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*Basis of Estimate*

*Pre-Design*

# Englishman River Water Service Intake, Treatment Plant, and Supply Mains

Prepared for  
Englishman River Water Service  
British Columbia, Canada

December 09, 2015





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# Englishman River Water Service Basis of Estimate

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TABLE 0.1  
Estimate Information  
*Englishman River Water Service*

Estimate Classification	Class 4
Requested By	Umar Alfaruq/VBC
Estimated By	Tom Jones/CVO
Estimator Phone	541.768.3255
Estimate Date	December 09, 2015

## 1. Purpose of Estimate

The purpose of this Estimate of Construction Cost is to establish an Engineer's opinion of probable construction cost at the Pre-Design level of design development.

## 2. General Project Description

The project site is located in the city of Parksville, British Columbia, Canada. This project is intended to address the City of Parksville's and Regional District of Nanaimo's need for additional drinking water, and the Vancouver Island Health Authority's requirement for additional water treatment.

## 3. Overall Costs

TABLE 3.1  
Overall Costs  
*Englishman River Water Service*

	Funding Source	-30%	Estimated Costs	50%
Raw Water Main	ERWS	\$1,620,000	\$2,320,000	\$3,480,000
Intake and Raw Water Pump Station	ERWS	\$1,550,000	\$2,210,000	\$3,320,000
Water Treatment Plant	ERWS	\$9,270,000	\$13,240,000	\$19,860,000
Siteworks	ERWS	\$1,380,000	\$1,970,000	\$2,960,000
Transmission Mains	CofP	\$4,330,000	\$6,190,000	\$9,280,000
Transmission Mains	ERWS	\$620,000	\$890,000	\$1,330,000
Project Costs 2017		\$18,770,000	\$26,820,000	\$40,230,000

## 4. Scope of Work

This project consists of the areas of work:

- **Work expected to be started in 2016**
  1. **Intake and Raw Water Pump Station** – This area includes the construction of a Concrete Weir, Intake Structure with Fish Screens, and Intake pipes from the intake structure to the new Raw Water Pump Station. The Pump Station includes the construction of a Concrete Wet Well, Pump Station Building, and Vertical Turbine pumps. The Raw Water Pump Station will be built to accommodate 4 Vertical Turbine Pumps (the current project will only have 2 pumps installed). Vertical Turbine Pumps purchase are included in the Pre-Purchased Equipment Package for the Water Treatment Plant.
  2. **Raw Water Main** – This includes the construction of the Raw Water Main Transmission line and a 9 duct, 150mm PVC, Duct Bank with Conductors and Fiber. This also includes the construction of the Access Road and miscellaneous Storm Drain improvements and Railroad Crossing.
  3. **Water Treatment Plant** – This area includes the construction of a Process Building where there will be Membranes, UV Disinfection System, HLPS Pumps, Chemical Systems, and Chlorine Contact. The process building will be a Pre-Engineered Building with a minimum 7m eave height. Within the Pre-Engineered building, there will be rooms that will need to be constructed for a variety of functions with Mezzanines and Access Platforms above. The foundation of the Process Building will include Chemical Containment Area, Chlorine Contact Clearwell, Pipe Chase, and Wet Wells. Included in this estimate is Landscaping for the Water Treatment Plant site.
  4. **Site Improvements** – This area will include Demolition, Yard Piping, Site Grading, Paving, Curbs, and Landscaping for Treatment Plant area.
  5. **Transmission Mains** – This includes the construction of the Transmission Mains W01 and W02.

## 5. Markups

These markups are base upon general assumptions about how the project will be contracted. Actual markup percentages may vary from those shown here, and are the responsibility of the bidding contractor.

TABLE 5.1  
General Contractor Markups  
*Englishman River Water Service*

Prime Contractor General Conditions	7.00%
Prime Contractor Overhead	10.00%
Prime Contractor Profit	5.00%
Builders Risk & Liability	2.00%
Payment Performance Bond	1.50%
Level of Design Contingency	25.00%
Escalation to Midpoint of Construction (April 2017)	4.06%

## 6. Escalation Rate

This CH2M HILL escalation forecast is based upon economic data from Global Insight, Inc. for forecast data (10 years) and the United States Bureau of Labor Statistics for historical data (10 years). A specific Water Treatment Plant index was developed by CH2M HILL, using 31 key construction commodities. See the escalation calculation sheets in the cost estimate for details. The escalation is based on the first part of the construction starting in June 2016 and being complete by February 2018. The estimate is escalated to the Midpoint of construction which is assumed to be April 2017. Assumed averaged escalation of 3% per year. (3% x 1.35 years to Midpoint)

## 7. Estimate Classification

This cost estimate prepared is considered a Conceptual or Class 4 estimate as defined by the Association for the Advancement of Cost Engineering International (ACEI). It is considered accurate to +50% to -30%, based on a Pre-Design level of design deliverable.

