

City of West Kelowna
2760 Cameron Road
West Kelowna, BC V1Z 2T6

April 30, 2018
File: 2235
CoWK: Z 17-02

Attention: Darin Schaal, Planner III

Dear Mr. Schaal,

**Re: Upper Glenrosa/Salmon Road – Zoning Bylaw Amendment and Development
Variance Permit Application – Lot A & B, KAP68680 and Block 105, KAP777, ODYD**

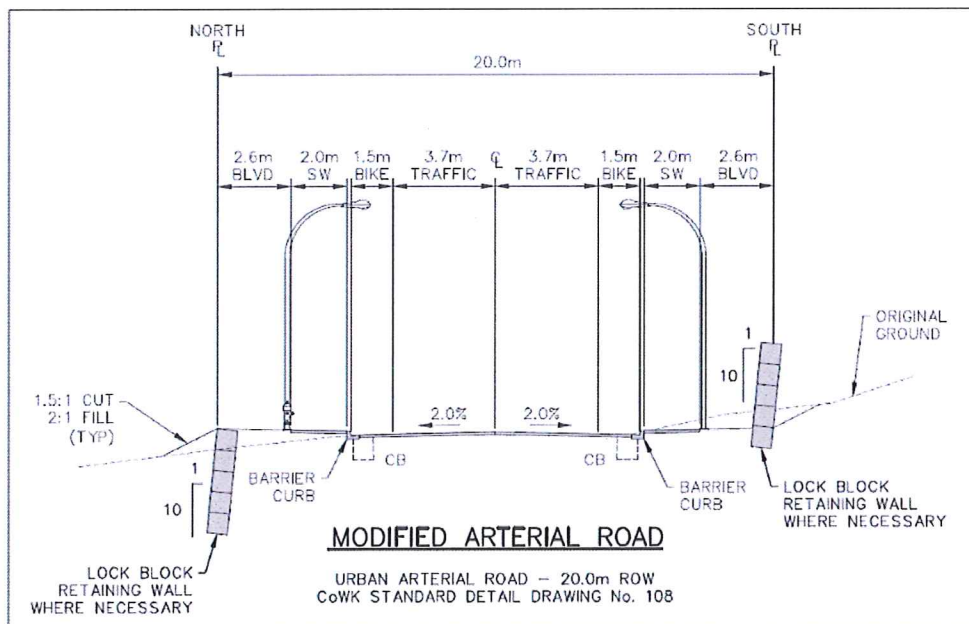
Regarding your report to Council for 3rd Reading, please find attached five construction estimates pertaining to various Glenrosa Road designs discussed with Staff.

It is important to note the following:

- These estimates are based on preliminary design and although our linework is considered accurate, the actual storm sewer size and detention requirements could vary greatly depending on the storm model and Environmental requirements.
- Jason Schleppe with Ecoscape Environmental Consultants provided the following advice regarding Staff's requirement to relocate the existing stream on the south side of Glenrosa Road to a piped system. Initially, he said that this is not a process that should be undertaken by a developer. He indicated that it would be an extensive process that the Municipality should be spearheading. Upon further review, Jason's professional opinion is that the process will take at least 6 months, involve First Nations, cost \$10,000 and that piping is unlikely to get approved.
- The land acquisition was estimated based on the 2017 BC Land Assessment values. Actual costs are expected to inflate significantly during negotiations.
- A Geotechnical Investigation has not been completed for Glenrosa Road. As such, rock cut volumes were estimated based on a visual assessment of existing conditions.
- Costs for shallow utilities and traffic control was not included.
- As per Staff's request, the Half Modified Arterial Road has been divided into two estimates specifying Frontage Works and Offsite Works separately. This information has been provided for discussion purposes only. Due to the current topography and arterial geometry requirements, the road design ties into the existing Glenrosa Road location and elevation at the beginning/end only. As such, these works cannot be constructed separately.

Below is a summary of each construction estimate including a location map and road standard:

