

March 22, 2023

Dear Sir/Madam

RE: WATER METER UPGRADE PROCEDURE – CHANGE TO RADIO READ

Engineering has updated the procedure “Capital Projects – Water Meter Upgrade Procedure” and the Approved Products List to install only radio read units on all new water meter installations. A smart Point 520M Pit Set Module is required on each new meter via touch coupler and **the standard touch-read Pit-Lik (TR/PL) registers are no longer approved.**

Any installations that do not conform to the procedure enclosed will be considered deficient and will require removal and reinstatement.

Yours truly,



Michael Elliott, ASCT
Project Manager, Engineering & Public Works Department
Tel: 250-756-5321 Fax: 250-756-5336

cc P. Rosen, Director, Engineering
P. Stewart, Manager, Engineering Projects
J. Rose, Manager, Transportation
B. Thomas, Asst. Manager, Transportation.
D. Mousseau, Manager, Engineering & Environment
D. Thompson, Manager, Roads
K. Andersen, Municipal Services Inspector

Enclosed (1)

CAPITAL PROJECTS

WATER METER UPGRADE PROCEDURE

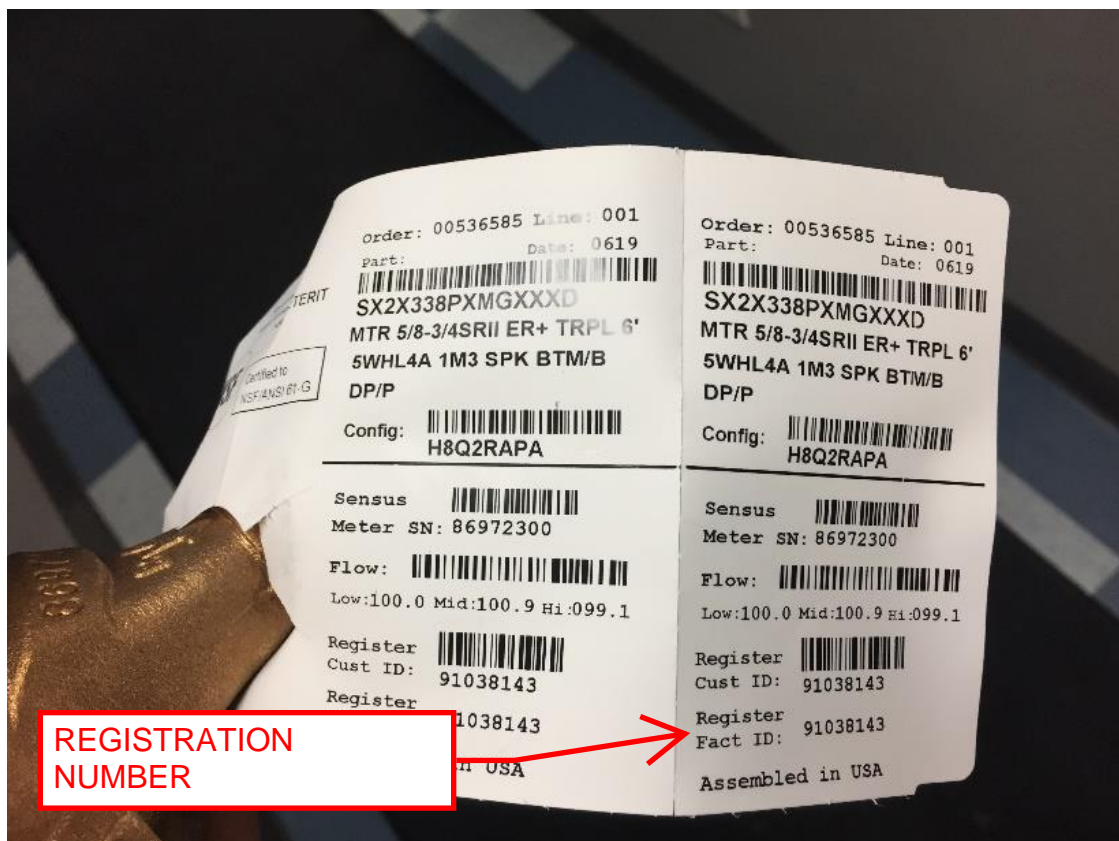
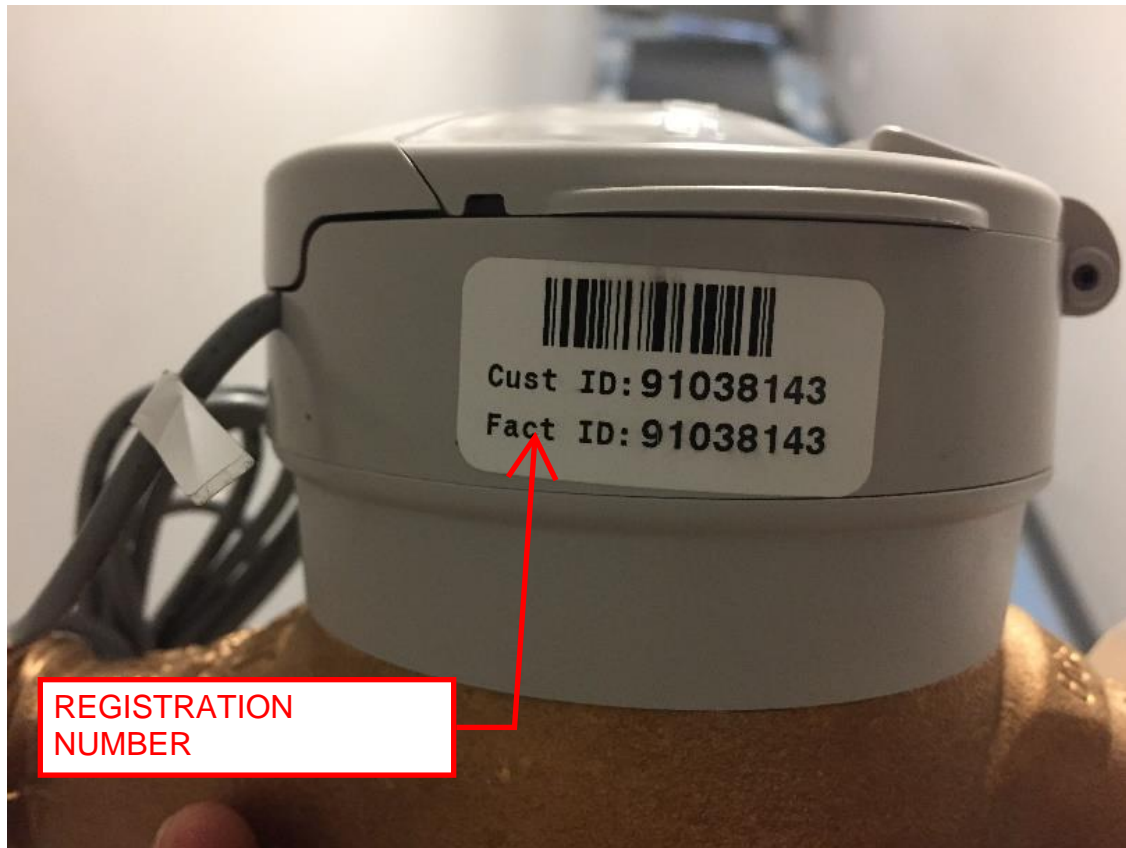
This procedure is to be followed for all water meter upgrades and/or new services on Capital Works Projects. The City of Nanaimo will not provide water meters or related materials for the completion of this work.

