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## CITY OF KELOWNA

# MEMORANDUM

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**Date:** May 5, 2004  
**File No.:** 5520-01  
**To:** City Manager  
**From:** Electrical Utility Manager  
**Subject:** **Undergrounding of Wires – Rutland Rd (Hwy #33 to Leathead Rd.)**

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### **RECOMMENDATION:**

THAT Council approves Option 1, leaving the Distribution System O/H based on the high cost associated to bury the system U/G as presented below in Option 2 and Option 3 of this report.

### **BACKGROUND:**

In 2002 Council approved an undergrounding of wires and cables strategy presented by the Director of Works & Utilities. That strategy as approved by Council is noted below:

- 1) Installation of underground wires and cables will still be required in all new development streets.
- 2) Burial of overhead wires will be required in **all town and village center areas**. The City would ensure new development in these areas would be responsible for burial of wires fronting their property. The City would also develop various **funding strategies** to ensure all wires would ultimately be buried.
- 3) Redevelopment in existing areas outside of town and village centers will be given the option whether to bury wires fronting their property. The City's experience is that there is a desire from some developments to bury the fronting wires due to visual impact on their development. Other developments see no benefit.
- 4) In the **City electrical utility service area** the City will continue burial of wires under the following conditions:
  - a) Where all the telecommunications and City Electrical utilities jointly identify a benefit to burial of the existing wires and agree to financially share in the costs.
  - b) Where requested by residents a local improvement process will be initiated. The Electrical Utility will pay up to 100% of the cost of burial of their wires (depending on costs and local conditions) with all telecommunication costs to the City be covered by the Local Improvement process.

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In February 2004 Aquila advised the City they would be rebuilding the O/H distribution lines running along Rutland Rd (Hwy 33 – Leathead Rd.). Due to large growth around the Orchard Park area and development out in the Sexsmith area, Aquila has advised in order to meet summer peaks, load shifting at the Sexsmith Substation and Hollywood substation must occur as soon as possible. In order to complete the load shift the Rutland Rd. N rebuild must be done by mid-summer 2004.

City staff advised Aquila that given this was in a town centre, undergrounding may be required subject Councils review. City's Electrical Manager, Rod Carle has been working diligently over the past 7 weeks with Aquila to come up with an acceptable undergrounding design that may meet today's current policy subject to this Council review.

### **DESIGN OPTIONS:**

#### Option 1) - Overhead

Aquila would rebuild the electrical distribution along Rutland Rd. N (Hwy #33 – Leathead Rd.) exactly as it is today being an entire overhead system. As re-development occurs and customer needs an up-grade to their service the secondary lines running into the properties may be converted to U/G.

Estimated total cost of project = \$134,042.00

Cost to the City of Kelowna – **No Cost**  
Cost to Aquila - \$134,042.00

#### Option 2) – Hybrid System (80% U/G, 20% Overhead)

Aquila under a two staged process would underground the entire distribution system running along the Rutland Rd. N (Hwy #33 – Leathead Rd.). All civil work and the primary feeder cable would be installed underground as soon as possible in 2004. The second stage would entail installing all new steel poles (similar to Springfield Rd – Zipbrick to Hollywood) with streetlights. Aquila would then be eliminating all overhead primary wires, wood poles, secondary spans between poles and the davit style streetlights. On some poles there would be a mounted transformer with secondary wires going into the residential/commercial properties and on other poles all you would have is a street light on the pole with secondary wires going into the residential /commercial properties.

As redevelopment occurs and customers need to up-grade their services (the lines running into the properties) will be converted to U/G at the developers cost. Also, not knowing today what development will occur at most of these locations, it would be prudent to let development drive these types of service changes so duplication of work does not occur in the future.

Estimated total cost of project = \$961,863.00

Cost to the City of Kelowna for stage 1 in 2004 = \$499,763.88 - \$134,041.35 = **\$365,722.53**  
Cost to the City of Kelowna for stage 2 in 2005 = **\$ 462,072.46**  
Aquila contribution = \$134,042.00

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### Option 3) – Full Underground

Aquila under a two staged process would underground the entire distribution system running along Rutland Rd. N (Hwy #33- Leathead Rd.). All civil work and the primary feeder cable would be installed underground as soon as possible in 2004. The second stage would entail land acquisition where needed to install transformer pads and or vaults on private property and other easements if needed. Aquila would then convert each residential/commercial service to underground and tie them into the new underground primary feeder system. Once all customers are connected Aquila would then eliminate all overhead primary wires, wood poles, secondary spans etc.

Estimated total cost of project = \$1,265,918.84 plus Telus Cost

Cost to the City of Kelowna for stage 1 in 2004 = \$499,763.88 - \$134,041.35 = **\$365,722.53**

Cost to the City of Kelowna for stage 2 in 2005 = **\$ 900,196.31** plus Telus Cost

Aquila contribution = \$134,042.00

### Summary

Staff recommends the overhead option because of the following:

- It allows Aquila to meet load requirements by mid summer 2004 that are crucial due to the load growth in the Orchard Park and Sexsmith Rd areas.
- It relieves the burden of pushing cost of the project on to the taxpayers at this time when a possible Town Centre revitalization in the future could achieve the same objective.
- By completing a process review like this with Council it provides us an opportunity to review project by project and decide whether or not we bury utility lines in Town or Village Centres when possible retrofits occur in the future.

Note: Design Illustrations of Option 1, 2 & 3 are attached and form part of this report.

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Rod Carle  
Electrical Manager

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John Vos  
Director of Works & Utilities

cc: Development Engineering Manager  
Director of Planning and Development Services

Attached: