

ADVICE TO MINISTER

CONFIDENTIAL ISSUES NOTE

Ministry of Transportation and Infrastructure
Date: July 8, 2015

Minister Responsible: Todd Stone

Evergreen Line – Information requests Sinkhole incidents

ADVICE AND RECOMMENDED RESPONSE:

- **These types of reports are an important part of the post-event review and help ensure the best possible remediation work takes place.**
- **This information outlines the assessments that helped the contractor conduct necessary repairs to the site.**
- **Construction on all aspects of the project is well underway, and the overall project is more than 60% complete.**

KEY FACTS REGARDING THE ISSUE:

There have been several FOI requests submitted by media for reports relating to the sinkhole incidents on the Evergreen Line project. As a result, a number of reports have been released in relation to the remediation work following the occurrence of the four sinkhole events on the Project.

The reports outline the results of the preliminary geophysical explorations completed to address the sinkholes. Geophysics investigations are used by the contractor when applicable to help plan their remediation work and also, can be used post-remediation to verify completeness.

During several of the TBM maintenance stops, material has entered the working chamber creating air pockets in front of the TBM resulting in a sinkhole at the surface. The contractor monitors the volume of over-excavated ground material during TBM maintenance stops and during remediation, endeavors to replace this volume by injecting grout into the ground by different methods.

To date, there have been 4 sinkhole occurrences on the Project (1- Chateau Place, 1 – Cecile Drive, 2 – Clarke/Seaview Drive). Following these occurrences, the contractor planned remediation programs to address any remaining air pockets or loose soils. The remediation programs can include secondary grouting from within the tunnel, surface boreholes and filling, and compaction grouting from the surface. To help plan the remediation work, the contractor can conduct a geophysics investigation to determine any areas of loose soils or air pockets. This information is used to help target areas of loose soil for their remediation program.

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ADVICE TO MINISTER

CONFIDENTIAL ISSUES NOTE

Ministry of Transportation and Infrastructure
Date: July 3, 2015

Minister Responsible: Todd Stone

Evergreen Line – Safety

ADVICE AND RECOMMENDED RESPONSE:

- **Safety is the top priority for the Evergreen Line project and the contractor, EGRT Construction.**
- **Government oversight on this project means we continue to monitor EGRT Construction's procedures and work on this project.**

KEY FACTS REGARDING THE ISSUE:

There have been two Evergreen Line construction safety issues that resulted in media coverage. One involved an operator error on the truss, which caused equipment failure at the North Road construction site. The other was the failure of a temporary concrete spacer that sits between the column and the guideway, which caused the guideway beam above Como Lake Avenue and Clarke to shift and rotate. While no one was injured, these incidents have raised some questions regarding safety.

There has been a full review done of these incidents, and improvements/adjustments have been made to construction methods. The contractor has also completed a Corporate Safety Audit across the entire project to identify opportunities to improve safety procedures.

Overall, the contractor has a good safety record. The ministry continues to monitor EGRT's construction procedures which includes regular safety audits.

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ADVICE TO MINISTER

CONFIDENTIAL ISSUES NOTE

Ministry of Transportation and Infrastructure
Date: July 10, 2015

Minister Responsible: Todd Stone

Evergreen Line – Schedule

ADVICE AND RECOMMENDED RESPONSE:

- **The Evergreen Line project is scheduled to be completed in the fall of 2016.**
- **We want to do this right though and we've always known tunneling can go fast or slow.**
- **We are working closely with the contractor to ensure we get the tunnel work done safely and as quickly as possible. If we find there are schedule implications, we will let people know.**
- **Construction on all aspects of the project is well underway, and the overall project is more than 60% complete.**
- **The Evergreen Line project remains on budget. The contractor is responsible for all costs related to the schedule delay.**
- **Challenging ground conditions during maintenance stops are what led to tunneling delays and the change in schedule from summer 2016 to fall 2016.**
- **As we have been doing throughout the project, we will continue to keep residents, businesses and local municipalities informed every step of the way.**
- **Once the line opens, Metro Vancouver's SkyTrain system will become the longest automated rapid transit system in Canada.**

KEY FACTS REGARDING THE ISSUE:

The major construction contract with EGRT has now been in place for over two years, and construction is well underway on all aspects of the project, including roadworks, guideway, station areas, and tunnel boring.

Major progress includes:

The elevated guideway is complete. Construction at all station sites is well underway, and stations are between 50% and 90% complete. Testing & Commissioning in the North Road/Clarke Road corridor is

scheduled to begin in July. Main tunnel boring started in June 2014 and is now more than 50% complete.

On March 7, 2014 an event took place announcing the start of the tunnel construction and the naming of the tunnel boring machine, Alice. At the event, it was stated that it will take about a year to bore the two-kilometre tunnel. The main tunnel boring activity began in June 2014. The TBM requires regular maintenance to change the cutter head tools as they wear during boring. The contractor has encountered difficulties during maintenance stoppages, which has resulted in some delay to expected duration of tunneling. Tunneling is currently anticipated to be complete in late 2015.

One of the main risks identified as part of the project's business case was associated with tunnel boring. In the contract award, the primary contractor, EGRT accepted the geotechnical risk in relation to the bored tunnel, removing the Province's exposure to this risk. The contractor has faced challenges during required maintenance of the tunnel boring machine, and this has made the tunnel boring process slower than was anticipated.

While there was some time contingency built into the schedule for tunneling, the contractor is now forecasting that Evergreen Line will be ready to open in fall 2016 (previously the schedule was opening in summer 2016). This is contingent on good progress being achieved on the tunnel.

The contractor is looking at all available options for the remaining work to open the line as soon as possible. Under the terms of the contract, EGRT has financial incentives to minimize any delay in completion.

The project remains on budget, as the contractor is responsible for all costs relating to the schedule delay under the terms of the fixed price contract.

Major construction on the Evergreen Line started in February 2013. EGRT Construction – a consortium led by SNC-Lavalin – is the primary contractor. Construction will create direct and indirect 8,000 jobs during construction.

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ADVICE TO MINISTER

CONFIDENTIAL ISSUES NOTE

Ministry of Transportation and Infrastructure
Date: July 3, 2015

Minister Responsible: Todd Stone

Evergreen Line – Tunnel boring operations: Safety (sinkholes)

ADVICE AND RECOMMENDED RESPONSE:

- **Safety is the first priority on the Evergreen Line project and precautionary measures are taken to ensure the public is safe as the tunnel boring machine progresses.**
- **There have been four locations where there have been holes at the surface. These occurred during maintenance of the tunnel boring machine.**
- **Maintenance locations are planned ahead and depending on ground conditions, the area is fenced off to ensure public safety. The contractor is taking every precaution to prevent ground settlement.**
- **Holes at the surface do not occur when the machine is boring.**
- **While this is an important issue for us to deal with now, it's also important for people to know that the Evergreen Line is more than 60% complete with significant progress along the line: elevated guideway is completed, stations are between 50% and 90% complete, testing and commissioning is set to begin in July.**

IF PUSHED:

- **As part of regular maintenance, the contractor needs to inspect and replace the cutter head tools. During this process, ground material can shift and create holes. That is what happened here.**
- **We have encountered challenging ground conditions – it's difficult to prevent water and sandy soils from entering the TBM cutter head, so workers can safely change the tools.**
- **The contractor has world class tunneling experts, who have completed over 50% of this tunnel with difficult ground conditions. They will continue to deal with challenges as they arise.**

KEY FACTS REGARDING THE ISSUE:

During TBM maintenance, the TBM chamber is emptied to allow crews to change the cutter head tools. This can sometimes result in a pressure imbalance in which ground material may fall into the chamber creating an air pocket in front of the machine. Depending on ground

conditions, these air pockets can migrate to the surface causing a sinkhole. The contractor has not and will not stop the TBM under buildings for maintenance.

There have been three locations in Port Moody where there have been holes at the surface –on the roadway at Chateau Place, on Cecile Drive, and two holes have occurred at Clarke and Seaview.

These holes occurred while the tunnel boring machine was stopped at these planned maintenance locations, and the holes were filled immediately. The contractor continued to monitor the areas for additional settlement and top-up fill was added at each location.

The TBM is an earth pressure balance machine. This means that when the TBM is boring, the pressure within the chamber is balanced with the soil pressure outside the machine, which ensures ground stability in front of the machine. During boring, the tunnel boring machine chamber is never empty, as the process of boring continuously fills the chamber with soil. As material is removed from the chamber in a controlled manner, additional ground material cannot fall into chamber.

In addition, as soil is removed and the tunnel rings are installed, grout is injected between the exterior of the tunnel and the earth around it to ensure ground stability around and above the tunnel.

The contractor also has deep borehole instrumentation (extensometers) directly above the tunnel, which provides continuous automated data on any surface changes. In addition, the TBM has extensive instrumentation which monitors boring and confirms that no over-excavation occurs during tunneling - ensuring surface features (buildings) are protected.

The contractor has been implementing measures to prevent surface settlement during maintenance stoppages. At both Cecile Drive and at Clarke and Seaview, in advance of the TBM maintenance, the contractor completed ground improvement (jet-grouting) in front of the TBM face to help prevent ground loss during the maintenance. However, the ground improvement was unsuccessful due to imperfections of the jet grouting. As a result, soil entered into the TBM chamber while maintenance preparations were underway creating a hole on the roadway within the fenced area.

The next planned TBM maintenance location is on Clarke Road just south of Robinson in Coquitlam. The contractor is currently undertaking ground improvements (jet grouting) at this location. The contractor is taking every measure to improve the effectiveness of the ground improvement which includes building a thicker jet grout wall, and undertaking measures to try to prevent and verify that there are no gaps in the wall before TBM maintenance begins.

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ADVICE TO MINISTER

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| <p>CONFIDENTIAL ISSUES NOTE</p> <p>Ministry of Transportation and Infrastructure Date: July 3, 2015 Minister Responsible: Todd Stone</p> | <p>Evergreen Line – SNC-Lavalin</p> |
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ADVICE AND RECOMMENDED RESPONSE:

- **EGRT Construction, the prime contractor for the project, is a consortium of businesses led by SNC-Lavalin.**
- **When choosing a prime contractor, government selects companies with good records of delivering projects.**
- **SNC-Lavalin is a Canadian company with a long-standing, successful history of partnering in major infrastructure projects in B.C. , including Canada Line and the William R. Bennett Bridge.**
- **SNC-Lavalin has private financing during construction. The private lenders are strongly motivated to ensure that work is progressing and that the private finance will be repaid.**
- **Our government has other contractual protections on this projects.**
- **For example: providing partial progress payments for work that has actually been completed (with the balance being paid on successful completion).**
- **Staff continues to work closely with the Evergreen Line contractor as the project moves forward.**

If asked about SNC- Lavalin's lawsuit in Quebec:

- **SNC-Lavalin is operating “business as usual” in B.C.**

KEY FACTS REGARDING THE ISSUE:

In 2013, EGRT Construction was selected as the major contractor to design, build and finance the Evergreen Line rapid transit project. SNC-Lavalin is one of the many businesses working with EGRT Construction.

When the contract was awarded for the Evergreen project, SNC-Lavalin was being investigated following allegations of corruption outside of Canada. The Evergreen Line procurement process includes robust safeguards to ensure the proponents have the financial capacity and standing to

undertake the project. Lenders have undertaken extensive due diligence to ensure that proponents can deliver the project and repay their debt at the conclusion of construction. Lenders were required to confirm their due diligence and support for the project as part of the overall proposal submittals.

In addition, the design-build-finance contract includes numerous safeguards for the province. In the event a primary contractor defaults, lenders can replace the primary contractor. Failing that, the province has the right to step in to sub-contracts and assume the performance security bonds to complete the project.

In February 2015, SNC Lavalin filed a lawsuit in Quebec Superior Court to recover \$22.5 million its former top executives allegedly paid in bribes to win the government contract to build Montreal's McGill University Health Centre.

