

SECTION 01 29 00 MEASUREMENT AND PAYMENT

PART 1. GENERAL

1.1 Measurement System

- 1.1.1 This section specifies the measurement rules that will generally be used for payment purposes unless otherwise specified in the Contract Documents.
- 1.1.2 Work shall be measured in the International System of Units (SI) in accordance with CAN/CSA-Z234.1-89 Canadian Metric Practice Guide.
- 1.1.3 With respect to measurement for payment the following abbreviations and symbols shall have meanings indicated below:

Abbreviation/Symbol	Unit/Definition
mm	Millimeter
m	Meter
m ² or m²	
Square meter	
m ³ or m³	
Cubic meter	
L	Liter
L.S.	Lump Sum
kg	Kilogram
t	Tonne
no.	Number (Quantity)
min	Minute (Time)
h	Hour
d	Day
wk	Week
%	Percent
>	Greater than
≥	Greater than or Equal to
<	Less than
≤	Less than or Equal to
\$	Canadian dollars
°	Degree (angle)

1.2 Method of Measurement

1.2.1 Unless otherwise indicated in the Contract Documents:

- .1 Earthwork materials will be measured in cut or net in place, with no allowance for bulking, shrinkage, compression, foundation settlement, or waste.
- .2 Products will be measured net, with no allowance for waste.
- .3 Dimensions used in calculating quantities will be rounded to the nearest unit of dimension as follows:

Quantity	Dimension
Volume	cubic meter
Area	square meter
- .4 The survey station grid system adopted will be at 10 lineal meters spacing for measuring earthwork quantities.
- .5 Contours may be based on aerial photograph interpretation and are approximate only. Actual ground elevations and location co-ordinates will be determined in the field during the course of the Work for measurement purposes.
- .6 Measurement and payment will not be made for work carried out beyond measurement and payment lines and limits specified in the Contract Documents.

1.2.2 When boundaries between different items of Work are not specified in the Contract Documents, such boundaries will be established by the Consultant.

1.2.3 Area:

- .1 For rectangular and regular shaped objects, area will be measured using mean length and width or radius.
- .2 For irregular areas, areas will be computed using survey data input to Civil 3D software program.

1.2.4 Volume:

- .1 Unless otherwise indicated, volume will be measured using mean length, width, and height or thickness.
- .2 Excavation and fill volumes will be computed using survey data input to Civil 3D software program.

1.2.5 Time:

- .1 Construction Equipment to be paid for on a time basis will be measured in hours of actual working time, and necessary travelling time, when under its own power to the nearest tenth thereof.
- .2 Hauling equipment to be paid for on a time basis will be measured in hours of actual working time to the nearest tenth thereof.

1.2.6 Number of items will be measured on a per item basis.

1.2.7 Lump Sum:

- .1 A breakdown of each lump sum item will be submitted to the Owner's Representative to allow for accurate project scheduling and progress payments.
- .2 The lump sum breakdown will be subject to Consultant's approval.

1.3 Measurement Computation

- 1.3.1 Formulae and computer programs used for measurement computation will be as specified or, when not specified, as selected by the Consultant.

1.4 Measurement of Work

- 1.4.1 The Contractor is responsible to provide the Consultant detailed survey measurement of the Work, completed by an independent survey firm, for the purpose of determining payment quantities. The Contractor is to include all relevant Quality Control Documentation as well as the Raw Survey Files of all surfaces (including original ground) used to determine quantities.
- 1.4.2 The Consultant will Complete Quality Assurance Surveys and in the event of a discrepancy the Quality Assurance Surveys will be considered correct.
- 1.4.3 The Contractor will prepare survey records and drawings for payment purposes as the Work progresses. The Consultant will request the Contractor to attend, within 14 days, to examine and verify such records and drawings.
- 1.4.5 If the Contractor disagrees with the Quality Assurance Surveys, they will nevertheless be considered correct until the Contractor notifies in writing the Consultant of the aspects in which they are considered incorrect. On receipt of such notice, the Consultant will review the measurements or records or drawings and either confirm or vary them.
- 1.4.6 Measurement of Work is incidental to the unit pay items and as such no payment will be made.

1.5 Quantities

- 1.5.1 Unless otherwise indicated, quantities specified in the Tender Item Schedule for Unit Price Work are estimated quantities and will not be considered as actual quantities of Work to be performed. Subject to the Contract terms, unit prices stated in the Tender Item Schedule will be applied to actual quantities of Work performed as measured in accordance with the Contract Documents.
- 1.5.2 When it is stated that the Contractor will be paid only for the quantity specified for an item of Work, such quantity will be considered as a fixed quantity and the Contractor will be paid for the quantity specified, regardless of the actual quantity performed. If a change in the Work directed by the Consultant results in a change in a fixed quantity, the quantity will be adjusted in accordance with the Contract Documents and payment will be made for the adjusted quantity.

1.6 Tender Item Schedule

- 1.6.1 The Tender Item Schedule is divided into items for purposes of measurement and payment of Work. Price each item in accordance with the methods of measurement specified in the Contract.
- 1.6.2 Item names in the Tender Item Schedule identify the work covered by the respective item, but do not define the size or nature of the unit.
- 1.6.3 Read item names in the Tender Item Schedule as part of the item scope, measurement, and payment requirements to which they apply in the Measurement Schedule.
- 1.6.4 For each price specified in the Tender Item Schedule include all costs and charges required to perform the Work including overhead charges and profit, and all costs of all related Work for which payment is not specified elsewhere.

- 1.6.5 Subject to the provisions of the Contract Documents, the total amount of the Tender Item Schedule shall cover all of the Contractor's obligations under the Contract and all matters and things necessary for performance of the Work in accordance with the Contract Documents.
- 1.6.6 Payment will be made only for items specified in the Tender Item Schedule. Costs and charges not directly provided for in the Tender Item Schedule will be deemed to be included therein.
- 1.6.7 Work or material included in any one item will not also be measured for payment under another item. No item will be paid for more than once.
- 1.6.8 Omissions or errors in any item including quantities in the Tender Item Schedule will not invalidate the Contract nor release the Contractor from any of his obligations or liabilities under the Contract.
- 1.7 Breakdown of Lump Sum Items**
 - 1.7.1 If requested, submit to the Consultant a breakdown of each Lump Sum item included in the Tender Item Schedule, within 21 days after the commencement date of the Contract.
 - 1.7.2 Provide sufficient details to identify the principal components of the Work and to permit ready valuation of Work performed.
 - 1.7.3 Unless otherwise identified in the measurement schedule below, progress payments for lump sum items will be based upon estimates of the percentage complete at the time of the progress payment.

1.8 Measurement Schedule

The following General Items and Non-Payment Items apply to all individual items in the measurement, payment and scope table that corresponds to the bid items in the bid form.

GENERAL ITEMS

1. Furnishing of all material, production, handling, hauling and placing, spreading, mixing, compacting, grading, watering and aerating the materials onsite.
2. Locating and protection of existing utilities, site features, and structures.
3. Rehabilitation of all disturbed areas incidental to the work to pre-construction conditions or better. Landscaped areas to be topsoiled and seeded.
4. Cleaning, removal of debris.
5. The Contractor shall not be compensated for material placed in excess of the required work area and depth unless authorized previously by a written change order.
6. All incidental work and items required to complete the work for which payment is not specified elsewhere.