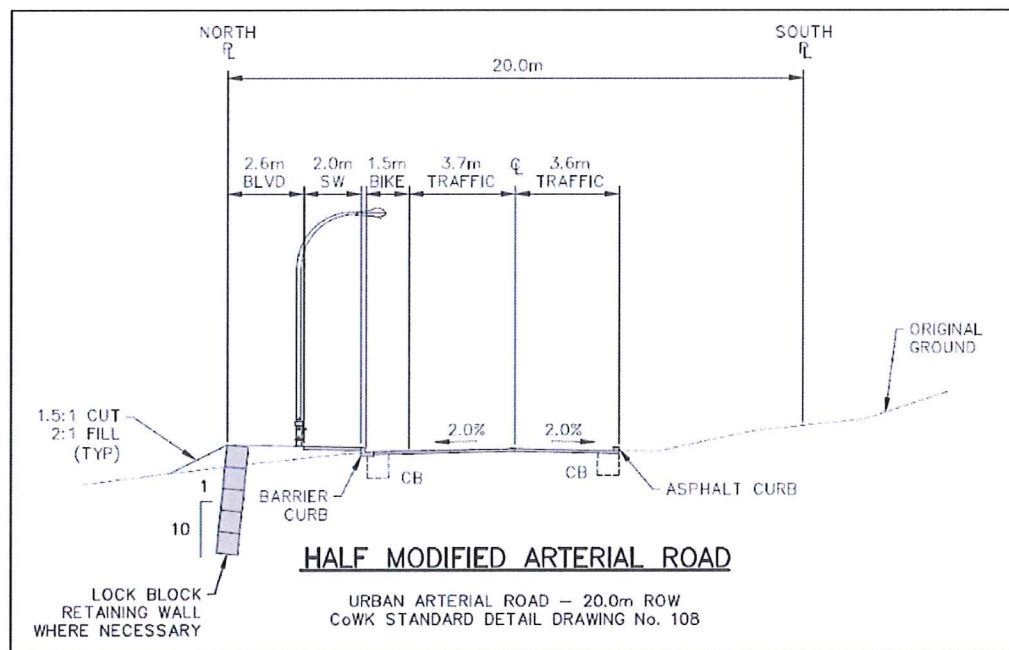
Modified Arterial Road



Modified Arterial Road Estimate

\$3,385,278.86

Half Modified Arterial Road

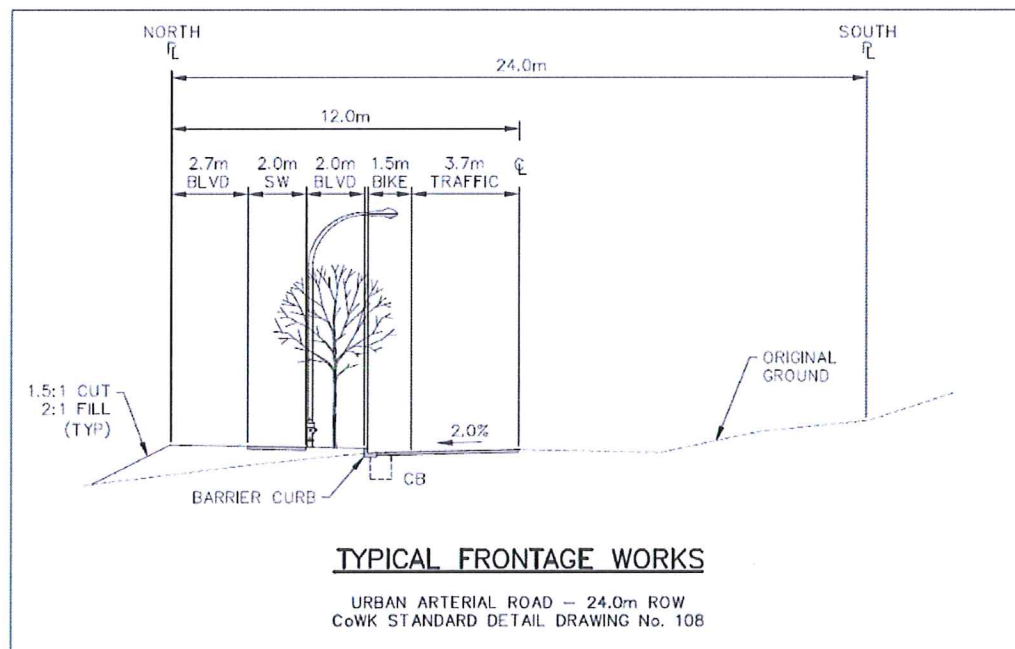


Half Modified Arterial Road Estimate \$2,793,100.68

Frontage Only \$1,378,166.27

Offsite Only \$1,414,939.29

Typical Frontage Works



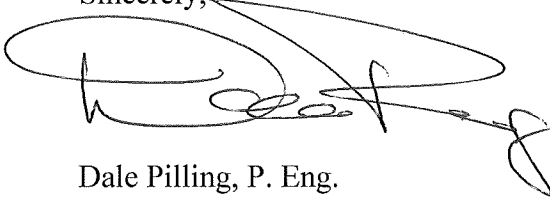
Typical Frontage Works Estimate

\$770,022.44

Closing

We trust this is what you require to proceed to Council for consideration in the timeliest manner. If you require anything further, please do not hesitate to contact us.

Sincerely,

A handwritten signature in black ink, appearing to read 'Dale Pilling', with a large, sweeping loop at the end.

Dale Pilling, P. Eng.

C.c. Joe & Bernadette Lima
Keith & Gail Boswell
Les & Gail Gulyas

**Upper Glenrosa/Salmon Road
Glenrosa Road
Modified Arterial Road
Construction Estimate
April 30, 2018**

| Description | Quantity | Unit | Unit Price | Total |
|-------------|----------|------|------------|-------|
|-------------|----------|------|------------|-------|

Part 1. Earth Works

| | | | | | |
|----|---|--------|----------------|-----------|---------------|
| 1. | Clearing and grubbing including tree removal | 13,393 | m ² | \$ 5.00 | \$ 66,965.00 |
| 2. | Topsoil stripping including onsite stockpile and re-use | 2,370 | m ³ | \$ 11.50 | \$ 27,255.00 |
| 3. | Common excavation, cut to fill | 5,049 | m ³ | \$ 10.00 | \$ 50,490.00 |
| 4. | Rock cut | 1,499 | m ³ | \$ 31.00 | \$ 46,469.00 |
| 5. | Placement of rock as fill material | 1,959 | m ³ | \$ 8.00 | \$ 15,672.00 |
| 6. | Import and placement of structural fill material | 7,038 | m ³ | \$ 25.00 | \$ 175,950.00 |
| 7. | Supply and install lock block retaining wall | 1,343 | m ² | \$ 400.00 | \$ 537,200.00 |

| | | | | |
|------------------------|--|--|--|----------------------|
| Subtotal Part 1 | | | | \$ 920,001.00 |
|------------------------|--|--|--|----------------------|

Part 2. Road Works

| | | | | | |
|----|---|-------|----------------|-----------|---------------|
| 1. | Sawcut, remove and dispose existing asphalt & curb | 5,317 | m ² | \$ 3.85 | \$ 20,470.45 |
| 2. | Supply and place 150mm crush base course - 300mm depth - roads | 8,198 | m ² | \$ 12.20 | \$ 100,015.60 |
| 3. | Supply and place 75mm crush base course - 150mm depth - roads | 7,553 | m ² | \$ 7.99 | \$ 60,348.47 |
| 4. | Supply and place 25mm crush base course - 150mm depth - roads | 7,553 | m ² | \$ 7.99 | \$ 60,348.47 |
| 5. | Supply and place asphaltic pavements - 75mm depth - roads | 7,553 | m ² | \$ 23.85 | \$ 180,139.05 |
| 6. | Supply and place 0.45m barrier style curb and gutter c/w base gravels and curb prep. | 1,333 | lm | \$ 91.05 | \$ 121,369.65 |
| 7. | Supply and place 2.00m sidewalk c/w base gravels and curb prep. | 1,333 | lm | \$ 171.25 | \$ 228,276.25 |

| | | | | |
|------------------------|--|--|--|----------------------|
| Subtotal Part 2 | | | | \$ 770,967.94 |
|------------------------|--|--|--|----------------------|

Part 3. Watermains

| | | | | | |
|----|---|-----|-----|--------------|---------------|
| 1. | Supply and install watermain pipe - 300mmØ C900 PVC | 243 | lm | \$ 500.00 | \$ 121,500.00 |
| 2. | Supply and install valves and fittings including thrust blocks, valve boxes and risers - 300x300x150mmØ HHF tee, 1-150mm HF gate valve and hydrant assembly c/w hydrant lead | 4 | ea. | \$ 10,000.00 | \$ 40,000.00 |

| | | | | |
|------------------------|--|--|--|----------------------|
| Subtotal Part 3 | | | | \$ 161,500.00 |
|------------------------|--|--|--|----------------------|

Part 4. Storm Sewer

| | | | | | |
|----|---|-----|----|-----------|---------------|
| 1. | Supply and install storm sewer pipe - 300mmØ ultra-rib PVC | 673 | lm | \$ 270.00 | \$ 181,710.00 |
| 2. | Supply and install catch basin leads - 250mmØ SDR35 PVC | 10 | lm | \$ 140.00 | \$ 1,400.00 |
| | - 200mmØ SDR35 PVC | 230 | lm | \$ 120.00 | \$ 27,600.00 |

**Upper Glenrosa/Salmon Road
Glenrosa Road
Modified Arterial Road
Construction Estimate
April 30, 2018**

| Description | Quantity | Unit | Unit Price | Total |
|--|----------|----------------|-------------|----------------------|
| 3. Supply and install storm sewer manhole including base, lid, frame and cover | | | | |
| - 1050mmØ | 12 | ea. | \$ 2,800.00 | \$ 33,600.00 |
| - 1050mmØ solid barrel sections | 24 | vm | \$ 800.00 | \$ 19,200.00 |
| 4. Supply and install catch basins | | | | |
| - 900mmØ side inlet | 23 | ea. | \$ 2,000.00 | \$ 46,000.00 |
| - 900mmØ twin inlet | 1 | ea. | \$ 3,600.00 | \$ 3,600.00 |
| 5. Storm detention system | 210 | m ³ | \$ 1,000.00 | \$ 210,000.00 |
| Subtotal Part 4 | | | | \$ 523,110.00 |

| | | | | |
|--|-------|----------------|--------------|----------------------|
| Part 5. Miscellaneous | | | | |
| 1. Supply and install street lights and bases c/w all trenching, conduit, bedding and backfill | 33 | ea. | \$ 5,950.00 | \$ 196,350.00 |
| 2. Topsoil & hydroseed | 6,880 | m ² | \$ 5.00 | \$ 34,400.00 |
| 3. Fencing | 392 | lm | \$ 107.00 | \$ 41,944.00 |
| 4. Land Acquisition | 1 | LS | \$ 17,836.83 | \$ 17,836.83 |
| 5. Environmental | 1 | LS | \$ 10,000.00 | \$ 10,000.00 |
| Subtotal Part 5 | | | | \$ 300,530.83 |

Construction Cost Estimate: Limitation of Liability

The parties agree that the D.E. Pilling & Associates Ltd. cannot and does not warrant or represent that bids of negotiated prices will not vary from the Construction Cost Estimate. The parties further agree that nothing in their agreement shall be deemed to be a cost condition or representation that the project can be completed for the amount of the Construction Cost Estimate or any other amount, and the Client expressly waives its right to withhold the D. E. Pilling & Associates Ltd.'s fees, whether in whole or in action or bring any other proceedings in any court of law against the D.E. Pilling & Associates Ltd. in connection with advise or information relating to the Construction Cost Estimate, whether in contract, tort or otherwise.

| | |
|------------------------------------|------------------------|
| Hard Cost Subtotal | \$ 2,676,109.77 |
| Engineering (10%) | \$ 267,610.98 |
| Subtotal | \$ 2,943,720.75 |
| Contingency (15%) | \$ 441,558.11 |
| Total Construction Estimate | \$ 3,385,278.86 |

**Upper Glenrosa/Salmon Road
Glenrosa Road
Half Modified Arterial Road
Construction Estimate
April 30, 2018**

| Description | Quantity | Unit | Unit Price | Total |
|-------------|----------|------|------------|-------|
|-------------|----------|------|------------|-------|

Part 1. Earth Works

| | | | | |
|--|--------|----------------|-----------|----------------------|
| 1. Clearing and grubbing including tree removal | 9,225 | m ² | \$ 5.00 | \$ 46,125.00 |
| 2. Topsoil stripping including onsite stockpile and re-use | 1,840 | m ³ | \$ 11.50 | \$ 21,160.00 |
| 3. Common excavation, cut to fill | 2,535 | m ³ | \$ 10.00 | \$ 25,350.00 |
| 4. Rock cut | 1,086 | m ³ | \$ 31.00 | \$ 33,666.00 |
| 5. Placement of rock as fill material | 1,412 | m ³ | \$ 8.00 | \$ 11,296.00 |
| 6. Import and placement of structural fill material | 10,515 | m ³ | \$ 25.00 | \$ 262,875.00 |
| 7. Supply and install lock block retaining wall | 955 | m ² | \$ 400.00 | \$ 382,000.00 |
| Subtotal Part 1 | | | | \$ 782,472.00 |

Part 2. Road Works

| | | | | |
|--|-------|----------------|-----------|----------------------|
| 1. Sawcut, remove and dispose existing asphalt & curb | 5,286 | m ² | \$ 3.85 | \$ 20,351.10 |
| 2. Supply and place 150mm crush base course - 300mm depth - roads | 7,405 | m ² | \$ 12.20 | \$ 90,341.00 |
| 3. Supply and place 75mm crush base course - 150mm depth - roads | 6,281 | m ² | \$ 7.99 | \$ 50,185.19 |
| 4. Supply and place 25mm crush base course - 150mm depth - roads | 6,281 | m ² | \$ 7.99 | \$ 50,185.19 |
| 5. Supply and place asphaltic pavements - 75mm depth - roads | 6,281 | m ² | \$ 23.85 | \$ 149,801.85 |
| 6. Supply and place 0.45m barrier style curb and gutter c/w base gravels and curb prep. | 678 | lm | \$ 91.05 | \$ 61,731.90 |
| 7. Supply and place 0.15m asphalt curb c/w base gravels and curb prep. | 706 | lm | \$ 56.50 | \$ 39,889.00 |
| 8. Supply and place 2.00m sidewalk c/w base gravels and curb prep. | 678 | lm | \$ 171.25 | \$ 116,107.50 |
| Subtotal Part 2 | | | | \$ 578,592.73 |

Part 3. Watermains

| | | | | |
|--|-----|-----|--------------|----------------------|
| 1. Supply and install watermain pipe - 300mmØ C900 PVC | 243 | lm | \$ 500.00 | \$ 121,500.00 |
| 2. Supply and install valves and fittings including thrust blocks, valve boxes and risers | | | | |
| - 300x300x150mmØ HHF tee, 1-150mm HF gate valve and hydrant assembly c/w hydrant lead | 4 | ea. | \$ 10,000.00 | \$ 40,000.00 |
| Subtotal Part 3 | | | | \$ 161,500.00 |

Part 4. Storm Sewer

| | | | | |
|--|-----|----|-----------|---------------|
| 1. Supply and install storm sewer pipe - 300mmØ ultra-rib PVC | 673 | lm | \$ 270.00 | \$ 181,710.00 |
|--|-----|----|-----------|---------------|

