

*Welcome to the*

# Maplewood Fire and Rescue Centre

## PUBLIC INFORMATION MEETING



**May 15, 2019**

***Open House***  
**6:30pm – 7:00pm**

***Presentation***  
**7:00pm**





# Replacing Aging Facilities

This project proposes to replace the Fire Training Centre, Fire Station #2 and the administrative offices currently at Fire Station #1, all in one location at the Maplewood site in order to improve operational readiness and response capabilities.

## Fire Station #2 (Lynn Creek)



This station 38 years old, in poor condition, outdated, and most major components are in need of replacement or renewal.

Its existing location impedes response time.

Moving this fire hall to east will improve response times for District residents.

## Training Centre (Lynnmour)



The Fire Training Centre is 36 years old and lacks adequate classrooms and training facilities. This building is also challenging to access and respond from.

## Fire Station #1 (Lynn Valley)



This station is 46 years old and will be due for replacement soon. By moving some functions to the new Fire & Rescue Centre, the District will be able to replace Fire Station #1 on a smaller footprint.





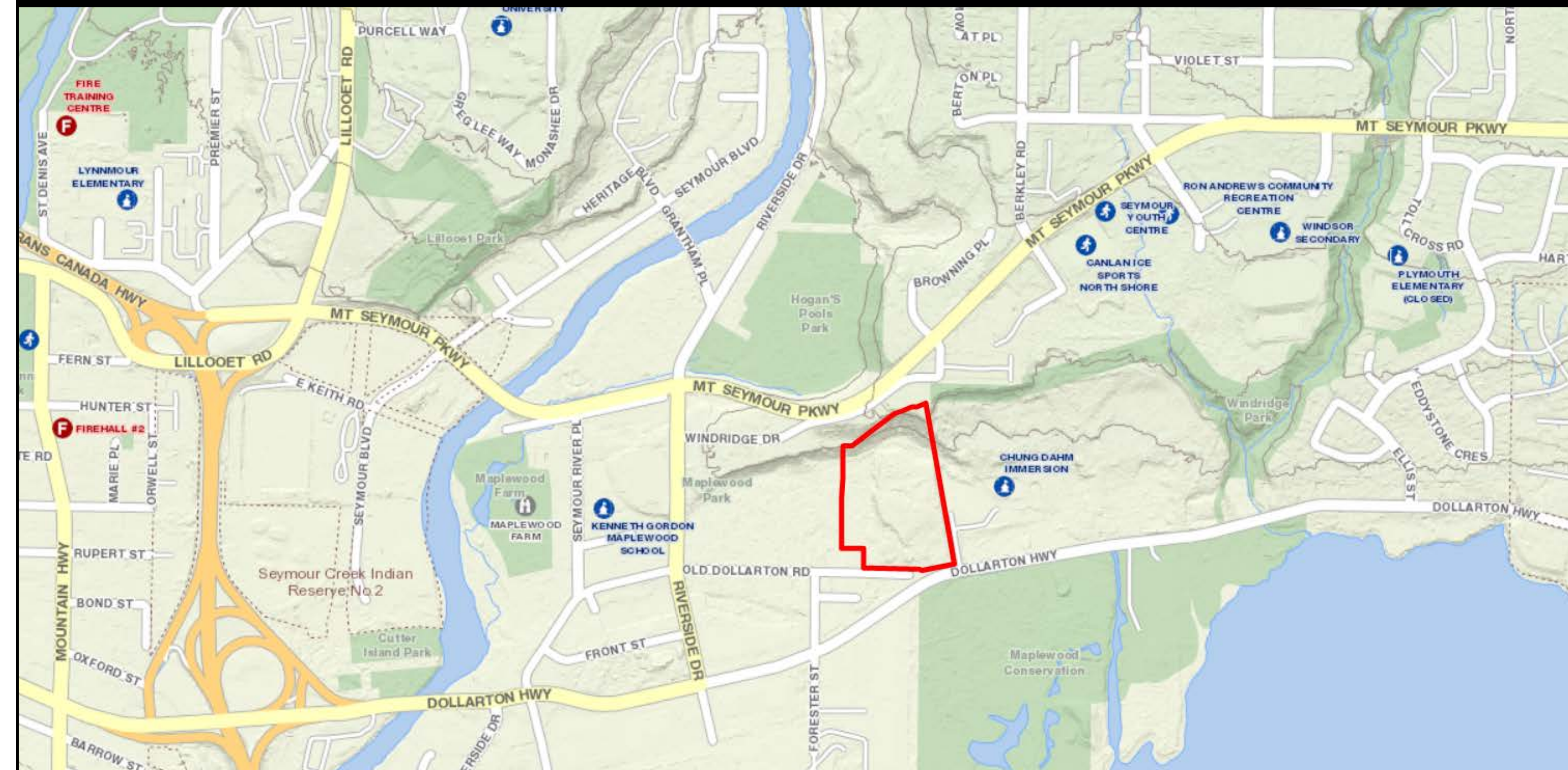
# The Right Location

The subject site is located where Old Dollarton Road meets Dollarton Highway. The property is a vacant site that was formally used as a municipal gravel dump. The total property is approximately 5.84 hectares (14.43 acres) in size of which only 25% is proposed to be used for the Maplewood Fire and Rescue Centre.

## The location provides a site that:

- Is a well placed location for emergency response
- Is large enough to consolidate functions from three facilities which allows for operational efficiencies and synergies
- Is a disaster resilient location above the flood risk
- Allows for the restoration of a former dump and remediation of a contaminated site
- Provides an opportunity to enhance the surrounding wetlands and conservation areas

## The Proposed Location



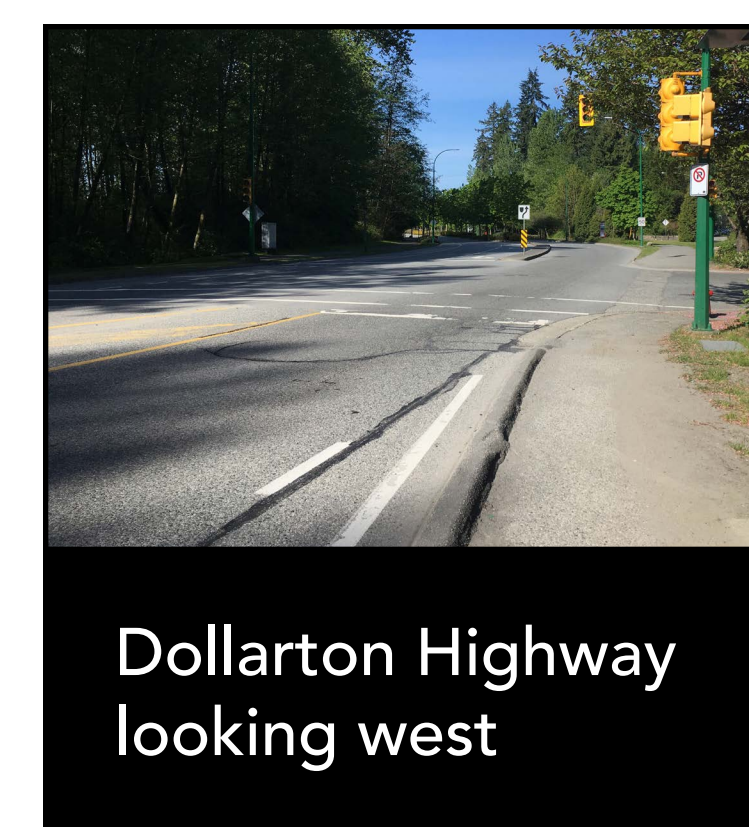
A Metro sewer runs through the upper portion of the site



The Wild Bird Trust and the Maplerwood Conservation Area is to the south east



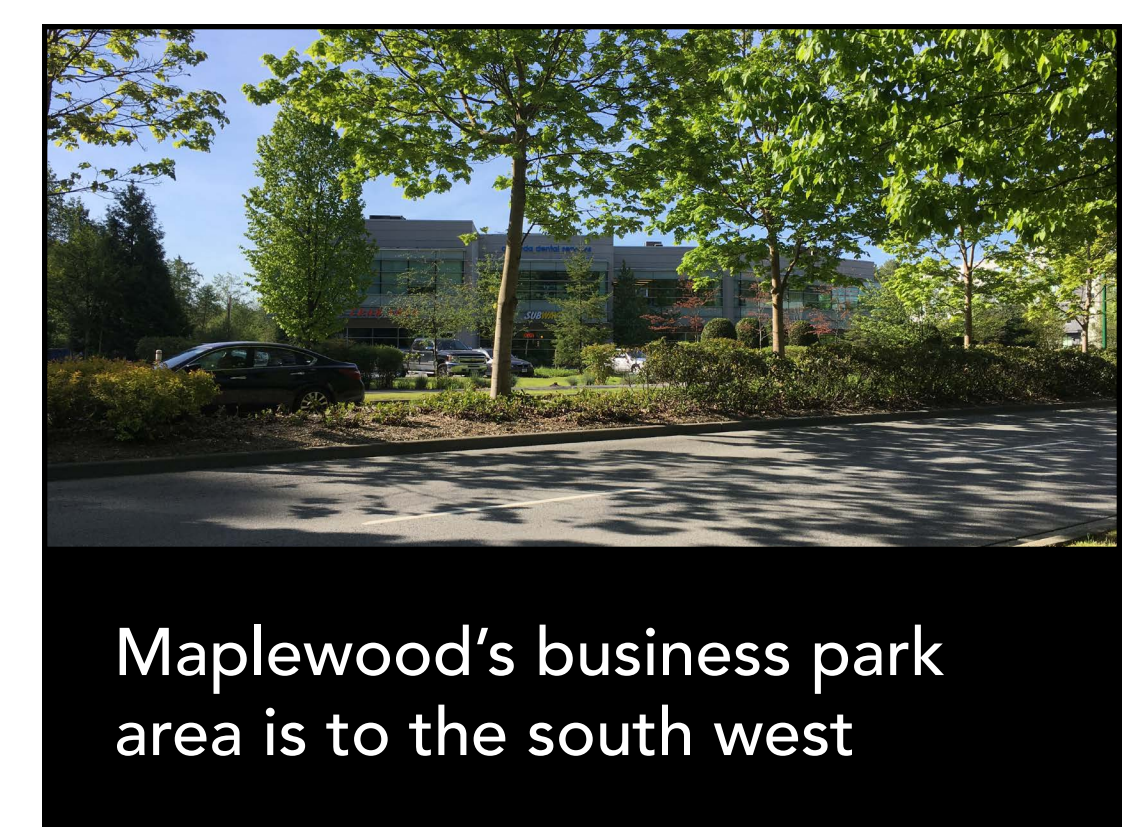
Old Dollarton Road looking west from the site



Dollarton Highway looking west



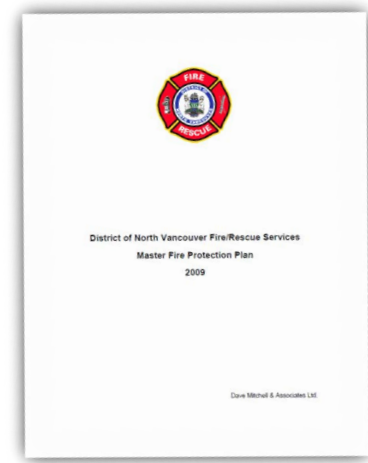
Dollarton Highway looking east



Maplerwood's business park area is to the south west

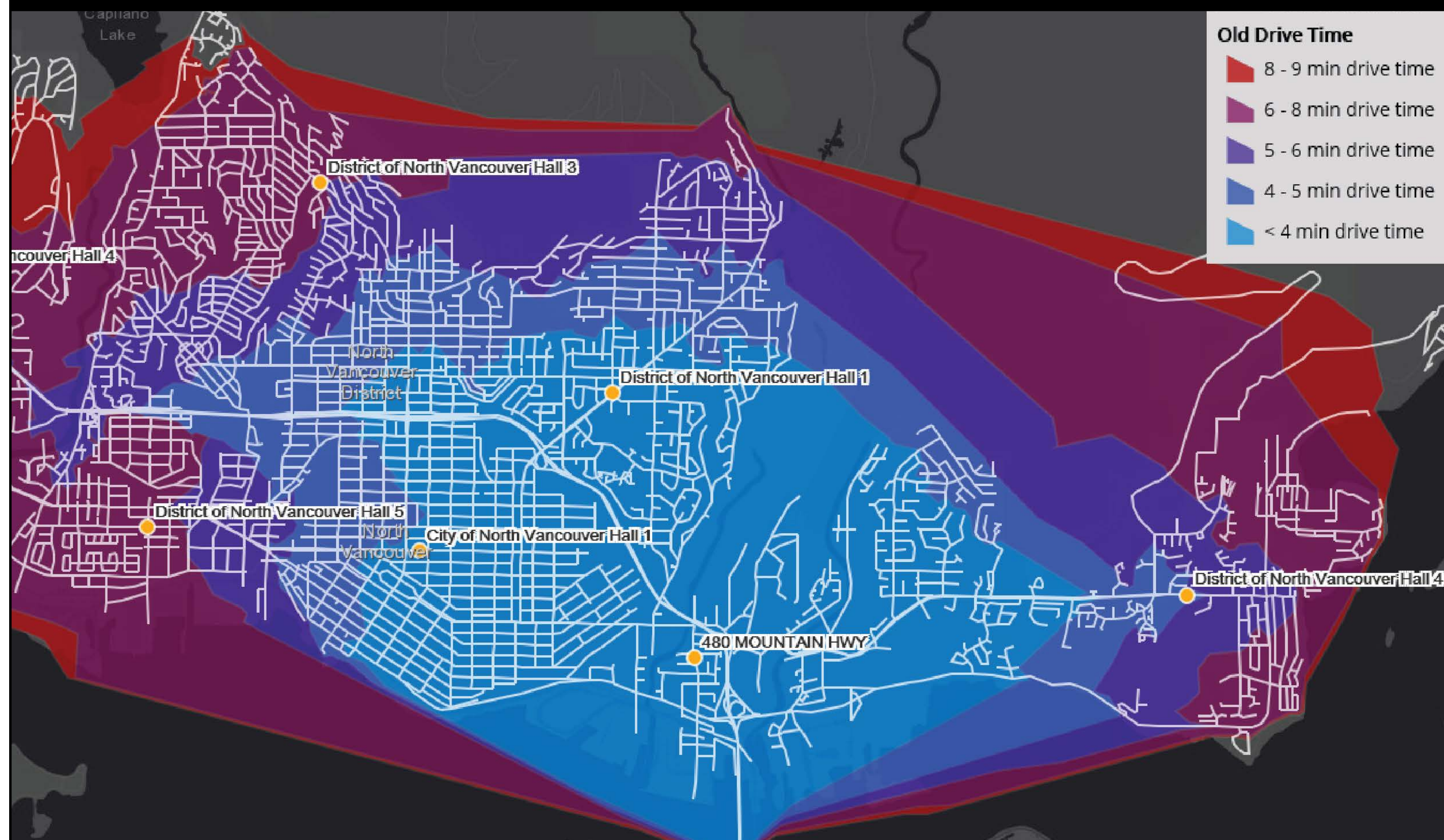


# Improved Response Times



The District's Master Fire Protection Plan that was finalized in 2009 provided recommendations for improving response times, increasing operational efficiencies, and creating synergies between staff teams. The proposed Maplewood Fire and Rescue Centre meets the objectives of the Fire Protection Plan by improving response times and allowing for synergies between staff teams.

## Existing Firehall #2 Response Time



## Maplewood Fire and Rescue Centre Response Time





# Reclaiming a Contaminated Site

A portion of the subject site operated as a municipal dump for excavation and construction debris from the 1960s to the 1990s. The resulting debris pile on the south east portion of the site is approximately 8 metres (26 feet) in depth.

The debris on the site includes pockets of contamination and has been overgrown with volunteer tree species and invasive plants. The District will undertake remediation of the contamination, as well as removal of the invasive plant material.



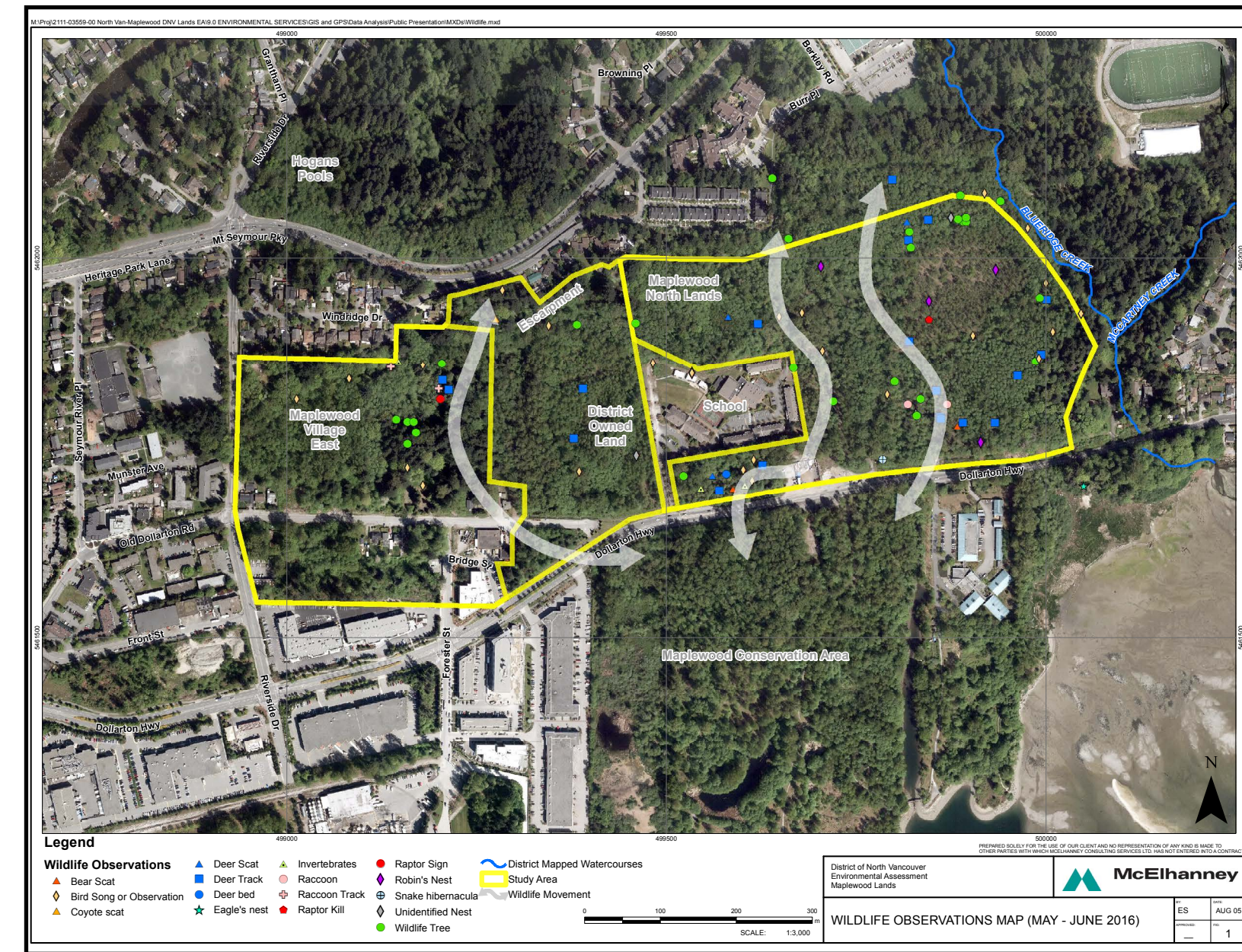
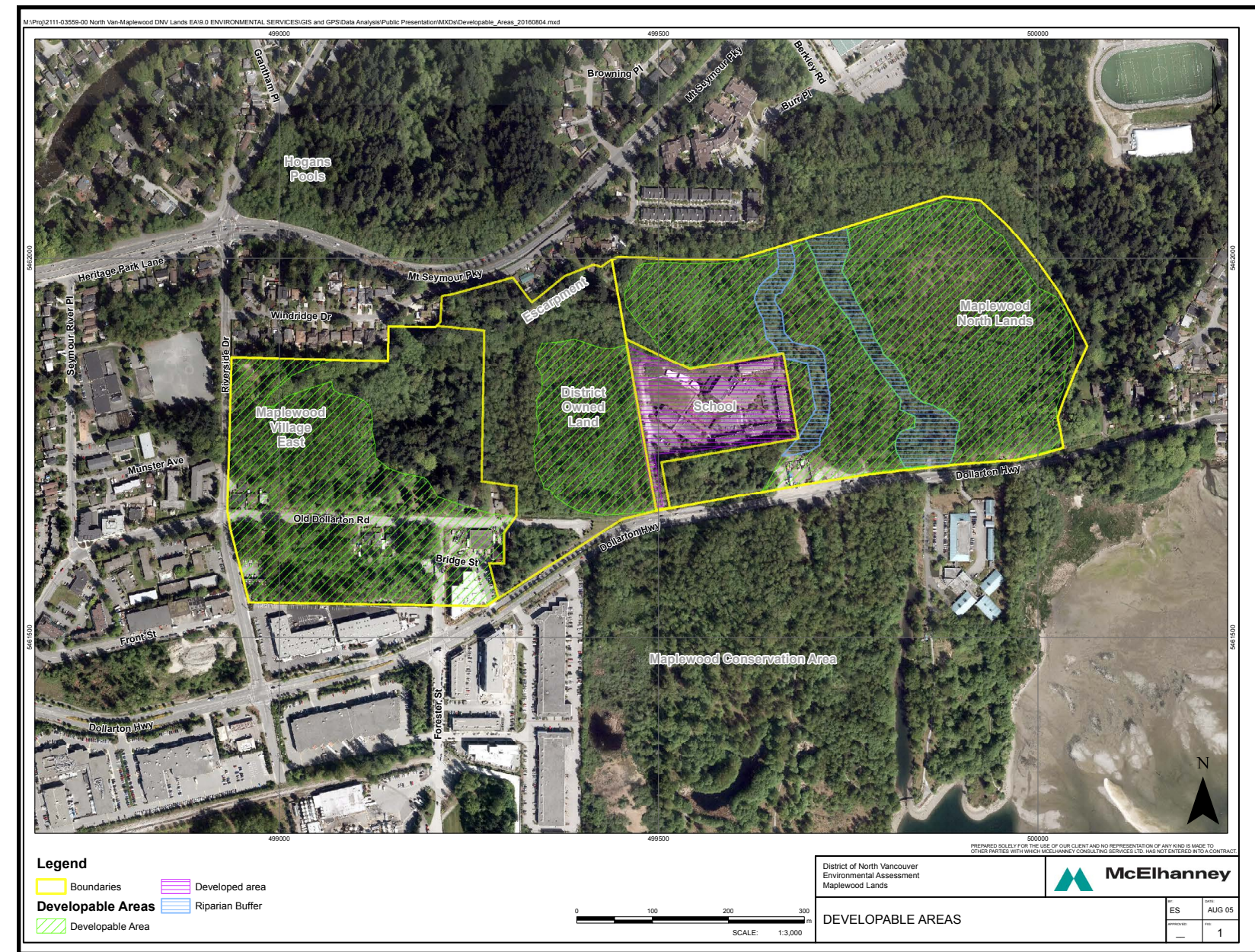
## Debris and invasive species



