

12.0 BUILDING M0086: WATSON LAKE RCMP RESIDENCE

12.1 Description of Existing Water system

Building M0086, a Watson Lake RCMP Residence at 111 Stubenburg, is supplied water from a 14.3 m deep well. The well is located in a concrete enclosure adjacent to the basement. At the time of inspection the well was open. The well location and other site details are provided on Figure M0086-A in Appendix A12. The coordinates of the wellhead measured by a GPS device were:

- UTM ZONE 9
- Northing: 6657739
- Easting: 518261

There is no treatment present on the water system from this well and it serves the M0086 RCMP Residence only. A schematic detailing the water system is provided as Figure M0086-B in Appendix A12.

12.2 Description of Existing Wastewater Systems

There is a communal in ground septic disposal system that is used for this residence as well as the M0087 and M0088 RCMP Residences. This field is located approximately 20 m east of the M0086 well. Figure M0086-A, provided in Appendix A12, shows the location of the septic system.

12.3 Water Quality Results

12.3.1 Results from Water Quality Sampling

Bacteriological

Two samples were collected from the M0086 Watson Lake RCMP Residence water system between May and June 2005 and were tested for total coliform and *E. coli* by Yukon Environmental Health Services using the presence/absence test method. Results are tabulated in Table M0086-1 in Appendix A12. Coliform bacteria and *E. coli* were reported as absent in both samples for which results were provided.

Potability

This site was only recently added as a one of the YTG maintained facility and as such a baseline water quality had not previously been collected and was not available for review prior to the assessment. The first YTG routine sampling event was completed on June 22, 2005. The sample was submitted to ALS for detailed potability analyses. The results of these analyses are summarized in Table M0086-2 in Appendix 12. Results of interest are summarized below:

- The hardness concentration of 273 mg/L (as CaCO₃) indicates that the water is very hard and the softener was not functioning properly at the time of sampling.
- The total dissolved solids concentration was 314 mg/L and is considered to be relatively fresh.
- All other health based and aesthetic objectives were met for the parameters analyzed.
- Water quality results indicate that the groundwater supplying this system is calcium-bicarbonate type water with very high hardness.

Additional sample was obtained by EBA during the water system assessments in order to determine parameters relevant to the predesign of a potential treatment system. These included:

- UV absorbance, as well as tannins and lignin, to determine potential for UV treatment as a disinfection option for this water system; and,
- Total Organic Carbon to assist with treatment system selection.

Additionally, measurements in the field for total dissolved solids, conductivity, pH, and temperature. Results of the baseline and additional analytical sampling are summarized in Table M0086-2 in Appendix A12, and the laboratory results are included in Appendix B.

12.3.2 Indicators of Potential Contamination

Chloride, nitrate and nitrite concentrations can indicate impacts from surface water sources or septic waste. Chloride concentrations, although were not high, are likely above the normal background ranges for groundwater in the area. Nitrate and nitrite concentrations for this sample are low and would also likely be within the normal background ranges for groundwater in the area. Considering that many of the wells

in the area have elevated chloride and nitrate, and also considering the shallow depth of this well, it is possible that the aquifer is under the influence of surface water sources or septic effluent wastes.

12.4 Conceptual Hydrogeology

No log was available for review for this well. Most wells in the area are completed at depths of less than 30 m within surficial moranic and colluvial deposits. These deposits are described as gravel, sand and silt, with occurrences of silty till sediments. This well is 14.3 m deep with a static water level of 9.5 m below grade. This well is situated on the north side of a groundwater flow divide near an area of groundwater discharge. The interpreted groundwater flow direction is likely northeasterly towards an unnamed lake.

12.5 Potential Contaminant Sources

Potential contaminant sources observed during the site investigation are provided in field notes in Appendix A12. Photos of potential contaminant sources are also provided at the end of this appendix.

A summary of potential contaminant sources within 30 m of the well is provided below:

- Septic field approximately 25 m from well;
- Fuel storage tank located in the basement of residence at 15 m (approx.).

12.5.1 Spills Records and Contaminated Sites Search Results

The Government of Yukon Environmental Programs Branch and Environment Canada Environmental Protection Branch did not identify any recorded spill events or contaminated sites issues for this property or neighbouring properties. However, the corner lot across from Stubenburg road at Adela Trail appears to have groundwater monitoring wells on the site, and may be a former service station.

12.6 Identified Water System Deficiencies and Associated Risk

12.6.1 High or Medium Risk Deficiencies

- The well is located within 30 m of potential sources of contamination, including the communal septic system;
- Poor surface completion of the well (located below grade in an enclosure off from basement, wellhead had no cap at time of inspection);
- The well is not equipped with a surface sanitary seal as required by the Canadian Groundwater Association's Well Construction Guidelines;
- At 14.3 m in depth, this well is considered a shallow well;
- By definition of the Draft Yukon GUDI Assessment Guideline, the well is potentially under the direct influence of surface water because it has a production zone less than 15 m below grade, and does not meet the requirements of the Guidelines for Water Well Construction; and,
- There is no disinfection system present, and the only treatment present is a water softener.

12.6.2 Low Risk Deficiencies

- There is a fuel storage tank located inside the basement of the residence. This is not a high-risk deficiency because the resident would likely notice fuel leak or spill before well contamination could occur.
- The pressure tank, jet pump and plumbing are in disrepair.

12.7 Mitigative Options for Deficiencies

Mitigative options were developed to address the deficiencies identified in the previous section. Deficiencies are categorized by recommended level of priority (with Priority 1 being most critical).

Considering that some of the wells in the RCMP complex in Watson Lake may show signs of potential impact from anthropogenic sources such as septic waste, it is proposed that a communal water distribution system be installed to serve all RCMP buildings in the complex with the source from the existing detachment well.

12.7.1 Priority 1

The following recommendations are provided in order to mitigate deficiencies that are of immediate concern for the M0086 Watson Lake RCMP Residence:

- If not already completed, the well should be superchlorinated and a cap should be installed on the well casing; and,
- A point of use NSF-55 certified disinfection system with adequate pre-treatment should be installed.

12.7.2 Priority 2

- The existing detachment well should be improved, including extending the well to at least 500 mm above grade and installing a commercial pitless unit. A surface sanitary seal (grout or bentonite) to at least 3 m below grade should be retrofitted around the well and ground surface immediately around the wellhead should be graded to promote surface drainage away from the wellhead;
- Additional assessment, including a pump test, should be done on the detachment well to determine its yield capacity and other construction details; and,
- A centralized treatment system should be installed in the basement of the RCMP detachment. This treatment system could consist of either a chlorine disinfection system with suitable retention, a UV disinfection (NSF/ANSI 55 certified) system, or a combination of both. These are conceptual design recommendations based on the information available for planning and budgeting purposes. Engineering input will be required for final system specifications;
- A piped water distribution line should be installed to service each RCMP building. Service lines should be run to M0086, to one of M0087 or M0088 and existing piping can be used to connect to the other, to one of M0126 or M0127 and existing piping can be used to connect to the other, and existing piping between the detachment and the RCMP gym can be used to serve the gym.

Once a central treatment system is installed, the POE system at M0086 could be removed and installed at another YTG maintained building.

12.7.3 Priority 3

- Existing well should be properly decommissioned.

12.8 Cost Estimates for Mitigative Options

Engineering costs for mitigative options are estimated to be 20% of construction costs, and would include inspection and completion reporting. The costs for materials and labour (not including engineering) are provided in the sections below. An additional contingency allowance of 20% is suggested for budgetary purposes.