PLEASE BE ADVISED THAT THE CITY OF NANAIMO ONLY INSTALLS RADIO READ UNITS ON ALL NEW WATER METER INSTALLATIONS. A SMART POINT 520M PIT SET MODULE IS REQUIRED ON EACH NEW METER VIA TOUCH COUPLER AND THE STANDARD TOUCH-READ PIT-LID (TR/PL) REGISTERS ARE NO LONGER APPROVED.

- 1) Contractor is responsible for notifying the Municipal Inspector or Project Manager, 48hrs prior to replacing water meters on a utility upgrade project.
 - a. Municipal Inspector or Project Manager will then contact User Rates (Meterreadersupport@nanaimo.ca) identifying the locations and date for of the work. (i.e. 600 and 500 block Lambert Avenue – September 2020). This allows user rates to notify the meter readers and to schedule them elsewhere if there is a conflict with their scheduled route.
- 2) Residence and Businesses must be given 24hrs notice prior to meter replacement.
 - a. Existing meters are to be removed and placed in meter box along with newly installed meter (***Do Not Discard old meters until Contractor Construction Supervisor confirms service cards are filled out correctly***). Replace tails stocks as needed.
- 3) Municipal Inspector will provide a PDF of the service card. Contractor will print the appropriate number of service cards to have completed for:
 - a. Existing Service
 - b. New Service
- 4) Service cards (per Appendix F1 MOESS “CoN Service Sheet”) are to be updated per the following example (**see attached Example**) and must include:
 - a. Completed By: *Contractors Name*
 - b. Date: Date of replacement
 - c. Provide the address of the meter replacement
 - d. A brief sketch of the new location if applicable and check the following
 - i. Change/Update or Meter Replacement
 - ii. Capital Project
 - e. Update the location, new or existing, if connected, size, and material (i.e. 25mm PE).
 - f. Update the Water Service Line as appropriate.
 - g. Record the old meter (register) number, and current reading (m3)*
 - h. Record new meter (register) number, meter transceiver unit (MXU) ID, and reading (0m3)
 - i. Affix one of the stickers on the service sheet, second sticker stays attached to meter until Construction Supervisor confirms service cards are filled out correctly**
 - j. Old meters should stay in the meter box until Construction Supervisor confirms service card are filled out correctly.**
 - k. Activation of the radio-read meters will be completed by City of Nanaimo personnel.