**Upper Glenrosa/Salmon Road
Glenrosa Road
Half Modified Arterial Road
Construction Estimate
April 30, 2018**

| Description | Quantity | Unit | Unit Price | Total |
|--|----------|------|-------------|----------------------|
| 2. Supply and install catch basin leads | | | | |
| - 250mmØ SDR35 PVC | 10 | lm | \$ 140.00 | \$ 1,400.00 |
| - 200mmØ SDR35 PVC | 213 | lm | \$ 120.00 | \$ 25,560.00 |
| 3. Supply and install storm sewer manhole including base, lid, frame and cover | | | | |
| - 1050mmØ | 12 | ea. | \$ 2,800.00 | \$ 33,600.00 |
| - 1050mmØ solid barrel sections | 24 | vm | \$ 800.00 | \$ 19,200.00 |
| 4. Supply and install catch basins | | | | |
| - 900mmØ side inlet | 23 | ea. | \$ 2,000.00 | \$ 46,000.00 |
| - 900mmØ twin inlet | 1 | ea. | \$ 3,600.00 | \$ 3,600.00 |
| 5. Storm detention system | 210 | m³ | \$ 1,000.00 | \$ 210,000.00 |
| Subtotal Part 4 | | | | \$ 521,070.00 |

| | | | | |
|--|-------|-----|-------------|----------------------|
| Part 5. Miscellaneous | | | | |
| 1. Supply and install street lights and bases c/w all trenching, conduit, bedding and backfill | 17 | ea. | \$ 5,950.00 | \$ 101,150.00 |
| 2. Topsoil & hydroseed | 5,094 | m² | \$ 5.00 | \$ 25,470.00 |
| 3. Fencing | 275 | lm | \$ 107.00 | \$ 29,425.00 |
| 4. Land Acquisition | 1 | LS | \$ 8,305.00 | \$ 8,305.00 |
| Subtotal Part 5 | | | | \$ 164,350.00 |

Construction Cost Estimate: Limitation of Liability

The parties agree that the D.E. Pilling & Associates Ltd. cannot and does not warrant or represent that bids of negotiated prices will not vary from the Construction Cost Estimate. The parties further agree that nothing in their agreement shall be deemed to be a cost condition or representation that the project can be completed for the amount of the Construction Cost Estimate or any other amount, and the Client expressly waives its right to withhold the D. E. Pilling & Associates Ltd.'s fees, whether in whole or in action or bring any other proceedings in any court of law against the D.E. Pilling & Associates Ltd. in connection with advise or information relating to the Construction Cost Estimate, whether in contract, tort or otherwise.

| | |
|------------------------------------|------------------------|
| Hard Cost Subtotal | \$ 2,207,984.73 |
| Engineering (10%) | \$ 220,798.47 |
| Subtotal | \$ 2,428,783.20 |
| Contingency (15%) | \$ 364,317.48 |
| Total Construction Estimate | \$ 2,793,100.68 |

**Upper Glenrosa/Salmon Road
Glenrosa Road
Half Modified Arterial Road - Frontage Only
Construction Estimate
April 30, 2018**

| Description | Quantity | Unit | Unit Price | Total |
|-------------|----------|------|------------|-------|
|-------------|----------|------|------------|-------|

Part 1. Earth Works

| | | | | |
|--|-------|----------------|----------|---------------|
| 1. Clearing and grubbing including tree removal | 6,596 | m ² | \$ 5.00 | \$ 32,980.00 |
| 2. Topsoil stripping including onsite stockpile and re-use | 1,319 | m ³ | \$ 11.50 | \$ 15,168.50 |
| 3. Common excavation, cut to fill | 1,097 | m ³ | \$ 10.00 | \$ 10,970.00 |
| 4. Rock cut | 470 | m ³ | \$ 31.00 | \$ 14,570.00 |
| 5. Placement of rock as fill material | 611 | m ³ | \$ 8.00 | \$ 4,888.00 |
| 6. Import and placement of structural fill material | 9,156 | m ³ | \$ 25.00 | \$ 228,900.00 |

| | | | | |
|------------------------|--|--|--|----------------------|
| Subtotal Part 1 | | | | \$ 307,476.50 |
|------------------------|--|--|--|----------------------|

Part 2. Road Works

| | | | | |
|--|-------|----------------|-----------|--------------|
| 1. Sawcut, remove and dispose existing asphalt & curb | 2,831 | m ² | \$ 3.85 | \$ 10,899.35 |
| 2. Supply and place 150mm crush base course - 300mm depth - roads | 3,990 | m ² | \$ 12.20 | \$ 48,678.00 |
| 3. Supply and place 75mm crush base course - 150mm depth - roads | 3,365 | m ² | \$ 7.99 | \$ 26,886.35 |
| 4. Supply and place 25mm crush base course - 150mm depth - roads | 3,365 | m ² | \$ 7.99 | \$ 26,886.35 |
| 5. Supply and place asphaltic pavements - 75mm depth - roads | 3,365 | m ² | \$ 23.85 | \$ 80,255.25 |
| 6. Supply and place 0.45m barrier style curb and gutter c/w base gravels and curb prep. | 364 | lm | \$ 91.05 | \$ 33,142.20 |
| 7. Supply and place 0.15m asphalt curb c/w base gravels and curb prep. | 397 | lm | \$ 56.50 | \$ 22,430.50 |
| 8. Supply and place 2.00m sidewalk c/w base gravels and curb prep. | 364 | lm | \$ 171.25 | \$ 62,335.00 |

| | | | | |
|------------------------|--|--|--|----------------------|
| Subtotal Part 2 | | | | \$ 311,513.00 |
|------------------------|--|--|--|----------------------|