12.8.1 Priority 1

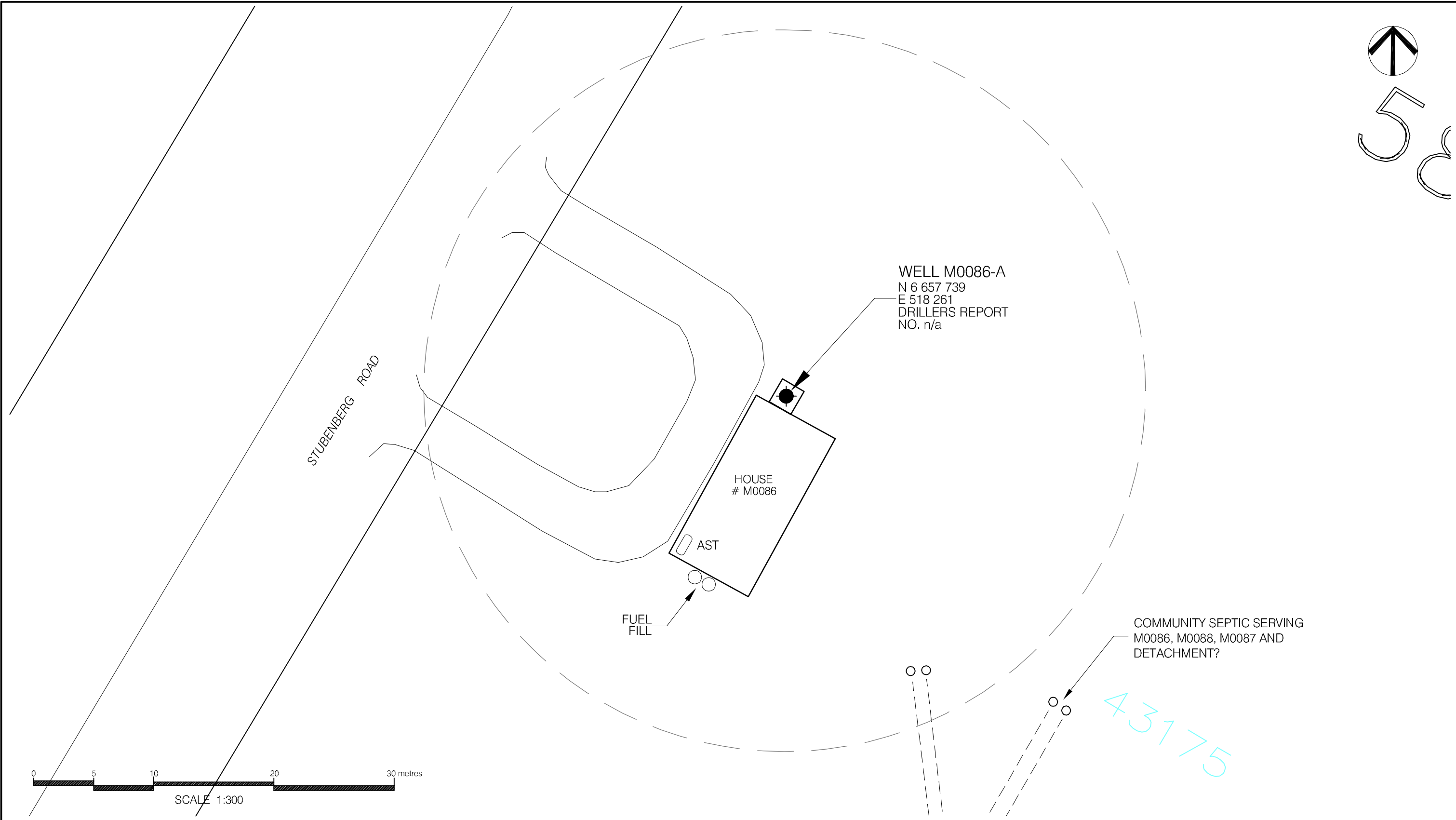
- The cost associated with shock chlorinating the water system (including the well) and installing a UV disinfection system would cost in the order of **\$2,700** for all materials and labour. Pretreatment may be required for proper operation of the UV.

12.8.2 Priority 2


- The estimated total cost to install the distribution system would be in the order of **\$25,000**, including all materials and labour. Since the distribution system would serve five residences the cost to this system would be approximately **\$5,000**.

12.8.3 Priority 3

- It would cost in the order of **\$1,000** to properly decommission the well.



NOTES:
1. UTM COORDINATES OBTAINED WITH A HAND HELD GPS USING NAD83 SYSTEM AND ARE CONSIDERED TO BE ACCURATE TO 10.0 m, APPROXIMATELY.

 30 m RADIUS FROM WATER WELL FOR CONSIDERATION OF PROXIMITY TO POTENTIAL CONTAMINANT SOURCES.

No.	DESCRIPTION	DATE	APPROVED
0	ISSUED FOR CLIENT REVIEW	DD/MM/YY	XXX
REVISION			

EBA Engineering Consultants Ltd.