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ADVICE TO MINISTER

CONFIDENTIAL ISSUES NOTE

Ministry of Transportation and Infrastructure
Updated: August 6, 2015

Minister Responsible: Todd Stone

Evergreen Line – Tunnel Boring: timeline

ADVICE AND RECOMMENDED RESPONSE:

- **We anticipate that the Evergreen Line project will be completed in the fall of 2016.**
- **Challenging ground conditions during maintenance stops are what led to tunneling delays and the change in schedule.**
- **The contractor is responsible for all costs associated with tunnel boring.**
- **As we have been doing throughout the project, we will continue to keep residents, businesses and local municipalities informed every step of the way.**
- **Construction on all aspects of the project is well underway, and the overall project is more than 70% complete.**

KEY FACTS REGARDING THE ISSUE:

Preparation for boring the two-kilometre tunnel began in March 2014 with the set-up of the tunnel boring work area near Barnet Highway and View Street in Port Moody. Tunnel boring began in June 2014.

On March 7, 2014 an event took place announcing the start of the tunnel construction and the naming of the tunnel boring machine. At the event, it was stated that it will take about a year to bore the tunnel.

The tunnel boring machine requires regular maintenance to change the cutter head tools as they wear during boring. The contractor has encountered difficulties during several of the maintenance stoppages, which has resulted in some delay to expected duration of tunneling.

While there was some time contingency built into the schedule for tunneling, the contractor is now forecasting that Evergreen Line will be ready to open in fall 2016 (previously the schedule was opening in summer 2016). This is contingent on good progress being achieved on the tunnel.

The contractor is looking at all available options for the remaining work to open the line as soon as possible. The contractor is fully responsible for any costs associated with these delays and EGRT has financial incentives to minimize any delay in completion. The Evergreen Line project remains on budget.

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ADVICE TO MINISTER

CONFIDENTIAL ISSUE NOTE

Ministry of Transportation and Infrastructure
Updated: July 3, 2015
Minister Responsible: Todd Stone

Evergreen Line

ADVICE AND RECOMMENDED RESPONSE:

- **Work on the Evergreen Line is at its peak. Construction on all aspects of the project is underway.**
- **The Evergreen Line is on budget and is more than 60% complete.**
- **Construction will create 8,000 jobs and it is the largest transit project being built in Metro Vancouver.**
- **The Evergreen Line will encourage community development and will create more transportation options for families.**
- **Once the line opens, Metro Vancouver's SkyTrain system will become the longest automated rapid transit system in Canada.**
- **We are working hard to keep residents and businesses informed every step of the way.**

KEY FACTS REGARDING THE ISSUE:

Major construction on the Evergreen Line started in February 2013. EGRT Construction – a consortium led by SNC-Lavalin – is the primary contractor. Construction will create direct and indirect 8,000 jobs during construction. It was originally forecasted to open in summer 2016, but due to challenges with tunnel boring, it is now expected to be ready in fall 2016.

Early works construction started in Jan. 2012, to lay the ground work for major construction and to keep the project on schedule. Several construction, excavation and demolition companies in Metro Vancouver won about \$23 million in contracts.

The Evergreen Line is a 11-kilometre rapid transit line that will link neighbourhoods in Burnaby, Port Moody and Coquitlam. The Evergreen Line will connect without transfer to the Millennium Line and the current SkyTrain network at Lougheed Town Centre Station and will integrate with the regional bus and West Coast Express networks.

It will start at the Millennium Line-Lougheed Station and end near Douglas College in Coquitlam. The total Project budget is \$1.431 billion, which includes the base project scope (\$1.403 billion) and provision for Lincoln Station (\$28 million). The Province is contributing \$586 million, the Government of Canada is contributing \$424 million, TransLink is contributing \$400 million and other partners are contributing \$21 million towards the new Lincoln Station.

In addition, the City of Coquitlam assembled a unique funding arrangement with a private partner and PPP Canada to enable the Lincoln Station to be constructed for opening day. The station has an estimated budget of \$28 million of which PPP Canada (a federal agency), has agreed to fund 25% (up to \$7 million) of the cost of the station.

