

September 2019

WHAT'S NEW AT GOLD BAR WASTEWATER TREATMENT PLANT

Over the past 18 months, citizens volunteered their time to engage with us through open houses, individual meetings, and a series of Citizen Planning Committee workshops. The latest open house was held on June 25.

We'd like to thank all those who contributed their time to this process – we heard you, and thanks to your input we've developed a plan for the future of the Gold Bar Wastewater Treatment Plant (Gold Bar WWTP). The plan protects the natural environment, preserves all of the adjacent parkland and includes written commitments to the community.

NEW COMMITMENTS TO YOU

We have a new set of written commitments, created with stakeholders, and built into our long-term plan. These commitments will guide how we will design, build and operate at the plant for decades. Here are some highlights...

WE WILL PROTECT RIVER VALLEY PARKLAND FOR FUTURE GENERATIONS

EPCOR'S new long-term plan for Gold Bar WWTP commits in writing to preserving local parkland by keeping Gold Bar WWTP operations and parking within the current fenceline. This promise will guide how we design, build and operate at the plant. EPCOR's new plan ensures that river valley parks and trails will be preserved for current and future generations to enjoy.

GOLD BAR WWTP WILL STAY WITHIN ITS CURRENT FOOTPRINT

Forecasts in the new long-term plan confirm that Gold Bar WWTP has enough capacity and staff to handle future liquids and solids volumes from now to at least 2060. There will be no need for physical expansion.

IMPROVED TECHNOLOGY WILL MEET FUTURE TREATMENT NEEDS

Sewage volumes in the Edmonton region are forecast to increase slowly over the next four decades. Why? Because Edmontonians are using less water per person. The continuing decline in individual water use will offset most of the population increase in the region, with peak sewage flow increasing less than one per cent per year between now and 2060.

To accommodate any changes in flow within the plant, some treatment tanks will be retrofitted to include membrane technology. This will allow Gold Bar WWTP to meet current and future environmental performance standards, and to treat wastewater without having to grow.

FLARING AND ODOUR WILL BE REDUCED

Gold Bar WWTP will continue to reduce its impact on the environment and neighbours by investing in odour control and reducing the flaring of biogas.

We invested \$10 million recently in reducing odour from the plant, with success. We are investing more in monitoring and reporting to continue to ensure odour emissions are at safe levels now and into the future. We also want to capture a byproduct called biogas, which is otherwise underutilized and flared at the plant, then upgrade it and transform it into renewable natural gas. This will reduce flaring and greenhouse gas emissions, noise and provide a darker night sky.

AN UPDATED PLAN – WITH ALL PARKING AND BUILDINGS INSIDE THE CURRENT PLANT

In 2018, EPCOR shared a proposal to develop an operations centre and parking outside the plant. Based on public input, EPCOR decided not to submit a rezoning application for the proposed parking lot. Instead, using your feedback, we've redesigned the plant so that future operations and services will all remain within the current fenceline – preserving river valley parkland for all to enjoy.

Read more inside...



QUESTIONS AND ANSWERS FROM THE OPEN HOUSE

? Is EPCOR committed to protecting local parkland around Gold Bar WWTP?

Yes. EPCOR'S latest long-term plan for Gold Bar WWTP commits in writing to preserving local parkland by keeping Gold Bar WWTP's operations within the current fenceline. This new set of written commitments, created with stakeholders, will guide how we design, build and operate at the plant. EPCOR's plan ensures that river valley parks and trails will be preserved for current and future generations to enjoy.

? Is there going to be a major increase in sewage volumes coming to Gold Bar?

No. Sewage volumes in the Edmonton region are forecast to increase slowly over the next four decades. Why? Because Edmontonians are using less water per person. The continuing decline in individual water use will offset most of the population increase in the region, with peak sewage flow rates increasing less than one per cent per year between now and 2060.

? Is there going to be an expansion of Gold Bar?

No. The Gold Bar WWTP facility already has enough capacity and staff to handle future liquids and solids volumes from now to at least 2060. There is no need for physical expansion. The footprint of the plant will remain the same for at least the next 40-years.

Within the plant, some treatment tanks will be retrofitted to include membrane technology. This will allow Gold Bar WWTP to meet current and future environmental performance standards, and to treat wastewater without having to expand. Along with maintenance work to ensure plant reliability, other investments at Gold Bar WWTP will reduce its impact on the environment and neighbours – including continued investment in odour control, and a proposal to reduce the flaring of excess biogas.

? Is the Gold Bar WWTP compliant with Alberta Environment and Park's setback distance requirements?