**This will be the reading on the mechanical counter for older meters, or LCD display from touch read. If neither are available contact water operations or user rates (Meterreadersupport@nanaimo.ca) to confirm the current reading*

*** Note the stickers are difficult to take off, a stapler can be used to secure the new meter tag to the service sheet.*



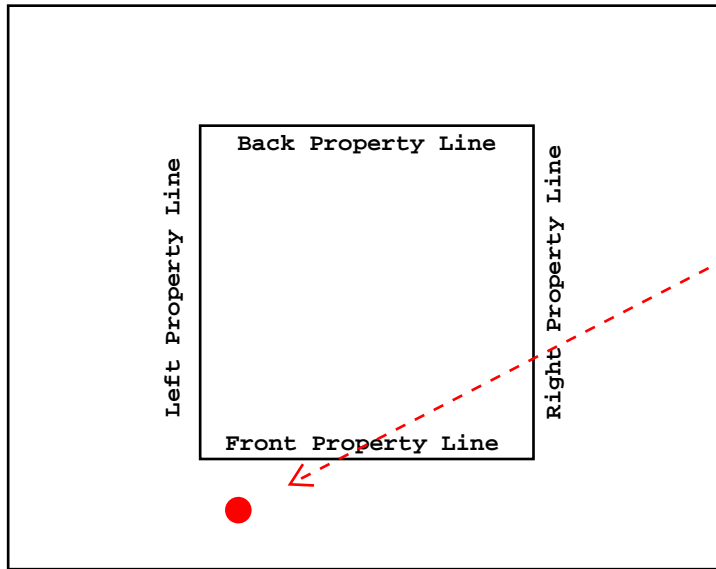




APPENDIX F1
ENGINEERING & CONSTRUCTION

Completed By: **EMPLOYEES INITIALS** Date: **Jan 01/2021**

HOUSE # 1234	STREET NAME Water Meter Rd	CARD #
PLAN #	LOT #	PERMIT #
		FILE #



- ☐ NEW INSTALL
☐ CHANGE/UPDATE
☐ METER REMOVAL
☐ SERVICE CONNECTION
☐ SERVICE DISCONNECT
☒ METER REPLACEMENT

COMMENTS

1m from LPL, 3m from FPL

Sensus SRII with 520M Radio-read

SHOW THE FOLLOWING;

- 1) LOT 2) STREET R/W NAMES
 3) R.O.W. IF ANY 4) NORTH ARROW
 5) LOCATION OF ALL UTILITIES DIMENSIONED FROM CIVIC ADDRESS

- ☐ VACANT LOT
☒ CAPITAL PROJECT
☐ D.C.C.
☐ DEVELOPED LOT
☐ LOCAL IMPROVEMENT PROJECT

SERVICE		LOCATION	NEW	EXIST	CONNECTED		SIZE	MATERIAL
					YES	NO		
W A T E R	DOMESTIC	See Comments	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	25	PE
	FIRELINE		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
	COMBINATION		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
SANITARY			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
		MINIMUM BASEMENT FLOOR ELEVATION:			GEODEDIC DATAM INVERT ELEVATION:			
STORM			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
		MINIMUM BASEMENT FLOOR ELEVATION:			GEODEDIC DATAM INVERT ELEVATION:			

METERS	
N E W	REGISTER # 91038143
	READING 0.0004
MXU ID # 1356678	SIZE (mm) 19
O L D	REGISTER # 123 456
	READING 7891234.00 m3





SmartPoint 520M

Pit Set Module

The SmartPoint® 520M Pit Set Module is a radio transceiver that provides water utilities inbound and outbound access to water measurement and ancillary device diagnostics via radio signal. The SmartPoint 520M is designed for submersible, pit-set environments.

