

**CITY OF LEE'S SUMMIT  
FACILITIES ASSET MANAGEMENT PLAN  
SCOPE OF WORK  
9/27/17**

**SCOPE OF SERVICES**

This scope of services describes the work to be performed by HDR on behalf of the City of Lee's Summit.

***TASK 1 – Asset Inventory, Asset Criticality Standards, and Condition Assessment***

This task will include a review and compilation of the City's asset inventory, establishment of asset criticality standards and condition assessment protocols including Consequence of Failure (COF) and Likelihood of Failure (LOF) factors, and onsite condition assessment of City facilities. Asset criticality standards, condition assessment protocols and planning will be developed through a series of workshops facilitated by HDR in coordination with City staff held near the beginning of the project (Workshop Week 1). These workshops will be held concurrently with the assessment and gap analysis workshops included in Task 3.

Onsite condition assessments are anticipated to be held over a period of 3 weeks over 2 months. Condition assessments will be prioritized to include more rigorous assessments of specific facilities identified to be highly critical or at greater risk of failure. The majority of condition assessments will be conducted by a 2-man HDR team including the condition assessment lead and a staff engineer, accompanied by City staff. A limited number of facilities are anticipated to require structural and/or electrical assessments. The scope and fee estimate assume the following facilities will be included in the efforts:

- Wastewater system - 22 wastewater pump stations, 10 Excess Flow Holding Basins (EFHBs), 4 odor control stations
- Water system – 4 water towers, 4 reservoir tanks, and a standpipe
- It is assumed that 5 facilities will require a more detailed condition assessment. These may also include electrical and structural discipline specific inspections. These facilities will be prioritized in conjunction with the City.
- The inspection reports provided by the City will be used as the primary basis for evaluating the water reservoirs tanks and towers. It is assumed that 2 site visits will be taken to water reservoirs to verify inspection findings.

The outcome of this task will be a prioritized ranking of facilities assets by condition and risk that will be used as the basis for developing long term replacement schedules and corresponding budgets.

**Services Provided by HDR:**

- Compile and review city provided facility and asset data:

- Compile asset data provided by Utility, including equipment lists, existing replacement schedules and inspection reports.
- Review asset data for completeness and functional structure. Identify and document significant gaps and provide recommendations to address gaps.
- The results of the review will be discussed with the City during Workshop Week 1.
- Develop preliminary asset criticality (COF and LOF) and risk prioritization criteria, and condition assessment protocols for review.
- Prepare meeting materials for workshops.
- Facilitate and conduct meetings during Workshop Week 1. The following Task 1 meetings and durations are anticipated (Task 3 meetings completed that week are included in Task 3 scope):
  - Workshop kickoff meeting (1 hour)
  - Asset Inventory Review (2 hours)
  - Establish Asset Criticality Criteria and Condition Rating System (4 hours total)
    - Develop Asset Original Useful Life Estimates
    - Consequence of Failure (COF)
    - Likelihood of Failure (LOF)
    - Condition Assessment Rating and Prioritization
    - Evaluated Remaining Useful Life (EVRUL)
  - Condition Assessment Prioritization and Planning
    - Condition Assessment Protocols and Execution (2 hours)
    - Facility Prioritization for Condition Assessment (1 hour)
    - Establishment of facility COF factors (2 hours). Note that some similar facilities are anticipated to be completed outside this meeting.
- After Workshop Week 1 - Develop and submit Draft Condition Assessment Action Plan detailing anticipated schedule of onsite activities, and scope of condition assessment for each facility. Obtain comments from Utility and submit Final Action Plan prior to initiating onsite activities.
- Conduct Onsite Facility Condition Assessments over 3 individual onsite weeks:
  - Each week, conduct pre-condition assessment meeting to review plan for week and discuss any facility specific issues.
  - Each week, conduct post-condition assessment meetings to discuss lessons learned and specific issues identified
  - Submit “Red Flag” reports to City documenting any assets identified to be in a state of imminent failure.
- Document and compile condition assessment findings:
  - Document and compile current condition findings based on operator experience, engineering judgment, manufacturer and industry standards.
  - Document and compile asset and facility criticality and develop prioritized list of findings.
  - Determine Evaluated Remaining Useful Life (EVRUL) for assets based on condition, age, and typical physical effective life.

- Facilitate meeting with Utility to review condition assessment findings and EVRUL approach and results.

**Deliverables:**

Condition Assessment Action Plan  
 Ranking of Assets Based on Condition, Consequence, and Likelihood of Failure  
 Documentation of Task 1 work included in Final Report (Task 3)

**Meetings:**

Workshop Week 1 Meetings  
 Onsite Condition Assessments

***TASK 2 – Asset Life Cycle and Financial Planning***

The work completed during Task 1 will be utilized to develop a plan, schedule, estimated costs, and future budgets required for the rehabilitation and replacement of facilities assets. Decision guidelines will be developed and used in conjunction with asset health and estimated remaining useful life to inform rehabilitation vs. replacement decisions. The outcome of the task will be a plan and schedule for the rehabilitation and replacement of facilities assets and estimated annual funding costs to guide the Utility in budgeting asset renewal funding.

The results of these efforts will be reviewed with the Utility and refined through a series of workshops facilitated by HDR in coordination with City staff anticipated to be held during near the end of the 4<sup>th</sup> month or beginning of the 5<sup>th</sup> month of the project (Workshop Week 2). These workshops will be held concurrently with implementation plan development workshops included in Task 3.

**Services Provided by HDR:**

- Develop recommended asset intervention strategies and decision processes to estimate cost benefits of rehab vs. replacement of assets.
- Develop initial asset rehab and replacement schedule.
- Develop asset intervention cost basis using industry standards and historical local area costs.
- Define causes of likely asset failure for high COF assets and recommend failure response plans.
- Prepare meeting materials for workshops
- Facilitate and conduct a series of meetings in Workshop Week 2. The following meetings and durations are anticipated (Task 3 meetings completed that week are included in Task 3 scope):
  - Workshop kickoff meeting (1 hour)
  - Recommended decision processes and methodology for use in projecting future program costs (2 hours)
  - Cost basis for budgeting (1 hour)

- Develop draft rehab and replacement schedule and costs and review schedule and plan (2 hours)
- Review asset failure causes and response planning. (2 hours)
- Finalize asset rehab and replacement schedule.
- Develop estimated annual Utility R/R budgets.
- Summarize data in format provided by Utility to ensure compatibility with cost of service model

**Deliverables:**

Asset Rehab and Replacement Plan  
 Estimated Annual Budgets and Funding Requirements  
 Documentation of Task 2 work included in Final Report (Task 3)

**Meetings:**

Workshop Week 2 Meetings

***TASK 3 – Gap Analysis, Implementation Plan, and Final Report***

This task will began with a thorough review and assessment of the Utility’s existing practices, definition of strengths and weaknesses, and identification of gaps in comparison to industry best practices (Gap Analysis). The Gap Analysis workshops will be held during Workshop Week 1 in conjunction with the Task 1 meetings described above. A Gap Analysis document will then be developed documented the findings of the assessment.

The plan to address these gaps will be defined in the program Implementation Plan. The Implementation Plan will define what asset management practices and strategies the Utility should implement to meet goals and the recommended approach to achieve these goals. Implementation Plan development workshops will be included in Workshop Week 2, in conjunction with the Task 2 meetings described above.

A Final Report documenting the results of Task 1, Task 2, and the program Implementation Plan will be developed.

**Services Provided by HDR:**

- Review readily available data on the City’s current practices and strategies, Utility organizational structure, and past reports.
- Prepare meeting materials for gap analysis workshops
- Facilitate and conduct gap analysis meetings during Workshop Week 1. The following meetings and durations are anticipated (Task 1 meetings completed that week are included in Task 1 scope):
  - Program Vision and Long Term Utility goals (1 hours)
  - Asset Mgmt. Data Mapping & CMMS (City Works) Utilization (2 hours)
  - Current condition assessment practices and preventive maintenance strategies (2 hours)
  - Recommended performance metrics (1.5 hours)

- Organization structure of facilities department, staff proficiencies and future goals (2 hours)
  - Project Packaging, CIP development and budget forecasting (1.5 hours)
  - Develop recommendations to address gaps.
  - Complete Draft Gap Analysis Document and conduct review meeting with Utility
  - Final Gap Analysis Document
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- Prepare meeting materials for implementation planning workshops
  - Facilitate and conduct implementation planning meeting during Workshop Week 2. The following meetings and durations are anticipated:
    - Immediate Improvement Items (Quick Wins) identified during assessment (1.5 hours)
    - Future Utility organization structure and staff roles (2 meetings, 2 hours each)
    - Data Management and CMMS improvements (2 hours)
    - CIP Development and Budget Forecasting (1.5 hours)
    - Performance Metric Tracking and Implementation (1.5 hours)
    - Ongoing Facilities Condition Assessments (2 hours)
    - Preventive Maintenance Strategies (2 hours)
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- Develop Draft Program Implementation Plan - document improvement recommendations, dependencies, and approximate level of effort. The initial plan will present a series of recommendations to achieve the City's goals, but will not include multi-year phasing.
  - Meet with City to Review Draft Implementation Plan
  - Develop Draft Final Report documenting results of all program tasks
  - Review meeting with City on Final Report
  - Submit Final Report

**Deliverables:**

Gap Analysis Document  
Final Report

**Meetings:**

Workshop Week 1 and 2 Meetings  
Gap Analysis Report Review Meeting  
Final Report Review meeting

#### ***TASK 4 – Project Management***

##### **Services Provided by HDR:**

- Project management and administration (project setup)
- Budget and invoice management

##### **Deliverables:**

Project invoices

##### **Meetings:**

None