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Telephone: 780-430-4041

**URBANSYSTEMS.**

October 03, 2011

File: 3144.0006.00

County of St. Paul No. 19  
5015 – 49 Avenue  
St. Paul AB T0A 3A4

**Via email:** [skitz@county.stpaul.ab.ca](mailto:skitz@county.stpaul.ab.ca)

**Attention:** **Sheila Kitz, CLGM**  
**Chief Administrative Officer**

**RE: WORK PROGRAM – COUNTY OF ST. PAUL DESIGN GUIDELINE  
AND MINIMUM SERVICING STANDARD UPDATE**

Thank you for the opportunity to submit a work program to undertake the review and update for the County of St. Paul Design Guideline and Minimum Servicing Standards. We appreciate our discussion to date and look forward to working with you on this project. Our proposed scope of work, schedule and associated fees are described below.

## **1.0 Background**

In 1995, Stewart Weir & Co. Ltd. prepared "Development Guidelines and Minimum Servicing Standards for Rural Country Residential, Recreational and Industrial Subdivisions" for the County of St. Paul. The guidelines focused on rural drainage works and transportation without inclusion of utilities in rural or urban areas. The County is in the process of constructing a regional water main to service the Hamlet of Ashmont and Hamlet of Lottie Lake. Thus, updating the current guidelines to expand the content of the engineering and servicing design standards has become a priority. We are pleased to provide the County with the following work program to update the current design guidelines and minimum standards.

## **2.0 Methodology**

This work program will focus on updating and expanding the current design standards to include the following sections:

- Engineering Drawings Standards
- General Design Considerations
- Water Distribution
- Sanitary Collection
- Stormwater and Drainage
- Transportation

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and to achieve the following objectives:

- Review the practices outlined in the current guidelines to determine the missing sections, gaps and new additions necessary to reflect the recent needs of the County;
- Identify sustainable approaches to the County infrastructure design (including water, sewer, drainage, transportation, power and lighting);
- Ensure the updated guidelines complement each other; and,
- Engage the County staff to inform and provide feedback on the design standards updates.

We have grouped these and other critical items into four (4) main tasks that are as follows:

- Communications Strategy and Project Management;
- Review of Existing Guidelines and Minimum Servicing Standards;
- Update Guidelines and Minimum Servicing Standards ; and
- Documentation and Submission.

The following paragraphs elaborate on these tasks which are illustrated in the attached project schedule.

### **3.0 Scope of Work**

#### ***3.1 Task 1 – Communications Strategy and Project Management***

Project Administration/Status Reports - Upon notification of the work program approval, we will set up our internal administration tracking and filing for the project. Our system will allow us to monitor project budget and schedule throughout each task to ensure that we stay on track. Budget tracking summaries will also be provided with each invoice. Discussions with the County and approved scope changes will be documented prior to moving forward with any variances to this proposal.

Project Initiation Meeting – Within one week of acceptance of work program, our team will meet to initiate the project and outline a "Table of Contents" (TOC) of the proposed guidelines.

TOC Review Meeting – We will meet with County staff following our TOC submission to review the TOC and confirm the proposed topics meet the County needs.

50% Review Meeting – We will meet with County staff following our first (50%) submission of the Design Standards to seek feedback on the first draft. Comments will be considered and incorporated into the guidelines, as appropriate.

90% Review Meeting – We will meet with County staff following our second (90%) submission of the Design Standards to seek feedback on the second draft of the work. Comments will be considered and incorporated into the final version of the Design Standards, as appropriate.



### ***3.2 Task 2 – Existing Guidelines Reviews***

Review of Guidelines and Minimum Servicing Standards – We will review the current Guidelines and Minimum Servicing Standards to understand the content of the current guidelines and to identify any inconsistencies, gaps, and new additions to be addressed in the updated version. Once the review is complete, a Table of Contents of the proposed Design Standards will be produced.