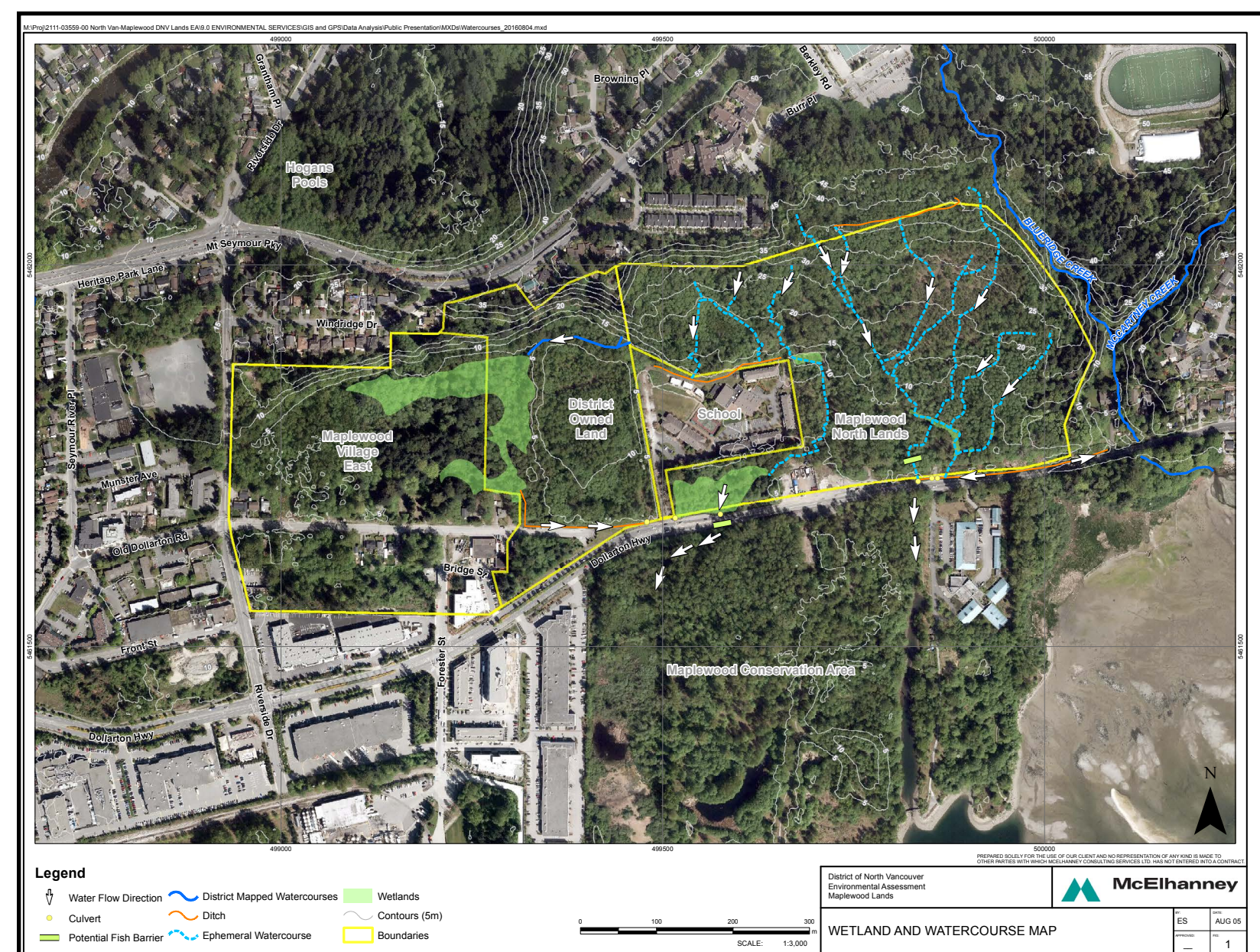


# Protecting and Supporting the Ecology

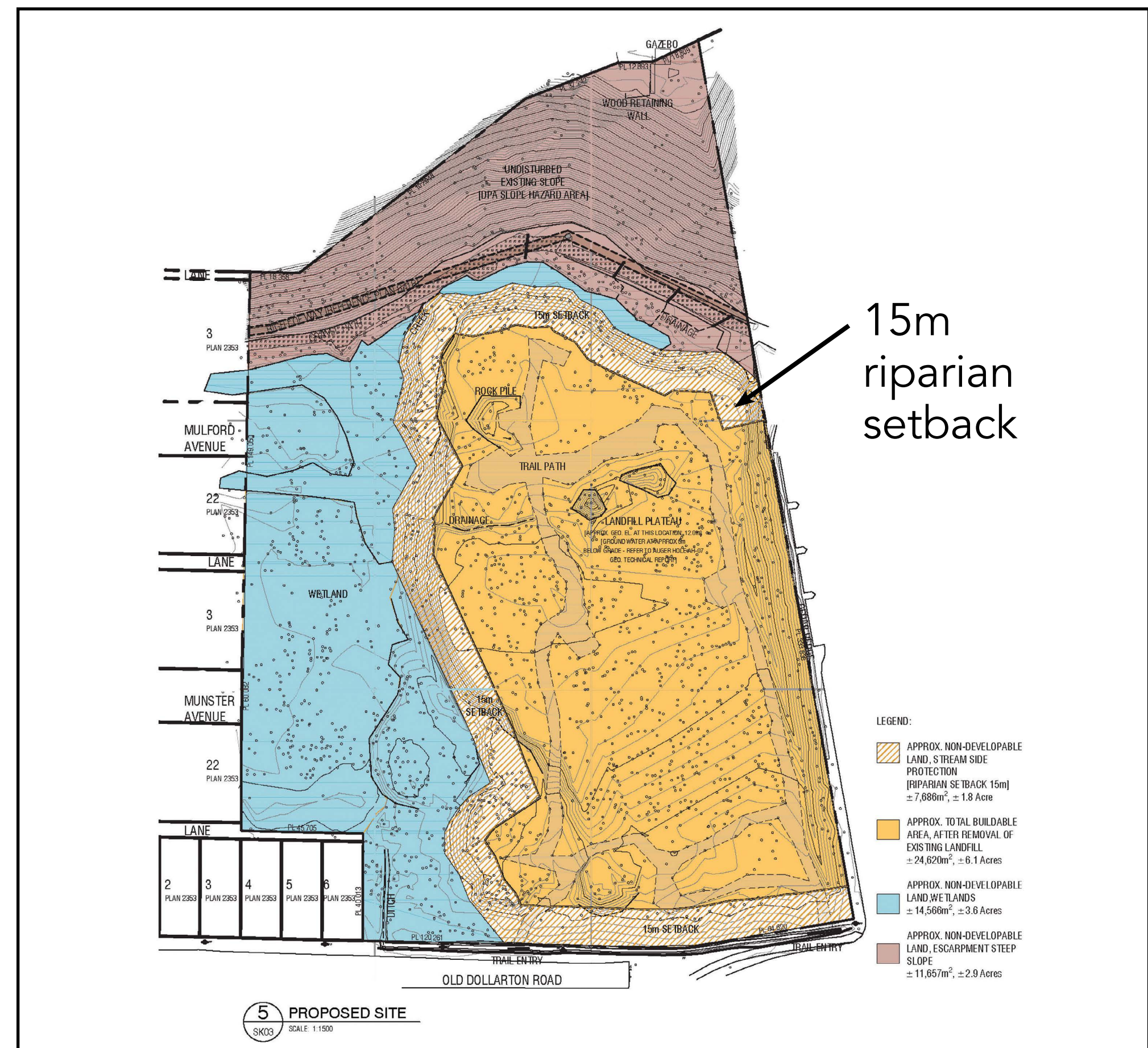
Recognizing the ecological value of the Windridge bluffs, the adjacent wetland and watercourses, and the Maplewood Conservation Area located to the south, staff have worked closely with biologists and foresters to determine what portions of the site to protect and enhance.



**Protected Wildlife Corridors:**  
The biologists with McElhanney Consulting Services studied the area and mapped the dominant wildlife corridors and local ecology. This work helped inform the proposed siting of the Fire and Rescue Centre, and the proposed habitat enhancement work.



**Development Permit Regulations:**  
The subject site is in the Streamside Protection and Protection of the Natural Environment Development Permit Areas. Work on this site must be in accordance with these regulations which are intended to protect the local ecosystem.  
The resulting site plan shown on the right shows the area of the former dump which is also the developable area in yellow. The adjacent wetlands and water course and riparian area are shown in blue and the bluffs are shown in brown, these areas will remain undeveloped.



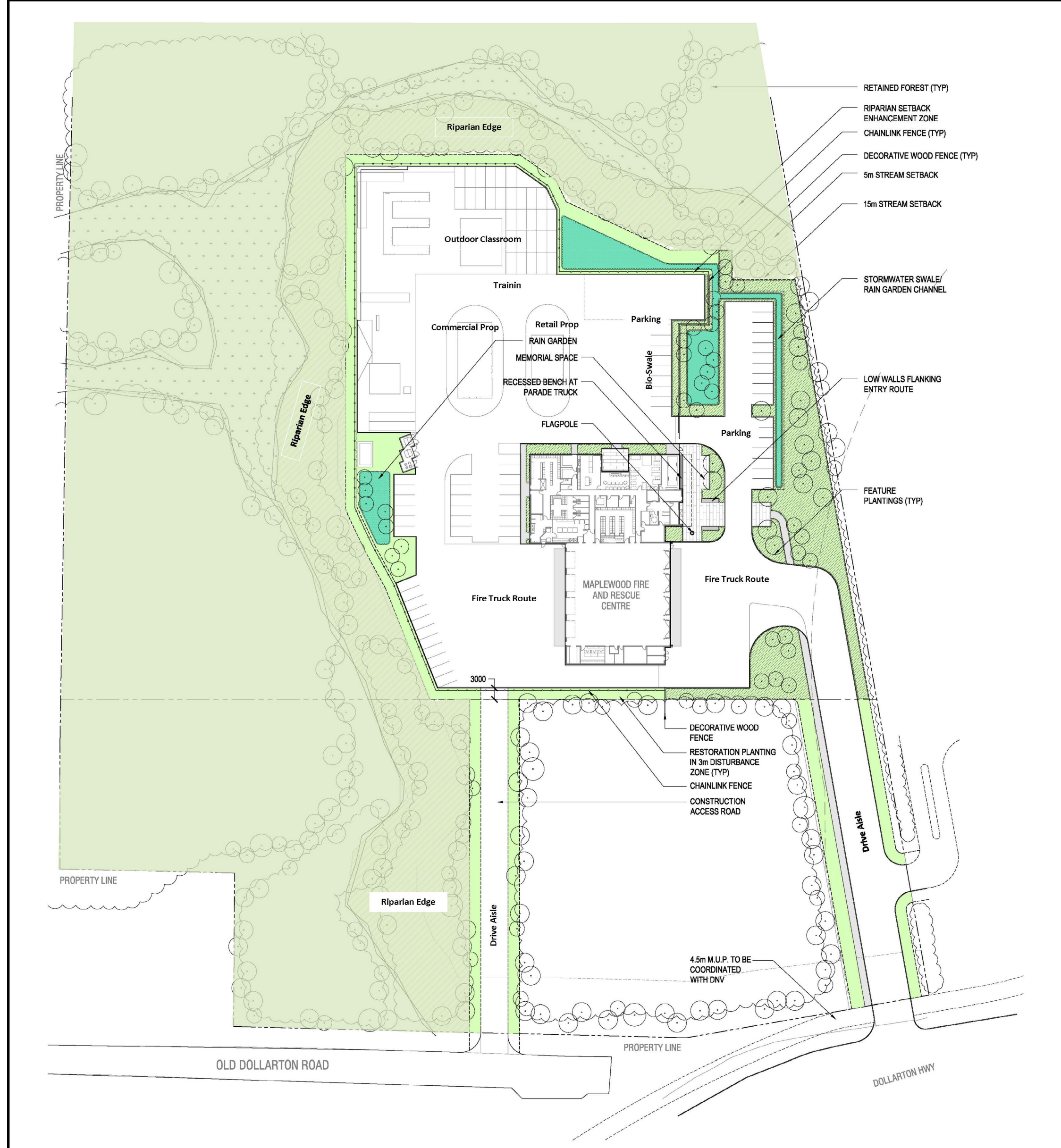


# Site Planning

## The site plan includes:

- safe access onto Dollarton Highway
- newly configured intersection that provides signal preemption for fire trucks leaving the site
- buildings that are situated on higher ground, protected from natural and manmade hazards
- training activities that are nestled towards the rear of the site
- protection of sensitive environmental areas

## The Plan



Artist's rendering of the centre as seen from above.





# A State of the Art Facility



The Maplewood Fire and Rescue Centre is an innovative building that is following best practices and achieving high levels of energy efficiency and sustainability.