## 8. Estimate Methodology

The Class 4 cost estimate is considered a bottom rolled up type estimate with cost items and breakdown of Labor, Materials and Equipment. Unit Man-hours are sourced and developed from CH2MHill's own data base, R.S. Means and the experience of design engineers, construction managers and the cost estimators.

The process mechanical equipment and piping, electrical equipment and I&C were estimated using CPES. CPES (CH2M HILL Parametric Cost Estimating System) is a proprietary firm wide cost estimating tool. CPES quickly generates relatively accurate cost estimates at the conceptual stage of a project. The system contains many "mini-models" or cost estimates of facilities that are based on real projects. These mini-models have relationships (or algorithms) built into them that allow the system to adjust their costs based on project-specific information supplied by the design team. The process engineering design team provided process flow diagrams, equipment sizes, and flow and capacity data for each of the processes for which CPES was used.

As part of CH2M HILL's quality assurance and quality control process the cost estimates were reviewed by the engineering design team and senior estimators. Comments and recommendations provided by the reviewers were then incorporated into the estimate.

This estimate was compiled by CH2M HILL with cost estimate input from its subcontractors KWL, and Golder. The estimate was broken down into the following areas of responsibilities:

- CH2M HILL
  - River Intake Structure and Weir
  - Raw Water Pump Station
  - Water Treatment Plant
- KWL
  - Pipelines
  - Treated Water Pumps
  - Site Civil
  - Landscaping
- Golder
  - Geotechnical
  - Archeological

## 9. Cost Resources

The following is a list of the various cost resources used in the development of the cost estimate:

- R.S. Means
- CH2M HILL Historical Data
- KWL Historical Data
- Golder Historical Data
- Vendor Quotes on Equipment and Materials where appropriate
- Estimator Judgment

## 10. Labor Costs

The estimate has been adjusted for local area labor rates, based upon 2014 RS Means rates for Vancouver, British Columbia.

Labor unit prices reflect a burdened rate, including: workers compensation, unemployment taxes, Fringe Benefits, and medical insurance.

The “Employment Standards Act of British Columbia”, is legislation enacted by the provincial government of British Columbia to protect the rights of working people. Sections within the act outline the employer’s responsibility to their employees, notably things such as minimum wage, meal breaks, and parental leave. The act also works to protect residents of the province by preventing employment discrimination.

## 11. Taxes

GST tax is excluded and Provincial Sales Tax (PST) was added at 7%.

## 12. Major Assumptions

The estimate is based on the assumption the work will be done on a competitive bid basis and the contractor will have a reasonable amount of time to complete the work. All contractors are equal, with a reasonable project schedule, no overtime, constructed as under a single contract, no liquidated damages.

This estimate should be evaluated for market changes after 90 days of the issue date. It is assumed that much of the fabricated equipment will be shipped from the mainland USA, but the majority of construction material will be able to be attained domestically.

The following is a list of other major assumptions:

- The Process Building is a pre-engineered
- Process Building foundations at 600mm thick. Process Building walls 400mm thick
- Operations Building was priced using RS Means 2014 Square Foot cost for a 2 Story wood framed office building
- Pump Station Building was priced using RS Means 2014 Square Foot Cost for a 1 Story Block building
- Pricing for Process Equipment comes from CH2M HILL CEPS database and from engineering quotes
- Costs for Mobilization and Demobilization are included in percentages for General Conditions and Contractor Overhead and applied to each separate estimate package.