DESIGNED BY: R. MARTIN
DRAWN BY: J. BUYCK
DATE: JULY 2005
SCALE: AS SHOWN
PROJECT No.: 1260002.002
ACAD FILENAME: 002-EASTERN REGION

CLIENT:

Yukon
Highways and Public Works
Property Management Branch

SMALL PUBLIC WATER SYSTEMS ASSESSMENT
EASTERN REGION

GOVERNMENT OF YUKON
HIGHWAYS & PUBLIC WORKS

WATSON LAKE RCMP DETACHMENT
BUILDING # M0086
SITE LOCATION DIAGRAM
WELL ID: M0086-A

REVISION ISSUE
0

FIGURE No.
M0086-A

LEGEND



PUMP



PRESSURE GAUGE



GATE VALVE



CHECK VALVE



SOLENOID

#2

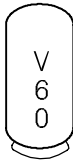
COMPONENT ID. No.
(SEE TABLE ON FOLLOWING PAGE)



FLOW METER



WATER FILTER
(CARTRIDGE TYPE)

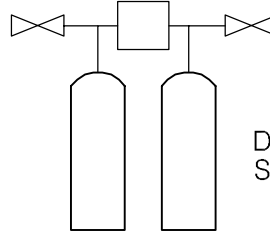


PRESSURE TANK



CL₂

CHLORINE RESERVOIR AND
INJECTION PUMP

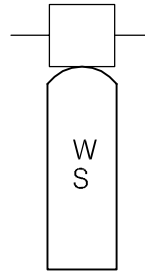


DUPLEX WATER
SOFTENER



SP

WELL WITH
SUBMERSIBLE PUMP



ACTIVATED
CARBON

Z:\0201\Drawings\1260002 - Water Assessment YTG\002 - Eastern Region\1260002\003 Eastern Schematic_LEGEND.dwg, 4/11/2006 10:31:08 AM, Adobe PDF, jbuyck



EBA Engineering Consultants Ltd.