Part 3. Watermains

| | | | | |
|--|-----|-----|--------------|--------------|
| 1. Supply and install watermain pipe - 300mmØ C900 PVC | 174 | lm | \$ 500.00 | \$ 87,000.00 |
| 2. Supply and install valves and fittings including thrust blocks, valve boxes and risers - 300x300x150mmØ HHF tee, 1-150mm HF gate valve and hydrant assembly c/w hydrant lead | 3 | ea. | \$ 10,000.00 | \$ 30,000.00 |

| | | | | |
|------------------------|--|--|--|----------------------|
| Subtotal Part 3 | | | | \$ 117,000.00 |
|------------------------|--|--|--|----------------------|

Part 4. Storm Sewer

| | | | | |
|--|-----|----|-----------|--------------|
| 1. Supply and install storm sewer pipe - 300mmØ ultra-rib PVC | 365 | lm | \$ 270.00 | \$ 98,550.00 |
| 2. Supply and install catch basin leads - 200mmØ SDR35 PVC | 108 | lm | \$ 120.00 | \$ 12,960.00 |

**Upper Glenrosa/Salmon Road
Glenrosa Road
Half Modified Arterial Road - Frontage Only
Construction Estimate
April 30, 2018**

| Description | Quantity | Unit | Unit Price | Total |
|--|----------|----------------|-------------|----------------------|
| 3. Supply and install storm sewer manhole including base, lid, frame and cover | | | | |
| - 1050mmØ | 6 | ea. | \$ 2,800.00 | \$ 16,800.00 |
| - 1050mmØ solid barrel sections | 12 | vm | \$ 800.00 | \$ 9,600.00 |
| 4. Supply and install catch basins | | | | |
| - 900mmØ side inlet | 12 | ea. | \$ 2,000.00 | \$ 24,000.00 |
| 5. Storm detention system | 113 | m ³ | \$ 1,000.00 | \$ 113,000.00 |
| Subtotal Part 4 | | | | \$ 274,910.00 |

| | | | | |
|--|-------|----------------|-------------|---------------------|
| Part 5. Miscellaneous | | | | |
| 1. Supply and install street lights and bases c/w all trenching, conduit, bedding and backfill | 9 | ea. | \$ 5,950.00 | \$ 53,550.00 |
| 2. Topsoil & hydroseed | 3,341 | m ² | \$ 5.00 | \$ 16,705.00 |
| 3. Land Acquisition | 1 | LS | \$ 8,305.00 | \$ 8,305.00 |
| Subtotal Part 5 | | | | \$ 78,560.00 |

Construction Cost Estimate: Limitation of Liability

The parties agree that the D.E. Pilling & Associates Ltd. cannot and does not warrant or represent that bids of negotiated prices will not vary from the Construction Cost Estimate. The parties further agree that nothing in their agreement shall be deemed to be a cost condition or representation that the project can be completed for the amount of the Construction Cost Estimate or any other amount, and the Client expressly waives its right to withhold the D. E. Pilling & Associates Ltd.'s fees, whether in whole or in action or bring any other proceedings in any court of law against the D.E. Pilling & Associates Ltd. in connection with advise or information relating to the Construction Cost Estimate, whether in contract, tort or otherwise.

| | |
|------------------------------------|------------------------|
| Hard Cost Subtotal | \$ 1,089,459.50 |
| Engineering (10%) | \$ 108,945.95 |
| Subtotal | \$ 1,198,405.45 |
| Contingency (15%) | \$ 179,760.82 |
| Total Construction Estimate | \$ 1,378,166.27 |

**Upper Glenrosa/Salmon Road
Glenrosa Road
Half Modified Arterial Road - Offsite Only
Construction Estimate
April 30, 2018**

| Description | Quantity | Unit | Unit Price | Total |
|-------------|----------|------|------------|-------|
|-------------|----------|------|------------|-------|

Part 1. Earth Works

| | | | | | |
|----|---|-------|----------------|-----------|---------------|
| 1. | Clearing and grubbing including tree removal | 2,629 | m ² | \$ 5.00 | \$ 13,145.00 |
| 2. | Topsoil stripping including onsite stockpile and re-use | 521 | m ³ | \$ 11.50 | \$ 5,991.50 |
| 3. | Common excavation, cut to fill | 1,438 | m ³ | \$ 10.00 | \$ 14,380.00 |
| 4. | Rock cut | 616 | m ³ | \$ 31.00 | \$ 19,096.00 |
| 5. | Placement of rock as fill material | 801 | m ³ | \$ 8.00 | \$ 6,408.00 |
| 6. | Import and placement of structural fill material | 1,359 | m ³ | \$ 25.00 | \$ 33,975.00 |
| 7. | Supply and install lock block retaining wall | 955 | m ² | \$ 400.00 | \$ 382,000.00 |