NON-PAYMENT ITEMS

1. Supply of all equipment, labour, materials, plant, and services required to complete the Work for which no specific payment item has been assigned in the Unit Price Schedules of the Tender Form shall be considered incidental to the Works. Incidentals may include, but are not limited to, such things as construction survey and layout of the work, materials testing, dewatering, hydrovac, CCTV inspections, third party coordination, warranty repairs, meetings, permits, letters of authority, business licenses, per diems, accommodations allowances, etc.
2. There shall be no separate payment for incidental work. Payment for incidental work shall be considered to be included in the total tendered price of the Unit Price Schedules of the Tender Form.
3. All work shown on the plans and drawings, or referred to in the tender documents shall be considered as part of the complete work unless specifically deleted

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
A	PART 1 – SCHEDULE A.1:General		
A.1.1	Mobilization and Demobilization from the site for overall project.	All sections	<p>Measurement: No measurement will be made.</p> <p>Payment: Payment shall be made based on the unit price bid for the lump sum (L.S.) item completed.</p> <p>Lump Sum paid in accordance with the following schedule. The total amount of such payments shall not exceed the amount bid for this item. Payment for the first 40% of the Lump Sum amount will be at project start. Payment of 40% of the Lump Sum amount will be made after demobilization in 2016. Payment of 10% of the Lump Sum amount will be paid at mobilization in 2017 and the remaining 10% upon completion of all Work of the Contract, excluding warranty maintenance items, but including full removal of Contractor facilities and equipment from the site.</p> <p>Scope: Lump Sum for Mobilization shall consist of the necessary work and operations including, but not limited to the movement of personnel, equipment, supplies and incidentals to the work, establishment of field offices and camps and any other facilities necessary to perform the work, removal of same upon completion of the work (Demobilization) and any expenses incurred for operations, permits, approvals etc. required to perform the work prior to commencement of the work and/or during any stage of the work.</p>

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
A1.2	Traffic Accommodation (motorized & non-motorized).	Division 01	<p>Measurement: No measurement will be made.</p> <p>Payment: Payment shall be made based on the unit price bid for the lump sum (L.S.) item completed.</p> <p>Scope: Traffic Accommodation shall be in accordance with the following Manuals:</p> <ul style="list-style-type: none"> • Standard Specifications for Highway Construction 2013, Section 7.1 • Traffic Accommodation in Work Zones, 2008, 1st Edition <p>Includes all required measures required to meet the requirements of the above listed manuals, and any applicable Federal, Provincial and Local Municipal requirements for the duration of the Work. Lump Sum Traffic Accommodation shall consist of the necessary work and operations including, but not limited to any signage equipment, flag personnel, supplies and incidentals to the work, removal of same upon completion of the work and any expenses incurred for operations, permits, approvals etc. required to perform the work prior to commencement of the work.</p>
A.1.3	Environmental Protection.	Division 01	<p>Measurement: No measurement will be made.</p> <p>Payment: Payment shall be made based on the unit price bid for the lump sum (L.S.) item completed.</p> <p>Scope: Provide all required environmental protection measures needed to meet the requirements of noted sections and any applicable Federal, Provincial and Local Municipal environmental protection requirements.</p>

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
B	PART 1 – SCHEDULE B.1 - Demolition		
B.1.1	<p>Remove and dispose of existing rock curbs.</p> <p>Remove and dispose existing guard rail adjacent to Texas gate.</p> <p>Remove and dispose of existing asphalt, existing road structure and subcut for proposed (parking lot, roads).</p> <p>Remove and dispose of existing curb, gutter and SW at site entrance.</p>	<p>Division 01 02 41 13 02 41 13.14 02 41 99 Division 31</p>	<p>Measurement: No measurement will be made.</p> <p>Payment: Payment shall be made based on the unit price bid for the lump sum (L.S.) item completed.</p> <p>Scope (rock curb): Provide all labour, equipment and materials necessary for removal and stockpiling of the existing rock curbs in locations approved by the Owner.</p> <p>Scope (guard rail): Provide all labour, equipment and materials necessary for removal of the guard rail, including disposal offsite and all work incidental to the removal.</p> <p>Scope (road materials): Provide all labour, equipment and materials necessary for remove and dispose of the existing asphalt and road structure, including parking lot and roads as detailed in drawings. This shall include the removal of asphalt surfaces, including: cutting, jackhammering, excavating, breaking, demolishing, loading, hauling, disposal of waste material outside of Banff National Park, cleaning, and all work incidental to the removal of concrete.</p> <p>Scope (curb, gutter, SW): Provide all labour, equipment and materials necessary for removal and disposing of the existing curb and gutter as detailed in drawings. This shall include the complete removal of concrete surfaces, including cutting jackhammering, excavating, breaking, demolishing, load hauling, disposal of waste material outside of Banff National Park, cleaning and all work incidental to the removal of concrete.</p>
B.1.2 (a)	<p>Disposal and transport of excess subcut materials;</p> <p>a) Offsite to a disposal site outside of Banff National Park</p>	<p>Division 01 02 41 13 02 41 99 Division 31</p>	<p>Measurement: Measurement will be made by tonnes by weigh scale verification receipt.</p> <p>Payment: Payment shall be made based on the unit price bid for weight.</p> <p>Scope: Provide all labour, equipment, transportation and disposal fees.</p>

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
B.1.2 (b)	Disposal and transport of excess subcut materials; a) Within Banff National Park to Peyto Pit ~8k	Division 01 02 41 13 02 41 99 Division 31	Measurement: Measurement will be made by cubic metres as verified by Owner's Representative Payment: Payment shall be made based on the unit price bid for weight. Scope: Provide all labour, equipment, transportation and permitting fees, where applicable.

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
B2	PART 1 – SCHEDULE B.2 - Waterworks		
B.2.1	Temporary Water services.	Division 01 02 41 13 02 41 99 22 11 16 Division 33	<p>Measurement: No measurement will be made.</p> <p>Payment: Payment shall be made based on the unit price bid for the lump sum (L.S.) item completed.</p> <p>Scope: Provide all labour, equipment and materials in order to maintain a potable water supply. This shall include coordination with appropriate utility company and pay costs for installation, maintenance and removal.</p>
B.2.2	<p>Removal and disposal of abandoned valves on site and street, including service abandonment on Spray Avenue.</p> <p>Disconnect, removal and disposal of existing 3 hydrants.</p> <p>Removal and disposal of water manhole.</p> <p>Abandonment of existing waterlines.</p> <p>Abandon existing 150mm service on Mountain Avenue.</p>	Division 01 02 41 13 02 41 99 22 11 16 Division 33	<p>Measurement: No measurement will be made.</p> <p>Payment: Payment shall be made based on the unit price bid for the lump sum (L.S.) item completed.</p> <p>Scope (valves): Provide all labour, equipment and materials necessary to removal and disposal of abandoned valves on site and street, including service abandonment on Spray Avenue.</p> <p>Scope (hydrants): Provide all labour, equipment and materials necessary to disconnect, remove and dispose of existing hydrants.</p> <p>Scope (manhole): Provide all labour, equipment and materials necessary for removal of exiting manhole, including: removal to 1 metre below finished grade, backfilling with compacted free draining native material, disposal of waste and surplus material off-site.</p> <p>Scope (waterlines): Provide all labour, equipment and materials necessary to cap and leave in place of abandoned existing waterlines.</p> <p>Scope (150 mm): Provide all labour, equipment and materials necessary to cap and leave in place of abandoned existing waterlines.</p>

