

EMERGENCY RESPONSE ACCESS STRATEGY

**Area 6 Development Area
Rodgers Creek Development, West Vancouver**

British Pacific Properties

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Prepared for: District of West Vancouver
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1. Introduction

This document provides an explanation and discussion of the various routes planned for accessing the proposed Area 6 subdivision in order to assist those who will prepare and implement Emergency Response Plans.

This document provides comment on the road design as it relates to an Emergency Response Strategy. For supplementary information relating to the geometric road design and the servicing design for Area 6 please refer to the Functional Servicing Report.

Area 6 is the fifth phase of the Rodgers Creek development area. The proposed road layout was initially approved as part of the Rodgers Creek Area Development Plan and remains essentially unchanged since that time. Area 6 is located north and west of the Cypress Bowl Road and Chippendale Road intersection as per Figure 1. This intersection will provide the primary means of access for vehicular traffic under normal conditions. Pedestrian access will primarily be from the same intersection but will be supplemented by the Upper Mountain Path, that will run from near the intersection, west towards the future Cypress Village development. British Pacific Properties (BPP) have agreed with the District of West Vancouver (DWV) that they will construct the Upper Mountain Path prior to build out of Area 6. Additional walking trail connections will be provided to interconnect Roads G and H, the Upper Mountain Path and existing trails outside of the development area.

2. Road Design

2.1 Road H

Road H is a cul-de-sac, which will run from Cypress Bowl Road westwards for approximately 700m where it will terminate with a turning circle. The design of the Cypress Bowl Road intersection has been approved by the Ministry of Transportation and Infrastructure (MoTI) and earthworks construction for the first 120m of Road H has been significantly advanced.

The road will generally be 15.0m wide with a 6.6m wide driveable surface. The design of the road is similar to many recent roads within Rodgers Creek with geometry that is required to accommodate the mountainous terrain that is typical of the area. Preliminary design has been submitted to DWV.

The following provides a brief summary of the road geometrics:

- The typical road width is 6.6m measured from face of curb to face of curb.
- The maximum gradient of the road is 12.0%.
- Minimum horizontal radius of 26m at the intersection with Cypress Bowl Road. Otherwise minimum radius is 60m.
- The gradient reduces to 2.0% at the intersection with Cypress Bowl Road.
- The gradient reduces to 2.0% at the cul-de-sac.
- The cul-de-sac will have a radius of 9.2m.

2.2 Road G

Road G is a cul-de-sac, which will run west and south from Road H for approximately 600m where it will terminate with a turning circle.

The road will be 15.0m wide with a 6.6m wide drivable surface. The design of the road is similar to many recent roads within Rodgers Creek with geometry that is required to accommodate the mountainous terrain that is typical of the location. Preliminary design has been submitted to the District of West Vancouver (DWV).

The following provides a brief summary of the road geometrics:

- The typical road width is 6.6m measured from face of curb to face of curb.
- The maximum gradient of the road is 12.0%.
- Minimum horizontal radius of 32m at intersection of Road H. Otherwise minimum radius of 60m.
- The gradient reduces to 4.0% at the cul-de-sac.
- The cul-de-sac will have a radius of 9.2m.

Figure 3 shows a typical section for Road G.

2.3 Turning Movements

Cypress Bowl Road has been significantly upgraded to accommodate vehicles entering Area 6. Generally, Cypress Bowl Road consists of two uphill lanes and a single downhill lane. However as part of the upgrades an uphill left turn lane has been created to facilitate access into Area 6.

The turning movements for a variety of vehicles has been considered in the design of Roads G and H. Passenger cars, (PC-1) will be able to navigate all sections of the roads while staying within their respective lanes. The critical design vehicle is considered to be the SU-9, which is equivalent to a garbage truck, and is considered to be the largest vehicle that will regularly use the road. The SU-9 will be able to navigate through the development while staying within it's own lane and the asphalt width is such that two opposing SU-9's will be able to pass safely. For the SU-9, there will be minor crossing into the opposing lane at the intersection of Roads G and H, but this is considered acceptable given the local nature of the road and the low traffic volumes.

The largest design vehicle considered was the WB-12. This vehicle is a 15.2m long semi-trailer and is considered representative of a large moving truck. A turning movement analysis has been completed and shows that this vehicle can access the development from Cypress Bowl Road without impacting other vehicles movements. However, at the intersection of Roads G and H, this vehicle will require the entire asphalt width to negotiate the corner. Given the infrequent nature of this movement, and the low traffic volumes, this is considered acceptable.

It is thought that the above design vehicles encompass the turning movements of any emergency vehicle that is required to access the development.

On street parking is not permitted on Roads G and H so the full drivable width should always be available to emergency vehicles.

2.4 Emergency Access Routes

2.4.1 General

As mentioned above, Area 6 will primarily be accessed from the intersection of Road H and Cypress Bowl Road. Cypress Bowl Road is a three-lane Provincial Highway and provides a reliable vehicular connection to Highway One. However, should Cypress Bowl Road become blocked between Area 6 and Highway One, Chippendale Road provides an alternative route to access and exit Area 6. Chippendale Road is a significant collector road with an 8.0m wide drivable surface.

2.4.1 Emergency Access from Road H (HEAR)

Standard access for emergency vehicles to Road H will be from Cypress Bowl Road. However in order to provide an alternative route, should access to Cypress Bowl Road become temporarily unavailable, an emergency access route will be provided to the west.

An access road, with a minimum 4.0m drivable surface, will be constructed from the cul-de-sac bulb west until it intercepts an existing, disused logging road. This logging road will be improved to make it accessible by 4x4 vehicles. Upgrading this logging road will allow access to the connecting Fern Fire Access Road (FFAR). The FFAR already connects west to Powerline Road, which connects to Eagle

Lake Access Road and on to Cypress Bowl Road. This section of the FFAR is already drivable in a 4x4 vehicle. The existing section of FFAR east of the logging road connection will be improved to allow for 4x4 vehicle access, which will provide an access route along the entire Northern boundary of Area 6.

Refer to Figure 4 for clarification of the proposed alignments.

It should be noted, and without making presumptions with respect to the outcome of the Cypress Village development approval process, that it is possible to connect Road H to either, or both, Eagle Lake Access Road or Cypress Bowl Road using a road designed to municipal standards.