- KLM Assumptions
  - Transmission Upgrades
    - Cost estimates have been prepared to a Class 5 level.
    - Site specific project conditions have been considered only at a high level. These site specific conditions include clearing requirements, traffic control requirements, surface restoration, utility conflicts, bedrock blasting and dewatering and diversion requirements.
    - Archaeological investigations have been completed only at a high level.
    - Land acquisition costs are not included.
  - Raw Water Transmission Main and Access Road
    - Cost estimate is prepared to a Class 4 level.
    - No geotechnical investigations have been made along the transmission main ROW but it is known from the highway bridge construction that there is shallow bedrock. An allowance has been made for rock removal (100 Lin.m.); this is an estimate only.
    - Assumes level crossing of the railway and cut and cover installation of the watermains/ducts across the railway will be permitted by the Island Corridor Foundation.
    - Power transmission, instrumentation and ducting by others.
  - Treated Water Pump Station
    - Cost estimate is prepared to a Class 4 level.
    - Estimate is based on the Phase 1 construction. Costs for ultimate pumps and piping are not included.
    - Excludes costs for lifting systems.
  - WTP Site Servicing
    - Cost estimate is prepared to a Class 4 level.
    - Costs exclude building perimeter and rainwater leader drains;
    - Costs exclude relocation of existing buildings (e.g. salt and brine sheds) and construction of new buildings/facilities (e.g. shop building, fueling station, fuel tank, vehicle wash);

## 13. Allowances

The estimate includes allowances for known work that is not sufficiently detailed at this time:

- Intake Screens Allowance - \$200,000
- Pre-Purchase Equipment Package - \$3,650,000 (No Contractor Markups or Contingencies applied)

## 14. Excluded Costs

The cost estimate excludes the following costs:

- Non-construction or soft costs for design, services during construction, land, legal and owner administration costs
- Material Adjustment allowances above and beyond what is included at the time of the cost estimate
- GST Tax

## 15. Reference Documents

This cost estimate is based upon CH2M HILL Pre-Design report and drawing available as of June, 2014.

## Cost Estimate Appendix

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### Estimate Summary

Job Size:  
Duration:

Project: 476148-11-ERWS-10pct-tj  
Project No.: 476148  
Design Stage: Pre-Design

Estimator: Jones T  
Revision / Date: 16 - 12/09/2015  
Estimate Class: 4

userWBS	Facility	Work Pkg	Trade Pkg	Description	Takeoff Quantity	Grand Total	Grand Total Unit Price
02.00				<b>Raw Water Main</b>			
	006			Site Improvements - Access Road and Raw Water Transmission Main			
		26.0		Electrical			
			26-10	Site Electrical			
				Duct Bank	390.00 M	687,948	1,763.97 /M
				26-10 Site Electrical	1.00 LS	687,948	687,947.94 /LS
				26.0 Electrical	1.00 LS	687,948	687,947.94 /LS
		31.0		Earthwork			
			31-11	Clearing and Grubbing			
				Clearing and Grubbing	1,000.00 M2	6,340	6.34 /M2
				31-11 Clearing and Grubbing	1,000.00 M2	6,340	6.34 /M2
			31-22	Grading			
				Finish Grading	1.00 LS	24,725	24,725.02 /LS
				31-22 Grading	1.00 LS	24,725	24,725.02 /LS
			31-23	Excavation and Fill			
				Subgrade Preparation	1,500.00 M3	47,548	31.70 /M3
				Excavation	380.00 M	39,940	105.11 /M
				Dewatering	1.00 LS	38,039	38,038.50 /LS
				Fill	5,000.00 M3	370,241	74.05 /M3
				31-23 Excavation and Fill	1.00 LS	495,768	495,768.45 /LS
				31.0 Earthwork	1.00 LS	526,833	526,833.22 /LS
		32.0		Exterior Improvements			
			32-11	Base Courses			
				Aggregate Base Courses	1,950.00 M2	49,450	25.36 /M2
				Aggregate Surfacing	1,950.00 M2	61,813	31.70 /M2
				32-11 Base Courses	1,950.00 M2	111,263	57.06 /M2
			32-92	Turfs and Grasses			
				Hydro-Mulching	3,900.00 M2	19,038	4.88 /M2
				32-92 Turfs and Grasses	1.00 LS	19,038	19,038.26 /LS
				32.0 Exterior Improvements	1.00 LS	130,301	130,300.87 /LS
		33.0		Utilities			
			33-20	Water Utilities			
				Transmission Main	425.00 M	230,989	543.50 /M
				Water Valves	2.00 EA	45,912	22,956.23 /EA
				33-20 Water Utilities	1.00 LS	276,901	276,901.27 /LS
			33-40	Storm Drainage Utilitites			
				Culverts	40.00 M	25,359	633.98 /M
				33-40 Storm Drainage Utilitites	1.00 LS	25,359	25,359.00 /LS
				33.0 Utilities	1.00 LS	302,260	302,260.27 /LS
		34.0		Transportation			
			34-72	Railway Construction			
				Railway Line	1.00 LS	19,019	19,019.25 /LS
				34-72 Railway Construction	1.00 LS	19,019	19,019.25 /LS
				34.0 Transportation	1.00 LS	19,019	19,019.25 /LS
				006 Site Improvements - Access Road and Raw Water Transmission Main	1.00 LS	1,666,362	1,666,361.55 /LS
				<b>02.00 Raw Water Main</b>	<b>1.00 LS</b>	<b>1,666,362</b>	<b>1,666,361.55 /LS</b>



### Estimate Summary

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Duration:

Project: 476148-11-ERWS-10pct-tj  
Project No.: 476148  
Design Stage: Pre-Design

Estimator: Jones T  
Revision / Date: 16 - 12/09/2015  
Estimate Class: 4

### Estimate Totals

Description	Amount	Totals	Rate
Labor	143,141		
Material	211,646		
Subcontract	1,299,839		
Equipment	11,735		
Other			
Total Contractor Markups	<b>1,666,362</b>	<b>1,666,362</b>	
Contingency - %	416,590		25.000 %
Total Contingency	<b>416,590</b>	<b>2,082,952</b>	
Escalation to Midpoint 2017	84,568		4.060 %
<b>Construction Total</b>	<b>84,568</b>	<b>2,167,520</b>	
GST			
Provincial Sales Tax (PST)	151,726		7.000 %
<b>Construction Total (w/ Taxes)</b>	<b>151,726</b>	<b>2,319,246</b>	



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Estimate Class: 4

userWBS	Facility	Work Pkg	Trade Pkg	Description	Takeoff Quantity	Grand Total	Grand Total Unit Price
01.00				<b>Intake and Raw Water Pump Station</b>			
	001			River Intake			
		03.0		Concrete Work			
			03-10	Cast-In-Place Concrete Work			
				Intake Structure	1.00 LS	190,193	190,192.50 /LS
				03-10 Cast-In-Place Concrete Work	150.00 M3	190,193	1,267.95 /M3
				03.0 Concrete Work	150.00 M3	190,193	1,267.95 /M3
		11.0		Process Equipment			
			11-00	Equipment			
				Intake Screens	2.00 EA	380,385	190,192.50 /EA
				11-00 Equipment	1.00 LS	380,385	380,385.00 /LS
				11.0 Process Equipment	1.00 LS	380,385	380,385.00 /LS
				001 River Intake	1.00 LS	570,578	570,577.50 /LS
	002			Raw Water Pump Station			
		03.0		Concrete Work			
			03-10	Cast-In-Place Concrete Work			
				Footings	19.20 M3	16,908	880.65 /M3
				Stem Walls	43.20 M3	67,624	1,565.37 /M3
				Slab on Grade	15.00 M3	13,405	893.65 /M3
				03-10 Cast-In-Place Concrete Work	77.40 M3	97,937	1,265.34 /M3
				03.0 Concrete Work	77.40 M3	97,937	1,265.34 /M3
		11.0		Process Equipment			
			11-00	Equipment			
				Vertical Turbine Pump	2.00 EA	621,922	310,961.06 /EA
				Air Compressor	1.00 LS	63,398	63,397.50 /LS
				Surge Tank	1.00 LS	25,359	25,359.00 /LS
				11-00 Equipment	1.00 LS	710,679	710,678.61 /LS
				11.0 Process Equipment	1.00 LS	710,679	710,678.61 /LS
		13.0		Special Construction			
			13-00	Special Construction			
				Pump Station Building	100.00 M2	209,212	2,092.12 /M2
				13-00 Special Construction	100.00 M2	209,212	2,092.12 /M2
				13.0 Special Construction	100.00 M2	209,212	2,092.12 /M2
				002 Raw Water Pump Station	1.00 LS	1,017,827	1,017,827.45 /LS
				<b>01.00 Intake and Raw Water Pump Station</b>	<b>1.00 LS</b>	<b>1,588,405</b>	<b>1,588,404.95 /LS</b>



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Project No.: 476148  
Design Stage: Pre-Design