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
B.2.3	Supply and install 150mm Hydrant.	Division 01 33 05 14 22 11 16 Division 33	<p>Measurement: Measurement will be of each (Ea.) unit bid item completed.</p> <p>Payment: Payment shall be made based on the unit price bid for each item completed.</p> <p>Scope: Provide all labour, equipment and materials necessary to supply and install 150mm Hydrant c/w 150mm valve and 150mm lead as shown on the Contract drawings.</p>
B.2.4 (a)	Supply and install 50mm waterline for washroom, including: a) 50 mm hot tap.	Division 01 22 11 16 Division 33	<p>Measurement: Measurement will be of each (Ea.) unit bid item completed.</p> <p>Payment: Payment shall be made based on the unit price bid for each item completed.</p> <p>Scope: Provide all labour, equipment, and material necessary to hot tap into watermain.</p>
B.2.4 (b)	b) 50 mm PEX DR9 c/w Class III bedding c/w geotextile.	Division 01 22 11 16 Division 33	<p>Measurement: Measurement will be by linear meter (l.m.) as per contract drawing.</p> <p>Payment: Payment shall be made based on the unit price bid per linear meter completed.</p> <p>Scope: Provide all labour, equipment, and material necessary to supply and install 50mm PEX DR 9 c/w Class III bedding c/w geotextile, includes, but not limited to the following; excavation, trenching, trench boxes, placing, bedding, backfilling to subgrade elevation, tracer wire, compacting, disposal of excess material off site, supply and installation of self-drain curb stop and drain pit, supply and install pipe, supply and install of saddle and connection to the water main, flushing, testing, chlorination, dechlorinating and all work incidental to the completed.</p> <p>Hydrovac and dewatering included.</p> <p>Insulation by force account if required.</p>
B.2.4 (c)	c) 50 mm curb stop.	Division 01 22 11 16 Division 33	<p>Measurement: Measurement will be of each (Ea.) unit bid item completed.</p> <p>Payment: Payment shall be made based on the unit price bid for each item completed.</p> <p>Scope: Provide all labour, equipment, and material necessary to supply and install 50mm curb stop.</p>

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
B.2.4 (d)	d) 50 x 50 mm coupler.	Division 01 22 11 16 Division 33	<p>Measurement: Measurement will be of each (Ea.) unit bid item completed.</p> <p>Payment: Payment shall be made based on the unit price bid for each item completed.</p> <p>Scope: Provide all labour, equipment, and material necessary to supply and install 50mm curb stop.</p>
B.2.5	Supply and install 150mm PVC DR18 c/w Class III bedding c/w geotextile, bends, tees, plugs and thrust blocks.	Division 01 22 11 16 Division 33	<p>Measurement: Measurement will be by linear meter (l.m.) as per contract drawing.</p> <p>Payment: Payment shall be made based on the unit price bid per linear meter completed.</p> <p>Scope: Provide all labour, equipment, and material necessary to supply and install 150mm PVC DR18 including excavation and trenching to the required depth; trench boxes to minimize excavation width, protecting any existing services, supply and placement of granular bedding material; pipe installation to the specified line and grade; fittings; connections; tracer wire; thrust blocks; mechanical thrust protection; bends; reducers; tees; couplings; plugs; backfilling to roadway subgrade elevation; compaction; soil conditioning; dewatering; care of water; disposal of excess material off site; pressure testing; flushing; chlorinating; dechlorinating; and, all other work necessary to complete the Work to the satisfaction of the Parks Canada Representative.</p> <p>Hydrovac included.</p> <p>Insulation by force account if required.</p>
B.2.6	150x150x150 cut in tee to tie into existing 150mm main	Division 01 22 11 16 Division 33	<p>Measurement: Measurement will be of each (Ea.) unit bid item completed.</p> <p>Payment: Payment shall be made based on the unit price bid for each item completed.</p> <p>Scope: Provide all labour, equipment and materials necessary to supply and install cut in tee as shown on the Contract drawings to tie into existing watermain, including but not limited to; excavation, trenching, cutting, draining, dewatering, connecting, backfilling to roadway subgrade elevation, compacting, disposal of excess material off site, and all work incidental to the completed cut in tee.</p>

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
B.2.7	300mm cut in tees to tie into existing 300 x 300 x 150.	Division 01 22 11 16 Division 33	<p>Measurement: Measurement will be of each (Ea.) unit bid item completed.</p> <p>Payment: Payment shall be made based on the unit price bid for each item completed.</p> <p>Scope: Provide all labour, equipment and materials necessary to supply and install 300mm cut in tees to tie into existing waterlines including but not limited to; excavation, trenching, cutting, draining, dewatering, connecting, backfilling to roadway subgrade elevation, compacting, disposal of excess material off site, and all work incidental to the completed cut in tee.</p>
B.2.8	Supply and install 150mm valves.	Division 01 22 11 16 Division 33	<p>Measurement: Measurement will be of each (Ea.) unit bid item completed.</p> <p>Payment: Payment shall be made based on the unit price bid for each item completed.</p> <p>Scope: Provide all labour, equipment and materials necessary to supply and install 150mm valve to new waterline, including but not limited to; supply of valves, supports, operating rods, valve boxes and cathodic protection, excavation and trenching to the required depth, supply and placement of granular bedding material, valve insertion to the specified line and grade, connections, thrust blocking, mechanical thrust protection, backfilling to plan subgrade, compactions, soil conditioning, dewatering, care of water, testing, flushing, chlorination, dechlorinating and all work incidental to the completed valve installation.</p>
B.2.9	Supply and install 300mm Valve.	Division 01 22 11 16 Division 33	<p>Measurement: Measurement will be of each (Ea.) unit bid item completed.</p> <p>Payment: Payment shall be made based on the unit price bid for each item completed.</p> <p>Scope: Provide all labour, equipment and materials necessary to supply and install 300 mm valve to new waterline including but not limited to; supply of valves, supports, operating rods, valve boxes and cathodic protection, excavation and trenching to the required depth, supply and placement of granular bedding material, valve insertion to the specified line and grade, connections, thrust blocking, mechanical thrust protection, backfilling to plan subgrade, compactions, soil conditioning, dewatering, care of water, testing, flushing, chlorination, dechlorinating and all work incidental to the completed valve installation.</p>

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
B.3	PART 1 – SCHEDULE B.3 – Sanitary Sewers		
B.3.1	Temporary Sanitary Sewer services.	Division 01 02 41 13 02 41 99 Division 33	<p>Measurement: No measurement will be made.</p> <p>Payment: Payment shall be made based on the unit price bid for the lump sum (L.S.) item completed.</p> <p>Lump Sum paid in accordance with the following schedule. The total amount of such payments shall not exceed the amount bid for this item. Payment for the first 50% of the Lump Sum amount will be made after completion of at least 5% of the total Work. Payment of the final 50% of the Lump Sum amount will be made after completion of all Work of the Contract, excluding warranty maintenance items, but including full removal of Contractor facilities and equipment from the site.</p> <p>Scope: The Contractor shall furnish and install all required temporary toilet buildings with sanitary toilets for use of all workmen; comply with all minimum requirements of the Health Department or other public agency having jurisdiction; maintain in a sanitary condition at all times.</p>
B.3.2	Disconnect, removal and disposal of existing SMH901 and SMH898, including abandonment of associated pipes.	Division 01 02 41 13 02 41 99 Division 33	<p>Measurement: No measurement will be made.</p> <p>Payment: Payment shall be made based on the unit price bid for the lump sum (L.S.) item completed.</p> <p>Lump Sum paid in accordance with the following schedule. The total amount of such payments shall not exceed the amount bid for this item. Payment for the first 50% of the Lump Sum amount will be made after completion of at least 5% of the total Work. Payment of the final 50% of the Lump Sum amount will be made after completion of all Work of the Contract, excluding warranty maintenance items, but including full removal of Contractor facilities and equipment from the site.</p> <p>Scope: Provide all labour, equipment and materials necessary to disconnect, removal and disposal of existing SMH901 and SMH898, including excavation, removal, loading, hauling, disposal offsite and all work and dump fees required for the complete removal and disposal of existing sanitary manholes. The associated pipes shall be left in place and deemed abandoned by sealing the pipe with a manufactured compression /mechanical type plug. Place concrete over top of the plug with low slump cast-in-place concrete.</p>