PROJECT SMALL PUBLIC WATER SYSTEMS ASSESSMENT
EASTERN REGION

CLIENT



TITLE SCHEMATIC SYSTEM
LEGEND

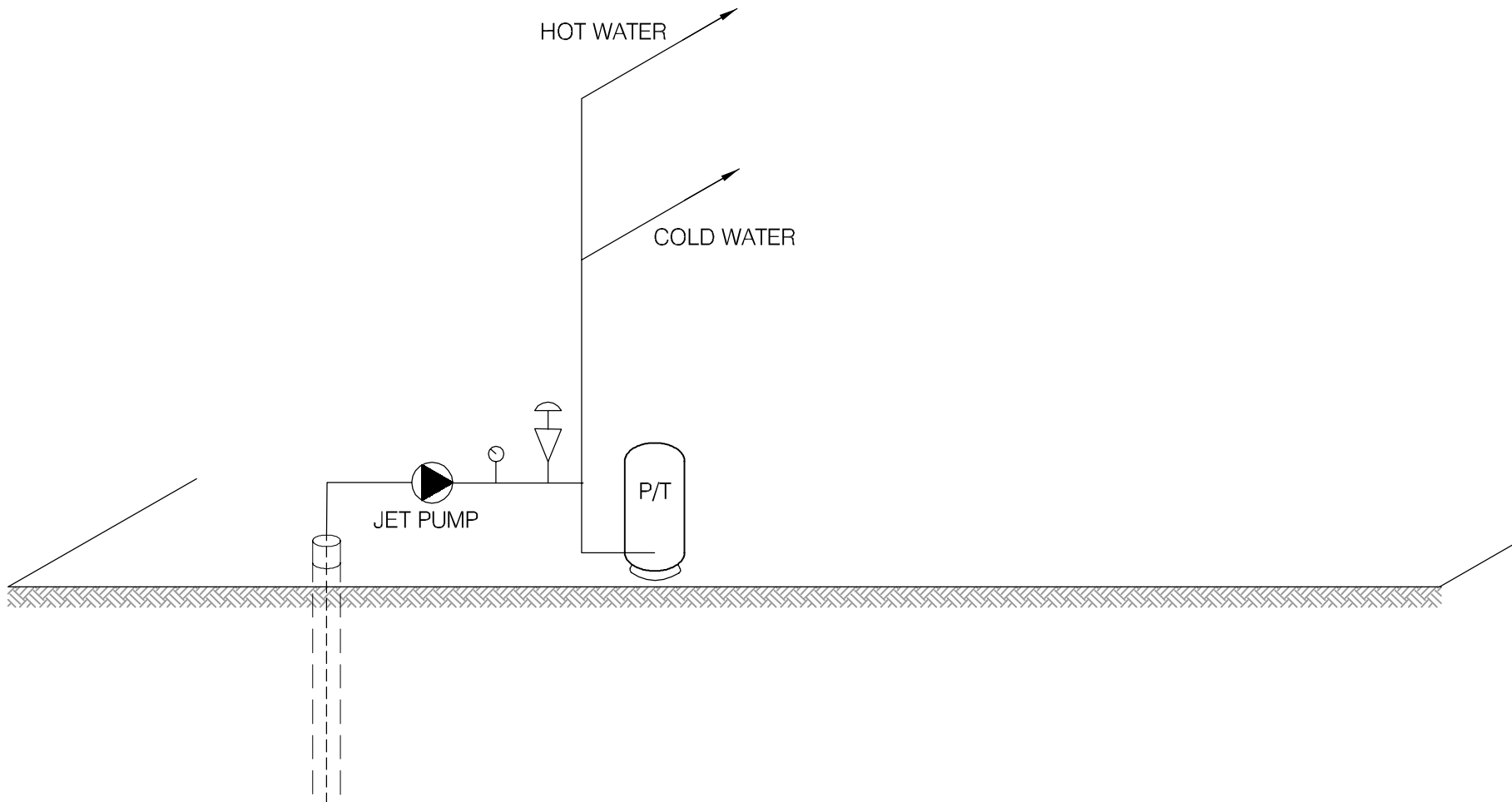
DATE APRIL 2006

DWN. JSB

CHKD. RMM

FILE NO. 1260002

DRWG. LEGEND



SCHEMATIC PRODUCED BY BERT ALBISSER OF AQUA TECH SUPPLIES & SERVICES LTD.



 EBA Engineering Consultants Ltd.		PROJECT SMALL PUBLIC WATER SYSTEMS ASSESSMENT EASTERN REGION	
CLIENT 		TITLE WATER SYSTEM DISTRIBUTION/TREATMENT SCHEMATIC SYSTEM ID.: M0086 WATSON LAKE RCMP HOUSING	
DATE	JULY 2005	DWN.	JSB
CHKD.	FMM	FILE NO.	1260002.002
		DWG.:	FIGURE M0086-B

TABLE M0086- 1: SUMMARY OF BACTERIOLOGICAL RESULTS

Building #	Building Name	Number of Sampling Events	Time Period over which Sampling was Done	Any Positive Total Coliform Results? (yes or no)	Fraction of Positive Total Coliform Results vs. Total Sampling Events	Any positive E.Coli results? (yes or no)	Most Recent Sampling Event Available for EBA Review	Is Most Recent Result Positive?
M0086	R.C.M.P. Housing	2	May -05 to Jun-05	no	0/2	no	23-Jun-05	no



Table M0086-2: Water Quality Results

Location/ Resident	Watson Lake		GCDWQ Criteria		
Address	111 Stubenburg				
Treatment	Water Softener				
Disinfection	No				
Source of Water	On-Site Well				
Purpose of Sampling	Baseline	Additional Sampling			
Sample Location					
Date Sampled	22-Jun-05	23-Jun-05	Lower Limit	Upper Limit	
Physical Tests (ALS)			AO	MAC	AO
Colour (CU)	<5.0				15
Conductivity (uS/cm)	537				
Total Dissolved Solids	314				500
Hardness CaCO3	273		AO >200 = poor, > 500 unacceptable ^A		
pH	7.87		6.5		8.5
Turbidity (NTU)	0.54			1	5
UV Absorbance		0.0190			
Dissolved Anions (ALS)					
Alkalinity-Total CaCO3	274				
Chloride Cl	19.0				250
Fluoride F	0.025			1.5	
Sulphate SO4	7.49				
Nitrate Nitrogen N	<0.10			10	
Nitrite Nitrogen N	<0.10			1	
Total Metals (ALS)					
Aluminum T-Al	<0.010				
Antimony T-Sb	<0.00050			0.006	
Arsenic T-As	0.00040			0.025	
Barium T-Ba	0.333			1	
Boron T-B	<0.10			5	
Cadmium T-Cd	<0.00020			0.005	
Calcium T-Ca	87.7				
Chromium T-Cr	<0.0020			0.05	
Copper T-Cu	0.0136			1	
Iron T-Fe	0.037				0.3
Lead T-Pb	<0.0010			0.01	
Magnesium T-Mg	13.1				
Manganese T-Mn	0.0064				0.05
Mercury T-Hg	<0.00020			0.001	
Potassium T-K	1.00				
Selenium T-Se	<0.0010			0.01	
Sodium T-Na	6.5				200
Uranium T-U	0.00050			0.02	
Zinc T-Zn	<0.050				5
Organic Parameters					
Tannin and Lignin		0.21			
Total Organic Carbon C		1.37			
Field Chemistry (EBA)					
pH		7.83	6.5		8.5
TDS (ppm)		263			500
EC (uS/cm)		550			
Temperature (°C)		8.0			