## Highlights:

- Sustainable energy-efficient design that reduces GHG emissions
- Resilient – post disaster design that allows for operation during and after most major events
- Compact and resource wise design that reduces the size of the centre
- Safe design that reduces staff exposure to carcinogens
- Respectful design to support gender diversity
- Extensive training areas to practice firefighting skills and techniques





# Environmentally Aware Design

The proposed Maplewood Fire and Rescue Centre will be a sustainable and efficient building to maintain and operate.

- The building is being designed to exceed the District's green building policy, which targets the equivalent of LEED Gold or Step 3 of the Building Code.
- The building is designed to use 32% less energy than the code requirements for emergency service buildings.
- The building will emit 35% less Greenhouse Gases (GHG) than permitted by the National Energy Code for buildings.
- The building mechanical systems are designed to use highly efficient air source heat pumps to achieve 60-80% recovery of waste heat.



## Highlights:

- The building will include an efficient low-carbon, all-electric heating and cooling system that uses air source heat pumps and reduces GHG emissions.
- The building is oriented north-south which allows the design to take into account the natural movement of the sun
- The façade is designed to maximize natural interior light while limiting heat gain through the use of sunshades
- Windows have been carefully placed to regulate interior comfort and provide natural light where it is most helpful, while keeping the window-to-wall ratio under 40%
- The wall construction is thermally broken – careful design and construction minimizes the amount of heat that travels into and out of the building through the walls
- A low impact stormwater management strategy is proposed
- Materials are being chosen for durability and sustainability
- Electric vehicle charging stations are included
- Low maintenance landscaping that incorporates drought tolerant planting is proposed
- Bird friendly design is proposed



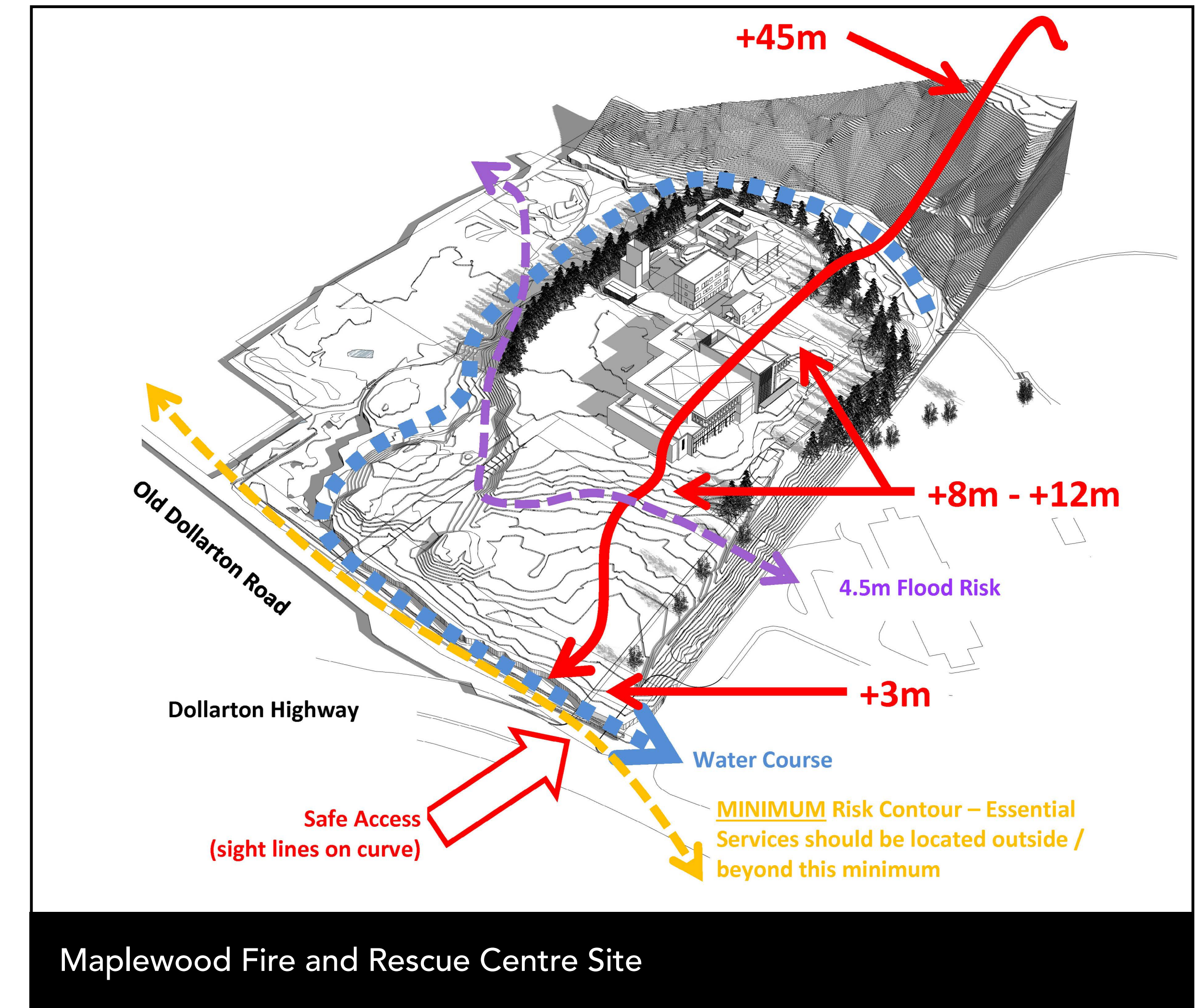


# Planning for Resiliency

Resiliency is the term to describe the ability of the building to continue to operate in the event of an emergency, such as a major power outage, flood or earthquake.

## Resilient features of this building include:

- **Post Disaster building standard.** The foundation, structure, pipes, and other building components are designed to accommodate a great deal of seismic movement without catastrophic failure.
- **Laminated glazing.** This prevents windows from shattering to keep the ground and building interior safe from broken glass after a seismic event.
- **Flood-protected.** The building is built well above projected flood levels and outside of the risk contour for exposure to potential chlorine spills from heavy industry to the south.
- **100% Electric.** The building is run solely on electricity (a portion of which is generated on-site through photovoltaics) so it is not vulnerable to disruptions in gas service.
- **Energy-saving.** The building is designed to use about 32% less energy than a comparable code-compliant emergency building, which reduces the size of the generator needed to keep the building functioning during a major power outage.
- **Back-up Generator.** The facility can run for an extended period of time without external power. There is also the ability to bring in a second external generator to increase capacity if needed. In the event of a power outage, the building is designed to allow for “load-shedding” of power where non-critical functions will turn off to preserve generator power for critical functions.