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
B.3.3	Supply and install manhole (Type 5-A) and tie existing sanitary sewer into new manhole.	Division 01 Division 33	<p>Measurement: Measurement will be by vertical meter (v.m.) as per contract drawing.</p> <p>Payment: Payment shall be made based on the unit price bid per linear meter completed.</p> <p>Scope: Provide all labour, equipment and materials necessary to supply and install manhole (Type 5-A) as per drawings and specifications, including: excavation, disposal of waste excavation off-site, supply and install granular material, manhole base and benching, manhole barrel, slab top, collars, frame & cover, grouting, all pipe tie-ins to manholes, backfilling, associated clean-up and all items incidental to complete the work. The work also includes tie existing sanitary sewer into new manhole.</p>
B.3.4	Supply and install 200mm PVC SDR 35 c/w Class III Bedding and non-woven geotextile.	Division 01 Division 33	<p>Measurement: Measurement will be by linear meter (l.m.) as per contract drawing.</p> <p>Payment: Payment shall be made based on the unit price bid per linear meter completed.</p> <p>Scope: Provide all labour, equipment and materials necessary to supply and install of sanitary sewer line including: confirmation of existing tie-in inverts, supplying of pipes and fittings, loading, hauling, unloading of pipe, trenching to the required depth, trench boxes to minimize excavation width, temporary diversion of sanitary services ,supply and placement of granular bedding material, pipe installation to the specified line and grade, backfilling to roadway or landscape subgrade elevation, tracer wire, trench compaction, disposal of excess materials off site, connection to manholes or existing building sanitary pipes, temporary endcaps, flushing, cleaning CCTV inspection, and all work incidental to the completed installation of sanitary sewer line.</p> <p>The work shall also include the removal and disposal of any existing pipes that are encountered during the completion of the work.</p> <p>Any additional associated pipes shall be left in place and deemed abandoned by sealing the pipe with a manufactured compression /mechanical type plug. Place concrete over top of the plug with low slump cast-in-place concrete.</p> <p>The installation includes dewatering & hydrovac.</p>

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
B.3.5	200mm PVC SDR 35 (or equivalent) installed using trenchless methods.	Division 01 Division 33	<p>Measurement: Location, length, and method to be determined by the Contractor as per Contract drawing where practical for the method being used.</p> <p>Payment: Unit price per linear meter.</p> <p>Scope: Provide all labour, equipment and materials necessary to supply and install 200mm PVC SDR 35 or equivalent using trenchless method. Insulation by force account if required.</p> <p>This work shall include, but is not limited to the following: hydrovac, dewatering and flush assisted CCTV video inspection of pipes, CCTV mobilization and video inspection report.</p>
B.3.6	Tie-in to existing S MH 186.	Division 01 Division 33	<p>Measurement: No measurement will be made.</p> <p>Payment: Payment shall be made based on the unit price bid for the lump sum (L.S.) item completed.</p> <p>Scope: Provide all labour, equipment and materials necessary to supply and install tie-ins of new sanitary sewer lines to existing manholes including: digging, trenching, placing, sealing, backfilling, compacting, coordination and notification required for sanitary sewer service interruption, testing, and all work incidental to the completed tie-in.</p>

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
B.4	PART 1 – SCHEDULE B.4 – Storm Sewers		
B.4.1	<p>Disconnect, remove and dispose existing catch basins.</p> <p>Remove storm pipes upstream of Texas gate.</p> <p>Abandonment of existing unused storm pipe.</p>	<p>Division 01 02 41 13 02 41 99</p>	<p>Measurement: No measurement will be made.</p> <p>Payment: Payment shall be made based on the unit price bid for the entire lump sum (L.S.) scope of work completed.</p> <p>Scope (CB's): Provide all labour, equipment and materials necessary to disconnect and abandonment of associated pipes, removal and disposal of existing catch basins, including excavation, removal, loading, hauling, disposal offsite and all work and dump fees required for the complete removal and disposal of existing catch basins.</p> <p>Scope: (storm pipes): Provide all labour, equipment and materials necessary to disconnect, for the removal and disposal of existing storm pipes including excavation, removal, loading, hauling, disposal offsite and all work and dump fees required for the complete removal and disposal of existing storm lines</p> <p>Scope (abandonment of pipes): Provide all labour, equipment and materials necessary to excavate, investigate and confirm the abandonment of the pipe. Abandoned pipes 200mm in diameter or smaller shall be left in place and deemed abandoned by sealing the lead pipe with a manufactured compression /mechanical type plug. Place concrete over top of the plug with low slump cast-in-place concrete. For the 250mm concrete pipe, place sandbags and/or bricks 300mm inside of the lead pipe to be abandoned, and seal with low slump cast-in-place concrete.</p>
B.4.2	<p>Supply and install twin "Type C" CB including tie-ins and single Type K-3 with sump & flow restrictor.</p>	<p>Division 01 Division 33</p>	<p>Measurement: No measurement will be made.</p> <p>Payment: Payment shall be made based on the unit price bid for the lump sum (L.S.) item completed.</p> <p>Scope: Provide all labour, equipment and materials necessary to supply and install twin (Type C) CB and single (Type K-3) CB with sump & flow restrictor as per drawings and specifications, including: excavation, disposal of waste excavation off-site, supply and install granular material, CB base and bottom slab, barrel, frame & grate, geotextile fabric, all pipe tie-ins to CB, backfilling, associated clean-up and all items incidental to complete the work. The work also includes tie existing storm pipe into new CB.</p>

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
B.4.3	Supply and install manholes (Type 5-A), including tie-ins.	Division 01 Division 33	<p>Measurement: Measurement will be by vertical meter (v.m.) as per contract drawing.</p> <p>Payment: Payment shall be made based on the unit price bid per linear meter completed.</p> <p>Scope: Provide all labour, equipment and materials necessary to supply and install manhole (Type 5-A) as per drawings and specifications, including: excavation, disposal of waste excavation off-site, supply and install granular material, manhole base and benching, manhole barrel, slab top, collars, frame & cover, grouting, all pipe tie-ins to manholes, backfilling, associated clean-up and all items incidental to complete the work. The work also includes tie existing sanitary sewer into new manhole.</p>
B.4.4	Supply and install 300mm PVC SDR 35 c/w Class III Bedding and non-woven geotextile.	Division 01 Division 33	<p>Measurement: Measurement will be by linear meter (l.m.) as per contract drawing.</p> <p>Payment: Payment shall be made based on the unit price bid per linear meter completed.</p> <p>Scope: Provide all labour, equipment and materials necessary to supply and install of storm sewer line including: confirmation of existing tie-in inverts, supplying of pipes and fittings, loading, hauling, unloading of pipe, trenching to the required depth, trench boxes to minimize excavation width, temporary diversion of storm services ,supply and placement of granular bedding material, pipe installation to the specified line and grade, backfilling to roadway or landscape subgrade elevation, tracer wire, trench compaction, disposal of excess materials off site, connection to manholes or CBs, temporary endcaps, flushing, cleaning CCTV inspection, and all work incidental to the completed installation of sanitary sewer line.</p> <p>The work shall also include the removal and disposal of any existing pipes that are encountered during the completion of the work.</p> <p>Any additional associated pipes shall be left in place and deemed abandoned by sealing the pipe with a manufactured compression /mechanical type plug. Place concrete over top of the plug with low slump cast-in-place concrete.</p>