Subtotal Part 1 \$ **474,995.50**

Part 2. Road Works

| | | | | | |
|----|---|-------|----------------|-----------|--------------|
| 1. | Sawcut, remove and dispose existing asphalt & curb | 2,456 | m ² | \$ 3.85 | \$ 9,455.60 |
| 2. | Supply and place 150mm crush base course - 300mm depth - roads | 3,415 | m ² | \$ 12.20 | \$ 41,663.00 |
| 3. | Supply and place 75mm crush base course - 150mm depth - roads | 2,916 | m ² | \$ 7.99 | \$ 23,298.84 |
| 4. | Supply and place 25mm crush base course - 150mm depth - roads | 2,916 | m ² | \$ 7.99 | \$ 23,298.84 |
| 5. | Supply and place asphaltic pavements - 75mm depth - roads | 2,916 | m ² | \$ 23.85 | \$ 69,546.60 |
| 6. | Supply and place 0.45m barrier style curb and gutter c/w base gravels and curb prep. | 314 | lm | \$ 91.05 | \$ 28,589.70 |
| 7. | Supply and place 0.15m asphalt curb c/w base gravels and curb prep. | 309 | lm | \$ 56.50 | \$ 17,458.50 |
| 8. | Supply and place 2.00m sidewalk c/w base gravels and curb prep. | 314 | lm | \$ 171.25 | \$ 53,772.50 |

Subtotal Part 2 \$ **267,083.58**

Part 3. Watermains

| | | | | | |
|----|---|----|-----|--------------|--------------|
| 1. | Supply and install watermain pipe - 300mmØ C900 PVC | 69 | lm | \$ 500.00 | \$ 34,500.00 |
| 2. | Supply and install valves and fittings including thrust blocks, valve boxes and risers - 300x300x150mmØ HHF tee, 1-150mm HF gate valve and hydrant assembly c/w hydrant lead | 1 | ea. | \$ 10,000.00 | \$ 10,000.00 |

Subtotal Part 3 \$ **44,500.00**

Part 4. Storm Sewer

| | | | | | |
|----|---|-----|----|-----------|--------------|
| 1. | Supply and install storm sewer pipe - 300mmØ ultra-rib PVC | 308 | lm | \$ 270.00 | \$ 83,160.00 |
|----|---|-----|----|-----------|--------------|

**Upper Glenrosa/Salmon Road
Glenrosa Road
Half Modified Arterial Road - Offsite Only
Construction Estimate
April 30, 2018**

| Description | Quantity | Unit | Unit Price | Total |
|--|----------|------|-------------|----------------------|
| 2. Supply and install catch basin leads | | | | |
| - 250mmØ SDR35 PVC | 10 | lm | \$ 140.00 | \$ 1,400.00 |
| - 200mmØ SDR35 PVC | 105 | lm | \$ 120.00 | \$ 12,600.00 |
| 3. Supply and install storm sewer manhole including base, lid, frame and cover | | | | |
| - 1050mmØ | 6 | ea. | \$ 2,800.00 | \$ 16,800.00 |
| - 1050mmØ solid barrel sections | 12 | vm | \$ 800.00 | \$ 9,600.00 |
| 4. Supply and install catch basins | | | | |
| - 900mmØ side inlet | 11 | ea. | \$ 2,000.00 | \$ 22,000.00 |
| - 900mmØ twin inlet | 1 | ea. | \$ 3,600.00 | \$ 3,600.00 |
| 5. Storm detention system | 97 | m³ | \$ 1,000.00 | \$ 97,000.00 |
| Subtotal Part 4 | | | | \$ 246,160.00 |

| | | | | |
|--|-------|-----|-------------|---------------------|
| Part 5. Miscellaneous | | | | |
| 1. Supply and install street lights and bases c/v all trenching, conduit, bedding and backfill | 8 | ea. | \$ 5,950.00 | \$ 47,600.00 |
| 2. Topsoil & hydroseed | 1,753 | m² | \$ 5.00 | \$ 8,765.00 |
| 3. Fencing | 275 | lm | \$ 107.00 | \$ 29,425.00 |
| Subtotal Part 5 | | | | \$ 85,790.00 |

Construction Cost Estimate: Limitation of Liability

The parties agree that the D.E. Pilling & Associates Ltd. cannot and does not warrant or represent that bids of negotiated prices will not vary from the Construction Cost Estimate. The parties further agree that nothing in their agreement shall be deemed to be a cost condition or representation that the project can be completed for the amount of the Construction Cost Estimate or any other amount, and the Client expressly waives its right to withhold the D. E. Pilling & Associates Ltd.'s fees, whether in whole or in action or bring any other proceedings in any court of law against the D.E. Pilling & Associates Ltd. in connection with advise or information relating to the Construction Cost Estimate, whether in contract, tort or otherwise.

| | |
|------------------------------------|------------------------|
| Hard Cost Subtotal | \$ 1,118,529.08 |
| Engineering (10%) | \$ 111,852.91 |
| Subtotal | \$ 1,230,381.99 |
| Contingency (15%) | \$ 184,557.30 |
| Total Construction Estimate | \$ 1,414,939.29 |

**Upper Glenrosa/Salmon Road
Glenrosa Road
Typical Frontage Works - Arterial Road
Construction Estimate
April 30, 2018**

| Description | Quantity | Unit | Unit Price | Total |
|-------------|----------|------|------------|-------|
|-------------|----------|------|------------|-------|