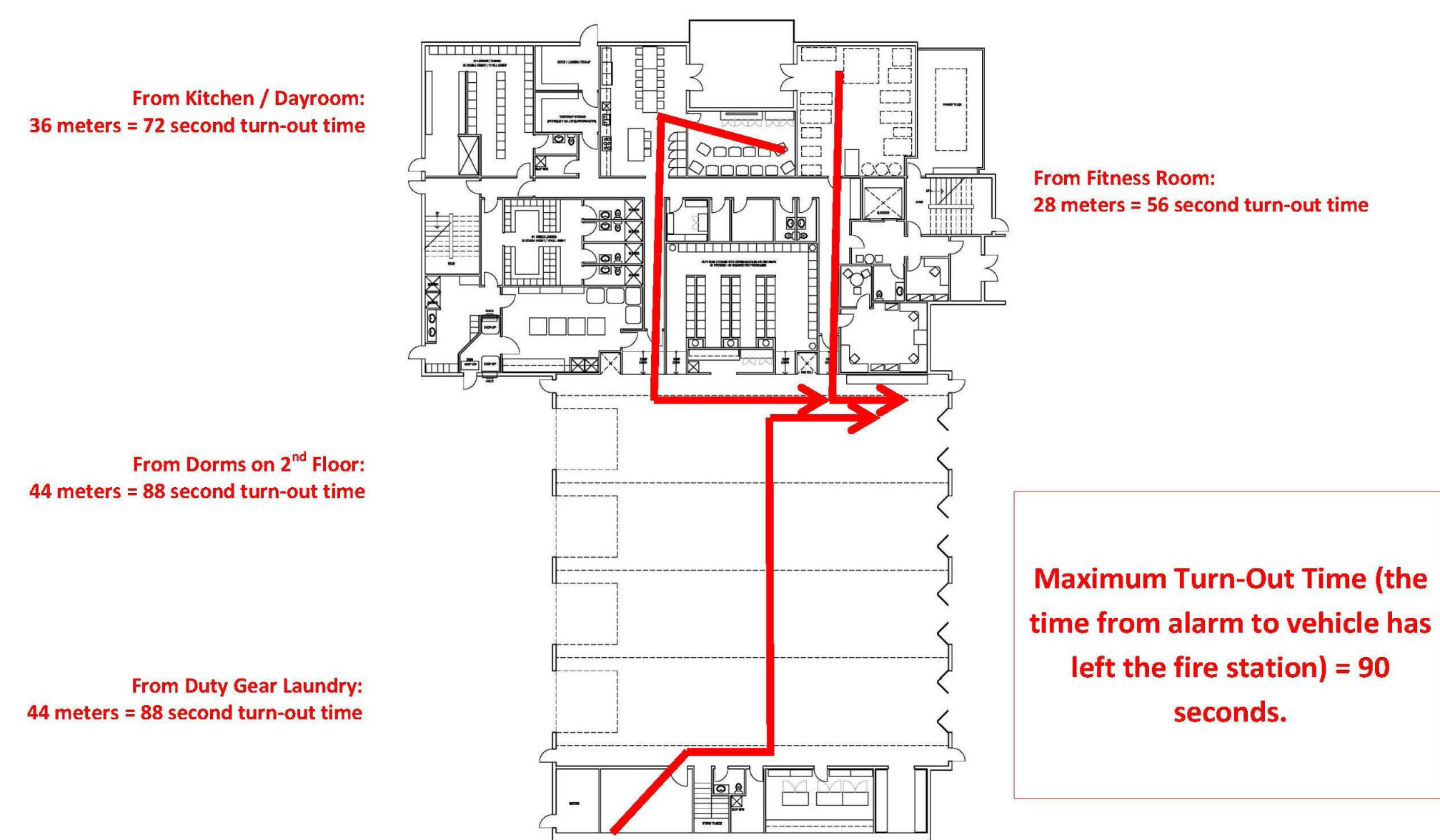




# Efficiencies and Synergies

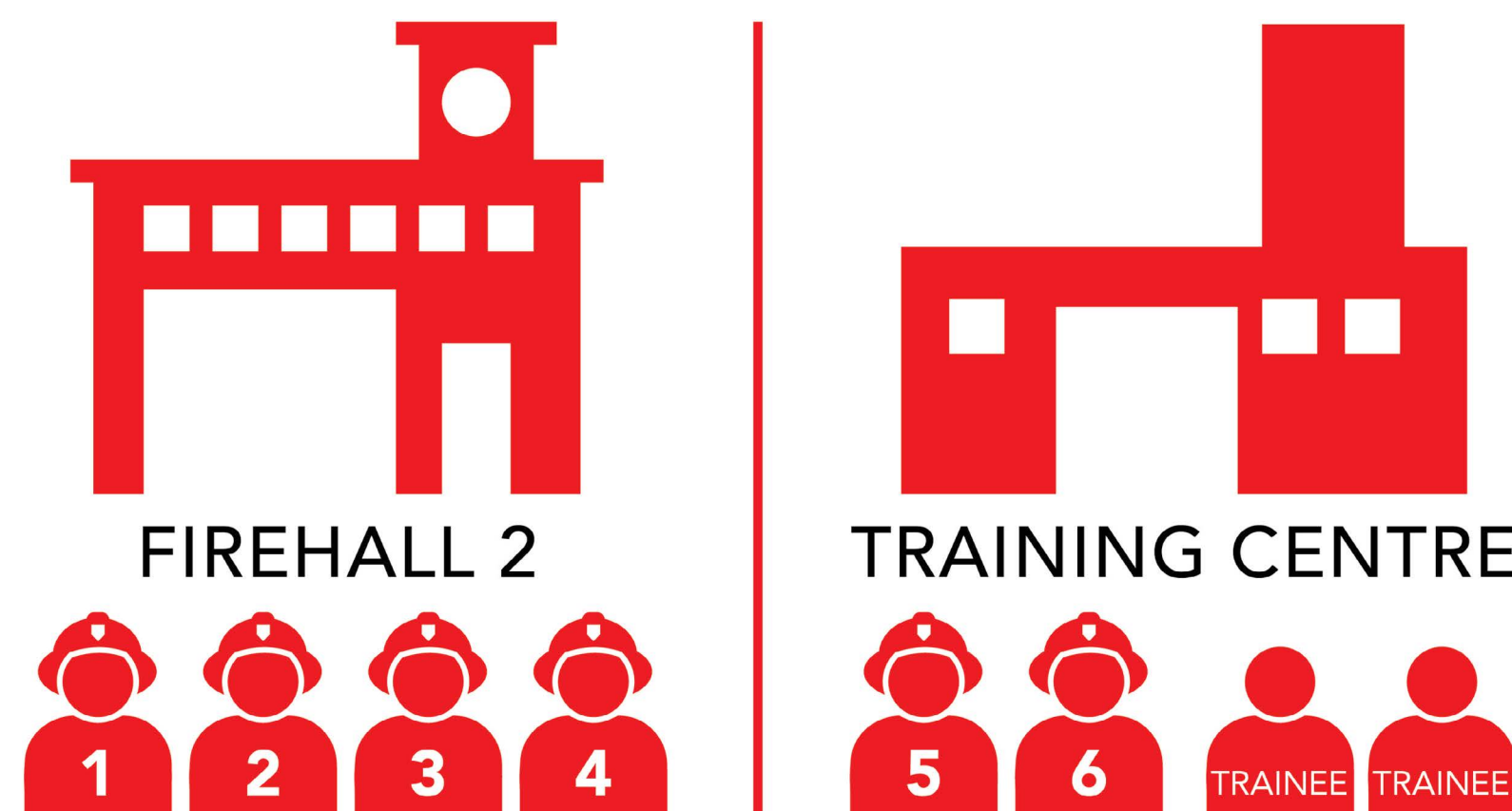
By relocating and combining a fire hall with the fire training centre and with administration there are efficiencies and synergies that will enhance operational effectiveness.

## 90 second turnout



To help ensure our fire fighters achieve their goals of quick response times this facility is designed to ensure fire fighters can quickly "turn out" to respond to a fire no matter what time of day or night and no matter where the fire fighters are when the alarm sounds.

## Better use of on-shift staff

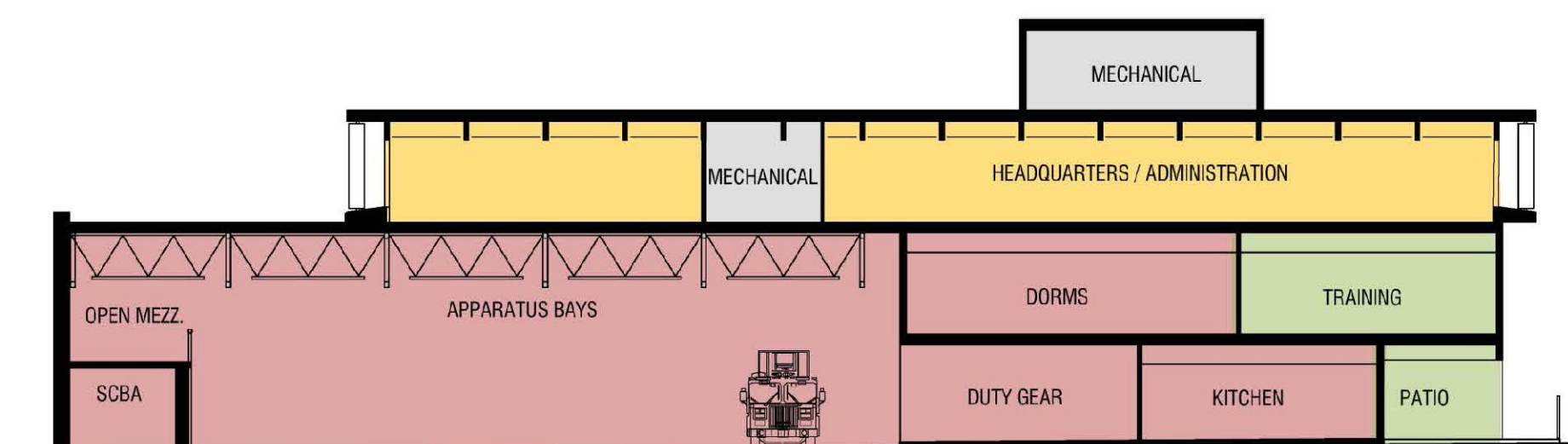


Currently, we need a full crew at Fire Station # 2 and extra firefighters to train recruits at the training centre.



A combined fire station/training centre would allow on-shift staff to help with training while remaining fully available

## Cost-efficient operation



This cross section of the building illustrates how the different activities are combined in a more compact building.

Combining these uses on one site also makes better use of land and creates a more energy-efficient building, saving scarce resources and allowing for a more cost efficient operation.





# Increasing Safety and Diversity

Maplewood Fire and Rescue Centre is a facility that will help train and protect fire fighters.

Building a diverse and inclusive team of dedicated professionals, helping them develop in their roles, and caring for their well being is the District's ultimate concern. This centre will help the District achieve this goal.

## Reduced Exposure to Carcinogens



A planned separate decontamination area will reduce exposure to carcinogens. Numerous studies in Canada and the US continue to demonstrate that Fire Fighters have higher cancer risks than the general population. Ensuring our facilities meet current, scientific based best practices in terms of decontamination and separation will provide protection to our personnel from the rate of cancer seen in firefighters.

## Gender-Neutral Facilities



Gender neutral washroom facilities that provide for personal privacy, and separated resting quarters, will help us recruit women, enhance diversity, and meet current best practices.

## TRAINING HOURS BY FOUNDATIONAL SKILL

**25,797** HOURS TOTAL  **204.8** HOURS PER PERSON

## RESULTS

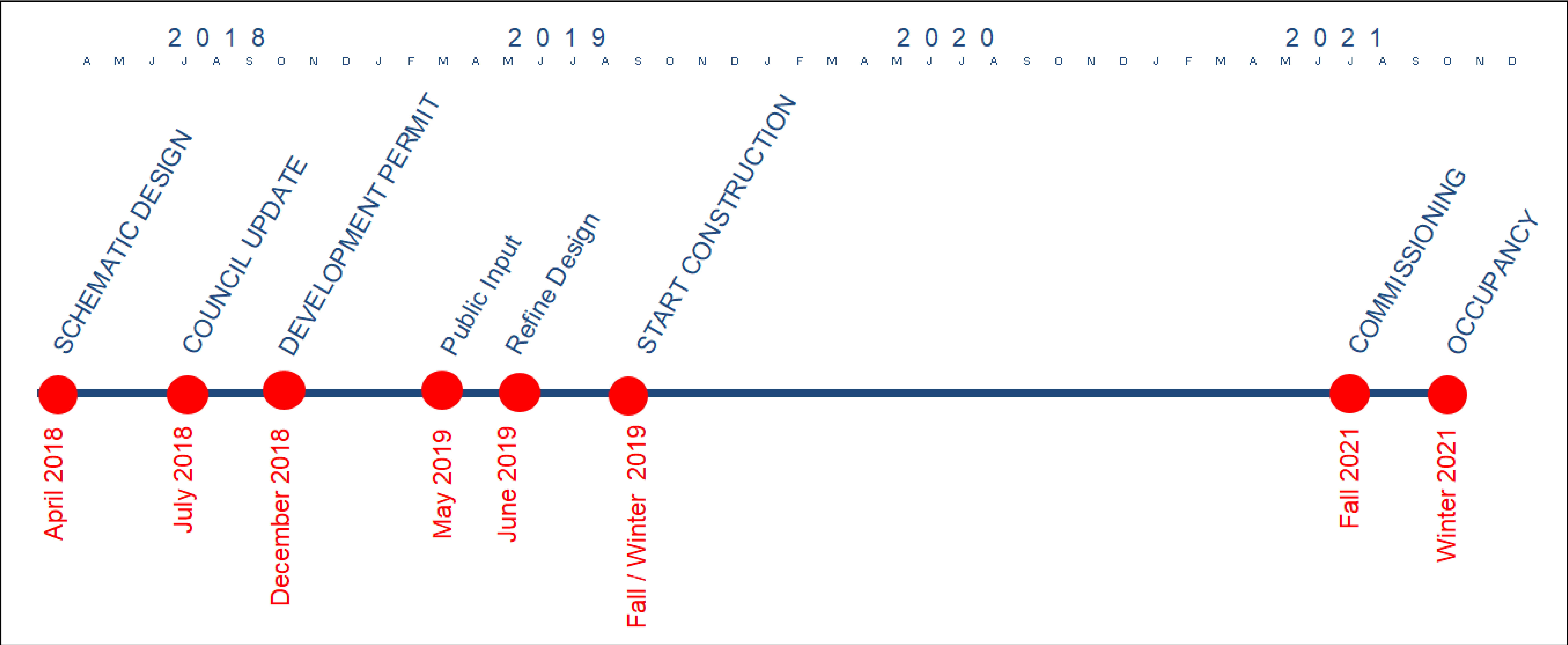
**16,382** TRAINING SESSIONS  **126** STAFF TRAINED

To give the community the excellence they deserve, we provide comprehensive ongoing training to our crews. In 2018, we provided 2,190 hours of specialized training to 126 men and women.





# Next Steps





# Thank you



Please drop your comment forms in the box on the table as you go out

Ideas? Comments? Questions? Please feel free to add your ideas here...