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
B.4.5	Supply and install 250mm PVC SDR 35 c/w Class III Bedding and non-woven geotextile.	Division 01 Division 33	<p>Measurement: Measurement will be by linear meter (l.m.) as per contract drawing.</p> <p>Payment: Payment shall be made based on the unit price bid per linear meter completed.</p> <p>Scope: Provide all labour, equipment and materials necessary to supply and install of storm sewer line including: confirmation of existing tie-in inverts, supplying of pipes and fittings, loading, hauling, unloading of pipe, trenching to the required depth, trench boxes to minimize excavation width, temporary diversion of storm services ,supply and placement of granular bedding material, pipe installation to the specified line and grade, backfilling to roadway or landscape subgrade elevation, tracer wire, trench compaction, disposal of excess materials off site, connection to manholes or CBs, temporary endcaps, flushing, cleaning CCTV inspection, and all work incidental to the completed installation of sanitary sewer line.</p> <p>The work shall also include the removal and disposal of any existing pipes that are encountered during the completion of the work.</p> <p>Any additional associated pipes shall be left in place and deemed abandoned by sealing the pipe with a manufactured compression /mechanical type plug. Place concrete over top of the plug with low slump cast-in-place concrete.</p>

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
B.4.6	<p>Supply and install 150mm PVC SDR 35 c/w Class III Bedding and non-woven geotextile.</p> <p>a) Reflecting pool to storm system. b) Roof drain improvement</p>	<p>Division 01 Division 33</p>	<p>Measurement: Measurement will be by linear meter (l.m.) as per contract drawing.</p> <p>Payment: Payment shall be made based on the unit price bid per linear meter completed.</p> <p>Scope: Provide all labour, equipment and materials necessary to supply and install of storm sewer line including: confirmation of existing tie-in inverts, supplying of pipes and fittings, loading, hauling, unloading of pipe, trenching to the required depth, trench boxes to minimize excavation width, temporary diversion of storm services, supply and placement of granular bedding material, pipe installation to the specified line and grade, backfilling to roadway or landscape subgrade elevation, tracer wire, trench compaction, disposal of excess materials off site, connection to manholes or CBs, temporary endcaps, flushing, cleaning CCTV inspection, and all work incidental to the completed installation of sanitary sewer line.</p> <p>The work shall also include the removal and disposal of any existing pipes that are encountered during the completion of the work.</p> <p>Any additional associated pipes shall be left in place and deemed abandoned by sealing the pipe with a manufactured compression /mechanical type plug. Place concrete over top of the plug with low slump cast-in-place concrete.</p> <p>Clean blocked storm pipes at the Administration Building by flushing.</p>
B.4.7	<p>Supply and install underground storage tank (Brentwood), including bedding, non-woven geotextile and other material to complete the installation.</p>	<p>Division 01 31 32 19.02 31 32 19.13 Division 33</p>	<p>Measurement: No measurement will be made.</p> <p>Payment: Payment shall be made based on the unit price bid for the lump sum (L.S.) item completed.</p> <p>Scope: Provide all labour, equipment and materials necessary to supply and install Brentwood Tank as per drawings and specifications, including: excavation, disposal of waste excavation off-site, supply and install granular material base and non-woven geotextile, modular Brentwood Tank components, all pipe tie-ins to tank, top cover with non-woven geotextile and granular material and backfilling, associated clean-up and all items incidental to complete the work.</p>

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
B.4.8	Tie-in to existing CB 43.	Division 01 Division 33	<p>Measurement: No measurement will be made.</p> <p>Payment: Payment shall be made based on the unit price bid for the lump sum (L.S.) item completed.</p> <p>Scope: Provide all labour, equipment and materials necessary to supply and install tie-ins of new storm sewer lines to existing CB43, including: digging, trenching, placing, sealing, backfilling, compacting, testing, and all work incidental to the completed tie-in.</p>
B.4.9	Supply and install 150mm PVC SDR 35 culvert.	Division 01 Division 33	<p>Measurement: Measurement will be by linear meter (l.m.) as per contract drawing.</p> <p>Payment: Payment shall be made based on the unit price bid per linear meter completed.</p> <p>Scope: Provide all labour, equipment and materials necessary to supply and install 150mm PVC SDR 35 culvert including: supplying of pipes, fittings and flared ends, loading, hauling, unloading of pipe, trenching to the required depth, trench boxes to minimize excavation width, supply and placement of granular bedding material and rip rap material, pipe installation to the specified line and grade, backfilling to roadway or landscape subgrade elevation, tracer wire, trench compaction, disposal of excess materials off site, and all work incidental to the completed installation of culvert pipe.</p>

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
B.5	PART 1 – SCHEDULE B.5 – Surfaceworks Updates		
B.5.1	Supply and install 0.55m rolled C&G.	Division 01 03 20 10 03 30 00.01 32 16 15 Division 31 Division 32	<p>Measurement: Measurement will be by linear meter (l.m.) as per contract drawing.</p> <p>Payment: Payment shall be made based on the unit price bid per linear meter completed.</p> <p>Scope: Payment shall include the supply of all labour, material and plant for 0.55m rolled concrete curb and gutter. The work includes:</p> <ol style="list-style-type: none"> 1. Excavation, grading, subgrade preparation and compaction. 2. Removal of excavated material to disposal areas. 3. Supply, placement and compaction of 100mm granular level base course. 4. Supply and placing of concrete and reinforcement (if reinforcement is required). 5. Rehabilitation of all disturbed areas incidental to the work to preconstruction conditions or better. Landscaped areas to be topsoiled and seeded. 6. Cleaning, removal of debris. 7. Relocation of existing signs as required. 8. All incidental work and items required to complete the work for which payment is not included elsewhere.

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
B.5.2	Supply and install 0.45 m standard C&G.	Division 01 03 20 10 03 30 00.01 Division 31 Division 32	<p>Measurement: Measurement will be by linear meter (l.m.) as per contract drawing.</p> <p>Payment: Payment shall be made based on the unit price bid per linear meter completed.</p> <p>Scope: Payment shall include the supply of all labour, material and plant for 0.45m rolled concrete curb and gutter. The work includes:</p> <ol style="list-style-type: none"> 1. Excavation, grading, subgrade preparation and compaction. 2. Removal of excavated material to disposal areas. 3. Supply, placement and compaction of 100mm granular level base course. 4. Supply and placing of concrete and reinforcement (if reinforcement is required). 5. Rehabilitation of all disturbed areas incidental to the work to preconstruction conditions or better. Landscaped areas to be topsoiled and seeded. 6. Cleaning, removal of debris. 7. Relocation of existing signs as required. 8. All incidental work and items required to complete the work for which payment is not included elsewhere.

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
B.5.3	Supply and install break-in curb and concrete apron.	Division 01 03 20 10 03 30 00.01 Division 31 Division 32	<p>Measurement: Measurement will be of each (Ea.) unit bid item completed.</p> <p>Payment: Payment shall be made based on the unit price bid for each item completed.</p> <p>Scope: Payment shall include the supply of all labour, material and plant for break-in curb and concrete apron. The work includes:</p> <ol style="list-style-type: none"> 1. Excavation, grading, subgrade preparation and compaction. 2. Removal of excavated material to disposal areas. 3. Supply, placement and compaction of 100mm granular level base course. 4. Supply and placing of concrete and reinforcement (if reinforcement is required). 5. Rehabilitation of all disturbed areas incidental to the work to preconstruction conditions or better. Landscaped areas to be topsoiled and seeded. 6. Cleaning, removal of debris. 7. Relocation of existing signs as required. 8. All incidental work and items required to complete the work for which payment is not included elsewhere.
B.5.4	Supply and install break-in curb c/w pathway grate, outfall & rip rap.	Division 01 03 20 10 03 30 00.01 Division 31 Division 32	<p>Measurement: Measurement will be of each (Ea.) unit bid item completed.</p> <p>Payment: Payment shall be made based on the unit price bid for each item completed.</p> <p>Scope: Payment shall include the supply of all labour, material and equipment for break-in curb c/w pathway grate, outfall & rip rap. The work includes:</p> <ol style="list-style-type: none"> 1. Excavation, grading, subgrade preparation and compaction. 2. Removal of excavated material to disposal areas. 3. Supply, placement and compaction of 100mm granular level base course. 4. Supply and placing of concrete and reinforcement (if reinforcement is required). 5. Rehabilitation of all disturbed areas incidental to the work to preconstruction conditions or better. Landscaped areas to be topsoiled and seeded. 6. Cleaning, removal of debris. 7. Relocation of existing signs as required. 8. All incidental work and items required to complete the work for which payment is not included elsewhere.

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
B.5.5	Supply and install 0.5 m concrete liner.	Division 01 03 20 10 03 30 00.01 Division 31 Division 32	<p>Measurement: Measurement will be by linear meter (l.m.) as per contract drawing.</p> <p>Payment: Payment shall be made based on the unit price bid per linear meter completed.</p> <p>Scope: Payment shall include the supply of all labour, material and plant for 0.5m concrete liner. The work includes:</p> <ol style="list-style-type: none"> 1. Excavation, grading, subgrade preparation and compaction. 2. Removal of excavated material to disposal areas. 3. Supply, placement and compaction of 100mm granular level base course. 4. Supply and placing of concrete and reinforcement (if reinforcement is required). 5. Rehabilitation of all disturbed areas incidental to the work to preconstruction conditions or better. Landscaped areas to be topsoiled and seeded. 6. Cleaning, removal of debris. 7. Relocation of existing signs as required. 8. All incidental work and items required to complete the work for which payment is not included elsewhere.

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
B.5.6	Supply and install asphalt paved parking lot and roads.	Division 01 32 00 03 32 11 16 01 Division 31 Division 32	<p>Measurement: Measurement will be by square meter (m²) as per contract drawing.</p> <p>Payment: Payment shall be made based on the unit price bid per square meter completed.</p> <p>Scope: Payment shall include the supply of all labour, material and equipment for asphalt concrete. The work includes:</p> <ol style="list-style-type: none"> 1. Furnishing of all material, production, handling, hauling and placing, spreading, grading, and compacting the materials onsite. 2. Mix design. 3. Setting of manhole and catch basin frames and covers, valve boxes and all other surface features to make a smooth surface. 4. Locating and protecting existing utilities and structures. 5. Cleaning, removal of debris. 6. The unit price for asphalt concrete pavement shall also include raising manhole and catch basin frames and covers, valve boxes and other surface features to the final finished surface course elevation. 7. All incidental work and items required to complete the work for which payment is not specified elsewhere.

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
B.5.7	Supply and install textured surface cross walk and walkway with concrete liner.	Division 01 03 20 10 03 30 00.01 Division 31 Division 32	<p>Measurement: Measurement will be by square meter (m²) as per contract drawing.</p> <p>Payment: Payment shall be made based on the unit price bid per square meter completed.</p> <p>Scope: Payment shall include the supply of all labour, material and equipment need for the install of the textured surface cross walk and walkway with concrete liner. The work includes:</p> <ol style="list-style-type: none"> 1. Excavation, grading, subgrade preparation and compaction. 2. Removal of excavated material to disposal areas. 3. Supply, placement and compaction of 100mm granular level base course. 4. Supply and placing of concrete and reinforcement (if reinforcement is required). 5. Supply and placement of concrete pavers as specified by design. 6. Rehabilitation of all disturbed areas incidental to the work to preconstruction conditions or better. Landscaped areas to be topsoiled and seeded. 7. Cleaning, removal of debris. 8. Relocation of existing signs as required. 9. All incidental work and items required to complete the work for which payment is not included elsewhere.

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
B.5.8	Supply and install wheel chair ramps.	Division 01 03 20 10 03 30 00.01 Division 31 Division 32	<p>Measurement: Measurement will be of each (Ea.) unit bid item completed.</p> <p>Payment: Payment shall be made based on the unit price bid for each item completed.</p> <p>Scope: Payment shall include the supply of all labour, material and plant for wheel chair ramps. The work includes:</p> <ol style="list-style-type: none"> 1. Excavation, subgrade preparation and compaction. 2. Removal of excavated material to disposal or stockpile areas. 3. Supply, placement and compaction of 100mm granular level base course. 4. Supply and placing of concrete and reinforcement (if reinforcement is required). 5. Forming, jointing, finishing, curing and testing. 6. Rehabilitation of all disturbed areas incidental to the work to preconstruction conditions or better. Landscaped areas to be topsoiled and seeded. 7. Cleaning, removal of debris. 8. All incidental work and items required to complete the work for which payment is not specified elsewhere.
B.5.9	Supply and install courtesy ramps.	Division 01 03 20 10 03 30 00.01 Division 31 Division 32	<p>Measurement: Measurement will be of each (Ea.) unit bid item completed.</p> <p>Payment: Payment shall be made based on the unit price bid for each item completed.</p> <p>Scope: Payment shall include the supply of all labour, material and plant for courtesy ramps. The work includes:</p> <ol style="list-style-type: none"> 1. Excavation, subgrade preparation and compaction. 2. Removal of excavated material to disposal or stockpile areas. 3. Supply, placement and compaction of 100mm granular level base course. 4. Supply and placing of concrete and reinforcement (if reinforcement is required). 5. Forming, jointing, finishing, curing and testing. 6. Rehabilitation of all disturbed areas incidental to the work to preconstruction conditions or better. Landscaped areas to be topsoiled and seeded. 7. Cleaning, removal of debris. 8. All incidental work and items required to complete the work for which payment is not specified elsewhere.

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
B.5.10	Supply and install wheel stripes welded onto existing Texas Gate.	Division 01 05 12 23	<p>Measurement: No measurement will be made.</p> <p>Payment: Payment shall be made based on the unit price bid for the lump sum (L.S.) item completed.</p> <p>Scope: Provide all labour, equipment and materials necessary to supply and install wheel stripes welded onto existing Texas Gate as per Contract drawing.</p>
B.5.11	Prepare, supply and install raingarden.	Division 01 Division 31 Division 32	<p>Measurement: Measurement will be by square meter (m²) as per contract drawing.</p> <p>Payment: Payment shall be made based on the unit price bid per square meter completed.</p> <p>Scope: Payment shall include the supply of all labour, material and plant for raingardens. The work includes:</p> <ol style="list-style-type: none"> 1. Stripping of existing landscape and removal to disposal or stockpile areas. 2. Cut and remove soil to bottom of the growing medium. 3. Shape and slope grading 5:1. 4. Excavate and install 300mm drain rock c/w geotextile. 5. Fill 300mm growing medium.
B.5.12	Prepare, supply and install swale around building.	Division 01 Division 31 Division 32	<p>Measurement: No measurement will be made.</p> <p>Payment: Payment shall be made based on the unit price bid for the lump sum (L.S.) item completed.</p> <p>Scope: Payment shall include the supply of all labour, material and equipment for swales. The work includes:</p> <ol style="list-style-type: none"> 1. Stripping of existing landscape and removal to disposal or stockpile area. Excess material to Peyto Pit. 2. Shape and slope to match construction drawings. 3. Resurfacing of the swale to match existing surfaces as per landscape drawings

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
B.5.13	Line painting.	Division 01 32 17 23	<p>Measurement: No measurement will be made.</p> <p>Payment: Payment shall be made based on the unit price bid for the lump sum (L.S.) item completed.</p> <p>Scope: Payment shall include the supply of all labour, material and equipment for line painting. The work includes:</p> <ol style="list-style-type: none"> 1. Cleaning of surfaces, layout, grinding, supply and application of painted markings as per manufacturer's specifications, including protection until dry. 2. All incidental work and items required to complete the work for which payment is not specified elsewhere.
B.5.14	Supply and install new signs.	Division 01 10 14 53	<p>Measurement: Measurement will be of each (Ea.) unit bid item completed.</p> <p>Payment: Payment shall be made based on the unit price bid for each item completed.</p> <p>Scope: Payment shall include the supply of all labour, material and equipment for supply and install of new signs. The work includes:</p> <ol style="list-style-type: none"> 1. Supply of all materials, including concrete, and new posts to match existing style of posts. 2. Excavation and removal of excavated materials to disposal or stockpiled areas. 3. Setting and leveling of signs. 4. All incidental work and items required to complete the work for which payment is not specified elsewhere, including permits.

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
B.5.15	Relocate existing signs.	Division 01 02 41 99 10 14 53	<p>Measurement: Measurement will be of each (Ea.) unit bid item completed.</p> <p>Payment: Payment shall be made based on the unit price bid for each item completed.</p> <p>Scope: Payment shall include the supply of all labour, material and equipment for relocating existing signs. The work includes:</p> <ol style="list-style-type: none"> 1. Supply of all materials, including concrete, and new posts to match existing style of posts. 2. Removal of existing signs. 3. Excavation of signpost holes in new location. 4. Setting and levelling of signs. 5. All incidental work and items required to complete the work for which payment is not specified elsewhere, including permits.
B.5.16	Supply and install charcoal concrete at loading zone & site entrance around WCR's.	Division 01 03 20 10 03 30 00.01 Division 31	<p>Measurement: Measurement will be by square meter (m²) as per contract drawing.</p> <p>Payment: Payment shall be made based on the unit price bid per square meter completed.</p> <p>Scope: Payment shall include the supply of all labour, material and equipment for charcoal concrete installation. The work includes:</p> <ol style="list-style-type: none"> 1. Excavation and subgrade preparation. 2. Supply and installation of granular base. 3. Placement, vibrating, finishing, stripping, curing and protection of the concrete, control joints expansion joints, isolation joints. 4. Associated clean up and rehabilitation of all disturbed areas incidental to the work to preconstruction conditions or better.

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
B.5.17	Supply and install broom finish concrete at main entrance (for horse carriage entrance and walkway).	Division 01 03 20 10 03 30 00.01 Division 31	<p>Measurement: Measurement will be by square meter (m²) as per contract drawing.</p> <p>Payment: Payment shall be made based on the unit price bid per square meter completed.</p> <p>Scope: Payment shall include the supply of all labour, material and equipment for broom finish concrete installation. The work includes:</p> <ol style="list-style-type: none"> 1. Excavation and subgrade preparation. 2. Supply and installation of granular base. 3. Placement, vibrating, finishing, stripping, curing and protection of the concrete, control joints expansion joints, isolation joints. 4. Associated clean up and rehabilitation of all disturbed areas incidental to the work to preconstruction conditions or better.

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
C	PART 1 – SCHEDULE C: C.1 Mechanical:		
C.1.1	<p>Removal and disposal of piping at north 100mm water service line.</p> <p>Removal and disposal of piping at south east 150mm water service line.</p> <p>Supply and install of piping and valves at north 100mm water service line location.</p> <p>Supply and install of building water metering and irrigation piping.</p>	<p>Division 01 02 41 99 22 11 16 31 04 31 Division 33</p>	<p>Measurement: No measurement will be made.</p> <p>Payment: Lump Sum paid in accordance with the following schedule. The total amount of such payments shall not exceed the amount bid for this item. Payment for the first 50% of the Lump Sum amount will be made after completion of at least 5% of the total Work. Payment of the final 50% of the Lump Sum amount will be made after completion of all Work of the Contract, excluding warranty maintenance items, but including full removal of Contractor facilities and equipment from the site.</p> <p>Scope: Provide all labour, equipment and materials necessary to complete requirements on drawing M-1.</p>

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
D	PART 1 – SCHEDULE D: D.1 Shallow Utilities:		
D.1.1	Power Conduit System.	Division 01 Division 26 Division 31 33 42 05	<p>Measurement: Percentage Complete.</p> <p>Payment: Basis of Lump Sum.</p> <p>Scope: Provide all labour, equipment and materials necessary for installation of underground power conduit from the existing transformer area at the Administration Building, to the existing Washroom Building, to future site panel locations and to concrete bases for lighting and parking pedestals.</p>
D.1.2	Communication Conduit System.	Division 01 Division 26 Division 31 33 42 05	<p>Measurement: Percentage Complete.</p> <p>Payment: Basis of Lump Sum.</p> <p>Scope: Provide all labour, equipment and materials necessary for installation of underground communication conduit from the existing comm. service entrance at the Administration Building, to the existing Washroom Building, to future site panel locations and to concrete bases for lighting and parking pedestals.</p>
D.1.3	Concrete Bases.	Division 01 Division 26 Division 31 03 30 00.01	<p>Measurement: Percentage Complete.</p> <p>Payment: Basis of Lump Sum.</p> <p>Scope: Provide all labour, equipment and materials necessary to excavate and install concrete bases for light poles and parking pedestals, as shown on the Contract drawings.</p>
D.1.4	Gas Line Addition.	Division 01 Division 26 Division 31 33 11 17	<p>Measurement: Percentage Complete.</p> <p>Payment: Basis of Lump Sum.</p> <p>Scope: Provide all labour, equipment and materials necessary for installation of gas piping from the existing gas meter area at the Administration Building to the existing Washroom Building. Termination of new gas line at the Administration Building and the Washroom Building will be by others.</p>

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
D.1.5	Fibre Conduit Extension (comm conduit).	Division 01 Division 26 Division 31 33 42 05	<p>Measurement: Percentage Complete.</p> <p>Payment: Basis of Lump Sum.</p> <p>Scope: Labour, materials, equipment, and all work incidental for which separate payment is not elsewhere provided.</p>
D.1.6	Trenching.	Division 01 Division 26 Division 31	<p>Measurement: Percentage Complete.</p> <p>Payment: Basis of Lump Sum.</p> <p>Scope: Labour, materials, equipment, and all work incidental for which separate payment is not elsewhere provided.</p>
D.1.7	Demolition.	Division 01 02 41 13 02 41 13.14 02 41 99 Division 26 Division 31	<p>Measurement: Percentage Complete.</p> <p>Payment: Basis of Lump Sum.</p> <p>Scope: Labour, materials, equipment, and all work incidental for which separate payment is not elsewhere provided.</p>

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
E	PART 1 – SCHEDULE E: E.1 Irrigation and Pond Systems:		
E.1.1	Supply and Install Automatic & Standpipe Irrigation Systems.	Division 01 33 84 10	<p>Measurement: Percentage Complete.</p> <p>Payment: Basis of Lump Sum.</p> <p>Scope: Labour, materials, equipment, and all work incidental for which separate payment is not elsewhere provided.</p>
E.1.2	Supply and Install Pond Circulation System – Phase 1.	Division 01 33 84 15	<p>Measurement: Percentage Complete.</p> <p>Payment: Basis of Lump Sum.</p> <p>Scope: Labour, materials, equipment, and all work incidental for which separate payment is not elsewhere provided.</p>

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
F	PART 1 – SCHEDULE F: F.1 Landscape:		
F.1.1	Relocation of existing site furniture including benches, garbage receptacles. Relocation of existing trees and planting beds.	Division 01 32 37 00 32 93 10 32 91 19	Measurement: No measurement of this item. Payment: lump sum price bid. Scope: The Work under this item includes relocation of all existing site furniture and trees and planting beds as noted on the landscape drawings. Labour, materials, equipment, and all work incidental for which separate payment is not elsewhere provided.
F.1.2	Remove and dispose of existing rundlestone path. Remove and dispose of existing concrete sign base. Remove and dispose of existing concrete paver walkway. Shrub removal	Division 01 02 41 13 02 41 99 31 11 00	Measurement: No measurement of this item. Payment: lump sum price bid. Scope (path) : The Work under this item includes removal and disposal of existing rundlestone path as noted on the landscape drawings. Labour, materials, equipment, and all work incidental for which separate payment is not elsewhere provided. Scope (sign base): The Work under this item includes removal and disposal of existing concrete sign base as noted on the landscape drawings. Labour, materials, equipment, and all work incidental for which separate payment is not elsewhere provided Scope (walkway): The Work under this item includes removal and disposal of existing concrete paver walkway as noted on the landscape drawings. Labour, materials, equipment, and all work incidental for which separate payment is not elsewhere provided. Scope (shrub removal): The Work under this item includes removing, clearing and grubbing of existing shrub areas as noted on the landscape drawings. Labour, materials, equipment, and all work incidental for which separate payment is not elsewhere provided.

