



Central Coast
REGIONAL DISTRICT

REQUEST FOR QUOTATION

Central Coast Regional District

Hagensborg Community Water System
Test Well Drilling

February 2023

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1.0 PROJECT OVERVIEW

The Central Coast Regional District (CCRD) is proceeding with the design and construction of upgrades to the Hagensborg Community Water System. The proposed water servicing concept includes development of a new groundwater source to supply the system. Two 200 mm (8") diameter groundwater production wells are envisioned for the new water supply.

The location of the Hagensborg community and proposed groundwater well site is depicted in the figure provided in **Appendix A**.

The CCRD has issued this Request for Quotation (RFQ) to solicit quotations from qualified proponents to complete the test well drilling portion of this project.

2.0 SCOPE OF WORK

The scope of work covered in this RFQ generally includes:

- Supply and installation of surface and well casings;
- Creation of bentonite surface seals;
- Supply and installation of well screens; and
- Development of both test wells.

Further details are provided below.

2.1 Supervision

Kala Geosciences Ltd. (Kala) has been retained to provide hydrogeological input and supervision for the test well drilling program. Kala will be the CCRD's authorized representative for this work.

2.2 Site Access

Two potential test well sites have been selected. Both sites have been cleared and graded with a footprint of 20 m x 20 m (65' x 65') available for the test well drilling operation. The sites are accessible via Snootli Creek Road at Highway #20.

2.3 Subsurface Conditions

The subsurface conditions in the area generally consist of sand and gravel with numerous cobbles and boulders.

Most successful drinking water wells in this part of the Bella Coola Valley are understood to be less than 30 m (100') deep, based on local knowledge. Where drilling has advanced beyond this depth, encountering elevated iron and similar parameters is reportedly common.

Logs for two existing wells drilled on the subject site are included in **Appendix B** for reference.

2.4 Well Construction

Each of the two (2) proposed test wells is envisioned to include:

- Supply and installation of a 300 mm (12") diameter surface casing to a depth of 6 m (20');
- Supply and installation of a 200 mm (8") diameter well casing to a depth of approximately 35 m (110') or less;
- Installation of a grouted bentonite surface seal between the surface and well casings;
- Supply and installation of a 200 mm (8") diameter, 1.5 m (5') long, screen unit (slot size to be determined).

After placement of the surface seal, the surface casing shall be retracted. The well casing shall extend 0.9 m (3') above ground. A vermin proof well cap shall be supplied and installed to secure the well upon completion.

Kala will provide a range of screen slot sizes the proponent should bring to site. The final screen selection will be completed by Kala on site based on drilling observations including direction regarding the length of screen to be exposed and the depth at which the screen is to be placed.

2.5 Well Development

Kala will supply the submersible pump required for development of the wells. Proponents should allow for eight (8) hours of crew time per well to assist with development.

Following development, Kala will conduct the pump / drawdown testing to determine the well yield, specific capacity, and similar. For context, the desired flow rate for each well is in the order of 6.3 L/s (100 GPM).

3.0 PROPONENT QUALIFICATIONS

As per the British Columbia Groundwater Protection Regulation, proponents shall be a Certified Water Well Driller to be considered for this work.

4.0 SCHEDULE

The test well drilling is desired to be completed by March 31, 2023 if possible.

This time line is driven by a need to advance the overall water system improvement project, but also targets a typical window for favourable weather / road conditions. A portion of Highway #20 in the vicinity of Tweedsmuir Provincial Park consists of a two-lane gravel road, including "The Hill". Operators of larger vehicles (such as drill rigs) report a preference to travel this route when the road is frozen as opposed to during the spring thaw when potholes and similar prove problematic.

Although the CCRD prefers this work to be completed by March 31, 2023 proponents may propose a schedule that extends beyond this date of availability requires such, and access or other considerations are suitable.

5.0 CONTRACTUAL REQUIREMENTS

The CCRD will issue a purchase order / works authorization to the successful proponent for the value of the quotation price plus GST.