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CONFIDENTIAL ISSUES NOTE

Ministry of Transportation and Infrastructure
Date: July 3, 2015

Minister Responsible: Todd Stone

Evergreen Line – Schedule

ADVICE AND RECOMMENDED RESPONSE:

- We anticipate that the Evergreen Line project will be completed in the fall of 2016 instead of summer 2016.
- Construction on all aspects of the project is well underway, and the overall project is more than 60% complete.
- The Evergreen Line project remains on budget. The contractor is responsible for all costs related to the schedule delay.
- We want to do this right and we've always known tunneling can go fast or slow.
- Challenging ground conditions during maintenance stops are what led to tunneling delays and the change in schedule.
- As we have been doing throughout the project, we will continue to keep residents, businesses and local municipalities informed every step of the way.
- Once the line opens, Metro Vancouver's SkyTrain system will become the longest automated rapid transit system in Canada.

If pressed on other possible delays:

- We are on schedule to open in Fall 2016; the Evergreen Line is over 60% complete. We will be reviewing the schedule with the contractor. If we find there are schedule implications, we will let people know.

KEY FACTS REGARDING THE ISSUE:

The major construction contract with EGRT has now been in place for over two years, and construction is well underway on all aspects of the project, including roadworks, guideway, station areas, and tunnel boring.

Major progress includes:

The elevated guideway is complete. Construction at all station sites is well underway, and stations are between 50% and 90% complete. Testing & Commissioning in the North Road/Clarke Road corridor is scheduled to begin in July. Main tunnel boring started in June 2014 and is now more than 50% complete.

On March 7, 2014 an event took place announcing the start of the tunnel construction and the naming of the tunnel boring machine, Alice. At the event, it was stated that it will take about a year to bore the two-kilometre tunnel. The main tunnel boring activity began in June 2014. The TBM requires regular maintenance to change the cutter head tools as they wear during boring. The contractor has encountered difficulties during maintenance stoppages, which has resulted in some delay to expected duration of tunneling. Tunneling is currently anticipated to be complete in late 2015.

One of the main risks identified as part of the project's business case was associated with tunnel boring. In the contract award, the primary contractor, EGRT accepted the geotechnical risk in relation to the bored tunnel, removing the Province's exposure to this risk. The contractor has faced challenges during required maintenance of the tunnel boring machine, and this has made the tunnel boring process slower than was anticipated.

While there was some time contingency built into the schedule for tunneling, the contractor is now forecasting that Evergreen Line will be ready to open in fall 2016 (previously the schedule was opening in summer 2016). This is contingent on good progress being achieved on the tunnel.

The contractor is looking at all available options for the remaining work to open the line as soon as possible. Under the terms of the contract, EGRT has financial incentives to minimize any delay in completion.

The project remains on budget, as the contractor is responsible for all costs relating to the schedule delay under the terms of the fixed price contract.

Major construction on the Evergreen Line started in February 2013. EGRT Construction – a consortium led by SNC-Lavalin – is the primary contractor. Construction will create direct and indirect 8,000 jobs during construction.

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CONFIDENTIAL ISSUES NOTE

Ministry of Transportation and Infrastructure
Updated: July 9, 2015

Minister Responsible: Todd Stone

Evergreen Line – Tunnel Boring: timeline

ADVICE AND RECOMMENDED RESPONSE:

- **We anticipate that the Evergreen Line project will be completed in the fall of 2016.**
- **Challenging ground conditions during maintenance stops are what led to tunneling delays and the change in schedule.**
- **The contractor is responsible for all costs associated with tunnel boring.**
- **As we have been doing throughout the project, we will continue to keep residents, businesses and local municipalities informed every step of the way.**
- **Construction on all aspects of the project is well underway, and the overall project is more than 60% complete.**

KEY FACTS REGARDING THE ISSUE:

Preparation for boring the two-kilometre tunnel began in March 2014 with the set-up of the tunnel boring work area near Barnet Highway and View Street in Port Moody. Tunnel boring began in June 2014.

On March 7, 2014 an event took place announcing the start of the tunnel construction and the naming of the tunnel boring machine. At the event, it was stated that it will take about a year to bore the tunnel.

The tunnel boring machine requires regular maintenance to change the cutter head tools as they wear during boring. The contractor has encountered difficulties during several of the maintenance stoppages, which has resulted in some delay to expected duration of tunneling.

While there was some time contingency built into the schedule for tunneling, the contractor is now forecasting that Evergreen Line will be ready to open in fall 2016 (previously the schedule was opening in summer 2016). This is contingent on good progress being achieved on the tunnel.

The contractor is looking at all available options for the remaining work to open the line as soon as possible. The contractor is fully responsible for any costs associated with these delays and EGRT has financial incentives to minimize any delay in completion. The Evergreen Line project remains on budget.

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Page 14

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| <p style="text-align: center;">Confidential ISSUES NOTE</p> <p>Ministry of Transportation and Infrastructure Date: July 3, 2015 Minister Responsible: Todd Stone</p> | <p style="text-align: center;">Evergreen Line – Name Change</p> |
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Advice and Recommended Response:

- **TransLink has modified the name of the Evergreen Line to the Evergreen Extension for operational reasons.**
- **I am aware that TransLink consulted with relevant municipalities prior to finalizing the decision.**
- **The Evergreen name was chosen by the community; therefore, it was important to keep it in the line name.**

Key Facts Regarding the Issue:

In May 2014, TransLink released its Annual Report with a map that shows the Evergreen Line renamed as the Millennium Line. This was a surprise to government and transit enthusiasts. The Mayors of Coquitlam and Port Moody were concerned with the name change.

The Evergreen Line is an 11-km extension of the Millennium Line that will connect Port Moody and Coquitlam to the SkyTrain system for the first time. However, the line was originally planned as a standalone rapid transit line almost 20 years ago. Following a community naming contest the original line was called the Evergreen Line. Even though the technology changed, the name remained the same.

Ministry staff worked with TransLink to develop an option that retains the Evergreen name, while recognizing operational considerations (Evergreen seamlessly integrates into the existing Millennium line without requiring riders to transfer). As a result, the Evergreen Extension name was developed. The map will show the Millennium Line in solid yellow carrying past Lougheed Town Centre Station through to Port Moody and Coquitlam. For the Evergreen Extension, there will be a green outline around the blue line from Lougheed Town Centre Station to Lafarge Lake- Douglas Station.

Prior finalizing the decision, this revised name was reviewed with the City of Coquitlam council in October 2014 and the Port Moody council in November 2014. During those meetings, the councils did not raise any concerns.

Going forward, ministry staff will be working with TransLink to develop a communications plan for the Line name and operational plans in advance of opening day.

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ADVICE TO MINISTER

CONFIDENTIAL ISSUE NOTE

Ministry of Transportation and Infrastructure
Updated: July 3, 2015

Minister Responsible: Todd Stone

Evergreen Line – Station Enhancements (public art)

ADVICE AND RECOMMENDED RESPONSE:

- The new Evergreen Line stations are designed to be community hubs in busy urban areas.
- Funding for public art is built into the Evergreen Line project budget and is a commitment under the project's Environmental Assessment Certificate.
- We are committed to being fiscally responsible with every aspect of this project including the funding of public art pieces.
- These pieces will be designed to help integrate the stations into their communities providing a welcoming, functional space for the public.
- Ministry staff have worked with public art committees to determine how best to incorporate art within each community.

If pressed about budget...

- The Province agreed to a budget of \$75,000 per station which is consistent with the Millennium Line. This includes art pieces and station plaza enhancements such as benches and bike racks.

KEY FACTS REGARDING THE ISSUE:

Commitments:

The Environmental Assessment Certificate requires that the Province work with municipalities and First Nations to incorporate mutually acceptable and cost-effective public art and First Nations art into the Evergreen Line project. This commitment is also repeated in the Port Moody Municipal Agreement (Oct. 2011).

In addition, the First Nations Agreement between the Province and the

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Working with municipalities:

Two public art committees have been established – in Port Moody and Coquitlam. The City of Port Moody originally asked for one per cent of the total project budget to be set aside for art. The Province agreed to an amount of \$75,000 per station which is consistent with expenditures on the Millennium Line. This commitment has been made to both City of Port Moody (2 stations) and the City of Coquitlam (4 stations). The City of Burnaby does not have a public art committee and no commitments have been made in relation to public art for that community.

The public art committees for both Coquitlam and Port Moody are focusing on art pieces, sculptures and mosaic tiling.

