The Contract Documents consist of the following:
  - 1. This Agreement (pages 1 to 10, inclusive).
  - 2. Performance bond (pages 1 to 2, inclusive).
  - 3. Payment bond (pages 1 to 3, inclusive).
  - 4. Other bonds (pages \_\_\_\_ to \_\_\_\_, inclusive).
    - a. \_\_\_\_ (pages \_\_\_\_ to \_\_\_\_, inclusive).
    - b. \_\_\_\_ (pages \_\_\_\_ to \_\_\_\_, inclusive).
    - c. \_\_\_\_ (pages \_\_\_\_ to \_\_\_\_, inclusive).
  - 5. General Conditions (pages 1 to 66, inclusive).
  - 6. Supplementary Conditions (pages 1 to 6, inclusive).



7. Specifications as listed in the table of contents of the Project Manual.
  8. Drawings consisting of 19 sheets with each sheet bearing the following general title: Cedar Creek Interceptor Phase 3.
  9. Addenda (numbers 1 to 1, inclusive).
  10. Exhibits to this Agreement (enumerated as follows):
    - a. Documentation submitted by Contractor prior to Notice of Award (pages \_\_\_\_ to \_\_\_\_, inclusive).
    - b. *[List other required attachments (if any), such as documents required by funding or lending agencies].*
  11. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
    - a. Notice to Proceed (pages 1 to 1, inclusive).
    - b. Work Change Directives.
    - c. Change Orders.
- B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in Paragraph 3.04 of the General Conditions.

## **ARTICLE 10 – MISCELLANEOUS**

### 10.01 *Terms*

- A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

### 10.02 *Assignment of Contract*

- A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

### 10.03 *Successors and Assigns*

- A. Owner and Contractor each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

### 10.04 *Severability*

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

### 10.05 *Contractor's Certifications*

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:
  1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;
  2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
  3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
  4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

### 10.06 *Other Provisions*

- A. This Agreement and all work related to this Project shall be governed by the laws of the State of Missouri and shall be litigated and/or mediated in Jackson County, Missouri's Independence Courthouse.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement. Counterparts have been delivered to Owner and Contractor. All portions of the Contract Documents have been signed or have been identified by Owner and Contractor or on their behalf.

This Agreement will be effective on \_\_\_\_\_ (which is the Effective Date of the Agreement).

OWNER:

City of Lee's Summit, Missouri \_\_\_\_\_

By: \_\_\_\_\_

Title: City Manager \_\_\_\_\_

Approved as to Form: \_\_\_\_\_

Title: Chief Counsel of Infrastructure and Planning \_\_\_\_\_

Address for giving notices:  
220 SE Green Street  
Lee's Summit, MO 64063  
\_\_\_\_\_

Attest:

(If Owner is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)

CONTRACTOR:

VF Anderson Builders, LLC \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: \_\_\_\_\_

Title: \_\_\_\_\_

Address for giving notices:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

License No.: \_\_\_\_\_  
(Where applicable)

*NOTE TO USER: Use in those states or other jurisdictions where applicable or required.*

Agent for service of process:  
\_\_\_\_\_

Cedar Creek Interceptor Phase 3 (#6484557)  
 Owner: Lee's Summit MO, City of  
 10/04/2019 02:00 PM CDT

Line Item	Item Description	UofM	Quantity	Engineer Estimate		VF Anderson Builders		Site Rite Construction Co.		Redford Construction Inc.		Beemer Construction Co.		Kissick Construction Company, Inc.	
				Unit Price	Extension	Unit Price	Extension	Unit Price	Extension	Unit Price	Extension	Unit Price	Extension	Unit Price	Extension
1	Mobilization (3% Max.)	LS	1	\$64,000.00	\$1,344,262.00	\$32,000.00	\$1,244,914.00	\$30,000.00	\$1,401,012.00	\$48,000.00	\$1,638,181.00	\$50,377.00	\$1,789,863.23	\$37,399.00	\$2,292,306.00
2	Sanitary Sewer Pipe, 30 IN	LF	1193	\$255.00	\$304,215.00	\$173.00	\$206,389.00	\$385.00	\$459,305.00	\$350.00	\$417,550.00	\$475.00	\$566,675.00	\$480.00	\$572,640.00
3	Sanitary Sewer Pipe, 30 IN w/ 42 IN Steel Casing	LF	168	\$1,360.00	\$228,480.00	\$1,007.00	\$169,176.00	\$1,000.00	\$168,000.00	\$1,850.00	\$310,800.00	\$1,902.00	\$319,536.00	\$2,717.00	\$456,456.00
4	Sanitary Sewer Pipe, 24 IN	LF	392	\$205.00	\$80,360.00	\$218.00	\$85,456.00	\$306.00	\$119,952.00	\$300.00	\$117,600.00	\$435.00	\$170,520.00	\$756.00	\$296,352.00
5	Sanitary Sewer Pipe, 24 IN w/ 36 IN Steel Casing	LF	260	\$1,210.00	\$314,600.00	\$1,171.00	\$304,460.00	\$1,100.00	\$286,000.00	\$1,400.00	\$364,000.00	\$1,634.00	\$424,840.00	\$1,973.00	\$512,980.00
6	Sanitary Sewer Pipe, 18 IN	LF	50	\$105.00	\$5,250.00	\$105.00	\$5,250.00	\$286.00	\$14,300.00	\$250.00	\$12,500.00	\$108.00	\$5,400.00	\$230.00	\$11,500.00
7	Sanitary Sewer Pipe, 8 IN	LF	39	\$65.00	\$2,535.00	\$60.00	\$2,340.00	\$80.00	\$3,120.00	\$200.00	\$7,800.00	\$74.00	\$2,886.00	\$211.00	\$8,229.00
8	Sanitary Sewer Pipe, 6 IN	LF	41	\$60.00	\$2,460.00	\$50.00	\$2,050.00	\$60.00	\$2,460.00	\$100.00	\$4,100.00	\$65.00	\$2,665.00	\$207.00	\$8,487.00
9	Sanitary Sewer Std Manhole, 6 FT Dia (16'-18' Depth)	EA	1	\$10,000.00	\$10,000.00	\$9,800.00	\$9,800.00	\$8,000.00	\$8,000.00	\$10,000.00	\$10,000.00	\$5,845.00	\$5,845.00	\$10,448.00	\$10,448.00
10	Sanitary Sewer Std Manhole, 6 FT Dia (20-22' Depth)	EA	1	\$11,200.00	\$11,200.00	\$10,900.00	\$10,900.00	\$9,000.00	\$9,000.00	\$15,000.00	\$15,000.00	\$7,194.00	\$7,194.00	\$11,972.00	\$11,972.00
11	Sanitary Sewer Std Manhole, 6 FT Dia (24-26' depth)	EA	3	\$12,600.00	\$37,800.00	\$12,400.00	\$37,200.00	\$10,000.00	\$30,000.00	\$17,000.00	\$51,000.00	\$7,938.00	\$23,814.00	\$12,221.00	\$36,663.00
12	Sanitary Sewer Drop Manhole, 6 FT Dia (20-22' Depth)	EA	1	\$12,200.00	\$12,200.00	\$17,000.00	\$17,000.00	\$11,000.00	\$11,000.00	\$17,000.00	\$17,000.00	\$11,663.00	\$11,663.00	\$16,911.00	\$16,911.00
13	Sanitary Sewer Drop Manhole, 6 FT Dia (22-24' Depth)	EA	1	\$12,500.00	\$12,500.00	\$15,200.00	\$15,200.00	\$12,000.00	\$12,000.00	\$18,000.00	\$18,000.00	\$9,428.00	\$9,428.00	\$12,775.00	\$12,775.00
14	Sanitary Sewer Std Manhole, 5 FT Dia (16-18' Depth)	EA	2	\$8,400.00	\$16,800.00	\$7,900.00	\$15,800.00	\$7,000.00	\$14,000.00	\$9,000.00	\$18,000.00	\$4,547.00	\$9,094.00	\$8,500.00	\$17,000.00
15	Sanitary Sewer Std Manhole, 5 FT Dia (18-20' Depth)	EA	1	\$9,000.00	\$9,000.00	\$8,600.00	\$8,600.00	\$7,500.00	\$7,500.00	\$10,000.00	\$10,000.00	\$5,018.00	\$5,018.00	\$8,500.00	\$8,500.00
16	Sanitary Sewer Std Manhole, 4 FT Dia (8-10' Depth)	EA	1	\$5,000.00	\$5,000.00	\$4,300.00	\$4,300.00	\$4,000.00	\$4,000.00	\$5,000.00	\$5,000.00	\$2,389.00	\$2,389.00	\$5,700.00	\$5,700.00
17	Sanitary Sewer Manhole Vent Assembly	EA	1	\$2,500.00	\$2,500.00	\$1,800.00	\$1,800.00	\$2,000.00	\$2,000.00	\$2,500.00	\$2,500.00	\$1,384.00	\$1,384.00	\$1,040.00	\$1,040.00
18	Sanitary Sewer Trench Checks	EA	2	\$2,000.00	\$4,000.00	\$2,000.00	\$4,000.00	\$1,500.00	\$3,000.00	\$1,000.00	\$2,000.00	\$987.00	\$1,974.00	\$1,053.00	\$2,106.00
19	Flowable Fill (Abandon Sewer Pipe/MH)	CY	103	\$125.00	\$12,875.00	\$140.00	\$14,420.00	\$180.00	\$18,540.00	\$130.00	\$13,390.00	\$117.00	\$12,051.00	\$180.00	\$18,540.00
20	By-Pass Pumping	LS	1	\$37,500.00	\$37,500.00	\$107,000.00	\$107,000.00	\$30,000.00	\$30,000.00	\$20,000.00	\$20,000.00	\$36,300.00	\$36,300.00	\$18,800.00	\$18,800.00
21	Demolition & Removal	LS	1	\$11,250.00	\$11,250.00	\$59,000.00	\$59,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$6,537.00	\$6,537.00	\$11,576.00	\$11,576.00
22	Clearing & Grubbing	LS	1	\$11,250.00	\$11,250.00	\$26,000.00	\$26,000.00	\$50,000.00	\$50,000.00	\$20,000.00	\$20,000.00	\$9,825.00	\$9,825.00	\$11,787.00	\$11,787.00
23	Construction Entrance	EA	3	\$1,100.00	\$3,300.00	\$1,500.00	\$4,500.00	\$1,500.00	\$4,500.00	\$900.00	\$2,700.00	\$731.00	\$2,193.00	\$3,078.00	\$9,234.00
24	Inlet Protection	EA	2	\$500.00	\$1,000.00	\$81.00	\$162.00	\$200.00	\$400.00	\$200.00	\$400.00	\$373.00	\$746.00	\$432.00	\$864.00
25	Mulch Berm/Sediment Fence	LF	995	\$7.00	\$6,965.00	\$3.00	\$2,985.00	\$3.00	\$2,985.00	\$3.00	\$2,985.00	\$2.10	\$2,089.50	\$8.00	\$7,960.00
26	Gabions	CY	61	\$300.00	\$18,300.00	\$315.00	\$19,215.00	\$250.00	\$15,250.00	\$250.00	\$15,250.00	\$316.66	\$19,316.26	\$900.00	\$54,900.00
27	Erosion Control Blanket	SY	238	\$4.00	\$952.00	\$3.00	\$714.00	\$10.00	\$2,380.00	\$21.00	\$4,998.00	\$2.62	\$623.56	\$4.00	\$952.00
28	HT-TRM	SY	238	\$20.00	\$4,760.00	\$17.00	\$4,046.00	\$20.00	\$4,760.00	\$21.00	\$4,998.00	\$15.75	\$3,748.50	\$19.80	\$4,714.40
29	Native Seeding	AC	0.05	\$8,000.00	\$400.00	\$2,700.00	\$135.00	\$18,000.00	\$900.00	\$4,000.00	\$200.00	\$2,625.00	\$131.25	\$10,080.00	\$504.00
30	Seed	AC	2.7	\$3,500.00	\$9,450.00	\$2,200.00	\$5,940.00	\$3,000.00	\$8,100.00	\$3,500.00	\$9,450.00	\$2,100.00	\$5,670.00	\$4,838.00	\$13,062.60
31	Sod	SY	3600	\$7.00	\$25,200.00	\$7.00	\$25,200.00	\$7.00	\$25,200.00	\$7.00	\$25,200.00	\$6.40	\$23,040.00	\$6.71	\$24,156.00
32	Traffic Control	LS	1	\$10,000.00	\$10,000.00	\$3,100.00	\$3,100.00	\$3,500.00	\$3,500.00	\$6,000.00	\$6,000.00	\$2,992.00	\$2,992.00	\$14,000.00	\$14,000.00
33	MoDOT Type 14 IN Thick, Aggregate Drive Replacement	SY	84	\$20.00	\$1,680.00	\$9.00	\$756.00	\$10.00	\$840.00	\$15.00	\$1,260.00	\$14.48	\$1,216.32	\$60.00	\$5,040.00
34	Concrete Driveway (6 IN Thick)	SY	492	\$100.00	\$49,200.00	\$55.00	\$27,060.00	\$55.00	\$27,060.00	\$95.00	\$46,740.00	\$61.42	\$30,218.64	\$107.00	\$52,644.00
35	Concrete Sidewalk, (4 IN Thick)	SF	2160	\$8.00	\$17,280.00	\$6.00	\$12,960.00	\$6.00	\$12,960.00	\$11.00	\$23,760.00	\$5.77	\$12,463.20	\$7.60	\$16,416.00
	<b>BASE BID TOTAL:</b>			<b>\$1,344,262.00</b>	<b>\$12,444,914.00</b>	<b>\$1,244,914.00</b>	<b>\$10,401,012.00</b>	<b>\$1,401,012.00</b>	<b>\$1,638,181.00</b>	<b>\$1,789,863.23</b>	<b>\$2,292,306.00</b>				

Alternate No. 1, MH-27A to and including MH-40, Including Line J

36	Mobilization (3% Max.)	LS	1	\$19,000.00	\$19,000.00	\$11,000.00	\$11,000.00	\$10,000.00	\$10,000.00	\$5,000.00	\$5,000.00	\$14,675.00	\$14,675.00	\$12,500.00	\$12,500.00
37	Sanitary Sewer Pipe, 24 IN	LF	651	\$205.00	\$133,455.00	\$139.00	\$90,489.00	\$268.00	\$174,468.00	\$300.00	\$195,300.00	\$348.00	\$226,548.00	\$518.00	\$337,218.00
38	Sanitary Sewer Pipe, 10 IN	LF	181	\$85.00	\$15,385.00	\$83.00	\$15,023.00	\$217.00	\$39,277.00	\$80.00	\$14,480.00	\$100.00	\$18,100.00	\$200.00	\$36,200.00
39	Sanitary Sewer Std Manhole, 5 FT Dia (10-12' Depth) w/ Bolt Down F&C	EA	1	\$7,000.00	\$7,000.00	\$6,800.00	\$6,800.00	\$6,000.00	\$6,000.00	\$6,000.00	\$6,000.00	\$4,097.00	\$4,097.00	\$8,000.00	\$8,000.00
40	Sanitary Sewer Std Manhole, 5 FT Dia (16-18' Depth) w/ Bolt Down F&C	EA	1	\$9,000.00	\$9,000.00	\$8,400.00	\$8,400.00	\$7,500.00	\$7,500.00	\$6,500.00	\$6,500.00	\$5,032.00	\$5,032.00	\$8,300.00	\$8,300.00
41	Sanitary Sewer Std Manhole, 5 FT Dia (22-24' Depth) w/ Bolt Down F&C	EA	1	\$10,800.00	\$10,800.00	\$10,000.00	\$10,000.00	\$8,500.00	\$8,500.00	\$7,000.00	\$7,000.00	\$6,166.00	\$6,166.00	\$8,800.00	\$8,800.00
42	Sanitary Sewer Std Manhole, 4 FT Dia (12-14' Depth) w/ Bolt Down F&C	EA	1	\$6,500.00	\$6,500.00	\$5,100.00	\$5,100.00	\$4,000.00	\$4,000.00	\$4,500.00	\$4,500.00	\$3,242.00	\$3,242.00	\$5,300.00	\$5,300.00
43	Sanitary Sewer Manhole Vent Assembly	EA	1	\$2,500.00	\$2,500.00	\$1,800.00	\$1,800.00	\$2,000.00	\$2,000.00	\$2,500.00	\$2,500.00	\$1,384.00	\$1,384.00	\$1,040.00	\$1,040.00
44	Concrete Encasement, 24 IN Pipe	LF	115	\$225.00	\$25,875.00	\$212.00	\$24,380.00	\$250.00	\$28,750.00	\$200.00	\$23,000.00	\$207.14	\$23,821.10	\$300.00	\$34,500.00
45	Concrete Encasement, 10 IN Pipe	LF	40	\$125.00	\$5,000.00	\$100.00	\$4,000.00	\$150.00	\$6,000.00	\$120.00	\$4,800.00	\$93.72	\$3,748.80	\$225.00	\$9,000.00
46	Sanitary Sewer Trench Checks	EA	3	\$2,000.00	\$6,000.00	\$2,000.00	\$6,000.00	\$1,500.00	\$4,500.00	\$1,000.00	\$3,000.00	\$3,189.50	\$9,568.50	\$1,053.00	\$3,159.00
47	Flowable Fill (Abandon Sewer Pipe/MH)	CY	60	\$125.00	\$7,500.00	\$140.00	\$8,400.00	\$180.00	\$10,800.00	\$130.00	\$7,800.00	\$202.36	\$12,141.60	\$180.00	\$10,800.00
48	By-Pass Pumping	LS	1	\$12,500.00	\$12,500.00	\$41,000.00	\$41,000.00	\$25,000.00	\$25,000.00	\$10,000.00	\$10,000.00	\$23,955.00	\$23,955.00	\$4,022.00	\$4,022.00
49	Demolition & Removal	LS	1	\$4,000.00	\$4,000.00	\$27,000.00	\$27,000.00	\$10,000.00	\$10,000.00	\$2,000.00	\$2,000.00	\$460.00	\$460.00	\$2,243.00	\$2,243.00
50	Clearing & Grubbing	LS	1	\$8,000.00	\$8,000.00	\$11,000.00	\$11,000.00	\$10,000.00	\$10,000.00	\$15,000.00	\$15,000.00	\$9,843.75	\$9,843.75	\$19,646.00	\$19,646.00
51	Construction Entrance	EA	1	\$1,100.00	\$1,100.00	\$1,500.00	\$1,500.00	\$2,000.00	\$2,000.00	\$900.00	\$900.00	\$743.00	\$743.00	\$3,080.00	\$3,080.00
52	Mulch Berm/Sediment Fence	LF	230	\$7.00	\$1,610.00	\$3.00	\$690.00	\$3.00	\$690.00	\$3.00	\$690.00	\$2.10	\$483.00	\$10.00	\$2,300.00
53	Gabions	CY	290	\$300.00	\$87,000.00	\$315.00	\$91,350.00	\$250.00	\$72,500.00	\$275.00	\$79,750.00	\$360.83	\$104,640.70	\$700.00	\$203,000.00
54	Erosion Control Blanket	SY	784	\$4.00	\$3,136.00	\$3.00	\$2,352.00	\$6.00	\$4,704.00	\$16.00	\$12,544.00	\$2.62	\$2,054.08	\$4.00	\$3,136.00
55	HT-TRM	SY	784	\$20.00	\$15,680.00	\$17.00	\$13,328.00	\$20.00	\$15,680.00	\$16.00	\$12,544.00	\$15.75	\$12,348.00	\$19.80	\$15,523.20
56	Native Seeding	AC	0.16	\$10,000.00	\$1,600.00	\$2,700.00									

## Packet Information

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**File #:** TMP-1399, **Version:** 1

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An Ordinance awarding Bid No. 43131883-C, for the Water Tower Re-Coatings: Hook and Ranson, to Worldwide Industries Corp. in the amount of \$1,386,400.00 and authorizing the City Manager to execute an agreement for the same.

**Issue/Request:**

Approval of a recoating project for the Water Towers located on Hook and Ranson Roads. Project includes surface prep of the existing tanks and application of a coating system to the interior and exterior of Ranson Road Water tower and to the exterior only of Hook Water Tower.

**Key Issues:**

- Lee's Summit maintains 4 Water Towers, 1 Stand Pipe and 4 Ground Storage Reservoirs to provide potable water services to the Customers of Lee's Summit Water Utilities.
- These Towers and Tanks are protected from internal and external corrosion with epoxy coating systems.
- The replacement of these systems is funded through the utilities Equipment Replacement Program. (ERP)
- The City's Elevated Towers are due for coating replacement and Hook and Ranson are scheduled to be done this coming spring and fall respectively.
- The City advertised and bid this project and received 6 bids.
- Worldwide Industries Corp. has been determined to be the lowest responsive and responsible bidder.

**Background:**

The Ranson Road Water Tower was constructed in 1991 and repainted in 2004 and is now due to be repainted again. This tank will be painted both interior and exterior after having the surfaces blasted and prepared behind full containment. While this is being done the tank will be out of service and the adjoining dog park will be closed.

The Hook Road Water tower was constructed in 2007 and has its original coating still intact. This tank will receive exterior recoating only as internal inspection indicates that coating system is still in good condition. The remote nature of this tank removes the requirement of containment for the surface preparation and coating work.

**Proposed Committee Motion:**

I move to recommend to City Council approval of an Ordinance awarding Bid No. 43131883-C, for the Water Tower Re-Coatings: Hook and Ranson, to Worldwide Industries Corp. in the amount of \$1,386,400.00 and authorizing the City Manager to execute an agreement for the same

Jeff Thorn, PE Assistant Director Lee's Summit Water Utilities

Recommendation: Staff recommends approval of an Ordinance awarding Bid No. 43131883-C, for the Water Tower Re-Coatings: Hook and Ranson, to Worldwide Industries Corp. in the amount of \$1,386,400.00 and authorizing the City Manager to execute an agreement for the same.

Committee Recommendation:

**BILL NO. 19-**

---

An Ordinance awarding Bid No. 43131883-C, for the Water Tower Re-Coatings: Hook and Ranson, to Worldwide Industries Corp. in the amount of \$1,386,400.00 and authorizing the City Manager to execute an agreement for the same.

WHEREAS, the Water Utilities Department operates and maintains water towers as part of the water distribution system in Lee's Summit; and,

WHEREAS, these water towers are protected by a coating system to prevent corrosion; and,

WHEREAS, Water these coating systems are in need of replacement on the Hook and Ranson Water Towers; and,

WHEREAS, the replacement of these coatings is budgeted for in the Equipment Replacement Program; and,

WHEREAS, Integrated Controls Inc provided the lowest responsible, responsive bid for this work.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF LEE'S SUMMIT, MISSOURI, AS FOLLOWS:

SECTION 1. That the City Council of Lee's Summit, Missouri hereby authorizes the award of Bid No. 43131883-C, for the Water Tower Re-Coatings: Hook and Ranson, to Worldwide Industries Corp. in the amount of \$1,386,400.00.

SECTION 2. That the City Council of the City of Lee's Summit, Missouri hereby authorizes the execution, by the City Manager, of an agreement with Worldwide Industries Corp. for the services contained in Bid No. 43131883-C in an amount of \$1,386,400.00. Said contract is on file with the City of Lee's Summit Water Department and is incorporated by reference as if fully set forth herein.

SECTION 3. That this Ordinance shall be in full force and effect from and after the date of its adoption, passage, and approval by the Mayor.

PASSED by the City Council of the City of Lee's Summit, Missouri, this \_\_\_ day of \_\_\_\_\_, 2019.

\_\_\_\_\_  
Mayor William A. Baird

ATTEST:

\_\_\_\_\_  
City Clerk *Trisha Fowler Arcuri*





**BILL NO. 19-**

---

APPROVED by the Mayor of said city this \_\_\_\_\_ day of \_\_\_\_\_, 2019.

\_\_\_\_\_  
ATTEST:

Mayor William A. Baird

\_\_\_\_\_  
City Clerk Trisha Fowler Arcuri

APPROVED AS TO FORM:

\_\_\_\_\_  
Chief Council of Infrastructure and Planning  
Nancy K. Yendes



October 14, 2019

City of Lee's Summit, Missouri  
Attn: Mr. Jeff Thorn  
1200 SE Hamblen Road  
Lee's Summit, MO 64081

Re: Water Tower Re-Coatings: Hook and Ranson Tower Bid Award  
Lee's Summit, Missouri - 2019  
Olsson Project No. 017-0717

Dear Mr. Thorn:

Bids for the above referenced project were received and opened on October 1, 2019. A total of six (6) bids were submitted and accepted via the City's online bidding portal.

After review of the apparent low bid and supporting documents, it is Olsson's recommendation that Notice of Award be given to the apparent low bidder, Worldwide Industries Corporation, in the contract amount of \$1,386,400.00.

Please do not hesitate to call with any questions, comments, or if any further information or documentation is required.

Sincerely,

A handwritten signature in blue ink that reads "Kevin Waldron". The signature is fluid and cursive.

Kevin Waldron, PE

Water Tower Recoatings - Hook and Ranson (#6478600)

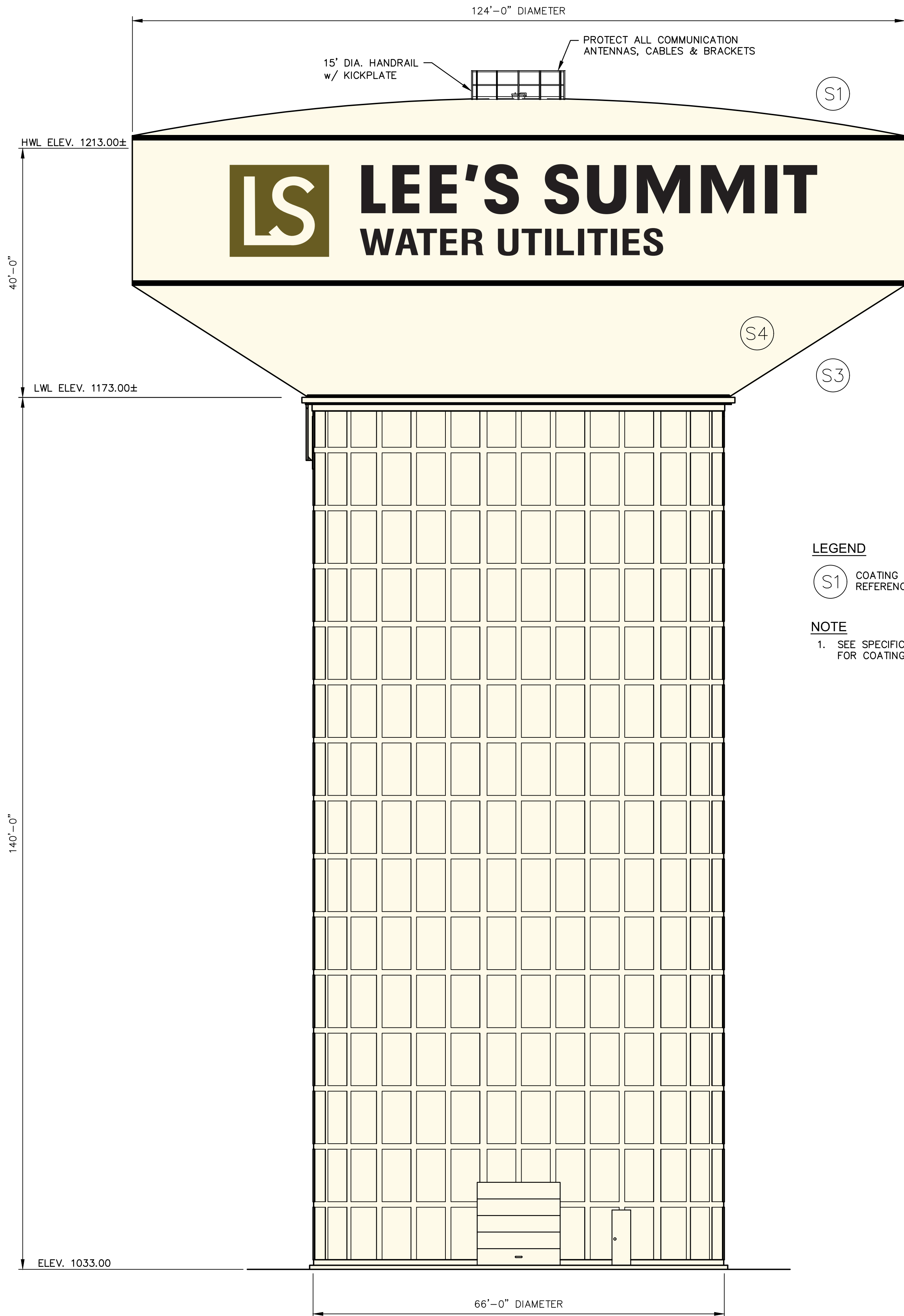
Owner: City of Lee's Summit

Solicitor: Olsson Associates

10/01/2019 02:00 PM CDT

Section	Tit	Line Item	Item Code	Item Descr	UofM	Quantity	Engineer Estimate		Worldwide Industries Corp.		G&L Tank Sandblasting and Coatings LLC		Viking Industrial Painting		Maguire Iron, Inc.		Classic Protective Coatings Inc.		TMI Coatings, Inc.	
							Unit Price	Extension	Unit Price	Extension	Unit Price	Extension	Unit Price	Extension	Unit Price	Extension	Unit Price	Extension	Unit Price	Extension
Section A	Water Tower	Re-coatings: Hook and Ranson						\$1,707,000.00		\$1,386,400.00		\$1,426,418.00		\$1,488,500.00		\$1,939,000.00		\$2,283,700.00		\$2,334,000.00
		1	1	All work in LS		1	\$1,707,000.00	\$1,707,000.00	\$1,386,400.00	\$1,386,400.00	\$1,426,418.00	\$1,426,418.00	\$1,488,500.00	\$1,488,500.00	\$1,939,000.00	\$1,939,000.00	\$2,283,700.00	\$2,283,700.00	\$2,334,000.00	\$2,334,000.00
Base Bid Total:								\$1,707,000.00		\$1,386,400.00		\$1,426,418.00		\$1,488,500.00		\$1,939,000.00		\$2,283,700.00		\$2,334,000.00

DWG: F:\2017\0501-1000\017-0717\40-Design\AutoCAD\Final Plans\Sheets\WTWW\Water Tower\P\_SCHERER\_70717.dwg USER: brignell  
 DATE: Feb 26, 2018 3:06pm XREFS: P\_22834\_70717



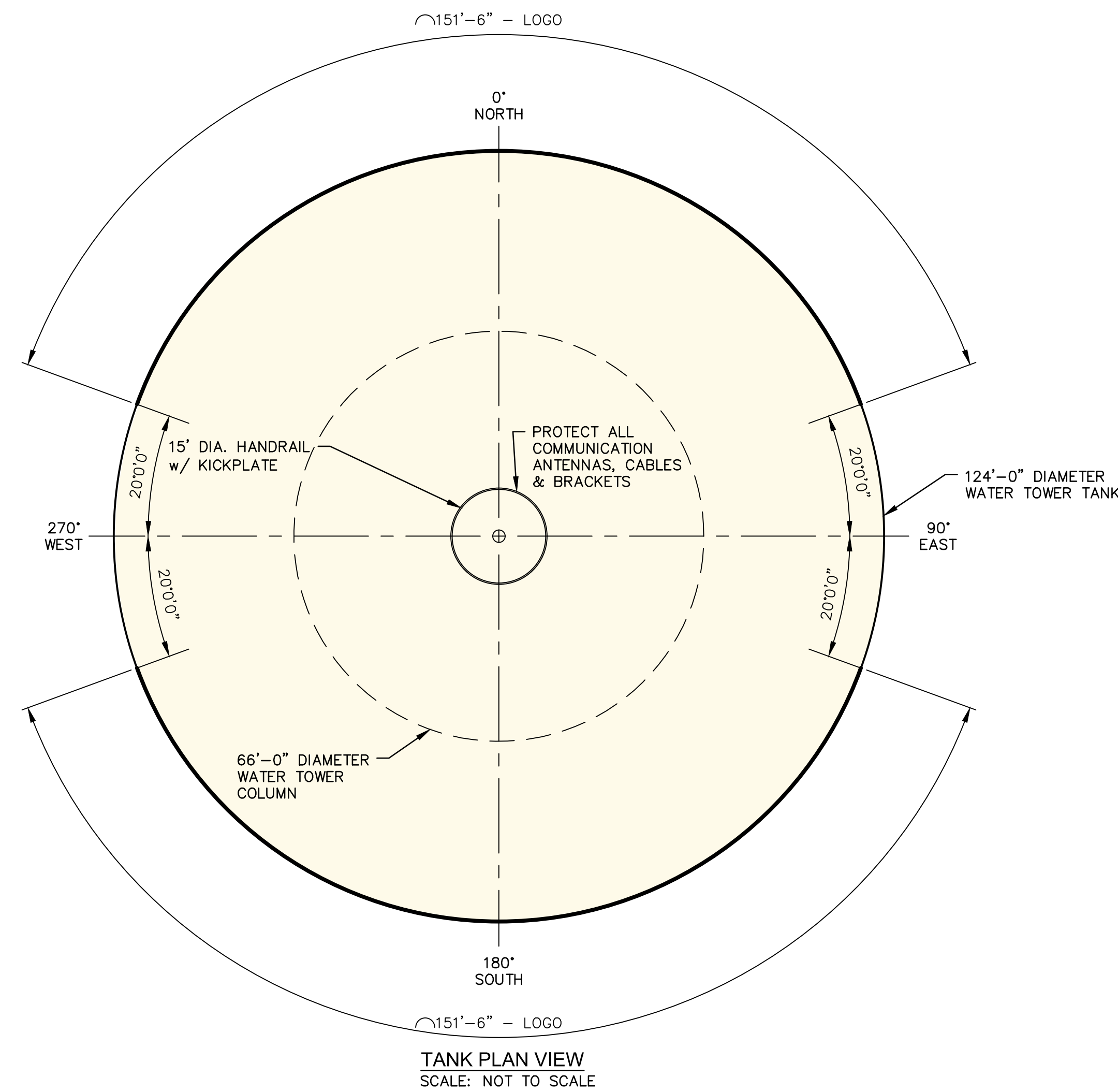
ELEVATION  
SCALE: NOT TO SCALE

LEGEND

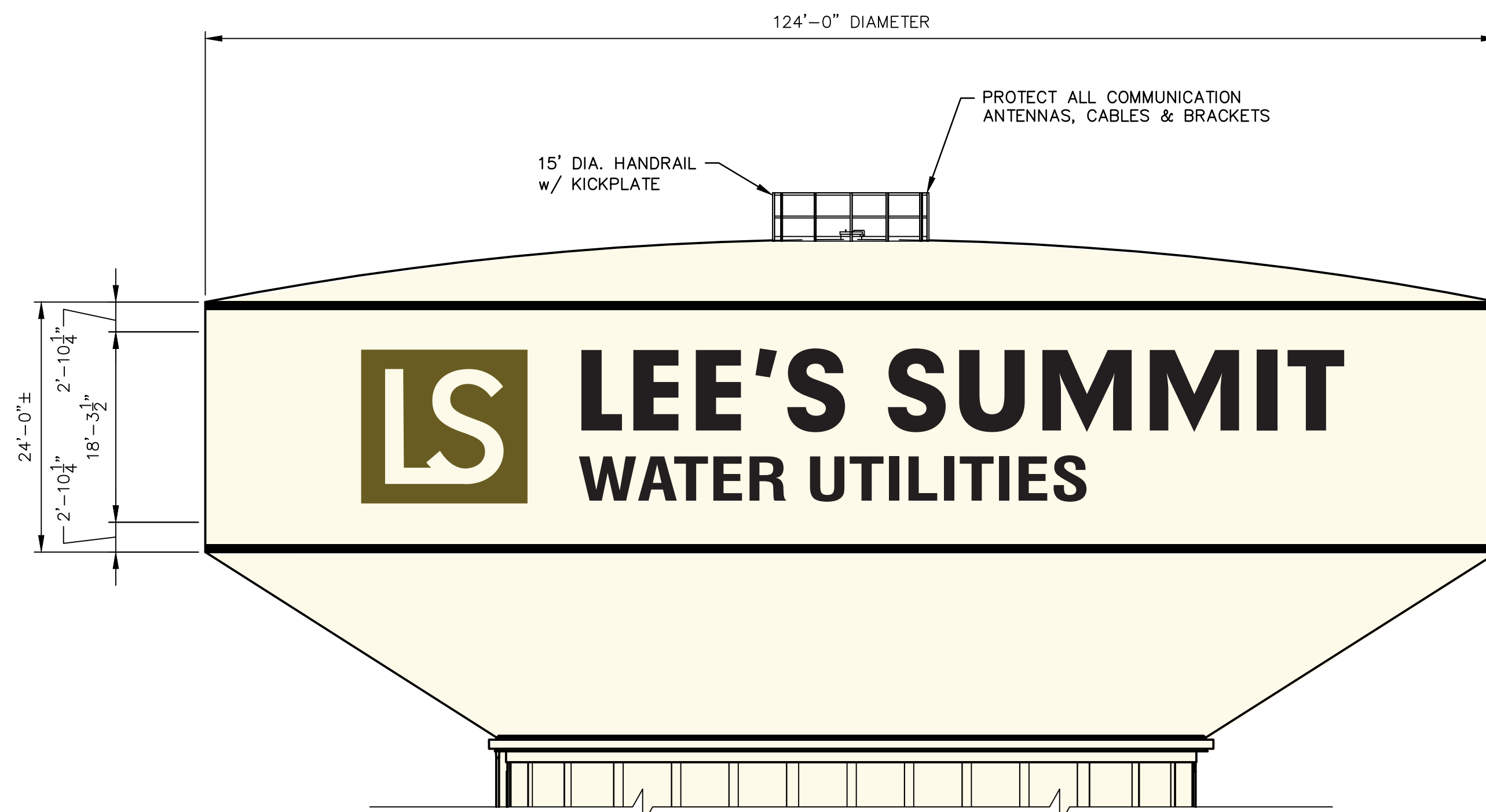
(S1) COATING SYSTEM REFERENCE INDICATOR

NOTE

1. SEE SPECIFICATION SECTION 09900 FOR COATING SYSTEM TABLES.



TANK PLAN VIEW  
SCALE: NOT TO SCALE



LOGO  
SCALE: NOT TO SCALE

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

SCHERER ROAD TOWER	2018
WATER TOWER RE-COATINGS	
LEE'S SUMMIT, MISSOURI	
drawn by: BMR	
checked by: MD	
approved by: MM	
QA/QC by:	
project no.: 017-0717	
drawing no.:	
date: 02-26-2018	

## Packet Information

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**File #: TMP-1402, Version: 1**

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An Ordinance awarding Bid No. 42831583-C, for the Tudor Road Pump Station Odor Control Improvements, to Mega Industries Corp. in the amount of \$881,390.00 and authorizing the City Manager to execute an agreement for the same.