Proponents are expected to carry commercial general liability insurance as well as automotive, equipment, or other appropriate insurance coverage for the proposed scope of work.

The successful proponent will be the Prime Contractor for the work, and as such, will be expected to have applicable WorkSafeBC coverage in place.

A Bid Bond, Performance Bond, or Labour and Material Payment Bond are not required for this RFQ.

Payment will be based on the actual measured quantities for each component of work at the quoted unit prices.

6.0 SUBMISSION REQUIREMENTS

6.1 Submission of Quotation

Quotations shall be submitted electronically, in PDF format, via email to:

Central Coast Regional District
c/o Urban Systems Ltd.
Attention: Jacob Scissons, P.Eng.
jscissons@urbansystems.ca

Proponents must respond to this RFQ by **February 9, 2023**.

Any inquiries regarding this RFQ should be directed in writing to the above.

6.2 Quotation Form

Quotations shall be submitted on the Quotation Form provided in **Appendix C**.

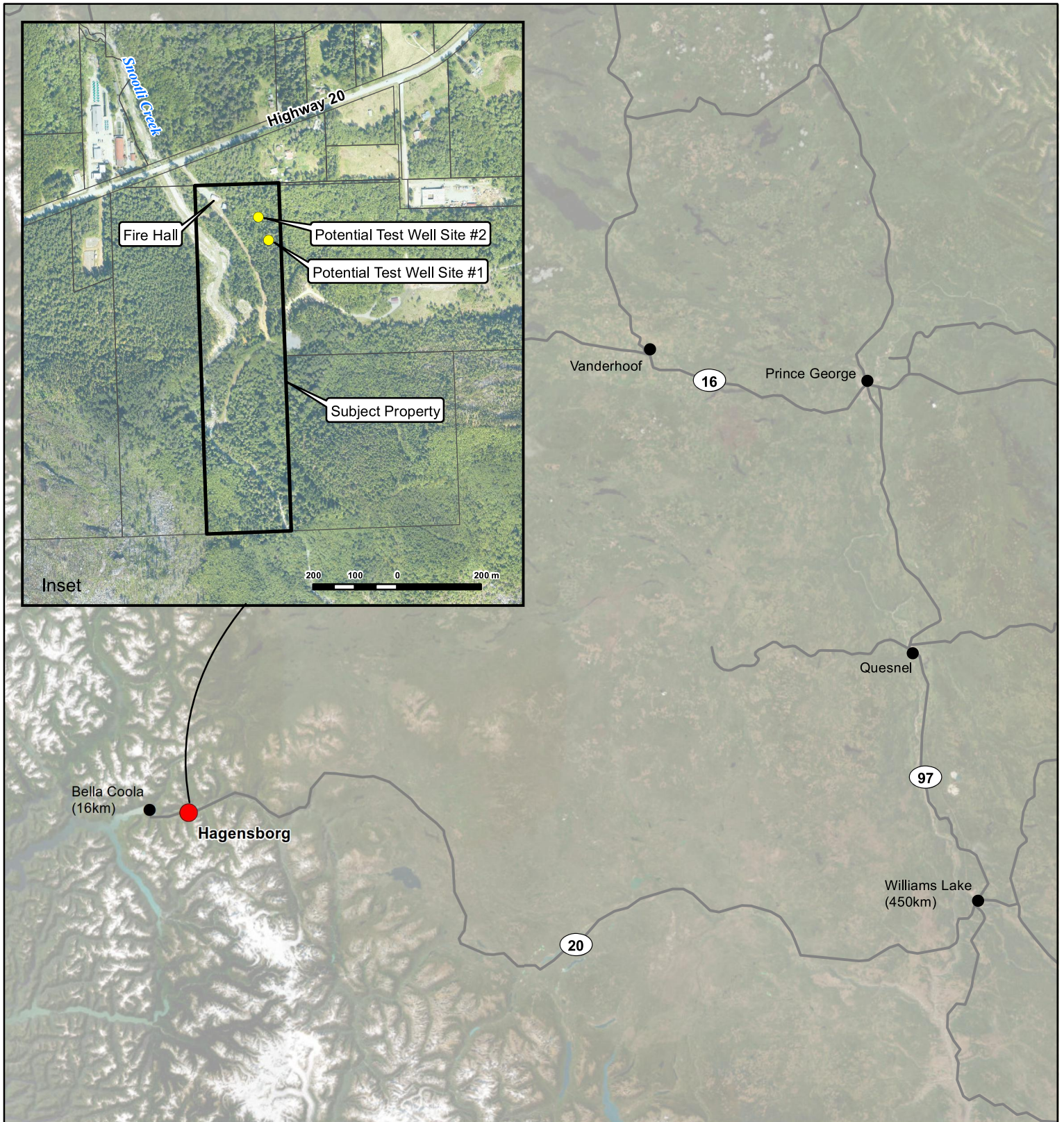
6.3 Submission Evaluation

The CCRD will evaluate proponent quotations based on the best value for money. Consideration will also be given to the proponent based on experience and availability of resources.

The CCRD reserves the right to award all, portions, or none of the work to any proponent.

APPENDIX A

LOCATION AND SITE PLAN



**Hagensborg Community Water System
Test Well Drilling
Location / Site Plan**

0 5 10 20 30 40
Kilometres

Coordinate System: NAD 1983 UTM Zone 9N
Scale: 1:2,000,000

Data Sources:
Inset Orthophoto - TerraRemote 2020
Aerial Imagery - ESRI BaseMaps
Parcel data - NRCAN

Project #: 3383.0014.01
Author: JC
Checked: JS
Status:
Revision: A
Date: 2023 / 1 / 13

URBAN
SYSTEMS
FIGURE 1

The accuracy & completeness of information shown on this drawing is not guaranteed. It will be the responsibility of the user of the information shown on this drawing to locate & establish the precise location of all existing information whether shown or not.

APPENDIX B

REFERENCE WELL LOGS

ordered & sent to customer

JR Drilling Central K-1030



Ministry of Environment

- Well Construction Report
- Well Closure Report
- Well Alteration Report

1-866-711-8118
WD 06030601

Ministry Well ID Plate Number: 38304
Ministry Well Tag Number: 107898
 Confirmation/alternative specs. attached
 Original well construction report attached

Red lettering indicates minimum mandatory information. See reverse for notes & definitions of abbreviations.

Owner name: Hagensborg Waterworks District
 Mailing address: PO Box 25 Town Hagensborg Prov. BC Postal Code V0T 1H0
 Well Location: Address: Street no. 1838 Street name Highway 20 Town Hagensborg
 (or) Legal description: Lot _____ Plan _____ D.L. _____ Block _____ Sec. _____ Twp. _____ Rg. _____ Land District _____
 (or) PID: 009.666.851 (and) Description of well location (attach sketch, if nec.):
Part E/2 of NE/4 Section 34 TWP 1 Rg 3
 NAD 83: Zone: _____ (and) UTM Easting: _____ m (or) Latitude (see note 3): 52° 22.33
 (see note 2) UTM Northing: _____ m (or) Longitude: 126° 36.15 Elev -101
 Method of drilling: air rotary cable tool mud rotary auger driving jetting excavating other (specify): _____
 Orientation of well: vertical horizontal Ground elevation: _____ ft (asl) Method (see note 4): _____
 Class of well (see note 5): water supply Sub-class of well: domestic
 Water supply wells: indicate intended water use: private domestic water supply system irrigation commercial or industrial other (specify): _____

Lithologic description (see notes 7-14) or closure description (see notes 15 and 16)