Estimator: Jones T  
Revision / Date: 16 - 12/09/2015  
Estimate Class: 4

### Estimate Totals

Description	Amount	Totals	Rate
Labor	60,557		
Material	67,616		
Subcontract	1,460,166		
Equipment	66		
Other			
<b>Total Contractor Markups</b>	<b>1,588,405</b>	<b>1,588,405</b>	
Contingency - %	397,101		25.000 %
<b>Total Contingency</b>	<b>397,101</b>	<b>1,985,506</b>	
Escalation to Midpoint 2017	80,612		4.060 %
<b>Construction Total</b>	<b>80,612</b>	<b>2,066,118</b>	
GST			
Provincial Sales Tax (PST)	144,628		7.000 %
<b>Construction Total (w/ Taxes)</b>	<b>144,628</b>	<b>2,210,746</b>	





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userWBS	Facility	Work Pkg	Trade Pkg	Description	Takeoff Quantity	Grand Total	Grand Total Unit Price
03.00				<b>Water Treatment Plant</b>			
	003			Water Treatment Plant			
		03.0		Concrete Work			
			03-10	Cast-In-Place Concrete Work			
				Slab on Grade	42.15 M3	40,488	960.57 /M3
				Foundation Slabs	200.00 M2	95,129	475.64 /M2
				Concrete Walls	229.00 M3	333,298	1,455.45 /M3
				Concrete Partition Wall	21.00 M3	36,478	1,737.06 /M3
				Elevated Slab	61.00 M3	99,685	1,634.19 /M3
				<b>03-10 Cast-In-Place Concrete Work</b>	<b>1,435.11 M3</b>	<b>605,078</b>	<b>421.63 /M3</b>
				03.0 Concrete Work	1,435.11 M3	605,078	421.63 /M3
		11.0		Process Equipment			
			11-00	Equipment			
				Pre-Purchase Equipment Package	1.00 LS	3,651,696	3,651,696.00 /LS
				Pall - Large: MF_UF	1.00 LS	2,439,223	2,439,222.62 /LS
				UV Disinfection	2.00 EA	491,622	245,811.13 /EA
				Sand Separator	2.00 EA		/EA
				Liquid Chemical: SodHydro	1.00 LS	157,033	157,032.52 /LS
				Recarbonation CO2 Feedsys	1.00 LS	255,947	255,947.11 /LS
				Liquid Chemical: Coag PACL	1.00 LS	120,402	120,401.73 /LS
				11-00 Equipment	1.00 LS	7,115,922	7,115,922.23 /LS
				11.0 Process Equipment	1.00 LS	7,115,922	7,115,922.23 /LS
		13.0		Special Construction			
			13-00	Special Construction			
				Pre-Engineered Building	1,146.00 M2	311,809	272.08 /M2
				13-00 Special Construction	1,146.00 M2	311,809	272.08 /M2
				13.0 Special Construction	1,146.00 M2	311,809	272.08 /M2
		26.0		Electrical			
			26-00	Electrical			
				1MW Emergency Generator	1.00 LS	1,553,239	1,553,238.75 /LS
				26-00 Electrical	1.00 LS	1,553,239	1,553,238.75 /LS
				26.0 Electrical	1.00 LS	1,553,239	1,553,238.75 /LS
		33.0		Utilities			
			33-25	Water Utility Distribution Equipment			
				Water Utility Pumping Stations	1.00 LS	306,844	306,843.90 /LS
				33-25 Water Utility Distribution Equipment	1.00 LS	306,844	306,843.90 /LS
				33.0 Utilities	1.00 LS	306,844	306,843.90 /LS
		40.0		Process Integration			
			40-20	Exposed Valves			
				Liquids Process Piping	27.50 M	316,480	11,508.38 /M
				40-20 Exposed Valves	1.00 LS	316,480	316,480.32 /LS
			40-91	Process Measurement Devices			
				Instrumentation	1.00 LS	34,869	34,868.62 /LS
				40-91 Process Measurement Devices	1.00 LS	34,869	34,868.62 /LS
				40.0 Process Integration	1.00 LS	351,349	351,348.94 /LS
				003 Water Treatment Plant	1.00 LS	10,244,241	10,244,240.60 /LS
				<b>03.00 Water Treatment Plant</b>	<b>1.00 LS</b>	<b>10,244,241</b>	<b>10,244,240.60 /LS</b>



### Estimate Summary

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Project No.: 476148  
Design Stage: Pre-Design

Estimator: Jones T  
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Estimate Class: 4