Issue/Request:

Approval of a construction project for 2 vortex inserts at the out fall locations of the Tudor Road Pump Station Force Main.

Key Issues:

- Lee's Summit operates the Tudor Road Pump Station, which handles the wastewater flows from the areas northeast of the railroad in downtown Lee's Summit to Colbern Road and the eastern city limit.
- This pump station handles flows from gravity lines and other pump stations in the basins and routinely sees flows that have an advanced sludge age. This creates an environment where sulfide development and release can occur leading to odor issues at the outfall locations.
- These issues has been reviewed and attempted to be addressed several times in the past with a variety of recommended technologies.

Currently the City is feeding iron salts in the form of Ferric Chloride at the pump station in order to manage the sulfide issue. This is expensive and a difficult process to manage.

- Failures in this system have continued to cause odor issues for the downstream customers.
- A recent study recommended the use of the Vortex Technology to add oxygen at the outfall locations.
- The City advertised and bid this project and received 4 bids.
- Mega Industries Corp. has been determined to be the lowest responsive and responsible bidder.

Background:

The Tudor road pump station is Lee's Summits largest wastewater pumping station capable of pumping 24 million gallons per day during wet weather. It was built in the early 1990's to serve the City's eastern watersheds and continues to operate today. The growth in the area that this station serves has created long detention times for the waste it conveys. These increased detention times leads to the breakdown of the waste and to the creation anaerobic conditions that allow for the formation of deleterious substances such a sulfides that may release noxious fumes and can damage the structures which convey them. The addition of oxygen to the wastewater prevents the anaerobic conditions that allow for the formation of the sulfides in the waste stream.

Proposed Committee Motion:

I move to recommend to City Council approval of an Ordinance awarding Bid No. 42831583-C, for the Tudor Road Pump

Station Odor Control Improvements, to Mega Industries Corp. in the amount of \$881,390.00 and authorizing the City Manager to execute an agreement for the same

Jeff Thorn, PE Assistant Director Lee's Summit Water Utilities

Recommendation: Staff recommends approval of an Ordinance awarding Bid No. 42831583-C, for the Tudor Road Pump Station Odor Control Improvements, to Mega Industries Corp. in the amount of \$881,390.00 and authorizing the City Manager to execute an agreement for the same.

Committee Recommendation:

**BILL NO. 19-**

---

An Ordinance awarding Bid No. 42831583-C, for the Tudor Road Pump Station Odor Control Improvements, to Mega Industries Corp. in the amount of \$881,390.00 and authorizing the City Manager to execute an agreement for the same.

WHEREAS, the Water Utilities Department operates and maintains Tudor Road Pump Station as part of the wastewater collection system in Lee's Summit; and,

WHEREAS, these pump station currently uses Ferric Chloride to address sulfide formation and control odor ; and,

WHEREAS, the Ferric Chloride system is hazardous and difficult to maintain; and,

WHEREAS, a study was performed to review the replacement of the Ferric Chloride system; and,

WHEREAS, a study was performed to review the replacement of the Ferric Chloride system; and,

WHEREAS, the study recommend adding oxygenation at the outfall points of the Tudor Road Pump Station force mains with the Vortex System; and,

WHEREAS, Mega Industries Corp provided the lowest responsible, responsive bid for this work.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF LEE'S SUMMIT, MISSOURI, AS FOLLOWS:

SECTION 1. That the City Council of Lee's Summit, Missouri hereby authorizes the award of Bid No. 42831583-C, for the Tudor Road Pump Station Odor Control Improvements, to Mega Industries Corp. in the amount of \$881,390.00.

SECTION 2. That the City Council of the City of Lee's Summit, Missouri hereby authorizes the execution, by the City Manager, of an agreement with Mega Industries Corp. for the services contained in Bid No. 42831583-C in an amount of \$881,390.00. Said contract is on file with the City of Lee's Summit Water Department and is incorporated by reference as if fully set forth herein.

SECTION 3. That this Ordinance shall be in full force and effect from and after the date of its adoption, passage, and approval by the Mayor.

PASSED by the City Council of the City of Lee's Summit, Missouri, this \_\_\_ day of \_\_\_\_\_, 2019.

---

Mayor William A. Baird

**BILL NO. 19-**

---

ATTEST:

\_\_\_\_\_

City Clerk *Trisha Fowler Arcuri*

APPROVED by the Mayor of said city this \_\_\_\_\_ day of \_\_\_\_\_, 2019.

\_\_\_\_\_

ATTEST:

Mayor William A. Baird

\_\_\_\_\_  
City Clerk Trisha Fowler Arcuri

APPROVED AS TO FORM:

\_\_\_\_\_  
Chief Council of Infrastructure and Planning  
Nancy K. Yendes



Tudor Road Pump Station Odor Control (#6478636)

Owner: City of Lee's Summit

Solicitor: Olsson Associates

10/01/2019 03:00 PM CDT

Section Title	Line Item	Item Code	Item Description	UofM	Quantity	Engineer Estimate		Mega Industries Corporation		David E. Ross Construction		Smico Contracting Group LLC		Pyramid Excavation	
						Unit Price	Extension	Unit Price	Extension	Unit Price	Extension	Unit Price	Extension	Unit Price	Extension
Section A Tudor Road Pump Station Odor Control Improvements							\$749,968.00		\$881,390.00		\$948,800.00		\$997,769.00		\$1,046,000.00
	1		1 All work included in the LS		1		\$749,968.00	\$881,390.00	\$881,390.00	\$948,800.00	\$948,800.00	\$997,769.00	\$997,769.00	\$1,046,000.00	\$1,046,000.00
Base Bid Total:							\$749,968.00		\$881,390.00		\$948,800.00		\$997,769.00		\$1,046,000.00



October 14, 2019

City of Lee's Summit, Missouri  
Attn: Mr. Jeff Thorn  
1200 SE Hamblen Road  
Lee's Summit, MO 64081

Re: Tudor Road Odor Control Improvements Bid Award  
Lee's Summit, Missouri - 2019  
Olsson Project No. A17-0717

Dear Mr. Thorn:

Bids for the above referenced project were received and opened on October 1, 2019. A total of four (4) bids were submitted and accepted via the City's online bidding portal.

After review of the apparent low bid and supporting documents, it is Olsson's recommendation that Notice of Award be given to the apparent low bidder, MEGA Industries Corporation, in the contract amount of \$881,390.00.

Please do not hesitate to call with any questions, comments, or if any further information or documentation is required.

Sincerely,

A handwritten signature in blue ink that reads "Kevin Waldron". The signature is fluid and cursive.

Kevin Waldron, PE

**TUDOR ROAD PUMP STATION  
ODOR CONTROL  
CONCEPTUAL OPTIONS EVALUATION**

**PREPARED FOR**

**CITY OF LEE'S SUMMIT, MISSOURI**  

---

**LEE'S SUMMIT, MISSOURI**

**PREPARED BY**

**Olsson Associates  
1251 NW Briarcliff Parkway, Ste. 50  
Kansas City, MO 64116  
816-361-1177**



**JULY 2018**

**OA PROJECT No. 016-0091**



**Table of Contents**

1.0 EXECUTIVE SUMMARY ..... 1

2.0 INTRODUCTION AND BACKGROUND ..... 3

3.0 PROJECT TIMELINE AND REFINEMENT OF STUDY OBJECTIVES ..... 4

    3.1 Initial Base Scenario Evaluation and Recommendations..... 4

    3.2 Initial Ferric Chloride Pilot Testing and Revised Odor Control Objectives..... 4

    3.3 Feed Reliability and Additional Ferric Pilot Testing..... 5

    3.4 Additional Ferric Pilot Testing Results and Final Odor Control Objectives..... 5

4.0 EXISTING FACILITIES ..... 6

5.0 PREVIOUSLY COMPLETED STUDIES ..... 7

6.0 REVIEW OF INITIAL STUDY TESTING RESULTS ..... 8

7.0 INITIAL IMPROVEMENT ALTERNATIVES..... 10

    7.1 Alternative A – Vortex Flow Insert ..... 10

    7.2 Alternative B – Bioxide ..... 11

    7.3 Alternative C – Air Scrubbing ..... 11

    7.4 Alternative D – Dissolved Oxygen Injection..... 12

    7.5 Alternative E – Alternative Low Flow Discharge Location..... 12

    7.6 Alternative F – Install Mechanical Mixer in Wet Well ..... 13

    7.7 Other Options Not Explored ..... 13

8.0 SUMMARY OF INITIAL IMPROVEMENT ALTERNATIVE COSTS..... 14

9.0 INITIAL ODOR CONTROL ALTERNATIVE EVALUATION..... 15

10.0 RESTORING RELIABILITY IN EXISTING FERRIC FEED SYSTEM..... 17

11.0 ADDITIONAL PILOT TESTING OF EXISTING FERRIC FEED SYSTEM..... 18

    Odor Control Trial 1..... 18

    Odor Control Trial 2..... 18

12.0 REVISED VORTEX FLOW INSERT ALTERNATIVE..... 20

**List of Tables**

Table 1-1 Revised Vortex Flow Insert Alternative Data ..... 2

Table 8-1 Initial Alternative Odor Control Cost..... 14

Table 9-1 Odor Control Alternative Evaluation..... 16

Table 12-1 Flow Conditions ..... 20

Table 12-2 Vortex Design Flow..... 21

## List of Appendices

Appendix A	Collection System Map
Appendix B	Flow Data and Testing Results
Appendix C	Flow Monitoring Locations
Appendix D	Initial Alternatives Opinion of Probable Costs
Appendix E	Odor Trial 1 and 2
Appendix F	Pump and System Curves
Appendix G	Revised Vortex Flow Insert Alternative Opinion of Probable Cost

## 1.0 EXECUTIVE SUMMARY

This report documents the results of an odor control study and recommended improvements for implementation by the City of Lee's Summit, Missouri (City) to meet odor control objectives within the sanitary sewer collection system receiving discharges from the Tudor Road Pump Station (Pump Station).

Study efforts and odor control objectives evolved in a multi-phase approach as follows:

- Initial base scenario evaluation; March 2016
- Screening of technology alternatives for base scenario with initial recommendations; July 2016
- Implementation of initial recommendations and ferric chloride pilot testing; December 2016 - January 2017
- Review of initial ferric pilot test results and revised odor control objectives; March 2017
- Additional ferric chloride pilot testing (two (2) trials); October 2017 – February 2018
- Review of additional ferric pilot results and revised/final odor control objectives; March 2018 - May 2018.

Details of these study efforts and the resulting operational scenario, odor control objectives, and recommended improvement alternative are presented herein.

The final operational scenario for odor control is comprised of a range of discharge flow rates to either of the two current discharge locations: via 20-in force main to Little Cedar or via 30-in force main to Maybrook (see collection system map in Appendix A for locations). Minimum discharge flows to either location is determined by an adjustable minimum speed setpoint for single, dry-weather pump operation. Maximum discharge flows to either location are determined by the design output for single wet-weather pump operation (see Pump/System curves in Appendix F).

An important additional operational parameter is that odor control shall be maintained during the "first flush" of transition flows following the switch-over of discharge locations, comprised of a volume of wastewater resident in the force main for long or indefinite time periods. This "first flush" may occur at any flow condition in the operating range from minimum, dry weather to single-pump wet weather flow rates.

Odor control objectives for the project consist of maintaining a negligible head space concentration (<20 ppm) of hydrogen sulfide gas (H<sub>2</sub>S) at control discharge manholes, combined with a material reduction in dissolved sulfide concentrations for the full operational scenario.

The recommended improvements to meet the odor control objectives are the installation of Vortex Flow Inserts at each existing force main discharge location as summarized in Table I-1.

**TABLE 1-1: REVISED VORTEX FLOW INSERT ALTERNATIVE DATA**

Location	Quantity	Size	Selection Point (GPM)	Minimum Flow (GPM)	Maximum Flow (GPM)
Little Cedar Discharge (MH 23-016)	1	20-in	7,000	1,050	8,050
Maybrook Discharge (MH-14-017/ Pig Station)	1	30-in	10,000	1,500	11,500
<b>Total Project Cost (Incl. Engr, Contingency)</b>				<b>\$972,000.00</b>	

## 2.0 INTRODUCTION AND BACKGROUND

The services of Olsson Associates (Olsson) were requested by the City to perform an odor control study and recommended solutions for odor control within the sanitary sewer collection system receiving discharges from the Tudor Road Pump Station. The request was prompted by a series of complaints about strong odors from businesses along the west side of I-470, south of NE Strother Road. Complaints centered around manhole MH 14-012 on NE Jones Industrial Drive, located just downstream of the 30-in force main discharge from the Tudor Road Pump Station to the Maybrook Watershed.



### 3.0 PROJECT TIMELINE AND REFINEMENT OF STUDY OBJECTIVES

#### 3.1 Initial Base Scenario Evaluation and Recommendations

The initial study efforts were focused on a base scenario of continuing current operations with all discharge flows from Tudor Road Pump Station discharging through 30-in force main to Maybrook watershed and odor control at the “control” manhole MH 14-012. (See Appendix A for location).

Treatment technology alternatives were evaluated and screened for this initial operational scenario based on the treatment of dry weather flows only. A draft report summarizing initial odor control objectives and alternatives analysis was submitted to the City in early July 2016 for review and is included herein as Sections 6 through 9.

On July 14, 2016 Olsson met with the City to discuss the draft report and recommendations for the project moving forward. It was determined that a pilot test would be completed for the two no capital cost options, Alternative - E Alternate Low Flow Discharge option and Alternative - F Ferric Chloride Feed Modification.

This initial recommendation basically called for re-instating the pump station's original design operational scenario, routing all dry weather flows through the 20-in force main to Little Cedar watershed. Elevated wet weather flows would be diverted to the 30-in Maybrook discharge via control valves on the force main located at Rice Road Valve Vault.

Initial recommendations also called for re-instatement of ferric feed tubing to original location at influent to wetwell and installation of submerged mixer previously purchased by City and stored on site.

However, on July 23, before the first pilot test could begin, the first of a series of catastrophic events occurred at the Tudor Road Pump Station. At this time, Olsson was tasked with developing a report detailing the extent of damages, probable cause(s), document repairs, and provide recommendations to address issues and restore normal operation. This report was titled “Tudor Road Pump Station Emergency Repairs Incident Report” and was submitted to the City in November 2016. Throughout this period, the odor control project was put on hold.

#### 3.2 Initial Ferric Chloride Pilot Testing and Revised Odor Control Objectives

Following, the resumption of odor control activities, efforts to complete first pilot testing of Alternatives E and F in early 2017 encountered a series of additional operational and equipment-related failures, unreliable sampling data and reliability issues in the existing ferric supply and feed systems. Restoration of the proper feed point for ferric was deemed more effective than mechanical mixer and given the inferior durability of the mechanical mixer, it was removed from service.

On March 20, 2017, Olsson met with the City to discuss the results of the first pilot test and discuss the next steps for the project. Results of the initial ferric feed pilot testing were deemed inconclusive and the meeting focused on details of correcting reliability and operational challenges in preparation for conducting additional ferric pilot testing trials.

Also, the operational and equipment-failure related challenges encountered during the first pilot test facilitated further consideration and adjustment to the “normal” and potential range of operational scenarios for the Pump Station. By extension, the range of expected odor control operational scenarios similarly evolved and was refined.

### 3.3 Feed Reliability and Additional Ferric Pilot Testing

As a result of the initial pilot test review meeting, City staff made several improvements to feed systems and quality control of ferric supply prior to conducting a second set of pilot testing tailored to revised odor control operational scenarios. These feed reliability and additional pilot testing steps are summarized in Sections 10 and 11.

### 3.4 Additional Ferric Pilot Testing Results and Final Odor Control Objectives

The results of Odor Control Trial 2 show that the addition of ferric chloride to the Tudor Road Pump Station wet well is reasonably effective for odor control during dry flows to Little Cedar discharge and marginally effective for the Maybrook discharge. However, neither results meet the final objectives for head space or dissolved concentrations.

In addition, discussions with City staff which began during the earlier operational and equipment challenges starting in the first pilot test, led to a final refinement of odor control objectives and operational scenarios.

The resultant inclusion of capabilities to effectively treat the “first flush” transition flows encountered during discharge switch-over led to the practical elimination of odor technologies located centrally at the Tudor Road Pump Station, requiring ‘end of pipe’ solutions and a duplication of facilities at each discharge. In the process, ‘no capital cost’ options were eliminated, despite initial alternative evaluation and scoring.

Given these final odor control objectives, the highest scoring alternative from the initial alternatives analysis, Alternative A - Vortex Flow Insert (VFI), is recommended for scale-up and implementation, as described in Section 12.

#### 4.0 EXISTING FACILITIES

There are three (3) influent lines into the Pump Station. Influent flow from two of the lines are primarily gravity fed, but all flow from the third line is received from another lift station which creates a fluctuation in the inflow volumes throughout the day. The Pump Station consists of six (6) pumps; with two (2) being dry weather pumps and four (4) being wet weather pumps.

Currently, the City is adding ferric chloride to the wastewater at the Tudor Road Pump Station in an attempt to mitigate the odor in the downstream collection system. Based on discussions with City staff, ferric chloride is drip fed into the south wet well of the Tudor Road Pump Station. This feed rate has been varied over time. The optimum feed rate for the ferric chloride feed system which reduces the volatile hydrogen sulfide concentrations to a non-detectable limit at the force main discharge is still undetermined. The current feed system has no mixing and is disabled during peak flow conditions. Based on discussions with City staff, the current contract with the chemical supplier has a purchasing price of 1.22 dollars per gallon of ferric chloride. Ferric chloride is a very corrosive chemical. The City has expressed interest in getting away from this process if there is a more cost-effective alternative for reducing odor downstream.

The Pump Station discharges to the Tudor Road Force Main which runs west to the Rice Valve Vault where the flow can split. One section of the force main is 20-in diameter that continues west and discharges to the Little Cedar Watershed. The other is 30-in diameter that runs to the north and discharges to the Maybrook Watershed. The majority of the flow at this vault was initially directed north towards the Maybrook Watershed, at all times. During the course of the study, operation of control valves in Rice Valve Vault have been restored and flow may be diverted to either discharge during dry weather or wet weather flows. The force main running north eventually discharges to MH 14-017 where flow then travels by gravity through the Maybrook Watershed. The west force main is much shorter than the north force main and discharges to gravity flow at MH 23-016. It receives little to no flow during dry weather conditions. A map of the Tudor Road Sanitary Sewer System is included in Appendix A of this report.

## 5.0 PREVIOUSLY COMPLETED STUDIES

Odor control has been a reoccurring problem downstream of the Pump Station. Multiple studies have been completed over the years that proposed solutions to this issue.

In 1998, George Butler Associates (GBA) performed a comprehensive study on the Maybrook Watershed odor and corrosion problem. This study examined the possible sources of the odor and corrosion at that time and also researched and made recommendations for numerous alternatives to be implemented to minimize the odor and corrosion problem. The information outlined in the study performed by GBA is still relevant; however, it is important to note that more recent data will provide a more accurate representation of the current conditions for the Pump Station and sanitary system.

Another limited study was completed in 2013 by HDR, which addressed the Tudor Road odor and corrosion problem. As with the GBA study, this study examined the potential sources leading to the odor and corrosion problem in the Maybrook Watershed and also made recommendations for suitable alternatives to reduce this problem. The proposed recommendations included a dissolved oxygen injection system and a sparger system with onsite generation equipment along with a detailed cost estimate for both options.

Both reports were reviewed and utilized as a reference throughout this study.

## 6.0 REVIEW OF INITIAL STUDY TESTING RESULTS

The three (3) main odorous compounds that are present in wastewater are hydrogen sulfide, ammonia, and mercaptans. It is believed that hydrogen sulfide gas is the main constituent leading to the odor issue at MH 14-012. An analysis of the information received during this study has been conducted to examine the existing conditions in the collection system and analyze the formation of hydrogen sulfide downstream of the Pump Station. This analysis helped determine a variety of suitable solutions for the existing odor problem.

Initially, hydrogen sulfide testing was performed on air samples that were gathered from several manholes in the Maybrook Watershed area. The results of these tests revealed high concentrations of hydrogen sulfide at MH 14-012. Following these findings, wastewater samples were taken by the City from the Pump Station, pig catch station, and MH14-014 and tested for total sulfide concentrations using a Hach Unit. The results were inconclusive which lead to the development of a more thorough sampling plan.

The new testing plan was completed and included wastewater grab samples taken at the Pump Station and at locations along the force main and gravity main flowing to the Maybrook Watershed. These locations included the Pump Station influent stream prior to the addition of ferric chloride, the pump station discharge stream after ferric chloride addition, air release valve (AR) 24-003, manhole (MH) 14-017, and MH 14-007. These locations were selected to determine how detention time in the force main and gravity main was attributing to the formation of hydrogen sulfide in the wastewater. The grab samples were taken by the City at three (3) times throughout the day starting on April 17, 2016 and continuing into April 18, 2016. The samples were sent to Pace Analytical for testing to determine dissolved sulfide concentrations in the wastewater. Pace Analytical also conducted biological oxygen demand (five day) testing on the pump station influent stream. The location of each sampling point is highlighted on the collection system map included in Appendix A. The flow data and testing results of each sample is included in Appendix B.

Flow was monitored using the flow meters at Site 9, 10, and 11 during the sampling period. Flow data for the three (3) separate influent lines into the Pump Station were received from the City. The location of each site is shown in Appendix C. Site 9 includes the majority but not all of the gravity flow entering the Pump Station. It was assumed that the unaccounted-for flow was negligible for the analysis. This data was used to develop combined flow rates for the Tudor Road Force Main over the duration of the sampling period. The combined flow data was then used to estimate wastewater detention time to each sampling location. The detention times and corresponding dissolved sulfide test results were compared at each location in an effort to develop a direct correlation between the two. However, the results of this comparison did not reveal any clear relationship between the detention time and the dissolved sulfide concentration. Despite the unclear results, the flow data shows that there were long detention times within Tudor Road Force Main during the monitoring period. When wastewater experiences long detention times with slow movement, the oxygen within the water is used up creating an anaerobic environment in the system. These conditions are ideal for the formation of hydrogen sulfide and other undesirable gases in the sanitary line. When the wastewater is exposed to the atmosphere and encounters turbulence, these gases are volatilized, eventually escaping through manholes and other openings to the environment.



There are several ways to address this problem and effectively reduce the hydrogen sulfide in the sanitary sewer line. One option would be to reduce the detention time of the wastewater within the sanitary sewer line. This would give the hydrogen sulfide gas less time to form. Another option would be to add chemicals to the wastewater that will oxidize dissolved sulfide and prevent hydrogen sulfide from developing. The final option would be to treat the air after hydrogen sulfide has formed and volatilized by running it through an air filtration system to remove the odorous gases. The specific improvement alternatives that were explored are discussed in detail in the following section of this report.

## 7.0 INITIAL IMPROVEMENT ALTERNATIVES

In review of the data collected throughout the initial study on the Pump Station and sanitary sewer line, Olsson has developed a list of possible alternatives to mitigate the existing odor and meet the initial odor control objective. Each alternative was examined based on its feasibility and effectiveness for the issues discussed in this report. The summary of each option below details the equipment and work required as well as an opinion of probable capital cost and annual cost for each. A detailed breakdown of the individual cost estimates is included in Appendix D.

Alternative E – Alternative Low Flow Discharge Location and Alternative F – Install Mechanical Mixer in Wet Well was recommended and selected for further consideration and initial pilot testing.

### 7.1 Alternative A – Vortex Flow Insert

This alternative includes the installation of the VFI at the pig catch station where the Tudor Road Force Main discharges into the Maybrook gravity line. This insert reduces odor by running the influent flow through a spiral shaft creating a downward flow of air that entrains oxygen into the wastewater when it hits the bottom of the vortex. This oxidizes the dissolved sulfide in the water inhibiting its ability to form hydrogen sulfide gas. The shaft also pulls any odorous gases that have already formed into this flow of air, entraining it back into the wastewater and eliminating its ability to escape to the environment.

The VFI is designed to effectively treat wastewater over a specific range of flows based on its design flow. In this case, the VFI would be designed specifically for treatment during low flow conditions when dissolved sulfide concentrations are at their highest. The effective range of this system would be 15% to 115% of the design flow. Based on the flow data during the monitoring period we recommend that this system would be designed for 3 million gallons per day (MGD). This would provide an operating range of 0.45 to 3.45 MGD. Because of this, the insert does not have the capacity required to pass high flow volumes. A bypass valve and associated piping would be required to allow bypass of the VFI of some flow during high flow events.

Based on the design criteria, the VFI requires about eight feet of drop height from the invert of the force main to the base of the flow insert to effectively operate. The existing layout of the line does not provide this drop height at the discharge location. Therefore, reconfiguration of the force main at the pig catch station would be required to provide enough drop height. The force main and VFI would likely rise above the existing ground elevation as a result. The proposed VFI would be installed adjacent to the pig catch station and would require the installation of structural concrete to provide sufficient structural support and protection. The increased elevation of the force main would also create a larger static and dynamic head demand on the pumps at the Pump Station. Based on the dry weather pump characteristic curve, the existing dry weather pumps would have enough power to overcome the increased demand with no modifications. However, this would increase the horsepower required of each pump, which would increase the operating cost for the pump station.



The total probable capital cost for this alternative is \$332,000.00. This estimate includes all equipment and labor required for the installation of the flow insert and structure as well as the parts and modifications necessary for the reconfiguration of the force main. The estimated annual cost for this option is \$3,600.00. A detailed cost estimate is included in Appendix D.

### 7.2 Alternative B – Bioxide

This alternative would replace the existing ferric chloride feed system at the Pump Station with a new bioxide feed system. It would include the installation of a new flow meter on the influent line and supervisory control and data acquisition (SCADA) equipment that will regulate the feed rate based on influent flow and temperature in the system. Bioxide would be drip fed into the wet well like the current ferric feed system. SCADA equipment would ensure that excess chemical is not being added to the wastewater in order to limit overall chemical usage and reduce chemical costs. It should be noted that bioxide is currently being added at a number of lift stations upstream of the Pump Station.

The total probable capital cost for this alternative is \$396,000.00. This estimate includes the cost for removal of the existing ferric chloride feed equipment and all equipment and labor required for the installation of the new bioxide feed system. The estimated annual cost for this option is \$140,000.00. A detailed cost estimate is included in Appendix D.

### 7.3 Alternative C – Air Scrubbing

This option would implement an air scrubbing filtration system that would pull air from the sanitary sewer line and pass it through a series of filter beds and eventually emit the treated air back to the atmosphere. This system would be designed primarily to remove hydrogen sulfide gas from the air but is also capable of removing other undesirable constituents. The filtration system does not have the ability to treat any sulfides still present in the wastewater and will only remove the hydrogen sulfide that has already volatilized in the sewer system up to that location. An air scrubbing system typically comes as a preassembled package making for easy installation. This system would be located at or near the manhole responsible for releasing the odor, MH 14-012. It would include a fan along with ductwork that will draw air from the collection system upstream and downstream of MH 14-012. The intake system draws the air out of the surrounding sewer line by creating a negative air pressure at the extraction point. It would be sized to conduct six (6) air changes per hour of the air volume in a 300 feet radius of the sanitary sewer system surrounding MH 14-012.

The filter media in the scrubbing system must be replaced periodically and monitoring systems are usually installed to measure the consumption rate of the media to determine when the filter media has reached capacity. Based on information received, it is estimated that replacement is typically required every 15 months for the level of treatment necessary. This option would need to be located above grade requiring the construction of a concrete pad and proper landscaping and fencing. This could create potential difficulties with placement because of the close proximity to commercial development and the right of way requirements and sight obstructions of the unit.



The total probable capital cost for this alternative is \$108,000.00. This estimate includes all equipment and labor required for the installation of the air scrubbing system and the materials and labor for the construction of the concrete pad. The estimated annual cost for this option is \$12,000.00. A detailed cost estimate is included in Appendix D.

#### 7.4 Alternative D – Dissolved Oxygen Injection

This alternative proposes the installation of dissolved oxygen (DO) injection equipment at the Pump Station. With this option, piping modifications would be necessary to create a sidestream that will run to the DO injection system. The sidestream would pass through the system where gaseous oxygen is injected into the wastewater stream effectively dissolving it. This DO rich wastewater would then be added back to the main wastewater stream providing sufficient dissolved oxygen to effectively oxidize the dissolved sulfide within the wastewater.

This system would require a constant supply of oxygen to operate. Multiple supply options are available. The first is a liquid oxygen system. This includes routine liquid oxygen deliveries from a local gas supplier along with the installation of a storage tank and associated equipment. The second option would use an onsite oxygen generation system and storage tank. With this option, all oxygen required will be generated and stored onsite to meet the demands in the wastewater. The onsite generation system has a much higher capital cost than the liquid oxygen system, but the annual costs can be significantly lower. DO injection alternative assumed that liquid oxygen would be used for the evaluation of alternatives.

The total probable capital cost for this alternative with the liquid oxygen supply is \$1,066,000.00. This estimate includes all equipment and labor required for the installation of the dissolved oxygen injection system and all necessary modifications to the existing piping. The estimated annual cost for this option is \$61,400.00. A detailed cost estimate for both the liquid oxygen and oxygenation option is included in Appendix D.

#### 7.5 Alternative E – Alternative Low Flow Discharge Location

With this option, part or all of the flow in the Tudor Road Force Main (during low flow conditions) would be redirected at the Rice Valve Vault to enter the force main traveling west and discharge to the Little Cedar Watershed. Under current operating conditions, the majority of the flow is being directed to the much longer north force main. This is leading to significant detention times in the line itself which creates ideal conditions for the formation of hydrogen sulfide. The goal of switching to the other force main is to reduce the overall detention time within the system.