From ft (bgl)	To ft (bgl)	Relative Hardness	Colour	Material Description (Use recommended terms on reverse. List in order of decreasing amount, if applicable)	Water-bearing Estimated Flow (USgpm)	Observations (e.g., fractured, weathered, well sorted, silty wash), closure details
0	48	Medium	Brown	Sand & gravel with boulders		
48	53	Medium	Brown	Sand & gravel	moist	
53	86	Medium	Brown	Sand & gravel	wet	
86	96	Soft	Brown	Fine sand & gravel	wet	
96	105	Soft	Brown	Fine to medium sand	wet	
105	136	Soft	gray	Fine to medium sand with silt	wet	
136	174	Soft	Brown	Fine to medium sand	wet	
174	216	soft	soft gray	Fine to medium sand	wet	
216	233	soft	Brown	Fine to medium sand & silt	wet	
233	245	soft	gray	Fine to medium sand & clay	wet	
245	320	soft	gray	Clay	dry	

Casing details

From ft (bgl)	To ft (bgl)	Dia in	Casing Material / Open Hole	Wall Thickness in	Drive Shoe
0	20	10	Casing pulled		
0	91	8	Steel	322	B.B

Screen details

From ft (bgl)	To ft (bgl)	Dia in	Type (see note 18)	Slot Size
89	91	7	K-pak, riser	
91	96	7	screen	20

Surface seal: Type: Bentonite chips Depth: 20 ft
 Method of installation: Poured Pumped Thickness: _____ in
 Backfill: Type: _____ Depth: _____ ft
 Liner: PVC Other (specify): _____
 Diameter: _____ in Thickness: _____ in
 From: _____ ft (bgl) To: _____ ft (bgl) Perforated: From: _____ ft (bgl) To: _____ ft (bgl)

Intake: Screen Open bottom Uncased hole
 Screen type: Telescope Pipe size
 Screen material: Stainless steel Plastic Other (specify): _____
 Screen opening: Continuous slot Slotted Perforated pipe
 Screen bottom: Ball Plug Plate Other (specify): _____
 Filter pack: From: _____ ft To: _____ ft Thickness: _____ in
 Type and size of material: _____

Developed by:

Air lifting Surging Jetting Pumping Bailing
 Other (specify): _____ Total duration: 4.5 hrs
 Notes: _____

Well yield estimated by:

Pumping Air lifting Bailing Other (specify): _____
 Rate: 60 USgpm Duration: 4.5 hrs
 SWL before test: 42 ft (btoc) Pumping water level: _____ ft (btoc)

Obvious water quality characteristics:

Fresh Salty Clear Cloudy Sediment Gas
 Colour/odour: _____ Water sample collected:

Well driller (print clearly):

Name (first, last) (see note 19): Jerry Oppen
 Registration no. (see note 20): WD-08052101
 Consultant (if applicable; name and company): _____

DECLARATION: Well construction, well alteration or well closure, as the case may be, has been done in accordance with the requirements in the Water Act and the Ground Water Protection Regulation.

Signature of Driller Responsible Jerry Oppen

PLEASE NOTE: The information recorded in this well report describes the works and hydrogeologic conditions at the time of construction, alteration or closure, as the case may be. Well yield, well performance and water quality are not guaranteed as they are influenced by a number of factors, including natural variability, human activities and condition of the works, which may change over time.

Final well completion data:

Total depth drilled: 320 ft Finished well depth: 96 ft (bgl)
 Final stick up: 24 in Depth to bedrock: _____ ft (bgl)
 SWL: 42 ft (btoc) Estimated well yield: 60 USgpm
 Artesian flow: _____ USgpm, or Artesian pressure: _____ ft

Type of well cap: locking Well disinfected: Yes No
 Where well ID plate is attached: casing

Well closure information:

Reason for closure: _____
 Method of closure: Poured Pumped
 Sealant material: _____ Backfill material: _____
 Details of closure (see note 17): _____

Date of work (YYYY/MM/DD):

Started: 13/7/2 Completed: 13/7/4
 Comments: Well # 2



- Well Construction Report
- Well Closure Report
- Well Alteration Report

Stamp company name/address/
phone/fax/email here, if desired.

Ministry Well ID Plate Number: 38307
 Ministry Well Tag Number: 107899
 Existing Well Tag Number: _____
 Confirmation/alternative specs. attached
 Original well construction report attached

Red lettering indicates minimum mandatory information **See reverse for notes & definitions of abbreviations.**

Owner Name: Hagensborg Waterworks District
 Mailing address: PO Box 25 Town Hagensborg Prov BC Postal Code V0T1H0
 Well location: Street 1838 Highway 20 Town Hagensborg
 or Legal description: Lot _____ Plan _____ D.L. _____ Block _____ Sec. _____ Twp. _____ Rg. _____ Land District _____
 or PID: 99666851 and Description of well location (attach sketch, if nec.): Part E 1/2 of NE 1/4 Sec. 34 Twp. 1 Range 3

NAD 83:Zone: _____ UTM Northing: _____ m Latitude (see note 3): 52° 22' 35.00"
 (see note 2) and UTM Easting: _____ m or Longitude: 126° 36' 12.99"

Method of drilling: air rotary cable tool mud rotary auger driving jetting excavating other (specify): _____
 Orientation of well: vertical horizontal Ground elevation: 165 ft (asl) Method (see note 4): GPS
 Class of well (see note 5): Water supply Sub-class of well: Domestic
 Water supply wells, indicate intended water use: private domestic water supply system irrigation commercial or industrial other (specify): _____

Lithologic description (see notes 7-14) or closure description (see notes 15 and 16)

From ft (bgl)	To ft (bgl)	Relative Hardness	Colour	Description	Material Description (use recommended terms on reverse. List in order of decreasing amount, if applicable)	Water-bearing Estimated Flow (USgpm)	Observations (e.g. fractured, weathered, well sorted, silty wash), closure details
0	38	Hard	grey		sand and gravel with boulders		
38	42	Medium	brown		sand and gravel		moist
42	68	Medium	brown		sand and gravel		high production
68	80	Soft	brown		fine to medium sand and gravel with silt		

Casing details

From ft (bgl)	To ft (bgl)	Dia in	Casing Material/Open Hole	Wall Thickness in	Drive Shoe
0	20	10	Steel Pulled Out		No
0	58	8	Steel	322	No

Screen details

From ft (bgl)	To ft (bgl)	Dia in	Type (see note 18)	Slot Size
56	58	7	K-Packer & Riser	
58	63	7	Screen	100

Production Casing Diameter: 8 in
 Surface seal: Type: Bentonite clay Depth: 20 ft
 Method of installation: Poured Pumped Thickness: 1 in
 Backfill: Type: _____ Depth: _____ ft
 Liner: PVC Other (specify): _____
 Diameter: _____ in Thickness: _____ in
 From: _____ ft bgl To: _____ ft bgl Perforated: From: _____ ft bgl To: _____ ft bgl

Intake: Screen Open bottom Uncased hole
 Screen type: Telescope Pipe size
 Screen material: Stainless steel Plastic Other (specify): _____
 Screen opening: Continuous slot Slotted Perforated Pipe
 Screen bottom: Bail Plug Plate Other (specify): _____
 Filter pack From: _____ ft To: _____ ft Thickness: _____ in
 Type and size of material: _____

Developed by:

Air lifting Surging Jetting Pumping Bailing
 Other (specify): _____ Total duration: 5 hrs
 Notes: _____

Well yield estimated by:

Pumping Air lifting Bailing Other (specify): _____
 Rate: 150 USgpm Duration: 5 hrs
 SWL before test: 36 ft (btoc) Pumping water level: _____ ft (btoc)

Obvious water quality characteristics:

Fresh Salty Clear Cloudy Sediment Gas
 Colour/odour: _____ Water sample collected:

Well driller (print clearly):

Name (first, last) (see note 19): Jerry Oppen
 Registration no. (see note 20): WD 08052101
 Consultant (if applicable name and company): _____

DECLARATION: Well construction, well alteration or well closure, as the case may be, has been done in accordance with the requirements in the Water Act and the Ground Water Protection Regulation.