Notes:

A. Guidelines indicated for hardness are not CDWQG, rather they are general aesthetic guidelines - exceedences are indicated in yellow highlighting.

Italics and underline indicates exceedence of proposed MAC (ie. arsenic)

Bold with Yellow highlighting indicates exceedence of CDWQG Aesthetic Objective (AO)

Bold Underline with Yellow highlighting indicates exceedence of CDWQG MAC

Results are expressed as milligrams per litre except for pH and Colour (CU)

Conductivity (umhos/cm), Temperature (°C) and Turbidity (NTU)

< = Less than the detection limit indicated.

AO = Aesthetic Objective

MAC = Maximum Acceptable Concentration (Health Based)



**Table M0086-3: Summary of Well Assessment Results
SMALL PUBLIC DRINKING WATER SYSTEMS**

Well Identification			GPS Coordinates		
Building #	Building Name	Location	Northing (+/- 10 m)	Easting (+/- 10 m)	Grade Elevation (+/- 10 m)
M0086	R.C.M.P. Housing	Watson Lake	6657739	518261	695

Well Details							
Well Casing Diameter (mm)	Year Well Installed	Well Log?	Well Depth (m bg)	Reported Low Permeability Protective Layer?	Pump Setting (m bg)	Well Capacity - Tested, or Reported by User	Static Water Level Below Ground (m-btwc)
150		No	14.3 m below grade	Unknown	Jet pump		9.5 m below grade

Potential Contaminant Sources					
Distance from well to nearest point of septic field (m)	Distance from well to nearest building (m)	Distance to surface water body (m)	AST present on property?	Distance from well to AST (m)	Other potential sources of contamination observed on property, and distance to well
M0086, M0087, M0088 septic field	Located inside basement	Greater than 60 m	Basement AST's	15 m	UST at 105 m
M0092 septic field at 110 m			AST 1	70 m	4 other wells on property at approximately 60 m, 85 m, 85m (abandoned), and 100 m
M0126 and M00127 septic at 90 m			AST 2	100 m	

Well Construction Details					
Wellhead Above ground (m)	Well Cap	Well Screen	Surface Seal	Apron Grading	Comments
1.6 below grade	No		Unlikely	Ground above wellhead enclosure is relatively flat.	



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SMALL PUBLIC WATER SYSTEM ASSESSMENT

PART A: EBA Site Inspection

Inspector: Ryan Martin
Luke Lebel

Date June 23, 2005

WELL ID #	Owner	Location Description
M0086	RCMP	RCMP Residence

1. Well Location and Potential Contaminant Sources

a. General location of well: (Community, Subdivision, etc.)

Watson Lake

b. Specific location: (Road or street, Building number, name of owner and/, legal description,

111 Stadenburg

c. GPS location: N 665 7739 E 518 261 elev 695m ± 14

d. Is there electric power? Yes No

e. Is there outside water access? Yes No

f. Does the well system have:

15 or more service connections to a piped distribution system? If so how many _____

111 Stadenburg

5 or more delivery sites on a trucked distribution system? If so how many _____

g. Nearest building, specify Located in enclosure off from basement of residence

h. Distance from well to building _____

i. If there is an effluent disposal field, is its location known? Yes No Communal Septic

j. Distance from well to nearest point of known field: ~ 20m

k. Well location relative to field: upslope downslope lateral

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l. Is there any part of a sewage disposal system(s) or other potential sources of pollution that may pose a health and safety risk within 30 m? Yes No