BENEFITS:

- Easily receives input from either walk-by/drive-by or fixed-base collection device
- Controls both deployment and lifetime operation costs
- Compact installation that saves time, space and money - without reducing system performance
- Delivers a fast, efficient and reliable connection at minimal cost
- Minimizes new infrastructure investment
- Enables effective leak detection

TouchCoupler Design

The SmartPoint 520M Module utilizes TouchCoupler, the patented Sensus inductive coupling communication platform, to interface with the encoded meter. With TouchCoupler, the SmartPoint 520M Module can connect to the meter using existing two wire AMR installations instead of requiring utilities to access the meter to install a new three-wire connection. This results in a fast, efficient and reliable connection at minimal cost.

Operation

With its migratable, two-way communication ability, the M-Series SmartPoint functions as a walk-by/drive-by endpoint, fixed-base endpoint, or combination of the two. This flexibility increases utility data collection capabilities and streamlines operations. The SmartPoint 520M Module receives input from the meter register and remotely sends data to a walk-by/drive-by or fixed-base collection device. The SmartPoint 520M Module easily migrates from walk-by/drive-by to fixed base by simply installing a Base Station.

In walk-by/drive-by mode, the SmartPoint 520M Module collects data and awaits an activation signal from the Vehicle Gateway Basestation (VGB) or Hand-Held Device (HHD). Upon signal receipt, it transmits readings, the meter identification number and any alarms.

As a fixed-base endpoint, the SmartPoint 520M Module interacts with one or more strategically placed Base Stations located in the utility service area. Top of the hour readings and other diagnostics are instantly forwarded to the Regional Network Interface (RNI)™ at time of transmission. The FlexNet® communication network provides unmatched reliability by using expansive tower receiver coverage of metering end points, data/message redundancy, failover backup provisions and operation on FCC primary use (unshared) RF spectrum.

SmartPoint 520M

Pit Set Module



Powerful Transmission, Flexible Platform

The SmartPoint® 520M Pit Set Module offers several advantages that control both deployment and lifetime operation costs. Its powerful, industry-leading two watt transmitter broadcasts over large distances and minimizes collection infrastructure. And after the SmartPoint is installed, its migratable, two-way system platform can be updated without requiring personnel to visit each meter and/or inconveniencing customers.

Additional Smartpoint 520M Module Features

The SmartPoint 520M Module obtains hourly

readings and can monitor continuous flow over a programmable period of time, alerting the utility to leak conditions. In addition, the SmartPoint stores up to 840 consumption intervals (35 days of hourly consumption), providing the utility with the ability to extract detailed usage profiles for consumer information and dispute resolution. The SmartPoint also incorporates a two-port design, allowing the utility to connect multiple registers and ancillary devices (such as acoustic monitoring) to a single SmartPoint. This results in a compact installation that saves time, space and money - without reducing system performance.

Specifications

Service	Pit set installation interfacing the utility meter to the Sensus FlexNet communication network. Unit requires 1.75" diameter hole in pit lid; fits pit lid thicknesses up to 1.75"
Physical characteristics	Width: 4.43" x Height: 5.09" x Depth: 3"
Weight	1.0 lbs/16.0 oz
Color	Black
Frequency range	900 - 950 MHz, 8000 channels X 6.25 kHz steps
Modulation	Proprietary Narrow Band
Memory	Non-Volatile
Power	Lithium Thionyl Chloride batteries
Approvals	US: FCC CFR 47: Part 24D, Part 101C, Part 15 Licensed operation Canada: Industry Canada (IC) RSS-134, RSS-119
Operating temperature	- 22° F to +185° F - 30° C to + 85° C
Options	Dual or single port availability; TouchCoupler only, wired only
Installation environment	100% condensing, water submersible
Compatibility	TouchCoupler and Wired Version: Sensus Encoder Registers, Badger ADE water registers, Master Meter AccuLinx, and Hersey Translator (approved TR/PL Lead) Wired Version Only: Elster Encoder (Sensus protocol), Neptune ARB VI (ProRead), Hersey Translator, Zenner PMN Nitro 01, McCrometer flowcom FC100-00M, and Kamstrup flowIQ 2100 Refer to the 510M/520M SmartPoint® Module Water Meter and Ancillaries Compatibility Quick Guide for the latest compatibility information.
Warranty	20 years - Based on six transmissions per day. Refer to Sensus G-500 for warranty.



8601 Six Forks Rd, Ste 700
Raleigh, NC 27615
1-800-638-3748
sensus.com

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