Identify Desired Level of Service and Metrics – Based on our review of the current guidelines and our engineering judgment along with discussions with the County, we will identify the desired metrics and service levels, as they relate to design criteria, for water, sewer, drainage, transportation, power, and lighting of the guideline updates.

Identify Core Topics – Based on the outcomes of the above tasks, we will identify the core topics to be covered in the Design Standards for water, sewer, drainage, transportation, power, and lighting infrastructure design.

Identify Necessary Amendments, Deletions and Additions – Core topics that are not included in the current guidelines will need to be added as part of the updates. Further, sections of the current guidelines may no longer be relevant, or may require updating and expansion to reflect current practices. Necessary amendments, deletions and additions to the current manuals will be identified to ensure that the core topics are covered in the manual updates.

Prepare a Table of Contents (including sub items) – Based on the outcomes of the above tasks, we will prepare a detailed TOC of the updated Design guidelines for consideration by the County staff.

### ***3.3 Task 3 – Design Guideline Update***

Define Adjustment Ranges – Different design parameter values of the municipal infrastructure elements such as pipes, roads, and water demands will be defined based on Alberta Environment guidelines (AENV) and adjusted based on the County's context (e.g. current water policy work). We will identify appropriate adjustment ranges for inclusion in the guidelines updates.

Update Current Sections of Design Guideline – We will streamline the document by removing multiple references and redundancies where they exist, reorganizing sections as needed to improve readability and flow, and delete sections that are no longer relevant (if applicable). We will then update the text to reflect current practices in municipal infrastructure design, which will be written to provide concise and practical design guidelines to the user. Updated references to local, regional, provincial and federal statutes, regulations, policies and guidelines will also be included.

Add New Sections to Design Guideline – In conjunction with updating current sections, we will also prepare new sections for the guidelines. New sections may include water distribution, sanitary



collection, drainage design considerations, power, lightening, etc. New sections will be written to provide concise and practical design guidelines to the user.

### **3.4 Task 4 – Documentation and Submission**

Submission of TOC –We will submit the Table of Contents on the date specified in the proposed project schedule in Table 2.

Submission of 1<sup>st</sup> Draft (50% submission) –We will complete an internal peer review of the first draft prior to submission. We will submit the first draft on the date specified in the proposed project schedule in Table 2.

Submission of 2<sup>nd</sup> Draft (50% submission) – Comments from the County staff on the 50% draft submission will be incorporated into the second draft of the manuals. This second submission will represent a 90% completion level. We will complete an internal peer review of the second draft prior to submission. We will submit the second draft of the manuals to the County on the date specified in the proposed project schedule in Table 2.

Submission of Final Guidelines - Comments from the County staff on the 90% draft submission will be incorporated into the final version of the manual. We will submit the final manuals to the County on the date specified in the proposed project schedule in Table 2.

Prepare Standard Detail Drawings – It is anticipated that the proposed design standards sections will require new standard detail drawings. AutoCAD and PDF versions of the drawings would be prepared (8.5" x 11") and submitted to the County. We have allowed for a total of twenty-five (25) standard detail drawings. We will work with the County to prioritize the required drawings and adjust our scope should additional drawings be requested.

### **3.5 Optional Works**

While not core components of our work program, we recommend that the County consider the additional sections be included in the guidelines:

- Front End
  - Administration
  - Subdivision and Development Requirements and Regulations
  - Provisions of Services in New Developments

Although we understand that the County would like to update the Power and Lighting design standards we have not included them in our core components. The attached proposed work program from DES Engineering provides a high-level scope and fee schedule that requires refinement. We propose that DES meet with the County to discuss the scope of work to refine the



scope of work and fees. We do not anticipate that the upset fee limit will be required based on our discussion with you to date.