Signature of Driller Responsible

Final well completion data:

Total depth drilled: 80 ft Finished well depth: 63 ft bgl
 Final stick up: 24 in Depth to bedrock: _____ ft bgl
 SWL: 37 ft (btoc) Estimated well yield: 150.00 USgpm
 Artesian flow: _____ USgpm, or artesian pressure: _____ ft
 Type of well cap: welded plate Well disinfected: yes no
 Where well ID plate is attached: casing

Well closure information:

Reason for closure: _____
 Method of closure: _____
 Sealant material: _____ Backfill material: _____
 Details of closure: _____

Date of work (YYYY/MM/DD):

Started: 2013/07/06 Completed: 2013/07/06
 Comment: _____

General

1. Requirements for well construction and well closure reports are found in Part 5 of the Water Act and the Ground Water Protection Regulation. Part 5 of the act and regulation are available at: http://www.env.gov.bc.ca/wsd/plan_protect_sustain/groundwater/index.html.
2. The current Ministry standard datum for mapping and geodetic use is the North American Datum of 1983 (NAD 83). To determine GPS coordinates using a Global Positioning System (GPS), set the datum to NAD 83.
3. For latitude and longitude coordinates, provide coordinates either in degree, minutes and seconds (e.g., 50° 2' 21.037") or decimal degrees (e.g., 50.039175°).
4. For the method of determining ground elevation, enter: GPS, differential GPS, level, altimeter, 1:50,000 map, 1:20,000 map, 1:10,000 map or 1:5,000 map.
5. The classes and sub-classes of wells are shown below:

Class	Sub-class (if applicable)
Water supplyDomestic; Non-domestic
MonitoringTemporary; Permanent
Recharge or injection	
Dewatering or drainageTemporary; Permanent
RemediationTemporary; Permanent
GeotechnicalBorehole; Test pit; Special type of hole; Closed loop geothermal
6. Well reports submitted to the Deputy Comptroller, or retained by the person responsible, as required under the Water Act and the Ground Water Protection Regulation, shall be considered part of the Provincial Government records and is subject to the Freedom of Information and Protection of Privacy Act.

How to Fill Out the Lithologic Description Table

7. Each row in the lithologic description table represents either a depth interval or depth in the well.
8. A row could represent a depth interval (e.g., from 0 feet to 12 feet), such as for a geologic stratum or a specific depth (e.g., 120 feet), such as for a depth location of a water-bearing fracture.
9. For a depth interval, enter the relative hardness of the material in the column "Relative Hardness," if applicable: Very Hard (VH), Hard (H), Dense (D), Stiff (ST), Medium (M), Loose (L), Soft (S), Very Soft (VS).
10. For a depth interval, enter the letter for the overall colour of the geologic material in the column "Colour," if applicable: White (W), Grey (Gy), Blue (Bl), Green (G), Yellow (Y), Brown (Br), Red (R), Tan (T), Black (Bk).
11. For each depth interval, enter the description of the geologic materials encountered during drilling in the column "Material Description." Material descriptions should be chosen from the following recommended list of materials:

Surficial materials (approximate range of particle size)

boulders (greater than 10 inches)
cobbles (2 1/2 inches to 10 inches)
gravel (80 slot to 2 1/2 inches)
coarse sand (25 slot to 80 slot)
medium sand (10 slot to 25 slot)
fine sand (2 slot to 10 slot)
silt (less than 2 slot)
clay (much less than 2 slot)
till (variable particle size)
organics (e.g., top soil, wood, peat)

Bedrock materials

conglomerate
sandstone
shale
siltstone
limestone
crystalline
granite
basalt
volcanic
bedrock

12. In describing the material, list the material in order from greatest to least and indicate what materials occur in trace (less than 5%) amounts. The word "and" means both materials occur in approximately equal amounts (e.g., "gravel and coarse sand, trace silt").
13. Under the column "Water-bearing Estimated Flow (USgpm)," use "D" for "dry," "W" for "wet," or enter the estimated flow in USgpm.
14. If a water-bearing fracture is encountered, the depth of the fracture should be recorded in a row and the estimated flow of water in the fracture can be entered in the column "Water-bearing Estimated Flow (USgpm)."

