

Appendix A: Draft Scope of Work

Project scope

1.1 Project Scope Includes

The following asset types owned and / or managed by the City of London are included in the scope of this project. The assets identified in scope are the most significant assets at the City with numerous variables creating the most opportunity for improvement. The implementation of the recommendations provided through this project will allow the practices to then be distributed to other asset types and other organizations related to the City. Assets to be Included:

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| <ul style="list-style-type: none"> • Parks and Recreation • Solid Waste • Water • Waste water • Facilities • Fleet • Roads and bridges | <ul style="list-style-type: none"> • Pollution Control Ops • Fire • Information Technology • Long-Term Care • Land • Joint Water Board* |
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1.2 Project Scope Excludes

The project excludes all other assets and processes of all other Agencies, Boards and Commissions. Assets not to be included are:

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| <ul style="list-style-type: none"> • London Block Parent Program • London Convention Centre • London Economic Dev. Corp. • London Hydro • London Police Service* • London Public Library • London Transit | <ul style="list-style-type: none"> • London Venture Group • Middlesex-London Hlth Unit • Museum London • Neighborhood Watch London • Tourism London • Upper Thames Rivers Con. Auth • Western Fair Assoc |
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Corporate Asset Management may expand to the above external areas in the future.

* Part of the Tangible Capital Asset reporting project

1.3 Scope of Consultant Work

Unit 1

Start-up-- Due Date: February 2012

Unit 1 – Start Up- Scope of Work	Anticipated Level of Involvement
Develop a foundational understanding of the City of London's future asset management through defining the vision, key principles, etc.	City completes with advice from consultant
Develop an understanding of the current state of asset management.	50% Consultant
Build the Corporate Asset Management Governance model	100% Consultant
Develop a high-level work plan to implement Corporate Asset Management.	25% Consultant
Identify key milestones to implementation.	25% Consultant
Inform and update stakeholders, senior management and Council on an ongoing basis. Obtain their advice and feedback regarding expected outcomes.	City completes with advice from consultant
Build support through developing internal resource network and retention of outside expertise	City completes with advice from consultant
Advance the expertise, capacity and knowledge of current staff members	100% Consultant
Unit 1 – Start Up – Deliverables	
CAM Vision, objectives and guiding principles.	City completes
CAM Governance model, roles and responsibilities, CAM Network.	100% Consultant
Project Charter with high level implementation plan outlining project phases (including key milestones, estimated schedules and costs, adopted Roadmap for CAM improvements).	City completes with advice from consultant
Consultant retained.	City completes
Presentation to Council, Vision and Charter.	City completes
Current State Analysis, including identifying gaps. (Based on 13 asset types)	50% Consultant
Advance the expertise, capacity and knowledge of current staff members	100% Consultant

Unit 2 Strategy Development- Due Date: August 2012

Unit 2 – Strategy Development – Scope of Work	Anticipated Level of Involvement
Data management strategy including additions, changes and disposals, TCA/PSAB	100% Consultant
Risk management strategy	100% Consultant
Level of service strategy	100% Consultant
Lifecycle management strategy	100% Consultant
Integration strategy including address PSAB needs	100% Consultant
<p><i>Within each strategy above the following activities are required:</i></p> <ul style="list-style-type: none"> ✓ Identify specific actions to be taken to achieve CAM goals, objectives. ✓ Identify gaps between the current status (processes, asset data, PSAB needs, and information systems) and the future vision using the information developed in Unit I ('Gap Analysis'). ✓ Propose strategies and actions required to close the gaps, including resource requirements and timeframes. ✓ Document the resulting strategy for each of the 13 asset types. 	100% Consultant
CAM implementation strategy including communication/ reporting	50% Consultant
CAM policies	50% Consultant
Unit 2 – Strategy Development – Deliverables	
Data management strategy, including TCA/PSAB.	100% Consultant
Risk management strategy	100% Consultant
Level of service strategy	100% Consultant
Lifecycle management strategy	100% Consultant
Integration strategy, including TCA/PSAB.	100% Consultant
CAM implementation strategy	100% Consultant
CAM policies	50% Consultant
A communications strategy for improving CAM	50 % Consultant

Unit 3: Corporate Asset Hierarchy and Registry-- Due Date: August 2012

Unit 3 – Corporate Asset Hierarchy and Registry – Scope of Work	Anticipated Level of Involvement
Create Corporate Asset Hierarchy encompassing all core business areas with sub-hierarchies for each of the 13 asset types.	City completes with advice from consultant
Conduct workshops with stakeholders to review and revise the proposed hierarchies and identify information and level of detail available for each service area (13 asset types).	City completes with advice from consultant
Create inventory map identifying data storage locations and formats for each data repository for 13 asset types.	City completes with advice from consultant
Document data criteria/ index (Meta Data Report) for 13 asset types.	50%
Identify current and future anticipated (i.e. SOIR, PSAB Report, etc.) asset reporting requirements for 13 asset types.	City completes with advice from consultant
Identify the criteria needed for assets management modeling and maintenance management modeling and flag identifiers as appropriate to ensure that the criteria meet the needs of both functions.	City completes with advice from consultant
Confirm Corporate Asset Hierarchies meet maintenance management needs.	City completes with advice from consultant
Develop and implement QA/QC data controls for 13 asset types.	100% Consultant
Unit 3 – Corporate Asset Hierarchy and Registry – Deliverables	
Corporate Asset Hierarchies supporting all core City service areas	City completes with advice from consultant

Inventory map , data criteria and index	50% Consultant
List of reporting requirements	City completes with advice from consultant
QA/QC data controls	100% Consultant
Workshops with 13 asset types.	50% Consultant

Unit 4- Develop Preliminary Corporate Asset Management Plan-- Due Date: December 2012

Unit 4 – Develop Preliminary Corporate Asset Management Plan – Scope of Work	Anticipated Level of Involvement
Develop a corporate integrated long-term plan (usually 20-100 years for infrastructure assets) that outlines the asset activities across each service area (13 asset types).	City completes with advice from consultant
Define a structured set of actions and resources to provide a defined level of service in the most cost effective way.	50% Consultant
Summarize corporate strategic goals with regard to asset management.	City completes with advice from consultant
Define levels of service and performance standards for all 13 asset types.	75% Consultant
Identify critical assets, associated risks and risk management strategies.	100% Consultant
Project future needs and management techniques.	100% Consultant
Describe the asset portfolio.	100% Consultant
State assumptions used to prepare the CAM Plan	100% Consultant
Broadly describe lifecycle management activities for operating, maintaining, renewing, developing and disposing of assets.	100% Consultant
Conduct cost analysis and forecast replacement cost, disposals, net book value for all 13 asset types.	100% Consultant
Identify and prioritize CAM improvement actions including resources/time frames.	City completes with advice from consultant
Unit 4 – Develop Preliminary Corporate Asset Management Plan-- Deliverables	
Preliminary State of the infrastructure report	25% Consultant
Preliminary Corporate Asset Management Plan	75% Consultant

Unit 5: Integrated Software System-- Due Date: Trial start-up- December 2012

Unit 5 – Integrated Software System – Scope of Work	Anticipated Level of Involvement
Assess existing software tools and information systems available to support decision-making.	100% Consultant
Assess the existing software tools relative to best practice software based on: functionality, software support, stability, strengths and weaknesses dealing with variables (Risk, LOS, Cost, Life cycles,...etc), specific requirements, integration with other corporate applications, web-based interface functionality and implementation effectiveness.	100% Consultant
Recommend a design/ process for CAM integration software development and implementation including specifications	100% Consultant
Recommend, select and acquire CAM integration software	50% Consultant
Populate the database sufficiently for the trial start up.	City completes with advice from consultant
Trial startup of software system	Consultant
Phased implementation of software system	Consultant
Unit 5 – Integrated Software System – Deliverables	
Document deficiencies identified during the assessment	100% Consultant
Document design/process for software system	100% Consultant
RFP for CAM integration software	50% Consultant

Software acquisition and roll out	Consultant
Generate custom user reports	Consultant

Unit 6 CAM Plan- Pilot Trial - Due Date: August 2013

In order to initiate Corporate Asset Management Program, a pilot study for one/two service areas will be selected based on current situation assessment results (Unit 1). The test is divided into five topics as follows:

- 1) Level of Service (LOS)
- 2) Inventory and Condition Assessment
- 3) Risk Modelling
- 4) Economics including PSAB Reporting
- 5) Lifecycle Management

Upon successful completion of any of the above topics, work on that topic can expand to the remaining service areas identified within the scope of the project.

Unit 6 -1 Level of Service (First Round: one/two service area only)

Unit 6.1 – Level of Service – Scope of Work	Anticipated Level of Involvement
Identify existing LOS and key performance indicators and where LOS need to be developed	50% Consultant
Develop Customer LOS for services where necessary	50% Consultant
Align all Customer LOS with measurable key performance indicators and customer targets for performance	50% Consultant
Develop Technical LOS for services where necessary	50% Consultant
Align all Technical LOS with measurable key performance indicators and performance targets	50% Consultant
Create Service to Asset diagrams (List and link Level of Service parameter to key performance indicators (both Technical and Customer LOS))	100% Consultant
Ensure LOS are consistent with legislative requirements as they pertain to asset sustainability and service delivery for services	100% Consultant
Facilitate workshops to review and discuss LOS	100% Consultant
Finalize and document LOS	100% Consultant
Develop corporate LOS procedure	City completes with advice from consultant
Ensure the LOS data is incorporated in the new software system	Consultant
Confirm data quality through QA/QC process	100% Consultant
Unit 6.1 – Level of Service – Deliverables	
Service to Asset diagrams	100% Consultant
Document recording the LOS parameters, key performance indicators, assumptions, updating procedures and processes to address ongoing changes in LOS parameters	100% Consultant
Corporate Level of Service procedure	50% Consultant
Accurate and current LOS data	City completes with advice from consultant

Unit 6 -2 Inventory and Condition Assessment

(First Round: one/two service area only)

Unit 6.2 – Inventory and Condition Assessment – Scope of Work	Anticipated Level of Involvement
Identify parameters surrounding the process of asset failure	50% Consultant
Generate condition assessment indices	50% Consultant
Define protocols for Inventory and Condition Assessment processes.	50% Consultant
Develop management strategies and coordinate / optimize Inventory	50% Consultant

and Condition Assessment processes.	
Ensure the Inventory and Condition Assessment data is incorporated in the new software system	Consultant
Confirm data quality through QA/QC process	100% Consultant
Unit 6.2 – Inventory and Condition Assessment – Deliverables	
Corporate Inventory and Condition Assessment Procedure	75% Consultant
Accurate and current Inventory and Condition Assessment data	City to complete with advice from consultant
Generate custom user reports	City to complete with advice from consultant

Unit 6 -3 Risk Modelling

(First Round: one/two service area only)

Unit 6.3 – Risk Modeling– Scope of Work	Anticipated Level of Involvement
Review of current state of risk assessment with respect to assets in each service area.	50% Consultant
Review risk impact, likelihood, and severity measurement tools	75% Consultant
Conduct workshops to: <ul style="list-style-type: none"> • Identify and quantify criticality (impact/consequence of failure) parameters • Identify and quantify likelihood / probability of failure • Determine acceptable level of risk • Determine key risk areas and define risk scale • Create/ select risk measurement tools 	75% Consultant
Apply measurement tools against risk events/ factors to develop the risk matrix	100% Consultant
Ensure risk matrix identifies each of the events by asset and prioritizes/ranks risk events	75% Consultant
Develop asset management policies to support risk management strategy objectives	25% Consultant
Ensure the risk data is incorporated in the new software system	Consultant
Confirm data quality through QA/QC process	100% Consultant
Unit 6.3 – Risk Modeling – Deliverables	
Risk assessment criteria, models, and procedures.	100% Consultant
Documented criticality and probability of failure parameters and results.	100% Consultant
Business risk exposure maps	100% Consultant
Report risk models, updating procedures and processes to address ongoing changes in risk parameters.	75% Consultant

Unit 6-4 Economics Including PSAB Reporting

Unit 6.4 – Economics including PSAB Reporting– Scope of Work **price must include estimate for work on all 13 asset types.	Anticipated Level of Involvement
Review and analyze business processes in relation to PSAB 3150 for all 13 asset types for: <ul style="list-style-type: none"> • Documenting • Tracking • Reporting • Identifying gaps • Inventory development • Evaluate business practices with regard to: <ul style="list-style-type: none"> ○ Purchase order process ○ Work order process ○ Availability of Service area support 	75% Consultant
Document business requirements and specifications for pilot asset types	100% Consultant
Recommend improvements and efficiencies for pilot asset types	100% Consultant

Amend / implement systems to provide the necessary TCA information at the asset level for all 13 asset types	50% Consultant
Address PSAB accounting needs including accrual accounting outputs.	75% Consultant
Develop a process to determine book values (including useful life estimates) for all 13 asset types.	100% Consultant
Provide stakeholders with detailed cost information on all assets within the scope of the project (13 asset types).	City to complete with consultant advice
Implement systems that identify true lifecycle costs on assets for specific levels of service	25% Consultant
Integrate with capital / operational business planning and budget processes.	City to complete with consultant advice
Quantify and monitor infrastructure gaps	25% Consultant
Unit 6.4 – Economics including PSAB Reporting – Deliverables	
Enable generation of PSAB reports within the scope of the project.	City to complete with consultant advice
Implement business process changes/improvements (PSAB 3150 related) for all 13 asset types.	75% Consultant
Implement changes / improvements to software systems.	Consultant
Finalize corporate asset hierarchy and registry for 13 asset types.	50% Consultant
Generate custom user reports	50% Consultant
Integrate CAM with business plan and capital budget	City to complete with consultant advice

Unit 6-5 Lifecycle Management
(First Round: one/two service area only)

Unit 6.5 – Lifecycle Management– Scope of Work	Anticipated Level of Involvement
Define lifecycle management best practices for corporate assets within scope of the project.	100% Consultant
Develop pilot lifecycle and Optimized Decision Making (ODM) models.	100% Consultant
Develop a process to determine replacement values	100% Consultant
Define acquisition, amendment and disposal protocols	75% Consultant
Identify thresholds for abandonment, replacement and maintenance decisions.	75% Consultant
Assess existing decision making processes	75% Consultant
Develop a process to predict asset needs based on analysis of condition, performance and risk	100% Consultant
Develop a process to forecast lifecycle needs based on trends	100% Consultant
Develop processes to integrate decision making across the corporation	75% Consultant
Run ODM models for assets and asset classes that have applicable data available	100% Consultant
Enable reporting of the potential impacts of choices including financial	50% Consultant
Using modeling results optimize corporate decision making.	50% Consultant
Ensure that decision making processes accommodate comparative data and an integrated perspective across the corporation	25% Consultant
Develop corporate lifecycle management procedure	100% Consultant
Develop corporate ODM procedure	100% Consultant

Unit 6.5 – Lifecycle Management – Deliverables	
Life cycle and ODM models	100% Consultant
State of Infrastructure Report (SIOR) and pre-budget reports.	25% Consultant
SIOR reporting tools.	100% Consultant
Custom user reports including comparative analysis of choices, options, or scenarios	75% Consultant
Corporate lifecycle management procedure	100% Consultant
Corporate optimized decision making procedure	100% Consultant

Unit -7 CAM Implementation- Due Date: March 2016

Unit 7 – CAM Implementation– Scope of Work	Anticipated Level of Involvement
<p>Expand the piloted processes to the remaining service areas within the scope of the project, following the same basic procedures used in the trial with the appropriate service specific attributes.</p> <p>1. Pilot level of service ⇒ Implement LOS in remaining service areas</p> <p>2. Pilot Inventory and Condition Assessment ⇒ Implement Inventory and Condition Assessment in remaining service areas</p> <p>3. Pilot risk modeling ⇒ Implement risk in remaining service areas</p> <p>4. Pilot economics including PSAB ⇒ Implement economics in remaining service areas</p> <p>5. Pilot lifecycle management ⇒ Implement lifecycle management in remaining service areas</p>	25% Consultant
Maintain asset registry in conformance with QA/QC data controls	City to complete with consultant advice
Implement corporate Integration strategy	City to complete with consultant advice
Implement corporate level of service	City to complete with consultant advice
Implement corporate Inventory and Condition Assessment	City to complete with consultant advice
Implement corporate risk management	City to complete with consultant advice
Ensure that economics including PSAB reporting are embedded in the processes	City to complete with consultant advice
Meet legislated requirements	City to complete with consultant advice
Comply with CAM policies	City to complete with consultant advice
Implement corporate communications strategy	City to complete with consultant advice
Document business requirements and specifications	City to complete with consultant advice
Implement corporate life cycle management	City to complete with consultant advice
Implement optimized decision making	
Unit 7 – CAM Implementation – Deliverables	
Assets Managed based on the principles of sustainability, continuous improvement and simplicity	City to complete with consultant advice
Integrated corporate priorities and decision making	City to complete with consultant advice
Reliable data with the integrity to meet or surpass regulatory demands (i.e. PSAB 3150)	City to complete with consultant advice
Clear accurate reporting in a timely manner	City to complete with consultant advice
Informed decision making, scheduling, resourcing and reporting	City to complete with consultant advice