Cost-effective:

As part of the Evergreen Line project, public art will have a budget of \$75,000 per station, including all artist fees, materials, and taxes. Individual art pieces will be in the range of \$35,000. This reflects the need to be prudent with taxpayer funds. The exception may be First Nations art,^{s.16}

The remainder of the public art budget for each station will go towards aesthetic enhancements such as artistic benches, tree grates, and bike racks.

Port Moody

In September 2013, Port Moody Mayor and Council unveiled an 8' by 448' public art mural at the corner of Douglas Street and Clarke Street in Port Moody. The mural is mounted on a plywood hoarding around part of the construction site. The Evergreen Line Project will donate the mural to the City at the end of the Project, and the City will install it elsewhere in the community. The Evergreen contractor (EGRT) supplied and built the plywood fencing; Dulux donated the paint, and the cost of the art itself was about \$18,000 from the Evergreen Public Art budget.

The Committee has also secured a canoe to be hung in the entrance of the Moody Centre Station. This canoe was built by students in the School District 43 Aboriginal Studies Program. The cost of the canoe was \$15,000, and the money will be reinvested into the Aboriginal Studies Program.

Discussions are also underway regarding funding and installation of three additional pieces of art at the Inlet Centre Station – two art pieces and a glacial rock installation. The City of Port Moody will be going to an open call to artists for the two art pieces. The remaining budget will be spent on pavement treatments, decorative benches and bus shelter glass treatments.

Coquitlam

Through the City's public art committee, seven pieces of art have been selected to be commissioned. These include three interior suspended pieces and four exterior sculptures that will be located in the station plazas. Also, a mosaic tile design will be at the entrance of each station in Coquitlam (total of 4). The City has signed contracts with all of the artists which went back to Council in an open Council meeting on June 22, 2015.

The City of Coquitlam issued an [information bulletin](#) on June 23 announcing the successful artists chosen to create the public art at the stations located in Coquitlam. The announcement includes a brief description of the artworks and the Province's contribution of \$75,000 for each of the four stations.

The City of Coquitlam will also be commissioning additional art pieces as part of their Pinetree Way Enhancement project. This project is a City initiative and funding is separate from the Evergreen Project.

The Evergreen Line project has an agreement with the^{s.16} First Nations to fund the creation

^{s.16} has been completed and the First Nation is continuing to work on design for the

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Program contact: Amanda Farrell

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ADVICE TO MINISTER

CONFIDENTIAL ISSUES NOTE

Ministry of Transportation and Infrastructure
Date: July 3, 2015

Minister Responsible: Todd Stone

Evergreen Line – Tunnel boring operations: noise and vibration

ADVICE AND RECOMMENDED RESPONSE:

- **The Evergreen Line is a massive construction project. When the Evergreen Line opens, Metro Vancouver will have the longest rapid transit system in the country.**
- **Evergreen Line project staff and EGRT Construction are communicating about tunnel boring construction activity with the residents located along the tunnel alignment.**
- **We thank the public for their patience as tunnel boring work continues.**

If pushed:

- **Some residents have raised concerns about noise and vibration from the Evergreen Line tunnel boring, and noise from the subsurface ground improvements.**
- **Project staff are working with the contractor to adjust hours of work for the ground improvement work where possible.**

KEY FACTS REGARDING THE ISSUE:

Main tunnel boring operations began in June 2014. Residents have been previously told that there would be no disruption to the surface above during tunnel boring except at the tunnel portal entrances.

Residents living along the alignment have reported experiencing some noise and vibration from the tunnel boring operations. In addition, subsurface ground improvements to support maintenance activities have been noisy. These improvements are required to strengthen the soil ahead of the TBM to allow for the cutter head tools to be safely replaced. Work is currently taking place in Coquitlam (on Clarke Road just south of Robinson) and includes drilling holes and injecting a cement grout to strengthen the ground ahead of the TBM (jet grouting).

Project staff members communicate regularly with residents on the tunnel boring activity. In addition, the community relations team have been and will continue to provide information bulletins about tunnel boring to residents along the tunnel alignment in advance of the of TBM approaching. The bulletins will let residents know how they can contact the project if they have further questions. The Project also held four community meetings since January 2015 to address concerns on the tunnel construction activities.

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