- Power and lighting

#### 4.0 Engineering Fee Estimate

Based on the above work program, the engineering fees for the tasks 1, 2, 3, and 4 will be \$52,250 including disbursements (excluding GST). The optional work fees for the front end and the power and lighting sections will be \$4,150 and \$28,500 respectively, plus disbursements and GST. No changes to the work program will be considered without the approval of the County. Table 1 below outlines our proposed fees for the above listed tasks and the optional works.

*Table 1: Proposed Engineering Fees*

Task	Engineering Fees
Task 1 – Communications Strategy and Project Management	\$ 4,750
Task 2 – Existing Guidelines Reviews	\$ 9,000
Task 3 – Design Guideline Update	\$ 27,000
Task 4 – Documentation and Submission	\$ 11,500
<b>Core Components Sub-Total</b>	<b>\$52,250</b>
Front End	\$4,150
Power and lighting	\$28,500*
<b>Optional Works Sub-Total</b>	<b>\$32,650</b>
<b>Total</b>	<b>\$84,900</b>

\*To be refined prior to approval.

#### 5.0 Schedule

We are prepared to begin the work upon receiving authorization from the County to proceed in October of 2011. Based on discussions with the County and our overall understanding of the project requirements, we propose to complete the work within five (5) months. This will provide the time necessary to coordinate all communications between USL and the County. Table 2 outlines the overall project schedule and proposed dates for submissions and reviews.

**Table 2 Proposed Schedule**

**Consultant Services for Review & Updating Guidelines and Minimum Servicing Standards**

2011				2012			
October				November			
17	24	31		7	14	21	28
December				January			
5	12	19	26	3	9	16	23
February				March			
7	14	21	28	5	12		

Project Award ★

**Communications Strategy**

1.01	Project initiation meeting	★															
1.02	TOC Review meeting ( following to TOC submission)				★												
1.03	50% review meeting (following first draft submission)								★								
1.04	90% review meeting (following second draft submission)									★							
1.05	Project administration/status reports																

**Existing Guidelines Review**

2.01	Review existing manuals																
2.02	Identify desired benchmarks, metrics and service levels																
2.03	Identify core topics to be covered in guidelines																
2.04	Identify necessary amendments, deletions and additions to current guidelines																
2.05	Prepare TOC summarizing core topics and recommended updates																

**Design GuidelineUpdate**

3.01	Define adjustment ranges for various design parameters																
3.02	Update current sections of design guideline guidelines																
3.03	Add new sections to design guideline guidelines																
3.04	Prepare standard detailed drawings																

**Documentation and Submission**

5.01	Submission of TOC																
5.01	Submission of 1st Draft																
5.02	Submission of 2nd Draft																
5.03	Submission of final guidlines and design standards																

— timeline ★ meeting ★ submission



## 6.0 Closing

We thank you for giving us the opportunity to provide this work program to assist the County updating the current guidelines and design standards. If you have any questions regarding this work program or require additional information, please do not hesitate to contact us.

Yours truly,

**URBAN SYSTEMS LTD.**

A handwritten signature in blue ink, appearing to read "M. Elenany".

Mohammed Elenany, P.Eng  
Project Engineer

/ME

Encl.

A handwritten signature in blue ink, appearing to read "Matt Brassard".

Matt Brassard, P.Eng.  
Project Manager



September 7, 2011

**Urban Systems Ltd.**  
Suite 200, 10345-105 Street  
Edmonton, Alberta  
T5J 1E8

**Attention: Mr. Mohammed Elenany, Ph. D., P. Eng.**

Dear Sir:

**Project: COUNTY OF ST. PAUL ENGINEERING DESIGN STANDARDS (POWER 3 LIGHTING)**

Thank you for considering DES Engineering Ltd. for this project. We are pleased to provide you this hourly proposal with maximum upset limit fee.