### Estimate Totals

Description	Amount	Totals	Rate
Labor	273,815		
Material	290,181		
Subcontract	9,680,084		
Equipment	161		
Other			
Total Contractor Markups	<b>10,244,241</b>	<b>10,244,241</b>	
Contingency 25% (Excl. PE)	1,649,323		16.100 %
Total Contingency	<b>1,649,323</b>	<b>11,893,563</b>	
Escalation to Midpoint 2017	482,879		4.060 %
<b>Construction Total</b>	<b>482,879</b>	<b>12,376,442</b>	
GST			
Provincial Sales Tax (PST)	866,351		7.000 %
<b>Construction Total (w/ Taxes)</b>	<b>866,351</b>	<b>13,242,793</b>	



### Estimate Summary

Job Size:  
Duration:

Project: 476148-11-ERWS-10pct-tj  
Project No.: 476148  
Design Stage: Pre-Design

Estimator: Jones T  
Revision / Date: 16 - 12/09/2015  
Estimate Class: 4

userWBS	Facility	Work Pkg	Trade Pkg	Description	Takeoff Quantity	Grand Total	Grand Total Unit Price
04.00				<b>Siteworks</b>			
	005			Site Improvements - Water Treatment Plant			
		02.0		Existing Conditions			
			02-41	Demolition			
				Remove Existing Utilities	1.00 LS	12,680	12,679.50 /LS
				02-41 Demolition	1.00 LS	12,680	12,679.50 /LS
				02.0 Existing Conditions	1.00 LS	12,680	12,679.50 /LS
		31.0		Earthwork			
			31-22	Grading			
				Parking Lot Grading	1.00 LS	59,594	59,593.65 /LS
				31-22 Grading	1.00 LS	59,594	59,593.65 /LS
				31.0 Earthwork	1.00 LS	59,594	59,593.65 /LS
		32.0		Exterior Improvements			
			32-12	Flexible Paving			
				Impervious Asphalt	2,400.00 M2	311,916	129.96 /M2
				32-12 Flexible Paving	2,400.00 M2	311,916	129.96 /M2
			32-14	Unit Paving			
				Chip Seal Paving	3,400.00 M2	39,122	11.51 /M2
				32-14 Unit Paving	3,400.00 M2	39,122	11.51 /M2
			32-16	Curb and Gutters			
				Cast in Place Concrete Curb and Gutters			/M
				Cast in Place Sidewalk	495.00 M2	62,764	126.80 /M2
				32-16 Curb and Gutters		62,764	/M
			32-17	Paving Specialities			
				Parking Lot Line Painting	1.00 LS	1,553	1,553.24 /LS
				Signs	10.00 EA	6,340	633.98 /EA
				32-17 Paving Specialities	1.00 LS	7,893	7,892.99 /LS
			32-90	Landscaping			
				Site Preparation	1.00 LS	45,540	45,539.68 /LS
				Hard Landscape	1.00 LS		/LS
				Soft Landscape	1.00 LS	152,725	152,724.58 /LS
				Site Features	1.00 LS	168,669	168,669.05 /LS
				32-90 Landscaping	4,800.00 M2	366,933	76.44 /M2
				32.0 Exterior Improvements	1.00 LS	788,627	788,627.18 /LS
		33.0		Utilities			
			33-20	Water Utilities			
				600 mm Steel RW	140.00 M	181,063	1,293.31 /M
				450 mm Steel RW	48.00 M	53,558	1,115.80 /M
				750 mm HDPE PW	185.00 M	180,619	976.32 /M
				200 mm PVC FPW			/M
				75 mm DI W	50.00 M	25,993	519.86 /M
				33-20 Water Utilities	1.00 LS	441,234	441,233.92 /LS
			33-30	Sanitary Sewer Utilities			
				Sanitary Sewer System	10.00 M	5,199	519.86 /M
				33-30 Sanitary Sewer Utilities	1.00 LS	5,199	5,198.60 /LS
			33-40	Storm Drainage Utilities			
				Storm Sewer Systems	208.00 M	104,479	502.30 /M
				Infiltration Facility	1.00 LS		/LS
				33-40 Storm Drainage Utilities	1.00 LS	104,479	104,479.08 /LS
			33-50	Fuel Distribution Lines			
				Natural Gass Supply System	1.00 LS	3,550	3,550.26 /LS
				33-50 Fuel Distribution Lines	1.00 LS	3,550	3,550.26 /LS
				33.0 Utilities	1.00 LS	554,462	554,461.86 /LS
				005 Site Improvements - Water Treatment Plant	1.00 LS	1,415,362	1,415,362.19 /LS
				04.00 Siteworks	1.00 LS	1,415,362	1,415,362.19 /LS