How to Fill Out the Closure Description Table and the Well Closure Information Section

15. Each row in the closure description table represents either a depth interval (e.g., from 0 feet to 12 feet) or depth (e.g., 120 feet) in the well.
16. For a depth interval, enter the type of backfill or sealant material(s) in the column "Material Description."
17. Indicate in "Details of closure" whether casing(s) or screen(s) were pulled or left in place. If casing(s) were left in place, indicate whether it was perforated or ripped.

Screen Details

18. "Type" includes riser pipe, K-packer, screen, screen blank, or tail pipe.

Well Driller

19. Fill in the name of the driller who constructed the well.

Registration Number of Driller Responsible

20. Fill in the registration number on the Qualified Well Driller identification card. If the work was completed by a driller who is not registered as a Qualified Well Driller, the Qualified Well Driller who is directly supervising the work should fill in their registration number on their Qualified Well Driller identification card. The Qualified Well Driller signs the form.

Definitions of Abbreviations

aslabove sea level	ftfeet	PIDParcel Identifier	USgpm ...US gallons per minute
bglbelow ground level	hrshours	Rg.Range	UTMUniversal Transverse
btcbelow top of casing	ininches	Sec.Section	Mercator Grid
DiaDiameter	NAD 83 ...North American	SWLstatic water level	
D.L.District Lot	Datum (1983)	Twp.Township	

APPENDIX C

QUOTATION FORM

QUOTATION FORM

1. Proponent Contact Information

The following proponent information is requested:

Company Name: _____

Address: _____

BC Certificate Number: _____

Primary Project Contact:

Name: _____

Office Number: _____

Cell Number: _____

Email: _____

2. Relevant Experience

Proponents are asked to highlight experience on projects of a similar nature.

Project #1: _____

Location of Work: _____

Year: _____

Nature and Scale of Work: _____

Reference Contact Name: _____

Telephone: _____

Email: _____

QUOTATION FORM

Project #2: _____

Location of Work: _____

Year: _____

Nature and Scale of Work: _____

Reference Contact Name: _____

Telephone: _____

Email: _____

3. Schedule

Identify the following milestone dates:

- RFQ Closing February 9, 2023
- Identification of Preferred Proponent February 14, 2023
- Contract Award to Successful Proponent February 16, 2023
- Mobilization to Hagensborg _____
- Well Drilling _____
- Well Development _____
- Project Completion _____

Provide any additional comments regarding anticipated schedule.

QUOTATION FORM

4. Quotation Price

Populate the table below with quoted unit prices for the proposed work as well as the extended amount based on quantity x unit price. The Quotation Price shall be considered the sum of all quoted unit prices x estimated quantities. Units are provided in US customary / imperial units for convenience.

Item	Description	Units	Quantity	Unit Price	Amount
1	Mobilization and demobilization.	L.S.	1		
2	Supply and install 12" drive shoe.	ea.	2		
3	Supply and install 12" surface casing.	feet	40		
4	Supply and install 8" drive shoe.	ea.	2		
5	Supply and install 8" well casing.	feet	220		
6	Bentonite surface seal.	ea.	2		
7	Supply and install 8" diameter, 5' long well screen (two screens per well).	ea.	4		
8	Supply and install screen fittings including bail bottom, 2' riser pipe, and K-packer.	ea.	2		
9	Supply and install vermin proof well cap.	ea.	2		
10	Well development.	Crew hr.	16		
11	Living out allowance.	Crew day	7		
Total (excluding GST):					\$

Please provide hourly crew standby rate: \$ _____ / hr and attach unit rate sheet for other potential as and when services required.

5. Quotation Endorsement

The quotation shall be endorsed by an authorized signatory of the proponent below.

\$

 QUOTATION PRICE (excl. GST)

 NAME OF PROPONENT

 AUTHORIZED SIGNATORY FOR PROPONENT