DES Engineering Ltd. is pleased to supply extensive electrical engineering design and construction management services in the areas of overhead and underground primary and secondary power distribution systems, traffic signal systems along with highway and roadway illumination systems to clients throughout Alberta. Through our UDI Greater Edmonton membership we sit on numerous shallow utility committees in the various municipalities and provide input into engineering standards for power, communications and roadway lighting. We were assigned the task in conjunction with Stantec Consulting to write the City of Edmonton Lighting Standards for the Transportation Department. Having worked on everything from large scale residential subdivisions, systems interchanges to local residential roads, our design team is un-paralleled with experience in power distribution, high mast lighting, traditional high intensity discharge lighting and more recently LED lighting.

With local knowledge and over 140 years combined experience from the personnel listed below, DES Engineering's experience produces superior solutions. Personnel working directly on this project are listed below. Resumes can be provided upon request if required.

A. E. Thomas, P. Eng.  
Dan Hamilton  
Dwayne Dufva  
Michael E. Field MILE, R.E.T  
Evan Zukiwsky, C.E.T.  
Thomas Kyle, E.I.T  
George Vailas, E.I.T  
Ron Reisdorf, C.E.T.

Managing Partner, Electrical Engineer  
Partner, Senior Electrical Consultant  
Partner, Senior Electrical Consultant  
Senior Lighting Consultant  
Lighting & Electrical Consultant  
Lighting & Electrical Consultant  
Lighting & Electrical Consultant  
Project Manager



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➤ **OUR SCOPE (Power and Communications)**

- ❖ Attend initial startup meeting with the County of St. Paul to discuss complete scope of project and level of detail required for the power and roadway lighting standards.
- ❖ Review standard roadway cross-sections and existing line assignments.
- ❖ Contact the power and communications utilities to determine their particular requirements.
- ❖ Provide information to the gas utility(s) for comment.
- ❖ Incorporate gas requirements into power/communication requirements so all shallow utility requirements, clearances and offsets have been considered.
- ❖ Prepare report for the County for review and comment.
- ❖ Provide line assignments alignments based on information gathered from all stakeholders.
- ❖ Preparation of cross-sectional drawings detail if required.

➤ **OUR SCOPE (Roadway Lighting)**

- ❖ Meet with the County to discuss and review County Lighting requirements.
- ❖ Discuss advantages and disadvantages of established roadway lighting standards for RTAC and IESNA.
- ❖ Provide information on Alberta Transportation Lighting requirements and how that may affect the County.
- ❖ Provide up to date information on the latest LED technologies available today.
- ❖ Provide advantages and disadvantages of LED Lighting.
- ❖ Provide information to the power utility for comment.
- ❖ Establish roadway lighting performances and material specification if required.

Our hourly rates are as followed:

A.E. Thomas, P. Eng.	\$165.00/hr
Dan Hamilton, Project Manager	\$135.00/hr
Dwayne Dufva, Project Manager	\$135.00/hr
Michael Field, Lighting Consultant	\$135.00/hr
Ron Reisdorf, C.E.T., Project Manager	\$120.00/hr
Evan Zukiwsky, C.E.T., Project Manager	\$120.00/hr
George Vailas, E.I.T., Project Manager	\$120.00/hr
Thomas Kyle, E.I.T., Project Manager	\$120.00/hr
Drafting Technician	\$65.00/hr
Administration	\$55.00/hr

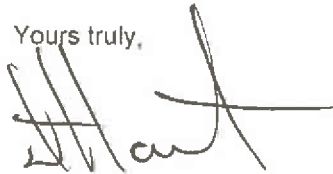
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We would propose to bill monthly for our services based on the hourly rates stated above.

**Our maximum upset limit would be \$28,500.00 (not inclusive of GST).**

Please note disbursements will be billed at cost plus 10% for travel and accommodation expenses where required. Feel free to contact me if you have any questions regarding the above document. We look forward to working with you and for the opportunity to provide this proposal.

Yours truly,

A handwritten signature in black ink, appearing to read 'Dan Hamilton', written over a horizontal line.

Dan Hamilton, Partner  
**DES Engineering Ltd.**