Yes – Gold Bar WWTP is 100 per cent compliant with provincial environmental standards and guidelines. The setback distances being referred to were put into place well after Gold Bar WWTP was constructed. The goal of the setback is to prevent odour impacts in neighbouring communities. Gold Bar WWTP has achieved significant reductions in odour over the last 20 years, and continues to invest in odour management and monitoring systems. New monitoring systems will be installed to provide real-time reporting on ambient air quality next to the plant, and help ensure Gold Bar WWTP remains compliant at all times.



THE SOUTH EDMONTON SANITARY SEWER (SESS)

The SESS is a system of deep sewer lines (called trunk lines) getting built over several decades to provide new infrastructure to store and carry wastewater from south Edmonton. A similar system services north Edmonton (NEST). The NEST system connects to the Alberta Capital Region Wastewater Treatment Plant in Strathcona County near Fort Saskatchewan.

In 2016, the City of Edmonton and the Sanitary Servicing Strategy Fund (SSSF) Oversight Committee initiated a study of the overall sanitary trunk system. Based on technical and financial considerations, the SSSF Oversight Committee made the decision to direct long-term sanitary flows from south Edmonton through SESS to the Gold Bar WWTP after 2038. Gold Bar already treats wastewater from south Edmonton today. There will be no change in sewage volumes coming to Gold Bar in 2038 — the same wastewater will arrive through the newer SESS pipes.

? Did EPCOR decide to route the South Edmonton Sanitary Sewer (SESS) to the Gold Bar WWTP?

No, EPCOR and the Alberta Capital Region Wastewater Treatment Plant participated in the study, but the decision was made by the SSSF Oversight Committee. EPCOR was not on the committee at the time. EPCOR Gold Bar provided information to this committee as did the Alberta Capital Region Waste Water Plant.

? If the SESS system connects to Gold Bar, will construction create major impacts in our community?

No, there would be minimal impact. Trunk lines are built deep underground through tunneling, with limited impact to communities on the surface. There would be an excavation point at the start of the segment and at the end of the segment, a laydown area for equipment, and potentially an interim shaft along the way.

No construction on the final portion of the system is expected until after 2030. At that time, there would be community consultation to ensure we identify and reduce potential impacts.

? Would the SESS system connecting to Gold Bar WWTP create impacts to the communities around the plant?

No, there would be no change in sewage volumes coming to Gold Bar WWTP after 2038 — the same wastewater from south Edmonton will arrive through a newer set of pipes. EPCOR's latest long-term plan for Gold Bar WWTP commits in writing to preserving river valley parkland and trails by keeping Gold Bar WWTP operations within the current fenceline. Ongoing investment in the plant will also continue to reduce odour, and reduce the flaring of biogas.

? What would timing be for future SESS development?

The final segment of the SESS system is not expected to enter development until approximately 2030 and would not connect to a WWTP until after 2038.



LONG-TERM PLANNING

Conclusion: Our long-term plan, to be published in September 2019, shows that Gold Bar WWTP will be able to safely treat all flows that come to the plant through 2060 and beyond while remaining within our existing footprint and fenceline.

HOW WE PLAN

EPCOR plans for the long-term by preparing an Integrated Resource Plan. This planning document takes into consideration input from the community, is regularly updated, outlines the factors taken into consideration in the planning process and describes the budget allocated for specific areas of future investment at Gold Bar WWTP.

HOW WE WILL ADAPT THE FACILITY WITHOUT COMMUNITY IMPACT

Previous engineering reports have been reviewed and we now expect only a modest increase in future wastewater flows, because per person water use is declining. Our baseline projections show less than one per cent increase per year in the peak flow rate.

As water volumes decline, the concentration of nutrients in wastewater grows. These nutrients need to be removed before treated water is returned to the river. We plan to do this by retrofitting existing tanks at the plant with membrane technology, which provides microfiltration. These units will be submerged in existing concrete tanks at the plant gradually as they are needed.