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
F.1.3	Ex. Tree stump removing and grinding.	Division 01 31 11 00	<p>Measurement: Shall be the number of tree stumps as counted by the Parks Representative.</p> <p>Payment: Unit price per each.</p> <p>Scope: The Work under this item includes the removal of existing tree stumps as noted on the landscape drawings and filling in the depression made by grubbing with suitable material. Labour, materials, equipment, and all work incidental for which separate payment is not elsewhere provided.</p>
F.1.4	Supply and install charcoal concrete pad for bike racks near Cambrian Pavilion.	Division 01 03 20 10 03 30 00.01 Division 31 32 16 15	<p>Measurement: Shall be the area of concrete pad for bike near Cambrian Pavilion measured by the Parks Representative.</p> <p>Payment: Unit price per square meter.</p> <p>Scope: The Work under this item includes excavation, subgrade compaction, forming, dowels, fibreboard bond break, reinforcing, crushed gravel base course, concrete, finishing and all work and materials incidental thereto.</p>
F.1.5	Stone Paving - rundlestone on 100mm depth concrete.	Division 01 03 20 10 03 30 00.01 Division 31 32 14 40 04 05 00	<p>Measurement: Shall be the area of rundlestone pavement as measured by the Parks Representative.</p> <p>Payment: Unit price per square meter.</p> <p>Scope: The Work under this item includes rundlestone, mortar, grout, cutting, fitting, placing, levelling, protecting, excavating, subgrade compaction, forming, reinforcing, crushed gravel base course preparation, concrete base preparation, finishing and all work and materials incidental thereto.</p>
F.1.6	Tree planting - Coniferous Tree.	Division 01 32 93 10 32 91 19	<p>Measurement: Shall be the number of trees as counted by the Parks Representative.</p> <p>Payment: Unit price per each.</p> <p>Scope: The Work under this item includes the supply, installation, labour, equipment and all work incidental for which separate payment is not elsewhere provided.</p> <p>Reference itemized list in tender item list.</p>

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
F.1.7	Tree planting – Deciduous Tree.	Division 01 32 93 10 32 91 19	<p>Measurement: Shall be the number of trees as counted by the Parks Representative.</p> <p>Payment: Unit price per each.</p> <p>Scope: The Work under this item includes the supply, installation, labour, equipment and all work incidental for which separate payment is not elsewhere provided.</p> <p>Reference itemized list in tender item list.</p>
F.1.8	Shrub planting - Cotoneaster hedge.	Division 01 32 93 10 32 91 19	<p>Measurement: Shall be the number of shrubs as counted by the Parks Representative.</p> <p>Payment: Unit price per each.</p> <p>Scope: The Work under this item includes the supply, installation, labour, equipment and all work incidental for which separate payment is not elsewhere provided.</p>
F.1.9	Sod.	Division 01 32 92 23	<p>Measurement: Shall be the area as measured by the Parks Representative.</p> <p>Payment: Unit price per square metre.</p> <p>Scope: The Work under this item includes preparation of topsoil, sod, watering and all work incidental for which separate payment is not elsewhere provided.</p>
F.1.10	Imported 300mm depth soil mix for Sod Beds - Rain Garden areas.	Division 01 Division 31 32 91 19	<p>Measurement: Shall be the area as measured by the Parks Representative and rain garden area as indicated in the drawings.</p> <p>Payment: Unit price per square metre.</p> <p>Scope: The Work under this item includes soil testing, excavation, subgrade preparation, loading, hauling, supplying, placing and spreading topsoil to a depth of 300mm, all work and materials incidental for which separate payment is not elsewhere provided</p>

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
F.1.11	Imported 150mm depth soil mix for Sod Beds - rehabilitation areas.	Division 01 Division 31 32 91 19	<p>Measurement: Shall be the area as measured by the Parks Representative.</p> <p>Payment: Unit price per square metre.</p> <p>Scope: The Work under this item includes soil testing, excavation, subgrade preparation, loading, hauling, supplying, placing and spreading topsoil to a depth of 300mm, all work and materials incidental for which separate payment is not elsewhere provided.</p>
F.1.12	Imported 600mm depth soil mix for planting beds.	Division 01 Division 31 32 91 19	<p>Measurement: Shall be the area as measured by the Parks Representative.</p> <p>Payment: Unit price per square metre.</p> <p>Scope: The Work under this item includes soil testing, excavation, sub grade preparation, supplying, placing and spreading soil mix to a depth of 600mm, all work and materials incidental for which separate payment is not elsewhere provided.</p>
F.1.13	75mm Depth Wood Chip Mulch.	Division 01 32 93 10	<p>Measurement: Shall be the area as measured by the Parks Representative.</p> <p>Payment: Unit price per square metre.</p> <p>Scope: The Work under this item includes supply and installation of mulch to a depth of 75mm, all work and materials incidental for which separate payment is not elsewhere provided.</p>
F.1.14	Bike rack.	Division 01 32 37 00	<p>Measurement: Shall be the number of bike racks as counted by the Parks Representative.</p> <p>Payment: Unit price per each.</p> <p>Scope: The Work under this item includes supply and installation of the bike rack EP5900 by Equiparc or approved alternative, layout, shimming, leveling, mounting hardware and fasteners, installation per manufacturer's specifications, all work and materials incidental for which separate payment is not provided elsewhere.</p>

ITEM NO.	ITEM NAME	SECTION	MEASUREMENT, PAYMENT AND SCOPE
F.1.15	Ash receptacle.	Division 01 32 37 00	<p>Measurement: Shall be the number of ash receptacle as counted by the Parks Representative.</p> <p>Payment: Unit price per each.</p> <p>Scope: The Work under this item includes supply and installation of the Grenadier Ash Urn by landscape forms or approved alternative, layout, shimming, leveling, mounting hardware and fasteners, installation per manufacturer's specifications, all work and materials incidental for which separate payment is not provided elsewhere.</p>
F.1.16	Waste & Recycle Unit.	Division 01 32 37 00	<p>Measurement: Shall be the number of units as counted by the Parks Representative.</p> <p>Payment: Unit price per each.</p> <p>Scope: The Work under this item includes supply and installation of the Hid-a-Bag™ ii combo waste & recycle container, double compartment or approved alternative, layout, shimming, leveling, mounting hardware and fasteners, concrete pad, installation per manufacturer's specifications, all work and materials for which separate payment is not elsewhere provided</p>
F.1.17	Establishment Maintenance during the Warranty Period.	Division 01 32 01 90	<p>Measurement: No measurement of this item</p> <p>Payment: Lump sum price bid. This item will be paid at 50% at the end of the first growing season and the final 50% will be paid at the end of the warranty period after all landscape planting deficiencies have been completed.</p> <p>Scope: The Work under this item includes all work for establishment of planting materials and maintenance during the warranty period as indicated in the contract documents for the period of time between CCC and FAC acceptance (minimum one year).</p>

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION