



The following are **FAQs** (frequently asked questions) received as part of the public engagement process for the Village of New Maryland's proposed Sunrise Wellfield Development project. Responses (R) to these questions, comments and concerns are intended to provide additional project insight on potential impacts and the associated mitigating measures.

1. Will the proposed new Sunrise Wellfield Development impact the quality and/or quantity of water in my residential water supply well?

R1:

It is important to establish that the aquifer being tested by the Village for the proposed Sunrise Wellfield Development is positioned within a deep bedrock formation. Based on available well information the vast majority of private wells located within the Sunrise Estates Subdivision appear to be positioned within a shallower bedrock formation.

The new Sunrise Wellfield intersects high-capacity water bearing fractures under very high pressures, which raises the water level to ground surface (or higher) when the pressure is relieved. This deeper bedrock aquifer may or may not be strongly connected to the shallower bedrock aquifer that hosts the private wells in Sunrise Estates. The strength (or presence) of this connection will be evaluated in the next phase of testing and the safe yield calculation will be revised accordingly.

It is the intent of the project to develop a new sustainable municipal wellfield while maintaining sustainable private wells in Sunrise Estates. A key factor in determining the overall safe yield of the new Sunrise Wellfield is limiting the anticipated impacts to private wells to a negligible level.

The potential for impact on residential wells from the proposed Sunrise Wellfield Development is considered to be low given the hydro geotechnical evaluation undertaken on the aquifer, the proposed water extraction volumes and the proposed design features and operating practises of the water supply system. Ongoing and frequent testing, including hydraulic pumping tests and water quality sampling, are incorporated into the project design to regularly determine the potential impact on private wells. An initial pumping test program has been completed and appeared to show negligible impact to private wells in Sunrise Estates. A follow-up pumping test program will incorporate more private wells within Sunrise Estates and surrounding areas to add confidence to these observations.



2. How will I know if my well is impacted by the proposed Sunrise Wellfield Development project?

R2:

Firstly, it is important to establish that the aquifer being tested by the Village for the new Sunrise Wellfield is in a deep bedrock formation. Based on available well information the vast majority of private wells located within the Sunrise Estates Subdivision are positioned within a shallower bedrock formation. The new Sunrise Wellfield intersects high-capacity water bearing fractures under very high pressures, which raises the water level to ground surface (or higher) when the pressure is relieved. This deeper bedrock aquifer may or may not be strongly connected to the shallower bedrock aquifer that hosts the private wells in Sunrise Estates. The strength (or presence) of this connection will be evaluated in the next phase of testing and the safe yield calculation will be revised accordingly.

The determination if a private well's water quality or quantity is being impacted by the proposed Sunrise Wellfield Development will require an on-site investigation. Such an investigation would be undertaken by the Village and would generally include the following components:

- **Baseline Data Collection:** Prior to commencing full-time operation of the new Sunrise Wellfield Development infrastructure, the Village will undertake to collect well water quality data from select residences and install well level-loggers to record water levels in selected residential wells located within Sunrise Estates and surrounding area. This water quality and well level information will form a baseline that will be used for comparison purposes with any future data collected as part of a well investigation. The Village will also seek to obtain from Sunrise Estates and surrounding area property owners specific well details (i.e., age, depth, diameter, casing length, pump depth, etc.) to form part of a well inventory database.
- **Ongoing Data Collection:** As part of its long-term day-to-day operation of Sunrise Wellfield Development infrastructure, the Village will undertake to regularly and frequently monitor water quality and well level drawdown/recovery performance and as a measure of the overall integrity of both the shallow and deep bedrock aquifer zones. Such data will be collected from production and observation well locations to be installed as part of this project, and from private wells. This data will also be used to assess overall aquifer performance and hydraulic connectivity between the shallow and deep aquifer zones.



- **Well Details:** The Village will request from the property owner specific well construction and water quality details, assuming the property owner has access to this information. Details will include well location, well construction (date drilled, diameter, depth, well casing length, well log data), well pump type/age, well pump position and well water quality analytical results.

The Village may install a level logging device in the well to collect level information. Water samples for both bacteriological and general chemistry analyses may be obtained.

- **Engagement with DELG:** The Village will engage with the New Brunswick Dept. of Environment and Local Government (DELG) and Department of Health (DOH) to inform them of the specific water supply well investigation.
- **Data Assessment and Presentation:** The Village will retain a professional hydrogeological consultant, who will review the available data assembled from the above items and undertake to assess the information to outline the problem and to determine the probable rationale for the current water quality and/or quantity issues. A summary report will be prepared by the consultant, with input where required from the property owner, Village staff and the Village's engineering consultant. The summary report will endeavor to determine a logical rationale for the issue being investigated. A copy of the report will be made available to the property owner, DELG and DOH for their review, comments and further discussion. The property owner may wish, at their own expense, seek to engage the services of a third party to conduct an independent well investigation.

Potential impacts from the new Sunrise Wellfield on Sunrise Estates and surrounding area residential wells are considered to be a low risk. However, should impacts occur, they are anticipated to develop over a long period (years) and not appear over a short period as a dramatic, catastrophic event. For example, should the shallow (Sunrise Estates) aquifer be impacted by the Sunrise Wellfield Development the impact will occur gradually over an extended time period. Ongoing regular and frequent monitoring to be undertaken by the Village will provide valuable insight into predicting gradual onset of potential impacts to the shallow and deep bedrock aquifers. A dramatic depletion in the Sunrise Estates aquifer over a short period of time (i.e., days, weeks) is considered to be an unlikely event.



Should a property owner experience water supply disruption or deteriorated water quality there is a high probability that the problem resides with any one or more of the following:

- Power outage or failed electrical power supply,
- Failure of the well pump and/or water supply piping,
- Improper well pump position within the well,
- Biofouling of the well,
- Excessive and prolonged water consumption beyond the well production capacity,
- Sealing-up of bedrock cracks (fissures) over time,
- Over-mining of available water supply resources from within the shallow aquifer zone from other residential wells,
- Contamination from surface water sources or significant leakage from sanitary sewer laterals or sanitary sewer collection system.



3. What will happen should the proposed Sunrise Wellfield Development project impact the water quality or quantity of my residential water supply well?

R3:

Should a property owner suspect their private well has been impacted following commencement of the proposed Sunrise Wellfield Development project, the property owner will need to notify the Village office at their earliest possible convenience.

It is the Village's intention to respond by contacting the property owner within 48-hours to commence an on-site investigation of the identified concern. The proposed investigative process will generally consist of the following components (see component details in the previous R2 response):

- Baseline Data Collection
- Ongoing Data Collection
- Well Details
- Engagement with DELG
- Data Assessment and Presentation

The outcome of the on-site investigation will be a summary report prepared by the Village's hydro geological consultant, with input where required from the property owner, Village staff and the Village's engineering consultant. The summary report will endeavor to determine a logical rationale for the issue being investigated. A copy of the report will be made available to the property owner, DELG and DOH for their review, comments and further discussion. The property owner may wish, at their own expense, seek to engage the services of a third party to conduct an independent well investigation.



4. Assuming my well is impacted, who will pay to fix or replace it if it is negatively impacted by the implementation of the proposed Sunrise Wellfield Development project?

R4:

Should a property owner's water supply system be negatively impacted, it is anticipated that the responsibility for the burden of proof as to the cause of the problem will be shared by both the property owner and the Village. However, in most cases not until a site investigation has been undertaken and the data assessed/evaluated can the problem be identified, a solution determined, and responsibility for mitigation measures assigned.

Should it be determined that the private well has been impacted and that the impact is partly or wholly the result of the Sunrise Wellfield Development project, the Village will be required to provide for its apportioned level of responsibility. The Village will work cooperatively with the property owner to quickly and reasonably reduce any adverse impacts until an equitable long-term solution can be developed and implemented to restore appropriate water quality and quantity to the affected residence. Solutions could include re-positioning/replacing the well pump, re-drilling the well to a greater depth or full replacement of the well.

Note: The solution of connecting an individual residence to the Village's communal water supply system is not considered an option, that is unless catastrophic well failures occurred to a significant number of residences within the same subdivision (i.e., Sunrise Estates). Under these circumstances the entire or significant portion of the subdivision would most likely be required to connect to the communal water system.

If development and implementation of the necessary corrective mitigating measures are considered to be a shared responsibility, the Village will seek an apportioned financial contribution from the other responsible party or parties.



5. How quickly can I expect a response from the Village to address my concerns should my water supply well become impacted?

R5:

Unless the source of the property owner's problem can be easily identified, and a solution readily agreed upon between the property owner and the Village, the expected timing for investigating and resolving the problem is unpredictable and varied. In all cases, the Village will endeavor to immediately commence the well investigation and data collection process within 48 hours and will seek to engage with the Department of Environment and Local Government and the Department of Health.

The Village will also undertake to complete a professional hydro-geotechnical consultant's summary report within the timeliest manner.



6. Has the Village made provisions for an emergency funding source to cover mitigation costs for should something happen to my well if impacted by the proposed Sunrise Wellfield Development project?

R6:

Should it be determined that the Village is wholly or partially responsible for undertaking corrective mitigating measures to restore the water quality and/or quantity of a private well, the Village will utilize its reserve water and sewage system funds to finance the necessary corrective actions.

7. Does the Village intend to use the Sunrise Wellfield Development project water to force property owners on private wells to connect to the Village communal water supply system?

R7:

No, Village Council does not intend to require property owners currently serviced by private wells to connect to the Village's communal water supply system.

All property owners located within any Village subdivision that are not currently connected to the Village's communal water supply system, will not be provided the option of connecting to the communal water system as part of the Sunrise Wellfield Development project.

Property owners situated along Highway Route 101 and where the proposed new water transmission pipeline passes their property frontage, will be provided the option of connecting to the communal water supply system. Should the property owner choose not to connect to the system, a frontage service charge will be applied to property owner's water and sewage account.



8. How will the proposed Sunrise Wellfield Development project benefit me?

R8:

If your residence is currently connected to the Village communal water supply system, a much greater portion of your water supply will be produced from the Sunrise Wellfield as opposed to the current Applewood Wellfield. As a result, a greater portion of your water supply will be treated for manganese and hydrogen sulphide removal. The Sunrise Wellfield, like the Applewood Wellfield, will be chlorinated.

Existing communal water system users will have added piece of mind of long-term water quality and water system sustainability and security offered by the additional water supply resource of the Sunrise Wellfield when compared to having only the Applewood Wellfield. This could potentially be translated into enhanced property value.

Property owners along Highway Route 101 and where the water transmission main passes along the property frontage, will have the option of enjoying the similar benefits identified above for existing users if connecting to the communal water supply system.

Property owners within an existing Village subdivision not currently connected to the communal water supply system, or property owners located along Highway Route 101 and where the water transmission main does not pass along their property frontage will receive no immediate tangible benefit from the proposed project.

The Sunrise Wellfield Development will provide the Village with significant additional water supply capacity. The Village intends to use this available capacity to enable future residential growth and commercial development within the Village's municipal boundaries. Growing the number of water system service connections will increase the number of contributors to the Village's water and sewer utility account. This will assist with offsetting water system Operations & Maintenance costs and help limit future water and sewer rate increases, which will benefit existing and future users of the Village's communal water supply and distribution systems.

Addition of the new Sunrise Wellfield will provide all Village residents with a greater degree of confidence in having a more secure and redundant water supply for domestic use and fire fighting purposes. Also, if a problem should develop with private domestic wells in an area within the Village, the additional water supply could possibly be available to address the situation – looking for a new water resource in a time of crisis is not a good position to be in. Residents of the Local Service District will also benefit from development of the new Sunrise Wellfield in that the Village will be in a much better position to provide fire fighting services during drought conditions.