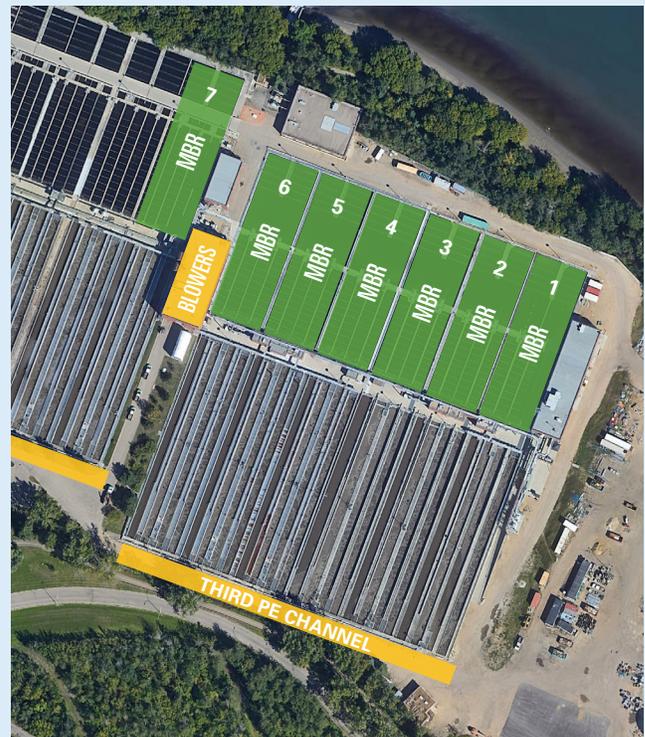
We expect the first of these membrane systems will be installed around 2027. Over time, more will be added based on the treatment needs. By 2061, the last year in our current long-term plan, our forecasts show that up to seven of the 11 tanks may have membrane units installed. These retrofits mean there is no need to expand the plant outside the existing fenceline into the foreseeable future.

READY FOR A RANGE OF SCENARIOS

The long term plan looks at two main scenarios -- our baseline scenario where the South Edmonton Sanitary Sewer (SESS) system flows continue to be directed toward the Gold Bar WWTP after 2038 (in conjunction with the 2017 decision of the SSSF

Oversight Committee) and an alternative scenario where future SESS flows are diverted towards the Alberta Capital Region plant after 2038 instead.

In both scenarios, ongoing investments will be made at Gold Bar WWTP to ensure safe, reliable operations, and to meet the commitments to the community. The only difference between the scenarios is the number of treatment tanks where membrane technology is installed. The pace of these retrofits will be at a slower pace if a portion of south Edmonton's wastewater is directed to another plant.



Starting in 2027, EPCOR will start retrofitting existing secondary clarifier tanks with membrane technology.



Membrane technology that would be inserted into existing tanks.

CURRENT PROJECTS

SAFETY AND HYGIENE IMPROVEMENTS

Update: We heard the community and updated our original proposal. Our new parking solution, Operations Centre and any future buildings needed will be located inside the fenceline on our current footprint.

PROJECT OBJECTIVE

EPCOR has a need to provide on-site parking for employees and contractors located away from active treatment areas, process areas and near the work place. We also have a requirement to plan for hygiene considerations at our facilities that allow employees to: keep street clothes and personal items separate from Personal Protective Equipment (PPE) and work clothes; shower and hand wash after contact with wastewater; and store clothing coming into contact with wastewater in an appropriate locker room area.

SOLUTION: MEET THESE NEEDS WITHIN THE PLANT'S CURRENT FOOTPRINT

The new design solution was presented at the Citizen Planning Committee workshops and also at the June 2019 Open House where we heard positive feedback. Our recommended design is featured below. In it, all the staff parking, operations and maintenance buildings will be within the plant – mostly within the east end of the plant site.

EPCOR's Recommended Option

LEGEND

-  Parking
-  Admin/Maintenance
-  Operations Centre
-  East gate: main entrance and exit





ODOUR ACTION PLAN

Update: We invested \$10 million recently in reducing odour in the area. We are investing further in additional monitoring and reporting in the area.

PROJECT OBJECTIVE

EPCOR is working to continue to reduce odour emissions from the plant, improve monitoring and reporting data in a preferred format for the community.

PLANS AND COMPLETED WORK TO DATE TO REDUCE ODOUR EMISSIONS

EPCOR recently invested in a series of projects that has helped to significantly reduce odour emissions from Gold Bar WWTP. These projects included: sealing Enhanced Primary Treatment clarifiers; upgrading ventilation and odour collection systems; and upgrading our air scrubbers.

To continue to ensure odour levels consistently meet current and future standards, and continue to be safe for human health and recreation, we are adding further monitoring and reporting systems. These systems will provide additional continuous air quality monitoring closer to the fenceline and we will produce reporting data in a format so stakeholders can review results to confirm the air quality is safe.

In coordination with Alberta Environment and Parks, EPCOR is also planning to install a new continuous ambient air monitoring station between the Gold Bar WWTP and the community. We asked for stakeholder input on potential locations for the air monitoring station during our Citizen Planning Committee (CPC) workshops and Open House.