Part 1. Earth Works

| | | | | |
|--|-------|----------------|----------|---------------------|
| 1. Clearing and grubbing including tree removal | 3,017 | m ² | \$ 5.00 | \$ 15,085.00 |
| 2. Topsoil stripping including onsite stockpile and re-use | 603 | m ³ | \$ 11.50 | \$ 6,934.50 |
| 3. Import and placement of structural fill material | 2,476 | m ³ | \$ 25.00 | \$ 61,900.00 |
| Subtotal Part 1 | | | | \$ 83,919.50 |

Part 2. Road Works

| | | | | |
|--|-------|----------------|-----------|----------------------|
| 1. Sawcut, remove and dispose existing asphalt & curb | 1,241 | m ² | \$ 3.85 | \$ 4,777.85 |
| 2. Supply and place 150mm crush base course - 300mm depth - roads | 2,075 | m ² | \$ 12.20 | \$ 25,315.00 |
| 3. Supply and place 75mm crush base course - 150mm depth - roads | 1,738 | m ² | \$ 7.99 | \$ 13,886.62 |
| 4. Supply and place 25mm crush base course - 150mm depth - roads | 1,738 | m ² | \$ 7.99 | \$ 13,886.62 |
| 5. Supply and place asphaltic pavements - 75mm depth - roads | 1,738 | m ² | \$ 23.85 | \$ 41,451.30 |
| 6. Supply and place 0.45m barrier style curb and gutter c/w base gravels and curb prep. | 355 | lm | \$ 91.05 | \$ 32,322.75 |
| 7. Supply and place 2.00m sidewalk c/w base gravels and curb prep. | 355 | lm | \$ 171.25 | \$ 60,793.75 |
| Subtotal Part 2 | | | | \$ 192,433.89 |

Part 3. Watermains

| | | | | |
|--|-----|-----|--------------|----------------------|
| 1. Supply and install watermain pipe - 300mmØ C900 PVC | 164 | lm | \$ 500.00 | \$ 82,000.00 |
| 2. Supply and install valves and fittings including thrust blocks, valve boxes and risers - 300x300x150mmØ HHF tee, 1-150mm HF gate valve and hydrant assembly c/w hydrant lead | 2 | ea. | \$ 10,000.00 | \$ 20,000.00 |
| Subtotal Part 3 | | | | \$ 102,000.00 |

Part 4. Storm Sewer

| | | | | |
|--|-----|-----|-------------|--------------|
| 1. Supply and install storm sewer pipe - 300mmØ ultra-rib PVC | 164 | lm | \$ 270.00 | \$ 44,280.00 |
| 2. Supply and install catch basin leads - 200mmØ SDR35 PVC | 49 | lm | \$ 120.00 | \$ 5,880.00 |
| 3. Supply and install storm sewer manhole including base, lid, frame and cover - 1050mmØ | 6 | ea. | \$ 2,800.00 | \$ 16,800.00 |
| - 1050mmØ solid barrel sections | 12 | vm | \$ 800.00 | \$ 9,600.00 |
| 4. Supply and install catch basins - 900mmØ side inlet | 6 | ea. | \$ 2,000.00 | \$ 12,000.00 |

**Upper Glenrosa/Salmon Road
Glenrosa Road
Typical Frontage Works - Arterial Road
Construction Estimate
April 30, 2018**

| Description | Quantity | Unit | Unit Price | Total |
|---------------------------|----------|----------------|-------------|----------------------|
| 5. Storm detention system | 52 | m ³ | \$ 1,000.00 | \$ 52,000.00 |
| Subtotal Part 4 | | | | \$ 140,560.00 |

| | | | | |
|--|-------|----------------|--------------|---------------------|
| Part 5. Miscellaneous | | | | |
| 1. Supply and install street lights and bases c/v all trenching, conduit, bedding and backfill | 9 | ea. | \$ 5,950.00 | \$ 53,550.00 |
| 2. Topsoil & hydroseed | 1,650 | m ² | \$ 5.00 | \$ 8,250.00 |
| 3. Landscaping | 1 | LS | \$ 28,000.00 | \$ 28,000.00 |
| Subtotal Part 5 | | | | \$ 89,800.00 |

Construction Cost Estimate: Limitation of Liability

The parties agree that the D.E. Pilling & Associates Ltd. cannot and does not warrant or represent that bids of negotiated prices will not vary from the Construction Cost Estimate. The parties further agree that nothing in their agreement shall be deemed to be a cost condition or representation that the project can be completed for the amount of the Construction Cost Estimate or any other amount, and the Client expressly waives its right to withhold the D. E. Pilling & Associates Ltd.'s fees, whether in whole or in action or bring any other proceedings in any court of law against the D.E. Pilling & Associates Ltd. in connection with advise or information relating to the Construction Cost Estimate, whether in contract, tort or otherwise.

| | |
|------------------------------------|----------------------|
| Hard Cost Subtotal | \$ 608,713.39 |
| Engineering (10%) | \$ 60,871.34 |
| Subtotal | \$ 669,584.73 |
| Contingency (15%) | \$ 100,437.71 |
| Total Construction Estimate | \$ 770,022.44 |