2.3.4 Emergency Access from Road G (GEAR)

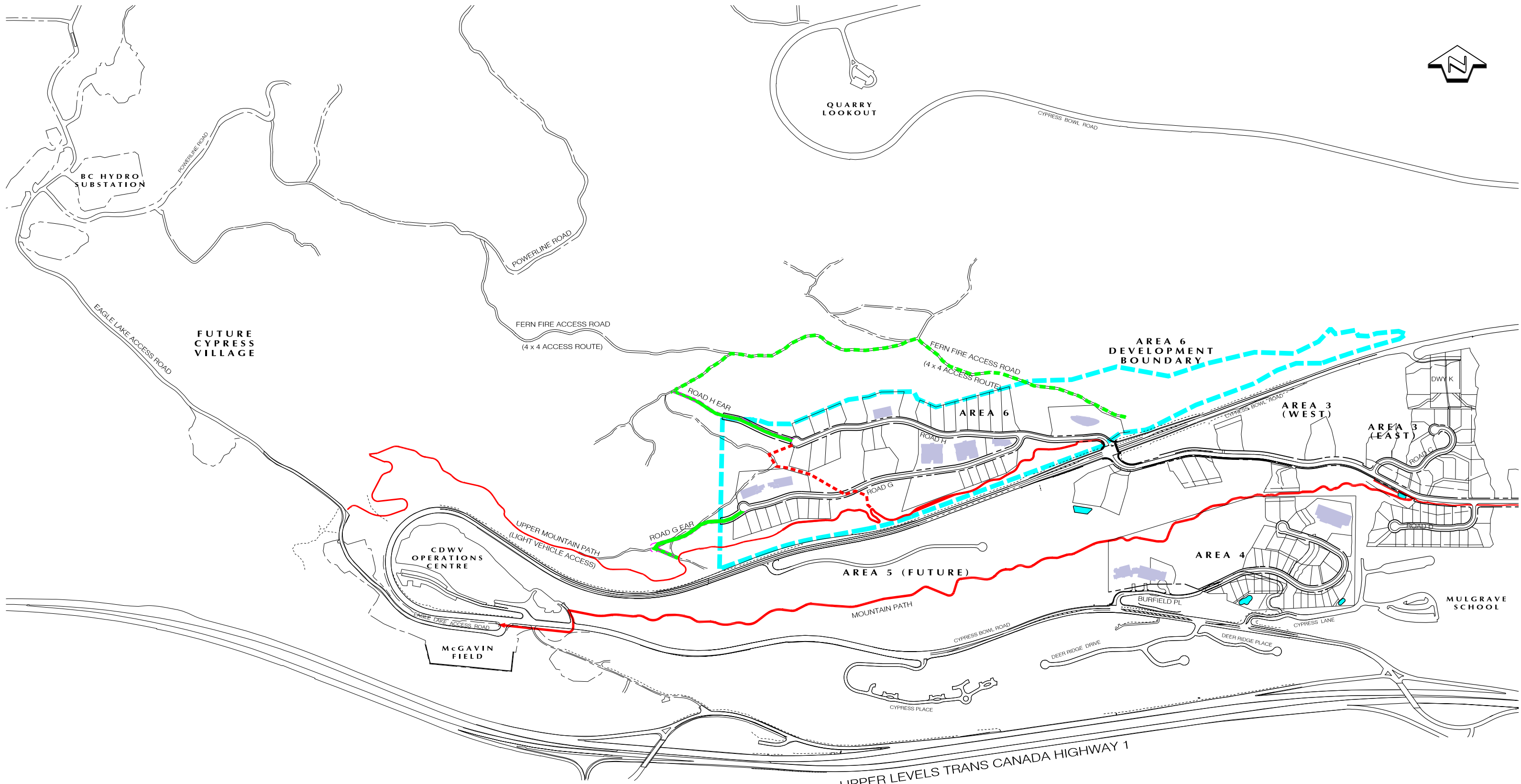
Standard access for emergency vehicles to Road G will be from Cypress Bowl Road and Road H. However in order to provide a second, alternative route, should access to Cypress Bowl Road become temporarily unavailable an emergency access route will be provided to the west.

As part of the Rodgers Creek ADP it was agreed that a trail, or Upper Mountain Path, would be constructed between Area 6 and the future Cypress Village. This Upper Mountain Path was intended to be 2.0m wide and have a gravel surface. In order to provide improved emergency access, it is proposed that this Path be upgraded to be 3.0m wide, and be capable of supporting light vehicle use in an emergency context. It is anticipated that the Upper Mountain Path would be accessible by light utility vehicles such as “Gator”-type maintenance vehicles, or “side-by-side” type recreational vehicles, or their derivatives. The Upper Mountain Path would have maximum grades of 8%. An access road, with a minimum 4.0m drivable surface, would be created from the west end of Road G to the Path, with a maximum grade of 12%. Road H will be linked to Road G, and therefore the Upper Mountain Path, by connecting walking trails.

2.5 Hydrants

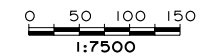
Hydrants will be installed along both Roads G and H to the DWV standard with a minimum spacing of 150m.

FIGURES



- LEGEND:**
- - - - - AREA 6 DEVELOPMENT BOUNDARY
 - NEW EMERGENCY ACCESS, PEDESTRIAN AND LIGHT UTILITY VEHICLE
 - - - - - IMPROVED EXISTING ROAD SURFACE
 - MOUNTAIN PATH/UPPER MOUNTAIN PATH
 - - - - - PEDESTRIAN EMERGENCY ACCESS (TRAIL) FROM ROAD H TO ROAD G
 - - - - - Existing Trail / Logging Road

**BRITISH PACIFIC PROPERTIES
RODGERS CREEK DEVELOPMENT
AREA 6 LOCATION PLAN - MAY 2016**



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CONSULTING ENGINEERS