Communal septic system for residences

m. Is the well located within 300 m from a sewage lagoon or pit? Yes No

n. Is the well located within 120 m from a solid waste site or dump, cemetery? Yes No

o. Is the infrastructure protecting the wellhead, pumphouse, storage tank and/or water treatment plant designed and secured to prevent:

Unauthorized access by humans? Yes No
located in basement of residence, but may be accessible to children

Entrance by animals? Yes No

No seal cap - access into well directly is possible

p. Is well site subject to flooding? Yes No

No large or serious water staining

q. Is the well site well drained? Yes No

r. Is there a buried fuel tank on the property? Yes No

If yes, is it in use abandoned

Is the location known? Yes No

Distance from the well to known buried tank ~105m

s. Are there any other known contaminant sources on the property?

Yes No Describe AST's in basement @ ~15m

If yes, specify the source: dump sewage lagoon cemetery other

Potential Source 1: AST 1; Distance from well to Potential Source 1: ~70m

Potential Source 2: AST 2; Distance from well to Potential Source 2: ~100m

Potential Source 3: _____; Distance from well to Potential Source 3: _____

Potential Source 4: _____; Distance from well to Potential Source 4: _____

t. Are there other wells on this property? Yes No

How many? 4 in use ⁽³⁾ abandoned ⁽¹⁾ require proper sealing

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2. Well and Wellhead information:

- a. When was well installed? Year unknown Month _____
- b. Type: drilled dug sand point other _____
- c. Is there a drillers log for the well: Yes No
- d. Is there a surface seal to 6 m Yes No unknown unlikely
- e. Surface casing: Yes Diameter _____ No
- f. Well casing: Diameter 15cm Material: steel plastic concrete
- g. Depth of well: 14.3m ^{below grade} measured (if possible) reported from log
- h. Static water level below ground: ~ 9.5 m ^{below grade}
 measured (if possible) reported from log flowing
- i. (If granular) Is the well completed: open end casing with a well screen
 with slotted pipe unknown other unknown
- j. (If bedrock) Does the well have a liner? yes No steel plastic
- k. If there is a well screen: length unknown slot size(s) _____
Location of screen: from _____ to _____ from log reported
- l. Is there a sump below the screen? Yes No unknown
- m. Is the well head: in pumphouse in pit pitless adaptor in a building
in enclosure off from basement of residence
 in a wooden enclosure other, describe _____
- n. If the well head is located in a wooden enclosure,

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- i. Is the well head below grade? describe in detail ~1.6m below grade
- ii. Are there signs of ponding on the enclosure(e.g. water stains, etc.)? Yes No
Some in basement around pressure tank
- iii. Is the wellhead enclosed by fiberglass insulations? Yes No
Styrofoam insulation
- iv. Any evidence of rodents? Specify Access is possible
- v. Does the well casing have a proper seal cap? Yes No
If no, describe condition No seal cap

3. Water Supplying This Well:

- a. By definition is the water from a surface water source or under the direct influence of surface water?
 Yes No farther investigation required.
If yes is there treatment Yes No
Explain (filtration, disinfection etc...) Softener

4. Aquifer Supplying This Well:

- a. The aquifer is: bedrock granular sediment unknown
likely
- b. Does water level and/or well capacity show seasonal fluctuation? Yes No
unlikely

5. Pump Installation:

- a. Is the well equipped with a pump? yes No
- b. Type of pump: hand electric submersible jet
 shallow well centrifugal other, _____
- c. Description: Manufacturer _____ Model _____
horsepower _____ capacity _____ voltage _____

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d. Date installed: _____ By: _____

e. For submersible pump, depth of setting below surface _____

f. Drop pipe for submersible pump: steel plastic

g. Pump delivers water to: pressure tank elevated tank other

h. Are there automatic pump controls: Yes No

i. Is there provision for taking water samples before water reaches storage? Yes No

j. Is there a water meter on the system? Yes No

k. Is the pump and piping protected from freezing? Yes No

If yes, describe: located inside heated building

l. Comments on pump installation: _____

6. Conclusions

a. Comments on overall installation:

b. Recommendations: _____

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PART B: EBA Site Inspection

Inspector: BERT ALBISSER

Date JUNE 23/05

WELL ID #	Owner	Location Description
<u>M0086</u>	<u>RCMP</u>	<u>RCMP WATSON LAKE</u> <u>HOUSE # 1</u>

6. Water Treatment

a. Is well water treated? Yes No; Type of treatment:

chlorination iron and or manganese removal other _____

b. Is water entering plumbing or piped distribution system treated with chlorine or another treatment that is as effective as chlorine used to achieve disinfection throughout the system?

Yes No If so how _____

c. If treated with chlorine, is the free residual chlorine concentration less than 0.2 mg/L

Yes No _____ reading.

Tested at _____ (location)

d. Is testing for chlorine residual concentration done at the tap (eg. Kitchen faucet) or from representative points in a piped distribution system, including a point from tap at the end line

Yes No If yes how often? _____

e. If the drinking water is being transported by water delivery truck does it have a minimum chlorine free residual of 0.4 mg/L at the time of fill. Yes No

7. Water Quality (observations):

a. Does the water stain plumbing? yes No slight severe

Type of stain: brown red black

b. Does the water contain sediment? Yes No occasional constant

c. Is there an unpleasant odour? Yes No H₂S Other _____

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- d. Is there an unpleasant taste? Yes No brackish Other _____
- e. Is there a history of bad bacterial analyses? Yes No }
- f. Is there a chemical analysis? Yes No adequate incomplete
- g. Is there analysis of trihalomethanes (THMs) where the water source is a surface water supply or a well under the direct influence of surface water? Yes No
- h. Is the drinking water tested daily with an accurate reading chlorine test kit capable of reading in the range 0 to 3.5 mg/L of free chlorine residual in increments of 0.1mg/L? Yes No unknown
- i. If yes is the test performed in accordance with manufactures directions? Yes No unknown
- j. Is a record of the date, time, name of person performing the test and results of the drinking water sample kept? Yes No

TANK AND PIPING DETAILS

Tank Room

Is there a water tank? Yes No Details:

Where is it located?

Comments: _____

Is the room in which the water tank is located heated to maintain an optimum temperature of 4°C for stored water?

YES NO

Comments: _____

Are there windows in the add-on that may allow direct sunlight onto the water holding tank? YES

NO

Comments: _____

Are there other heat sources near the tank? YES NO

Comments: _____

Is there waterproof flooring with a sealed base to contain spills? YES NO

Comments: _____

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Overall Tank

What are the tank size and dimensions?

What material is the tank constructed of? _____

Is tank and associated piping constructed of safe materials (i.e. CSA approved and material that does not affect the taste of the water)? YES NO

Comments: _____

Tank Inlet, Outlet and Lid

Is there adequate access on the tank for cleaning (i.e. min 15" access lid)? YES NO

Does the lid have a tight seal and is it watertight when closed? YES NO

Does the tank have an overflow or high level whistle? YES NO

Is the water tank drain accessible? YES NO

WATER TANK AND WATER QUALITY CONDITION

Are there signs of staining or biofouling? YES NO

Comments: _____

Is there any sediment or scum in bottom of tank? YES NO

Comments: _____

Is there any odour associated with the water or tank? YES NO

Have there been any bacteriological analyses conducted previously? YES NO

Does the tank appear that it has been cleaned recently? YES NO

Are the tanks easily assessed for the purpose of cleaning and disinfection? YES NO

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8. Conclusions

a. Comments on overall installation:

THIS IS A OLD (1989) TOTALLY INADEQUATE INSTALLATION. THE WELL HEAD IS WIDE OPEN, NO SEAL OF ANY KIND. THE PUMP & TANK ARE BOTH AT THE END OF THEIR LIFE CYCLE. PRESSURE TANK IS SHOWING SIGNS OF LEAKAGE AS THE BOTTOM IS NEARLY RUSTED OUT COMPLETELY.

b. Recommendations:

CLEAN THE WELL MECHANICALLY, AFTER EXTENDING THE WELL CASING TO THE REQUIRED HEIGHT ABOVE GRADE. INSTALL A NEW PUMP SYSTEM. INSTALL ON PILGESS ADAPTER.



Photo 0306: M0086 Watson Lake RCMP Residence – location of well off of basement



Photo 0304: M0086 Septic field



Photo 0043: M0086 Wellhead (back right), and jet pump (front centre)



Photo 0044: M0086 Pressure tank (left) and wellhead enclosure off of basement of residence