REDUCING FLARING AND GREENHOUSE GAS EMISSIONS

Update: EPCOR wants to capture a byproduct called biogas, which is otherwise flared at the plant, upgrade it and transform it into renewable natural gas. This will reduce flaring and greenhouse gas emissions, noise and provide a darker night sky.

BACKGROUND

Biogas is a byproduct of wastewater treatment (mostly solids digestion). Today, about 44 per cent of the biogas generated in the solids digestion process is used for heating while about 56 per cent is flared.

SOLUTION WITHIN THE PLANT'S CURRENT FOOTPRINT

Rather than flaring, technology exists to capture biogas, clean it, and deliver it into the ATCO natural gas distribution system as a source of renewable natural gas. Upgrading biogas to renewable natural gas would require some additional biogas cleaning and injection equipment on-site, and making an underground connection to the ATCO gas line that runs next to Gold Bar Park Road.

As shown in the image below, all equipment would be located within the fenceline, and as much as possible within existing buildings or enclosures to minimize noise and visual impact. Key components of the biogas equipment will include biogas cleaning/compression, storage, piping, injection and an underground gas pipeline. The underground connection to the ATCO gas system (as shown below) could have temporary construction impacts at the east end of Gold Bar Park, and may affect trees that would need to be replaced.

FUTURE BIOGAS SITE PLAN

LEGEND

- Compressors
- Flares
- RNG
- ATCO injection facility and buried injection line
- Above ground pipe rack
- Existing underground ATCO gas line



OUR COMMITMENT TO YOU ON HOW WE ENGAGE AND OPERATE

Update: We have a new set of written commitments we have created with stakeholders and built into our long-term planning documents to guide how we will design, build and operate at the plant for decades.

Earlier this year EPCOR collaborated with stakeholders and the community around Gold Bar WWTP to understand how we could better operate our facility and plan for future projects while still meeting the needs of the broader Edmonton population and Gold Bar WWTP’s ongoing operations.

PARTICIPANTS FROM THE COMMUNITY AND STAKEHOLDER GROUPS: CITIZEN PLANNING COMMITTEE (CPC)

We organized a subcommittee of citizens called the Citizen Planning Committee (CPC) to take part in a series of three intensive community workshop

sessions and a facility tour focused on engaging with participants on operations at the Gold Bar WWTP. Thank you to all those who volunteered their time over the series of workshops and outside the meetings -- including representatives from Community Leagues (Gold Bar, Capilano, Highlands and Beverly Heights), the Edmonton Mountain Bike Association, Save Gold Bar Park Alliance, the Edmonton Nordic Ski Club and other groups that use the area around Gold Bar WWTP.

A FRAMEWORK FOR HOW WE WORK TOGETHER WITH YOU FOR THE GOLD BAR WWTP

EPCOR and the CPC had a discussion about shared values and priorities and we also developed a public engagement framework to guide us on how and when the community would like to be engaged.

Based on this discussion, EPCOR and the CPC collaboratively created a list of Shared Outcomes or goals the community and Gold Bar WWTP could work to achieve. In addition, we documented specific Priority Actions and Design Principles to guide project development and operations at the Gold Bar WWTP now and into the future.

Further details regarding the Shared Outcome Statements, Priority Actions, Design Principles and What We Heard Reports from each workshop can be found online at www.epcor.com/goldbar.

SHARED OUTCOME STATEMENTS AND DESIGN PRINCIPLES COLLABORATIVELY CREATED WITH THE CPC

	QUALITY OF LIFE	SAFETY	RELATIONSHIP	ENVIRONMENT	RELIABLE, RESPONSIBLE, SUSTAINABLE
Shared Outcomes	Accelerate odour reduction	Continuously improve safety	Communicate openly	Continuously improve environmental performance	Continuously maintain reliable operations
	Remain within the existing fenceline	Ensure safe movement on-site	Align operating protocols	Reduce environmental impacts	Plan for a range of scenarios
Design Principles	Prevent increases to odour and noise	Improve worker hygiene and safety	Engage regularly	Increase resiliency	Prudently manage impacts to ratepayers
	Restore disturbed vegetation	Protect public safety from site-related traffic	Share options and optimize designs	Engage employees and stakeholders	
	Mitigate temporary impacts				

CONTACT US

Your questions, feedback and input are important to us. For more information about Gold Bar WWTP or the information included in this notice, please contact us at:

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(780) 412-3599

LEARN MORE

EPCOR has been updating our website with information related to the open house (including “What We Heard Reports”) and operational updates specific to the Gold Bar WWTP. If you are interested in learning more go to:

www.epcor.com/goldbar