### Estimate Summary

Job Size:  
Duration:

Project: 476148-11-ERWS-10pct-tj  
Project No.: 476148  
Design Stage: Pre-Design

Estimator: Jones T  
Revision / Date: 16 - 12/09/2015  
Estimate Class: 4

### Estimate Totals

Description	Amount	Totals	Rate
Labor	14,734		
Material	24,388		
Subcontract	1,376,241		
Equipment			
Other			
Total Contractor Markups	<b>1,415,362</b>	<b>1,415,362</b>	
Contingency - %	353,841		25.000 %
Total Contingency	<b>353,841</b>	<b>1,769,203</b>	
Escalation to Midpoint 2017	71,830		4.060 %
<b>Construction Total</b>	<b>71,830</b>	<b>1,841,032</b>	
GST			
Provincial Sales Tax (PST)	128,872		7.000 %
<b>Construction Total (w/ Taxes)</b>	<b>128,872</b>	<b>1,969,905</b>	



### Estimate Summary

Job Size:  
Duration:

Project: 476148-11-ERWS-10pct-tj  
Project No.: 476148  
Design Stage: Pre-Design

Estimator: Jones T  
Revision / Date: 16 - 12/09/2015  
Estimate Class: 4

userWBS	Facility	Work Pkg	Trade Pkg	Description	Takeoff Quantity	Grand Total	Grand Total Unit Price
07.01				Transmission Mains - City of Parksville			
	007			Site Improvements - Transmission			
		33.0		Utilities			
			33-10	Transmission Mains			
				W01	4,600.00 M	4,444,418	966.18 /M
				33-10 Transmission Mains	1.00 LS	4,444,418	4,444,418.34 /LS
				33.0 Utilities	1.00 LS	4,444,418	4,444,418.34 /LS
				007 Site Improvements - Transmission	1.00 LS	4,444,418	4,444,418.34 /LS
				07.01 Transmission Mains - City of Parksville	1.00 LS	4,444,418	4,444,418.34 /LS

### Estimate Totals

Description	Amount	Totals	Rate
Labor			
Material			
Subcontract	4,444,418		
Equipment			
Other			
Total Contractor Markups	4,444,418	4,444,418	
Contingency - %	1,111,105		25.000 %
Total Contingency	1,111,105	5,555,523	
Escalation to Midpoint 2017	225,554		4.060 %
<b>Construction Total</b>	<b>225,554</b>	<b>5,781,077</b>	
GST			
Provincial Sales Tax (PST)	404,675		7.000 %
<b>Construction Total (w/ Taxes)</b>	<b>404,675</b>	<b>6,185,753</b>	





### Estimate Summary

Job Size:  
Duration:

Project: 476148-11-ERWS-10pct-tj  
Project No.: 476148  
Design Stage: Pre-Design

Estimator: Jones T  
Revision / Date: 16 - 12/09/2015  
Estimate Class: 4

userWBS	Facility	Work Pkg	Trade Pkg	Description	Takeoff Quantity	Grand Total	Grand Total Unit Price
07.02				Transmission Mains - ERWS			
	007			Site Improvements - Transmission			
		33.0		Utilities			
			33-10	Transmission Mains			
				W02	745.00 M	637,620	855.87 /M
				33-10 Transmission Mains	1.00 LS	637,620	637,620.36 /LS
				33.0 Utilities	1.00 LS	637,620	637,620.36 /LS
				007 Site Improvements - Transmission	1.00 LS	637,620	637,620.36 /LS
				<b>07.02 Transmission Mains - ERWS</b>	<b>1.00 LS</b>	<b>637,620</b>	<b>637,620.36 /LS</b>

### Estimate Totals

Description	Amount	Totals	Rate
Labor			
Material			
Subcontract	637,620		
Equipment			
Other			
Total Contractor Markups	<b>637,620</b>	<b>637,620</b>	
Contingency - %	159,405		25.000 %
Total Contingency	<b>159,405</b>	<b>797,025</b>	
Escalation to Midpoint 2017	32,359		4.060 %
<b>Construction Total</b>	<b>32,359</b>	<b>829,385</b>	
GST			
Provincial Sales Tax (PST)	58,057		7.000 %
<b>Construction Total (w/ Taxes)</b>	<b>58,057</b>	<b>887,442</b>	