There is currently a motor operated plug valve installed on both the north force main and west force main just past the Rice Valve Vault. Based on information from the City both valves are operational. This option would change the current operation of the Rice Valve Vault. During low flow conditions, the north plug valve would be closed, redirecting the flow through the west force main to the Little Cedar Watershed. The force main leading to the Little Cedar Watershed is more than 4000 feet shorter than the force main leading the Maybrook Watershed, giving the wastewater a significantly shorter detention time. Theoretically, a shorter detention time will result in less hydrogen sulfide formation within the sanitary line. During peak flow conditions at the Tudor Road Pump station both valves would be opened to allow the pumps to operate at full capacity.



The Little Cedar Force Main discharges into a gravity line near the Lee's Summit Police Department and a large commercial area. This could create a similar problem to the current odor issue in the Maybrook Watershed area if hydrogen sulfide within the wastewater volatilizes and escapes at or downstream of this discharge point in the Little Cedar Watershed.

One advantage to this option is that it can be tested very easily to determine its effectiveness prior to any full commitment. Using the existing valves, the flow could be redirected to the Little Cedar Watershed during low flow conditions. If this option is tested, we recommend that the air be monitored at various locations downstream of the Tudor Road Force Main discharge to the Little Cedar Watershed. This will allow us to determine if hydrogen sulfide is being released at any point within the watershed.

This option would still require the addition of ferric chloride to minimize odor downstream of the new discharge location. There would be no capital cost for this option. The estimated annual cost would equal \$107,000.00.

#### **7.6 Alternative F – Install Mechanical Mixer in Wet Well**

For this option, a desk top study was performed analyzing the current ferric chloride feed rate and method. This feed rate was compared to a theoretical ideal ferric chloride to hydrogen sulfide ratio to determine if sufficient ferric chloride was being added to react with the hydrogen sulfide. The results of the study reveal that the current feed rate should be adequate to effectively treat the levels of hydrogen sulfide being experienced in the influent stream. Therefore, the amount of ferric chloride being added does not appear to be the limiting factor. Based on this, the ferric chloride might not be adequately mixed into the influent stream.

For this alternative, one submersible mixer would be installed in the wet well. The City currently has a mechanical mixer in storage at the Pump Station that is not being used. Adding a mixer should increase the ferric chloride effectiveness and reduce odors downstream. There would be no capital cost for this option. The annual maintenance and power cost for the facility would be increased with the operation of the mixer. The estimated annual cost would equal \$114,000.00. A detailed cost estimate is included in Appendix D.

#### **7.7 Other Options Not Explored**

Due to limitations involved in the scope of this study additional options that could reduce or eliminate odor in the collection system downstream of the Station were not explored. One option that could be effective but was not explored was odor control through the addition of hydrogen peroxide.

**8.0 SUMMARY OF INITIAL IMPROVEMENT ALTERNATIVE COSTS**

A summary of the estimated capital cost and annual cost of the existing system and each option to achieve the initial odor control objective is shown in Table 8-1. The detailed cost estimate for each option is provided in Appendix D. For some alternatives, there is a side benefit regarding the corrosiveness potential for downstream structures. This is noted in Table 8-1 as well.

**TABLE 8-1: INITIAL ALTERNATIVE ODOR CONTROL COST**

<b>Existing System</b>	<b>Level of Corrosion Control Downstream of Maybrook Watershed</b>	<b>Estimated Capital Cost</b>	<b>Estimated Annual Cost</b>
Ferric Chloride (240 gpd)	Moderate	\$0.00	\$107,000.00
<b>Alternative</b>	<b>Level of Corrosion Control Downstream of Maybrook Watershed</b>	<b>Estimated Capital Cost</b>	<b>Estimated Annual Cost</b>
Vortex Flow Insert	High	\$332,000.00	\$3,600.00
Bioxide	Moderate	\$396,000.00	\$140,000.00
Air Scrubbing	Low	\$108,000.00	\$12,000.00
Dissolved Oxygen Injection (with Liquid Oxygen Option)	Moderate	\$1,066,000.00	\$61,400.00
Alt. Low Flow Discharge	N/A	\$0.00	\$107,000.00
Install Mechanical Mixer in Wet Well	Moderate	\$0.00	\$114,000.00

## 9.0 INITIAL ODOR CONTROL ALTERNATIVE EVALUATION

A scoring matrix was developed to determine the most suitable option for odor control for the Tudor Road Pump Station. This matrix is provided in Table 9.1. Alternative E – Alternative Low Flow Discharge and Alternative F – Install Mechanical Mixer in Wet Well were pilot tested, and thus were not included in the evaluation. It should be noted that the mechanical mixer was installed and pilot tested, however, the results were indeterminate and the mixer was later removed from the wet well by the City.

Each alternative was evaluated based on total capital cost, annual O&M Cost, operability of the system, maintainability of the system, and reliability of the system. Total capital and annual O&M cost is provided in Table 8-1. The alternative with the lowest total cost will receive 20 points. The remaining alternatives will be proportioned based on the ratio of the difference from the lowest cost alternative. The score for the annual O&M cost will be determined the same way as the total cost score.

Operability of the system is based on the alternatives operational requirements. The alternative which requires the least amount of operability requirements will receive the highest score (10 points).

Maintainability of the system is based on maintenance requirements for the odor control alternative. The alternative which requires the least amount of routine maintenance will receive the highest score (10 points).

Reliability of the system is based on how reliable the alternative is for effective odor control. The most reliable odor control system will receive the maximum score (10 points).

Based on this scoring system the VFI alternative had the highest overall score at 51.

**Table 9-1: Odor Control Alternative Evaluation**

Parameter	Max Pts	Vortex	Bioxide	Air Scrubbing	Dissolved Oxygen	Ferric Chloride Feed Mod.
<b>Economic (Total Weight = 40 pts)</b>						
Total Capital Cost (Maximum 20 Points)	20	7	5	20	2	4
Annual O&M Costs (Maximum 20 Points)	20	14	2	20	2	2
<b>Operability, Maintainability, and Reliability (Total Weight = 30 Points)</b>						
Operability of the System (Maximum 10 points)	10	10	6	3	2	1
Maintainability of the System (Maximum 10 points)	10	10	1	3	3	3
Reliability of the System (Maximum 10 points)	10	10	5	4	4	4
TOTAL POINTS (Total Out of 70)		51	19	50	13	14

## 10.0 RESTORING RELIABILITY IN EXISTING FERRIC FEED SYSTEM

Based on discussions with City staff, operability issues with the existing ferric chloride feed system has made the system less reliable than desired. The following procedure was developed and implemented to increase the reliability of the ferric chloride system.

1. Remove accumulated sludge from Ferric Chloride Holding Tank
2. Void existing contract with chemical supplier, look to multiple new chemical suppliers for ferric chloride
3. Continue recent enforcement of quality control specs on incoming ferric chloride

## 11.0 ADDITIONAL PILOT TESTING OF EXISTING FERRIC FEED SYSTEM

After effective feed control was established with the existing ferric chloride system, a second pilot test of existing ferric chloride addition was conducted, consisting of two trial operational scenarios. Each trial was conducted during periods of stable, dry weather operation with in-trial adjustments to ferric feed rates, continual vapor phase H<sub>2</sub>S monitoring at discharge points, and in-process dissolved sulfide sampling.

Trial 1 routed dry weather flows to Little Cedar discharge and Trial 2 routed dry weather flows to Maybrook discharge. The goal of the Odor Control Trials was to determine the optimum feed rate of ferric chloride at the Pump Station to reduce volatile hydrogen sulfide (H<sub>2</sub>S) concentrations to near zero (<20 ppm) at the outfall when discharging to the Little Cedar (Trial 1) and Maybrook Watersheds (Trial 2), during dry (low) flow conditions.

### Odor Control Trial 1

Trial 1 was conducted with the Pump Station continuously discharging to the Little Cedar Watershed. The trial occurred over a three-week period (October 31 – November 17, 2017), starting initially with a lower ferric chloride feed rate and two successive increases in feed rate roughly each week. Trial 1 was completed during an extended dry weather period with no rainfall during the trial. Oda-loggers were used for “head space” concentration measurements downstream at the force main outfall (MH23-016) and cow pasture (MH23-013). The sampling locations are highlighted in the map provided in Appendix A.

A summary of Odor Control Trial 1 is included in Appendix E. Based on the results, it appears that the optimum ferric feed rate to reduce volatile H<sub>2</sub>S concentrations below 20 ppm at the force main outfall when discharging to the Little Cedar watershed (during dry conditions) is 240 gpd.

### Odor Control Trial 2

Trial 2 was conducted after the completion of Trial 1 (February 5 – February 20, 2018) with the Pump Station continuously discharging to the Maybrook Watershed. The procedure used in Trial 1 was modified slightly for Trial 2. The ferric chloride feed rate at the Pump Station was started with maximum output from the feed system and then discreetly adjusted downward as the trial continued. Oda loggers were installed at the Maybrook Watershed Outfall (MH14-017) and near the ABC Roofing Supply Company building (MH14-007). The sampling locations are highlighted in the map provided in Appendix A. Additional operational measures were added to Trial 1 which include the following:

1. Timing: Coordinate to occur outside regular business hours, to extent feasible
2. Notification: Contact businesses/customers near discharge location, especially those with prior odor complaints
3. Explanation: This is a non-typical operational trial and odors may be noticeable leading up to or during early stages as reasonable attempts are being made to minimize odors
4. Action/advisories: Ask businesses/customers to be sure and fill P-traps and know who to contact for questions/concerns
5. City's internal preparations: “Stock-Pile” volume in storage at the Pump Station and/or Scuggs Road Pump station to provide flushing volume to displace the initial volume of the 30-inch force main as quickly as possible prior to starting the trial



A summary of Odor Control Trial 2 is included in Appendix E. Based on the results, the maximum dosage rate (>450 gpm) from the existing ferric chloride system was unable to reduce H<sub>2</sub>S concentrations below 20 ppm consistently. This shows that the existing ferric feed system will not be a reliable solution to odor control for the Maybrook Watershed.



**12.0 REVISED VORTEX FLOW INSERT ALTERNATIVE**

The revised project objective (from the March 20, 2018 meeting) is that the selected odor control alternative must provide effective odor control, when discharging to either the Little Cedar Watershed or Maybrook Watershed during both dry and wet weather events.

Specifically, the final operational scenario for odor control is comprised of a range of discharge flow rates to either of the two current discharge locations: via 20-in force main to Little Cedar or via 30-in force main to Maybrook (see Appendix A for locations). Minimum discharge flows to either location is determined by an adjustable minimum speed setpoint for single, dry-weather pump operation. Maximum discharge flows to either location is determined by the design output for single wet-weather pump operation (see Pump/System curves in Appendix F).

An important, additional operational parameter is that odor control shall be maintained during the “first flush” of transition flows following the switch-over of discharge locations, comprised of a volume of wastewater resident in the force main for long or indefinite time periods. This “first flush” may occur at any flow condition in the operating range from minimum, dry weather to single-pump wet weather flow rates.

Odor control objectives for the project consist of maintaining a negligible head space concentration (<20 ppm) of hydrogen sulfide gas (H<sub>2</sub>S) at control discharge manholes, combined with a material reduction in dissolved sulfide concentrations for the full operational scenario.

The VFI alternative is a non-chemical, “end of pipe” solution, which scored highest in the alternative evaluation in Section 8. This alternative was selected as described in Section 3 as the recommended alternative for implementation to provide odor control in the receiving system for the Pump Station discharges.

As stated in Section 7.1, the VFI is effective for odor control for a flow range of 15% to 115% of the determined design flow. Flow conditions to both the Little Cedar Watershed and Maybrook Watershed was used to determine the optimum design flow for the vortex flow inserts.

The maximum flow condition to each watershed was determined based on the Tudor Road Pump Station Operations manual. The minimum flow for each watershed was determined to be one dry weather pump running at full speed at the Pump Station. Appendix F contains the pump and system curves (both dry and wet weather pumps) for the Little Cedar and Maybrook Watersheds. The maximum and minimum flow conditions for each watershed are shown in Table 12-1.

**TABLE 12-1: FLOW CONDITIONS**

	Little Cedar Watershed	Maybrook Watershed
Maximum Flow (GPM)	7,000	10,000
Minimum Flow (GPM)	3,800	6000

Based on these design flow conditions there will be a total of two (2) vortex flow inserts recommended for the project, one for Little Cedar Watershed and one for Maybrook Watershed. It should be noted that current operation of the Pump Station includes directing dry weather flow and initial wet weather flows to Maybrook Watershed. If the City decides that this operational sequence is to be continued, and that wet weather flows to Little Cedar Watershed do not need to be treated for odor, then the vortex at the Little Cedar Watershed would not be necessary.

The design characteristics for the Little Cedar Vortex and Maybrook Vortex are shown in Table 12-2. The minimum and maximum flow are based on the effective flow range as stated by the Vortex product representative. As discussed, earlier in this section, the minimum flow condition to each watershed was based on one dry weather pump running full speed. The dry weather pumps at the Pump Station are controlled on vortex design flow (VFD) and have thus have the ability to operate at a lower RPM which would pump less wastewater. At this time, the low flow set point on the VFD's is unknown. However, it is not expected that the flow rate would be below the minimum flow (15% of design flow) to remain effective for odor control, listed in Table 12-2.

**TABLE 12-2: VORTEX DESIGN FLOW**

Little Cedar Vortex		
Design Flow	7,000	GPM
	10.1	MGD
Minimum Flow (15%)	1050	GPM
	1.5	MGD
Maximum Flow (115%)	8,050	GPM
	11.6	MGD
Maybrook Vortex		
Design Flow	10,000	GPM
	14.4	MGD
Minimum Flow (15%)	1,500	MGD
	2.2	MGD
Maximum Flow (115%)	11,500	GPM
	16.6	MGD

The installation site for the Maybrook discharge location would be adjacent to the existing 'pig catch' facility. Construction of the new VFI facility could occur in parallel with minimal interruption to force main service. Recommendations do not currently include automatic operation of bypass valves as the VFI is currently sized to handle the full range of force main flows. However, the VFI installation will include manually operated bypass valves in the force main to allow diversion from the VFI during force main cleaning or "pigging" operations.

Although not required for effective odor control, Olsson recommends continuation of the ferric chloride feed as a corrosion prevention measure for force main piping and appurtenances beyond the proper function of the existing air release valves.



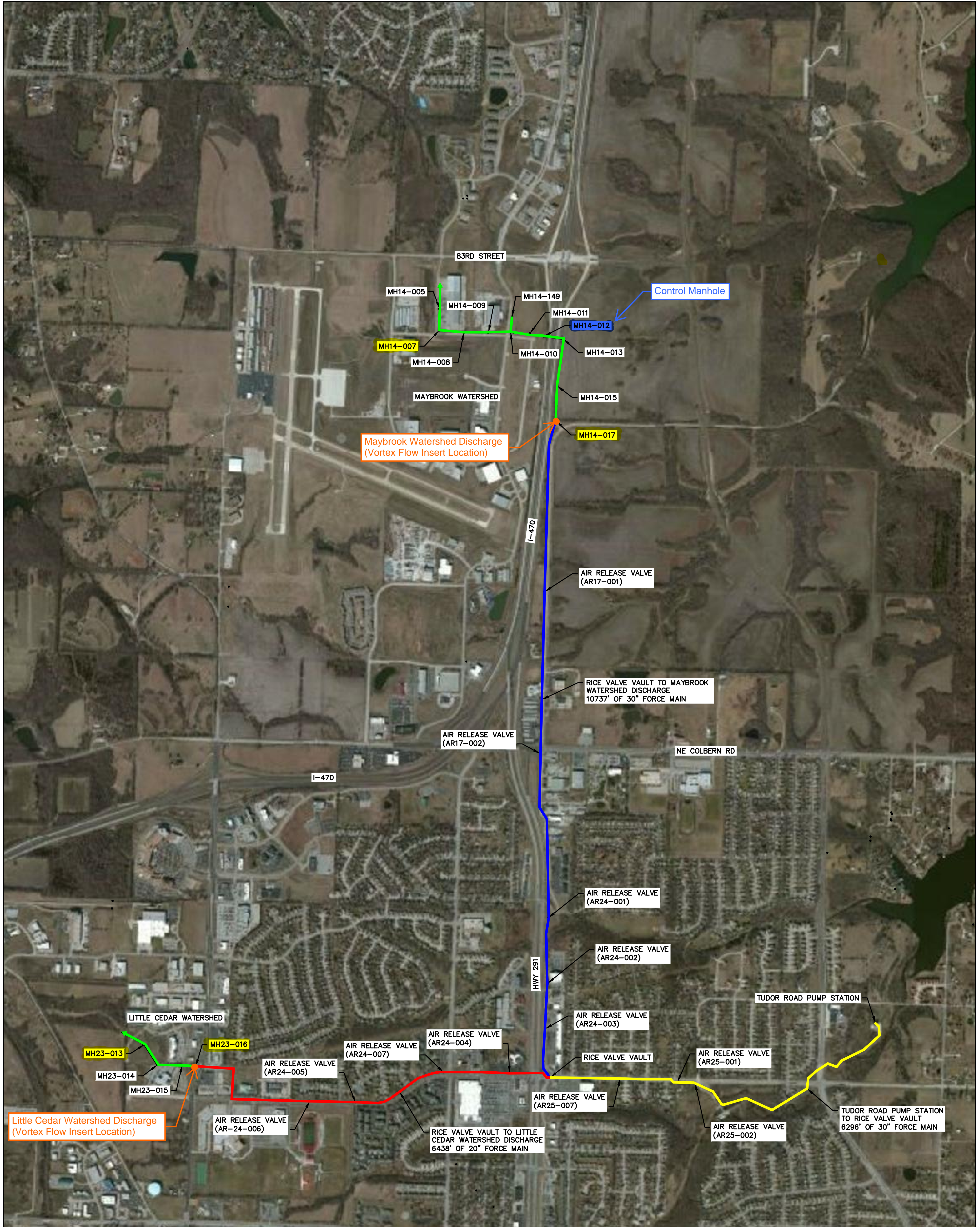
The total probable capital cost for this alternative is \$972,000.00. This estimate includes all equipment and labor required for the installation of the flow insert and structure as well as the parts and modifications necessary for the reconfiguration of the force main. The estimated annual cost for this option is \$56,000.00. A detailed cost estimate is included in Appendix G.

## APPENDIX A

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# COLLECTION SYSTEM MAP





NOTES

1. HIGHLIGHTED LOCATIONS ON MAP REPRESENT LOCATIONS WHERE GRAB SAMPLES AND ODOR RECORDINGS WERE COLLECTED DURING ODOR TRIALS 1 & 2.

- SANITARY GRAVITY MAIN
- FORCE MAIN FROM TUDOR ROAD PUMP STATION TO RICE VALVE VAULT
- NORTH SANITARY FORCE MAIN
- WEST SANITARY FORCE MAIN



SHEET 1

drawn by: MARD  
 checked by:  
 approved by:  
 QA/QC by: 016-0091  
 project no.:  
 drawing no.:  
 date: 02/02/16

PROPOSED SAMPLING LOCATIONS	REV. NO.	DATE	REVISIONS DESCRIPTION	BY
ODOR CONTROL TUDOR ROAD PUMP STATION				
LEE'S SUMMIT, MISSOURI	2016			

REV. NO.	DATE	REVISIONS DESCRIPTION	BY



## APPENDIX B

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# FLOW DATA AND TESTING RESULTS

## FLOW DATA

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**Client:** City of Lee's Summit, MO

**Project Name:** Lee's Summit Tudor Road Odor

**Project Number:** 016-0091

**Description:** Flow Data into Tudor Road Pump Station

**Date:** 7/8/16

Flow Data into Tudor Road Pump Station				
Date and Time	Site 9 Flowrate (mgd)	Site 10 Flowrate (mgd)	Site 11 Flowrate (mgd)	Combined Flowrate (mgd)
4/16/16 0:00	0.856	0.243	0.040	1.139
4/16/16 0:15	0.820	0.202	2.178	3.200
4/16/16 0:30	0.723	0.219	0.043	0.985
4/16/16 0:45	0.717	0.207	2.080	3.004
4/16/16 1:00	0.688	0.191	0.026	0.905
4/16/16 1:15	0.621	0.189	1.595	2.405
4/16/16 1:30	0.610	0.176	0.220	1.006
4/16/16 1:45	0.629	0.178	0.032	0.839
4/16/16 2:00	0.593	0.212	2.455	3.260
4/16/16 2:15	0.601	0.169	0.062	0.832
4/16/16 2:30	0.589	0.146	0.000	0.735
4/16/16 2:45	0.550	0.141	2.013	2.704
4/16/16 3:00	0.522	0.132	0.036	0.690
4/16/16 3:15	0.517	0.144	0.000	0.661
4/16/16 3:30	0.513	0.130	2.365	3.008
4/16/16 3:45	0.497	0.126	0.045	0.668
4/16/16 4:00	0.521	0.140	0.000	0.661
4/16/16 4:15	0.492	0.125	2.240	2.857
4/16/16 4:30	0.430	0.112	0.052	0.594
4/16/16 4:45	0.494	0.122	0.000	0.616
4/16/16 5:00	0.444	0.122	0.000	0.566
4/16/16 5:15	0.505	0.139	2.383	3.027
4/16/16 5:30	0.535	0.125	0.021	0.681
4/16/16 5:45	0.492	0.138	0.000	0.630
4/16/16 6:00	0.537	0.129	0.475	1.141
4/16/16 6:15	0.563	0.142	0.023	0.728
4/16/16 6:30	0.545	0.143	0.000	0.688
4/16/16 6:45	0.528	0.145	0.654	1.327
4/16/16 7:00	0.569	0.185	0.027	0.781
4/16/16 7:15	0.630	0.198	2.328	3.156
4/16/16 7:30	0.806	0.199	0.164	1.169
4/16/16 7:45	0.881	0.251	2.418	3.550
4/16/16 8:00	0.969	0.264	0.642	1.875
4/16/16 8:15	1.087	0.325	2.301	3.713
4/16/16 8:30	1.009	0.332	1.962	3.303
4/16/16 8:45	1.060	0.331	0.045	1.436
4/16/16 9:00	1.230	0.395	2.289	3.914
4/16/16 9:15	1.222	0.410	1.021	2.653



**Flow Data into Tudor Road Pump Station**

<b>Date and Time</b>	<b>Site 9 Flowrate (mgd)</b>	<b>Site 10 Flowrate (mgd)</b>	<b>Site 11 Flowrate (mgd)</b>	<b>Combined Flowrate (mgd)</b>
4/16/16 9:30	1.276	0.379	2.114	3.769
4/16/16 9:45	1.386	0.408	2.003	3.797
4/16/16 10:00	1.351	0.411	2.313	4.075
4/16/16 10:15	1.279	0.416	2.045	3.740
4/16/16 10:30	1.352	0.413	0.070	1.835
4/16/16 10:45	1.403	0.413	2.171	3.987
4/16/16 11:00	1.408	0.408	2.031	3.847
4/16/16 11:15	1.396	0.385	0.131	1.912
4/16/16 11:30	1.408	0.371	1.884	3.663
4/16/16 11:45	1.474	0.404	2.079	3.957
4/16/16 12:00	1.401	0.429	2.317	4.147
4/16/16 12:15	1.460	0.391	0.074	1.925
4/16/16 12:30	1.258	0.390	2.351	3.999
4/16/16 12:45	1.318	0.372	0.130	1.820
4/16/16 13:00	1.398	0.408	2.145	3.951
4/16/16 13:15	1.438	0.383	1.872	3.693
4/16/16 13:30	1.373	0.377	2.082	3.832
4/16/16 13:45	1.395	0.374	2.149	3.918
4/16/16 14:00	1.277	0.383	1.820	3.480
4/16/16 14:15	1.330	0.400	2.105	3.835
4/16/16 14:30	1.194	0.413	0.133	1.740
4/16/16 14:45	1.280	0.384	1.930	3.594
4/16/16 15:00	1.423	0.394	0.129	1.946
4/16/16 15:15	1.282	0.385	2.084	3.751
4/16/16 15:30	1.285	0.365	2.145	3.795
4/16/16 15:45	1.260	0.400	0.036	1.696
4/16/16 16:00	1.363	0.396	2.262	4.021
4/16/16 16:15	1.330	0.368	0.044	1.742
4/16/16 16:30	1.272	0.344	2.008	3.624
4/16/16 16:45	1.240	0.336	2.228	3.804
4/16/16 17:00	1.340	0.372	1.989	3.701
4/16/16 17:15	1.212	0.340	1.821	3.373
4/16/16 17:30	1.231	0.338	2.031	3.600
4/16/16 17:45	1.244	0.340	2.145	3.729
4/16/16 18:00	1.305	0.364	1.873	3.542
4/16/16 18:15	1.288	0.321	2.164	3.773
4/16/16 18:30	1.408	0.322	0.027	1.757
4/16/16 18:45	1.326	0.352	2.012	3.690
4/16/16 19:00	1.220	0.331	0.048	1.599
4/16/16 19:15	1.295	0.373	2.359	4.027
4/16/16 19:30	1.332	0.312	0.121	1.765
4/16/16 19:45	1.215	0.364	2.096	3.675
4/16/16 20:00	1.307	0.392	0.794	2.493
4/16/16 20:15	1.323	0.340	2.233	3.896
4/16/16 20:30	1.384	0.358	2.316	4.058
4/16/16 20:45	1.207	0.335	0.043	1.585
4/16/16 21:00	1.180	0.349	2.050	3.579
4/16/16 21:15	1.174	0.397	0.062	1.633
4/16/16 21:30	1.112	0.371	2.245	3.728
4/16/16 21:45	1.145	0.388	0.347	1.880
4/16/16 22:00	1.100	0.356	1.980	3.436

**Flow Data into Tudor Road Pump Station**

<b>Date and Time</b>	<b>Site 9 Flowrate (mgd)</b>	<b>Site 10 Flowrate (mgd)</b>	<b>Site 11 Flowrate (mgd)</b>	<b>Combined Flowrate (mgd)</b>
4/16/16 22:15	1.091	0.336	2.031	3.458
4/16/16 22:30	1.058	0.343	1.893	3.294
4/16/16 22:45	1.114	0.342	2.240	3.696
4/16/16 23:00	1.167	0.323	0.017	1.507
4/16/16 23:15	1.063	0.301	2.119	3.483
4/16/16 23:30	0.859	0.305	0.051	1.215
4/16/16 23:45	0.928	0.310	1.940	3.178
4/17/16 0:00	0.795	0.261	0.032	1.088
4/17/16 0:15	0.857	0.266	1.922	3.045
4/17/16 0:30	0.769	0.227	0.041	1.037
4/17/16 0:45	0.786	0.202	2.226	3.214
4/17/16 1:00	0.753	0.194	0.070	1.017
4/17/16 1:15	0.668	0.202	0.006	0.876
4/17/16 1:30	0.685	0.184	0.217	1.086
4/17/16 1:45	0.674	0.191	0.031	0.896
4/17/16 2:00	0.616	0.183	2.193	2.992
4/17/16 2:15	0.562	0.157	0.049	0.768
4/17/16 2:30	0.597	0.149	0.016	0.762
4/17/16 2:45	0.579	0.165	0.949	1.693
4/17/16 3:00	0.540	0.129	0.058	0.727
4/17/16 3:15	0.480	0.145	0.000	0.625
4/17/16 3:30	0.465	0.138	2.489	3.092
4/17/16 3:45	0.484	0.136	0.023	0.643
4/17/16 4:00	0.465	0.124	0.000	0.589
4/17/16 4:15	0.471	0.128	2.083	2.682
4/17/16 4:30	0.505	0.132	0.072	0.709
4/17/16 4:45	0.444	0.129	0.000	0.573
4/17/16 5:00	0.628	0.132	0.030	0.790
4/17/16 5:15	0.408	0.137	0.130	0.675
4/17/16 5:30	0.442	0.135	0.023	0.600
4/17/16 5:45	0.410	0.138	0.000	0.548
4/17/16 6:00	0.459	0.127	1.115	1.701
4/17/16 6:15	0.434	0.151	0.030	0.615
4/17/16 6:30	0.488	0.132	0.000	0.620
4/17/16 6:45	0.533	0.155	2.349	3.037
4/17/16 7:00	0.509	0.168	0.041	0.718
4/17/16 7:15	0.649	0.256	0.000	0.905
4/17/16 7:30	0.712	0.248	2.147	3.107
4/17/16 7:45	0.724	0.255	0.053	1.032
4/17/16 8:00	0.855	0.274	2.194	3.323
4/17/16 8:15	0.895	0.296	0.019	1.210
4/17/16 8:30	1.005	0.332	2.220	3.557
4/17/16 8:45	1.177	0.371	0.207	1.755
4/17/16 9:00	1.259	0.375	2.274	3.908
4/17/16 9:15	1.337	0.370	2.018	3.725
4/17/16 9:30	1.320	0.384	0.069	1.773
4/17/16 9:45	1.449	0.392	2.240	4.081
4/17/16 10:00	1.455	0.438	1.941	3.834
4/17/16 10:15	1.599	0.448	1.857	3.904
4/17/16 10:30	1.531	0.376	0.419	2.326
4/17/16 10:45	1.543	0.382	2.048	3.973

**Flow Data into Tudor Road Pump Station**

<b>Date and Time</b>	<b>Site 9 Flowrate (mgd)</b>	<b>Site 10 Flowrate (mgd)</b>	<b>Site 11 Flowrate (mgd)</b>	<b>Combined Flowrate (mgd)</b>
4/17/16 11:00	1.553	0.413	2.008	3.974
4/17/16 11:15	1.463	0.434	0.098	1.995
4/17/16 11:30	1.625	0.396	2.164	4.185
4/17/16 11:45	1.544	0.376	2.091	4.011
4/17/16 12:00	1.606	0.364	2.075	4.045
4/17/16 12:15	1.575	0.433	0.041	2.049
4/17/16 12:30	1.622	0.452	2.088	4.162
4/17/16 12:45	1.671	0.372	0.080	2.123
4/17/16 13:00	1.445	0.366	2.082	3.893
4/17/16 13:15	1.499	0.361	2.001	3.861
4/17/16 13:30	1.252	0.329	0.044	1.625
4/17/16 13:45	1.331	0.327	2.204	3.862
4/17/16 14:00	1.601	0.357	2.031	3.989
4/17/16 14:15	1.596	0.387	1.910	3.893
4/17/16 14:30	1.513	0.342	2.124	3.979
4/17/16 14:45	1.353	0.316	0.091	1.760
4/17/16 15:00	1.410	0.345	2.160	3.915
4/17/16 15:15	1.480	0.343	1.257	3.080
4/17/16 15:30	1.469	0.361	2.178	4.008
4/17/16 15:45	1.247	0.340	2.141	3.728
4/17/16 16:00	1.211	0.397	0.068	1.676
4/17/16 16:15	1.330	0.344	2.015	3.689
4/17/16 16:30	1.227	0.322	0.148	1.697
4/17/16 16:45	1.309	0.322	1.935	3.566
4/17/16 17:00	1.572	0.304	2.083	3.959
4/17/16 17:15	1.342	0.334	2.298	3.974
4/17/16 17:30	1.350	0.337	2.066	3.753
4/17/16 17:45	1.298	0.335	0.045	1.678
4/17/16 18:00	1.538	0.369	2.316	4.223
4/17/16 18:15	1.423	0.329	0.518	2.270
4/17/16 18:30	1.330	0.354	2.293	3.977
4/17/16 18:45	1.458	0.352	2.469	4.279
4/17/16 19:00	1.362	0.395	0.052	1.809
4/17/16 19:15	1.282	0.412	2.047	3.741
4/17/16 19:30	1.541	0.362	2.134	4.037
4/17/16 19:45	1.323	0.396	0.167	1.886
4/17/16 20:00	1.409	0.417	2.532	4.358
4/17/16 20:15	1.531	0.368	2.126	4.025
4/17/16 20:30	1.474	0.418	0.307	2.199
4/17/16 20:45	1.583	0.457	2.090	4.130
4/17/16 21:00	1.646	0.450	2.105	4.201
4/17/16 21:15	1.455	0.382	1.952	3.789
4/17/16 21:30	1.690	0.384	2.022	4.096
4/17/16 21:45	1.564	0.398	2.137	4.099
4/17/16 22:00	1.362	0.375	2.015	3.752
4/17/16 22:15	1.517	0.383	1.919	3.819
4/17/16 22:30	1.305	0.328	2.218	3.851
4/17/16 22:45	1.209	0.319	2.110	3.638
4/17/16 23:00	1.161	0.311	1.927	3.399
4/17/16 23:15	1.120	0.265	2.120	3.505
4/17/16 23:30	1.004	0.242	0.061	1.307

**Flow Data into Tudor Road Pump Station**

<b>Date and Time</b>	<b>Site 9 Flowrate (mgd)</b>	<b>Site 10 Flowrate (mgd)</b>	<b>Site 11 Flowrate (mgd)</b>	<b>Combined Flowrate (mgd)</b>
4/17/16 23:45	0.987	0.240	2.407	3.634
4/18/16 0:00	0.830	0.226	0.029	1.085
4/18/16 0:15	0.831	0.204	2.055	3.090
4/18/16 0:30	0.791	0.181	0.139	1.111
4/18/16 0:45	0.722	0.182	0.024	0.928
4/18/16 1:00	0.651	0.159	0.390	1.200
4/18/16 1:15	0.652	0.153	0.020	0.825
4/18/16 1:30	0.571	0.206	1.864	2.641
4/18/16 1:45	0.553	0.160	0.086	0.799
4/18/16 2:00	0.575	0.128	0.000	0.703
4/18/16 2:15	0.548	0.124	0.000	0.672
4/18/16 2:30	0.530	0.126	0.127	0.783
4/18/16 2:45	0.560	0.137	0.013	0.710
4/18/16 3:00	0.522	0.096	2.163	2.781
4/18/16 3:15	0.536	0.101	0.070	0.707
4/18/16 3:30	0.503	0.119	0.015	0.637
4/18/16 3:45	0.493	0.131	1.716	2.340
4/18/16 4:00	0.505	0.112	0.059	0.676
4/18/16 4:15	0.434	0.112	0.014	0.560
4/18/16 4:30	0.499	0.110	0.000	0.609
4/18/16 4:45	0.498	0.115	1.412	2.025
4/18/16 5:00	0.593	0.115	0.031	0.739
4/18/16 5:15	0.553	0.132	0.000	0.685
4/18/16 5:30	0.660	0.121	2.336	3.117
4/18/16 5:45	0.614	0.154	0.044	0.812
4/18/16 6:00	0.831	0.193	0.000	1.024
4/18/16 6:15	0.803	0.204	2.282	3.289
4/18/16 6:30	0.948	0.236	0.033	1.217
4/18/16 6:45	1.135	0.330	2.367	3.832
4/18/16 7:00	1.195	0.387	0.034	1.616
4/18/16 7:15	1.170	0.375	2.005	3.550
4/18/16 7:30	1.313	0.359	2.003	3.675
4/18/16 7:45	1.290	0.375	2.203	3.868
4/18/16 8:00	1.194	0.376	1.833	3.403
4/18/16 8:15	1.255	0.350	1.875	3.480
4/18/16 8:30	1.356	0.338	2.267	3.961
4/18/16 8:45	1.273	0.362	0.056	1.691
4/18/16 9:00	1.277	0.366	2.098	3.741
4/18/16 9:15	1.596	0.335	0.211	2.142
4/18/16 9:30	1.634	0.337	2.118	4.089
4/18/16 9:45	1.449	0.329	0.170	1.948
4/18/16 10:00	1.531	0.376	2.034	3.941
4/18/16 10:15	1.593	0.329	0.564	2.486
4/18/16 10:30	1.548	0.349	2.008	3.905
4/18/16 10:45	1.481	0.343	2.457	4.281
4/18/16 11:00	1.650	0.352	0.041	2.043
4/18/16 11:15	1.623	0.347	2.09	4.060
4/18/16 11:30	1.678	0.369	0.042	2.089
4/18/16 11:45	1.682	0.393	2.184	4.259
4/18/16 12:00	1.803	0.380	0.052	2.235
4/18/16 12:15	1.923	0.394	1.945	4.262

**Flow Data into Tudor Road Pump Station**

<b>Date and Time</b>	<b>Site 9 Flowrate (mgd)</b>	<b>Site 10 Flowrate (mgd)</b>	<b>Site 11 Flowrate (mgd)</b>	<b>Combined Flowrate (mgd)</b>
4/18/16 12:30	1.645	0.422	0.08	2.147
4/18/16 12:45	1.937	0.428	2.329	4.694
4/18/16 13:00	1.602	0.396	0.06	2.058
4/18/16 13:15	1.783	0.403	2.25	4.436
4/18/16 13:30	1.661	0.373	1.789	3.823
4/18/16 13:45	1.598	0.422	0.031	2.051
4/18/16 14:00	1.670	0.421	1.958	4.049
4/18/16 14:15	1.616	0.395	0.026	2.037
4/18/16 14:30	1.611	0.373	2.066	4.050
4/18/16 14:45	1.451	0.420	0.069	1.940
4/18/16 15:00	1.515	0.396	2.147	4.058
4/18/16 15:15	1.595	0.379	0.069	2.043
4/18/16 15:30	1.420	0.409	2.254	4.083
4/18/16 15:45	1.418	0.389	0.12	1.927
4/18/16 16:00	1.544	0.422	2.299	4.265
4/18/16 16:15	1.517	0.377	0.784	2.678
4/18/16 16:30	1.625	0.399	1.963	3.987
4/18/16 16:45	1.738	0.395	2.013	4.146
4/18/16 17:00	1.657	0.395	0.041	2.093
4/18/16 17:15	1.778	0.414	2.197	4.389
4/18/16 17:30	1.694	0.439	0.026	2.159
4/18/16 17:45	1.653	0.428	1.936	4.017
4/18/16 18:00	1.629	0.549	0.227	2.405
4/18/16 18:15	1.878	0.505	2.132	4.515
4/18/16 18:30	1.670	0.474	0.256	2.400
4/18/16 18:45	1.933	0.502	1.979	4.414
4/18/16 19:00	1.673	0.503	1.929	4.105
4/18/16 19:15	1.557	0.496	0.363	2.416
4/18/16 19:30	1.646	0.535	2.063	4.244
4/18/16 19:45	1.700	0.536	2.268	4.504
4/18/16 20:00	1.591	0.525	0.091	2.207
4/18/16 20:15	1.643	0.547	2.144	4.334
4/18/16 20:30	1.622	0.528	1.807	3.957
4/18/16 20:45	1.759	0.531	1.915	4.205
4/18/16 21:00	1.623	0.524	1.975	4.122
4/18/16 21:15	1.718	0.599	2.028	4.345
4/18/16 21:30	1.533	0.524	2.388	4.445
4/18/16 21:45	1.677	0.533	2.085	4.295
4/18/16 22:00	1.365	0.596	0.049	2.010
4/18/16 22:15	1.503	0.523	2.166	4.192
4/18/16 22:30	1.364	0.517	2.167	4.048
4/18/16 22:45	1.511	0.488	2.019	4.018
4/18/16 23:00	1.186	0.411	2.295	3.892
4/18/16 23:15	1.198	0.404	0.602	2.204
4/18/16 23:30	1.165	0.393	2.087	3.645
4/18/16 23:45	1.033	0.373	0.728	2.134

# TESTING RESULTS

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**Client:** City of Lee's Summit, MO

**Project Name:** Lee's Summit Tudor Road Odor

**Project Number:** 016-0091

**Description:** Wastewater Analytical Results Sulfide Dissolved

**Date:** 7/8/16

Sample ID	Matrix	Date Collected	Time	Date Received	Time	Sulfide, Dissolved - Analytical Method	BOD, 5 day - Analytical Method
TUDOR INFLUENT 6:00 AM	Water	4/17/16	6:30	4/18/16	10:27	0.16 mg/L	-
TUDOR DISCHARGE 6:00 AM	Water	4/17/16	6:30	4/18/16	10:27	0.20 mg/L	-
AR24-003 6:00 AM	Water	4/17/16	7:15	4/18/16	10:27	1.2 mg/L	-
MH14-017 6:00 AM	Water	4/17/16	8:04	4/18/16	10:27	5.2 mg/L	-
MH14-007 6:00 AM	Water	4/17/16	7:55	4/18/16	10:27	2.0 mg/L	-
TUDOR INFLUENT 2:00 PM	Water	4/17/16	14:20	4/18/16	10:27	0.59 mg/L	-
TUDOR DISCHARGE 2:00 PM	Water	4/17/16	14:30	4/18/16	10:27	0.24 mg/L	-
AR24-003 2:00 PM	Water	4/17/16	15:02	4/18/16	10:27	1.4 mg/L	-
MH14-017 2:00 PM	Water	4/17/16	15:15	4/18/16	10:27	0.25 mg/L	-
MH14-007 2:00 PM	Water	4/17/16	15:45	4/18/16	10:27	1.6 mg/L	-
TUDOR INFLUENT 10:00 PM	Water	4/17/16	23:30	4/18/16	10:27	0.46 mg/L	-
TUDOR DISCHARGE 10:00 PM	Water	4/17/16	22:00	4/18/16	10:27	0.45 mg/L	-
AR24-003 10:00 PM	Water	4/17/16	23:00	4/18/16	10:27	1.1 mg/L	-
MH14-017 10:00 PM	Water	4/18/16	0:00	4/18/16	10:27	3.0 mg/L	-
MH14-007 10:00 PM	Water	4/17/16	22:30	4/18/16	10:27	3.2 mg/L	-
TUDOR BOD 1	Water	4/18/16	9:00	4/18/16	10:27	-	292 mg/L
TUDOR BOD 2	Water	4/18/16	9:00	4/18/16	10:27	-	287 mg/L
TUDOR BOD 3	Water	4/18/16	9:00	4/18/16	10:27	-	157 mg/L

## APPENDIX C

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# FLOW MONITORING LOCATIONS



# Flow Meters: 25-329 (Short Term), 25-210, and 25-267



**APPENDIX D**

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**INITIAL ALTERNATIVES OPINION OF PROBABLE  
COSTS**





**OPINION OF  
PROBABLE IMPROVEMENT COST**

**CITY OF LEE'S SUMMIT, MO  
TUDOR ROAD PUMP STATION**

**ALTERNATIVE A - VORTEX FLOW INSERT**

OA Project 016-0091

**July 1, 2016**

	UNIT	QTY	UNIT COST	TOTAL
<b><u>Capital Cost</u></b>				
New Vortex Flow Insert and Associated Equipment	LS	1	\$ 35,000	\$ 35,000
Vortex Flow Structure	LS	1	\$ 75,000	\$ 75,000
New Bypass Line	LS	1	\$ 50,000	\$ 50,000
New Bypass Valve	LS	1	\$ 50,000	\$ 50,000
New Manhole	EA	1	\$ 5,000	\$ 5,000
Electrical	LS	1	\$ 15,000	\$ 15,000
Contingencies		20%		\$ 46,000
Engineering		20%		\$ 56,000
<b>Total Probable Capital Cost</b>				<b>\$332,000</b>

**Annual Cost**

Power Cost			\$	600
Operation and Maintenance Cost			\$	3,000
<b>Total Probable Annual Cost</b>				<b>\$ 3,600</b>



**OPINION OF  
PROBABLE IMPROVEMENT COST**

**CITY OF LEE'S SUMMIT, MO  
TUDOR ROAD PUMP STATION**

**ALTERNATIVE B - BIOXIDE**

OA Project 016-0091

**July 1, 2016**

	UNIT	QTY	UNIT COST	TOTAL
<b><u>Capital Cost</u></b>				
Removal of Existing Ferric Chloride Feed System	LS	1	\$ 5,000	\$ 5,000
New Bioxide Feed and Monitoring Equipment	LS	1	\$ 50,000	\$ 50,000
New Flow Meter	LS	1	\$ 100,000	\$ 100,000
New Storage Tank	LS	1	\$ 25,000	\$ 25,000
Installation of New Equipment	LS	1	\$ 10,000	\$ 10,000
SCADA Improvements	LS	1	\$ 25,000	\$ 25,000
Electrical	LS	1	\$ 60,000	\$ 60,000
Contingencies		20%		\$ 55,000
Engineering		20%		\$ 66,000
<b>Total Probable Capital Cost</b>				<b>\$ 396,000</b>

**Annual Cost**

Power Cost				\$ -
Operation and Maintenance Cost				\$ 140,000
<b>Total Probable Annual Cost</b>				<b>\$ 140,000</b>



**OPINION OF  
PROBABLE IMPROVEMENT COST**

**CITY OF LEE'S SUMMIT, MO  
TUDOR ROAD PUMP STATION**

**ALTERNATIVE C - AIR SCRUBBING**

OA Project 016-0091

**July 1, 2016**

	UNIT	QTY	UNIT COST	TOTAL
<b><u>Capital Cost</u></b>				
New Air Scrubber and Associated Equipment	LS	1	\$ 25,000	\$ 25,000
Installation of New Equipment	LS	1	\$ 25,000	\$ 25,000
New Concrete Pad	LS	1	\$ 10,000	\$ 10,000
Electrical	LS	1	\$ 15,000	\$ 15,000
Contingencies		20%		\$ 15,000
Engineering		20%		\$ 18,000

<b>Total Probable Capital Cost</b>	<b>\$ 108,000</b>
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**Annual Cost**

Power Cost	\$ 4,000
Operation and Maintenance Cost	\$ 8,000

<b>Total Probable Annual Cost</b>	<b>\$ 12,000</b>
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**OPINION OF  
PROBABLE IMPROVEMENT COST**

**CITY OF LEE'S SUMMIT, MO  
TUDOR ROAD PUMP STATION**

**ALTERNATIVE D - DISSOLVED OXYGEN INJECTION (LIQUID OXYGEN + TANK PURCHASE)**

OA Project 016-0091

**July 1, 2016**

	UNIT	QTY	UNIT COST	TOTAL
<b><u>Capital Cost</u></b>				
New Dissolved Oxygen Injection Equipment (Including Tank)	LS	1	\$ 370,000	\$ 370,000
Installation of New Equipment	LS	1	\$ 95,000	\$ 95,000
Piping Modifications	LS	1	\$ 75,000	\$ 75,000
Electrical	LS	1	\$ 200,000	\$ 200,000
Contingencies		20%		\$ 148,000
Engineering		20%		\$ 178,000
<b>Total Probable Capital Cost</b>				<b>\$1,066,000</b>
<b><u>Annual Cost</u></b>				
Power Cost				\$ 6,700
LOX Cost				\$ 50,850
Operation and Maintenance Cost				\$ 3,850
<b>Total Probable Annual Cost</b>				<b>\$ 61,400</b>



**OPINION OF  
PROBABLE IMPROVEMENT COST**

**CITY OF LEE'S SUMMIT, MO  
TUDOR ROAD PUMP STATION**

**ALTERNATIVE D - DISSOLVED OXYGEN INJECTION (OXYGEN GENERATION)**

OA Project 016-0091

**July 1, 2016**

	UNIT	QTY	UNIT COST	TOTAL
<b><u>Capital Cost</u></b>				
New Dissolved Oxygen Injection Equipment	LS	1	\$ 800,000	\$ 800,000
Installation of New Equipment	LS	1	\$ 100,000	\$ 100,000
Piping Modifications	LS	1	\$ 75,000	\$ 75,000
Electrical	LS	1	\$ 275,000	\$ 275,000
Contingencies		20%		\$ 250,000
Engineering		20%		\$ 300,000
<b>Total Probable Capital Cost</b>				<b>\$ 1,800,000</b>

<b><u>Annual Cost</u></b>	
Power Cost	\$ 35,000
Operation and Maintenance Cost	\$ 25,000
<b>Total Probable Annual Cost</b>	<b>\$ 60,000</b>



**OPINION OF  
PROBABLE IMPROVEMENT COST**

**CITY OF LEE'S SUMMIT, MO  
TUDOR ROAD PUMP STATION**

**ALTERNATIVE E - ALTERNATIVE LOW FLOW DISCHARGE LOCATION**

OA Project 016-0091  
July 1, 2016

UNIT QTY UNIT COST TOTAL

**Capital Cost**

Contingencies	20%	\$	-
Engineering	20%	\$	-

Total Probable Capital Cost	\$	-
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**Annual Cost**

Ferric Chloride Cost	\$ 107,000
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Total Probable Annual Cost	\$ 107,000
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**OPINION OF  
PROBABLE IMPROVEMENT COST**

**CITY OF LEE'S SUMMIT, MO  
TUDOR ROAD PUMP STATION**

**ALTERNATIVE F - INSTALL MECHANICAL MIXER IN WET WELL**

OA Project 016-0091  
July 1, 2016

UNIT QTY UNIT COST TOTAL

**Capital Cost**

Contingencies	20%	\$	-
Engineering	20%	\$	-

<b>Total Probable Capital Cost</b>	<b>\$</b>	<b>-</b>
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**Annual Cost**

Ferric Chloride Cost	\$107,000
Maintenance Cost	\$ 5,000
Power Cost	\$ 2,000

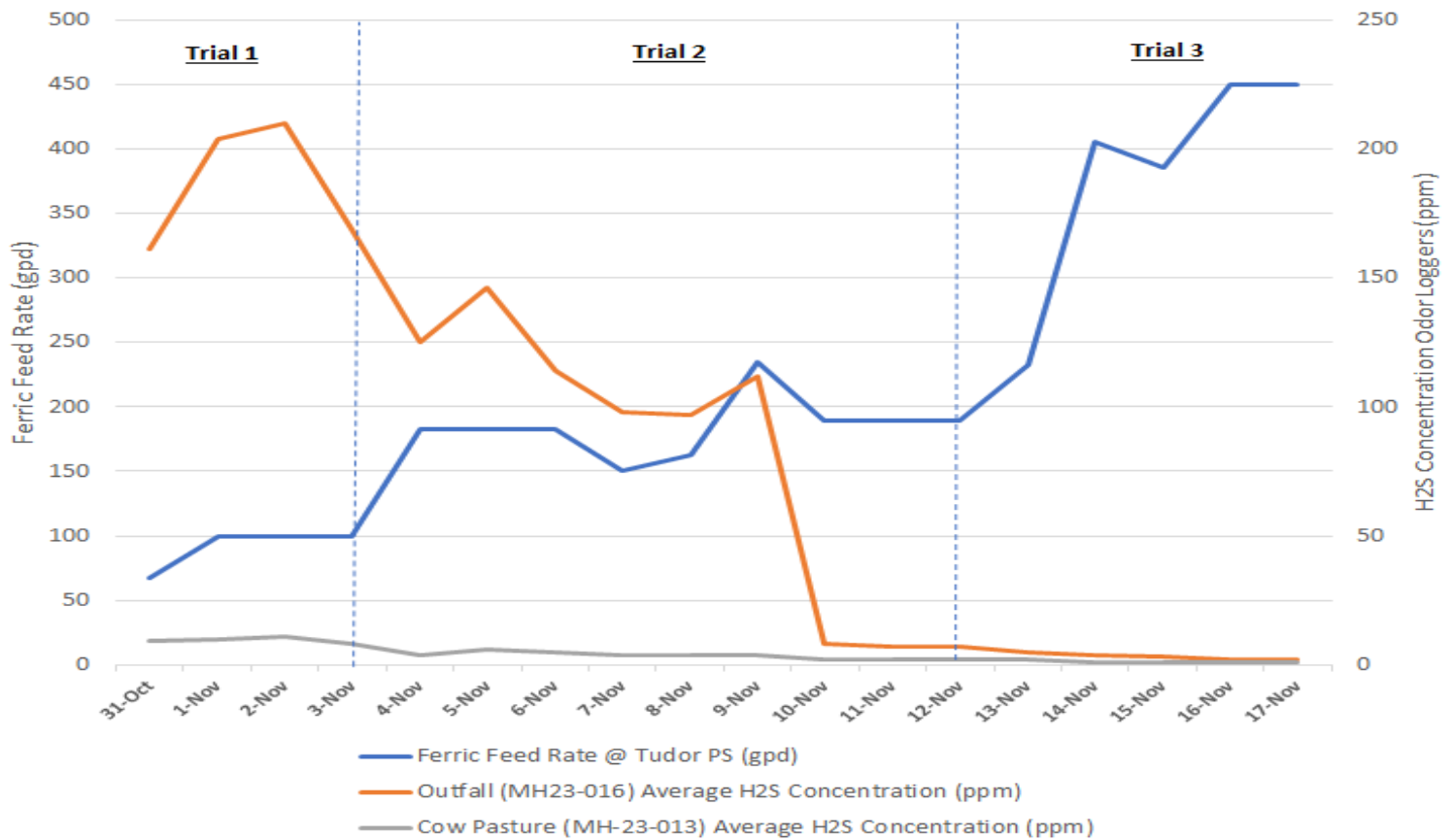
<b>Total Probable Annual Cost</b>	<b>\$114,000</b>
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**APPENDIX E**  
**ODOR TRIAL 1 AND 2**

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# Odor Trial 1 - Little Cedar Watershed

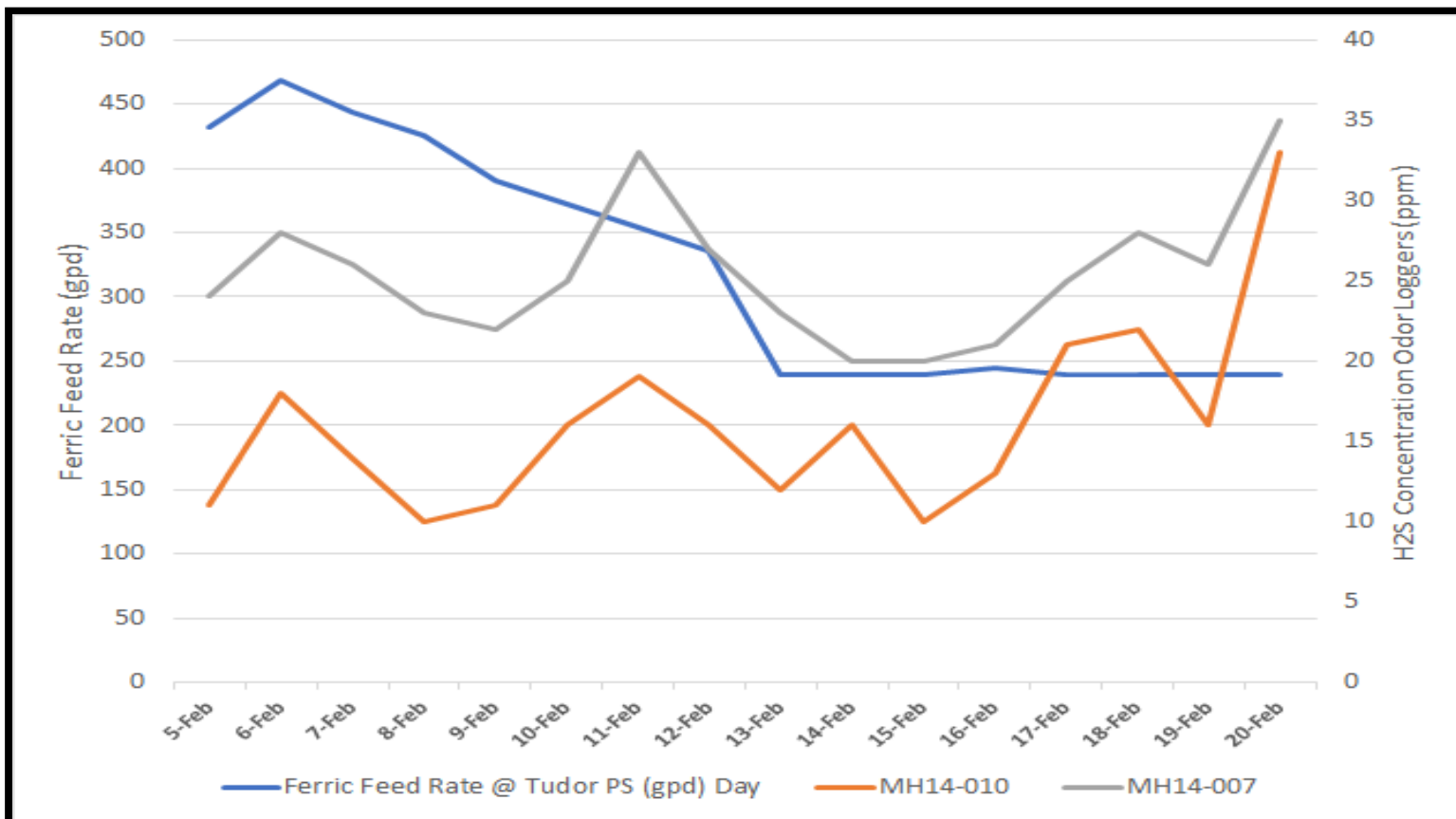


Date	Ferric Feed Rate @ Tudor PS (gpd)	Outfall (MH23-016) Average H2S Concentration (ppm)	Cow Pasture (MH-23-013) Average H2S Concentration (ppm)	Tudor WW# 1 Level	Tudor WW# 2 Level
31-Oct	67	161	9	9.114	8.982
1-Nov	100	204	10	8.982	9.114
2-Nov	100	210	11	8.828	8.996
3-Nov	100	169	8	8.828	8.996
4-Nov	183	125	4	8.632	8.842
5-Nov	183	146	6	8.632	8.842
6-Nov	183	114	5	8.577	8.709
7-Nov	150	98	4	8.577	8.709
8-Nov	163	97	4	8.577	8.709
9-Nov	235	112	4	8.409	8.618
10-Nov	189	8	2	8.835	9.975
11-Nov	189	7	2	9.086	9.212
12-Nov	189	7	2	9.086	9.212
13-Nov	233	5	2	9.282	9.408
14-Nov	405	4	1	9.282	9.408
15-Nov	385	3	1	9.450	9.561
16-Nov	450	2	1	9.450	9.561
17-Nov	450	2	1	8.582	9.722

Analytical Testing Results										
Date	Ferric Feed Rate (gpd)	pH			H2S Concentration (mg/L)			Total Sulfide Concentration (mg/L)		
		Tudor Influent	Tudor WW	Outfall	Tudor Influent	Tudor WW	Outfall	Tudor Influent	Tudor WW	Outfall
31-Oct	67	7.1	6.8	7	0.51	0.31	3.1	1.1	0.54	6.4
6-Nov	183	7.1	6.7	6.9	0.27	0.52	2.9	0.58	0.8	5.2
13-Nov	233	6.9	6.7	6.9	0.81	0.66	2.5	1.5	1.1	4.8
17-Nov	450	7.1	6.4	6.9	0.88	0.32	2.3	1.9	0.41	4.5



## Odor Trial 2 - Maybrook Watershed



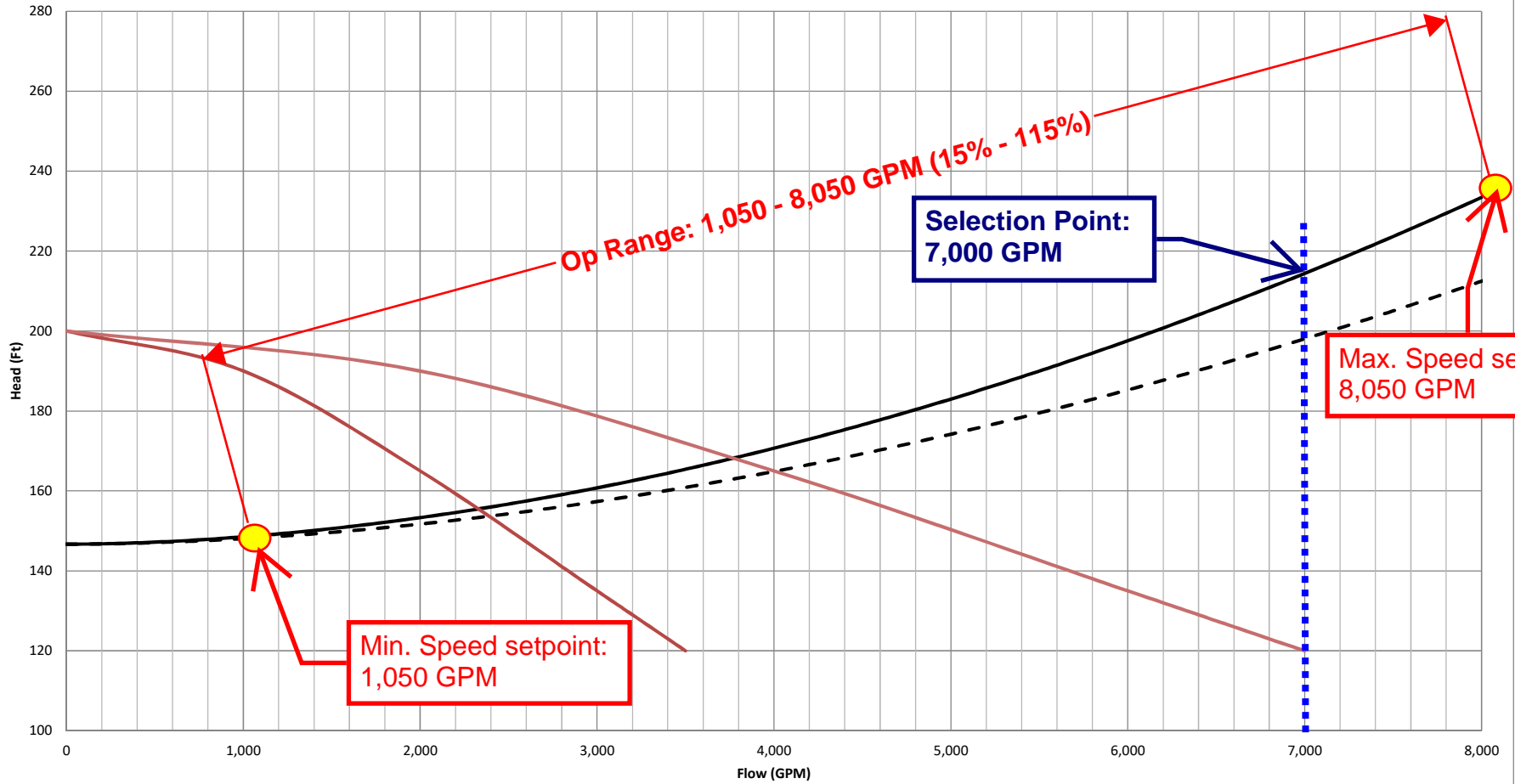
Date	Ferric Feed Rate @ Tudor PS (gpd) Day	MH14-010 H2S Concentration (ppm)	MH14-007 H2S Concentration (ppm)
5-Feb	432	11	24
6-Feb	468	18	28
7-Feb	444	14	26
8-Feb	426	10	23
9-Feb	390	11	22
10-Feb	372	16	25
11-Feb	354	19	33
12-Feb	336	16	27
13-Feb	240	12	23
14-Feb	240	16	20
15-Feb	240	10	20
16-Feb	245	13	21
17-Feb	240	21	25
18-Feb	240	22	28
19-Feb	240	16	26
20-Feb	240	33	35

**APPENDIX F**

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**PUMP AND SYSTEM CURVES**

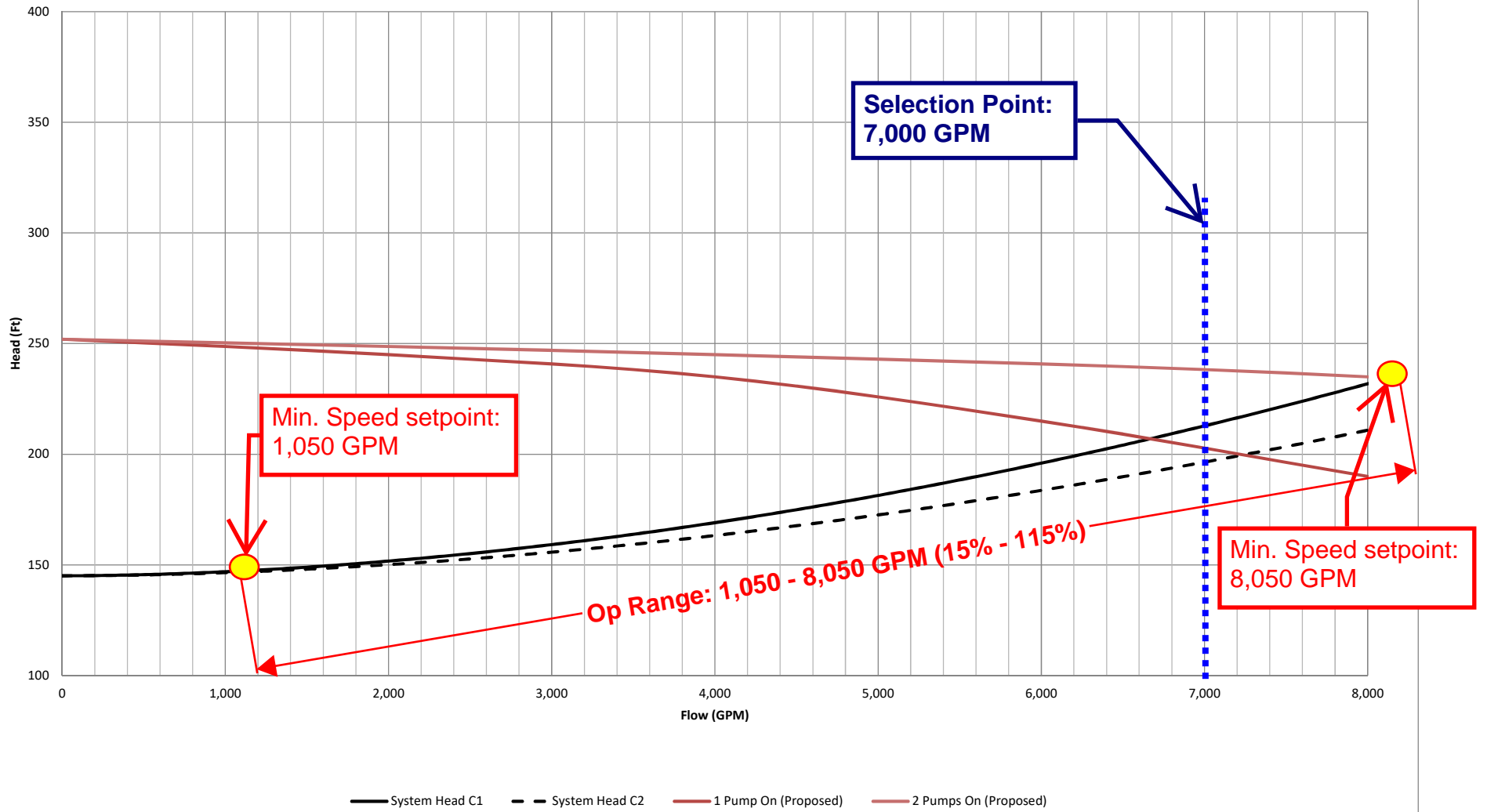
### Pump and System Curves To Little Cedar (20in F/M) Dry Weather Operation



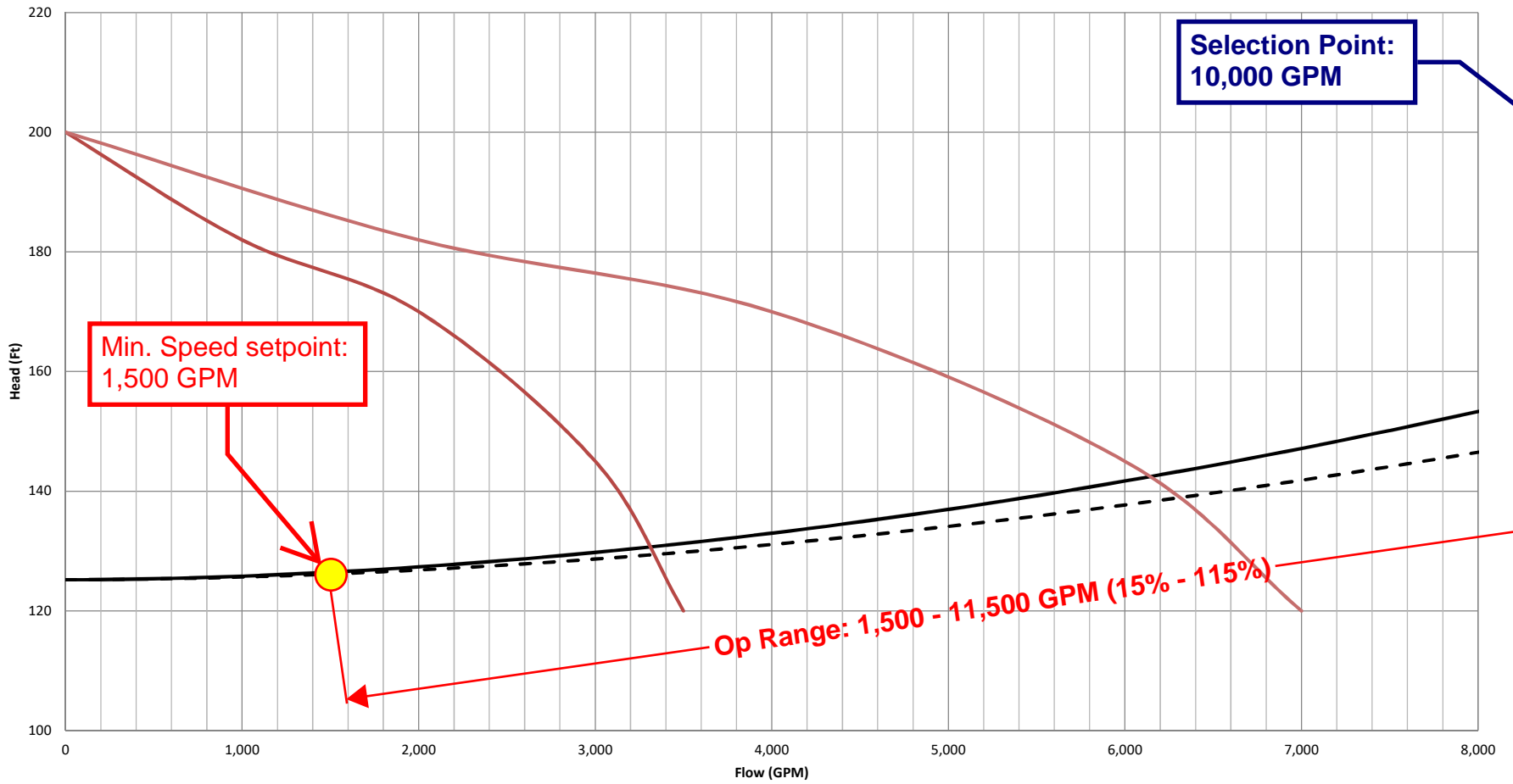
— System Head C1    - - System Head C2    — 1 Pump On (Proposed)    — 2 Pumps On (Proposed)



### Pump and System Curves To Little Cedar (20 in F/M) Wet Weather Operation

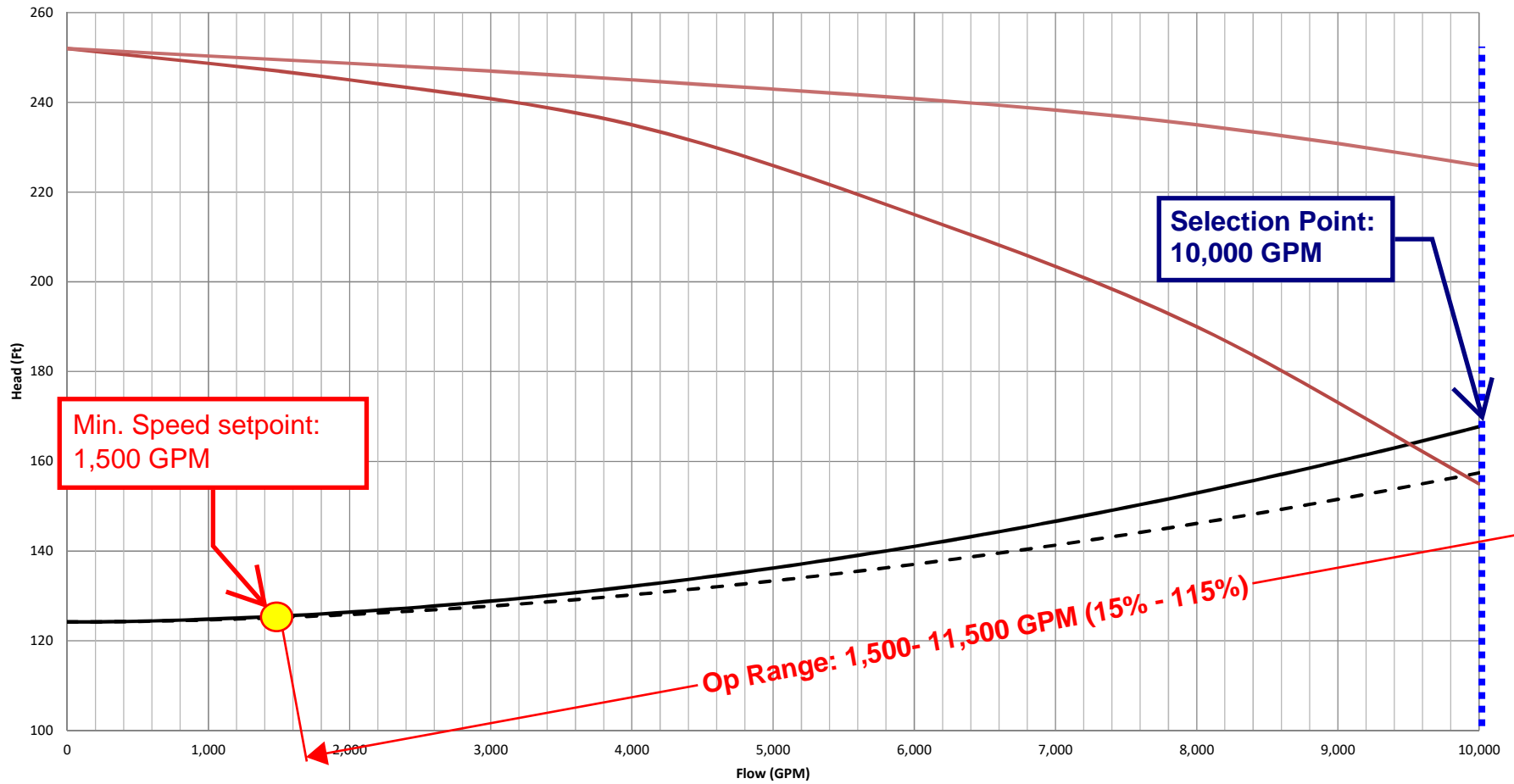


### Pump and System Curves To Maybrook (30in F/M) Dry Weather Operation



— System Head C1    - - System Head C2    — 1 Pump On (Proposed)    — 2 Pumps On (Proposed)

### Pump and System Curves To Maybrook (30 in F/M) Wet Weather Flow



— System Head C1    - - System Head C2    — 1 Pump On (Proposed)    — 2 Pumps On (Proposed)

**APPENDIX G**

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**REVISED VORTEX FLOW INSERT ALTERNATIVE  
OPINION OF PROBABLE COST**



**OPINION OF  
PROBABLE IMPROVEMENT COST**

**CITY OF LEE'S SUMMIT, MO  
TUDOR ROAD PUMP STATION**

**REVISED VORTEX FLOW INSERT ALTERNATIVE**

OA Project 016-0091

**July 9, 2018**

	UNIT	QTY	UNIT COST	TOTAL
<b><u>Capital Cost</u></b>				
New Vortex Flow Insert and Associated Equipment	LS	1	\$ 200,000	\$ 200,000
VFI Structure and Site Improvements	EA	2	\$ 170,000	\$ 340,000
New Bypass Line	LS	1	\$ 75,000	\$ 75,000
New Bypass Valves	LS	1	\$ 50,000	\$ 50,000
New Manhole	EA	1	\$ 5,000	\$ 5,000
Contingencies		20%		\$ 140,000
Engineering		20%		\$ 162,000
<b>Total Probable Capital Cost</b>				<b>\$ 972,000</b>

**Annual Cost**

Power Cost				\$ 1,000
Ferric Chloride (100 gpd)				\$ 45,000
Operation and Maintenance Cost				\$ 10,000
<b>Total Probable Annual Cost</b>				<b>\$ 56,000</b>

**TUDOR ROAD PUMP STATION ODOR CONTROL  
CONCEPTUAL OPTIONS EVALUATION  
LEE'S SUMMIT, MISSOURI - 2018**

**July 2018**

**OA Project No. 016-0091**

## Packet Information

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**File #:** TMP-1403, **Version:** 1

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An Ordinance authorizing the execution of a Mid-America Regional Council-Solid Waste Management District grant agreement by and between the City of Lee's Summit, Missouri, and the Mid-America Regional Council-Solid Waste Management District, granting funds in the amount of \$42,189 for the purchase of recycling roll-off containers for use by the Solid Waste Division.

Issue/Request:

Staff is seeking approval of an Ordinance authorizing the execution of a Mid-America Regional Council-Solid Waste Management District grant agreement by and between the City of Lee's Summit, Missouri, and the Mid-America Regional Council-Solid Waste Management District, granting funds in the amount of \$42,189 for the purchase of recycling roll-off containers for use by the Solid Waste Division.

Key Issues:

- City received a grant to purchase roll-off boxes to assist in re-opening the South Recycling Center.
- City secured a contract to have containers pulled to recycle materials.
- The Center allows citizens and businesses to drop-off recyclable materials at no cost.

Proposed Committee Motion:

I move to recommend to City Council approval of an Ordinance authorizing the execution of a Mid-America Regional Council - Solid Waste Management District grant agreement by and between the City of Lee's Summit, Missouri, and the Mid-America Regional Council - Solid Waste Management District, granting funds in the amount of \$42,189 for the purchase of recycling roll-off containers for use by the Solid Waste Division.

Background:

- Two recycling drop-off centers closed in 2016.
- The City has been working to re-open a recycling center.
- Acceptance of this grant will allow the City to re-open the South Recycling Center, which will be located at the Resource Recovery Park, adjacent to the Public Disposal Area.
- The Center will accept #1 & #2 plastics, cardboard, paperboard, tin and aluminum cans, newspaper, office paper and junk mail.
- The Center will be open Monday through Friday from 7:30am - 4:00 pm and on Saturday from 7:30am until 3:00pm.

Impact/Analysis:

Executing this agreement will allow the City to utilize grant funds to purchase containers and proceed with re-opening the south recycling center.

Timeline:

Start: \_\_\_\_

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**File #:** TMP-1403, **Version:** 1

---

Finish: \_\_\_\_

Other Information/Unique Characteristics:

Chris Bussen, Solid Waste Superintendent

Recommendation: Staff recommends approval of an Ordinance authorizing the execution of a Mid-America Regional Council-Solid Waste Management District grant agreement by and between the City of Lee's Summit, Missouri, and the Mid-America Regional Council-Solid Waste Management District, granting funds in the amount of \$42,189 for the purchase of recycling roll-off containers for use by the Solid Waste Division.

Committee Recommendation: [Enter Committee Recommendation text Here]



**BILL NO. 19-000**

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AN ORDINANCE AUTHORIZING THE EXECUTION OF A MID-AMERICA REGIONAL COUNCIL – SOLID WASTE MANAGEMENT DISTRICT GRANT AGREEMENT BY AND BETWEEN THE CITY OF LEE'S SUMMIT, MISSOURI, AND THE MID-AMERICA REGIONAL COUNCIL – SOLID WASTE MANAGEMENT DISTRICT, GRANTING FUNDS IN THE AMOUNT OF \$42,189 FOR THE PURCHASE OF RECYCLING ROLL-OFF CONTAINERS FOR USE BY THE SOLID WASTE DIVISION.

WHEREAS, the City has applied to the Mid-America Regional Council – Solid Waste Management District for a grant of funds; and,

WHEREAS, the Mid-America Regional Council – Solid Waste Management District has agreed to award funds available to the City with the understanding that such funds will be used to purchase containers pursuant to this Agreement for the purposes generally described in the City's grant application/request dated January 16, 2019.

NOW THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF LEE'S SUMMIT, MISSOURI, as follows:

SECTION 1. That the City Council of the City of Lee's Summit hereby authorizes the execution, by the Mayor on behalf of the City of Lee's Summit, of a grant assistance agreement by and between the Mid-America Regional Council – Solid Waste Management District and the City of Lee's Summit, Missouri for the purpose of purchasing recycling containers for use by the Solid Waste Division, which is attached hereto and incorporated by reference as if fully set forth herein.

SECTION 2. That this Ordinance shall be in full force and effect from and after the date of its passage and adoption, and approval by the Mayor.

PASSED by the City Council of the City of Lee's Summit, Missouri, this \_\_\_\_ day of \_\_\_\_\_, 2019.

\_\_\_\_\_  
Mayor William A. Baird

ATTEST:

\_\_\_\_\_  
City Clerk Trisha Fowler Arcuri

**BILL NO. 19-000**

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APPROVED by the Mayor of said city this \_\_\_\_\_ day of \_\_\_\_\_, 2019.

\_\_\_\_\_  
Mayor William A. Baird

ATTEST:

\_\_\_\_\_  
City Clerk Trisha Fowler Arcuri

APPROVED AS TO FORM:

\_\_\_\_\_  
Nancy Yendes, Chief Counsel of  
Infrastructure and Planning  
Office of the City Attorney

**MARC SOLID WASTE MANAGEMENT DISTRICT  
GRANT ASSISTANCE AGREEMENT (GAA)**

Grant #E2019-006

The MARC Solid Waste Management District (hereafter referred to as the 'District') hereby agrees to grant up to **\$42,189 to City of Lee's Summit, Mo** (hereafter referred to as the Sub-grantee) to implement the project titled *City of Lee's Summit ~~North~~ <sup>SOUTH</sup> Recycling Center Re-Opening*.

The Sub-grantee agrees that it will administer this agreement in accordance with:

- a) Sub-grantee application dated 8/31/2018;
- b) Sub-grantee budget plan, work plan and time line (attached);
- c) MARC SWMD Special Terms and Conditions (Attachment 1);
- d) MDNR General Terms and Conditions (Attachment 2 and 2A);
- e) Funding Acknowledgement (Attachment 2E )

**Budget Period**

January 1, 2019 – December 31, 2019

The Sub-grantee agrees to complete the activities described above in attachments on the dates specified. All activities will be completed by the end of the grant period.

**Sub-grantee Authorized Official:** Steve Arbo, City Manager

**Address:** 220 SE Green Street, Lee's Summit, MO 64063

**Phone:** 816-969-2000 **e-mail:** donna.lee@cityofls.net

**Sub-grantee Project Manager:** Chris Bussen, Solid Waste Superintendent

**Address:** 1971 SE Hamblen Road, Lee's Summit, MO 64082

**Phone:** 816-809-5478 **e-mail:** chris.bussen@cityofls.net


**Project Description:** *Funds will be used to purchase containers for the collection of recyclable materials at the city's drop-off recycling center, slated to re-open.*

<u>Project Funding</u>	<u>Amount</u>	<u>Percent</u>
District Award	\$42,189	80
Sub-grantee Match	\$10,547	20
Total Project Cost	\$52,736	100
15% Retainage	\$6,328	

**Specific Project Conditions**

The grantee agrees to accept and comply with the following conditions as approved by the MARC SWMD executive board on October 17, 2018. **None Stated**

The assistance as described herein is hereby offered and accepted upon signature of authorized officials:

 Date 1/16/19

Marie Steiner, Chair  
MARC Solid Waste Management District

\_\_\_\_\_ Date \_\_\_\_\_  
William A. Baird, Mayor  
City of Lee's Summit, Mo



Sub-grantee: Initial  
each section to  
verify agreement.

**CHECK ALL SIDES**

There are 4 pages

## SPECIAL TERMS AND CONDITIONS MARC SWMD GRANT PROGRAM

### ATTACHMENT 1

The MARC Solid Waste Management District (SWMD) is a body corporate and politic of the State of Missouri. The MARC SWMD's activities and programs are managed by the Mid-America Regional Council (MARC) under a Memorandum of Understanding with the MARC SWMD. MARC will reimburse the sub-grantee on behalf of the MARC SWMD.

#### *I Reporting*

##### CB Quarterly Reports

Quarterly reports are due on April 15, 2019; July 15, 2019; October 15, 2019 and January 15, 2020. A final report is due January 15, 2020. As a reminder, reports must be printed on recycled content paper with at least 30% post consumer content and double-sided. Reports can be submitted electronically, with appropriate signature.

##### CM Late Report Penalties for Subgrantees

If the district does not receive quarterly or final reports within seven (7) days from the due date stipulated in the grant assistance agreement's special terms and conditions, the subgrantee is considered out of compliance. Within those seven (7) days, the subgrantee may either submit the late report or negotiate an alternate due date with the grant administrator. If no contact has been initiated by the subgrantee to negotiate an alternate due date, the district will send a warning letter to inform the subgrantee of noncompliance and possible fiscal penalty measures.

If the report is not received within fourteen (14) days from the original due date or upon the negotiated due date, fiscal penalties may be incurred, effective immediately, in the amount of two percent (2%) of the original grant award and remain in effect at the rate of one percent (1%) per week until the outstanding report(s) is received and accepted by the grant administrator.

The grant administrator will obtain authorization from the grant review committee chair to implement the penalty phase and inform the executive board. The subgrantee will be notified by certified letter that the penalty phase is in effect. Noncompliance of reporting requirements will be noted in the subgrantee's record for consideration of future grant awards. Extreme cases may be taken before the executive board for further resolution.

#### *II Acknowledgements and Publications*

CB Sub-grantees receiving grant funding shall identify the MARC Solid Waste Management District and the Missouri Department of Natural Resources as a funding source on all publications and other materials intended for distribution. Attachment D provides specifications for using the MDNR and MARC SWMD logos. Logos are available on the MARC website.

CM District staff shall review draft copies of all publications, scripts, and other printed materials that are intended for distribution and are financed, wholly or in part, by agreement funds.

For acknowledgements, Item S, *Mandatory Disclosures*, page 21 of Attachment 2 is hereby amended to include the MARC Solid Waste Management District as a funding source.

#### *III Reimbursements*

CM The District shall retain 15% of the funds awarded to the project until the final report has been provided to the district and has been approved.

CM Grant project expenses will be reimbursed only upon receipt of proper source documentation. Documentation must include proof of purchase and proof of payment. Accepted are:



- Paid invoices
- Paid receipts
- Credit card statements indicating payment
- Cancelled checks
- Appropriate electronic verification of cancelled checks
- Employee time sheets
- Accounting payroll sheets

Invoices need to be submitted in hard copy.

Final invoices must be submitted to the MARC SWMD by January 15 when the reports are due, unless unusual circumstances apply and staff is notified.

For projects with time extensions, invoices for costs incurred during the initial project period must be submitted to the MARC SWMD no later than January 15, 2020.

#### ***IV Project Modifications***

The sub-grantee agrees to comply with the following requirements to modify or extend the stated project:

Time Extensions: An extension of the project time must be requested in writing sixty (60) days prior to the end of the grant period (November 1) Materials providing adequate justification for the extension and a revised time line must accompany a request for an extension. All extensions must receive District approval thirty (30) days prior to the end of the grant period.

Budget Revisions: Subgrantees must request and receive prior approval to transfer funds from a direct cost budget category (ies) when the cumulative amount of such transfers exceed or are expected to exceed ten percent of the requested funds. Notification to district staff is to be made whenever a sub-grantee makes a revision of less than ten percent.

Scope of Work Revisions Changes to the scope of services described in the agreement must receive prior approval from district staff. Approved changes in the scope of work or budget shall be incorporated in a written amendment to the agreement.

#### ***V Security Interest***

The sub-grantee agrees that any equipment and/or building/site improvements purchased pursuant to this agreement shall be used for the performance of services under this agreement during the term of this agreement and four (4) years thereafter for purchases of \$5,000 to \$49,999, in sum, and for six years thereafter for purchases over \$50,000, in sum. A security interest agreement between the District and the Subgrantee will be executed.

The subgrantee will pay all applicable filing and termination fees associated with UCC filings, certificate of title or a deed of trust. The security interest of the District shall decrease at a rate of 20% of the provided funding per year for equipment and/or building and site improvements for purchases of \$5,000 to \$49,999 and at a decreased rate of 14.3% of the provided funding per year for purchases over \$50,000.

The subgrantee shall annually submit a report as provided by the district certifying that the intended use of the equipment, buildings, and/or site improvements are for project activities. Proof of insurance and tonnages diverted shall be reported annually.

For equipment and buildings/site improvements, Item C(3)(xii), *Method of Payment*, Attachment 2, page 4, (Missouri Department of Natural Resources, General Terms and Conditions) is hereby amended to reflect the change in the length of time a security interest is maintained.

For rate of decrease, Item M(3)(ii), *Equipment*, of Attachment 2, page 12, is hereby amended to reflect the change in the percentage of the declining interest.

CB **VI Bidding Requirements**

As recipients of Solid Waste Management Fund financial assistance, sub-grantees are required to obtain bids for all purchases according to the schedule defined in the Revised Statutes of Missouri (RSMo) 34.040.

**Documentation of bids must be provided to the District.**

To paraphrase this statute:

Purchases of \$0-3,000.00	DO NOT REQUIRE BIDS
Purchases of \$3,001.00-24,999.00	REQUIRE COMPETITIVE BIDS, BUT DO NOT HAVE TO BE ADVERTISED.
✓ Purchases of \$25,000.00 or Higher	REQUIRE COMPETITIVE BIDS, ADVERTISED IN AT LEAST TWO DAILY NEWSPAPERS AT LEAST FIVE DAYS BEFORE BID OPENING.

CB The sub-grantee will be required to demonstrate that affirmative steps are taken to assure that small and minority firms, women's business enterprises and labor surplus area firms are used when possible as sources when procuring supplies, equipment, construction and services related to the project.

CB **VII E-Verify Filing Requirement**

For those grants which provide services, the sub-grantee must certify their business status in accordance with RS MO 285.525 (Attachment C). Sub-grantee and subcontractors will be required to submit the appropriate form and notarization before project costs are incurred.

CB **VIII Missouri State Vendor Sales/Use Tax Compliance**

In order for MARC SWMD to be able to contract with you, you must verify that you are either registered to collect sales and/or use tax in Missouri, or you are not making retail sales of tangible personal property or providing taxable services in Missouri.

The sub-grantee agrees to provide this verification by submitting an official "Vendor No Tax Due" certificate issued by the Missouri Department of Revenue. The Department of Revenue will issue the "Vendor No Tax Due" certificate if you are properly registered to collect and have properly remitted sales and/or use tax, or if you are not making retail sales in Missouri. **If you do not provide the "Vendor No Tax Due" certificate prior to submitting or, with your first invoice, it may render your invoice for reimbursement unacceptable.**

A "Vendor No Tax Due" certificate can be obtained by completing and submitting Request For Tax Clearance, Form 943, to the Missouri Department of Revenue, Division of Taxation & Collection. This form is available at <http://dor.mo.gov/forms/943.pdf>. Make sure you check item 4 in the Reason for Request section.

CB **IV Insurance**

- Sub-grantee agrees to maintain
- \_\_\_\_\_ commercial general liability; \$500,000 per claim up to \$1,000,000 per occurrence;
- \_\_\_\_\_ automobile liability; \$1,000,000 combined single limit;
- \_\_\_\_\_ worker's compensation in accordance with the statutory limits and employers liability \$500,000;
- \_\_\_\_\_ professional liability, if applicable: \$1,000,000;

and has such in full force and effect to protect from claims under Worker's Compensation Acts, claims for damages for personal injury or death, and for damages to property arising from the negligent acts, errors, or omissions of



Sub-grantee and its employees, agents, and officers in the performance of this Agreement, including, without limitation, risks insured against in commercial general liability policies. **All such policies shall name the MARC SWMD as an additional insured for the period of the grant project.**

CB  
Sub-grantee shall, upon request at any time, provide the MARC Solid Waste Management District with certificates of insurance evidencing such policies and confirming that they are all in full force and effect as required by this Agreement.

CB  
As between Sub-grantee and the District, the parties waive any and all rights against each other, including their rights of subrogation, for damages covered by property insurance during and after the completion of this Agreement.

### ***V Indemnification***

CB  
To the extent permitted by law, the Sub-grantee expressly agrees to hold and save harmless, defend and indemnify the MARC SWMD and MARC, its officers, agents, servants and employees for liability of any nature (including, without limitation, reasonable attorneys' fees) related to or arising from (i) a breach of this Agreement by Sub-grantee, (ii) the Services provided under this Agreement by Sub-grantee (iii) any act or omission of Sub-grantee or of any employee or agent of Sub-grantee or (iv) any claim that the Sub-grantee Content or the Custom Content infringes any Intellectual Property right of any third party.

### ***VI Project Income***

CB  
The sub-grantee is encouraged to earn income to defray program costs. Revenues generated as a result of grant funds will be added to the match funds committed to the project and shall be used for the purposes of the project identified in this grant assistance agreement. For reference see F (2) (b) of the General Terms and Conditions, Attachment 2.



**Budget Form**

A budget form duplicated on standard spreadsheet software and identical in format may be submitted in place of this document.

BUDGET CATEGORY	NOTES	REQUESTED FUNDS	MATCH FUNDS	MATCH IN-KIND	TOTAL
<b>PERSONNEL</b>					
Employee 1	Salary \$13.0048 X 811 Hrs. No benefits		\$10,547		\$10,547
Employee 2					
Employee 3					
Fringe					
Training					
Other					
<b>PROFESSIONAL SERVICES</b>					
Consultants					
Bulk Mailings					
Printing					
Subcontractors					
Other					
<b>EQUIPMENT</b>					
Computer Hardware					
Machinery					
Vehicles					
Copier					
Other	Containers	\$42,189			\$42,189
<b>SUPPLIES</b>					
Computer Software					
Paper					
Miscellaneous					
Other					
<b>OTHER</b>					
Rent					
Utilities					
Phone					
Miscellaneous					
<b>TOTAL BUDGET</b>		\$42,189	\$10,547	0	\$52,736
<b>PERCENTAGE OF TOTAL</b>		80%	20%		100%



- 3.6a Business Type:** Local Government
  
- 3.6b Experience:** The City operated the South Recycling Center for 28 years and the North Recycling Center for 8 years. The project manager has been active in the solid waste industry for 25 years.
  
- 3.6c Services or Products:** The City used to operate drop-off public recycling centers from the late 1990s until 2015. The original center was open for approximately 28 years. The City's second facility (North Recycling Center) was open for approximately 8 years.
  
- 3.7a Other Organization(s) with Similar Services:** The City of Kansas City offers access to a recycling center at 5200 E Red Bridge Rd in Kansas City, Missouri. This is the closest facility to the Lees Summit. No other public drop-off facilities exist inside or near the City of Lees Summit. Over the past 18 months, over 10 public drop-off facilities have closed.
  
- 3.7b Project Competes or Collaborates?** The proposed project will complement existing efforts to collect recyclable materials.
  
- 3.8 Source of Materials:** Feedstock will be collected from local residents and businesses. The local selected vendor will utilize Midwest Shredding located at 2900 E 147th Street Kansas City, MO to process materials.
  
- 3.9 Promotion:** The City will notify the media via a press release upon re-opening the Center. Additional information will be disseminated through the following media outlets:  
 City's Website  
 Social Media Accounts  
 RecycleSPOT.org Website  
 MARCs RAPIO Contacts  
 Water Department Mailing Fliers  
 Local Hauler Social Media Posts
  
- 3.11 Key Staff Qualifications:** Chris Bussen will be the project manager for the re-opening of the North Recycling Center. Mr. Bussen has managed both recycling centers that the City of Lees Summit used to operate. He has 8 years managing the two Lees Summit Centers. He also used to manage Jackson County's Rotating Recycling Centers in the past. The County centers provided services for three cities in Eastern Jackson County.
  
- 3.12 New Jobs Created:** The Center will employ .6 FTE. One part-time attendant will staff the facility for 24 hours per week. The City will fund the Center after the project year is over.
  
- 3.13 Permits and Licenses:** The facility is already in existence, even though it is closed. There will not be any permits required to re-open the facility.

**Workplan and Timetable**

Task Description	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Bidding for line items over \$3,000	✓	✓										
Submit quarterly reports			✓			✓			✓			✓
Submit final reports												✓
Sign security Interest Agreement (for equipment over \$5,000)	✓											
Develop implementation Plan with Vendor			✓									
Hire recycling center attendant		✓	✓									
Monitor activity and manage issues			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓





**MISSOURI DEPARTMENT OF NATURAL RESOURCES**  
**Solid Waste Management Program**  
**General Terms and Conditions**  
**Attachment 2**

**I. Administrative Requirements**

These General Terms and Conditions include requirements that are especially pertinent to solid waste management district grant awards made by the Missouri Department of Natural Resources (MDNR), Solid Waste Management Program (SWMP) to Missouri's Solid Waste Management Districts (Districts). These General Terms and Conditions do not set out all of the provisions of the applicable laws and regulations, nor do they represent an exhaustive list of all requirements applicable to this award. A certain number of these requirements are emphasized here because they are frequently invoked and their violation is of serious concern. Definitions of terminology used within these General Terms and Conditions are set forth in Section III of this document.

These General Terms and Conditions apply to district grant applications approved and signed by the District's Executive Board for use of Solid Waste Management Funds (SWMF). In addition to these terms and conditions, the District and District Subgrantee must comply with all governing requirements of the District's subgrant award.

**A. Use and Award of Solid Waste Management Funds**

1. The District shall address the recycling, reuse and handling of aluminum containers, glass containers, newspapers, textiles, whole tires, plastic beverage containers and steel containers in its solid waste management plan consistent with 260.250 to 260.345 RSMo.
2. All district funds shall be used for implementation of a solid waste management plan, district operations, solid waste management projects, such as, solid waste management, waste reduction, recycling and related services as approved by the District's Executive Board and the SWMP.
3. District grant or subgrant funds shall be awarded by the District for projects that will implement the District's approved solid waste management plan. These funds shall be used for solid waste management projects as finally approved for funding by the SWMP. However, no district grant or subgrant funds shall be made available for incineration without energy recovery and in no case shall a District's Executive Board perform solid waste management projects that compete with a qualified private enterprise.
4. District grant or subgrant award priorities may be established by the District using the following criteria:
  - a. Grants to facilities of organizations employing individuals with disabilities under 178.900 to 178.960 RSMo or 205.968 to 205.972 RSMo;
  - b. Grants for proposals that will promote and maximize the sharing of district resources;
  - c. Grants for proposals which provide methods of recycling and solid waste reduction; and
  - d. All other grants.
5. A District may elect to use more than one fiscal year's allocation of funds to finance a project.
  - a. Prior to the SWMP encumbering funds for this project, the District shall submit a request to the SWMP for approval that provides justification for the project and shall include financial supporting documentation.
  - b. Following the SWMP's approval, the District may request that these funds be disbursed to the District.



- c. All interest income earned by the District shall be obligated to this project until the total amount needed for the project is reached.
6. District grant or subgrant funds shall not be awarded for a project whose applicant is directly involved in the evaluation and ranking of that particular project.
  7. A District's Executive Board shall not disqualify an applicant from receiving a grant due to the existence of a familial relationship between the applicant and any member of the Solid Waste Management District Executive Board within the fourth degree by consanguinity or affinity.
    - a. For applicants with a familial relationship with any member of the District Executive Board within the fourth degree by consanguinity or affinity, the District Executive Board shall only approve such grant application if approved by a vote of two-thirds of the District Executive Board.
    - b. If an Executive Board Member does not abstain from a vote to award a Solid Waste Management District Grant to an applicant providing solid waste management services who is a relative within the fourth degree by consanguinity or affinity, the Executive Board Member shall forfeit membership on the District Executive Board and the District Council.
  8. District grant or subgrant funds shall not be awarded for a project that displaces existing resource recovery services, unless the District demonstrates how the proposed project will result in improved or expanded services.
  9. District grant or subgrant funds shall not be awarded for a project that collects solid waste for disposal on a continuous basis.
  10. Any allocated district moneys remaining in any fiscal year due to insufficient or inadequate grant applications shall be reallocated for grant applications in subsequent years or for solid waste management projects other than district operations, including a District's next request for Solid Waste Management Project proposals. Any allocated district moneys remaining after a period of five years shall revert to the credit of the Solid Waste Management Fund created pursuant to 260.330 RSMo.
  11. District grant or subgrant funds may be withheld or may be required to be repaid to the SWMP if the District has an unresolved audit with significant findings or questioned costs.
  12. Any funds allocated to a District that are not requested by the District pursuant to the procedures outlined in 10 CSR 80-9.050, within twenty-four (24) months of the end of the state fiscal year in which the funds were allocated may be reallocated by the SWMP pursuant to section 260.335.2, RSMo.
  13. Special Terms and Conditions may apply to grantees or subgrantees considered "high risk" in accordance with 260.335.5, RSMo.
    - a. The SWMP, in conjunction with the Solid Waste Advisory Board (SWAB), shall periodically review the performance of Districts and District Subgrantees that have had significant findings or questioned costs.
    - b. The SWMP may determine and declare that a District or District Subgrantee is "high risk", if the District or District Subgrantee:
      - i. has a history of unsatisfactory performance;
      - ii. is not financially stable;
      - iii. has a management system that does not meet the management standards set forth in these General Terms and Conditions;

- iv. has not conformed to terms and conditions of previous awards; or
  - v. is otherwise not responsible.
- c. If SWMP determines that an award will be made to a "high risk" District or District Subgrantee, then special conditions and/or restrictions shall be set to correspond to the high risk declaration and shall be included in the award as a separate attachment.
- d. Special conditions or restrictions may include:
- i. authorizing payment on a reimbursement basis only;
  - ii. withholding authority to proceed to the next phase until receipt of evidence of acceptable performance within a given funding period;
  - iii. requiring additional, more detailed financial reports;
  - iv. requiring additional project monitoring;
  - v. requiring the grantee or subgrantee to obtain technical or management assistance; or
  - vi. establishing additional requirements to obtain prior approvals from SWMP and/or the District, where appropriate.
- e. If the SWMP declares a District or District Subgrantee to be high risk and prior to imposing special conditions or restrictions, the SWMP will notify the District or District Subgrantee as early as possible, in writing, of:
- i. the nature of the special conditions/restrictions;
  - ii. the reason(s) for imposing the special conditions/restrictions;
  - iii. the corrective actions that must be taken to abate the problems that gave rise to the special conditions/ restrictions and the time allowed for completing such corrective actions; and
  - iv. the method of requesting reconsideration of the special conditions/restrictions imposed.

14. In consideration for the ability to utilize SWMF monies, the District and the District Subgrantee agree to comply with all applicable terms and conditions of the Financial Assistance Agreement (FAA) and any documents incorporated therein, including these General Terms and Conditions. Districts must incorporate the General Terms and Conditions into the District's Subgrantee FAAs and any documents incorporated therein and either provide copies or make copies available to the District's Subgrantees.

#### B. Grants, Projects and Budget Periods

1. District Operations: The District's grant and budget period shall cover up to a one (1) year time period, unless otherwise approved by the SWMP.
2. Plan Implementation and District Subgrantee Projects:
  - a. Districts are to assign project and budget periods for district subgrants to allow for up to a two (2) year time period for project completion.
  - b. A maximum of one (1) six (6)-month extension may be allowed beyond the two (2) year completion period when approved by the District's Executive Board. All project and budget period extensions must be documented in executive board meeting minutes with a copy of the extension and executive board meeting minutes provided to SWMP.
  - c. Any extension of the project or budget periods beyond two (2) years and six (6) months must have prior approval of the District's Executive Board and the SWMP.



3. Grant and Project Approval Process:

- a. Districts shall submit to the Department the appropriate forms associated with the grant application and any supporting information to verify that appropriate public notice procedures were followed, that grant proposals were reviewed and ranked by the District and that only eligible costs as set forth in regulations are to be funded.
- b. Within thirty days of receipt, the Department shall review the grant application. If the Department finds deficiencies or needs more information to evaluate the grant application, the Department shall notify the District in writing.
- c. Within thirty days of receipt of notice from the Department, the District shall respond to the Department's request and submit any additional information requested.
- d. Within thirty days of receipt of the additional information requested, the Department shall either approve or deny the grant application. If the Department fails to act, the grant application shall be deemed approved.

C. Method of Payments and Disbursements

1. The District must be in compliance with all reporting requirements to receive disbursements.
2. Disbursements from SWMP to the District.
  - a. For District Operations. Funds allocated to the District are disburseable to the District by the SWMP for all eligible and approved expenses for performing the agreed upon scope of services identified in the approved application, required attachments, and supporting documentation, if applicable. In order to receive funds, the District shall submit original invoices requesting disbursements to the SWMP as agreed upon per the Attachment 1 of the approved and fully executed FAA. For Districts entering into contracts for district operations, no disbursements will be made for such expenditures incurred before the SWMP approval date or after the closing budget date. Budget closing dates can be extended when prior approval has been granted by the SWMP.
  - b. For Plan Implementation Projects. Funds allocated to the District are disburseable to the District by the SWMP for all eligible and approved expenses for performing the agreed upon scope of services identified in the approved application, required attachments, and supporting documentation, if applicable. In order to receive funds, the District shall submit original invoices for payment to the SWMP as agreed upon per the Attachment 1 of the approved and fully executed FAA. No disbursements will be made for district plan implementation expenditures incurred before the SWMP approval date or after the closing budget date. Budget closing dates can be extended when prior approval has been granted by the SWMP.
  - c. For District Subgrantee Projects. Funds are disburseable to the District by the SWMP for all eligible and approved expenses as specified in the agreed upon scope of services identified in the approved district subgrantee project application(s). In order to receive funds, the District shall submit original invoices and a copy of the fully executed District Subgrantee FAAs supporting the amounts requested from the SWMP, as agreed upon per the Attachment 1 of the SWMP's FAA. No disbursements will be made for district subgrantee project expenditures incurred before the SWMP approval date or after the district subgrantee project closing date. Project closing dates can be extended when prior approval has been granted by the District's Executive Board and SWMP as provided for in section B., above.
- d. All invoices submitted by the Districts to the SWMP must include:
  - i. the project name, project identification number, and the amount of allocation funds requested for disbursement for each project;



- ii. the award amount set forth in the fully executed FAA by the District or District's Subgrantee; and
  - iii. copies of fully executed FAAs for each project for which the District is requesting funds, as attachments.
- e. All requests for disbursement must include the following certification signed by the authorized district official: I certify that to the best of my knowledge and belief the data above are correct and that all outlays were made or will be made in accordance with the grant or subgrant and that payment is due and has not been previously requested.
- f. No disbursements will be made for costs incurred before or after the project's approved budget period or for costs incurred prior to the approval of the project by the SWMP.
- g. No disbursements will be made for expenditures incurred after the closing budget period unless a budget time period extension has been granted. (See section B., above.)
3. Payments from the District to the District Subgrantee
- a. The approved and fully executed FAA between the District and the District Subgrantee shall include:
- i. the District issued sequential project identification number;
  - ii. the District Subgrantee's name;
  - iii. the project name;
  - iv. the project start and completion dates;
  - v. a breakdown of award amount from allocation, carryover, and interest;
  - vi. the Subgrantee and District authority signatures;
  - vii. an executive summary;
  - viii. project tasks;
  - ix. a budget summary/notes contained in the district subgrantee project application;
  - x. a requirement that the District will retain 15% of the amount to be paid to the District Subgrantee until the District Executive Board gives its final approval of the District Subgrantee's final report and final accounting of project expenditures;
  - xi. a requirement that records be retained for 3-years;
  - xii. for a minimum 5 year security interest in buildings, building site improvements, or equipment costing five thousand dollars or more and purchased, in whole or in part, with SWMF monies; and
  - xiii. a copy of the District's Special and/or General Terms and Conditions, if referred to.
- b. Invoices submitted to the District by the District's Subgrantee must include:
- i. the award amount provided in the fully executed FAA; and
  - ii. the project name, project identification number, and the amount of funds being requested for reimbursement.
- c. All requests for disbursement must include the following certification signed by the authorized District Subgrantee official: I certify that to the best of my knowledge and belief the data above are correct and that all outlays were made or will be made in accordance with the subgrant and that payment is due and has not been previously requested.
- d. No reimbursements will be made for costs incurred before or after the project's approved budget period by the District or for costs incurred prior to the approval of the project by the SWMP.

- e. No reimbursements will be made for expenditures incurred after the closing budget period unless a budget time period extension has been granted (See section B., above).
- f. Where the District requires match, payments under non-construction subgrants are to be based on the subgrant sharing ratio as applied to the total project cost. Each invoice submitted to the District must be based on the subgrant sharing ratio unless the District's subgrant specifically provides for advance payments.
- g. Advance payments may only be made upon a showing of good cause or special circumstances, as determined by the SWMP. Advance payments will only be made on a monthly basis to cover estimated expenditures for a 30-day period or as otherwise agreed. The SWMP will not approve the District advancing more than 25% of the total amount of the subgrant unless the Subgrantee demonstrates good cause.
- h. The District shall retain 15% of the funds awarded to the project until a District Subgrantee's final report has been provided to the District and the District's Executive Board approves the project's final report and final accounting of expenditures.
- i. The District has the option of making payment directly to a vendor instead of reimbursing the District Subgrantee. In order for payment to be made directly to a vendor, the District's Executive Board must approve such direct payment for goods or services being purchased by the District Subgrantee and the goods or services must have been actually received by the District Subgrantee. The District's Executive Board is nevertheless still bound by the requirement to retain 15% of the project funds until it approves the final report and final accounting of expenditures submitted by the District Subgrantee.
- j. The District's Executive Board and the SWMP may approve waiving of the 15% retention upon written request by the District Subgrantee.

D. Withholding of District Funds

1. The SWMP may withhold or reduce district grant awards if the District is not in compliance with:
  - a. The Solid Waste Management Law and regulations;
  - b. Planning requirements pursuant to section 260.325, RSMo;
  - c. All General and Special Terms and Conditions of the District's FAA;
  - d. Audit requirements as set forth in 260.325.10 RSMo and as detailed herein at Subsection J.5 and Section K;
  - e. Significant audit findings and questioned costs resolution plans; and
  - f. All reporting requirements and plan revisions detailed in 10 CSR 80-9.050.
2. The SWMP may immediately withhold funds for significant audit findings. For other situations for which the SWMP determines the withholding of funds would be appropriate, the SWMP shall provide written notice of noncompliance prior to such withholding, and such notice shall allow at least thirty (30) days for the District to comply with the requirements contained in the SWMP's notice of noncompliance.
3. The SWMP may withhold funds for failure to timely submit reports. To determine whether a report has been timely submitted, the SWMP shall use the postmark date as the date submitted by the District. If no postmark date is available, the SWMP shall use the date the



SWMP receives the report. Withholdings for failure to timely submit reports shall be done as follows:

- a. If a District fails to submit to the SWMP a complete quarterly report, annual report, or plan revision (i.e., assessment inventory) by the due date indicated in the SWMP's notice of noncompliance, the SWMP shall withhold and reallocate funds equal to one percent (1%) of the District's most recent quarterly allocation for each day past the notice due date.
- b. Extensions from the required due dates are allowed if the following provisions have been met:
  - i. The District has requested an extension prior to the notice due date and the SWMP has granted that extension; and
  - ii. The District has submitted complete reports by the dates indicated in previous SWMP approved extensions.
4. The SWMP may withhold disbursements for costs it determines to be inappropriate or unnecessary. In such event, the District shall repay the SWMP or the SWMP shall withhold from the District's allocation the amount of the costs, following the SWMP's written request.
5. Funds withheld or repaid by a District shall be reallocated by the SWMP to all Districts that, at the time of the reallocation, are in compliance with all requirements and have addressed all deficiencies identified in a District's audit to the satisfaction of the SWMP. The reallocation shall be made to Districts in accordance with the allocation criteria pursuant to section 260.335, RSMo.

#### E. Recordkeeping

1. The District or District Subgrantee shall retain financial records, supporting documents, and other records pertinent to the subgrant for a period of three years starting from the date of submission of the final financial status report.
2. If any litigation, claim, negotiation, audit, or other action involving the records has been initiated before the expiration of the 3-year period, the District or District Subgrantee shall retain records until completion of the action and resolution of all issues that arise from it, or until the end of the regular 3-year period, whichever is later.
3. The SWMP and the Missouri State Auditor's Office and any of their authorized agents, shall have the right of access to any pertinent books, documents, papers, or other records of the District or District Subgrantees which are pertinent to the subgrant, in order to make audits, examinations, excerpts, and transcripts and the SWMP shall have the right to inspect any and all such documents and records so long as they are maintained by the District or the District Subgrantee, regardless of whether the requirement to maintain those records has expired.
4. For equipment and building or site improvement records the 3-year retention period begins from the date of the disposition, replacement, or transfer of the asset at the direction of the SWMP or District.
5. The District will include these provisions for compliance with the record retention requirements of these General Terms and Conditions in every subgrant.
6. The District's records shall be maintained as public records pursuant to Chapter 610, RSMo.

#### F. Program Income

1. The District or District Subgrantee is encouraged to earn income to defray program costs.
2. Program income shall be deducted from outlays (i.e., expenditures) that may be both district grant funds and non-district grant funds as described below, unless the District Grant regulations at 10 CSR 80-9.050 or the FAA specify another alternative (or a combination of alternatives). In specifying alternatives, the SWMP may distinguish between income earned by the District and income earned by District Subgrantees and between the sources, kinds, or amounts of income. When the SWMP authorizes use of the alternatives in paragraphs 2.b. and 2.c. of this section, program income in excess of any limits stipulated shall also be deducted from outlays.
  - a. Deduction. Ordinarily program income shall be deducted from total allowable costs to determine the net allowable costs. Program income shall be used for current costs unless the SWMP authorizes otherwise. Program income which the District or District Subgrantee did not anticipate at the time of the award shall be used to reduce the SWMP and District contributions rather than to increase the funds committed to the project.
  - b. Addition. With the prior written approval of the SWMP, program income may be added to the funds committed to the FAA by the SWMP and the District. The program income shall be used for the purposes and under the conditions stated in the FAA.
  - c. Cost sharing or matching. With the prior written approval of the SWMP, program income may be used to meet the cost sharing or matching requirement of the FAA, if applicable. The amount of the district grant award remains the same.
  - d. Program income after the award period.
    - i. Program income generated from project activities occurring after the expiration of the FAA between the District and District Subgrantee remains with the District Subgrantee.
    - ii. Program income generated from project activities funded from district grant funds occurring after the expiration of the District's FAA with the SWMP must be expended in compliance with 10 CSR 80-9.050.

#### G. Interest Income

1. Expenditure of interest income earned on district grant agreement funds must be in compliance with 10 CSR 80-9.050.
2. Interest income earned from grant monies may be used to fund costs as long as those costs are reimbursable under the provisions established in 10 CSR 80-9.050 and directly benefit the District Subgrant Program and are budgeted and spent as part of a subgrant approved by the SWMP.
3. The expenditure of interest income, like other grant expenditures, must be reported to the SWMP quarterly on forms provided by the SWMP.

#### H. Match or Cost Share Funding

1. At this time, the SWMP does not require Districts to match state funds allocated pursuant to 260.335, RSMo.
2. The District may elect to require a matching share from their District Subgrantees. The matching share will usually be prescribed as a minimum percentage. In-kind (non-cash)



contributions are allowable project costs when the in-kind contributions directly benefit and are specifically identifiable to the project or program. Any in-kind match must be assigned a fair market value stated in dollars and the rationale used to calculate the value must be provided. Neither costs nor the values of third party in-kind contributions count towards satisfying a cost sharing or matching requirement of a subgrant agreement if such costs have been or will be counted towards satisfying a cost sharing or matching requirement of another SWMF subgrantee agreement, a SWMF procurement contract, or any other award of SWMF funds. MDNR funds from another MDNR grant or subgrant shall not count towards satisfying a cost sharing or matching requirement of a district subgrant agreement. Any match funds are considered state funds and may only be used for purposes allowed by 10 CSR 80-9.050.

#### I. Financial Management Systems

The financial management systems used by Districts and District Subgrantees must be in accordance with generally accepted accounting principles and meet the following standards:

1. **Financial Reporting.** Accurate, current, and complete disclosure of financial results of financially assisted activities must be made in accordance with the financial reporting requirements of the subgrant;
2. **Accounting Records.** Records shall be maintained that adequately identify the source and use of funds provided for financially assisted activities. These records must contain information pertaining to subgrant awards and authorizations, restrictions on use of funds, obligations, unobligated balances, assets, liabilities, outlays or expenditures, and income, permit preparation of reports required by the SWMP, permit the tracing of funds to a level of expenditures adequate to establish that such funds have not been used in violation of the restrictions and prohibitions of applicable statutes;
3. **Internal Control.** Effective control to prevent loss or misuse and accountability shall be maintained for all District and District Subgrantee cash, real and personal property, and other assets. Subgrantees must adequately safeguard all such property and must assure that it is used solely for authorized purposes;
4. **Budget Control.** Actual expenditures or outlays must be compared with budgeted amounts for each subgrant;
5. **Allowable Costs.** Allowability of costs shall be determined in compliance with the Solid Waste Management Law and implementing rules as well as the cost principles established in Office of Management and Budget, 2 CFR Chapter I and chapter II, Parts 200, 215, 220, 225 and 230, Uniform Administrative Requirements, Cost Principles and Audit Requirements for Federal Grants. The District Grant rules and regulations at 10 CSR 80-9.050, and the subgrant scope of work will be followed in determining the reasonableness, allowability, and allocability of costs. The District and its Executive Board are responsible for ensuring proper use of the SWMF. Districts will repay the amount of any improperly expended funds to the SWMP.
6. **Eligible and Ineligible Costs.** Eligible and ineligible costs may vary depending on the services, materials, and activities being performed. The District shall refer to 10 CSR 80-9.050(2)(D) for specifics for district fund use. Items not listed in 10 CSR 80-9.050(2)(D) or in sections (3)(A) District Operations, Eligible Costs and (4)(B) Plan Implementation Projects, Eligible Costs may be allowed with prior approval of the District's Executive Board and SWMP;
7. **Source Documentation.** Accounting records must be supported by such source documentation as cancelled checks, paid bills, payrolls, time and attendance records, contract and subgrant award documents. Appropriate electronic verification of cleared

checks may also be considered source documentation in lieu of actual cancelled checks. The documentation must be made available by the District or District Subgrantee at the SWMP's request; and

8. The District shall have procedures in place to minimize the time lapsed between money disbursed by the SWMP and money spent by the District or District Subgrantee.

**J. Reporting of Program Activities**

The District shall submit to the SWMP:

1. **District Annual Report.** The District shall submit within 120 days following the close of the just completed state fiscal year the following information:
  - a. Goals and accomplishments;
  - b. Types of projects and results during the fiscal year;
    - i. Projects resulting in tonnage diversion from landfills. Include the number and cost of the projects, tons diverted, and average cost per ton diverted. Identify separate statistics for items banned and not banned from landfills;
    - ii. Projects not resulting in tonnage diversion including the number and cost of projects; and
    - iii. Projects closed.
  - c. A description of the grant proposal evaluation process; and
  - d. District council and executive board members: list names along with the organization represented.
  - e. This information may be submitted using the ReTrac Connect System.
2. **Quarterly Report(s).** On quarterly status report forms provided by the SWMP or using the ReTrac Connect System, the District shall submit the following information to the SWMP thirty (30) days after the end of each state fiscal year quarter (Note: State fiscal year quarters end on September 30, December 31, March 31, and June 30. Quarterly reports are due on: October 30, January 30, April 30, and July 30 respectively.):
  - a. **Project status.** For each plan implementation and district subgrantee project in progress, the District shall provide:
    - i. The details of progress addressing the project tasks outlined in the plan implementation application or subgrantee financial assistance agreement;
    - ii. Problems encountered in project execution;
    - iii. Budget adjustments made within budget categories, with justifications;
    - iv. The weight in tons of waste diverted for each type of recovered material utilized in the project for the most recent quarter following the implementation of the diversion activity or other measurable outcomes, as appropriate;
    - v. A copy of an amended District Subgrantee FAA , if appropriate;
    - vi. Other information necessary for proper evaluation of the progress of the projects; and
    - vii. In the event that a time period for a project is less than a full year, only quarterly information appropriate to the project time period need be included in the district report.



- b. District Operations Status: For the district operations status report, the District shall provide:
    - i. The details of progress in completing the district operations tasks outlined in the district operations application;
    - ii. Problems encountered in district operations;
    - iii. Required budget amendments; and
    - iv. Other information necessary for proper evaluation of district operations.
  - c. Project Financial Summary. For each grant (district operations, plan implementation and district subgrantee project) the District shall provide:
    - i. The original award amount taken from the accrued allocation held by the SWMP;
    - ii. Any district carryover used to fund a project or district operations;
    - iii. Any accrued interest income used to fund a project or district operations;
    - iv. Total grant award for that project or district operations. (The total J.2.c.i, J.2.c.ii, and J.2.c.iii);
    - v. Cumulative amount of District disbursement of funds to each District Subgrantee or to the District during that reporting period;
    - vi. Balance of that district subgrant project or district operations during that reporting period;
    - vii. Any carryover funding held by the District that has not been obligated for projects or district operations; and
    - viii. Any accrued interest income held by the District that has not been obligated for projects or district operations.
3. Final Project Reports. The District shall submit to the SWMP a final report for each plan implementation or district subgrantee project that shall contain the same information as described for project status in J.2.a. as well as a comparison of actual accomplishments to the goals established and a description of how goals were met, not met, or were exceeded. Final Project Reports shall be provided along with the next quarterly report submitted by the District (i.e., thirty (30) days after the end of the next state fiscal year quarter.).
4. Assessment Inventory: Pursuant to section 260.325, RSMo, the District Executive Board shall review the District's recycling and solid waste management planning activities at least every twenty-four (24) months for the purpose of evaluating the District's progress in expanding and improving waste reduction and recycling efforts within their District and shall submit revisions to planning information to the Department and District Executive Board or Council. At a minimum, the District Executive Board shall submit revisions by April 1 of each odd numbered year that include, but are not limited to:
- a. An inventory of solid waste services in the planning area on forms or through the ReTrac Connect System provided by the SWMP. Service information shall include:
    - i. the solid waste collection services available to residential and commercial customers;
    - ii. the recycling services available to residential and commercial customers;
    - iii. the services available for management of items banned from Missouri landfills, pursuant to section 260.250, RSMo; and
    - iv. the services available for management of household hazardous wastes.
  - b. Pursuant to section 260.320.3, RSMo, a list of advisory boards, members of each and documentation of meetings; and

- c. A description of illegal dumping identification, public education, and household hazardous waste activities and programs established by the District Executive Board, pursuant to section 260.320.3, RSMo.
5. Financial Audit Requirements:
- a. Based upon the financial assistance amounts as set forth in this paragraph, the District's Executive Board shall have their records audited by a certified public accountant or firm of certified public accountants pursuant to section 260.325, RSMo. Districts receiving more than eight hundred thousand dollars of financial assistance annually shall have an annual independent financial statement audit, Districts receiving between two hundred fifty thousand dollars and eight hundred thousand dollars annually shall have a biennial independent financial statement audit for the two-year period. All other Districts shall be monitored biennially by the Department and based upon the findings within the monitoring report, may be required to arrange for an independent financial statement audit for the biennial monitoring period under review. The due date for audit or monitoring reports will be within one hundred eighty (180) days of the close of the District's fiscal year.
  - b. The District's Executive Board shall address all deficiencies identified in a District's audit to the satisfaction of the SWMP. Districts failing to adequately address deficiencies identified in the audit may have funds withheld or may be required to repay any and all disbursements of funds in accordance with 10 CSR 80-9.050(9) Withholding of District Funds.
  - c. For questioned costs that the SWMP determines to be inappropriate or unnecessary, the District shall repay the SWMP or the SWMP shall withhold from the District's allocation the amount of the cost.
  - d. The SWMP may withhold or reduce district grant awards until the District is in compliance with the audit requirements, and has resolved significant audit findings and questioned costs.
  - e. The basic financial statements and required supplementary information shall be audited and provide, at a minimum, for all fund types and account groups in accordance with generally accepted government auditing standards and include the following:
    - i. An Independent Auditor's Report on the Financial Statements and Schedule of Receipts and Expenditures of State Awards.
    - ii. Management's Discussion and Analysis (MDA) providing an analytical overview of the district's financial activities.
    - iii. Basic Financial Statements
      - 1) With statements identifying, at a minimum, the following accounts:
        - a) Assets: cash, investments, receivables, fixed assets.
        - b) Liabilities: accounts payable, deferred grant revenue, deferred interest revenue.
        - c) Net Assets
        - d) Revenues: grant revenue, program income, interest revenue, and other revenue.
      - 2) With the following minimum statements:
        - a) Statement of Net Assets
        - b) Statement of Activities
        - c) Fund Financial Statements
      - 3) Notes to the Financial Statements
    - iv. Schedule of Receipts and Expenditures of State Awards



- 1) The schedule for each subgrant including district operations shall include, at a minimum, subgrant period; subgrant project number; subgrantee name; subgrant award amount; prior period subgrant funds expended; current period subgrant amount expended; program income earned and expended, as applicable; interest income earned and expended, as applicable; subgrant amount remaining available; program income amount remaining available; and unobligated amount by source as identified by the District's Executive Board.
- 2) Notes to the Schedule of Receipts and Expenditures of State Awards
- v. Report on Internal Controls over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with Government Auditing Standards, issued by the Comptroller General of the United States.
- vi. Schedule of Findings and Questioned Costs, if applicable.
- vii. Corrective Action Plan, if applicable.
- viii. Summary Schedule of Prior Audit Findings and Questioned Costs.

6. Performance Reports:

- a. The SWMP pursuant to 260.335.5 RSMo may require the District Grantee or Subgrantee to submit periodic reports and such other data as are necessary, both during the grant or subgrant period and up to five years thereafter to ensure the Grantee or Subgrantee complies with the specific goals and implementation dates contained in their grant or subgrant application and that grantees or subgrantees shall be contractually obligated to fulfill same.
- b. The District Grantee or Subgrantee shall file quarterly program status reports during the grant or subgrant period including waste material diversion tonnage information, as established in the grant or subgrant application.
- c. The District Grantee or Subgrantee acquiring equipment from district grant funds shall thereafter provide an annual waste material diversion tonnage report for a period of up to four years after the expiration of the grant period, but no longer than a five year period in total. The annual waste material diversion tonnage report shall be due to the district from the grantee or subgrantee by September 30 of each year. The district shall be responsible for submitting all such annual waste material diversion tonnage reports for the applicable district to the SWMP along with the district's annual report.

K. Performance Audits and Other Examinations or Reviews

1. Performance Audits:

Subject to limitations caused by the availability of resources, the Department shall conduct a performance audit of grants to each district at least once every five years, or as deemed necessary by the Department based upon district grantee performance.

2. Other Examinations or Reviews:

- a. The SWMP or its designees have the right to conduct audits, examinations or reviews of the District or District Subgrantees at any time.
- b. Pursuant to 29.380 RSMo, the State Auditor's Office may conduct audits of Solid Waste Management Districts as he or she deems necessary.
  - i. The State Auditor's Office may request reimbursement from the District for the costs of conducting the audit.

- ii. If the State Auditor's Office requests such reimbursement, the Solid Waste Management District shall reimburse the State Auditor's Office for the costs of conducting the audit and the moneys shall be deposited in the Petition Audit Revolving Trust Fund created under section 29.230 RSMo.
- iii. Such reimbursement of State Auditor's Office audit costs shall be limited to two percent of the Solid Waste Management District's annual monetary allocation.

3. District Internal Control and Compliance:

Audits or examinations must confirm that records accurately reflect the operations of the District; the internal control structure provides reasonable assurance that assets are safeguarded, and the District or District Subgrantee is in compliance with applicable laws and regulations.

4. Corrective Action:

- a. A District or a District Subgrantee receiving SWMF which are audited shall address all deficiencies identified in the audit to the satisfaction of the SWMP and/or the District.
- b. The District's Executive Board shall address all deficiencies identified in a District's audit to the satisfaction of the SWMP. Districts failing to adequately address deficiencies identified in the audit may have funds withheld or may be required to repay any and all disbursements of funds in accordance with 10 CSR 80-9.050(9) Withholding of District Funds.

5. Unresolved Questioned Costs:

- a. For questioned costs that the SWMP determines to be inappropriate or unnecessary, the District shall repay the SWMP or the SWMP shall withhold from the District's allocation the amount of the cost.
- b. The SWMP may withhold or reduce district grant awards until the District is in compliance with the audit requirements and has resolved significant audit findings and questioned costs.

L. Budget and Scope of Work Revisions

The District and District Subgrantees are permitted to rebudget within the approved direct cost budget to meet unanticipated requirements. However, the District and District Subgrantees must request approval in writing to revise budgets and scopes of work under the following conditions:

- 1. For non-construction projects, the District and District Subgrantees shall obtain the prior approval of the SWMP, unless waived in writing by the SWMP, for cumulative transfers among direct cost categories, or, if applicable, among separately budgeted programs, projects, functions, or activities when the accumulative amounts of such transfers exceed or are expected to exceed 10% of the current total approved budget which includes current year grant award amount, carryover amount, and interest income amount, whenever the SWMP's share exceeds \$100,000.
- 2. For construction and non-construction projects, the District and District Subgrantees shall obtain prior written approval from the SWMP for any budget revision which would result in the need for additional SWMF monies.
- 3. For combined non-construction and construction projects, the District and District Subgrantee must obtain prior written approval from the SWMP before making any fund or budget transfer from a non-construction project to a construction project or vice versa.



4. The District or District Subgrantee under non-construction projects must obtain prior written approval from the SWMP whenever contracting out, subgranting or otherwise obtaining a third party to perform activities, which are central to the purpose of the award.
5. Changes to the scope of services described in the application and FAA must receive prior approval from the District or SWMP, as applicable. Approved changes in the scope of work or budget shall be incorporated by written amendment to the FAA with copies immediately provided to SWMP upon the obtaining of the District and District Subgrantee's official signatures.
6. To extend the subgrant past the original completion date, see section B., above.

#### M. Equipment

Equipment is defined in Section III below. The District and District Subgrantee agree that any equipment purchased pursuant to this agreement shall be used for the performance of services under the FAA during the term of the FAA. Notwithstanding anything to the contrary contained in this agreement, the equipment shall not be removed from the State of Missouri without the written approval of the SWMP.

The following standards shall govern the utilization and disposition of equipment acquired with District or District Subgrantee funds:

1. Title to equipment acquired under a grant or subgrant will vest with either the District or District Subgrantee upon acquisition.
  - a. Equipment shall be used by the District or District Subgrantee in the program or project for which it was acquired as long as needed, whether or not the project or program continues to be supported by SWMF. When no longer needed for the original program or project, the equipment may be used in other activities currently or previously supported by the SWMP or MDNR.
  - b. The District or District Subgrantee shall not transfer, sell, or pledge any assets including equipment purchased using SWMF monies during the term of the grant and for four years thereafter without first obtaining the prior written consent of the SWMP.
  - c. The District or District Subgrantee shall not sell, give away, relocate, or abandon the assets including equipment without the SWMP's prior written approval.
  - d. The District or District Subgrantee shall also make equipment available for use on other projects or programs currently or previously supported by the SWMP or other MDNR programs, if such use will not interfere with the work on the projects or program for which it was originally acquired. First preference for other use shall be given to other programs or projects supported by the SWMP or MDNR. User fees should be considered, if appropriate. This fee may be considered program income. See Section F, above.
  - e. The District or District Subgrantee must not use equipment acquired with SWMF to provide services for a fee to compete unfairly with private companies that provide equivalent services, unless specifically allowed by state law.
  - f. When acquiring replacement equipment, the District or District Subgrantee may use the equipment to be replaced as a trade-in or sell the equipment and use the proceeds to offset the cost of the replacement equipment, subject to the prior written approval of the SWMP or District.







- iii. The District hereby covenants that it will not transfer, sell, or pledge the SWMP's security interest in the equipment as collateral for any indebtedness without first obtaining the prior written consent of the SWMP. When the security interest is fully depreciated, the SWMP will, on written demand by the District, send the District a termination statement that the SWMP no longer claims a security interest in the financing statement (identified by file number).
  - iv. If the equipment owned by the District is purchased with SWMF monies and is required to be titled through the Missouri Department of Revenue (MDOR), the SWMP must be listed as a lien holder on said title. The District must provide the SWMP a clear title to be held until the security interest (lien) has been fully depreciated. In the case of more than one lien holder, the District must provide the SWMP with documentation that the SWMP is listed as a lien holder on the title.
  - v. If the equipment owned by the District is purchased with SWMP monies and is not required to be titled through MDOR, the District must provide the SWMP with documentation that the SWMP is listed as a lien holder on the certificate of title, UCC-1 form, or other security instrument.
  - vi. It is the responsibility of the District to obtain the proper forms and meet all requirements regarding the use of such forms. This documentation must be obtained within 30 days of purchase.
- b. The District Subgrantee hereby grants to the District, its successors, and assigns a security interest in all equipment purchased by the District Subgrantee for five thousand dollars or more, in whole or in part, with SWMF monies.
- i. The District Subgrantee hereby agrees to apply the funding provided for equipment to the purchase of the equipment specified in the FAA as negotiated with the District.
  - ii. The security interest in equipment owned by the District Subgrantee shall be equivalent to the amount of funding provided by the District for the purchase of the equipment. Unless the SWMP or District notifies the District Subgrantee in writing of a material breach of the FAA or any documents incorporated herewith, the security interest of the District may decrease at a rate of 20% per year, beginning one year from the purchase date shown on the equipment invoice.
  - iii. The District Subgrantee hereby covenants that it will not transfer, sell, or pledge the District's security interest in the equipment as collateral for any indebtedness without first obtaining the prior written consent of the District. When the security interest is fully depreciated, the District will, on written demand by the District Subgrantee, send the District Subgrantee a termination statement that the District no longer claims a security interest in the financing statement (identified by file number).
  - iv. If the equipment owned by the District Subgrantee is purchased with SWMF monies and is required to be titled through the MDOR, the District must be listed as a lien holder on said title. The District's Subgrantee must provide the District a clear title to be held until the security interest (lien) has been fully depreciated. In the case of more than one lien holder, the District's Subgrantee must provide the District with documentation that the District is listed as a lien holder on the title.
  - v. If the equipment owned by the District Subgrantee is purchased with SWMF monies and is not required to be titled through MDOR, the District's Subgrantee must provide the District with documentation that the District is listed as a lien holder on the certificate of title, UCC-1 form, or other security instrument.
  - vi. It is the responsibility of the District's Subgrantee to obtain the proper forms and meet all requirements regarding the use of such forms. This documentation must be obtained within 30 days of purchase.



4. When original or replacement equipment acquired by the District or District's Subgrantee with SWMF monies is no longer needed for the original project or program or for other activities currently or previously supported by the MDNR, the equipment shall be disposed of as follows:
  - a. Items of equipment with a current per-unit fair market value of less than five thousand dollars may be retained, sold or otherwise disposed of with no further obligation to the SWMP or the District.
  - b. For items of equipment with a current per unit fair market value of five thousand dollars or more:
    - i. When the equipment is District owned, the SWMP shall have a right to an amount calculated by multiplying the current market value or proceeds from sale by the SWMP's remaining interest in the equipment as established in M.3.a.ii of this agreement.
    - ii. When the equipment is owned by a District Subgrantee, the District shall have a right to an amount calculated by multiplying the current market value or proceeds from sale by the District's remaining interest in the equipment as established in M.3.b.ii of this agreement.
  - c. When appropriate disposition actions are not taken by the equipment owner:
    - i. For District owned equipment, the SWMP may direct the District on how to dispose of the equipment.
    - ii. For District Subgrantee owned equipment, the District may direct the District Subgrantee on how to dispose of the equipment.
  - d. If the equipment owner is put on notice by either the SWMP or the District that grant assets are not being used for the intended purpose, then:
    - i. For District owned equipment, the District shall not sell, give away, move, relocate, abandon or dispose of the asset without the SWMP's prior written approval.
    - ii. For District Subgrantee owned equipment, the District's Subgrantee shall not sell, give away, move, relocate, abandon or dispose of the asset without the District's prior written approval.

#### N. Buildings or Site Improvements

Buildings or site improvements is defined in Section III below. The District or District Subgrantee agrees that any buildings or site improvements purchased pursuant to this agreement shall be used for the performance of services under the FAA during the term of the FAA. Notwithstanding anything to the contrary contained in this agreement, the buildings or site improvements shall not be removed from the State of Missouri without the written approval of the SWMP.

The following standards shall govern the utilization and disposition of buildings or site improvements acquired with district funds:

1. Title to buildings or site improvements acquired under a grant will vest with either the District or District Subgrantee upon acquisition.
  - a. The funding provided for buildings or site improvements specified in the FAA as negotiated with the SWMP or District shall be used for acquisition of the buildings or site improvements.

- b. The District or District Subgrantee shall not transfer, sell, or pledge any assets including buildings or site improvements purchased using SWMF monies during the term of the grant and for four years thereafter without first obtaining the prior written consent of the District and SWMP.
  - c. The District or District Subgrantee shall not sell, give away, relocate, or abandon the assets including buildings or site improvements without the District and SWMP's prior written approval.
  - d. The District or District Subgrantee must not use the buildings or site improvements acquired with SWMF to unfairly compete with private companies that provide equivalent services, unless specifically permitted or contemplated by state law.
  - e. Buildings or site improvements constructed or purchased pursuant to this agreement shall be used for the performance of services under this agreement during the term of the FAA, and for four years thereafter. Annually a statement must be submitted to the District certifying that the use of said buildings or site improvements is for project activities. The District shall provide and use a form for such statement.
2. Buildings or Site Improvements Management. The District's or Subgrantee's procedures for managing buildings or site improvements whether acquired in whole or in part with subgrant funds, will, at a minimum, meet the following requirements until disposition takes place:
- a. A control system must be developed to ensure adequate safeguards to prevent against loss, damage, or theft of the buildings or site improvements. Any loss, damage, or theft shall be reported to and investigated by local authorities.
  - b. For all buildings or site improvements purchased, in whole or in part, with SWMF, the District or District Subgrantee shall procure and maintain insurance covering loss or damage to buildings or site improvements, with a financially sound and reputable insurer in such amounts and covering such risks as are usually carried by similarly situated companies engaged in the same or similar business.
3. Security Interest in Buildings or Site Improvements.
- a. When buildings or site improvements are acquired with SWMF monies under this agreement, the following conditions apply or equivalent conditions are required to be set by the District and certified as appropriate by the District's legal counsel:
  - b. The District shall grant to the SWMP, its successors, and assigns a security interest or lien in all buildings or site improvements purchased or constructed for five thousand dollars or more, in whole or in part, with SWMF monies.
    - i. For such buildings or site improvements to be owned by the District, the SWMP must be granted a security interest or lien and be listed as the lien holder. The District shall complete a deed of trust or certificate of title, whichever applies, and return a copy of such document along with the FAA packet to the SWMP.
    - ii. The security interest or lien shall be equivalent to the amount of funding provided by the SWMP.
    - iii. The District hereby covenants that it will not transfer, sell or pledge the SWMP's security interest in the buildings or site improvements as collateral for any indebtedness whatsoever without first obtaining the prior written consent of the SWMP.
    - iv. If the District is granting the security interest to the SWMP, the District must provide a copy of the documentation to the SWMP showing that the SWMP is



- listed as a lien holder on the certificate of title, the deed of trust, or other security instrument.
- v. Unless the SWMP notifies the District in writing of a material breach of the FAA or any documents incorporated herewith, the security interest of the SWMP shall decrease at a rate of 20% per annum, beginning one year from the date the financing statement is fully executed.
  - vi. When the security interest is fully depreciated, the SWMP will, on written demand by the District, send the District a termination statement that a security interest in the financing statement is no longer claimed.
- c. The District Subgrantee hereby grants to the District, its successors, and assigns a security interest or lien in all buildings or site improvements purchased or constructed by the District Subgrantee for five thousand dollars or more, in whole or in part, with SWMF monies.
- i. For such buildings or site improvements to be owned by the District Subgrantee, the District must be granted a security interest or lien and be listed as the lien holder. The District Subgrantee shall complete a deed of trust or certificate of title, whichever applies, and return a copy of such document along with the FAA packet to the District.
  - ii. The security interest or lien shall be equivalent to the amount of funding provided by the District.
  - iii. The District Subgrantee hereby covenants that it will not transfer, sell or pledge the District's security interest in the buildings or site improvements as collateral for any indebtedness whatsoever without first obtaining the prior written consent of the District.
  - iv. If the District Subgrantee is granting the security interest to the District, the District Subgrantee must provide the District a copy of the documentation showing that the District is listed as a lien holder on the certificate of title, the deed of trust, or other security instrument.
  - v. Unless the SWMP or the District notifies the District Subgrantee in writing of a material breach of the FAA or any documents incorporated herewith, the security interest of the District may decrease at a rate of 20% per annum, beginning one year from the date the financing statement is fully executed.
  - vi. When the security interest is fully depreciated, the secured party will, on written demand by the debtor, send the debtor a termination statement that a security interest in the financing statement is no longer claimed.
4. When a building or site improvement acquired by the District or District Subgrantee is no longer needed for the original project or program or for other activities currently or previously supported by the MDNR, the building or site improvement shall be disposed of as follows:
- a. Buildings or site improvements with a current fair market value of less than five thousand dollars may be retained, sold or otherwise disposed of with no further obligation to the SWMP or the district.
  - b. For a building or site improvement with a current fair market value of five thousand dollars or more:
    - i. When a building or site improvement is District owned, the SWMP shall have a right to an amount calculated by multiplying the current market value or proceeds from the sale by the SWMP's remaining interest in the building or site improvement as established in N.3.b.v. of this agreement.
    - ii. When the building or a site improvement is owned by a District Subgrantee, the District shall have a right to an amount calculated by multiplying the current



market value or proceeds from sale by the District's remaining interest in the building or a site improvement as established in N.3.c.v. of this agreement.

- c. When appropriate disposition actions fail to be taken by the building or site improvement owner:
  - i. For District owned buildings or site improvements, the SWMP may direct the District on how to dispose of the building or site improvement.
  - ii. For District Subgrantee owned buildings or site improvements, the District may direct the District Subgrantee on how to dispose of the buildings or site improvements.
- d. If the building or site improvement owner is put on notice by either the SWMP or the District that grant assets are not being used for the intended purpose, then:
  - i. For District owned buildings or site improvements, the District shall not sell, give away, move, relocate, abandon or dispose of the asset without the SWMP's prior written approval.
  - ii. For District Subgrantee owned buildings or site improvements, the District's Subgrantee shall not sell, give away, move, relocate, abandon, or dispose of the asset without the District's prior written approval.

O. Public Access and Transparency.

- 1. Districts shall be "public governmental bodies" as that term is defined in Chapter 610 RSMo, commonly known and referred to as the Missouri Sunshine Law. Consequently, Districts shall maintain records, conduct meetings, and provide access as required in that Chapter.
- 2. The District shall either have a principal designated office with established office hours or provide all District records including postings of meeting and other public notices required open under Chapter 610 RSMo through an Internet website. Principal designated offices of districts in order to be open to the public must be located in commercial, governmental or stand-alone buildings not used as a residence as defined herein.

P. Travel.

Travel will be conducted according to the District's written travel policy and procedures with the following additional limitations imposed by the SWMP which are based on Internal Revenue Service guidelines:

- 1. Travel expenses are limited to actual expenses that are reasonable and necessary as determined by the Department. The method of travel shall be that which is most economical and advantageous to the grant or subgrant funds.
- 2. Out-of-state travel must be approved in advance of travel by the SWMP. The District or District Subgrantee must provide a written justification for such travel, which shall include the purpose of the trip and how it relates to the scope of the project. The District or District Subgrantee shall not incur out-of-state travel expenses on project business until receiving written approval by the SWMP. Out-of-state travel requests may be included as part of the annual District Operations or Subgrant approval process or separately as the need for travel arises after original approval of District Operations or the Subgrant.
  - a. Travel by personal vehicle instead of air travel, shall be limited to the District or District Subgrantee's established mileage allowance as stated in their written travel policy (not to exceed the state rate) plus any actual expenses that would have been allowed or provided if taking air transportation.



- b. If traveling by air, the total allowable costs cannot exceed the reasonable coach fare available at the time to the same destination.
  - c. No meals, additional lodging, or incidentals will be reimbursed for personal extended stays while traveling.
  - d. Reimbursement for out-of-state travel by train or bus shall not exceed the actual cost of the train or bus fare, plus any actual expenses that would have been allowed or provided if taking air transportation.
2. Meal costs shall be allowed during project-related travel, in-state or out-of state, provided that there are at least twelve consecutive hours of travel involved. The District or District Subgrantee will indicate on the travel expense voucher "twelve hour status" and provide time records as back up documentation. Twelve-hour travel status includes the allowable breaks for meals in the District's or District Subgrantee's travel policy. A definition of eligible meals is provided in Section III. When in twelve-hour travel status, an eligible meal is as defined in Section III.
  3. Reimbursement shall be provided for reasonable meal and hotel expenses as specified in the State of Missouri Travel Regulations or the District's or District Subgrantee's Travel policy, whichever is less. The website link provided herein may be utilized as reference for State of Missouri Per Diem Rates <http://oa.mo.gov/travel/>.

Q. Food.

1. Food purchases for events, meetings, etc. must be approved in advance by the SWMP. The events must fit the scope of work and provide a benefit to the success of the subgrant project. The District or District Subgrantee shall not make food purchases until receiving written approval by the SWMP. Food purchase requests may be included as part of the annual District Operations or Subgrant approval process or separately as the need for such purchases occur.
  - a. The SWMP shall allow Districts and District Subgrantees to provide food in conjunction with official District or District Subgrantee business and district grant or subgrant sponsored activities within parameters outlined below.
  - b. As used in this section, "official business" includes council, advisory council, and board meetings, and similar functions when they are conducted as part of the District or District Subgrantee's scope of work.
  - c. As used in this section, "other agency sponsored activities" include board meetings, workshops, and other specific subgrant related activities. Costs associated with such events are allowable to the extent the primary purpose is the dissemination of technical information.
2. Districts and District Subgrantees are to be accountable for their decisions to provide food at official or sponsored functions within the limits of this section. Districts and District Subgrantees are expected to establish sufficient controls to ensure agency-provided food expenses are incurred only when appropriate and in compliance with this section and with written approval from the SWMP granted prior to the event at which food is to be served.
3. Food at Official Business Functions
  - a. The District or District Subgrantee may provide food to serve during official District and District Subgrantee business functions when it is determined that providing food or beverage service will promote the efficient conduct of a specific project activity (e.g., workshops, cleanup events or collection events) and such purchases have been approved by SWMP in writing prior to the event at which food or beverages are to be

served. Under no circumstances, however, will alcoholic beverages be a permitted or allowable cost.

- b. During meeting breaks, light snacks and beverages may be provided. Costs for snacks and beverages should be at a nominal charge per person.
- c. Lunch or dinner may be provided if there is a substantial reason for doing so that directly and demonstrably creates a benefit to the scope of the District or District Subgrantee's work, and if the cost of which is reasonable and necessary as determined by the SWMP.
- d. Official business functions does not include those where the only individuals in attendance are employees of the District or District Subgrantee. Food shall not be allowed for the District's or District Subgrantee's general staff meetings or other similar functions that only relate to day-to-day operations.
- e. Lunch expenses shall not automatically be allowed when incurred in conjunction with a District or District Subgrantee's related meeting. Typically lunch expenses will only be allowed when a meeting extends through the typical lunch periods or an all-day meeting, training, etc.

#### 4. Food at Other Agency Sponsored Activities

- a. Districts or District Subgrantees may purchase light refreshments in conjunction with board or council meetings, advisory committee meetings, sponsored workshops, sponsored conference, or like activity. Costs for such events should be at a nominal charge per person and be prior approved by SWMP.
- b. Lunch or dinner may be provided for similar events if there is a substantial reason for doing so which demonstrates a benefit to the District or District Subgrantee's scope of work, be at a reasonable cost and be prior approved by SWMP.

#### 5. Meals Provided to Public Officials

Expenditures made for food for public officials, except those meals that are given to a public official or employee when such person is acting in his or her official capacity with the District, or District Subgrantee should be reported to the Missouri Ethics Commission as lobbying expenses as provided in 105.470-473 RSMo.

#### R. Supplies

1. Title to supplies acquired under a subgrant will vest, upon acquisition, in the District or the District's Subgrantee.
2. If there is a residual inventory of unused supplies exceeding five thousand dollars in total aggregate fair market value upon termination or completion of the grant or subgrant award, and if the supplies are not needed for any other SWMP sponsored programs or projects, then the District or District Subgrantee shall compensate the SWMP or District for its share.

#### S. Promotional Items

Unallowable advertising and public relations costs include the costs of promotional items and memorabilia, including models, gifts, and souvenirs.

1. Costs considered ineligible for district grant funding include the costs of gifts as provided in 10 CSR 80-9.050(2)(D)2.



2. Nominally priced educational items containing recycled materials are allowable, but shall not exceed 10% of the total subgrant project budget. These educational items shall be directly related to a measureable subgrant project outcome. The educational items may promote the project or overall reduce/reuse/recycle goals. The educational item shall be necessary to accomplish the purpose of the subgrant and shall have a direct effect on the success of the project.

#### T. Invention and Patents

1. If any District or District Subgrantee produces subject matter, which is or may be patentable in the course of work sponsored by the Subgrantee, the District or District Subgrantee shall promptly and fully disclose such subject matter in writing to the SWMP and District.
2. In the event that the District or District Subgrantee fails or declines to file Letters of Patent or to recognize patentable subject matter, the SWMP reserves the right to file the same.
3. The SWMP grants to the District or District Subgrantee the opportunity to acquire an exclusive license, including the right to sublicense, with a royalty consideration paid to the SWMP. Payment of royalties by the District or District Subgrantee to the SWMP will be addressed in a separate royalty agreement.

#### U. Copyrights

1. Except as otherwise provided in the terms and conditions of this subgrant, the author, the District or District's Subgrantee is free to copyright any books, publications, or other copyrightable material developed in the course of this subgrant.
2. The SWMP and District reserve a royalty-free, nonexclusive and irrevocable right to reproduce, publish, or otherwise use, and to authorize others to use, with the approval of the SWMP, the work for the District or SWMP purposes.

#### V. Prior Approval for Publications

1. The District or District's Subgrantee shall submit to the SWMP and the District two draft copies of each publication and other printed materials which are intended for distribution and are financed, wholly or in part, by SWMF monies.
2. The District or District Subgrantee shall not print or distribute any publication until receiving written approval by the SWMP.

#### W. Mandatory Disclosures

District and District Subgrantees receiving grant funding from the SWMF shall identify the MDNR as a funding source on all equipment, buildings, site improvements, publications and other printed materials which are intended for distribution and paid for, in whole or in part, with Solid Waste Management Funds.

1. Identification shall include the MDNR's logo with the full "Missouri Department of Natural Resources" name.
2. This requirement applies to publications, news releases, videos, displays, signs, and all other projects from which information may be obtained by reading, watching, hearing, or simply seeing the material.

3. Camera ready copies of the MDNR logo will be provided to any District requesting the copies by the SWMP. The Districts will provide logos to District Subgrantees requesting copies of the logos.
4. For other projects, such as audiocassette tapes and news releases, the SWMP shall be identified audibly by including its full name. Guidelines pertaining to placement of logos along with the "Missouri Department of Natural Resources" name and audible identification of the "Missouri Department of Natural Resources" can be obtained from the SWMP.

#### X. Procurement Standards

District or District Subgrantees shall use their own procurement procedures provided that procurement conforms to standards set forth in the "Uniform Administrative Requirements For Grants and Cooperative Agreements to State and Local Governments", "Uniform Administrative Requirements for Grants and Agreement with Institutions of Higher Education, Hospitals, or Other Non-Profit Organizations", or 34.040, RSMo, "State Purchasing and Printing", as applicable.

1. Within eighteen months after the October 30, 2007 effective date of 10 CSR 80-9.050 which date is April 30, 2009, the District's Executive Board shall use a competitive bid process to obtain administrative services, office space rental, and other district operations services, except for employees who are directly employed by the District. Contracts shall not exceed five (5) years in duration.
2. No work or services, paid for wholly or in part with state funds, will be contracted without the written consent of the SWMP.
3. The District and/or District Subgrantee agree that any contract, interagency agreement, or equipment to be procured under this award which was not included in the approved workplan must receive formal District and SWMP approval prior to expenditure of funds associated with that contract, interagency agreement, or equipment purchase.

#### Y. Employment

1. Pursuant to 285.530 (1), RSMo as a condition for the award of any grant, subgrant, contract, or subcontract in excess of five thousand dollars, no grantee, subgrantee, contractor, or subcontractor shall knowingly employ, hire for employment, or continue to employ an unauthorized alien to perform work within the state of Missouri.
2. The grantee, subgrantee, contractor, or subcontractor shall only utilize personnel authorized to work in the United States in accordance with applicable federal and state laws. This includes but is not limited to the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) and INA Section 274A.
3. Pursuant to section 285.530, RSMo, if the grantee, subgrantee, contractor, or subcontractor meets the section 285.525, RSMo definition of a "business entity" included in Attachment 2, the grantee, subgrantee, contractor, or subcontractor must affirm the entity's enrollment and participation in the E-Verify federal work authorization program with respect to the employees hired after enrollment in the program who are proposed to work in connection with the services requested herein. The grantee, subgrantee, contractor, or subcontractor shall complete applicable portions of Attachment 2, Business Entity Certification, Enrollment Documentation, and Affidavit of Work Authorization or Affidavit of Work Authorization Annual Renewal Document. The applicable portions of Attachment 2 must be completed, notarized, and submitted prior to award of a grant or a contract.
4. If the grantee, subgrantee, contractor, or subcontractor is found to be in violation of this requirement or the applicable state, federal, and local laws and regulations, and if the



Department has reasonable cause to believe that the grantee, subgrantee, contractor, or subcontractor has knowingly employed individuals who are not eligible to work in the United States, the Department shall have the right to cancel the grant or contract immediately without penalty or recourse and suspend or debar the grantee, subgrantee, contractor, or subcontractor from doing business with the Department or State of Missouri. The Department may also withhold up to twenty-five percent of the total amount due to the grantee.

5. The grantee, subgrantee, contractor, or subcontractor shall agree to fully cooperate with any audit or investigation from federal, state, or local law enforcement agencies.

#### Z. Conflicts of Interest

No party to this subgrant, nor any officer, agent, or employee of either party to this subgrant, shall participate in any decision related to such subgrant which could result in a real or apparent conflict of interest, including any decision which could affect their personal or pecuniary interest, directly or indirectly.

1. The District's Executive Board shall adopt a conflict of interest policy regarding subgrants to District Subgrantees. The policy shall include a requirement that any non-governmental member of the District's Executive Board, or the business or institution to which a member is affiliated, who applies for District Subgrants shall not review, score, rank, or approve any of the subgrantees applications in the same grant call.
2. The District or District Subgrantee is advised that no state employee or former state employee, as defined in Chapter 105, RSMo, shall perform any service for consideration paid by the District or District Subgrantee for one year after termination of the employee's state employment by which the former state employee attempts to influence a decision of a state agency. A state employee who leaves state employment is permanently banned from performing any service for consideration for any person, firm or corporation after termination of his or her office or employment in relation to any case, decision, proceeding or application with respect to which he or she was directly concerned or in which he or she personally participated during the period of his or her service or employment with the state.

#### AA. State Appropriated Funding

1. The District and District Subgrantee agree that funds expended for the purposes of this subgrant must be appropriated and made available by the Missouri General Assembly for each fiscal year included within the subgrant period, as well as being awarded by the state agency supporting the project. Therefore, the subgrant shall automatically terminate without penalty or termination costs if such funds are not appropriated and/or granted.
2. In the event that funds are not appropriated and/or granted for the subgrant, the District or District Subgrantee shall not prohibit or otherwise limit the SWMP's right to pursue alternative solutions and remedies as deemed necessary for the conduct of state government affairs. The requirements stated in this paragraph shall apply to any amendment or the execution of any option to extend the subgrant.

#### AB. Eligibility, Debarment and Suspension

By applying for this award, the District or District Subgrantee verifies that it, its board of directors, and all of its principles are currently in compliance with all state and federal environmental laws including those referenced below and court orders issued pursuant to those laws, and that all environmental violations have been resolved (for example, no pending or unresolved Notices of Violation (NOV) at the time of application).



1. If compliance issues exist, the District or District Subgrantee shall disclose to the District and SWMP all pending or unresolved violations noted in an NOV, administrative order, or civil and criminal lawsuit, but only where those alleged violations occurred in the past two years in the State of Missouri.
2. The SWMP will not make any award at any time to any party which is debarred or suspended, under federal or state authority, or is otherwise excluded from or ineligible for participation in federal assistance under Federal Executive Order 12549, "Debarment and Suspension."
3. The District or District Subgrantee shall complete a Debarment/Suspension form when required by the SWMP. Furthermore, the District or District Subgrantee is also responsible for written debarment/suspension certification of all subcontractors receiving funding through a state funded grant.

AC. Restriction on Lobbying Costs

Lobbyists as defined in section 105.470, RSMo, and related costs are ineligible for district grant funds.

AD. Recycled Paper

The District or District Subgrantee receiving SWMF is required to use recycled paper consisting of at least 30% post consumer waste for all reports and materials which are prepared as part of this grant award and delivered to the District or SWMP or otherwise distributed as part of this subgrant.

1. If paper containing 30% post consumer material is not reasonably available, does not meet reasonable performance requirements, or is available at an unreasonable price, then the District or District Subgrantee shall use paper containing no less than 20% post consumer material.
2. The chasing arrows symbol representing the recycled content of the paper will be clearly displayed on at least one page of any materials provided to any and all parties other than the SWMP.
3. This requirement applies even if the cost of recycled paper is higher than that of virgin paper.

AE. Contracting with Small and Minority Firms, Women's Business Enterprise, and Labor Surplus Area Firms

In order for the SWMP to meet the provisions of Executive Order 05-30, it is desired the District and District Subgrantees secure participation of certified MBEs and WBEs in providing the products and/or services obtained with district grant funds. The targets of participation recommended by the State of Missouri are 10% MBE and 5% WBE of the total dollar value of the products and/or services obtained.

The District or District Subgrantee agrees to take all necessary affirmative steps required to assure that small and minority firms, women's business enterprises and labor surplus area firms are used when possible as sources when procuring supplies, equipment, construction, and services related to the subgrant. The District and District Subgrantee agrees to include information about these requirements in solicitation documents. Affirmative steps shall include:

1. Placing qualified small and minority business and women's business enterprises on solicitation lists;

2. Ensuring that small and minority and women's business enterprises are solicited whenever they are potential sources;
3. Dividing total requirements, when economically feasible, into small tasks or quantities to permit maximum participation by small and minority and women's business enterprises;
4. Establishing delivery schedules, where the requirements of work will permit participation by small and minority and women's business enterprises;
5. Using the services of the Small Business Administration and the Minority Business Development Agency of the U.S. Department of Commerce; and
6. Requiring any prime contractor or other subgrantee, if subgrants are to be allowed, to take the affirmative steps in subparagraphs 1 through 5 of this section.

AF. Subgrants

The District is responsible for the day-to-day operations of subgrant supported activities. The District must monitor subgrant supported activities to assure compliance with applicable state requirements and that performance goals are being achieved. Subgrant monitoring must cover each program, function, or activity.

AG. Later Disallowances and Adjustments

The closeout of a subgrant does not affect:

1. The SWMP's right to disallow costs and recover funds on the basis of a later audit or other review.
2. The District or District Subgrantee's obligation to return any funds due as a result of later refunds, corrections, or other transactions.
3. Recordkeeping as required by section E above.
4. Equipment and building or site improvements management requirements as required by sections M and N above.
5. Audit requirements in sections J and K.

AH. Dispute Resolution

1. The District and the SWMP shall attempt to resolve disagreements concerning the administration or performance of the District.
2. If an agreement cannot be reached within ninety (90) days of the issuance of the notice of noncompliance, the MDNR's SWMP director will provide a written decision. The SWMP director may consult with the SWAB prior to providing this decision. Such decision of the SWMP director shall be final unless a request for review is submitted to MDNR's Division of Environmental Quality (DEQ) director within thirty (30) days of the receipt of the SWMP director's decision. The DEQ director shall provide a final decision within thirty (30) days of the district's request. Such district request shall include:
  - a. A copy of the SWMP director's written decision;
  - b. A statement of the amount in dispute;
  - c. A brief description of the issue(s) involved; and
  - d. A concise statement of the objections to the final decision.



3. A decision by the DEQ director shall constitute final MDNR action.

**AI. Termination**

**1. Termination for Cause.**

**a. By MDNR:**

- i. The MDNR may terminate any subgrant, in whole or in part, at any time before the date of completion whenever it is determined that the District or District Subgrantee has failed to comply with the terms and conditions of the subgrant.
- ii. The MDNR shall promptly notify the subgrantee in writing of such a determination and the reasons for the termination, together with the effective date.
- iii. The MDNR reserves the right to withhold all or a portion of grant funds if the District or District Subgrantee violates any term or condition of the subgrant.

**b. By District:**

- i. The District may terminate any subgrant, in whole or in part, at any time before the date of completion whenever it is determined that the District Subgrantee has failed to comply with the terms and conditions of the subgrant.
- ii. The District shall promptly notify the subgrantee in writing of such determination and the reasons for the termination, together with the effective date.
- iii. The District reserves the right to withhold all or a portion of subgrant funds if the District Subgrantee violates any term or condition of the subgrant.

**2. Termination for Convenience.**

- a. The MDNR, the District, or the District's Subgrantee may terminate the subgrant, in whole or in part, when the parties agree that the continuation of the project would not produce beneficial results commensurate with the further expenditure of funds.
- b. This agreement is not transferable to any person or entity.
- c. District subgrant agreements are not transferable to any person or entity without prior written approval of the District's Executive Board and the SWMP.

**AJ. Enforcement: Remedies for Noncompliance**

If a District or District Subgrantee falsifies any award document, fails to maintain records or submit reports, refuses the SWMP access to records, fails to meet the SWMP's performance standards, or materially fails to comply with any term of a grant, award, or subgrant, then the SWMP may take one or more of the following actions, as appropriate:

1. Suspend or terminate, in whole or in part, the award or grant of current or future funds;
2. Disallow all or part of the cost of the activity or action not in compliance;
3. Temporarily withhold cash payments pending subgrantee's correction of the deficiency;
4. Withhold further awards from the District or District Subgrantee;
5. Compel the repayment of funds provided to the District or District Subgrantee pursuant to the award or grant;

6. Order the District or District Subgrantee not to transfer ownership of assets purchased with district grant funds without prior SWMP approval; or
7. Pursue any other remedies that may be legally available, including cost recovery, breach of contract, and suspension or debarment with respect to the District, the District Subgrantee, or both and further may pursue criminal charges against any individual who commits any crime within the context or during the work performed under the grant or subgrant.

**AK. District's and District Subgrantee's Signature**

In consideration for the ability to utilize SWMF monies, the District's and District Subgrantee's signature on the application, FAA, and other award documents signify the District or District Subgrantee's agreement to all of the terms and conditions of the award which include the FAA and the documents incorporated therein, including these General Terms and Conditions.

**AL. Human Trafficking.**

This requirement applies to non-profit grantees or subgrantees. The subgrantee, its employees, subgrantees under this award, and subgrantees' employees may not engage in severe forms of trafficking in natural persons during the period of time that the award is in effect; procure a commercial sex act during the period of time that the award is in effect, or use forced labor in the performance of the award or subawards under the award. The SWMP hereby adopts and will implement section 106(g) of the Trafficking Victims Protection Act of 2000 (TVPA) (22 U.S.C. § 7104(g)), modified so as to apply to the state and its agencies, departments, and political subdivisions and all respective agents that would correspond with those federal agents referred to in the TVPA, and as such the SWMP has the right to unilaterally terminate this agreement and any awards made in conjunction herewith if there is a violation of the TVPA.

**AM. Illegal Immigration**

Section 67.307 2 RSMo applies to this agreement, and consequently any municipality that enacts or adopts a sanctuary policy will be ineligible for moneys provided through grants or subgrants administered by any state agency or department until the policy is repealed or is no longer in effect.

**AN. Illegal Immigration**

Section 285.530 RSMo applies, and consequently no business entity or employer shall knowingly employ, hire for employment, or continue to employ an unauthorized alien to perform work within the state of Missouri. The SWMP may unilaterally terminate this agreement and any awards made in conjunction herewith if there is a violation §§ 285.525 – 285.550 R.S.Mo.

## **II. Statutory Requirements**

**A. Laws and regulations related to nondiscrimination and employment:**

1. Chapter 213 of the Missouri Revised Statutes, which prohibits discrimination on the basis of race, color, religion, national origin, sex, age, and disability;
2. Title VI of the Civil Rights Act of 1964, 42 U.S.C. §2000d, as amended, which prohibits discrimination on the basis of race, color, or national origin;
3. Title VII of the Civil Rights Act of 1964, 42 U.S.C. §2000e, as amended, which prohibits discrimination on the basis of race, color, religion, national origin, or sex;



4. Civil Rights Restoration Act of 1987, 20 U.S.C. §1687, 29 U.S.C. § 794, 42 U.S.C. § 2000d-4a, and 42 U.S.C. § 6101, as amended;
5. Civil Rights Act of 1991, 42 U.S.C. § 1981a and 42 U.S.C §§ 2000e-2(k) - (n), as amended;
6. Section 504 of the Rehabilitation Act of 1973, 29 U.S.C. § 794, as amended, which prohibits discrimination on the basis of disability;
7. Age Discrimination in Employment Act of 1967 (ADEA), 29 U.S.C. § 621 et seq., as amended, which prohibits discrimination on the basis of age;
8. Drug Abuse Office and Treatment Act of 1972, P.L. 92-255, 21 U.S.C. § 1101 et seq., as amended, relating to nondiscrimination on the basis of drug abuse;
9. Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970, P.L. 91-616, 42 U.S.C. § 4541 et seq., as amended, relating to nondiscrimination of the basis of alcohol abuse or alcoholism;
10. Family and Medical Leave Act of 1993 (FMLA), 29 U.S.C. § 2601 et seq.;
11. The Americans with Disabilities Act of 1990 (ADA), P.L. 101-336, 42 U.S.C. §12101 et seq., as amended, relating to nondiscrimination against individuals with disabilities; and
12. Fair Labor Standards Act of 1938 (FLSA), 29 U.S.C. § 201 et seq., as amended.

**B. State and Federal Environmental Laws:**

1. The Federal Clean Air Act, 42 U.S.C. § 7401 et seq., as amended, which prohibits the award of assistance by way of grant, loan, or contract to noncomplying facilities.
2. The Federal Water Pollution Control Act (Clean Water Act), 33 U.S.C. §1251 et seq., as amended, prohibiting award of assistance by way of grant, loan, or contract to noncomplying facilities.
3. The Federal Safe Drinking Water Act, 42 U.S.C. § 300f et seq., as amended, which prohibits the award of assistance by way of grant, loan, or contract to non-complying facilities.
4. The Federal Solid Waste Disposal Act, 42 U.S.C. 6901 et seq., as amended.
5. The Federal Comprehensive Environmental Response, Compensation, and Liability Act, 42 USC 9601 et seq., as amended.
6. The Federal Toxic Substance Control Act, 15 USC 2601 et seq., as amended.
7. The Federal Insecticide, Fungicide and Rodenticide Act, 7 USC 136 et seq., as amended.
8. The Federal Endangered Species Act, 16 USC 1531 et seq., as amended.
9. The National Environmental Policy Act of 1969, 42 U.S.C. §4321 et seq., as amended, particularly as it relates to the assessment of the environmental impact of federally assisted projects.
10. Earthquakes – Seismic Building and Construction Ordinances, §§ 319.200 – 319.207, RSMo relating to the adoption of seismic design and construction ordinances by certain cities, towns, villages and counties.



11. The Missouri Clean Water Law, Chapter 644, RSMo.
  12. Chapters 260 and 319, RSMo including the Missouri Hazardous Waste Management Law, and the Missouri Solid Waste Management Law including laws relating to petroleum storage tanks.
  13. The Missouri Air Conservation Law, Chapter 643.
  14. Chapter 444, RSMo including the Metallic Minerals Waste Management Act, the Land Reclamation Act, and the Surface Coal Mining Law.
- C. Chapter 105, RSMo, as it relates to conflicts of interest and lobbying.
  - D. Chapter 610, RSMo, Governmental Bodies and Records commonly referred to as the Missouri "Sunshine Law".
  - E. The Archaeological and Historic Preservation Act of 1974 (Public Law 93-291) relating to potential loss or destruction of significant scientific, historical, or archaeological data in connection with federally assisted activities.
  - F. The Wild and Scenic Rivers Act of 1968 (16 U.S.C. § 1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
  - G. The flood insurance purchase requirements of § 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires subgrantees in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
  - H. The Privacy Act of 1974, P.L. 93-579, as amended prohibiting the maintenance of information about any individual in a manner which would violate the provision of the Act.
  - I. Public Law 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.
  - J. The Laboratory Animal Welfare Act of 1966 (P.L. 89-544), 7 U.S.C. § 2131 et seq., pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.
  - K. The following additional requirements apply to projects that involve construction:
    1. The Davis-Bacon Act as amended, 40 U.S.C. §276 et seq.
    2. The Copeland (Anti-Kickback) Act, 18 U.S.C. §874, 40 U.S.C. § 276c.
    3. The Contract Work Hours and Safety Standards Act, 40 U.S.C. §327 et seq.
    4. Convict labor shall not be used on construction projects unless by convicts who are on work release, parole, or probation.
    5. The Lead-Based Paint Poisoning Prevention Act (42 U.S.C. § 4801 et seq.) which prohibits the use of lead paint in construction or rehabilitation of residence structures.
    6. The National Historic Preservation Act of 1966, 16 U.S.C §470 et seq., as amended, relating to the preservation of historic landmarks.

- L. Trafficking Victims Protection Act of 2000, Section 106, as amended (22 U.S.C. 7104(g) relating to termination of contract award based upon any employee of the department, grantee or subgrantee violating this act.
- M. Missouri House Bill 1549, 1771, 1395 & 2366 – Illegal Aliens and Immigration Status Verification – This bill changed May 25, 2011, the laws regarding illegal aliens and immigration status verification. Effective January 1, 2009, no business entity or employer shall knowingly employ, hire for employment, or continue to employ an unauthorized alien to perform working within the state of Missouri.

### III. Definitions

As used in these General Terms and Conditions:

- A. "Accrued expenditures" means the charges incurred by the grantee during a given period requiring the provision of funds for: (1) Goods and other tangible property received; (2) Services performed by employees, contractors, subgrantees, subcontractors, and other payees; and (3) Other amounts becoming owed under programs for which no current services or performance is required, such as annuities, insurance claims, and other benefit payments.
- B. "Accrued income" means the sum of: (1) Earnings during a given period from services performed by the grantee and goods and other tangible property delivered to purchasers; and (2) Amounts becoming owed to the grantee for which no current services or performances is required by the grantee.
- C. "Acquisition cost of an item of purchased equipment" means the net invoice unit price of the property including the cost of modifications, attachments, accessories, or auxiliary apparatus necessary to make the property usable for the purpose for which it was acquired. Other charges such as the cost of installation, transportation, taxes, duty or protective in-transit insurance, shall be included or excluded from the unit acquisition cost in accordance with the grantee's regular accounting practices.
- D. "Administrative requirements" means those matters common to grants in general, such as financial management, kinds and frequency of reports, and retention of records. These are distinguished from programmatic requirements, which concern matters that can be treated only on a program-by-program or grant-by-grant basis, such as kinds of activities that can be supported by grants under a particular program.
- E. "Allocated district funds" means the monies from the Solid Waste Management Fund that are set aside to be disbursed to each District by the MDNR.
- F. "Awarding agency" means (1) with respect to a grant, the SWMP of the MDNR, and (2) with respect to a subgrant, the party that awarded the subgrant.
- G. "Building or site improvements" includes any structures or appurtenances of a permanent nature related to real estate, excluding movable machinery and equipment.
- H. "Competitive bid process" means the procurement of goods or services that follows the guidelines outlined in 1 CSR 40.
- I. "Contract" means (except as used in the definitions for grant and subgrant in this section) a procurement contract under a grant or subgrant, and means a procurement subcontract under a contract.



- J. "Disposal cost" means fees charged to collect, transport or deposit solid waste in a landfill, transfer station, or other approved facility.
- K. "District" refers to one of the twenty solid waste management districts established pursuant to the Solid Waste Management Law, 260.200 through 260.345, RSMo.
- L. "District Subgrantee" refers to the District or other entities receiving district subgrant awards of SWMF from the SWMP or a District.
- M. "District administrative grant" means a grant for planning and organizational grants disbursed by the Department prior to August 28, 2004.
- N. "District carryover" means any remaining district funds of any completed grants that have been disbursed by the Department to each District for district administrative grants, district operations grants, plan implementation grants, or district subgrants.
- O. "District funds" means the revenue generated from the solid waste tonnage fee collected and deposited in the Solid Waste Management Fund that is allocated to each District pursuant to section 260.335.2, RSMo, plus district carryover, interest income earned, and state required local match funds.
- P. "District funds paid" means funds paid to each District or Subgrantee.
- Q. "Eligible meal" means the reasonable costs incurred for any of the following meals when overnight lodging is required to fulfill the project:  
*Breakfast* – is eligible on the day of departure if travel status begins two hours before the normal start time of the employee's typical work day plus any other day until the employee returns.  
*Lunch* – is eligible on the day of departure if travel status begins no later than 10:00 a.m. plus any other day where travel status continues past 2:00 p.m. including the day the employee returns.  
*Dinner* – is eligible on the day of departure if travel status begins no later than 5:00 p.m. plus any other day where travel status continues past 7:00 p.m. including the day the employee returns.
- R. "Equipment" means tangible, nonexpendable, personal property having a useful life of more than one year and an acquisition cost of five thousand dollars or more per unit. A grantee may use its own definition of equipment provided that such definition would at least include all equipment defined above.
- S. "Executive board" means the board established by each District's solid waste management council or by the alternative management structure chosen by a District as provided for in section 260.315.4(2), RSMo.
- T. "Financial Assistance Agreement or FAA" refers to the agreement entered into by the SWMP and the District or District and a District Subgrantee and includes these General Terms and Conditions and other incorporated documents.
- U. "Government" means the federal, state, or local government.
- V. "Grant" means an award of financial assistance, including cooperative agreements, in the form of money to an eligible grantee.
- W. "Grantee" means the government or other entity to which a grant is awarded and which is accountable for the use of the funds provided. The grantee is the entire legal entity even if only a particular component of the entity is designated in the grant award document.
- X. "Interest income" means all interest earned by each District from the holding of revenue generated from the Solid Waste Management Fund.



- Y. "Local government" means a county, municipality, city, town, township, local public authority, school district, special district, intrastate district, council of governments (whether or not incorporated as a nonprofit corporation under State law), any other regional or interstate government entity, or any agency or instrumentality of a local government.
- Z. "Missouri Department of Natural Resources or MDNR" refers to the Missouri Department of Natural Resources including its agents, successors, or assignees.
- AA. "Obligations" means the amounts of orders placed, contracts and subgrants awarded, goods and services received, and similar transactions during a given period that will require payment by the grantee during the same or a future period.
- AB. "Outlays or Expenditures" mean charges made to the project or program. They may be reported on a cash or accrual basis. For reports prepared on a cash basis, outlays are the sum of actual cash disbursement for direct charges for goods and services, and the amount of indirect expense incurred, the value of in-kind contributions applied, and the amount of cash advances and payments made to contractors and subgrantees. For reports prepared on an accrued expenditure basis, outlays are the sum of actual cash disbursements, the amount of indirect expense incurred, the value of in-kind contributions applied, and the new increase (or decrease) in the amounts owed by the grantee for goods and other property received, for services performed by employees, contractors, subgrantees, subcontractors, and other payees, and other amounts becoming owed under programs for which no current services or performance are required, such as annuities, insurance claims, and other benefit payments.
- AC. "Program income" means gross income received by the grantee or subgrantee directly generated by a grant supported activity, or earned only as a result of the grant agreement during the grant period. Examples of program income include income from fees for services performed, from the use or rental of real or personal property acquired with grant funds, from the sale of commodities or items fabricated under the subgrant, and from payments of principal and interest on loans made with subgrant funds. Program income does not include items such as interest on grant funds, rebates, credits, discounts, or refunds and any interest earned on these items.
- AD. "Project" means all approved components of an organized undertaking described in a proposal, including any supporting documents as required by project type.
- AE. "Residence" means a place that is being used as a dwelling or home.
- AF. "Share, when referring to the awarding agency's portion of building or site improvements, equipment or supplies" means the same percentage as the awarding agency's portion of the acquiring party's total costs under the grant to which the acquisition costs of the property was charged. Only costs are to be counted—not the value of third-party in-kind contributions.
- AG. "Solid Waste Management Fund or SWMF" means the fund created in section 260.330, RSMo, to receive the tonnage fee charges submitted by sanitary and demolition landfills for waste disposed of in Missouri and transfer stations for waste transported out of state for disposal.
- AH. "Solid Waste Management Program or SWMP" refers to the Missouri Department of Natural Resources, Division of Environmental Quality, Solid Waste Management Program or any other departmental organization to whom the SWMP duties may be assigned in the future.
- AI. "Solid Waste Management Project" means a targeted project that meets statewide waste reduction and recycling priorities, and for which no solid waste management district grant applicant has applied to perform, and for which no qualified applicants have applied to perform such project by a competitive bid issued by the Solid Waste Management District for the completion of such project.



- AJ. "State" means the State of Missouri or any other agency instrumentality of the state.
- AK. "State required local match funds" means funds committed by local governments to each District as match for district administrative grants. There is no longer a requirement for state required local match funds.
- AL. "Subgrant" means an award of financial assistance in the form of money made under a grant by a grantee to an eligible subgrantee. The term includes financial assistance when provided by contractual legal agreement, but does not include procurement purchases.
- AM. "Subgrantee" means the government or other legal entity to which a subgrant is awarded and which is accountable to the grantee for the use of funds provided.
- AN. "Supplies" means all tangible personal property other than equipment, building, or building site improvements, as defined in this part.
- AO. "Suspension" means depending on the context, either (1) temporary withdrawal of the authority to obligate grants funds pending corrective action by the grantee or subgrantee or a decision to terminate the grant, or (2) an action taken by the SWMP to immediately exclude a person from participating in grant transactions for a period, pending completion of an investigation and such legal or debarment proceedings as may ensue.
- AP. "Termination" means permanent withdrawal of the authority to obligate previously-awarded grant funds before that authority would otherwise expire. It also means the voluntary relinquishment of that authority by the grantee or subgrantee. Termination does not include: (1) Withdrawal of funds awarded on the basis of the grantee's underestimate of the unobligated balance in a prior period; (2) Withdrawal of the unobligated balance as of the expiration of a grant; (3) Refusal to extend a grant or award additional funds, to make a competing or non-competing continuation, renewal, extension, or supplemental award; or (4) Voiding of a grant upon determination that the award was obtained fraudulently, or was otherwise illegal or invalid from inception.
- AQ. "Terms of a grant or subgrant" means all requirements of the grant or subgrant, whether in statute, regulations, the award document, or any documents incorporated therein.
- AR. "Unencumbered district funds" means the district funds that have not been obligated in the form of purchase orders for goods and services.
- AS. "Unliquidated obligations for reports prepared on a cash basis" means the amount of obligations incurred by the grantee that have not been paid. For reports prepared on an accrued expenditure basis, they represent the amount of obligations incurred by the grantee for which an outlay has not been recorded.
- AT. "Unobligated balance" means the portion of the funds authorized by the SWMP that has not been obligated by the grantee and is determined by deducting the cumulative obligations from the cumulative funds authorized.



## MDNR and MARC SWMD Grants

Identifying the Missouri Department of Natural Resources and the MARC Solid Waste Management District in Grant Projects for Public Distribution

Recipients of grant funds from the MARC Solid Waste Management District and the Missouri Department of Natural Resources must identify the district and the department as a funding source on all grant projects for public distribution.

Identification should include the district and department logos with the full names. This applies to publications, news releases, videos, displays and all other projects from which information may be obtained by reading, watching, or simply seeing the material. Camera-ready copies of the logos may be obtained on the MARC website at <http://www.marc.org/Environment/Solid-Waste/Grants-Program/Grantee-Resources> or by calling the district grant administrator at 816-701-8226 or e-mailing [karpilow@marc.org](mailto:karpilow@marc.org).

For other projects, such as audio cassette tapes and news releases, the department and the district should be identified audibly by including its full name. See the following guidelines for specific directions.

### Logo Usage

Logo: The Missouri Department of Natural Resources logo and the MARC SWMD logo include the full name of the department and the graphic. See below.



This project was funded in part by the Missouri Department of Natural Resources

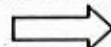


**Placement:** The logos should be readily visible, either on the front or back cover of publications with separate covers. On folded publications, the logo should be visible on the back outer panel.

The logo should be aired at the end of video tapes long enough for easy visibility by viewers.

**Size:** Type size for the text of the logo in publications should be no smaller than 10 points. The logo art should be in proportion to the type size, as shown in examples above. When other sources of funding also are identified, the MDNR and MARC SWMD logo shall be no smaller than the type size of other funding sources listed.

Continued on other side



ATTACHMENT 2E

The logos should be aired at the end of video tapes large enough for easy visibility by viewers.

**Additional Credit:** When space allows, the following verbiage should precede the logo: "This project was funded by the..."

**Note:** When only a portion of the project is funded by department grant funds, "funded" may be replaced with "funded in part."

**Audible Identification of the Department**

**Name:** The department and the district should be identified as follows:

The Missouri Department of Natural Resources  
The MARC Solid Waste Management District

**Credit:** The following verbiage should be announced at the beginning and end of the project:

"This project was funded in part by the Missouri Department of Natural Resources and the MARC Solid Waste Management District."

**Note:** When only a portion of the project is funded by department grant funds, "funded" may be replaced with "funded in part."

If multiple radio ads are being aired, then it is allowable to alternate funding partners by name to meet air times.



600 Broadway, Suite 200  
Kansas City, Missouri 64105-1659

816/474-4240  
816/421-7758 FAX  
www.marc.org



**MARC Solid Waste Management District**

Serving local governments in Cass, Clay, Jackson, Platte and Ray Counties and working cooperatively with Johnson, Leavenworth, Miami and Wyandotte Counties

**Executive Board**

Appointed:

**Forest Decker**

City of Kansas City

**Jimmy Odom**

Cass County

**Gene Owen**

Clay County

**Matthew Willier**

Jackson County

**Daniel Erickson**

Platte County

**Bob King**

Ray County

Elected:

**Marie Steiner, Chair**

City of Kearney

**Doug Wylie, Vice Chair**

City of Parkville

**Mike Jackson**

City of Independence

**Chris Bussen**

City of Lee's Summit

**Mike Larson**

City of Sugar Creek

**David Gress**

City of Raymore

**Matthew Wright**

City of Blue Springs

**Leslee Rivarola**

City of Lake Lotawana

Ex Officio:

**Lisa McDaniel, Planner**

Secretary/Treasurer

October 25, 2019

Chris Bussen  
City of Lee's Summit  
1971 SE Hamblen Road  
Lee's Summit, MO 64082

Dear Chris,

This letter is to confirm our discussion regarding Grant #2019-006 for \$42,189 to purchase containers for the re-opening of the recycling center in Lee's Summit.

The project start date was intended to be January 1, 2019, however the project has been delayed due to Lee's Summit's bidding process and other administrative duties. As soon as the contract is signed, we will prepare an amendment to extend the grant until December 31, 2020. The budget will remain the same.

We are aware that KC Dumpster will be providing the match by staffing the recycling center. We will need a letter from them indicating their commitment to meet the match of \$10,547 during the project year.

We understand that originally the North center was intended to re-open but are satisfied with the South center being re-opened instead.

Lee's Summit will be required to insure the containers for the length of the security interest agreement which is five years, starting from the purchase date. That document will be fulfilled once the bins are acquired.

Additionally, the MARC Solid Waste Management District will need to be listed as additionally insured for the length of the project period.

We look forward to having drop-off recycling returned to Lee's Summit.

Sincerely,

A handwritten signature in blue ink that reads "Nadja Karpilow".

Nadja Karpilow  
Grant Administrator  
MARC Solid Waste Management District

cc Lisa McDaniel, MARC SWMD



Chair  
Rob Roberts  
Commissioner  
Miami County,  
Kansas

1st Vice Chair  
Jimmy Odom  
Commissioner  
Cass County,  
Missouri

2nd Vice Chair  
Harold Johnson Jr.  
Commissioner  
Unified Government  
of Wyandotte County/  
Kansas City, Kansas

Treasurer  
Eileen Weir  
Mayor  
Independence,  
Missouri

Secretary  
Carson Ross  
Mayor  
Blue Springs,  
Missouri

Executive Director  
David A. Warm



**MARC Solid Waste Management District  
Executive Board Members**

**Appointed Positions  
(Kansas City/Each County)**

Forest Decker, City of Kansas City  
Jimmy Odom, Cass County  
Gene Owen, Clay County  
Matt Willier, Jackson County  
Daniel Erickson, Platte County  
Bob King, Ray County

**Elected City Representatives  
(Over 10,000 population)**

Chris Bussen, City of Lee's Summit  
David Gress, City of Raymore  
Mike Jackson, City of Independence  
Matthew Wright, City of Blue Springs

**Elected City Representatives  
(Under 10,000 population)**

Marie Steiner, City of Kearney  
Doug Wylie, City of Parkville  
Mike Larson, City of Sugar Creek  
Leslee Rivarola, City of Lake Lotawana

**Ex Officio:**

Lisa McDaniel, District Planner

**Management Council Representatives**

Les Whiteside, City of Archie	Ryan Hunt, City of Grain Valley	Pat Hawver, City of North Kansas City
Ray Portwood, City of Avondale	Dennis Randolph, City of Grandview	Mark Fulks, City of Oak Grove
Alexa Barton, City of Belton	Levi Weaver, City of Greenwood	Trish Wartenbee, City of Orrick
Matthew Wright, City of Blue Springs	Mike Pearson, City of Hardin	Doug Wylie, City of Parkville
Rick Childers, City of Buckner	Brian Hasek, City of Harrisonville	Carl Brooks, City of Peculiar
City of Camden Point (invited)	Mike Jackson, City of Independence	Leonard Hendricks, City of Platte City
Jimmy Odom, Cass County	Matt Willier, Jackson County	Daniel Erickson, Platte County
Wayne Tiffany, Cass County	Vacant, Jackson County	Vacant, Platte County
Gene Owen, Clay County	Dennis Murphey, City of Kansas City	John Smedley, City of Platte Woods
Brad Garrett, Clay County	Michael Shaw, City of Kansas City	Josh Alig, City of Pleasant Hill
Jim Stoufer, Village of Claycomo	Forest Decker, City of Kansas City	David Slater, City of Pleasant Valley
Patricia Masterson, City of Cleveland	Jensen Adams, City of Kansas City	Bob King, Ray County
City of Dearborn (invited)	Marie Steiner, City of Kearney	Jerry Bishop, Ray County
Terry Mayfield, City of Drexel	Scott Miles, City of Lake Lotawana	Steve Welch, City of Raymore
Shawn Harmer, City of Edgerton	Thomas Goddard, City of Lake Tapawingo	Mike McDonough, City of Raytown
Chad Birdsong, City of Excelsior Springs	Ann Dwyer Sanders, City of Lake Waukomis	Mike Wright, City of Richmond
Village of Ferrelview (invited)	Steve Besermin, City of Lake Winnebago	Kathy Rose, City of Riverside
Jim DeRemer, City of Freeman	Greg Taylor, City of Lawson	Brian Fullmer, City of Smithville
Judy Williams, City of Garden City	Chris Bussen, City of Lee's Summit	Mike Larson, City of Sugar Creek
Tim Nebergall, City of Gladstone	Andy Noll, City of Liberty	Tanya Finn, City of Weatherby Lake
Pat Slusher, City of Glenaire	Doug Martin, City of Lone Jack	Mike Large, City of Weston
		George Bentley, City of Wood Heights

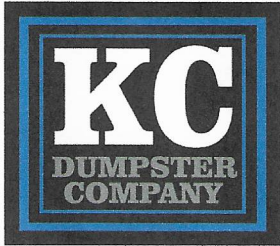
**Management Council Representatives - Ex Officio**

Julie Davis, Johnson County	Ken Mack, Unified Government	Jim Twigg, City of Overland Park
Tammy Saldivar, Leavenworth County	Vacant, City of Lenexa	Caitlin Gard, City of Shawnee
JR McMahon, Miami County	Kent Seyfried, City of Olathe	Ruth Hopkins, Johnson County, Council of Mayors

**Special Accommodations:** Please notify the Mid-America Regional Council at (816) 474-4240 at least 48 hours in advance if you require special accommodations to attend this meeting (i.e., qualified interpreter, large print, reader, hearing assistance). We will make every effort to meet reasonable requests. MARC programs that receive federal funding may not discriminate against anyone on the basis of race, color or national origin, according to Title VI of the Civil Rights Act of 1964. For more information or to obtain a Title VI Complaint Form, see [http://www.marc.org/transportation/title\\_vi.htm](http://www.marc.org/transportation/title_vi.htm), or call 816-474-4240.



# KC DUMPSTER COMPANY, LLC



Dear Chris,

This letter is in regard to the re-opening of the Lee's Summit recycling center (Grant #2019-006). We are writing to confirm that we at KC Dumpster Company, LLC, will staff the recycling center to operate at the Lee's Summit Resource Recovery Park located at 2101 SE Hamblen Road, Lee's Summit, MO 64082. We will staff the center during our normal operating hours; we are open Monday-Friday, 7:30am-4:00 pm, and Saturday, 7:30am-3:00pm. We are closed on Sundays and on major holidays. The staff time will cover the City's match of \$10,547 during the project year.

Please feel free to contact us with any questions.

Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read "Lindsey Silva dos Santos". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Lindsey Silva dos Santos  
Operations Manager, KC Dumpster Company  
816.599.8018

OFFICE PHONE: 816.491.4811

OFFICE CELL: 816.591.2267

ADDRESS: 1280 SE CENTURY DRIVE, LEE'S SUMMIT, MO 64081



## Packet Information

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**File #:** TMP-1404, **Version:** 1

---

An Ordinance approving Change Order #3 to the contract with Second Sight Systems, L.L.C. for the SCADA System improvements project, an increase of \$22,104.47 for a revised contract price of \$442,510.13.

### Issue/Request:

An Ordinance approving Change Order #3 to the contract with Second Sight Systems, L.L.C. for the SCADA System improvements project, an increase of \$22,104.47 for a revised contract price of \$442,510.13.

### Key Issues:

- The SCADA Network Management Software needed to be upgraded based on the recommendation of the Engineer.
- Cavity bandpass filters were required at both the Oak Ridge Meadow and Anderson sites based on the recommendation of the Engineer.
- A 15 foot utility pole had to be set at the Legacy Woods location with the existing antenna being relocated to the new pole based on the recommendation of the Engineer.
- The City desired the integration of Win-911 into the SCADA system.

### Proposed Committee Motion:

I move to recommend to City Council approval of an Ordinance approving Change Order #3 to the contract with Second Sight Systems, L.L.C. for the SCADA System improvements project, an increase of \$22,104.47 for a revised contract price of \$442,510.13.

### Background:

The SCADA System was originally constructed using AT&T leased POTs (Plain Old Telephone) lines for its communications backbone to all the remote water and waste water sites. These lines have worked well for many years but over time the utility's systems have become more complex and the data files are now larger and more numerous than ever before which is causing the lines to reach their limit at several of the larger remote sites.

To compound this issue AT&T is moving towards retiring these lines and encouraging the utility to seek other alternatives by increasing the lease rates while decreasing support. Water Utilities has been reviewing alternatives for several years to find the correct technology to replace the leased copper lines. The utility has worked with public safety to review microwave transmission, has reviewed the possibility of fiber connections, has piloted a cellular communication option and had a varieties of issues with consistency and potential costs with all of those options.

As this project is finishing up the City has retired the use of the leased copper lines and are up and running on the radio communications system. There have been some items found in the field during construction of this system which were different

than the design assumptions and require modification by this change order to complete the installations. These changes are relatively minor in nature and fall within the original project budget.

Impact/Analysis:

[Enter text here]

Timeline:

Start: \_\_\_\_

Finish: \_\_\_\_

Other Information/Unique Characteristics:

[Enter text here]

Michael Anderson, Construction Manager

Recommendation: Staff recommends approval of an Ordinance approving Change Order #3 to the contract with Second Sight Systems, L.L.C. for the SCADA System improvements project, an increase of \$22,104.47 for a revised contract price of \$442,510.13.

Committee Recommendation: [Enter Committee Recommendation text Here]

**BILL NO. 19-xx**

---

AN ORDINANCE APPROVING CHANGE ORDER #3 TO THE CONTRACT WITH SECOND SIGHT SYSTEMS, L.L.C. FOR THE SCADA SYSTEM IMPROVEMENTS PROJECT, AN INCREASE OF \$22,104.47 FOR A REVISED CONTRACT PRICE OF \$442,510.13.

WHEREAS, the City of Lee's Summit, Missouri ("City") has previously entered into a contract with Second Sight Systems, L.L.C. for the SCADA System Improvements project, being undertaken by the City's Water Utilities Department; and,

WHEREAS, a third change order to the contract with Second Sight Systems, L.L.C. is necessary; and,

WHEREAS, the SCADA Network Management Software needed to be upgraded based on the recommendation of the Engineer; and,

WHEREAS, cavity bandpass filters were required at both the Oak Ridge Meadow and Anderson sites based on the recommendation of the Engineer; and,

WHEREAS, a 15 foot utility pole had to be set at the Legacy Woods location with the existing antenna being relocated to the new pole based on the recommendation of the Engineer; and,

WHEREAS, the City desired the integration of Win-911 into the SCADA system.

NOW THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF LEE'S SUMMIT, MISSOURI, as follows:

SECTION 1. That the Change Order No. 3 to the contract between the City of Lee's Summit, Missouri and Second Sight Systems, L.L.C. for the SCADA System Improvements project, bid no. 2017-042-1-3C, for an increase in price of \$22,104.47 for a revised contract price of \$442,510.13, a true and accurate copy attached hereto as Change Order No. 3 and incorporated by reference as if fully set forth herein, be and the same is hereby approved. The City Manager is hereby authorized to execute the same by and on behalf of the City of Lee's Summit, Missouri.

SECTION 2. That this Ordinance shall be in full force and effect from and after the date of its passage and adoption, and approval by the Mayor.

PASSED by the City Council of the City of Lee's Summit, Missouri, this \_\_\_\_ day of \_\_\_\_\_, 2019.

ATTEST:

\_\_\_\_\_  
Mayor *William A. Baird*

\_\_\_\_\_  
City Clerk *Trisha Fowler Arcuri*

**BILL NO. 19-xx**

---

APPROVED by the Mayor of said city this \_\_\_\_\_ day of \_\_\_\_\_, 2019.

ATTEST:

\_\_\_\_\_  
Mayor *William A. Baird*

\_\_\_\_\_  
City Clerk *Trisha Fowler Arcuri*

APPROVED AS TO FORM:

\_\_\_\_\_  
Chief Counsel for Infrastructure and Planning  
*Nancy K. Yendes*



# Change Order

No. 3

Date of Issuance: October 4, 2019 Effective Date: October 4, 2019

Project: SCADA System Improvements 2017-18 Owner: City of Lee's Summit, MO Owner's Contract No.: 2017-042-1-3C SCADA

Contract: SCADA System Improvements 2017-18 Date of Contract: NTP Dec. 18th, 2017

Contractor: Second Sight Systems, LLC. Engineer's Project No. HDR # 10028695  
7280 Old State Rte. 21 Barnhart, MO 63012

The Contract Documents are modified as follows upon execution of this Change Order:

Description: Refer to Reasons for Change and Change Spreadsheet (Attached).

Attachments: (List documents supporting change):

**Change Order / reference documents (attached)**

### CHANGE IN CONTRACT PRICE:

Original Contract Price:

\$ 396,855.14

Increase from previously approved Change Orders

No. 0 to No. 2 :

\$ 23,550.52

Contact Price prior to this Change Order:

\$ 420,405.66

Increase of this Change Order:

\$ 22,104.47

Contract Price incorporating this Change Order:

\$ 442,510.13

### CHANGE IN CONTRACT TIMES:

Original Contract Times:  Working days  Calendar Days

Notice to proceed date: December 18th, 2017

Suspension of days until: \_\_\_\_\_

Substantial completion (days or date): \_\_\_\_\_

Ready for final payment (days or date): \_\_\_\_\_

(Increase) (Decrease) from previously approved Change Orders

No. 0 to No. 0 :

Substantial completion (days): \_\_\_\_\_

Ready for final payment (days): \_\_\_\_\_

Contact Times prior to this Change Order:

Substantial completion (days or date): \_\_\_\_\_

Ready for final payment (days or date): \_\_\_\_\_

(Increase) (Decrease) of this Change Order:

Substantial completion (days or date): \_\_\_\_\_

Ready for final payment (days or date): \_\_\_\_\_

Contract Times with all approved Change Orders:

Substantial completion (days or date): \_\_\_\_\_

Ready for final payment (days or date): \_\_\_\_\_

RECOMMENDED:

By: \_\_\_\_\_  
Engineer (Authorized Signature)

Date: \_\_\_\_\_

ACCEPTED:

By: \_\_\_\_\_  
Owner (Authorized Signature)

Date: \_\_\_\_\_

ACCEPTED:

By: \_\_\_\_\_  
Contractor (Authorized Signature)

Date: \_\_\_\_\_

Approved by Funding Agency (if applicable): \_\_\_\_\_

Date: \_\_\_\_\_

EJCDC No. C-941 (2002 Edition)

Prepared by the Engineers' Joint Contract Documents Committee and endorsed by the Associated General Contractors of America and the Construction Specifications Institute.





844.789.9111  
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Utility Field Services • SCADA Systems • Tower Services

09-18-2019

To: Keith Boyd – HDR

City of Lee’s Summit, MO – Water Utilities SCADA System Improvements (“City”)

From: Second Sight Systems (“Contractor”)

Re: Change Order Request – Modify Network Management Software to Trend Radio Temperature for all Radios.

**Solarwinds Network Management System**

Second Sight Systems will modify Solarwinds Network Management Software to trend radio temperature for all radios.

**Justification for changes**

Recommended by HDR

**Assumptions and Exceptions:**

Second Sight will not be responsible for impact to network performance caused by the increased demand for tracking temp trends via SNMP.

**Cost**

Configuration and Testing: \$262.51

TOTAL: \$262.51

Reviewed and approved by the following representatives of each organization:

**Second Sight Systems**

Name: Andrew Krekow

Title: Director, O & E

Date: 9/18/19

**City of Lee’s Summit “Owner”**

Name:

Title:

Date:

**HDR Inc. “Engineer”**

Name:

Title:

Date:



09-20-2019

To: Keith Boyd – HDR

City of Lee’s Summit, MO – Water Utilities SCADA System Improvements (“City”)

From: Second Sight Systems (“Contractor”)

Re: Change Order Request – Install Cavity Filters at Oaks Ridge Meadow and Anderson.

**Install Cavity Filters at Oaks Ridge Meadow and Anderson.**

Second Sight Systems will install cavity bandpass filters at Oaks Ridge Meadow and Anderson.

**Justification for changes**

Recommended by HDR

**Assumptions and Exceptions:**

Second Sight will be responsible for the proper installation and testing of two TX RX /Combilent 11-70-09N 450MHZ cavity filters. Second Sight does not guarantee improved performance at either site.

**Cost**

Materials:	\$688.65
Configuration, Installation and Testing:	\$525.00
<b>TOTAL:</b>	<b>\$1213.65</b>

Reviewed and approved by the following representatives of each organization:

**Second Sight Systems**

Name: Andrew Krekow  
Title: Director, O & E  
Date: 9/20/19

**City of Lee’s Summit “Owner”**

Name:  
Title:  
Date:

**HDR Inc. “Engineer”**

Name:  
Title:  
Date:





09-18-2019

To: Keith Boyd – HDR

City of Lee's Summit, MO – Water Utilities SCADA System Improvements ("City")

From: Second Sight Systems ("Contractor")

Re: Change Order Request – Set Utility Pole at Legacy Woods.

### **Site 15. Legacy Woods**

Second Sight Systems will set a 15ft wooden pole 11.5' AGL at the following coordinates 38°55'18.7"N 94°18'40.9"W. The existing 450 MHZ antenna at Legacy Woods will be relocated to a pole mounted Z bracket at 11' AGL with an azimuth of 219.77°. The pole will be set 3.5' in the ground below grade. The existing 24" air terminal will be relocated, installed and bonded to the #2 AWG tinned Solid wire that will be run the length of the pole to a new ground ring around the pole. Two 10', 5/8" copper clad ground rods will be buried 2' 6" below the surface and exothermically welded to the ground ring. The pole ground ring will consist of #2 AWG tinned solid wire buried 2' 6" below the grade with a 24" inch ring radius around the pole. The ring will be bonded to two runs of #2 AWG tinned solid wire buried 2'6" below grade approximately 20' from the existing control panel/shed ground ring. 1-1/4" Schedule 80 PVC will be run through the same trench. Sweeping 90-degree bends of Rigid 1-1/4" metal conduit will stub up at the pole and at the shelter to accommodate a single run of LDF4-50A. The LDF4-50A will terminate at the existing lightning arrestor at the SCADA cabinet.

### **Justification for changes**

Recommended by HDR

### **Assumptions and Exceptions:**

It is expected that the City will coordinate and perform the utility locate / utility marking prior to SSS arriving on site to begin work.

Its is assumed that the soil is loose small rocks and clay type to a depth of 4' below the grade. Delays caused by large rocks impeding the pole setting augers ability to penetrate the soil at the specified coordinates will result in additional labor charges.



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Utility Field Services • SCADA Systems • Tower Services

**Cost**

Utility pole:	\$600.00.
Transport and Delivery of pole and setting equipment.	\$500
RF Materials:	\$375.04
Grounding Materials:	\$303.27
Labor: 3 Techs 2 Days	\$6600
Per Diem:	\$1050.00
TOTAL:	\$9428.31

Reviewed and approved by the following representatives of each organization:

**Second Sight Systems**

Name: Andrew Krekow

Title: Director, O & E

Date: 9/18/19

**City of Lee's Summit "Owner"**

Name:

Title:

Date:

**HDR Inc. "Engineer"**

Name:

Title:

Date:



10-9-2019

To: Keith Boyd – HDR

City of Lee’s Summit, MO – Water Utilities SCADA System Improvements (“City”)

From: Second Sight Systems (“Contractor”)

Re: Change Order Request – Installation of Win-911 Software Supplemental 01

**Site New Operations Facility**

**Win-911 Software Supplemental COR**

Requesting additional application engineering hours and PM for installation and integration of WIN-911 system.

**Justification for changes**

59 additional application engineering hours of sub-contractor services were consumed working to complete the WIN911 installation configuration. Successive problematic issues were discovered with the OPC Server installed on the City’s legacy SCADA PCs by Schneider Electric. Each issue encountered required the sub-contractor’s staff to work with Schneider Electric to refine the configuration of the OPC Server - where such options were identified as possible; or, alternatively, to develop and implement a “work-around” in house to accommodate the installed OPC Server’s shortcomings so that the sub-contractor could continue their work.

Another significant percentage of the additional hours were consumed configuring WIN911 for (178) I/O points versus the originally identified (8) I/O points outputted by the City’s SCADA system to the old auto-dialer alarm. This constituted a scope of work order of magnitude differential more than 22 times greater than that originally quoted

Second Sight is also requesting 5 additional project management hrs. for the expanded scope.

**Previously Quoted Price Augmentation**

Project Management: 5 x \$175.00/hr = \$875

Onsite Engineering and Support: 59 x \$175.00/hr = \$10,325.00

**Total Increase for changed Scope: \$11,200**



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Utility Field Services • SCADA Systems • Tower Services

Reviewed and approved by the following representatives of each organization:

**Second Sight Systems**

Name: Andrew Krekow

Title: Project Manager

Date: 10/9/19

**City of Lee's Summit "Owner"**

Name:

Title:

Date:

**HDR Inc. "Engineer"**

Name:

Title:

Date: